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ORIGINAL ARTICLE

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Dementia care mapping to support staff in the care of people with intellectual disability and dementia: a feasibility study

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Background: The number of people with intellectual disability and dementia increases; this combination causes behavioural changes. Dementia Care Mapping (DCM) supports staff in dementia care in nursing homes and may be useful in intellectual disability-care. This qualitative study examines the feasibility of DCM for older people with intellectual disability and dementia.

Methods: The present authors obtained data in focus groups and interviews with professional users and analysed using a framework for feasibility studies. With experts in dementia and intellectual disability researches, the present authors determined the overall feasibility.

Results: DCM was found to be feasible in intellectual disability-care, regarding five domains of feasibility. Staff reported DCM to be useful and valuable and addresses to their demand for skills and knowledge. All professional users found DCM feasible in intellectual disability-care, which was confirmed by experts.

Conclusions: DCM is feasible in intellectual disability-care. When fully tailored to intellectual disability-care, DCM is useful and provides opportunities to assess its effectiveness.

KEYWORDS

dementia, dementia care mapping, feasibility, intellectual disability, person-centred care, quality of care

1 | INTRODUCTION

The number of people with intellectual disability and dementia is growing as the life expectancy of people with intellectual disability increases. This has a large impact on the lives of people with intellectual disability and dementia, their housemates and on their care staff (Cooper, 1997; Janicki & Keller, 2012; Patja, Iivanainen, Vesala, Oksanen, & Ruoppila, 2000; Shooshtari, Martens, Burchill, Dik, & Naghipur, 2011; Strydom, Chan, King, Hassiotis, & Livingston, 2013). The combination of intellectual disability and dementia causes behavioural, emotional and psychological changes and can lead to challenging behaviour like agitation, depression or apathetic behaviour, and mannerisms that are hard to grasp (Ball, Holand, Treppner, Watson, & Huppert, 2008; Dekker et al., 2015; Duggan, Lewis, & Morgan, 1996; Emerson, 2001; Sheehan, Ali, & Hassiotis, 2014). Intellectual disability-care staff express a need for knowledge and skills to address the changing behaviour and needs to provide good care and to create a dignified life situation for their residents with

dementia (Cleary & Doodey, 2016; Duggan et al., 1996; Emerson, 2001; Iacono, Bigby, Carling-Jenkins, & Torr, 2014; Myrbakk & von Tetzchner, 2008); they tend to use an ad hoc approach (Iacono et al., 2014; Janicki, 2011; Janicki, McCallion, & Dalton, 2002; Watchman, 2008; Wilkinson, Kerr, & Cunningham, 2005). Therefore, an evidence-based method that provides insights, knowledge and skills for professionals in the care of older residents with intellectual disability and dementia is urgently needed, but not yet available.

Dementia Care Mapping (DCM) is a widely used method to support staff working in dementia care in psychogeriatric nursing homes (Barbosa, Lord, Blighe, & Mountain, 2017; Chenoweth et al., 2009; Jeon et al., 2012; Kuiper, Dijkstra, Tuinstra, & Groothoff, 2009; Rokstad et al., 2013; Van de Ven, 2014). It is promising for staff working with older people with intellectual disability and has a number of characteristics that are innovative for this field: it is a relatively structured psychosocial method, it is based on principles of person-centred care, and it is specifically aiming at people with dementia (Finnamore & Lord, 2007; Jaycock, Persaud, & Johnson, 2006; Persaud & Jaycock, 2001; Schaap, Dijkstra, Finnema, & Reijneveld, 2017). It is a structured, person-centred, multi-component intervention, designed to improve the quality and effectiveness of care from the perspective of people with dementia (Brooker, Foster, Banner, Payne, & Jackson, 1998; Brooker & Surr, 2005; Kitwood, 1992; Van de Ven et al., 2013). DCM is an observational tool, based on the social-psychological theory of personhood in dementia of Kitwood, to increase person-centred care of people with dementia, which is explained further in Box 1 (Kitwood, 1992; Van de Ven et al., 2013). DCM aims at different levels: at the individual (residents and care givers), at the group (care giving teams) and at multidisciplinary teams and management (Van de Ven et al., 2013). Furthermore, person-centred methods, like DCM, are associated with (psychosocial) benefits for both people with dementia (whether or not with intellectual disability) and their care staff, by improving the quality of care (Brown et al., 2016; Brownie & Nancarrow, 2013; Edvardsson, Sandman, & Borell, 2014; Van der Meer, Nieboer, Finkenflügel, & Cramm, 2017; Willemse et al., 2015).

Available studies on DCM among people with intellectual disability are few and small, but those available yielded promising results. Finnamore and Lord (2007) applied DCM to eight people with both intellectual disability and dementia, and Persaud and Jaycock (2001) and Jaycock et al. (2006) studied DCM in 14 people with severe or profound intellectual disability but without dementia (Finnamore & Lord, 2007; Jaycock et al., 2006; Persaud & Jaycock, 2001). These studies indicated that those who provide DCM (DCM-mappers) found DCM to be acceptable and practical in intellectual disability-care. The authors recommended further use and assessment of DCM in the care of older people with intellectual disability, with or without dementia. This recommendation requires confirmation of the feasibility of DCM in intellectual disability-care from a broader perspective, that is, from all professionals involved, that is, mappers, staff and management.

The aim of this study was, a piloting of DCM, to examine whether this method is feasible in the care of older people with intellectual disability and dementia in group homes in the Netherlands. In this study feasible means: meeting a five domain framework derived from the key areas of focus for feasibility studies of Bowen et al. (2009): demand, implementation, acceptability, practicality and adaptation (see Table 1; Bowen et al., 2009). The present authors assessed DCM's feasibility from different perspectives: from the receivers of DCM (staff and group home managers) as well as from DCM-providers (DCM-mappers and -trainers). Findings were next further attuned to care for people with intellectual disability and dementia, based on advice of experts on DCM and intellectual disability and dementia researches.

2 | METHODS

2.1 | Design

The present authors set up a qualitative study to assess the feasibility of DCM in the care of older people with intellectual disability living in a small scaled group home. First, DCM was applied in two group homes for older people with intellectual disability, with or without dementia. Next, the present authors evaluated the application of DCM with staff in focus groups and with group home managers, DCM-mappers and DCM-trainers using semi-structured, face-to-face interviews. The present authors consulted experts from DCM-Netherlands, and DCM-UK (Bradford University), and other experts on DCM, dementia and intellectual disability researches regarding the design of the study and the interpretation of the results. DCM is an intervention aimed at staff; therefore, the present authors focussed in this feasibility study solely on those who provide and receive DCM and not on the residents.

2.2 | Sample

The present authors collected data from receivers of DCM, being staff and managers, and providers of DCM, being DCM-mappers and DCM-trainers, in two small-scale, residential group homes for older people with intellectual disability, randomly selected out of 25 homes. All homes met the criteria to carry out DCM (e.g., to observe four residents simultaneously in communal areas, of whom at least two people with dementia). In each group home, eight older residents with intellectual disability, of whom three had dementia, were living together, supported in all aspects of day-to-day life, including activities of daily living (ADL) and day-care activities, by vocational trained professionals. All staff working in the group homes participated in the intervention and were invited to participate in a focus group, in each home one focus group. In one home, eight of 12 staff members, and in the other home seven of 12, attended the focus group. Staff not participating in the focus groups were absent because of illness or having their work shift at the same time. The present authors also interviewed the managers of both group homes

Box 1 Structure and contents of dementia care mapping

Dementia Care Mapping (DCM) is an observational tool to improve the quality and effectiveness of care from the perspective of people with dementia (Brooker & Surr, 2005), based on the social–psychological theory of personhood in dementia of Kitwood (Kitwood, 1992). The intervention was initiated to increase person-centred care of people with dementia (Van de Ven et al., 2013). Person-centred care can here be specified as: valuing people with dementia; using an individual approach that recognizes the uniqueness of the person; making an effort to understand the world from the perspective of the person; and providing a supportive social environment (Brooker, Woolley, & Lee, 2007). DCM has three main elements:

A: Mappers' training in DCM

First, a member of the care staff is trained to become a certified DCM mapper. A basic DCM mappers' course includes four days of basic concepts and skills. To use DCM for research purposes, the mapper has to succeed the advanced level course. This includes a three-day course focused on the background and theory of person-centred care and DCM. An advanced DCM mapper observes (map) care with an inter-reliability score of ≥0.8, reports the observation, provides feedback, and instructs staff in setting up action plans (Van de Ven et al., 2013).

B: Organizational introductory briefing

Second, the complete staff of a group home will receive a DCM-introduction. This introduction provides basic understanding of the principles of DCM and person-centred care, to ensure endorsement and appropriate implementation (Van de Ven et al., 2013), whereupon the full DCM-cycle with the mapping (systematic observation of the actual care) takes place.

C: DCM cycle: observations-feedback-action plan

Third, the full cycle takes place. The full DCM-cycle can be repeated, f.i. each half year. One DCM-cycle consists of:

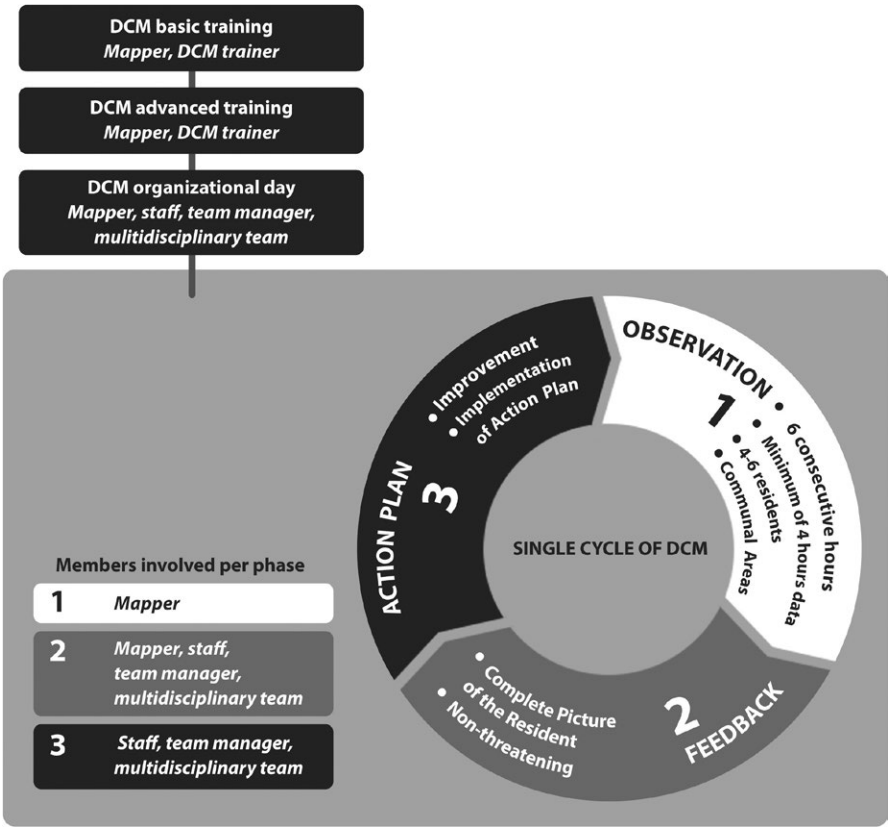

FIGURE 1 Dementia Care Mapping intervention components and cycle (based on: Van de Ven, 2014)

Box 1 (Continued)

1. *Observation, analysis and report*. A mapper observes four to six residents for 4 to 6 consecutive hours in communal areas. Each 5-min time frame the mapper notes a code to record what happens to each resident and to record the associated behaviour of the staff. The DCM-coding protocol contains 23 behavioural category codes (BCCs), well/ill-being (WIB) values, personal detractions (PDs) and personal enhancers (PEs; Brooker & Surr, 2005).
2. *Feedback*. The results of the observation are fed back to the staff. The purpose is to understand residents' behaviour in the context of their lives and of the care (Brooker & Surr, 2005). Feedback is presented in a non-threatening way and is intended to raise awareness of the staff of their own and residents' behaviour, thereby motivating them to improve their competences and performance (Van de Ven et al., 2013)
3. *Action plans*. Based on the feedback, the staff draws up action plans to improve care at individual and group levels. Action plans are tools to implement in daily practice the principles of person-centred care.

individually, as the present authors did the two DCM-mappers, and the two DCM-trainers involved. In total, the present authors conducted two focus groups and six face-to-face interviews.

2.3 | Intervention

The intervention in our study consisted of a cycle of DCM in each group home (see Box 1 and Figure 1). First, in each home, the present authors trained a staff member to become a certified, advanced, DCM-mapper. The present authors selected a staff member who had the required competences: *for example*, experienced with older people with intellectual disability with and without dementia, having at least a bachelors' degree, and basic knowledge of person-centred care. Next, to maintain independency, these mappers carried out DCM in each other's organizations. The mapping was applied at three different moments to cover all major daily situations: during day-care activities, on a regular mid-week afternoon and evening, and on a quiet weekend day. In each mapping session, four older residents, of whom three had dementia, were mapped simultaneously. After the mapping, the mapper presented the results in a report and a feedback session to the staff and manager, whereupon staff were able to draw up action plans.

2.4 | Measures and procedure

The present authors conducted both focus group discussions with staff, and the face-to-face interviews with group home managers, DCM-mappers and DCM-trainers to ascertain their experience with and opinions of the mapping process and the feasibility and potential of DCM in intellectual disability-settings. The present authors set up the design and the contents of the study, and the feasibility based on advice of experts on DCM and intellectual disability and dementia researches, as the present authors did in determining the overall feasibility.

The focus group discussions took place within a month and the face-to-face interviews within two months after the application of a full cycle of DCM (see Box 1 and Figure 1). The focus group discussions and interviews were carried out in a semi-structured way, guided by a topic list, led by a researcher [FDS, GJD] and assisted by a researcher taking notes [FDS, ASF, GJD]. The focus groups and interviews all had a length of approximately 1.5 hr, were audio recorded, and next transcribed in full. The topic list was developed by the researchers, a.o. based on observations of a researcher (e.g., about implementation procedure, involvement of team) [FDS] during the introductory briefings and feedback sessions, and points of interest raised by the expert group. The topics addressed the experiences of the users of DCM concerning the demand for DCM, its implementation, acceptability practicality and adaptation (see Table 1). The design, analysis and reporting of the focus group discussions and interviews were performed according to the checklist: Consolidated Criteria for Reporting Qualitative Research (COREQ; Tong, Sainsbury, & Craig, 2007).

2.5 | Data analysis and reporting

First, the present authors assessed and described the background characteristics of staff and the older residents in the group homes where DCM was applied (f.e. educational level, experience). Next, the present authors assessed feasibility using *key areas of focus for feasibility studies* of Bowen et al. (2009), as presented in Table 1. The present authors followed a stepwise procedure: the present authors transcribed verbatim the interviews and contents of the focus groups and analysed them following the principles of conventional content analysis (Hsieh & Shannon, 2005); the present authors used Atlas.ti computer software (version 7.5; ATLAS.ti Scientific Software Development GmbH, Germany). One interviewer [FDS] reviewed the transcripts for completeness and accuracy. Next, the transcripts were forwarded to the DCM-mappers and -trainers involved to check them for completeness. After approval of the contents by the mappers and trainers, two researchers [FDS and ASF] independently read all transcriptions to elicit key topics and the relationships between them. The first author [FDS] sets up a concept codebook and discussed it with the second author. Third, both researchers [FDS and ASF] coded three transcripts and compared the coded transcriptions. Based on the outcomes of this comparison, the present authors refined,

relabelled and regrouped the initial codes until reaching consensus. Then, the present authors calculated the Kappa coefficient to check on the inter-observer agreement. According to the criteria of Viera and Garrett (2005), agreement was substantial (Viera & Garrett, 2005), 78%. Finally, after coding all transcripts, the present authors identified themes based on several key areas of focus of Bowen et al. (2009; Table 1). The present authors collected main findings for each theme, separately for DCM-trainers and mappers (providers), and the staff and their managers (receivers). The present authors reported the results using the areas of focus for feasibility studies, mentioned in Table 1.

2.6 | Ethical assessment

The Medical Ethical Committee of the University Medical Centre Groningen did not consider approval necessary for this study (decision M13.146536), because DCM is an intervention aiming at staff. The present authors obtained written informed consent from the legal representatives (i.e., a relative or an administrative person) of the people with intellectual disability involved in the study for participating in DCM.

3 | RESULTS

3.1 | Background

Table 2 presents the background of the staff and residents of both group homes. In both, staff had worked, on average, for more than 10 years together in the same group home. Staff in both homes reported that some of them incidentally received a training in caring for older people with intellectual disability, but that most of their current knowledge was practice-based. In each home, lived eight older people with intellectual disability, of whom three had dementia. The residents had been living together for many years in the same home, some for more than 40 years. In both homes, complex care was provided; the residents had moderate to severe levels of intellectual disability; and had multiple problems, such as syndromes (e.g., Down, Rett, Prader–Willi), autism, psychiatric diseases (e.g., anxiety disorder, delusional disorder) and/or problems linked to ageing (e.g., dementia, hearing and sight impairment, internal conditions, cancer).

3.2 | Feasibility

3.2.1 | Demand

Staff, managers and mappers found DCM useful to address their need for professional competences (insights, knowledge and skills) on dementia and person-centred care. They described their work as increasingly difficult and mentioned often feeling unable to provide good care to their residents because of the problems associated with ageing. Along with more insights into the behaviour of individual older people with intellectual disability and dementia, DCM gave professionals new skills and greater knowledge to deal with dementia and to provide person-centred care.

TABLE 1 Key area of focus for feasibility studies, adapted to this study

Area of focus	Sample outcomes of interest	Participants (*N* = 21)
Demand	Perceived demand Expressed interest or intention to use	Staff Managers DCM-mappers
Implementation	Degree of execution Amount, type of resources, and preconditions needed to implement Factors affecting implementation ease or difficulty Fit within organizational culture and vision	Staff Managers DCM-mappers DCM-trainers
Acceptability	Perceived appropriateness Perceived applicability Perceived positive or negative effects on organization	Staff Managers DCM-mappers DCM-trainers
Practicality	Perceived usability of each component Positive/negative effects on target participants	Staff Managers DCM-mappers DCM-trainers
Adaptation	Satisfaction Perceived added value Intention to continue use Suggestions for improvement	Staff Managers DCM-mappers

Staff: *n* = 15, Managers: *n* = 2, DCM-mappers: *n* = 2, DCM-trainers: *n* = 2.
Adapted from Bowen et al. (2009).

TABLE 2 Characteristics of participants in the study

	Team 1	Team 2
Staff		
Team size	12	12
Gender (female)	100%	92%
Educational level (intermediate vocational)	92%	92%
Experience with target group (years; mean)	20 years	20 years
Involvement with current residents (years; mean)	15 years	15 years
Knowledge on people with intellectual disability and dementia	Experience based	Most experience based
Currently used method(s) in group home	Method Urlings[a]	None[b]
Personalized care[c]	Yes	Yes
Residents		
Group size	8	8
Gender (female)	63%	38%
Persons with dementia (diagnosed or suspected)	3	3
Complex care[d]	Yes	Yes

[a]Urlings (2014).
[b]Staff attended several courses on older residents and complex care; no specific method was used in group home.
[c]Personalized care: care is adapted to the residents' (physical) needs.
[d]Complex care occurs due to low level of functioning (IQ ≤ 50) and multiple problems as a syndrome, autism, psychiatric diseases and/or problems linked to ageing.

> *At first we thought he was just being stubborn. (…) For example when someone is much more cooperative and easy going in the afternoon than in the morning. Back then we were like: whether you like it or not, we take showers in the morning. Hoopla. And after DCM we all were like: oh, yeah, ooh. We should not have done this and not have done that…* *(Staff 1.1)*

> *The way of living. Not wanting any medicine. Always struggling with him. When he didn't want to put on his clothes and he lay down naked under the desk. Or chasing him with the shower nozzle. I really will never do that again.* *(Staff 1.2)*

> *Looking back I think, ooh, we should have done things very differently. It was all lack of knowledge.* *(Staff 1.4)*

3.2.2 | Implementation

Both teams applied DCM according to the DCM-implementation protocol (Bradford Dementia Group, 2014) and were strictly monitored and supported by the DCM-trainers. This protocol included descriptions of the DCM-preconditions and every step for applying DCM, which ascertains a similar implementation in both homes.

Carrying out consecutive six-hour mappings of four people in communal areas, as prescribed in the DCM-protocol, was found to be not possible because *residents* had free access to their own apartments and some of them had external day-care activities. After consultation with DCM-Netherlands and DCM-UK, the present authors decided that for optimal results, the mappings should comprise six hours, albeit in two or three parts, with a minimum duration of two hours.

> *Maybe to restrict it a bit. (…) Cutting [the observation – FDS] into pieces would be an idea. But on the other hand, then you would not observe the unfilled moments. Those also yield a lot of information (…) So I think both. That you observe different things, like an activity, an eating situation, but also an empty moment when nothing is happening.* *(Mapper 2)*

3.2.3 | Preconditions

As a part of the implementation, the present authors discussed with DCM-Netherlands the degree to which mappers, staff, managers and organization realized DCM-preconditions (Bradford Dementia Group, 2014) as presented in Table 3. The required preconditions on the mappers' educational level (bachelor) were realized in both group homes. At the level of the teams, one group home had realized more preconditions than the other. For example, regarding the level of commitment to DCM, one team was eager to participate for more knowledge, and the other team appeared to be hesitant. Commitment by the team and the manager was found decisive for success by the DCM-mappers and -trainers (see Table 3). Furthermore, in one location not all staff members were included in the team's introductory briefing; this caused irritation during the mapping and the feedback session, due to lack of clarity about the intervention. Safety and stability within the teams proved necessary for openness to feedback. One team appeared stable and mutual supportive, but the other team was slightly unstable due to a forthcoming reorganization.

> *If you want to achieve maximum results from DCM, you should look carefully at the team. People should feel safe.* *(Manager 2)*

At the management level, one group home had realized more preconditions than the other one (see Table 3). One team manager was firmly committed to DCM and took a coordinating role; the other manager was less involved in the team, and let a coordinating staff member manage the implementation of DCM. As both organizations had a vision and/or worked with a method related to person-centred care, no conflicting underlying visions interfered with the implementation of DCM.

TABLE 3 Preconditions to be fulfilled during implementation DCM

Level	Precondition	Fulfilled in group home 1	Fulfilled in group home 2
Mappers	Educational level: ≥bachelors' degree	y	y
	Experienced with older people with intellectual disability and dementia	y	y/n
	Advanced trained in DCM method (Inter-reliability in coding ≥0.8)	y	y
	Met DCM-mapper requirements	y	y
	Advanced in Person-centred Care	y/n	y
Staff/Team	Positive attitude towards DCM	y/n	y
	Inclusion of all staff members in all sessions (briefing/feedback)	n	y
	Experience with person-centred care practice	y/n	y/n
	Safe and stable team	y/n	y
	Open for change in own care behaviour	y/n	y
	Trust in team management	n	y
Management	Firm commitment to DCM	n	y
	Provision of time and resources to implement DCM	y/n	y
	Team manager active and present in team	y/n	y
	Team manager coordinating DCM in organization	y/n	n
Organization	Current procedures connect with Person-centred Care	y	y

y, yes; n, no; y/n, in between.

The team manager also has a crucial role in this. Manager Y, of course, is very enthusiastic and contributes substantively to the discussion, but you don't see manager X doing that. I thought that was a shame.
(Mapper 2)

3.2.4 | Acceptability

Overall, the DCM-mappers and -trainers found DCM acceptable in the care for older people with intellectual disability and dementia. They found no major adaptations necessary for its use in intellectual disability-care, although the character of intellectual disability-care differs from the routine care in nursing homes where DCM normally is applied. For example, unlike in nursing home settings, older residents with intellectual disability have during their entire lives been dependent on care, have free access to their own apartments and often have external day-care activities.

As a mapper I found it very practical, also being there, talking with the clients, and also the contacts with the staff went very well. It was actually all very doable.
(Mapper 1)

The appropriateness and applicability of DCM in the care of older with intellectual disability and dementia was qualified as good. Mappers were able to apply the existing DCM-codes in the care of people with intellectual disability, and no new codes were required. However, mappers and trainers found slight differences in the use of DCM in intellectual disability-care, compared to the original DCM application. For example, people with intellectual disability showed more varying kinds of behaviour. Furthermore, some DCM-codes were used more frequently (i.e., more codes A (*articulation*), B (*borderline*), W (*withstanding*) and T (*timalation: sensory stimulation/interaction*), and some codes were used less (i.e., G (*going back: reminiscence*)). In mood and engagement (ME) scores, people with intellectual disability were found to be more engaged to objects. Some codes were interpreted differently: for example, in the use of personal detractions or personal enhancers (PDs/PEs), the PD "infantilization" was found to be easily confused with PE "validation" (recognize and support the reality of the resident). Therefore, mappers strongly recommended developing a DCM-manual with codes, case histories and examples from intellectual disability-settings. Subsequently, DCM-mappers and trainers reported that the mappers' training needed to include more attention to specific characteristics of care of people with intellectual disability.

That is also noticeable with hand-rubbing. (…) It is not timalation [sensory stimulation/interaction -FDS] and not a feeling. It is purely focused on themselves, the rubbing makes it a code W. This is not how it was described in the handbook, but we discussed with the mappers that it can be a code W, but we need to make that clear. (DCM Trainer 2)

3.3 | Practicality

The mappers were able to carry out mappings as intended, except for the six consecutive hours as mentioned above. According to the staff and mappers, the mappings influenced neither their own work nor the usual behaviour of the residents.

The feedback and actions developed based on the observations were perceived as useful and applicable by the staff. Both the staff in general and managers were positive about the use of DCM; it provided new insights into how their residents perceived care, and gave concrete cues for providing individual care, although most inability to provide good care exists during ADL. Moreover, staff indicated that they were surprised and often not being aware of their own caring behaviour, for example that they were speaking childish to their older residents (personal detraction (PD) infantilization) or pushing a wheelchair without warning (PD objectification).

These actions can be used immediately. Very practical. (Staff 2.3)

Yes, because you learn to look more from the client's perspective. What he or she needs. (Staff 2.2)

The points may not always be immediately useful, but you really learn to look in a different way. (Staff 2.6)

By the long observation you discover someone's possibilities. And if you focus solely on problem behaviour or on problems, you will miss that (…). DCM really does help with that. (Staff 1.6)

3.4 | Adaptation

The receivers of DCM, staff and managers, found DCM adaptable to intellectual disability-care, they reported being satisfied and finding that it added value, and they intended to continue the use of DCM. Staff and managers reported that the mappings by an independent mapper were useful and eye-opening by trying to take the perspective of their residents. Beforehand, one team was sceptical about the outcomes, but nevertheless perceived the mapping and feedback as valuable.

I get stuck at times. When things don't go well during care. I noticed that I got new ideas from the DCM meetings, like: I can try again and do it that way. (Staff 2.3)

A bit of an eye-opener, there are still some ways to try that could work out better. I find that very positive. Look at situations differently. (Staff 2.5)

DCM provides a practical dimension. My staff said: yes, we do work in a person-centred way, but how does that work in daily practice? And I know that staff are convinced that they do work like that. But now you show them whát they do, what they can do differently, and how they can do it. (Manager 1)

Subsequently, the staff found DCM to have added value for all older residents, independently of whether they had dementia or not. They reported being surprised to see unexpected possibilities in their residents. Moreover, staff mentioned that DCM helped them to apply in practice knowledge gathered previously in courses and to implement other (person-centred) methods in which they had previously been trained.

Previously, I worked with a group of children with severe learning disabilities, and with a PIMD-group. Those were people with very low levels of functioning, not people with dementia, but with a very low level of functioning. (…) If I now look back at the situation with those groups, I think DCM could also be very meaningful there. (Staff 2.6)

Staff and managers considered the cyclic character of DCM useful and expressed an intention to apply this method in their routine work. Staff, managers and a mapper even suggested expanding the DCM method to include individual observations, so as to focus more on the problems in private areas, as during assisting individual residents in activities of daily life (ADL).

I thought it might be better to follow the clients individually. Because at that moment she [the mapper – FDS] was alone in the living room, and everything happening at the back of the hallway was impossible to observe. Or, for example, client J., the way she goes to her own room and does all kinds of things there. In there, she is much more on her own, doing things on her own. (Staff 1.6)

I think that would add to [the mapping – FDS] of the behaviour of client J., because other things are happening there. (Staff 1.1)

4 | DISCUSSION

The present authors found that DCM is feasible in intellectual disability-care for older people with intellectual disability and

dementia, from the perspective of receivers (staff, managers), providers (DCM-mappers, DCM-trainers) and experts in intellectual disability and dementia researches. DCM in intellectual disability-care settings was found to meet five aspects of feasibility: it met a demand and was implementable, acceptable, practical and adaptable in intellectual disability-care.

Our study showed that DCM is feasible for use in the care of older people with intellectual disability and dementia, without major adaptations. According to all professional users (receivers and providers), the method provides for a need and is non-invasive to the residents; the observations did not influence the usual behaviour of the residents and of staff, and the results were found of great value for daily care practices. This confirms and extends the findings of Finnamore and Lord (2007), Persaud and Jaycock (2001) and Jaycock et al. (2006), who assessed DCM in intellectual disability-care from the providers' perspectives only. They concluded that DCM is acceptable and practical in intellectual disability-care for people with or without dementia (Finnamore & Lord, 2007; Jaycock et al., 2006). They found the mappings to be accurate, although they used observation periods shorter than the prescribed six consecutive hours and found slight differences in use of DCM-codes (i.e., more codes W (*withstanding*) and T (*timalation*)). Furthermore, our finding of a need for expansion of the mappings in private areas, to complete the picture of the (challenging) behaviour and well-being of the residents being mapped, was touched on by Jaycock et al. (2006) from the provider's perspective (Jaycock et al., 2006).

Our observations on demand and preconditions support those of previous studies in different settings. The demand for a method to handle problems associated with the ageing of people with intellectual disability (as dementia) we found is widely reflected in studies of experiences of staff in working with adults and older people with intellectual disability (Cleary & Doodey, 2016; Furniss, Loverseed, Lippold, & Dodd, 2012; Iacono et al., 2014; McCarron, McCallion, Fahey-McCarthy, Connaire, & Dunn-Lane, 2010; Perera & Standen, 2014; Watchman, 2014; Wilkinson et al., 2005). Several studies of DCM in nursing home settings reported difficulties similar to ours in fulfilling the DCM-preconditions. These studies concluded that to reach optimal effect of DCM, the implementation requires strong and accurate attention (Brownie & Nancarrow, 2013; Chenoweth et al., 2015; Dichter et al., 2015; Jaycock et al., 2006; Jeon et al., 2012; Quasdorf et al., 2017; Rokstad, Vatne, Engedal, & Selbæk, 2015; Van de Ven, 2014). Increasing the number of realized preconditions is likely to increase the success of the implementation (Chenoweth et al., 2015; Rokstad et al., 2015; Van de Ven et al., 2013). However, as DCM is a multi-component method for application in practice, realizing all preconditions is hard to accomplish. Although the realization of the preconditions was not perfect, this did not obstruct the implementation of DCM in the group homes concerned.

The present authors found the framework of Bowen et al. (2009) for assessing feasibility also to be applicable regarding intellectual disability-care; it confirmed findings of previous studies on health interventions in patients with advanced, incurable diseases and their caregivers, in older hospitalized patients, and in children with autism (Bowen, Briant, Harris, Hannon, & Buchwald, 2015; Cermak et al., 2015; Pedersen et al., 2015; Siemens et al., 2015). Moreover, the present authors were able to apply all five aspects of Bowen's framework, whereas the previous studies usually addressed only some of them. Bowen's framework thus seems to be fully applicable to intellectual disability-care, leaving to be answered whether that also holds for various other types of care.

4.1 | Strengths and limitations

A key strength of this study is our use of a multi-informant design to examine the use of DCM in intellectual disability-care settings. Informants were receivers of DCM (staff and managers) and providers (DCM-mappers and -trainers), with confirmation by experts in dementia and intellectual disability researches. Previous studies focussed mainly on the providers' perspective. Second, the present authors used a comprehensive framework for feasibility studies, which allowed us to examine the feasibility of DCM in intellectual disability-care in its broadest sense. Results of the previous studies of DCM in intellectual disability-care related mostly to the domains of acceptability and practicality. Third, the present authors addressed the feasibility of DCM in routine intellectual disability-care practice, thereby enhancing the validity of our findings for routine practice.

Limitations of this study align with the pilot character of the study but should also be noted, the first being its small sample size and the full reliance on qualitative reports, which does not allow inferences on the effects of DCM. Second, each of the two randomly selected group homes had its own vision, culture, team characteristics, and habits in care. This provides a realistic representation of the implementation of DCM in actual intellectual disability-care practice, but generalizability to other settings remains to be investigated.

4.2 | Implications

The present authors found DCM to be feasible in the care of older people with intellectual disability and dementia and allow for wider implementation of DCM in intellectual disability-care. It implies a next step to assess DCM's effects on the job satisfaction and quality of care of intellectual disability-care staff and its effects on the quality of life of older people with intellectual disability (Chenoweth et al., 2009; Edvardsson et al., 2014; Kuiper et al., 2009; Rokstad et al., 2013; Willemse et al., 2015). The method therefore needs to be tailored fully to intellectual disability-care: by means of small modifications in case histories, examples and behavioural category codes in the manual. Difficulties with fulfilling DCM-preconditions should be addressed, for example by fulfilling an agreed minimal number of conditions before implementing. In any case, the present authors identified a demand of staff, mappers and managers, for a version of DCM with individual observations in private areas

or during ADL; this should be considered, and if developed, followed up in a study. A major point of interest in this should be the adherence to the core values of DCM and person-centred care and the compliance of the adapted version to the prevailing ethical principles.

5 | CONCLUSION

DCM is a feasible method in the care of older people with intellectual disability and dementia. It meets a strong demand for a method to support staff in caring for older people with intellectual disability and was found to be implementable, acceptable, practical and adaptable in intellectual disability-care from different perspectives: staff, managers, DCM-mappers and DCM-trainers. No major adaptations are needed to tailor DCM to intellectual disability-care settings; only small modifications in DCM-codes and examples and smaller observation periods are required, due to the different character of care in intellectual disability-settings. DCM can help care staff to provide adequate, person-centred, support for the growing group of older people with intellectual disability and dementia.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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