

## REVIEW ARTICLE

# Case management for people with dementia living at home and their informal caregivers: A scoping review

Christine Schiller MSc, RN | Manuela Grünzig MSc, RN | Stephanie Heinrich PhD, RN | Gabriele Meyer PhD, RN | Anja Bieber PhD, RN

Medical Faculty, Institute of Health and Nursing Sciences, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany

## Correspondence

Dr. Anja Bieber, Medical Faculty, Institute of Health and Nursing Sciences, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany.

Email: anja.bieber@medizin.uni-halle.de

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## Abstract

Case management is a complex intervention aimed at addressing a variety of health needs of people in their social environment. Case management for people with dementia is often poorly defined and insufficiently described. The crucial process steps are often not well understood. We aim to map and compare the key components, processes and contextual factors of case management programmes for dementia and to explore aspects of the interventions' generalisability. Our search covered the databases PubMed, CINAHL, Cochrane and GeroLit, as well as policy papers from international organisations. We included qualitative, quantitative and mixed-methods studies in the English or German language that was published between 1999 and 2020. The programmes were analysed according to programme characteristics, case management intervention and the structural and processing conditions. We identified 67 studies dealing with 25 programmes. Approximately half of the programmes were investigated in randomised controlled trials, two programmes used a mixed-methods design and the remaining were the subject of pre-post cohort studies. Participants in the studies were predominantly dyads of people with dementia and their informal caregivers. About half of the programmes reported a theoretical framework. All the programmes were derived from case management approaches or referred to such approaches. Despite huge differences in implementation, all the programmes covered the case management steps. In 14 out of 25 programmes, case management was carried out without additional intervention, the other programmes provided mainly education and training for informal caregivers. Costs of the case management interventions were stated in more than half of the programmes. The effectiveness and generalisability of dementia-specific case management interventions could be enhanced if the framework introduced in the review was used in the future by policy, practice and research.

## KEYWORDS

caregivers, case management, community care, dementia, home dwelling, transferability

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## 1 | BACKGROUND

People with dementia and their informal caregivers require support in various areas of life (WHO, 2017). Information, care coordination and transferring to different care settings are indispensable for the purpose of disease management (National Institute for Health and Care Excellence (UK) 2018). Case management (CM) seems to be a promising approach to support people with dementia and their families in accessing timely and need-tailored support (Khanassov & Vedel, 2016).

CM is a consulting and coordinating concept that was developed to deal with complex needs of people within their social contexts (Monzer, 2018). Among others, CM is formed by the system theory (Kleve et al., 2018), which is helpful for understanding complex social phenomena (Luhmann et al., 2013). The Case Management Society of America (CMSA) defines the concept as a 'collaborative process of assessment, planning, facilitation, care coordination, evaluation and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote patient safety, quality of care, and cost effective outcomes' (Case Management Society of America, 2017). In addition, CM should also function at the system level, because case-oriented structures and procedures in organisations are a prerequisite for successful CM at the case level (Deutsche Gesellschaft für Care und Case Management [DGCC], 2012). CM was originally developed in the USA in the 1970s and introduced as a new approach to social work and healthcare. The majority of the CM definitions are based on the definitions by the CMSA. The description of the individual CM steps varies, but focusses on a process-like individual and problem- and resource-oriented approach. The following description of the individual process steps serves as a framework which guided the scoping review.

The *assessment* covers the comprehensive collection, evaluation and documentation of the health, living and care situation of the person, taking needs and wishes regarding their own situation as well as professionally identified problems and resources into account. The *planning* phase comprises the negotiation and the recording of long-term, medium-term and short-term goals for the support process on the basis of the assessment, as well as the definition of the measures needed to achieve them. *Facilitation and care coordination* include referring to appropriate formal and informal support services, coordinating the measures and ensuring information and communication among those involved. The final step *evaluation* includes a review of the targeted implementation of the measures and a summary assessment of the results of the CM process (Case Management Society of America, 2010).

Dementia guidelines and action plans recommend the inclusion of support and information as well as CM in the care for people with dementia (Bundesministerium für Familie, Senioren, Frauen und Jugend, & Bundesministerium für Gesundheit, 2020).

### What is known about this topic:

- Case Management aims to coordinate health and social care for complex needs of dementia.
- Most interventions focus on the dyad of caregiver and person with dementia.
- The effectiveness of case management for people with dementia has been investigated in several studies with conflicting results.

### What this paper adds:

- All Case Management programmes carry out the typical process steps, but there are differences regarding theoretical background, qualification of healthcare professionals and in the design of the individual process steps.
- In the majority of studies, assessment is described in detail; however, all other case management process steps are just mentioned, but insufficiently explained.
- Framework conditions, recruitment strategies or intensity of Case Management differs and might influence the implementation process.

The effectiveness of CM for people with dementia has been investigated several times and summarised in reviews and meta-analyses (Low et al., 2011; Pimouguet et al., 2010; Somme et al., 2012; Tam-Tham et al., 2013). The majority of studies were conducted in the USA and in the UK. CM was shown to be effective in decreasing the admission to nursing homes or hospitals (Low et al., 2011; Pimouguet et al., 2010). The results of a Cochrane review (Reilly et al., 2015) confirm these effects at 6 months and 18 months after implementing the CM intervention; however, effects after 10–12 months and 24 months are uncertain. Only marginal effects were found for the impact of CM on support service use (Somme et al., 2012). The effects of CM interventions on other outcomes like mortality, quality of life and burden are unclear (Backhouse et al., 2017; Reilly et al., 2015; Somme et al., 2012). Compared with other care management models, such as integrated care, CM was most effective in enhancing clinical outcomes, e.g. (instrumental) activities of daily living or management of medication (Low et al., 2011).

The external evidence of CM interventions remains inconclusive. CM is a complex intervention, and the design and CM components vary across the CM approaches. None of the available reviews unveil the details of CM programmes or provide conclusions about components that seem to be most promising in terms of positive effects on relevant dementia outcomes (Reilly et al., 2015). The majority of reports about randomised controlled trials dealing with CM provide insufficient information on the implementation of the CM interventions, although some CM trials describe the intervention components in additional papers (Chodosh et al., 2012; Eichler, Thyrian, Fredrich, et al., 2014). Since

the components of the intervention can influence the outcomes, they should be explained in as much detail as possible (Koepke & McCleery, 2015).

Therefore, more consideration should be given to the process evaluation of the CM interventions (Somme et al., 2012). Methodological guidelines for the development and evaluation of complex interventions confirm the importance of process evaluation (Craig et al., 2008). This aims at assessing the reliability and quality of the implementation, clarifying causal mechanisms and identifying contextual factors. A deep insight into the processes enables the reader to get a broader view of the intervention over and beyond the original study population (Dekkers et al., 2010).

## 2 | OBJECTIVES

This scoping review aims at mapping the key components of CM intervention programmes for dementia, particularly in order to identify commonly used components and to explore differences between CM programmes. In addition, aspects of the intervention's generalisability will be explored.

The following research questions guided the data selection and analysis:

1. How are the CM process steps applied for people with dementia and their informal caregivers, and which similarities and differences exist across CM programmes?
2. Which structural and processual conditions regarding the feasibility of CM interventions are reported?

## 3 | METHODS

### 3.1 | Design

The scoping review was guided by the methodological framework by Arksey and O'Malley (2005) and the recommendations made by Levac et al. (2010). The review process comprised the following steps: (a) identifying the research question, (b) identifying relevant studies, (c) selecting studies, (d) charting the data and (e) collating, summarising and reporting the results. This approach allows incorporating a range of study designs and addressing questions beyond those related to treatment efficacy. Although a scoping review has many similarities to a systematic review, it does not require a quality appraisal of the included studies (Arksey & O'Malley, 2005). The reporting of this review followed the PRISMA-ScR (Tricco et al., 2018).

### 3.2 | Search methods

We searched the databases of PubMed, CINAHL, PsycInfo (via Epistemonikos), Cochrane and GeroLit for qualitative, quantitative and mixed-methods studies. In addition, study results from

publications by the World Health Organization (WHO), the Organisation for Economic Co-operation and Development (OECD, 2018) and Alzheimer's Disease International were reviewed. The literature search was conducted in March 2019 and updated in May 2020. The keywords used covered Medical Subject Headings (MeSH) and the following search terms: dementia/dement\*, Alzheimer\*, case management, care management and dementia care coordination.

### 3.3 | Inclusion criteria

We included studies with different designs, such as qualitative, quantitative and mixed-methods studies in the English or German language that had been published between 1999 and 2020. The following study populations were considered for inclusion: people with any type of dementia living at home and/or their informal caregivers, or people in a hospital setting when the CM intervention was related to the care after discharge. According to the definition of CM, interventions covering the components of assessment, planning, facilitation and care coordination, and evaluation were included, regardless of whether the intervention was actually called a CM intervention. We excluded studies in which CM interventions were used only to manage care during inpatient treatment.

### 3.4 | Study selection

The electronic search results were entered into Rayyan QCRI (a web and mobile app, which supports the initial screening of abstracts and titles through a process of semi-automation) and duplicates were deleted. First, two independent researchers (AB & SH) screened the titles and abstracts. Next, two researchers (CS & MG) independently read the full texts and applied the inclusion criteria. Disagreement regarding inclusion was discussed and, if necessary, a third researcher was involved. The references in the reviews were screened and included if they met the inclusion criteria.

### 3.5 | Analysis

A data extraction form was developed and piloted for completeness and applicability by three researchers (AB, CS, SH). The data extraction form is based on TiDiER (Hoffmann et al., 2016) and on the CReDECI (Möhler et al., 2016) and comprised items from CONSORT 2010 (Schulz et al., 2010) as well as on STROBE 2014 statements (Elm et al., 2014). The programmes were analysed according to the programme characteristics, CM intervention and the structural and processing conditions (e.g. recruitment, modes of interventions, healthcare professionals). The CM interventions were analysed according to the underlying definition by the CMSA (2017) and presented in terms of assessment, planning, facilitation

and care coordination, and evaluation. Data were extracted by three researchers (AB, CS, SH). Disagreement was resolved by consensus or discussion. Whenever a particular CM intervention was reported in more than one publication, reports were grouped together.

## 4 | RESULTS

A total of 67 publications were included in our final analysis. An overview of the search and selection process is presented in Figure 1.

### 4.1 | Programme characteristics

We identified 67 studies dealing with 25 programmes. The study and programme characteristics are summarised in Table 1. Most of the programmes were conducted in the USA ( $n = 14$ ), followed by the Netherlands ( $n = 3$ ). Two programmes each were reported from the UK and Germany, and one programme each from China, Canada, Finland and Italy. The programmes were investigated mainly through quantitative analysis. More than half of the programmes were investigated in randomised controlled trials [1, 4, 5, 6, 9, 10, 11, 17, 19, 21, 22, 24, 25], two programmes used a mixed-methods design [2, 8], and the remaining programmes were the subject of pre-post cohort studies [3, 7, 12, 13, 14, 15, 16, 18, 20, 23].

Participants in the studies were predominantly dyads of people with dementia and their informal caregivers. Some of the studies included exclusively people with dementia [3, 7, 12, 13,

15, 20, 23]. The setting for all of the programme interventions was the home of the person with dementia, with the exception of three programmes, in which the intervention was provided in an academic centre and at home [24], or in a healthcare centre [14], respectively in a counselling centre [12]. The study area was predominantly urban or rural and urban; only one programme addressed just a rural area [18].

About half of the programmes ( $n = 14$ ) reported a theoretical framework, rationales or guidelines underlying the appropriate programmes (see Table 1). All the applied concepts differed from each other. Nevertheless, all the programmes were derived from CM approaches or referred to other CM programmes.

The target groups of the programmes were people with dementia or informal caregivers, or both. The two main objectives were to improve the quality of care and to delay institutionalisation, as mentioned in about 40% of the studies (see Table 1). The other objectives concerned reduction of dementia-related behavioural and psychological symptoms (BPSD) and caregivers' burden, and improving caregiver competence and quality of life. Only a few of the programmes were intended to reduce caregiver stress, to establish a network, or to optimise pharmacotherapy, use of care and costs.

### 4.2 | Case management intervention

All the programmes included the steps of the CM process, but the way and the extent to which they were performed varied depending on the programme.

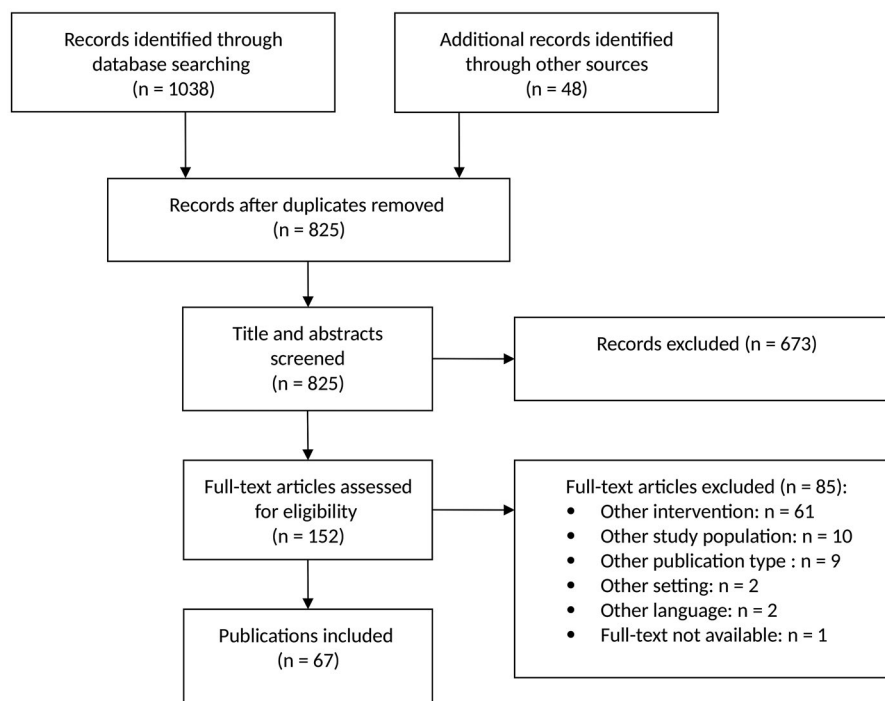


FIGURE 1 Search and selection process of publications

TABLE 1 Characteristics of programmes (n = 25)

Number	Programme	Publication	Study location	Theories/ Rationales/ Guidelines	Objectives	Participants of IG *Two different study populations	Area	Type of care
1	Alzheimer's Disease Coordinated Care for San Diego (ACCESS)	Vickrey et al., 2006 Chodosh et al., 2006 Connor et al., 2008 Connor et al., 2009 Duru et al., 2009 Kaisey et al., 2012 Chodosh et al., 2012 Brown et al., 2013 Chodosh et al., 2015	USA	Chronic Care Model (Wagner, Austin & von Korff, 1996), guideline-based	To improve quality of care	PWD <sup>a</sup> = 238 & 71 ICG <sup>b</sup> = 238 & 71	Urban	Study intervention
2	Collaborative cARE for people with Dementia in primary care (CAREDEM)	Waugh et al., 2013 Bamford et al., 2014 Iliffe, Waugh, et al., 2014 Iliffe, Robinson, et al., 2014	UK	Based on PREVENT study (Austrom et al., 2006)	To reduce BPSD	PWD = 28 ICG = 29	Urban and rural	Study intervention
3	Caring for Older Adults and Caregivers at Home (COACH)	D'Souza et al., 2015	USA	Not identified	To improve quality of care, to delay institutionalisation	PWD = 133	Urban	Established programme
4	Case management (CM) model for mildly demented persons	Lam et al., 2010 Kwok et al., 2012	China	Not identified	To reduce care-giver stress, to improve quality of life	PWD = 59 ICG = 59	Urban	Study intervention
5	Case management	Jansen et al., 2005 Jansen et al., 2011	The Netherlands	Concept 'sense of competence'	To improve competence and quality of life, to reduce informal care-givers' burden	PWD = 54 ICG = 54	Urban and rural	Study intervention
6	Cleveland Alzheimer's Managed Care Demonstration	Bass et al., 2003 Clark et al., 2004	United States	Empowerment conceptual framework (Guttierrez, GlenMaye, & DeLois, 1995)	To improve informal care-givers' competence	PWD = 210 ICG = 182	Urban and rural	Established programme
7	Community Care Service Programme (CCSP)	Diwan & Phillips, 2001	USA	Not identified	To reduce BPSD	PWD = 73	Urban and rural	Established programme
8	Case management of dementia patients and their caregivers (COMPAS)	Vroomen et al., 2012 van Mierlo et al., 2014 MacNeil Vroomen et al., 2015 MacNeil Vroomen et al., 2016	The Netherlands	Not identified	To reduce BPSD, to delay institutionalisation, to reduce care-giver stress	PWD = 234 & 214 ICG = 234 & 214	Urban and rural	Established programme

(Continues)

TABLE 1 (Continued)

Number	Programme	Publication	Study location	Theories/ Rationales/ Guidelines	Objectives	Participants of IG *Two different study populations	Area	Type of care
9	Dementia: life- and person-centred help in Mecklenburg-Western Pomerania (DelpHi-MV)	Thyrian et al., 2012 Eichler, Thyrian, Dreier, et al., 2014 Eichler, Thyrian, Fredrich, et al., 2014 Thyrian et al., 2017 Zwingmann et al., 2018 Michalowsky et al., 2018 Michalowsky et al., 2019 Nikelski et al., 2019 Rädke et al., 2020	Germany	Based on S3-guideline dementia (DGPPN, DGN, 2016)	To improve quality of life, to reduce care-giver burden, to reduce BPSD, to optimize pharmacotherapy	PWD = 291 ICG = 227	Urban and rural	Study intervention
10	Dementia care consultation	Fortinsky et al., 2009	USA	Not identified	To increase care-giver competence, to reduce institutionalisation,	PWD = 54 ICG = 54	Urban and rural	Study intervention
11	Early Home Care Programme	Chu et al., 2000	Canada	Not identified	To reduce care-giver burden, to improve care-giver competence, to delay institutionalisation	PWD = 37 ICG = 37	Urban	Pilot project
12	FORUM Demenz -Gesundheitsnetzwerk Duisburg	Mostardt et al., 2012	Germany	Not identified	To establish a care network, to improve quality of care, to delay institutionalisation	PWD = 38	Urban	Pilot project
13	Geriant model	Glimmerveen & Nies, 2015	The Netherlands	On the basis of Walter Leutz's seminal work on his 'Laws of integration' (Leutz, 1999; Leutz, 2005)	To improve quality of care	PWD = 3536	Urban and rural	Established programme

TABLE 1 (Continued)

Number	Programme	Publication	Study location	Theories/ Rationales/ Guidelines	Objectives	Participants of IG *Two different study populations	Area	Type of care
14	Healthy Aging Brain Center (HABC)	Boustani et al., 2011	USA	Based on two collaborative dementia care models (Callahan et al., 2006; Vickrey et al., 2006)	To improve quality of care	PWD = 208 ICG = 176	Urban	Study intervention
15	ABC Medical Home	Callahan et al., 2011 LaMantia et al., 2015	USA	Further development of HABC	To manage BPSD, to improve quality of care	PWD = 378	Urban	Pilot project
16	Kaiser Permanente-Alzheimer's Association Dementia Care Project	Cherry et al., 2004	USA	Based on diagnostic and management guideline by an Advisory Board and by Cummings et al., 2002	To improve quality of care	PWD = 83 ICG = 83	Urban	Study intervention
17	Medicare Alzheimer's Disease Demonstration and Evaluation (MADDE) programme	Newcomer et al., 1998 Miller et al., 1999 Newcomer et al., 1999 Shelton et al., 2001	USA	Anderson-Newman framework (1973)	To reduce caregiver burden, to improve care-giver competence, to optimise the use of care and costs	PWD = 4151 ICG = 4151	Urban and rural	Study intervention
18	Memory Care programme	Noel et al., 2017	USA	Not identified	To improve quality of care, to reduce caregiver burden	PWD = 967 ICG = 3251	Rural	Established programme
19	Maximising Independence at Home (MIND at home) Adaptations: MIND at Home-Plus MIND at Home-Streamlined	Samus et al., 2014 Tanner et al., 2015 Samus et al., 2017 Amjad et al., 2018 Samus et al., 2018 Willink et al., 2020	USA	Based on Tailored Activities Programme (occupational programme; Gitlin et al., 2009)	To delay institutionalisation, to reduce BPSD, to improve quality of life	PWD = 110 ICG = 106	Urban	Study intervention
20	Multigency- enhanced community assessment and support team (EAST) for elders with dementia	Stevenson et al., 2006	UK	Not identified	To delay institutionalisation	PWD = 22	Urban and rural	Established programme

(Continues)

TABLE 1 (Continued)

Number	Programme	Publication	Study location	Theories/ Rationales/ Guidelines	Objectives	Participants of IG *Two different study populations	Area	Type of care
21	Nurse-led case management programme	Eloniemi-Sulkava et al., 2001	Finland	Not identified	To delay institutionalisation	PWD = 53 ICG = 53	Urban and rural	Study intervention
22	Telephone-based Collaborative Care Management Programme	Mavandadi et al., 2017	USA	Based on two programmes: Telehealth Education Programme and Behavioural Health Laboratory	To improve quality of care, to reduce care-giver burden	PWD = 38 ICG = 38	Urban	Study intervention
23	UCLA Alzheimer's and Dementia Care (ADC) Programme	Reuben et al., 2013 Tan et al., 2014 Jennings et al., 2016 Jennings et al., 2019 Reuben et al., 2019	USA	Based on two dementia care management programmes	To improve quality of care, to reduce health costs	PWD = 519 & 797	Urban	Pilot project
24	UP-Tech	Chiatti et al., 2013 Chiatti et al., 2015	Italy	Guidelines of CMSA, 2010	To reduce care-giver burden, to delay institutionalisation	PWD = 148 ICG = 148	Urban and rural	Study intervention
25	Care Ecosystem Programme	Possin et al., 2017 Possin et al., 2019 Bernstein et al., 2019 Rosa et al., 2019	USA	Not identified	To cover unmet needs, to improve quality of care, to reduce health costs	PWD = 512 ICG = 512	Urban and rural	Study intervention

\* Three programs (ACCESS [1], COMPAS [8], and UCLA [23]) implemented the case management intervention at two different time points with different study populations. Therefore, two different study populations were reported for the corresponding programs in the table.

<sup>a</sup> PWD, people with dementia.

<sup>b</sup> ICG, informal caregivers.



#### 4.2.1 | Assessment

The assessment process was described in all of the programmes. Seven of the 25 programmes, however, did not show any details [6, 7, 10, 11, 12, 20, 21]. The COMPAS programme [8] and the CM programme by Jansen et al. (2011) [5] used the Resident Assessment Instrument – Home Care (RAI HC 2.0), a comprehensive and evaluated assessment tool. The DelpHi-MV programme [9] applied a newly developed comprehensive tool. This tool comprises a risk assessment that acts as a basis for tailored interventions. Otherwise, the assessment tools used were quite different. Among others, caregiver and patient interviews [3], medication and chart reviews [2, 3, 15, 19, 22, 23], cognitive testing [3, 13, 15, 16, 23] through questionnaires or standardised instruments (e.g. Mini-Mental State Examination), laboratory tests [13, 14] and brain imaging [14] were applied.

The assessments were used to collect data in the following areas: people with dementia, informal caregivers and the social and domestic situation (Table 2). All of the programmes had collected data about people with dementia in their assessment. Only seven programmes [1, 3, 8, 9, 16, 18, 22] conducted a comprehensive assessment through additional retrieval of information about informal caregivers and the social and domestic situation.

Assessments were generally completed jointly with the case manager, person with dementia and their informal carer. Sometimes additional resources were included, for instance records from a primary care physician or other healthcare professionals [2, 18]. In one programme, a case manager and a geriatrician [13] conducted the assessment.

#### 4.2.2 | Planning

All the programmes used an individualised care plan. Generally, the case managers generated the care plans together with the people with dementia and their informal caregivers [1, 2, 4, 5, 6, 8, 10, 11, 13, 14, 15, 18, 19, 21, 23]. Seven programmes did not provide any details about how the care plan was created [7, 12, 16, 17, 22, 24, 25]. Among the programmes, which were sufficiently described, different ways of creating the care plan could be distinguished. For example,

the care plan was discussed in a case conference with a multidisciplinary team [3, 9, 15, 20] or in difficult cases it was developed under the supervision of a specialist [23, 24]. In other programmes, the final care plan was shared with the primary care physician [1, 2, 3, 8, 9, 10, 23], local social services and other healthcare providers [1, 2, 4, 14, 18, 23, 24].

#### 4.2.3 | Facilitation and care coordination

Three programmes [3, 9, 10] mentioned only the facilitation and care coordination step of CM, the other programmes provided some more details. The following areas were identified in the programmes at this step: coordination of services [1, 2, 4, 5, 6, 7, 8, 11, 12, 13, 15, 17, 19, 20, 21, 22, 23, 25], education about dementia and dealing with the symptoms in order to improve informal care-givers' problem-solving strategies [1, 4, 5, 6, 8, 11, 13, 14, 15, 16, 18, 19, 21, 24, 25], and emotional support [8, 11, 13, 25]. The case managers usually accompanied the coordination process, except in three programmes. They organised the necessary support services together with the people with dementia and their informal caregivers. However, in three programmes, the case manager coordinated the process together with the primary care physician [9, 10] or together with the pre-existing services [20]. The COMPAS programme [8] facilitated the delivery of service offered mainly by one organisation. However, other add-on components such as education, referrals, counselling, training, emotional support, help with seeking advice about benefits, discussion of plans around finance, health and welfare decisions, problem-solving or medication review varied between the programmes [1, 2, 4, 5, 6, 8, 11, 14, 15, 16, 18, 19, 21, 23, 24, 25] (see also additional interventions).

#### 4.2.4 | Evaluation

The CM evaluation step was usually described in less detail. Sometimes a distinction was made between monitoring and evaluation, sometimes these steps were combined.

TABLE 2 Assessment areas

Domain	Assessment area	Programmes
People with dementia	Needs	2, 5, 8, 13, 14, 17, 19, 23, 25, 9
	Functioning, activities of daily living	1, 3, 4, 5, 8, 9, 13, 14, 15, 16, 17, 18, 22
	Neuropsychiatric symptoms, behaviour	1, 3, 4, 5, 8, 9, 14, 15, 16, 17, 18, 22
	Disease-related aspects (cognitive symptoms, comorbidities, medication)	1, 3, 5, 8, 9, 13, 14, 15, 16, 18, 22, 23, 24
Informal caregivers	Needs	1, 2, 3, 9, 13, 14, 16, 18, 22, 23, 25
	Mood, stress and burden	1, 3, 4, 15, 16, 22, 23
Social environment	Safety and environmental issues, technical assistance	1, 3, 18, 22, 24, 9
	Financial resources	1, 17, 18, 9
	Social support and use of nursing care	9, 16, 17, 18

The monitoring and evaluation were usually performed by the case managers. In some programmes the case managers liaised with social services [4, 13], with the primary care physician [2] or performed the evaluation in a multidisciplinary team [15, 20, 25]. Most of the programmes described that the monitoring as well as the evaluation took place if required or continuously [1, 2, 3, 4, 6, 8, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24]. Some programmes determined fixed periods of time for monitoring, ranging from weekly or monthly to every 3 or 6 months. The period of time for evaluation was scheduled after 3 or 6 months [1, 3, 16] or annually [7, 9, 13]. Some programmes scheduled the evaluation after hospitalisation or at a change in condition [3, 7, 15, 16, 17].

#### 4.2.5 | Additional interventions

In 14 programmes [1, 2, 4, 5, 6, 7, 8, 9, 12, 14, 15, 16, 20, 25] CM was carried out without any additional intervention. The other programmes provided mainly education and training for the informal caregivers [13, 17, 18, 21, 22, 24]. The informal caregivers were trained, e.g. in understanding and managing dementia-related behaviour, in communication skills, stress management, coping skills and support systems, safety issues or advance care planning. There were also programmes that did not offer a training programme but provided educational material in the form of printed material or as an online resource [10, 23]. Four programmes offered their own support groups [3, 17, 18, 21]. In addition to the support groups for informal caregivers, the COACH programme [3] and the programme based on nurse-led case management [21] also organised group meetings for people with dementia, and the MADDE programme [17] provided transportation to the education and support groups. Other additional interventions for people with dementia were occupational therapy [11, 19], a home-based programme on cognitive stimulation [4], cognitive behavioural therapy and motivational interviewing, and treatment with psychotropic medication [14, 17]. For informal caregivers, mental health and counselling services [14, 17], a lending library [18] and assistive technology intervention [24] were offered. The Early Home Care Programme [11] provided occupational therapy, physical therapy, social work, nursing, respiratory therapy, in-home respite care, housekeeping, personal care assistance, volunteer services and psychiatric consultation as additional interventions to the CM approach.

### 4.3 | Structural and process conditions

#### 4.3.1 | Recruitment

In the majority of the programmes, people with dementia and their informal caregivers were referred to a CM intervention by a primary care physician [1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23]. Referrals were also initiated in hospitals and outpatient clinics such as community clinics, memory clinics, psychiatric

clinics or geriatric wards [1, 4, 8, 11, 20, 23, 25]. In some CM interventions, people with dementia or informal caregivers were able to call directly to request enrolment [14, 17, 18, 23, 25]. In some programmes, participants were recruited via counselling centres [8, 12], different healthcare providers [14, 18, 19, 24], community organisations and social services [19, 20], social insurance agencies [19, 21], a research centre [5] or a health department [19]. Besides which extensive publicity also supported recruitment for the programmes [19, 24, 25]. While most of the programmes had chosen to access participants through these groups of healthcare professionals, seven programmes chose a wider range for recruitment [8, 14, 18, 19, 20, 23, 25].

#### 4.3.2 | Modes of intervention

In the majority of the programmes, the CM intervention was carried out through home visit and telephone contact. Some of the programmes described appointments outside the home (e.g. in clinics or healthcare centres) in addition to home visits [1, 7, 13], while other programmes either described contact to have taken place exclusively outside the home or did not provide any information about the place of the face-to-face contact [2, 12, 14, 22]. In the Care Ecosystem Programme, the CM intervention was carried out exclusively via telephone without face-to-face contact [25]. Additional contacts via e-mail or letter were described in seven programmes [1, 2, 14, 15, 18, 19, 25]. Only the UCLA programme offered 24-hr support by dementia healthcare professionals [23].

Diverse information about the duration of the programmes could be extracted from the included studies. Because CM is based on the individual needs of persons, in many of the programmes the period of intervention as well as the number, frequency and duration of contacts were also adapted to the individual needs [1, 2, 3, 8, 12, 14, 16, 18]. However, some programmes had fixed time schedules for the intervention. The schedules of these programmes [4, 5, 6, 9, 10, 11, 17, 19, 20, 21, 22, 24, 25] varied between 3 and 36 months, usually depending on the duration of the programme. The planned number and frequency of contacts varied between one contact per year up to monthly contacts [6, 7, 9, 10, 11, 13, 15, 19, 21, 22, 23, 24, 25]. Only three programmes provided information about the duration of the contacts [5, 11, 20]. The case managers spent between 11 and 200 hr per year supporting the target groups.

Further information is presented in Appendix S1.

#### 4.3.3 | Healthcare professionals

The CM programmes were coordinated or carried out by healthcare professionals (Table 3).

In the majority of the programmes, the key healthcare professionals involved in the CM programmes were called case managers ( $n = 10$ ). Other CM programmes used the term coordinator ( $n = 5$ ), or care

TABLE 3 Healthcare professionals

Programme	Job title	Professional background	Education/Training/Experience	Support
1	Dementia care manager	Social worker	Training in dementia, care management and used software; ongoing training	Ongoing collaboration
2	Case manager	Practice nurse Social worker	Training in building relationships; continuous identification of competences and training needs; ongoing training	Support from experienced Admiral Nurse
3	N.a. <sup>a</sup>	Registered nurse Social worker	Experience in geriatric care	Support from interdisciplinary team
4	Case manager	Occupational therapist	Training provided	Support from psycho-geriatrician or geriatrician
5	Case manager	District nurse	Training in dementia, organising family-meetings and used software Experience in geriatric care	Supervised meetings
6	Care consultant	Social worker	Not identified	Not identified
7	Case manager	Social worker Psychologist Counsellor Sociologist Other	Training in social work, psychology/counselling, sociology and human resources/public services Experience in CM and with population	Individual and group supervision, clinical supervision
8	Case manager	Psychiatric nurse Registered nurse	Training provided	Linkage model: support by a care physician Intensive CM model: support by a multidisciplinary team and team meetings <sup>b</sup> Meetings with CM team
9	Dementia care manager	Nurse	Dementia-specific training	Cooperation with primary care physicians
10	Dementia care consultant	Social worker Speech and language therapist	Dementia care consultant training	Not identified
11	Case manager	Social worker	Not identified	Not identified
12	Guide in healthcare	Social worker Social pedagogue Social scientist	Experience in dealing with people with dementia	Not identified
13	Case manager	Nurse	Training provided on clinical CM for dementia	Meetings with the team's social geriatrician
14	Dementia care coordinator	Registered nurse Social worker Geriatrician	Training provided	Supervision
15	Care coordinator	Registered nurse	Training on chronic conditions, accessing community resources and others	Support by administrator, social workers and medical director
16	Social work case managers	Social worker	Training by the Alzheimer's Association	Support by mentors

(Continues)

TABLE 3 (Continued)

Programme	Job title	Professional background	Education/Training/Experience	Support
17	Case manager	Nurse Social worker	Training related to evaluated staff needs	Technical assistance meetings, assistance with particularly difficult cases
18	Memory care team	Nurse Social worker Internist/physician Psychiatrist	Dementia-specific training Provision of information about community resources	Not identified
19	Coordinator	Registered nurse Social worker Psychologist Psychiatrist Marketing expert	Training on dementia and best practice principles	Support by a geriatric psychiatrist and a registered nurse, meetings
20	Coordinator	Registered mental health nurse Social worker	Social worker with experience in community team working Nurse with experience in psycho-geriatric care	Support by a steering group (psycho-geriatrician, psychiatric clinical services manager, social services project manager for mental health) Supervision
21	Dementia family care coordinator	Registered nurse	Training provided	Support by dementia care specialists
22	Care manager	Nurse	Nurse with experience in geriatrics and treatment of behavioural health conditions	Not identified
23	Dementia care manager	Geriatric nurse	Expertise in dementia and resources in the community, specialised knowledge of managing dementia-related behaviour	Supervised by a Medical Director*
24	Case manager	Social worker	Intensive and multidisciplinary training	Supervision by a senior social worker
25	Care team navigator	Unlicensed dementia care guide	Training in neurodegenerative diseases, ageing, medication review, listening and communication Skills assessment of patient function and others	Supported and supervised by a multidisciplinary team (advanced practice clinical nurse, social worker, pharmacist)

<sup>a</sup>N.a., Not available.

<sup>b</sup>Information sent on request by staff member/research

manager ( $n = 4$ ). Some programmes highlighted the dementia-related expertise, for instance as dementia care managers [1] or dementia care consultants [10]. Team approaches were used in two programmes, namely the memory care team [18], and the care team navigator [25]. Another job title was the guide in healthcare [12]. Only the COACH programme did not mention a job title for the key healthcare professionals [3].

The key healthcare professionals were predominantly nurses or social workers. Some were specialised in psychiatric nursing [8], geriatric nursing [23], or mental health [20]. A few programmes were carried out by occupational therapists, psychologists, speech and language therapists, respectively. Professionals from different backgrounds were involved in several programmes ( $n = 11$ ).

While training in approaches to CM was rarely described, training in dementia issues was frequently reported [1, 5, 9, 10, 16, 18, 19, 23, 25]. Only one programme mentioned training in CM for dementia [13].

Around half of the programmes provided continuous support for the case manager via supervision [5, 14, 23, 24] or by a multidisciplinary team and dementia care specialists [2, 3, 4, 8, 16, 19, 20, 21]. One programme [17] offered technical assistance meetings.

#### 4.3.4 | Used material

Some programmes [4, 6, 8, 11, 12, 16, 17, 18, 20, 21, 24] did not provide any information about the physical or informational materials used, the other programmes named or described this material briefly. From the latter, only three reported open access to the used material, tools and protocols on a website [1, 14, 15]. In seven programmes, a software system was used for assessment, care planning, service and provider referrals and monitoring, respectively [1, 5, 9, 15, 19, 23, 25]. Some of the programmes created special assessment tools [9] or protocols [5, 7, 13, 15]. Healthcare professionals were also supported by various electronic systems, such as telephone or email systems or documentation systems in notebooks [9, 15, 19]. Care management or intervention manuals helped to suggest evidence-based care strategies for each identified unmet need [1, 9, 19]. Leaflets or journals for people with dementia and the informal caregivers, information sheets about available community services and educational material for informal caregivers were also used in some of the programmes [2, 3, 10, 22, 23, 25].

#### 4.3.5 | Costs

More than half of the programmes provided information about the costs of the CM intervention [1, 2, 4, 5, 8, 9, 12, 13, 17, 18, 19, 23, 24, 25]. The programmes analysed or estimated the costs per patient or per patient-care-giver dyad. The published study protocol of two programmes outlined a cost analysis, which has not been published so far [5, 24]. The costs of CM were considered either from the payer's perspective, the societal perspective or from both perspectives. While the payer's perspective covered the medical and formal healthcare costs, the societal perspective also covered the

informal healthcare costs, including productivity losses. The programmes analysed the costs according to the following categories: healthcare costs [1, 4, 5, 8, 9, 12, 18, 23, 24], non-healthcare costs [1, 5, 8, 9, 24] and costs of intervention [1, 2, 13, 17, 19, 24, 25]. The described healthcare costs comprised the costs of outpatient physician treatment, other outpatient treatment (such as occupational therapy, speech therapy and physiotherapy), inpatient treatment, formal care (like ambulatory care, day care, home-based nursing care and hospice care), and the costs of medication and medical aids (e.g. bath lifts, walking sticks, walkers). Non-healthcare costs are defined as the costs of care-giver's time, productivity loss of informal caregivers, travelling, consulting alternative healthcare professionals and costs for technological devices. The costs of the intervention included fixed one-off start-up costs, salaries for healthcare professionals, travel costs for the case managers, costs for training and mentoring, supplies, equipment, administrative overheads and operational costs.

#### 4.3.6 | Reliability

Information about intervention adherence could only be identified in two programmes [19, 25]. The software system of the MIND programme [19] had built-in query and reporting capabilities, which enabled the tracking of protocol reliability and self-monitoring of the implementation process. The Care Ecosystem programme [25] stated that no changes were made to the study design or eligibility criteria after trial commencement.

#### 4.3.7 | Process evaluation

Seventeen programmes [1, 2, 4, 8, 10, 11, 13, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25] investigated facilitators and barriers for the implementation of CM interventions.

The risks and facilitating factors of the implementation were assessed in the COMPAS programme [8]. Involvement of people with dementia and their informal caregivers and sufficient time to set up and organise the CM structures promoted the development of an intervention specifically for people with dementia. However, different perspectives on the content of case manager tasks along with no clear guidelines for the implementation were described as barriers for the implementation in the COMPAS programme.

Factors that facilitate or inhibit the recruitment of people with dementia and their informal caregivers were described in seven studies [2, 8, 15, 22, 23, 24, 25]. The facilitating factors were a multi-component recruitment strategy, a strong partnership between the case manager, the primary care physician and other stakeholders [23, 24] as well as information about the programme in appropriate communal languages [2]. However, highly selected or unclearly defined target populations [2, 22], imprecise referral procedures [8] and bureaucratic barriers [2] could hinder the recruitment.

Case manager characteristics that influence CM interventions were described in eight programmes [2, 8, 10, 11, 16, 21, 23, 25]. To promote the intervention, a wide range of knowledge and skills regarding dementia care and local services, and a pre-existing interest and continuous training in dementia care were deemed necessary [2, 11, 16, 21]. Interpersonal skills and empathy as well as a positive therapeutic relationship to people with dementia and their informal caregivers were described as important for the professional case manager's role [2, 8, 10, 11, 23, 25]. Unclear responsibilities, insufficient qualifications or training of the case managers, and a lack of resources could impede the intervention [2, 8, 25].

Ten programmes indicated [2, 4, 8, 13, 15, 16, 19, 20, 24, 25] that cooperation and communication between case managers and other healthcare providers or with people with dementia and their informal caregivers could also promote or impede the CM intervention. Trustful and good working relations at the local level, close informal ties and open communication between network partners were important for the intervention [8, 13, 15, 16, 19, 24, 25]. Software systems could support this interaction and coordination [8, 16, 19]. However, insufficient leadership, lack of communication or difficulties in sharing information could inhibit the cooperation [2]. A low acceptance to participate in the programme by informal caregivers and people with dementia and language barriers on the part of informal caregivers from minority groups also represented barriers for the CM intervention [4].

Facilitators and barriers in the modes of CM approaches were identified in six programmes [2, 4, 8, 10, 16, 25]. Home visits served better than telephone contacts or contacts outside the home to get an impression of the living circumstances of the client [2]. Moreover, contacts (at least once a month) initiated by healthcare professionals promoted a continuous relationship [10, 25]. Evidence- and consensus-based practice guidelines were useful tools for the therapeutic approach of healthcare professionals [16]. Time constraints for CM interventions and a lack of face-to-face contacts hindered the establishment of a positive relationship and limited the intensity of care-giver input [2, 4]. Additional barriers were an untimely start of CM in the illness trajectory and a lack of clarity regarding the scope and boundaries of the intervention.

In six programmes [1, 4, 8, 13, 17, 25], the costs were analysed in the process evaluation. Pilot funding provided incentives to develop CM interventions. Programme costs and costs of community services represented a barrier to the adoption of the intervention measures, especially for people with low income [1, 17, 25]. In addition, system barriers such as fragmented funding across providers or a lack of community resources impeded the success of CM interventions [4, 13].

## 5 | DISCUSSION

The present scoping review of CM for people with dementia included 67 studies dealing with 25 CM programmes. The study designs varied; some dealt with CM interventions that were carried out solely

during study, others concerned established CM interventions that had already been conducted in the practice and were afterwards scientifically examined in a study. Only 6 of the 25 identified CM programmes are established programmes. These programmes are from the USA ( $n = 3$ ), the NL ( $n = 2$ ) and the UK ( $n = 1$ ). The roots of CM lay in the USA and the UK. Several CM programmes for people with dementia have been established in the NL. The studies related to the established programmes were published between 2001 and 2016. It seems that the number of established programmes have not increased during that time. Almost all the programmes were offered to dyads of informal caregivers and people with dementia. The CM programmes differed substantially with regard to theoretical background, the qualifications of healthcare professionals, modes of intervention and the implementation of the individual CM steps.

Our analysis revealed that the CM steps were mentioned in all programmes, but were not always described in detail. However, simply listing the components does not seem sufficient to understand the process of CM. It can be assumed that the content and extent of the individual components can influence the effectiveness of a complex intervention as well as its replicability (Hoffmann et al., 2016; Koepke & McCleery, 2015).

The first CM step – assessment – was described in detail in the majority of the programmes. However, especially in pilot programmes, it was often difficult to distinguish the CM assessment from the study measures. CM, which starts with a comprehensive assessment of the needs of the people with dementia and their informal caregivers, has been described in the literature as a promising way to improve the quality of life, reduce health expenditure on inappropriate hospital admissions, and produce societal benefits (Illiffe et al., 2019). Half of the analysed programmes collected comprehensive information not only about people with dementia, but also about their informal caregivers. In contrast, few programmes collected additional information on safety and environment, technical support, financial and social resources, and use of professional care. However, the CM approach requires the individual context, and available resources must be taken into account (Kanter, 1989). CM models did not differ in their assessment in terms of the type of background (social or medical). Programmes offered entirely by social workers did not necessarily have a broader social focus, and programmes offered by a nurse or physician did not always employ a medical review. Only a few programmes used complex, established assessment instruments such as RAI-HC or developed their own comprehensive instruments. There are various validated instruments on individual areas such as the burden of informal caregivers, BPSD, quality of life or needs. However, there is a lack of assessment instruments that are appropriate for the CM process in dementia. A comprehensive assessment is necessary to gain a thorough understanding of the needs of people with dementia and their informal caregivers (Lloyd & Taylor, 1995).

The other CM steps were often only named and gave no detailed description of their nature and scope. The designs of the care plan and its implementation are highly individualised. Individual design corresponded to a CM process, otherwise it was not obvious

which concrete components, e.g. frequency and intensity of contacts, motivation of people with dementia, joint decision-making or personality of the case manager, led to the success of the intervention. The motivation of people with dementia and informal caregivers to use formal care was described as a major impact (Stephan et al., 2018), as was the importance of a supporting network around the case manager (Backhouse et al., 2017). However, the care plan was discussed in a few programmes only in case conferences with a multidisciplinary team or with specialists. In order to coordinate the care, the case manager should ideally educate informal caregivers about dementia, provide psychological support and refer patients to appropriate community services to support their coping strategies, to delay institutionalisation and to facilitate ageing in place (Tam-Tham et al., 2013). Only four programmes described activities by the case managers in all of these three areas. Most of them mainly provided assistance by giving referrals to community services or by providing further education about dementia and how to deal with it, or both. However, in most programmes, it was not apparent how intensively and extensively this referral was accompanied. Evaluation as the final step of the CM process was rarely described in detail. For example, it was not specified how and when support services were evaluated. In total, the descriptions of the various CM programmes led to the assumption that CM was seldom delivered in a complete way. The underlying reasons for this remain unclear. The individualistic approach, inherent in CM, seems to be responsible for the wide variety of activities (Koch et al., 2012). However, the intensity of CM is a key factor for effective patient and service use outcomes (Reilly et al., 2010). Qualities of high-intensity CM are, among others, regular meetings with patients and informal caregivers, and proactive and timely follow-ups (Khanassov et al., 2014), which were seldom described in the identified CM programmes.

None of the studies reviewed presented a specific dementia-related framework for CM. Different models of home and social care services exist (Low et al., 2011). One of them is a dementia-specific key worker framework (Renehan et al., 2017), which is not explicitly defined as a CM framework. Therefore, we suggest our own framework based on the definition of CM by the CMSA and the elements of the VIPS model (Brooker & Latham, 2015). The four key elements of the VIPS model are valuing people with dementia and those who care for them, treating people as individuals, looking at the world from the perspective of the person with dementia and a positive social environment. The person-centred approach behind the VIPS model showed an improvement in quality of life of people with dementia (Chenoweth et al., 2019). The VIPS elements should be considered in the whole CM process. The dementia-specific CM framework can be used for developing, implementing and evaluating related interventions.

Due to the reporting quality, it is difficult to assess the external validity of the CM interventions. With regard to the transferability of CM, different preconditions and the framework conditions have to be considered. The CAREDEM programme, e.g. conducted a further study (Waugh et al., 2013) on implementation and determined

which skills, where they were located, what cohort of participants and what type of contacts were most appropriate.

For some CM programmes, comprehensive information was provided, e.g. on recruitment or healthcare professionals. With regard to recruitment, components such as a strong partnership between the case manager and the primary care physician and other stakeholders (Khanassov et al., 2014) and clarity about the scope and boundaries of the intervention (Bamford et al., 2014) are important aspects, which were considered in the majority of programmes. Furthermore, the people with dementia addressed in the programmes varied in the stage of the disease, and their needs and requirements. Programme reports did not include information on the impact of CM in relation to stages of dementia. Corvol et al. (2017) *Klicken oder tippen Sie hier, um Text einzugeben.* and Jansen et al. (2011) *Klicken oder tippen Sie hier, um Text einzugeben.* stated that CM is most appropriate in the middle or late stages of dementia. It can be assumed that people living alone with dementia were hardly included in CM programmes. A recent review confirmed inconsistencies in access to and use of support services by older adults with cognitive impairment who live alone (Rosenwohl-Mack et al., 2019).

Case managers might be nurses or social workers. In the included programmes, mostly nurses with different qualifications but also social workers carried out the intervention. In addition, a multidisciplinary team was described as a promising component of CM interventions (Koch et al., 2012; Minkman et al., 2009).

The programmes also used different regional structures and located the CM in different settings, e.g. networks, large healthcare agencies, and communal counselling centres. Reports did not clearly describe the influence of these aspects on the implementation of CM. A Dutch report showed no or only few differences on caregiver burden and satisfaction through the organisation model of CM (Peeters et al., 2016).

Looking at the programmes over time, no clear patterns can also be identified in how CM approaches and study designs have changed. Most of the programmes ( $n = 17$ ) were implemented from 2010 onwards. Programmes that emerged in the early 2000s, particularly in USA, were already focussed on quality of care, burden or institutionalisation. Early programmes also involved people with dementia and caregivers, as well as various professional groups. Even in the early 2000s, randomised trials were conducted or process evaluation was included. After 2010, a mixed-methods design was increasingly used.

The description of the individual CM steps also varies across all programmes and the time span of 20 years. A tendency for the orientation of the process steps to change in a particular direction could not be identified. It also seems that validated assessment tools have not taken hold. Some newer programmes are more focussed on technical components, such as telephone counselling or video training.

The acceptance, compliance, delivery of the intervention, recruitment and retention of complex interventions were insufficiently described in the study reports (Craig et al., 2008; Reilly et al., 2010).

In the present scoping review, it has been shown that the delivery of the CM interventions as well as the acceptance of the participants was poorly reported. The essential components and preconditions for CM should be described in more detail (Verkade et al., 2010). In principle, the concept of CM should be further developed with regard to the specific requirements of people with dementia and their informal caregivers, and interventions should be improved.

## 5.1 | Strengths and limitations

This review has several strengths, but also limitations. The comprehensive search in several databases and additional hand searching identified a broad range of studies. There was no restriction regarding the study design. Synonyms for the term CM were carefully selected based on explorative searching, existing literature and our own experience. To reduce subjective bias, two researchers independently conducted the study selection and data extraction. The data extraction was elaborated by items from the TiDieR and CReDECI and took the valid reporting guidelines for intervention studies and complex interventions into account.

CM interventions are offered very widely in various countries; however, we included only CM interventions that had been evaluated and published in studies (OECD, ). CM programme evaluation published in languages other than German and English was not included for reasons of practicability. We did not conduct a critical appraisal, as this is not included in the scoping review methodology. In addition, it was difficult to distinguish CM interventions from counselling services and other complex interventions because such interventions were named CM, but actually not all CM steps were carried out. Programmes without the core element of care coordination were excluded. We may have missed some programmes because we focussed on programmes based on the CM definition of the CMSA. The definition also includes the step advocacy for options and services, which we did not include in our scoping review.

## 6 | CONCLUSION

CM can help people with dementia and their caregivers to find appropriate, integrated and coordinated care. However, in the absence of a consented definition, CM interventions differ widely in the design and intensity of the programmes, and in descriptions of the programmes. Our scoping review shows that the reporting on the CM intervention was insufficient because important details about the components were lacking. Since the components of the intervention can influence the outcomes, they should be explained in as much detail as possible. The CM process step assessment was comprehensively reported; however, the other CM process steps were not described in detail. Especially the evaluation step was insufficiently reported. More emphasis should be spent on the reporting of CM interventions in order to improve the understanding of implementation aspects. The reported implementation aspects are

not sufficient to transfer the CM intervention to other care-giving situations. Implementation requires explanation of components of external validity, i.e. recruitment strategies, modes of CM approaches or information about the case managers. Recommended tools for the reporting of complex interventions, like TiDieR or the CReDECI, would be useful for improving the reporting of CM interventions and the external validity. Policy makers should create legal frameworks that provide incentives for more established CM programmes. However, policy statements in national dementia strategies are not sufficient to meet the needs of people with dementia and their families for coordinated care. Providers can use the introduced framework for dementia specific CM to develop and implement CM interventions. Further research should consider not only the effectiveness of CM interventions, but also the aspects of transferability. The user perspective remains to be considered through enrolment of people with dementia and their informal carers into the development and evaluation of CM interventions.

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## CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

## AUTHORS CONTRIBUTION

CS and AB designed the review supported by MG, SH and GM. CS, AB, MG and SH collected and analysed the data. CS, AB, SH and GM interpreted the data. CS drafted the manuscript, supported by AB. All authors reviewed the manuscript's drafts and approved the final version.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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