Nielsen *et al. BMC Primary Care* (2025) 26:142
https://doi.org/10.1186/s12875-025-02833-x

BMC Primary Care

RESEARCH **Open Access**

Implementation and acceptability of the Caregiver Care Model in general practice: a mixed-method feasibility study

Mette Kjaergaard Nielsen[1*], Marie Cecilie Vinther[1,2], Mai-Britt Guldin[1], Kaj Sparle Christensen[1,2] and Anna Mygind[1]

Abstract

Background Being a caregiver can be demanding. Therefore, we developed the Caregiver Care Model for general practice. The model consists of a mandatory dialogue questionnaire, which is used to identify support needs in caregivers, grief-facilitating questions, and an overview of community-based caregiver initiatives for caregivers in need of support. We aimed to test the implementation and acceptability of the model in general practice.

Methods We used a fixed, convergent, mixed-methods approach to test the model in five general practices in the Central Denmark Region among 40 caregivers. Quantitative data included monitoring data collected by health professionals in an online database at inclusion and after each consultation. Qualitative data were derived from five introductory meetings and semi-structured interviews with ten health professionals. The analysis focused on the implementation (delivery and process) and the health professionals' acceptability of the model.

Results All 40 caregivers participated in the first consultation, and 29 (73%) had two or more consultations. Eight caregivers (20%) were referred to community-based initiatives or a private-practice psychologist. The mandatory dialogue questionnaire was completed by 30 (75%) caregivers prior to the first consultation, and it was rated useful by general practitioners (GPs) and staff in 26 (74%) of encounters. GPs and staff perceived the dialogue questionnaire to be useful to direct the first consultations towards the most relevant issues, whereas the usefulness of the facilitating questions was unclear due to the brief introduction to them. The list of community-based initiatives was considered useful in urban areas, but not in rural areas with long distance to initiatives. Here, support from general practice was needed to promote mental health in caregivers and avoid sick leave.

Conclusion The Caregiver Care Model was in line with core values of general practice and the dialogue questionnaire targeted the consultations on relevant issues for the caregiver. Health professionals provided targeted support, including follow-up consultations and referred a group for community-based initiatives, especially caregivers in urban settings. The findings call for increased focus on caregivers and education of general practitioners and staff to facilitate caregiver reactions in connection with loss and grief.

Keywords General practice, Primary care, Caregivers, Grief, Mental health, Palliative care, Psychosocial intervention studies, Mixed methods

*Correspondence:
Mette Kjaergaard Nielsen
Mette.k.nielsen@ph.au.dk

[1]Research Unit for General Practice, Bartholins Allé 2, Aarhus 8000, Denmark
[2]Department of Public Health, Aarhus University, Aarhus, Denmark

Background

The ageing population in the Western world and higher demands on the health care system have increased the scope and complexity of caregiver responsibilities, and many family caregivers must handle both psychological and practical issues of severe illness in a loved one [1, 2].

Providing care for a severely ill close relative is a highly demanding task, which places the caregiver in a vulnerable position with an increased risk of developing physical and mental disorders [3–5]. Most caregivers manage the psychological reaction to serious illness and death with the help from their social network, but a small group has persistently high levels of grief symptoms [6]. Caregivers with the highest level of grief symptoms have more consultations with health professionals in primary care [7].

Besides assessing physical symptoms of caregivers, general practice may play a key role in the prevention of mental illness through assessment of the need for practical, psychological and existential support for caregivers, including referral to support in the community or in secondary care. General practice in the Nordic countries is based on patient-centered care [8], and core values and principles have been described including provision of care for those who need it most [9]. However, general practice lacks clinical guidelines on this topic, including strategies to identify and assess mental health in caregivers and for follow-up and referral [10].

In 2022, the Caregiver Care Model was developed for general practice to mitigate grief reactions among caregivers during severe illness [11]. The model is used during consultations in general practice and seemed to accommodate the needs of caregivers by acknowledging their situation and providing targeted support to the individual caregiver. Other caregiver interventions have been implemented in specialized palliative care [12, 13]. However, the primary care setting differs significantly from the specialized setting, and the diverse patient population in general practice called for inclusion of all distressed caregivers without restrictions to palliative care [9]. In the development of the model, caregivers and health professionals from five general practices participated. They were employed by their administrative region in Denmark to conduct quality development of clinical work [11]. However, the feasibility in a broader, less selected general practice setting remains unknown, and studying the implementation and acceptability of the model in a thorough feasibility test is therefore particularly needed before testing the model in a large-scale evaluation setup [14].

Aim

The aim of this study was to test the implementation and acceptability of the Caregiver Care Model in a Danish general practice setting.

Methods

Study design

This study used a fixed, convergent mixed-method design [15] with a particular focus on the health professionals' and not the caregivers' perspective. The study was reported following the SRQR checklist for qualitative research [16] and the TIDieR checklist for intervention reporting [17].

Central concepts

According to Moore et al. [18], implementation entails intervention delivery (including reach, dose and fidelity) and implementation process (how delivery is achieved). Moore et al. also recommend exploring participant responses to an intervention in order to understand how the intervention functions [18]. One aspect of participant responses is the concept of acceptability, defined by Proctor et at. as the perception among stakeholders (including participants) that a given intervention agreeable, palatable, or satisfactory [19, 20]. We used these theories of implementation to assess implementation and health professionals' acceptability of the Caregiver Care Model (Table 1). The questions to be investigated quantitatively and qualitatively are presented in Table 1.

Setting

The Danish healthcare system is based on the principles of the Danish welfare state; all residents have equal access to social security, and most healthcare services are financed by general taxes and provided mainly free of charge [21]. Most general practices are owned by the GPs working as clinicians and managers and they employ other health professionals e.g. nurses, secretaries, health care helpers and substitute GPs. General practice functions as a gatekeeper to secondary care and is paid by capitation combined with a fee-for-service reimbursement model [22]. A specific remuneration code exists for talk therapy provided by GPs involved in supervision, which allows for an extended time frame for this type of consultation. Residents pay no user fee in general practice and may receive up to seven talk therapy consultations per year [23]. Regarding patients fulfilling specific criteria, GPs can refer to a private-practice psychologist, which provides partly coverage of the expenses from the healthcare system.

The intervention

The Caregiver Care Model consists of consultation(s) in general practices targeting the caregivers' support needs and risk for complications. The model aims to mitigate grief reactions among caregivers during severe illness by acknowledging their situation and providing targeted support to the individual caregiver, including talk therapy in general practice or referral to caregiver initiatives in

Table 1 Operationalization of central concepts of implementation and acceptability

Central concept	Operationalization	Quantitative questions	Qualitative questions
Implementation			
Delivery* (what was delivered)	Reach (whether the intended audience gets in contact with the model, and how)	How many caregivers were contacted and included? How fast were they included?	Which experiences did the health professionals have regarding barriers and enablers for initiating the use of the model?
	Dose (the quantity of key components implemented)	How many consultations (first and follow-up) were conducted per caregiver?	
	Fidelity (whether the model was delivered as intended)	For how many caregivers was the mandatory component (dialogue questionnaire) used? For how many caregivers were the optional component (facilitating questions and list of community initiatives) used? To what extent were caregivers referred?	
Implementation process* (how was the delivery achieved, and what resources were used?)	Which professions delivered the model, and why?	Which health professional performed the consultations?	Which reflections did health professionals have about which health professionals to perform the consultations?
	Which recruitment strategies were used, and why?	How were the caregivers recruited?	What reasons were behind the recruitment strategies? Which experiences did the health professionals have with recruitment?
Acceptability** (health professionals' perceptions that the model is agreeable, palatable, or satisfactory)	Was the model acceptable for health professionals to use, and in what way?	How often was the use of each key component considered meaningful?	How did the health professionals perceive the overall model as well as each of the key components before and after using them?

*Definition according to Moore et al. [18]

**Definition according to Proctor et al. [20]

the community or specialised services in case of severe distress. In the first consultation, a dialogue questionnaire filled in by the caregiver prior to the consultation (mandatory component) serves as an underlying basis for dialogue. Two optional components are available for follow-up consultations [11].

The dialogue questionnaire (Additional file A) is an adapted version of a tool developed in specialized palliative care to assess support needs and complication risk in caregivers [13]. The research group has recently performed psychometric tests of the tool showing good properties. The optional components include (1) a list of facilitating questions and themes (Additional file B) to incorporate in talk therapy based on the principles of evidence-based grief therapy [24, 25] and (2) a list of community-based initiatives for caregivers. The model aligns with the stepwise framework of the Public Health Model, which offers basic information for caregivers in general, interventions in primary care (including talk therapy in general practice) for some caregivers, and referral to specialized care for caregivers with special needs [26].

Procedure

The workflow of the model is presented in Fig. 1. The dialogue questionnaire is completed by the caregiver before the first consultation. No restrictions were made of duration from invitation to the first consultation. The dialogue questionnaire prepares the caregiver and serves as a starting point for dialogue. Besides introductory questions (three items), the questionnaire is divided into three sections focusing on 'need for information or support regarding the patient's illness' (five items), 'need for support for yourself' (five items), and 'previous circumstances' (three items) [11]. Each general practice could freely choose how to invite caregivers, organize the handout of questionnaires and who should deliver the consultations.

If needed, follow-up consultations are offered in general practice or referrals are made to other services (e.g. municipal caregiver support or psychologist). In follow-up consultations, the health professionals may use the two optional components: facilitating questions and a list of community-based initiatives. The optional component of facilitating questions consists of a list of questions aiming to encourage the health professionals to select topics that are often relevant for caregivers in evidence-based grief therapy [27]. The facilitating questions concern the caregiver's current situation, social network, perception of the situation, and future perspectives. The other optional component is a list of initiatives for caregivers in the local community; these are intended to aid the health professional in referring the caregiver to relevant services.

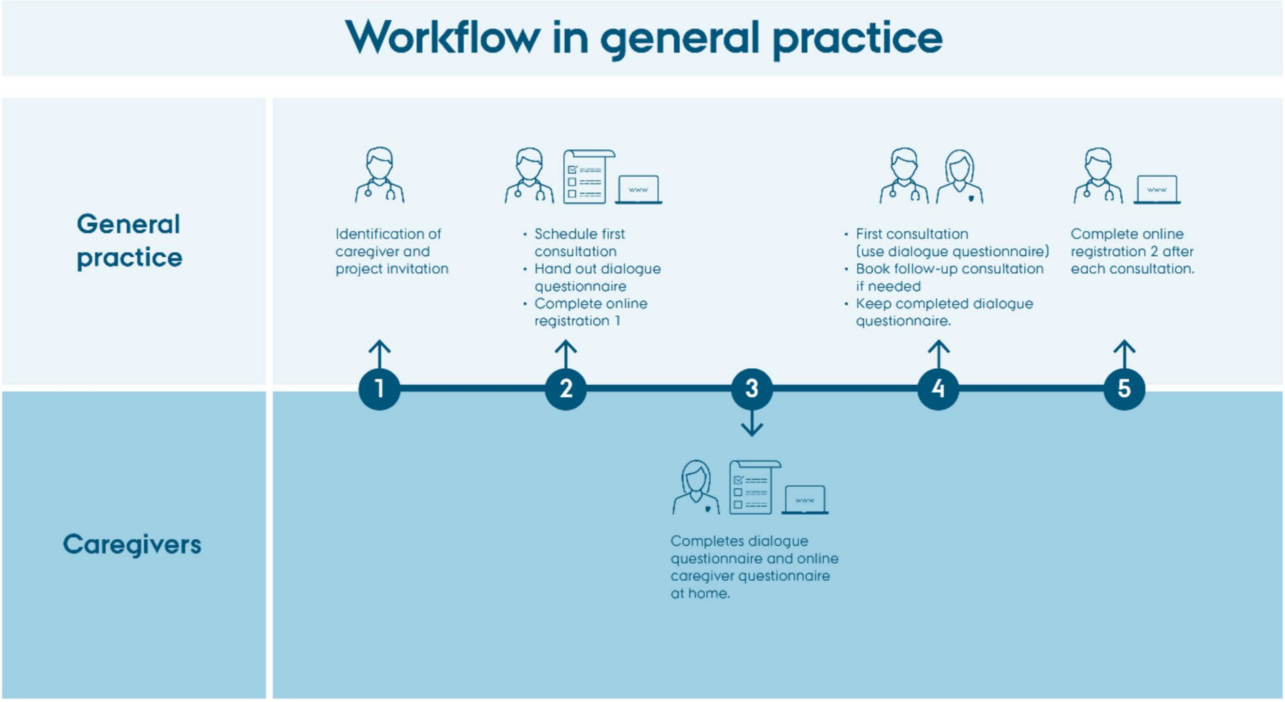

Fig. 1 Workflow of the caregiver care model

Table 2 Overview of participants

General practice	Location	Expected no. of participants according to practice size*	Health professional conducting Caregiver Care consultations	Participants in introductory meeting	Interviewees
1	Rural	10	Staff1	Staff1 and GP1	Staff1 and GP1
2	Urban	10	Staff2 and GP2	Staff2 and GP2	Staff2
3	Rural	15	Staff3 and GP3	Staff3 and GP3	Staff3 and GP3
4	Urban	15	Staff4 and GP4	All staff and GPs	Staff4 and GP4
5	Rural	10	GP5 and GP6	GP5 and GP6	GP5
6	Urban	20	Staff5	Staff5 and GP7	None

*A Danish general practitioner has approximately 1,600 listed patients. Each GP was expected to include 5 caregivers

Both the first consultation and follow-up consultations could be conducted by any health professional trained to conduct independent consultations in general practice (GP or GP staff).

Participants

All general practices in the Central Denmark Region received an e-mail invitation sent directly to the GPs, supplemented by a repeated individual contact to GPs from the network of the research team. In all, six general practices with 16 GPs participated (Table 2). Before testing the model, practice six withdrew from the project due to sick leave among the staff and prioritization of other research projects. The general practice could include any strained caregiver to a severely mentally or somatically ill person.

In order to iteratively guide an adequate sample size, we used the concept of information power suggesting that the more information the sample holds, the lower number of participants is required [28]. After including six general practices, we made an iterative interpretative judgement that there was sufficient information power to address study aims. In this process, we considered the study aim, sample specificity, use of established theory, analysis strategy, and quality of dialogue.

Data collection

During introductory meetings in each individual practice, a researcher introduced 1–2 health professionals from the practice to the model (Table 2), and they discussed the relevance and expected feasibility of the model in their specific practice. The meetings lasted 30–60 min. The researcher took field notes immediately after the introductory meetings, either in writing or by verbal recordings. Upon inclusion of a caregiver, the health professional completed an online registration questionnaire. After each consultation, the health professional registered the use and assessed the usability of the intervention components in an electronic questionnaire. Semi-structured interviews with health professionals were carried out during or after the intervention period, either face-to-face or online (Table 2). Field notes focused on the most important aspects related to the research question. The general practices were remunerated for their time spent on the project. The staff members that conducted the consultations were predominantly nurses.

Data analysis

Quantitative descriptive data was presented as frequencies of participating caregivers regarding reach, dose and fidelity (Table 1). Qualitative recorded data was transcribed verbatim. All qualitative data was read and coded deductively, focusing on the implementation process, delivery, and acceptability and applying the questions framed in Table 1. The first author conducted the coding. The analysis of quantitative and qualitative data was conducted simultaneously within each central concept, and codes and tables were continuously discussed and negotiated in the research group. We applied a continuous focus on challenging whether the model was feasible, bearing in mind that the author group also led the development of Caregiver Care Model and here found it useful.

In the analysis, the concept 'delivery' included the theme 'delivery of the model', the concept 'implementation process' included the themes 'health professionals involved' and 'recruitment of caregivers, whereas 'acceptability' included the themes 'congruence with general practice core values' and 'use and acceptability of key components'.

Results

The analysis included the following themes: (1) delivery of the model, (2) congruence with general practice core values, (3) health professionals involved, (4) recruitment of caregivers, and (5) use and acceptability of key components.

Delivery of the model

The general practices invited 44 caregivers for the first Caregiver Care consultation (Fig. 1). In all, 40 family caregivers (91%) participated in the first consultation. Of the 40 participants, 11 (28%) had one consultation, whereas 29 (72%) had more than one consultation (Table 3); 10 (25%) had 2 consultations, 13 (32%) had 3–5 consultations, and 5 (12%) had 6 or more consultations. Participants had an average of three consultations.

Most participants were women ($n = 33$ (82%)), and their median age was 62 years (IQR: 45;70). The majority were partners of the ill ($n = 23$ (58%) and others were adult children ($n = 6$ (15%), parents ($n = 4$ (10%) or not registered (7 (17%). A total of 24 patients (60%) of the caregivers had a somatic illness, nine (22%) had a psychiatric illness, and seven (18%) had both a somatic and a psychiatric illness (data not shown).

Staff members conducted 23 (58%) of the first consultations and 82 (67%) of the following consultations, whereas GPs conducted the remaining consultations. Eight (20%) caregivers were referred to community initiatives, such as the caregiver team in the municipality, private-practice psychologist, or patient association.

Congruence with general practice core values

Providing support for caregivers was in line with the core values of the participating general practices. A GP explained:

> *That is what we pride ourselves on in general practice; being good at taking care of the whole family and the whole person, et cetera. So, I really think this [the Caregiver Care Model] is in line with that. (...) It makes sense, and I like that, right? It is easy to use, and it fulfils a need. (GP3).*

However, one health professional explained that the list of community-based offers was insufficient, e.g. for caregivers to patients with rare diseases. This led to feelings of frustration because she had no specific plan to offer, which reduced her confidence in being able to help these specific caregivers. Another health professional explained about a single parent to two children with mental health issues who had attended several Caregiver

Table 3 General practices and inclusion of caregivers

General practice no.		1	2	3	4	5	6
	Total (100%)	n (%)					
Estimated caregivers for inclusion, n(%)	80	10 (12)	10 (12)	15 (19)	15 (19)	10 (12)	20 (25)
No. of included caregivers, n(%)	44	9 (20)	6 (14)	17 (39)	11 (25)	1 (2)	N/A
No. having the first Caregiver Care consultation, n(%)	40	9 (22)	5 (12)	16 (4)	9 (22)	1 (2)	N/A
No. having one or more follow-up consultation(s), n(%)	29	4 (14)	4 (14)	14 (48)	6 (21)	1 (3)	N/A
	Average duration	Days					
Time from introduction to first consultation	69	50	117	46	9	121	N/A

Care consultations. After finishing the last consultation, she articulated how the consultations had 'simply, saved my life'. The nurse was surprised since all she had done was to acknowledge her situation and provide a room for talking about her situation as a caregiver. Overall, the health professionals perceived that their professional role in the Caregiver Care consultations was to facilitate these processes of acknowledgement and provide a room for a focus on the caregiver rather than fixing problems. This illustrates that the model may fit better in general practices with a holistic approach, where providing support in a stressful situation is acknowledged as an important core task.

The health professionals appreciated that the intervention was flexible and adaptable to the individual caregivers, and that the target group was caregivers experiencing distress due to caregiving. At the introductory meeting, this flexibility was regarded as a positive feature, especially that the target group included caregivers to patients with psychiatric or chronic conditions (not only to terminally ill patients).

The importance of recognizing the long-term burden that caregivers are often exposed to was highlighted. However, several participants emphasized that even higher flexibility in the inclusion would be suitable, for example by allowing inclusion of bereaved caregivers. A staff member said:

> *There are some who need this [Caregiver Care] somewhere in such a process as a caregiver, whether it is in the middle of the course or after. (Staff 1).*

Health professionals conducting consultations

In the introductory meetings, the practices had different approaches to who should conduct the consultation. Four practices intended to have both staff and GPs do consultations, one practice wanted only staff to perform these consultations, whereas another wanted only GPs.

Most consultations were conducted by staff, predominantly nurses. Several participating GPs and staff highlighted that supportive consultations conducted by staff (instead of GPs) are consistent with the core values of the staff and part of their education. Hence, the staff found that they could offer a space for listening to and supporting caregivers in a difficult situation. A staff member explained:

> *Some caregivers have been pushed close to their limits, and they have been allowed to put some words on their situation. (Staff 3).*

Furthermore, the health professionals were able to challenge and question the caregivers' perceived possibilities for action, thereby facilitating alternative ways for caregivers to handle their situation.

Some health professionals experienced that many caregivers thought that a visit to the GP required them to have physical health challenges and that it was not possible to consult exclusively for mental health. This was supported by a staff member, who elaborated:

> *They [caregivers] know very well that I do not have any solutions for their health [...] I simply cannot offer that, and they don't expect me to either (Staff1).*

Hence, the staff may provide a room for listening and supporting the caregivers to handle their situation without expecting challenges to be fixed or solutions to be provided.

Both GPs and staff perceived that provision of talk therapy by staff was likely to be highly beneficial for the mental health of caregivers. They expected great benefit for the caregivers and found that staff members had ability and empathy to conduct such therapy and knowledge about crisis reactions, and they often had close relations to the caregivers. Some of the health professionals highlighted a concern regarding that the extra time to provide talk therapy is currently remunerated only if provided by GPs (not by other professionals) according to the current fee structure.

Recruiting caregivers

Recruitment strategy

Great variation was seen in the number of participants included from each general practice (Table 3). The workflow and recruitment strategy differed between the general practices. Two general practices recruited half or less than half of the expected number of participants for a consultation (Table 3). The general practices that recruited fewer caregivers than expected had longer time intervals between the introductory visit by the researcher and the initial recruitment (Table 3).

Most general practices recruited caregivers when they visited the practice for another reason (30 (68%)) (Table 4). Other recruitment strategies were that the GP and staff identified and contacted caregivers known to be in a distressing caregiver situation (14 (32%)). However, some professionals chose not to contact specific caregivers in need, since they expected them not to be able to show up.

What helped or challenged recruitment?

The health professionals found that having flexibility in defining the target group helped the recruitment process.

One general practice recruiting more caregivers than expected from their size. They experienced that the GP and staff who attended the introductory meeting had

Table 4 Quantitative data on recruitment of caregivers (*n* = 44)

Identification	N	(%)	Invitation	n	(%)	Receipt of dialogue questionnaire	n	(%)
During visit for other purpose	30	68	During visit for other purpose	32	73	During visit for other purpose	27	61
Identified by GP/staff/other through recollection	14	32	By phone, e-mail/other	12	27	Collected in the reception	12	27
						Sent by e-mail or digital mailbox from public authorities (mit.dk)	5	11

Table 5 Quantitative data on the use of key components

Use of key components			Perceived meaningfulness		
Dialogue questionnaire (*n* = **40 consultations**)	n	%	**To what extent was it meaningful to use?** (*n* = **35**)	n	%
Yes, completed before consultation	30	75	High or some extent	26	74
No, not completed before consultation	10	25	Low or no extent	9	26
Facilitation questions (*n* = **123 consultations**)	n	%	**To what extent was it meaningful to use?** (*n* = **51**)	n	%
Yes, I used the questions	51	41	Some extent	9	18
No, I did not use the questions	72	59	Less extent	29	57
			Not at all	13	25
List of community initiatives (*n* = **123 consultations**)	n	%	**To what extent was it meaningful to use?** (*n* = **80**)	n	%
Yes, I used the list	80	65	High or some extent	15	19
No, I did not use the list	43	35	Low extent	26	33
			Not at all	38	48

presented the project to their colleagues in the general practice in a way that made all health professionals feel ownership to the project. Hence, they all thought about whom to include and managed to recruit a high number of caregivers (Table 3).

The approaches to recruitment differed between the practices; some included fast according to a list of possible caregivers, and others waited and included ad hoc when caregivers visited for other reasons. The first approach tended to promote fast inclusion, whereas the other resulted in limited inclusion. Two general practices did not start inclusion until several months after the introductory session with the researcher (Table 3). In one practice, the staff tried to include caregivers when taking blood samples as part of the annual chronic care consultation. However, this approach was challenging as it was difficult to bring up mental health issues in a consultation with an inherent focus on objective measurements. The long time span from the introductory meeting also challenged the focus on the intervention. In conclusion, health professionals that lacked meeting relevant caregivers shortly after the introduction to the model tended to forget inclusion for the project.

Use and acceptability of key components

The fidelity was high regarding the use of the mandatory dialogue questionnaire as most caregivers (30 (75%)) completed it before the consultation (Table 5).

The facilitating questions were used in 51 of 123 consultations (41%). Health professionals reported them useful in 9 (18%) consultations, whereas the list of community initiatives was used in 80 consultations (65%) and was regarded useful in 15 (19%). Eight caregivers (20%) were referred to community initiatives or a private-practice psychologist during the Caregiver Care trajectory.

Dialogue questionnaire

The health professionals explained that the dialogue questionnaire could prepare the caregivers for the consultation and provide an overview for the health professional. A GP stated:

> *It's a good template for a conversation, and it makes them [the caregivers] think. (GP3).*

The dialogue questionnaire was perceived as a good starting point for the consultation to prioritize time and focus. The health professionals elaborated that the questionnaire was most often only briefly skimmed to identify important issues and then give room for dialogue. A staff member articulated that the consultation could begin at a higher level when the caregivers had completed the dialogue questionnaire prior to the consultation, and she could provide a more patient-centered consultation, which increased the acceptability:

> *It [the dialogue questionnaire] gives us [...] something concrete to talk about [...] They can write if something isn't relevant [...] and then you can refrain from asking about it. Some things take up more time than others, and then we can spend our time on those.(Staff4).*

Another staff member believed that the questionnaire made no difference for some caregivers, while it had benefitted others. Likewise, a GP experienced that her GP colleagues were initially reluctant to use a questionnaire to discuss these complex human experiences. However, these GPs accepted the dialogue questionnaire when it was underlined that the purpose of the tool was to facilitate dialogue in the consultation rather than measuring the level of distress.

Facilitating questions

The list of optional facilitating questions was rarely used, even though the health professionals generally found them useful and inspirational. A GP said:

> *Weren't they [the facilitating questions] intended [to help] if you got a little stuck or needed to boost the dialogue? (GP1).*

Thus, a reason for not using the facilitating questions was that the patient-provider communication was perceived to go well without. Yet, some health professionals explained that they had forgotten about the facilitating questions and focused mainly on the dialogue questionnaire, which was a mandatory component to be used in the first consultation. A GP who was experienced in talk therapy, including grief processes, explained that she drew on this experience in the consultations and therefore not explicitly used the list of facilitating questions.

List of community initiatives

The other optional component of the model consisted of a list of caregiver initiatives offered in the municipality. Some health professionals from practices in rural areas experienced that most initiatives took place in the main city of the municipality, which often required caregivers to travel extensive geographical distances. In these cases, the list of initiatives was not very useful.

Conversely, a GP from an urban practice considered the list to be an eye-opener for the health professionals. She elaborated:

> *"It gave some idea of how you could help the caregivers in a concrete way." (GP4).*

Some health professionals considered it important to provide information on local initiatives when needed. Yet, some health professionals also worried about who should update the list since initiatives come and go. The list of caregiver initiatives in the community was generally perceived as a relevant component, but it was more useful in urban than rural settings.

Discussion

Main findings

The Caregiver Care Model was tested in a general practice setting among 40 family caregivers recruited from five general practices. The caregivers attended on average three Caregiver Care consultations. Overall, the implementation process and acceptability of Caregiver Care was promising for future use, especially the dialogue questionnaire.

Provision of support for caregivers to mitigate grief reactions in the Caregiver Care Model was perceived to be in congruence with the core values of general practice. However, some health professionals found it challenging not to be able to offer a specific plan to solve the caregivers' problems. Most consultations were conducted by staff, and they regarded it as a meaningful task and had received positive feedback from caregivers.

The recruitment strategies differed between practices. Involving the entire general practice and proactively contacting potentially distressed caregivers promoted the inclusion. This recruitment strategy leads to quick recruitment, while a more pending recruitment strategy with caregivers being included as they turn up in practice is slower but could potentially lead to more sustainable inclusion over time [29]. Using the mandatory key component, the dialogue questionnaire, helped the health professional to focus the first Caregiver Care consultation on the issue that was most important to the caregiver and facilitated the dialogue. The optional key components, i.e. the facilitating questions and list of community initiatives, were used less. The analysis did not investigate whether the same health professionals were involved in the consultations using the questions. However, the way of working may differ between health professionals and may explain the low use of preprinted questions. Other supportive material may be relevant to include in future studies, although the health professionals often did not think of using the facilitating questions as they perceived they had no need for additional help to promote the dialogue. The main barrier for using the list of community initiatives was low relevance, especially in remote areas with long geographical distance to caregiver initiatives.

Strengths and limitations

A major strength of this study was the variation among the participants, which represented general practices of different sizes and from both rural and urban areas. The mixed-methods approach provided nuanced insights into the implementation and delivery of the Caregiver Care Model, as perceived by the GPs and staff. However, the study design includes limitations, as adding perspectives from the participating caregivers could have provided useful insights into their acceptability of the model, and inclusion of a larger study population might have enabled a quantitative comparison of correlations with age, sex, occupation and comorbidities. Further, our study focuses on implementation and acceptability in the adoption phase, and feasibility over time is therefore not investigated [20].

An additional strength was the testing of the Caregiver Care Model in a Danish, natural setting with the option of a recruitment strategy chosen by the participating general practice. In the development phase, the model was pilot-tested in general practices involved in quality development [11]. The present implementation study successfully included standard practices recruited from a regional news mail and the researchers' network in general practice. The participating practices may have taken a special interest in research participation and might have considered the burden of incorporating a new intervention into the practice workflow to be less demanding. In addition, all participating practices were interested in caregiver interventions and desired to make a difference for this group of patients, thus hoping that the intervention would have positive results. Collectively, this could lead to an overestimation of the positive attitude and acceptability of the intervention which may limit the credibility of the study. At the same time, it reduces the generalizability of the results to the target population, thereby reducing the external validity. Furthermore, the Danish health care system differ from most other health care system which should be taken into consideration when the results are generalized.

Comparison with existing literature

The Caregiver Care Model was feasible in a general practice setting, although the inclusion rate was lower than expected. The use of a flexible model is likely to have reached fewer distressed caregivers than a more systematic approach. A scoping review regarding caregiver found that identification of caregivers was a responsibility of the whole practice, and that caregivers may be identified in several ways [10]. This was in line with the recruitment strategy of the general practice that recruited most had managed to involve the entire general practice. A systematic approach to contacting caregivers may have provided a better reach, but it might also have resulted in a higher workload and contact to caregivers without need for intervention.

Other studies have explored differences in practice-level and individual-level approaches to inclusion in general practice [29, 30]. In our study, a practice-level approach to recruitment of caregivers implied two or more health professionals being involved in listing a number of potentially relevant caregivers, followed by a proactive outreach inviting the caregivers in for a consultation. This approach facilitated a faster inclusion of caregivers, and the health professionals became faster familiar with the Caregiver Care Model. Other practices chose an individual-level approach where caregivers were included when they were in the clinic for other reasons, e.g., escorting their ill relative. Compared to the practice-level approach, the individual-level approach might better represent daily clinical behaviour, but it risks being difficult to implement [31, 32]. We found that if the health professionals did not meet any relevant caregivers rather quickly after being introduced to the model, they struggled remembering how to use the model, which again acted as a barrier to inviting caregivers in. Hence, in line with prior studies in general practice to implement a new intervention such as the Caregiver Care model, professional values and planning on both an individual-level and practice-level may be motivators for implementation [29].

In the present study, a total of 20% were referred to a community initiative or private-practice psychologist and 71% of caregivers had follow-up consultations. A prior study reported psychological distress in one-third of caregivers in a population-based cohort [33]. In the present study, the participants differed from the general population as they were recruited by health professionals in general practice. To a large extent they needed selective support according to the Public Health Model [26, 34].

Caregiver support was considered a core task in general practice in the present study, as also reported in prior reviews [10, 35]. A systematic review from England in 2011 found that consultations with caregivers were assessed as an important and satisfying part of the work of the GP [35]. However, uncertainty was seen regarding best practice in accordance with the content of the consultations and how best to reach out to the caregivers [10]. The present study points at the usefulness of acknowledging the demanding position for caregivers and providing a room for discussing difficult issues. This task aligns with the core values of general practice and underlines the positive effect of the continuous relation between general practice and the affiliated patients [36]. However, some health professionals may have an urge to provide solutions for the caregivers. This may reflect different cultures and approaches to the clinical work in general practice, which has previously been described by Andersen et al. [37]. The described ideal types of GPs in the healthcare system include the relational GP type and the population-oriented GP type in line with the different approaches reported in the present study. Both types of approaches align with the core values of general practice [9].

The dialogue questionnaire offers a standardized way to identify the caregivers' needs. The original tool was developed in specialized palliative care based on known risk factors and caregiver support needs identified in literature [13]. Similarly to the current study, the original tool directed the consultation in specialized palliative care towards the most important topics for the caregiver, and the staff in specialized palliative care found it useful and acceptable [13].

Preparing at home before attending a consultation in general practice was also found a successful approach in a prior study on medicines optimization (PREPAIR), which resembles the mechanism of the dialogue questionnaire [5]. Like the dialogue questionnaire, the PREPAIR tool was found acceptable among health professionals and contributed with well-prepared patients, focused conversation topics, an overview, and deeper insight into the individual patient's needs due to the pre-consultation reflections and a more patient-centered consultation. Hence, the dialogue questionnaire facilitated patient-centeredness and thereby supporting the delivery of core values of general practice [8, 9].

The study highlights the risk that new interventions might increase the geographic inequality in the access to health care, even in a small country like Denmark, where the distance to large cities is relatively short for most people. When developing the Caregiver Care Model, health professionals and caregivers articulated a higher need for the model in rural areas due to lower access to private psychologists and community services [11]. Likewise, this study points at lower access to interventions at the selective level of the public health model [26], e.g. in municipalities and local communities in rural compared to urban areas. These findings underscore the importance of providing care for caregivers in decentralized settings, such as general practice, to reduce geographic inequality in the access to care [38]. Moreover, basic education in general practice regarding reactions to grief and loss and support for caregivers is crucial for supporting the mental health in caregivers.

Implications

The Caregiver Care Model holds the potential to facilitate a standardized way to identify the caregivers' needs and to implement targeted caregiver support.

Overall, the inclusion of all caregivers with needs due to caregiving, regardless of the patient's illness, was found to be in line with the core values of general practice, i.e. to provide support for those who need it most. To reach most caregivers with needs, a proactive approach and systematic invitations may be more efficient to ensure that caregivers book a consultation.

The Caregiver Care Model may be an inspiring example of how staff in general practice can perform meaningful tasks. The dialogue questionnaire was found useful, especially when communicated to caregivers that it prepared them for the consultation and would be used to support the dialogue. The flexibility of the dialogue questionnaire and the component to be used in the talk therapy should be further explored in implementation studies. Further education of GPs and staff in caregiver support and bereavement, especially introduction to grief theory and facilitation of grief reactions during caregiving, may have the potential to improve caregiver support.

Conclusion

The Caregiver Care Model of supportive consultations with caregivers based on a dialogue questionnaire and optional components for use in talk therapy consultations, was feasible in general practice. The implementation process and acceptability among GPs and staff was promising, and the model was perceived to be in line with the core values of general practice. Especially the dialogue questionnaire was perceived to help caregivers to address important issues and to facilitate patient involvement, prepare caregivers for the consultation, and provide more patient-centered consultations. The facilitating questions and the list of community initiatives were used less. This calls for further studies on the implementation of grief-facilitating tools in general practice.

In a health care system with limited resources, a key issue is prioritization of the available resources. Preventive interventions in general practice to promote mental health in caregivers facing major life events may help ensure that daily living is maintained, and sick leave and mental illness avoided. Hence, general practice holds a key position in this important task; general practice has a continuous relation with the patients and may provide targeted support for caregivers in the local community.

The Caregiver Care Model offers acceptable and feasible tools to support caregivers in general practice, to facilitate a standardized way of identifying needs in caregivers, and to provide targeted caregiver support. Future studies need to evaluate the intervention on a larger scale and to assess how the intervention affects the caregivers and modifies the caregivers' bereavement outcomes.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12875-025-02833-x.

Supplementary Material 1

Supplementary Material 2

Acknowledgements
We kindly thank the participating caregivers and healthcare professionals for their contributions. We thank Lone Niedziella, Research Unit for General Practice, Aarhus, for proofreading.

Author contributions

Anna Mygind (AM) and Mette Kjærgaard Nielsen (MKN) led the project. AM, Marie Cecilie Vinther (MCV) and MKN collected the data. Mai-Britt Guldin (MG), Kaj Sparle Christensen (KSC), AM, MKN and MCV contributed substantially to study design and analysis. MKN, MCV, and AM drafted the manuscript. MG, KSC, AM, MCV and MKN read, critically revised and approved the final manuscript.

Funding
The study was funded by the Danish Cancer Society and the Committee for Quality Improvement and Continuing Medical Education (KEU) of general practice in the Central Denmark Region.

Data availability

The data is not publicly available due to confidentiality reasons or ethical restrictions but is available from the corresponding author on reasonable request.

Declarations

Ethical approval and consent to participate

The study complied with the Declaration of Helsinki [36]. Data storage and access complied with the General Data Protection Regulation (GDPR) of the European Union [37]. The study was not subject to ethical clearance according to the Danish Act on Research Ethics Review of Health Research Projects [39]. The participating caregivers and health professionals received written and oral information about the study. They were informed about the purpose and guaranteed anonymity, voluntariness, and the possibility to withdraw at any time. All participants gave written informed consent to participate.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 11 May 2024 / Accepted: 14 April 2025

References

1. Chien SC, Chang YH, Yen CM, Onthoni DD, Wu IC, Hsu CC et al. Exploring concepts and trends in informal caregiver burden: systematic review using citation network and content analysis. Aging Clin Exp Res. 2023(1720–8319 (Electronic)).
2. Harper S. Economic and social implications of aging societies. Science. 2014;346(6209):587–91.
3. Shear MK. Complicated grief. N Engl J Med. 2015;372(2):153–60.
4. Stroebe M, Schut H, Stroebe W. Health outcomes of bereavement. Lancet. 2007;370(9603):1960–73.
5. Sandbæk A, Møller MCR, Bro F, Høj K, Due Christensen L, Mygind A. Involving patients in medicines optimisation in general practice: a development study of the PREparing patients for active involvement in medication review (PREPAIR) tool. BMC Prim Care. 2022 (2731–4553 (Electronic)).
6. Nielsen MK, Carlsen AH, Neergaard MA, Bidstrup PE, Guldin M-B. Looking beyond the mean in grief trajectories: A prospective, population- based cohort study. Soc Sci Med. 2019;232(232):460–9.
7. Lenger MK, Neergaard MA, Guldin M-B, Nielsen MK. Poor physical and mental health predicts prolonged grief disorder: A prospective, population-based cohort study on caregivers of patients at the end of life. Palliat Med. 2020;34(10):1–9.
8. Epstein RM, Street RL. Jr. The values and value of patient-centered care. (1544–1717 (Electronic)).
9. Sigurdsson JA, Beich A, Stavdal A. Our core values will endure. (1502–7724 (Electronic)).
10. Cronin M, McLoughlin K, Foley T, McGilloway S. Supporting family carers in general practice: a scoping review of clinical guidelines and recommendations. BMC Prim Care. 2023;24(1):234.
11. Mygind A, Offersen SMH, Guldin M-B, Christensen KS, Nielsen MK. How to support caregivers in general practice: development of the caregiver care model. Palliat Care Soc Pract 2024(2632–3524 (Electronic)).
12. Lund L, Ross L, Petersen MA, Rosted E, Bollig G, Juhl GI et al. Process, content, and experiences of delivering the carer support needs assessment tool intervention (CSNAT-I) in the Danish specialised palliative care setting. Support Care Cancer. 2022(1433–7339 (Electronic)).
13. Thomsen KT, Guldin MB, Nielsen MK, Ollars CL, Jensen AB. A process evaluation of systematic risk and needs assessment for caregivers in specialised palliative care. BMC Palliative Care. 2017;16:23-017-0196-x.
14. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM et al. A new framework for developing and evaluating complex interventions: update of medical research Council guidance. BMJ 2021;374(n2061).
15. Creswell JW, Plano Clark VL. Designing and conducting mixed methods research. 2 ed. SAGE; 2006.
16. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med 2014(1938-808X (Electronic)).
17. Hoffmann TC, Glasziou P, Boutron I, Milne R, Perera R, Moher D et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. BMJ. 2014(1756–1833 (Electronic)).
18. Moore GF, Audrey S, Barker M, Bond L, Bonell C, Hardeman W, et al. Process evaluation of complex interventions: medical research Council guidance. BMJ: Br Med J. 2015;350:h1258.
19. Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, et al. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. Adm Policy Ment Health. 2011;38(2):65–76.
20. Proctor EK, Bunger AC, Lengnick–Hall R, Gerke DR, Martin JK, Phillips RJ et al. Ten years of implementation outcomes research: a scoping review. Implement Sci. 2023;18(31).
21. Schmidt M, Schmidt S, Adelborg K, Sundbøll J, Laugesen K, Ehrenstein V, et al. The Danish health care system and epidemiological research: from health care contacts to database records. Clin Epidemiol. 2019;11:563–91.
22. Pedersen K, Pedersen J, Sondergaard J. General practice and primary health care in Denmark. J Am Board Fam Med. 2012;25(Suppl 1):S34–8.
23. Davidsen AS. Talking therapy as part of the general practitioner's normal working day TT [Samtaleterapi Ind i Den Praktiserende Laeges Hverdag]. Dan Med J. 2010;172:2025–9.
24. Shear MK, Gribbin Bloom C. Complicated grief treatment: an Evidence-Based approach to grief therapy. J Rational-Emot Cognitive-Behav Ther. 2017;35(1):6–25.
25. Guldin MB, Leget C. The integrated process model of loss and grief - An interprofessional understanding. (1091–7683 (Electronic)).
26. Guldin M, Murphy I, Keegan O, Monroe B, Reverte ML, Benkel I, et al. Bereavement care provision in Europe: A survey by the EAPC bereavement care taskforce. Eur J Palliat Care. 2015;22:185–9.
27. Shear MK, Reynolds CFr, Simon NM, Zisook S, Wang Y, Mauro C, et al. Optimizing treatment of complicated grief: A randomized clinical trial. JAMA Psychiatry. 2016;73:685–94.
28. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. Qual Health Res. 2016;26(13):1753–60.
29. Høj K, Mygind A, Bro F. Exploring implementation processes in general practice in a feedback intervention aiming to reduce potentially inappropriate prescribing: a qualitative study among general practitioners. Implement Sci, Commun. 2021(2662– 2211 (Electronic)).
30. Le JV, Hansen HP, Riisgaard H, Lykkegaard J, Nexøe J, Bro F et al. How GPs implement clinical guidelines in everyday clinical practice–a qualitative interview study. Fam, Pract. 2015(1460–2229 (Electronic)).
31. Ivers N, Barnsley J, Upshur R, Tu K, Shah B, Grimshaw J, et al. My approach to this job is… one person at a time: Perceived discordance between population-level quality targets and patient-centred care. Can Fam, Physician. 2014(1715–5258 (Electronic)).
32. Wallis KA, Andrews A, Henderson M. Swimming Against the Tide: Primary Care Physicians' Views on Deprescribing in Everyday Practice. Ann Fam Med. 2017(1544–717 (Electronic)).
33. Nielsen MK, Neergaard MA, Jensen AB, Bro F, Guldin MB. Psychological distress, health, and socio-economic factors in caregivers of terminally ill patients: a nationwide population-based cohort study. Support Care Cancer. 2016;24:3057–67.
34. NICE. Improving supportive and palliative care for adults with cancer. 2004. Report No.: 1842575791.
35. Nagraj S, Barclay S. Bereavement care in primary care: a systematic literature review and narrative synthesis. Br J Gen Pract. 2011;61(582):e42–8.
36. McWhinney IR. Primary care: core values core values in a changing world. BMJ. 1998;316(7147):1807.
37. Andersen RS, Bidstrup C. The good doctor. Four ideal types [Den gode læge. 4 idealtyper]. Månedsskrift for Almen Praksis (monthly periodical for general practice in Denmark). 2018;9.
38. Gkiouleka A, Wong G, Sowden S, Bambra C, Siersbaek R, Manji S, et al. Reducing health inequalities through general practice. Lancet Public Health. 2023;8(6):e463–72.

39. The Ministry of the Interior and Health. Act on Research Ethics Review of Health Research Projects. 2020 [Available from: https://www.retsinformation.dk/eli/lta/2020/1338 [Danish]. http://www.eurecnet.org/legislation/denmark.html.

Publisher's note