

Physicians' view of primary care-based case management for patients with heart failure: a qualitative study

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Abstract

Background. As part of a trial aiming to improve care for patients with chronic (systolic) heart failure, a standardized, multifaceted case management approach was evaluated in German general practices. It consisted of regular telephone monitoring, home visits, health counselling, diagnostic screening and booklets for patients. Practice-based doctors' assistants (equivalent to a nursing role) adopted these new tasks and reported regularly to the employing general practitioner (GP).

Objective. To explore GPs' perceptions of case management, subsequent changes in relationships within the practice team and the potential future role.

Method. Twenty-four GPs participated in five moderated, semi-structured, audio-taped focus groups. Full transcription and thematic content analysis was undertaken.

Results. GPs rated all elements and instruments of case management conducted by doctors' assistants feasible, except for the geriatric assessment as patients had not been at risk. GPs perceived difficulties in their own role in delivering health behaviour counselling. Relationships between doctors' assistants and patients and between GPs and patients or doctors' assistants remained stable or improved. All GPs perceived a variety of role changes in doctors' assistants including more in-depth medical knowledge and higher responsibilities yielding more recognition by patients and GPs. Some GPs suggested transferring the case management programme to other chronic conditions and that it should form part of a further education curriculum for doctors' assistants.

Conclusion. This primary care-based case management model characterized by the orchestrated delegation of tasks to doctors' assistants offers a promising strategy of enhanced chronic illness care, but it needs further adaptation and evaluation.

Keywords: focus group, qualitative research, primary care, disease management, case management, heart failure, chronic care

Introduction

Throughout the world, life expectancies are increasing and populations are ageing leading to an increase in the incidence and prevalence of chronic health problems [1, 2]. To address the rising rates of chronic conditions, an evolution in health-care systems which moves beyond acute care models is imperative [3]. Although primary care plays a central role in chronic illness care, it has been suggested that primary care needs to be redesigned to enhance efficiency [4]. The

chronic care model (CCM) is a comprehensive framework to coordinate activities within primary care systems to improve organizational and health outcomes and to foster more productive interactions between trained, proactive care teams and well-informed, motivated patients [5]. The six elements for providing high-quality care to patients within this model are delivery system design, self-management support, decision support, clinical information systems, community resources and health-care organization [5]. Incorporating elements of the CCM in the design of interventions has been

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shown to improve process and health outcomes for patients with chronic illnesses [6].

The Heidelberg Integrated Case Management (HICMan) model represents a team-based chronic disease management approach for patients with (systolic) heart failure in primary care. It advocates delegating tasks to non-physician health professionals within the general practice team using standardized generic and disease-specific instruments and tools [7]; not substituting but supporting physicians for enhanced chronic illness care [8]. It therefore addresses the first four of the six elements of the CCM.

As in many other European countries, German general practices are typically small and office-based, run privately by the employing general practitioner (GP) [9]. Only about 6% of practices employ a nurse [10]. German GPs typically employ doctors' assistants, but there is variability in their roles. The qualification and training of doctors' assistants consists of a 3-year part-time curriculum in practice and vocational school. Doctor's assistants fulfil some roles that in other countries, such as the UK, are delegated to phlebotomists, health-care assistants and practice nurses [11]. In Germany, the involvement of doctors' assistants in chronic illness care is not part of the routine training of doctors' assistants. The views of doctors' assistants about this case management model (HICMan) have been published elsewhere [11]. This paper explores GPs' perceptions of the feasibility of the implementation of case management by doctors' assistants, its usefulness and benefit for patients and general practice.

Methods

The multifaceted primary care-based case management intervention

The elements, instruments and responsibilities of the structured case management are shown in Table 1, and have been described in detail elsewhere [7]. Briefly, doctors' assistants were given a new role as a case manager, consisting of regular monitoring by telephone and by home visits over a period of 12 months. Patients with a higher symptom burden and at higher risk for deterioration were monitored more closely, i.e. patients with NYHA (New York Heart Association) functional status [12] III or IV 3-weekly versus I or II 6-weekly. Home visits included specific instruments, i.e. for additional screening, for depression (PHQ-9) [13], anxiety (GAD-7) [14], dementia (DemTect) [15], need of nursing care (Barthel index) [16] and risk of falling (walking-counting test) [17]. Tools included a monitoring list (for telephone monitoring and home visits), an assessment of health behaviour (see 5A, discussed later), disease-related evidence-based patient leaflets, booklets and a patient's diary. All doctors' assistants completed 6 h of training at their local university in November 2006. All participating GPs received an introduction to case management and—as part of the CCM-element self-management support—specific health behaviour counselling according to the '5A' model that represents an evidence-based approach to induce a behavioural

change and is the recommended counselling approach for behavioural changes according to the recommendations of the US Preventive Services Task Force (USPSTF) [18, 19]. The elements of this approach are assessment of present behaviour (ask and assess), patient counselling (advise), collaborative agreement with the patient about realistic goals (agree), assisting the patient during his lifestyle changes (assist) and frequent follow-ups (arrange). The doctors' assistants supported this counselling by asking patients about three defined behaviours (Table 1) [20]. In addition, GPs received a short lecture on a corresponding heart failure clinical practice guideline [21] and screening.

Focus group

A qualitative, exploratory design was used to guide data collection and analysis. Focus groups are a socially oriented research method that can be used to gain an insight into peoples' view of their everyday working lives [22]. Focus groups allowed doctors to discuss their views, draw comparisons, discover areas of agreement or disagreement and reflect their own and others' experiences. After a detailed study of the literature, we compiled an interview guideline based on the HICMan trial protocol. Six questions were then developed and asked in every focus group:

- (i) *Why did you take part in the trial (motivation)? (introductory question)*
- (ii) *How practicable, useful and beneficial did you find each instrument in the case management approach?*
- (iii) *Did you experience any changes in your relationship with patients included in the trial?*
- (iv) *Did you experience any changes with doctors' assistant and practice team?*
- (v) *Can all or some of this multifaceted intervention be used in daily routines?*
- (vi) *What improvements do you suggest?*

Participants

Thirty-one GPs from 29 practices participated in the HICMan trial [7] and 24 (from 23 practices) volunteered to participate in this study. These 24 participants (25% female) were aged 33–66 years with a mean of 49.1 years (SD = 9.3). Work experience (defined as time since certification) ranged between 0 and 33 years (mean 14.5 years, SD = 9.2). The 23 practices of the participants showed the following characteristics: 7 were solo practices, 16 were group practices with up to four GPs. They were located in the city (8), suburb up to 20 km circumference of the city (5) and rural (10) areas. List sizes (patients per quarter) were 500–1000 in 5, 1001–1500 in 10 and more than 1500 in 8 practices. Eight, 12 and 3 practices had 1–3, 4–6 and 7–11 doctors' assistants per practice, respectively.

Data collection and analysis

From October to December 2007, five focus groups (four conducted by F.P.-K., GP, principal investigator and an experienced qualitative researcher, and one by A.B., registered nurse

Table 1 Elements of the primary care-based case management intervention (The Heidelberg Integrated Case Management)

Elements of chronic care model [5]	Elements of the multifaceted case management		
	Tools, instruments and interventions	Doctor's assistant (case manager)	General practitioner
Redesign of delivery system and self-management support	Regular telephone monitoring and three home visits (frequency according to the NYHA ^a status) Screening for depression, anxiety disorder, geriatric basic assessment (dementia screening, risk of falling, need of nursing care) Medication review Health-care behaviour counselling according to the 5A model ^b [18]: Monitoring signs and symptoms, recording daily weight and recognizing rapid weight gain Physical activity (after consultation of the treating physician) Risk factor modification (smoking, if applicable)	Conduct and feedback of results to physician upon urgency 5A: standardized assessment (ask and assess) [18, 20]	Assessment of results and further management 5A: counselling (assess, advise, assist, arrange) [18]
Decision support and clinical information system	Disease-related evidence-based patient leaflets as part of a national clinical practice guideline [21] Booklets addressing essential educational topics in patient education and set targets of self-care as described above (including patient's diary)	Handout and explanation of leaflet and booklets (including patient's diary)	Clinical practice guideline [21] Pharmacotherapy feedback [36] extracted from baseline documentation

^aNYHA, New York Heart Association (functional status related to shortness of breath, also of prognostic relevance) [12]. ^bThe '5A' model represents an evidence-based approach to induce a behavioural change and recommended by the USPSTF [18, 19]. The elements of this approach are: assessment of present behaviour (ask and assess), patient counselling (advise), collaborative agreement with the patient about realistic goals (agree), assisting the patient during his lifestyle changes (assist) and frequent follow-ups (arrange).

and study research nurse of the HICMan trial) were held in local University Departments. By this time, the participating doctor's assistants and GPs had implemented case management since 8–10 months (out of 12 in total), meaning that at least two-thirds (4 and 10, respectively) of the telephone monitoring sessions and at least two home visits with each patient had been performed (from January to October 2007). Each focus group involved three to seven GPs and each lasted about 90 min.

The data were analysed using ATLAS.ti Software [23]. First, inductive content analysis with open coding was performed whereby each segment of the interview transcripts was coded using a paraphrase that connoted these words [24]. These open codes were descriptive in nature. The codes were clearly defined and linked with representative examples from the original text. Two researchers (R.O. and F.P.-K.) looked for similarities in the data and assigned the same code to data that had some common characteristics. The analyses proceeded to pattern and thematic coding, clustering the descriptive codes into groups of related conceptual subcategories or generic

categories. Deductive content analysis was performed assigning the subcategories to the unconstrained categorization matrix. Coding of aspects that did not fit into the categorization frame created further concepts based on inductive concept analysis [25]. Subcategories and generic categories were added after agreement had been reached among the researchers (R.O., F.P.-K., C.M. and A.M.). In addition, the researchers (R.O., F.P.-K., C.M. and A.M.) met regularly to compare and to discuss coding schemes and reached consensus on the emergent subcategories.

Results

Motivation to participate

Most of the participating GPs stated that their motivation for participating in the trial was that they believed in increasing the integration of doctors' assistants in chronic illness care. Some were interested in contributing to primary care research or were interested in heart failure (Table 2).

Table 2 Motivation of participating GPs for participating in the trial

Interest in the new care approach <i>My major reason for participating was basically to test this kind of cooperation between doctor and doctor's assistant in a new dimension (FG 1 Doctor C)</i>
Heart failure as a relevant care problem in general practice <i>Yes, heart failure in general practice is a big problem, also because of its prevalence in practice . . . especially in elderly patients. . . (FG 2 Doctor H)</i>
Interest in and willingness to contribute to health services research <i>I am also interested in the research aspect, just because I also want to know, how good we are at what we do in daily practice (FG 3 Doctor T)</i>

Three major themes regarding the multifaceted intervention emerged in the focus groups in relation to the interview guideline:

- (i) Feasibility of implementing specific elements of the case management approach, their usefulness and benefit for patients.
- (ii) Role concept and relationships.
- (iii) Suggestions for improvement of case management.

Perceived feasibility of implementing the case management approach: usefulness and patient benefit

The first major theme dealt with feasibility, usefulness and patient benefit of the elements and instruments applied in case management. In order to get information on future suitability and improvement opportunities we counted one additional subcategory 'positive, neutral and negative comments' and came to an overall verdict based on the content of the quotes and on the frequencies of positive versus negative comments. Verdicts had three groups in each category (i.e. feasible, partly feasible or not feasible; useful, partly useful or not useful; beneficial, 'some benefit' or not beneficial, if applicable) (Table 3).

Participating GPs regarded the standardized *telephone monitoring* as feasible, but there were diverse views about its usefulness and patient benefit: Some felt that it supported patient adherence (e.g. to medication or self-care) and helped to detect early or prevent unfavourable incidents (like cardiac decompensation). However, a few did not value it, because of the missing added information or patient benefit (Table 3).

Home visits were perceived differently regarding their feasibility, usefulness and benefit. Some GPs judged the implementation being as easy, although barriers related to opportunity costs of doctor's assistants undertaking home visits and therefore being absent from the practice. In small practices, for example, there was a lack of staff to compensate for the absence of the doctor's assistant. Some doctor's assistants needed to invest personal time to conduct home visits. However, many GPs felt that the home visits were

useful for doctor's assistants, as they were able to see the social background of the patient and it helped to establish a trustful relationship.

Depression and anxiety disorder screening was perceived as feasible, but there was disagreement regarding its usefulness and benefit, as the results did not lead to a change of clinical management.

GPs considered the training and conduct of the *geriatric basic assessment* by the doctor's assistant as feasible, but judged that it was not indicated in this patient group as they were not at risk.

All participating GPs perceived the *medication review* as feasible, useful and beneficial for the patient.

Most GPs perceived the *standardized assessment* of patients' health behaviour ('ask and assess') as feasible, useful and beneficial. However, in contrast, most GPs could not implement the next steps ('advice, agree and assist') of the *5A counselling* as part of their daily routine or regarded it as tedious and unsuccessful. Many participants attributed this to a lack of adequate training as they found themselves not accustomed to this new type of stage-specific, operationalized type of counselling. Diverging views therefore emerged regarding its usefulness and benefit for patients, with some GPs perceiving changes in patient of behaviour and others not.

Patients' leaflets, booklets and the *patient's diary* were perceived as feasible, useful and beneficial for the patient.

Impact of case management on role concepts and relationships

This category describes all role changes affecting the practice team, and the relationships within the practice team and with the patients.

As illustrated in Table 4, all GPs perceived a variety of role changes of doctors' assistants while their own role was not challenged. According to participants, doctors' assistants acquired more in-depth medical knowledge as a result of case management, they were enabled to perform tasks with higher responsibilities and won more recognition from their employing GP (and patients), the patients and the wider practice team. Table 4 also shows the perceived changes in relationships. Some GPs reported that once doctor's assistant adopted the new case management role, this led to transient competition and jealousy between doctors' assistants where more than one doctors' assistants was employed in a practice, but this was seen as a short-term issue of transition and not a long-term problem.

Most GPs felt their relationship with the doctor's assistant was either unchanged or sometimes improved.

No GP reported worsening relationships with their patients; rather they remained stable and often improved. Moreover, GPs felt that relationships between doctors' assistants and patients improved consistently.

GPs' suggestions for improvement and future perspectives of case management

Table 5 lists the variety of GPs' suggestions for improvement and future direction of case management in Germany.

Table 3 GPs' opinion on feasibility, usefulness and benefit for the patients of elements of the case management

	Feasibility of implementation	Usefulness/patient benefit
Telephone monitoring	<p>Feasible (16:1)^a</p> <p><i>It (telephone-monitoring) definitely didn't disturb our normal work, nor was it regarded as extra workload by the doctor's assistants or by myself. It was okay (FG1 Doctor D)</i></p>	<p>Partly useful with some patient benefit (16:4)^a</p> <p><i>Up until now we've had to intervene two times due to a phone call, because the patient actually planned to wait for his next visit in two weeks time. And, for example, last week we acutely referred a patient to the cardiologist due to decompensation, because she said her breathing wasn't normal. And that was only due to a remark on the telephone (FG 2 Doctor J)</i></p> <p><i>And the doctor's assistants make the phone calls routinely and like doing them. But I haven't noticed that I receive more information for myself (FG 1 Doctor D)</i></p> <p><i>In the end, maybe also due to my type of patients, patients and I had no benefit [of the telephone monitoring]. All in all it stayed the way it was. Maybe because patients needed to be seen regularly by myself anyway . . . for check of volume status and so on—still I am responsible (FG 3 Doctor R)</i></p>
Home visits	<p>Partly feasible (10:10)^a</p> <p><i>Okay, it was feasible. As I'd said, she also invested some of her free time into it, which was also a reason why implementation into practice worked (FG5 Doctor Q)</i></p> <p><i>Well the implementation of the home visits wasn't difficult at all (FG 1 Doctor B)</i></p> <p><i>There was a little more to complain about regarding the feasibility, but I'd already mentioned that on the phone, that we probably just have too few staff. Well I don't know. It just felt like 'Oh God, now we've got all the visits to do!' (FG1 Doctor C)</i></p>	<p>Partly useful with some patient benefit (10:3)^a</p> <p><i>I think it was a positive for the patient to have a doctor's assistant come and see them at home (FG5 Doctor Q)</i></p> <p><i>. . . and it was pretty interesting for the doctor's assistant to make them (the home visits) because they usually do not do them. To make such a home visit is a change. It is interesting for them to see the patients in their homes rather than only in the practice. That is another environment because patients also behave a bit differently. The doctor's assistant said she found it to be a very positive experience (FG 4 doctor L)</i></p>
Depression and anxiety disorder screening	<p>Feasible (7:0)^a</p> <p><i>. . . a positive factor: This screening is applicable and feasible. You can implement it quite well and it retrieves information relatively quickly. Patients were able to fill in the form and you can achieve a quick result. Therefore, I would say reasonable and feasible (FG2 Doctor I)</i></p>	<p>Partly useful with some patient benefit (5:13)^a</p> <p><i>With patients that we knew had depression, this problem was evident. There was no new information derived from the interview. And for those patients where we didn't know, the interview didn't reveal anything. So, I didn't regard it as a big success (FG 1 Doctor C)</i></p>
Geriatric basic assessment	<p>Feasible (9:0)^a</p> <p><i>The doctor's assistant hadn't performed the tests before (Geriatric Basis Assessment) . . . , but after the training she was immediately capable of putting it into practice (FG5 Doctor Q)</i></p>	<p>Not beneficial (5:13)^a</p> <p><i>They were so good from head to toe, that you somehow couldn't take any benefit from the tests (FG3 Doctor T)</i></p>

(continued)

Table 3 Continued

	Feasibility of implementation	Usefulness/patient benefit
Medication review (at home)	Feasible (18:0) ^a <i>Well, listing [the medication] is always good. Things popped up during the review. These things did not come up until the doctor's assistant really looked for what [medication] the patient has been taking and what he has at home, . . . and what he is doing right or wrong. This review was quite well practical and feasible (FG 3 Doctor X)</i>	Useful and beneficial (7:0) ^a <i>In my opinion checking the medication was the most important thing (FG 1 Doctor A)</i> <i>The home visit is important for this [medication review] as you can see many things [medication] lie around (FG4 Doctor N)</i>
Health behaviour counselling	Feasible (8:0) ^a	Useful (7:0) ^a
Assessment of stages of change as part of 5A (ask, assess)	. . . it was feasible. It's just a mechanical process: You ask each patient and then you make your assessment. That works (FG 1 Doctor B)	Just positive. It enables a patient focused approach (FG 2 Doctor H)
Counselling (advice, agree, assist)	Not feasible (1:11) ^a <i>Well, all this changing of mind in the different stages, like the theory we'd learnt (during training). I couldn't locate that practically in my daily actions. For example motivating (patients) to exercise (FG 1 Doctor E)</i> <i>Because of this lifestyle intervention, I now have to motivate patients to stop smoking or, even worse, to lose weight. I regarded that as very strenuous and tedious and not successful. I really have to say that and in spite of extensive training, which we had, I couldn't—in spite of my best efforts—apply them to patients (FG 1 Doctor C)</i>	Partly useful and with some patient benefit (5:7) ^a <i>The patients cooperated well to achieve the next step. And they all achieved the appropriate grade of implementation related to their capabilities (FG 5 Doctor Q)</i> <i>Well I had a similar experience. In the beginning I thought okay, that might make a change, but then in effect after a few days it became evident that unfortunately things just go on. . . . In the end, maybe also due to my type of patients, I saw no benefit. All-in-all, it stayed the way it was (FG 3 Doctor R)</i>
Patient's diary	Feasible (11:0)* <i>No problem. We eagerly wrote down the self-set targets and this worked quite well (FG 1 doctor B)</i>	Useful and with some patient benefit (17:6) <i>It (patient's diary) makes a lot of sense. Because when he comes to the practice and is put on the scales; that doesn't mean his weight was okay in-between visits. And I can follow that up really well; all of a sudden I receive a call 'My husband has put on 2 kilos, what should I do? Due to the patient diary!' (FG 2 Doctor G)</i>

^aVerdicts on feasibility, usefulness and patient benefit are based on the number of quotes subcategorized positive versus negative (n:n) and on the authors' overall judgement based on the content of the quotes.

Whereas some GPs suggested a reduction in the complexity of the case management programme, many already implemented single elements in their daily routine for all patients (e.g. the medication review). Many suggested transferring the concept of case management to other patient groups with chronic diseases, but some stated that financial issues needed to be clarified first, such as extra remuneration of doctor's assistants performing such roles and the associated costs of undertaking home visits.

Many GPs stated that the increased integration of doctors' assistants in patient care with greater delegation of roles and responsibilities represented the correct future direction for

shaping general practice in Germany. Some stated that case management should be offered as a part of a curriculum for further education of doctors' assistants.

Discussion

The participating GPs generally valued the case management programme that integrates doctors' assistants in the management of patients with heart failure. However, there were diverse opinions about the usefulness and benefit for patients of the different elements of case management.

Table 4 GPs' opinion of impact of case management on role concept and relationships within the primary care team

Perceived role changes

Doctor assistant has more in-depth medical knowledge

Yes, they know their dosage already, when we talk about ramipril or something similar. They understand that now and that's the way it should be. Because the doctor's assistant is seen a lot more often than we are (FG 2 Doctor G)

Doctor assistant can perform tasks with higher responsibilities

It has an effect on the whole General Practice, especially if the doctor's assistant hadn't had responsibility for more duties previously (FG 1 Doctor B)

Doctor assistant wins more recognition

She's the youngest in my team and according to me it raises her value (FG 1 Doctor D)

Steady physicians' role

My role hasn't changed. I very much appreciated that my staff were so involved and dedicated (FG5 Doctor Q)

Perceived changes in relationships

Transient competition and jealousy between doctors' assistants in the practice team

In my practice it was assigned to the newest doctor's assistant in the team and to the one with no allocated role. And my most experienced staff member was jealous after a short period of time (FG 3 Doctor U)

Unchanging relationship between doctor's assistant and physician

That had always been very open. There was no change in that respect. There was just an extra project which we now talked about, but nothing changed (FG5 Doctor Q)

Improved relationship between physician and patient

The other patient had been with us for a long time, but I had the impression he was a little reserved and I'm sure I occupied myself more with him and I had the feeling, that he now prefers to come (FG4 Doctor K)

Improved relationship between doctor's assistant and patient

They (doctor's assistants) then just built up a different relationship with the patients because they had seen their home environment (FG1 Doctor B)

According to participants, some elements of case management could be used directly and quickly, such as medication review and patients' diaries and booklets. Moreover, telephone monitoring, assessment of health behaviour (ask and assess), geriatric basic assessment, medication review, the patients' diary and home visits are at least partly feasible. However, GPs stated health behaviour counselling (advice, agree and assist) was not feasible and GPs in smaller practices questioned the cost–benefit ratio of some home visits because of the long absence of doctors' assistants from the practice.

GPs reported unchanged or improved relationships with doctors' assistants and improved relationships with patients. There is potential for the approach to be transferred to other chronic conditions, but there are implications for workforce

Table 5 GPs' suggestions for improvement and future perspectives

Implementation of medication review in daily routine

I was able to transfer the medication check-up into my therapy planning. It was sometimes a little difficult. Especially with new substances, we had a look at them and I think it was also a good lesson for the doctor's assistant (FG 5 Doctor P)

Transfer of concept of care to other patient groups

That would be a good addition for all chronically ill patients—cancer, heart failure, arthritic deformations (FG 1 Doctor C)

Financial issues

If you really wanted to implement it on a larger scale there would have to be some kind of reimbursement you could pass on to the doctor's assistants. With their small salary, for all the extra effort . . . , there would have to be some kind of extra remuneration (FG1 Doctor C)

Unfavourable cost–benefit ratio of some home visits

The feasibility, if a staff member is gone during working hours for an hour there and an hour back, she is gone for about 2.5 to 3 hours, which means doing without her for nearly the whole morning—that can't be handled (FG 1 Doctor B)

Increased Integration of doctors' assistants in patient care under the principle of delegation

To delegate things to an experienced doctor's assistant so that she specializes in that area. One has specialized on assessments for a few years and now she does the home visits and I think she will continue to deal with heart failure. Another one deals with the disease management programmes. Delegation is a good thing and I will definitely promote that as long as it's possible timewise (FG5 Doctor Q)

Case management as part of a curriculum for further education of doctors' assistants

There are a few different inter-connected issues. So in my opinion, if you really wanted to call it 'home and family medicine' where chronically ill patients are cared for routinely, then this kind of case management would be the ideal concept for the further education of doctor's assistants (FG 1 Doctor C)

planning and remuneration and the training of doctor's assistants.

In countries with a longer tradition of primary health-care teams, for example, in the UK, changes in roles and identities across professional boundaries in primary care between doctors and nurses created an initial culture of uncertainty among GPs [26]. In contrast, in our study for Germany (with little skill mix differentiation in primary care), the participating doctors reported that the new concept of delegating tasks to doctors' assistants did not undermine their perceived professional role. These findings need to be interpreted carefully as to their generalizability, as we asked GPs about tasks that were performed mainly by their employed doctors' assistants. First, it is possible that participants were prone to practice-based case management by their voluntary participation in the parental HICMan trial [7]. Second, the findings of our complementary qualitative study with the doctor's assistants indicated that acceptability of adopting new tasks

and roles for patient care in case management was closely linked to the support of the GPs [11].

The increasing prevalence of patients with chronic diseases is associated with increasing multimorbidity and complexity [27]. Internationally, meeting the needs of patients with chronic diseases while containing costs is important for redesigning health-care systems. This is interconnected with issues of skill mix and workforce planning. Shortage of primary care doctors and other health professionals emphasizes the challenge of maintaining an affordable health-care system [28]. According to Bodenheimer *et al.* [28], prevention and management of chronic diseases are best performed by multidisciplinary teams in primary care and associated reforms to payments that reward practices that incorporate multidisciplinary teams. In Germany, the Advisory Council for the Assessment of Trends in German Health Care System echoed in 2007 the same message as the WHO in 2002, in recommending the use of multiprofessional teams applying principles of a CCM [3, 29].

At the individual practice level, the principles of both substitution and delegation imply that non-physician health professionals with appropriate training can take over specific tasks while maintaining or improving patient outcomes [8, 30, 31]. The German Federal Medical Association is opposed to nurse–doctor substitution and favours delegation under the ‘therapeutic responsibility’ of doctors [32]. For example, community nurses implementing new tasks in cooperation with GPs are currently being evaluated [33].

To adapt to the requirements of ambulatory care, the regulations for training of doctors’ assistants in Germany were changed in August 2006 focusing on a ‘meta-professional’ approach stressing social skills like communication with the patient and with practice team members while reducing medical aspects of training [34]. The ‘Institute for Continuous Medical Education’ of the German Professional Organization of GPs has developed apprenticeship training for doctors’ assistants in general practice of 200 units aimed at ‘improved support of patients and GPs in general practice’ leading to the certificate ‘care assistant’. Forty units of this curriculum focus on case management and chronic disease management [35]. However, this new curriculum has not been evaluated yet.

The limitations of the study are that the participating practices were larger than most German practices, although the sample of GPs had a broad range of ages. Therefore, the findings might not reflect the views of GPs working in smaller/solo practices in Germany. Moreover, GPs were taking part in a trial and therefore may differ from other GPs. Opinions in focus groups are expressed within a group setting, and it is possible that they were influenced by the more dominant participants. However, the presence of a moderator helped ensuring that all members were given the opportunity to voice their opinions, and by conducting five separate focus groups the influence of certain individuals was reduced. Since we focused on thematic and content analysis, we did not explore the emotional and linguistic level, which could have given further insights into the motivation and attitudes of the participants. We explored doctors’ consultants’ views of HICMan [7], but patients’ views are a crucial source

of information on the feasibility and acceptability of the case management programme, and are missing in this study.

Conclusion and perspective

Our findings suggest that enhancing the roles of doctors’ assistants by incorporating a heart failure case management programme is feasible and acceptable to German GPs. However, we believe that adaptation of the programme, its transferability to other conditions and a payment is crucial for its successful implementation. In the wider international context of primary care practice nursing, the delegation of tasks using tailored case management may be a promising strategy for improving the quality of care for patients with chronic conditions and for patient self-management.

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