

Experiences of older cardiac patients with the Cardiac Care Bridge
transitional care program
A qualitative study.

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List of abbreviations

CCB	Cardiac Care Bridge
CCI	Charlson Comorbidity Index
CCRN	Community Care Registered Nurse
CGA	Comprehensive geriatric assessment
COREQ	Consolidated Criteria for Reporting Qualitative Research: a 32-items checklist for interviews and focus groups
IB	<i>Iris ten Barge (RN Intern, Geriatric Department & Department of Cardiology, Amsterdam, the Netherlands. Student Nursing Sciences, program in Clinical Health Sciences, University Medical Centre Utrecht. The Netherlands.</i>
MMSE	Mini-mental State Examination
PJ	<i>Drs. P. Jepma (RN). ACHIEVE Centre of Expertise, Faculty of Health, Amsterdam University of Applied Sciences. Amsterdam, the Netherlands.</i>
PT	Physical Therapist
VMS	Veiligheidsmanagement Systeem
WMO	Medical Research Involving Human Subjects Act (in Dutch: Wet Medisch-wetenschappelijk Onderzoek met Mensen)

Abstract

Background: The Cardiac Care Bridge (CCB) transitional care program is a randomized controlled trial aiming to reduce hospital readmissions and mortality for high-risk cardiac patients of 70 years and older. A qualitative study has been conducted as part of the process evaluation of the CCB-program, evaluating patients' experiences on the care they received.

Aim: The aim was to explore older cardiac patients' experiences with the CCB-program during the hospital-, discharge- and post-clinical phase.

Methods: An explorative research with a generic qualitative approach has been performed. Semi-structured interviews were conducted with twelve older cardiac patients at their homes. All interviews were audio-recorded, transcribed, and analysed using The Framework Method and six themes from the 'Six Senses Framework'.

Results: Few patients had a clear memory about the hospital- and transitional phase of the CCB-program. The six senses were particularly prominent in experiences with the care received during the post-clinical phase. The feeling that there was someone there helping them with recovery and maintain independence, ensured a great sense of security. The sense of purpose and fulfilment particularly came forward in experiences with exercises received from the PT. However, patients did not always recognise the aim of the home-visits received from the CCRN.

Conclusion and recommendation: Results indicate that patients experienced a helping hand during their first period of recovery. During further implementation of the CCB-program, attention should be given to tailored information for this target group about the received care and to goalsetting with active involvement of the patient. This may contribute to the sense of continuity of care, insight in the goals to work on, and contribution to recovery and may keep patients motivated for participation.

Keywords: Process evaluation, cardiology, elderly, transitional care, qualitative study

Samenvatting

Achtergrond: De Cardiologische Zorgbrug (CZB) programma is een gerandomiseerd gecontroleerd onderzoek en heeft als doel het reduceren van heropnames en mortaliteit van oudere cardiologische patiënten. Een kwalitatief onderzoek is uitgevoerd, als onderdeel van de procesevaluatie van de CZB-interventie, waarin de ervaringen van patiënten met de zorg die zij hebben ontvangen, werd geëvalueerd.

Doelstelling: Het doel was om inzicht te krijgen in de ervaringen van de oudere cardiologische patiënt met de zorg die zij hebben ontvangen vanuit de CZB-interventie, gedurende de ziekenhuisopname, het ontslag en thuis.

Methode: Een exploratief generiek kwalitatief onderzoek is uitgevoerd. Twaalf semigestructureerde interviews zijn uitgevoerd bij patiënt thuis. Alle interviews zijn opgenomen, getranscribeerd en geanalyseerd aan de hand van de Framework Methode en zes thema's van de 'Six Senses Framework'.

Resultaten: Weinig patiënten hadden nog een duidelijke herinnering van zorg tijdens de ziekenhuisopname. De zes thema's kwamen met name naar voren in ervaringen met zorg die thuis werd aangeboden. Het gevoel dat er iemand was die hielp bij het herstel en behouden van zelfstandigheid, gaf een gevoel van veiligheid. Het gevoel doelgericht bezig te zijn en daar ook wat mee te bereiken kwam met name naar voren tijdens het uitvoeren van oefeningen met de fysiotherapeut. Daarentegen zagen patiënten niet altijd in wat het doel was van de huisbezoeken van de wijkverpleegkundige.

Conclusie en aanbeveling: Uit de resultaten blijkt dat patiënten de zorg tijdens het herstel hebben ervaren als een steuntje in de rug. Aandacht zou besteed kunnen worden aan aangepaste informatie die begrijpelijk is voor de doelgroep en aan het stellen van doelen met actieve betrokkenheid van de patiënt. Dit zou ten goede kunnen komen aan het gevoel van continuïteit van zorg en inzicht in bijdrage aan herstel. Ook blijven patiënten mogelijk meer gemotiveerd voor deelname.

Kernwoorden: Procesevaluatie, cardiologie, ouderen, transmurale zorg, kwalitatief onderzoek

Introduction

Cardiac diseases are most common in people aged 75 years and older.¹ Because people in the Netherlands are aging and life expectancy is growing^{2,3}, it is expected that the number of people with cardiac diseases will grow in 30 years by 65% to 1.4 million people in 2040.⁴ After hospitalization for cardiac diseases such as heart failure and acute myocardial infarction, most readmissions occur within the first 30 days after discharge.⁵ Also, older patients are at high risk of having complications such as functional loss⁶, activities of daily living (ADL) disability^{7,8}, low quality of life⁹ and higher mortality⁶.

Several qualitative studies have examined patients' experiences with care transitions after various hospital-referral indications. Older patients experienced difficulties with communication, accessing hospital staff and whom to contact for post-acute care problems, which causes a poor experienced continuity of care.¹⁰ Also, often discharge information is too complex for patients to understand.^{11,12} In many cases older patients are reluctant in starting daily activities, which underlines the importance of supporting them in rebuilding functional abilities shortly after discharge.^{13,14}

Research has proven that transitional care programs result in lower readmission rates.¹⁵⁻¹⁷ In addition, these programs support patients in moving in a safe and timely manner from one care setting to another and includes several services to improve communication and information transfers from hospital to primary care.¹⁷ In 2017, a randomized controlled trial started to examine the effectiveness of a nurse-coordinated transitional care program for high-risk cardiac patients of 70 years and older. This Cardiac Care Bridge (CCB) program is currently implemented in six hospitals in the Netherlands. The CCB-program aims to reduce unplanned hospital readmissions and mortality within six months after hospitalization. The program starts during the clinical phase with a comprehensive geriatric assessment (CGA) after which an integrated care plan is developed. During the discharge phase the Community Care Registered Nurse (CCRN) visits the patient in hospital to meet each other, for an in-person handover of the integrated care plan and medication evaluation. Subsequently, the CCRN visits the patient (after 48 hours, one week, three weeks and six weeks) for follow-up of the integrated care plan, early detection of complications, medication reconciliation and lifestyle promotion. Also, a physiotherapist (PT) visits the patient for nine rehabilitation sessions within six weeks after discharge.

A qualitative study has been conducted as part of the process evaluation of the CCB-study. Patients' experiences and responses are necessary in understanding how key-elements of the CCB-program works and can provide insight into successful elements and (un)expected outcomes from the patients perspective.¹⁸⁻²⁰ This may result in recommendations to refine the program and can support interpreting outcomes of the CCB-program.²¹⁻²³

Aim

The objective of this study is to explore older cardiac patients' experiences with the CCB-program during the hospital-, discharge- and post-clinical phase.

Method

Study design

During this explorative research a generic qualitative approach²⁴ has been used. The generic approach was considered suitable to focus on facts and to get the subjective content of opinions, happenings and reflections of patients on the experiences they had with the different components of the CCB-program.²⁴ COREQ-guidelines have been used for transparency reporting.²⁵

Population and setting

Patients who received the CCB-program were invited to participate in an interview about their experiences with the care they received, between six weeks and three months after discharge. Cardiac patients who were included in the CCB-study were: 1) aged 70 years and older, 2) had a Mini-mental State Examination Score (MMSE) of 15 and higher, and 3) have been identified as high-risk of functional loss according to the Dutch Safety Management Program²⁶ (VMS-screening). During inclusion, patients were selected based on gender and hospital to attempt maximum variation in the sample.

Data collection

Eligible patients were contacted by the researcher (IB) by phone and provided with information about the aim of the interview. Subsequently, patients were asked if the CCRN had any more home-visits scheduled, aiming to interview the patient after the CCRN completed the home-visits. After the oral consent of the patient, an appointment was made and an information letter with an informed consent form was sent to the patients' home address. The interviews took place at patients' homes. Informal carers were welcome to be there as well, but interview questions were initially directed to the patient. All patients gave written consent to participate on the day of the appointment.

To collect patients' experiences²⁷, semi-structured interviews have been conducted by researchers IB and PJ between January and May 2018. IB participated in a two-hour training course about interviewing at Utrecht University, before interviews were conducted. With the permission of participants, all interviews have been audio-recorded. The interview-guide used for these interviews is based on the key-elements of the CCB-program (Appendix 1), and on earlier research on transitional care.^{10,28-30} The guide followed the steps from the clinical phase, to the discharge phase and the post-clinical phase and included questions such as the

remembrance of participating in the CCB-program, communication, discharge information involvement in care, continuity of care and the role of informal caregivers. The interview guide consisted of closed questions, with open questions to get in-depth information. This combination was chosen to support patients with remembering all aspects of the CCB-program before in-depth questions were applicable. The first version of the interview-guide has been reviewed by members of the research group involved in the CCB-study. During the coding process the interview-guide was reviewed by the performing researchers IB and PJ, to ensure the sense of purpose of the guide.

Secondary data was extracted from logbooks to support and verify the results from the interviews. This data includes information such as the handover of the care plan, communication between caregivers and the provided care (Table 2 and 3; Appendix 2).

Data analysis

The Framework Method was used for data-analysis to draw descriptive conclusions following clear steps.³¹ In addition, this method made it possible to include 'The Six Senses Framework'³² during analysis. The 'Six Senses Framework' of Nolan³² was used to reflect to already known important determinants of quality of care from the older patients' point of view. In addition, it will provide a certain degree of analytic generalizability.³³ The six themes include the sense of security, belonging, continuity, purpose, fulfilment and significance. The sense of security is about feeling safe and free from threat, harm, pain and discomfort during the care patients receive. The sense of belonging is about the opportunity to socialise and mix with others. These others can be friends, family or other people involved in care. The sense of continuity is about a continuous course of care. It is about the feeling that carers take decent time to care and about appropriate environments of care. The sense of purpose has to do with being able to do enjoyable things, feel stimulated, challenged, and to be able to have an opinion which is listened to. The sense of fulfilment has to do with the feeling that patients are getting somewhere with what they are doing and maintain their independence. Finally, the sense of significance has to do with the feeling that dignity is maintained, and what patients do is important.³²

During the first stage of The Framework Method, interviews have been transcribed verbatim and uploaded in MAXQDA 12 (VERBI GmbH, Berlin, Germany). In stage two the aim was to get familiar with the interviews, and in stage three IB and PJ independently coded the transcripts. After each two coded transcripts, consensus about codes was reached until all interviews were coded. During this process, in stage four, the working analytical framework existed, which was applied to already coded interviews in stage five. Finally, at stage six, a framework matrix has been charted (Appendix 3), in which the codes and categories were structured under the themes of the six senses, which resulted in interpreting the data. The final

three stages were done by one researcher. Nevertheless, trustworthiness was guaranteed using peer debriefing with the second researcher.

Ethical issues

This study was conducted according to the principles of the Declaration of Helsinki (Version 2013)³⁴, and was approved by the Medical Research Ethics Committee of the AMC (Protocol ID: MEC2016_024), as part of the process evaluation of the CCB-study (Netherlands Trial Register number: NTR6316).

Results

Participants

Patients have been included between January 2017 and May 2018. During this time span, 24 patients were available for inclusion. However, two patients couldn't be reached by phone within the inclusion period. Six patients were not contacted as they were readmitted, died, struggled with participation in the CCB-study, or their discharge date was a longer time ago than other available patients, which may cause problems with recall. Three patients did not consent to participate. Consequently, twelve patients have been interviewed. Table 1 (Appendix 2) shows baseline characteristics. Briefly, the mean age of patients was 83.75 years (SD: 3.841), 50% of patients were female and the MMSE-score ranged from 21-29 with a median of 28 (27,29). Seven patients lived together with an informal caregiver. In six of these patients the informal carer was present during the interview and one patient invited her daughter to be present during the interview.

Themes

The themes of the Six Senses Framework³² are discussed below. No additional themes appeared during the analysing process.

A sense of security

Patients were not always able to distinguish between care from the CCB and care as usual from hospital nurses in the clinical phase and discharge phase. Therefore, there was no clear relation between feeling safe to go home and care received from the CCB-program during these phases. For many patients, a big influence on the confidence to be able to go home, is the opinion of doctors and nurses. Some patients also put their trust in homecare organizations, because of earlier positive experiences. Patients without homecare to return to, experienced more difficulties in discharge procedures.

The sense of feeling secure was largely determined during post-clinical elements of the CCB-program. Most patients stated that they had a good feeling about the skills of both the PT

and the CCRN. Patients felt comfortable while practising, because the PT provided them with stimulating feedback and because the PT measured blood pressure, heartrate, oxygen values before, during and after practising. P8 stated about the stimulating feedback of the PT:

Quote 1:

She did the exercises alongside me, and then she looked at how I did it and yes, I benefit from that. At one point, she took me on my arm and said, "it should go that far", and then I thought 'ah, okay!' (P8, male, age 82)

When patients' health was not appropriate for practising, the PT did not push the patient into practising which made most patients feel at ease. However, one patient stated that the PT did not find it safe enough to continue practising with her, because her heartrate was difficult to find. The patient did not agree with this because the General Practitioner (GP) told her it was safe for her to practice.

The care from the CCRN at home also had a positive influence in patients' feeling secure. Patients didn't mind the visits of the CCRN, and felt supported by the approachability of the CCRN. P11 stated:

Quote 2:

I was happy to receive care from the CCRN, because if I had any problems. I knew I could contact her. (P11, male, age 79)

Informal caregivers also had an important role in feeling comfortable at home, because they supported the patient, especially during the first period after discharge, with shopping, household activities, bringing structure to medication and visiting them.

A sense of belonging

This sense did not occur during the clinical phase of the CCB-program. Few patients had a clear remembrance of the visit of the CCRN during the discharge phase, while information from logbooks point out that at least half of the interviewed patients had an in-visit handover of the integrated care plan (Table 2). Patients who did remember the visit of CCRN said it was nice to have seen the CCRN before going home. P7 had not met the CCRN in the hospital, but did see the added value of it:

Quote 3:

Yes, I think that it would be useful if they would visit you in the hospital. Then you know who is in front of you. (P7, female, age 84)

At home, the visits of the CCRN and PT supported patients in feeling that they had the opportunity to socialise with other people. Most of the patients had the feeling they could talk

freely about everything, there was a good understanding between them and the formal carer. Friends and family also helped patients to feel part of a social network by visiting them. P9 stated:

Quote 4:

In the morning my neighbour always visits me, he is a great help to me. He comes to bring the newspaper and to have a chat, and so on. (P9, male, age 89)

A sense of continuity

During the clinical phase, most patients had no knowledge of the collaboration between the care providers in the hospital and the care from the CCB-program. Most patients were not aware of the integrated care plan, so did not know which goals were developed to work on. P6 stated:

Quote 5:

No, I didn't get any assignments for that matter. (...) No, they didn't talk about things I wanted to work on. (P6, male, age 87)

The opinion of patients about the number of home-visits of the PT, and the distribution of the visits over the weeks, differs. One patient indicated that she was welcome every day, because it was nice that there was someone visiting her. Other patients stated that twice a week is not always preferable. P10 stated:

Quote 6:

Once a week is enough. I am very busy this week. Yesterday the PT was here, today this interview, tomorrow I have to go to radiology, on Tuesday someone from the laboratory comes by for blood samples, and the next week as well. Then I have to go to the surgery, I mean, I still have so many appointments. (P10, female, age 82)

During the first six weeks post-discharge, the CCRN visited the patients four or five times. Not all patient saw the added value of the home-visits of the CCRN, but they were welcome to visit and to measure the blood pressure. Therefore, four visits were enough according to most patients.

Sometimes home-visits got delayed, due to illnesses of the patient or sometimes illness or holidays of the CCRN. At the end of the intervention, several patients had the opportunity to continue with care from the CCRN. P8 stated:

Quote 7:

And then I had to choose, if I wanted her to continue visiting me, or if I wanted to continue with the General Practitioner (GP). Because that was possible in one way or another, that she would still come to visit me. But I am keen to keep it with the GP, however, she was specialized in heart disease... (P8, male, age 82)

The way PT's and CCRN's communicated with each other, contributed to experienced continuity of care. Many patients felt that the CCB-logbook, which was at patients' home during the intervention, was a way of communication between the CCRN and the PT. Patients also knew that sometimes they phoned each other, or performed a joint visit, which is part of the CCB-program. However, both patients who had a joint intake according to the logbook called the joint visit a coincidence. P10 said:

Quote 8:

Yes, it happened that she was here and that the PT was here as well. And then they discussed with each other. It was like "You do this, and I do that". It was such a coincidence that they met each other here! (P10, female, age 82)

The CCRN also communicated with other disciplines. According to logbook information almost every CCRN had contact with other disciplines such as the GP, a practise nurse, homecare nurses and pharmacists. However, not every patient had a clear remembrance of it.

A sense of purpose

During the hospital phase of the CCB-program, physical tests and a CGA were performed to create input for the integrated care plan. Most patients forgot about the physical tests and CGA or did not have an opinion about it. Patients who did remember it, said that it felt like part of care as usual. One patient said that he thought the physical tests where heavy and a bit too much after his surgery. He stated:

Quote 9:

If you just had surgery, then the exercises are heavy. I thought the physical tests where necessary, that she took the test, to have a point to start from with the research. (P5, male, age 76)

There was no uniform opinion about the main goal of the home-visits of the PT during the post-clinical phase. Many patients felt that the exercises were purposeful, because they had a say in what they wanted to practise and their opinions were listened to:

Quote 10:

Last time I said, 'I have set a goal, I want to be able to walk one hour and I want to be able to ride a bike again', and then he said 'Okay, one of the last appointments we will try to cycle together'. So, that's also still in the planning! (P10, female, age 82)

Patients did not have the feeling that there were specific goals when the CCRN was visiting them. In patients' views, the CCRN was visiting them to talk about how they feel, to measure blood pressure and fill in the logbook. However, from logbook information it became clear that the CCRN did have a role in getting insight in medication and support of lifestyle behaviour (Table 2).

A sense of fulfilment

The sense of fulfilment did not appear from experiences about the hospital phase and discharge phase of the CCB-program. It became more visible in patients' opinions about the post-clinical phase. Not every patient saw the progress they were making with care of the CCRN, but did feel acknowledged by her. Progress was more visible during care from the PT, which may be influenced by the number of home-visits the PT made and the physical activities they did (Table 3). This progress motivated patients to practise by themselves. P5 stated:

Quote 11:

Look, I can do all those exercises, and in the beginning, I really had to recover from it. But now I just recover within a minute, two minutes and then I feel normal again. So, then you see, then you feel that you are rebuilding something and that is important. (P5, male, age 76)

Other patients stated difficulties with practising every day. Some patients forgot to practise, others found it hard to fit the exercises in their daily lives:

Quote 12:

I just cannot afford to spend time on that. At those specific moments, when I think about doing the exercises, then for example I forgot to shut down the gas burner. My short-term memory is very bad. (P6, male, age 87)

Most of the exercises patients got from the PT were easy to perform. Nevertheless, some patients also experienced some difficulties during exercising because of dyspnoea, heartrate or balance problems. In addition, comorbidities were common and influenced the progress patients could make.

In general, most patients felt grateful for what they accomplished in the period after hospitalization. Sometimes the health situation was better before admission, but patients recognized it as part of the process of aging and that recovery sometimes takes more time.

A sense of significance

Many patients had forgotten about their decision to participate in the CCB-study, when they started with participating during the clinical phase. However, a few patients said that participating in research was important to improve the quality of care for older patients and that their contribution gave them the feeling that what they did matters for other patients in the future. P10 stated:

Quote 13:

Everything you do contributes to improving care, also for other patients! So that's why I said, yes of course! Because, what I remember is that, especially in the care for elder people, they do not know exactly how to handle it and what the elderly need, and I found it very important that they know that.' (P10, female, age 82)

Patients were involved in the decision-making process during the care patients received from the CCB-program. However, not many patients had a clear remembrance of their involvement in the recognition of geriatric conditions by the CGA and their personalized integrated care plan. When asked, not many patients felt the need to be more involved because they put their trust in healthcare providers. During the post-clinical phase, opinions about involvement in communication became clearer. Some patients and their informal caregivers found it important that they knew what the CCRN or PT was talking about. However, others did not have the wish to be more involved. The partner of P8 said about their involvement during care of the CCRN:

Quote 14:

Yes, she was sitting right here when she called with the hospital, as I asked her to. She said: "I can call the hospital for you" and then I said: "Yes, please." And then she did it right away. I had tried to call the hospital myself, but it takes a long time to reach who you want to reach. (Informal caregiver P8, female)

Another important aspect is the self-management of patients. Most patients did not need someone who took over tasks such as managing medication or contacting the GP, but someone who supports them in performing these tasks by themselves. In most cases the CCRN could support patients in keeping their independence. For example, self-management in managing medication was maintained by ordering a multi-dose drug dispenser for the patient or by giving insight in the medication list.

Discussion

The aim of this study was to explore patients' experiences with the care they received from the CCB-program. Few patients had a clear memory about the hospital- and transitional phase of the CCB-program. Therefore, it is difficult to tell if components of the CCB-program influenced patients' confidence in going home or feeling prepared. However, it became clear that patients did not experience a large burden from the CGA or physical tests. It felt as care as usual and to get a reference measurement. The in-hospital visit of the CCRN before discharge was a key-element of which most patients did not have a clear remembrance. The post-clinical phase is the period in which patients felt supported by the care they received from the CCRN and PT. The feeling that there was someone helping them with recovery and maintaining independence, ensured a great sense of security.

The Six Senses used during analysis of this study intended to give information about subjective experiences of quality of care.³⁵ During this qualitative study the senses were useful in understanding the interaction between elements of the CCB-program from the patients' point of view and shows on which components more attention is necessary. For example, the sense of purpose was largely determined by the care patients received from the PT. During home-visits of the PT, patients saw the progress they made during exercises and had the chance to work on goals they wished to work on. This gave patients the sense they achieved something. However, patients were less aware of specific goals they were working on with the CCRN. This may be because patients had to actively participate during home-visits of the PT, while during home-visits of the CCRN patients were not always involved in everything the CCRN did, whereby patients were not aware of the contribution to recovery the CCRN had.

Darby et al³⁶ found that patients did not see that monitoring and observation of nurses was part of actual treatment, which is similar to our outcomes.³⁶ Work of nurses is often invisible³⁷, which also seems to be the fact when listening to patients' opinion about the care they receive from the CCRN. From the logbooks, it became clearer that nurses' organising work in, for instance, medication verification largely contributes to quality, safety and efficiency of care because often intervening is necessary when medication lists are not accurate.

Age is associated with cognitive impairment, but the extent in occurrence differs between patients.³⁸ Cognitive impairment could have had an influence on the way patients experience the delivery of care, including involvement in goalsetting. In addition, the way patients in this study are informed, may influence patients' understanding of the care they receive as well. This may also be caused by the postponed informed consent procedure of the CCB-study.³⁹ That information patients receive should be more tailored, was also stated by a study by Ford et al.²⁸ This way patients involvement in care transitions may be improved, which contributes to continuity of care.⁴⁰ Goal-setting may become more of a meaningful activity, when patients

understanding with their impairments and their experiences with goal setting have been explored.⁴¹

This study has several strengths and limitations. One strength was that interviews were performed by a researcher who did not participate in designing the CCB-program or providing the intervention. This guarantees an independent and objective view during the interviews. The main goal was to interview a group of patients with maximum variation in different characteristics. During the inclusion period of this study, a limited number of patients participated in the intervention arm of the CCB-program. Therefore, the sample became more of a convenience sample which may result in missing information from people with other characteristics such as different cultural backgrounds or with less support from their social network. These patients may interpret their experiences in a different way and their opinions could be of added value within this study.

Patients remembered different aspects of the intervention, which may be one of the reasons saturation was not reached. Most patients were very ill during hospitalization, which may have caused patients to forget details of their care. Also, the extent to which the intervention was carried out as described in the protocol, differed within the sample. Therefore, experiences varied a lot. More in-depth information is needed on patients' specific wishes to be more involved in goal-setting, experiences from patients who have been readmitted during the intervention period, the joint-intake of the CCRN and PT, and opinions about the spread of home-visits of the CCRN and PT.

In conclusion, the results of this qualitative study indicate that patients experienced a helping hand during their first period of recovery. During further implementation of the CCB-program, information given to patients who receive the intervention should be more tailored to the target group. Also, attention to goal setting with active involvement of the patient may allow patients to get more insight in goals to work on with the CCRN and PT and their contribution to recovery will become clearer, which may keep patients motivated for participation as well.

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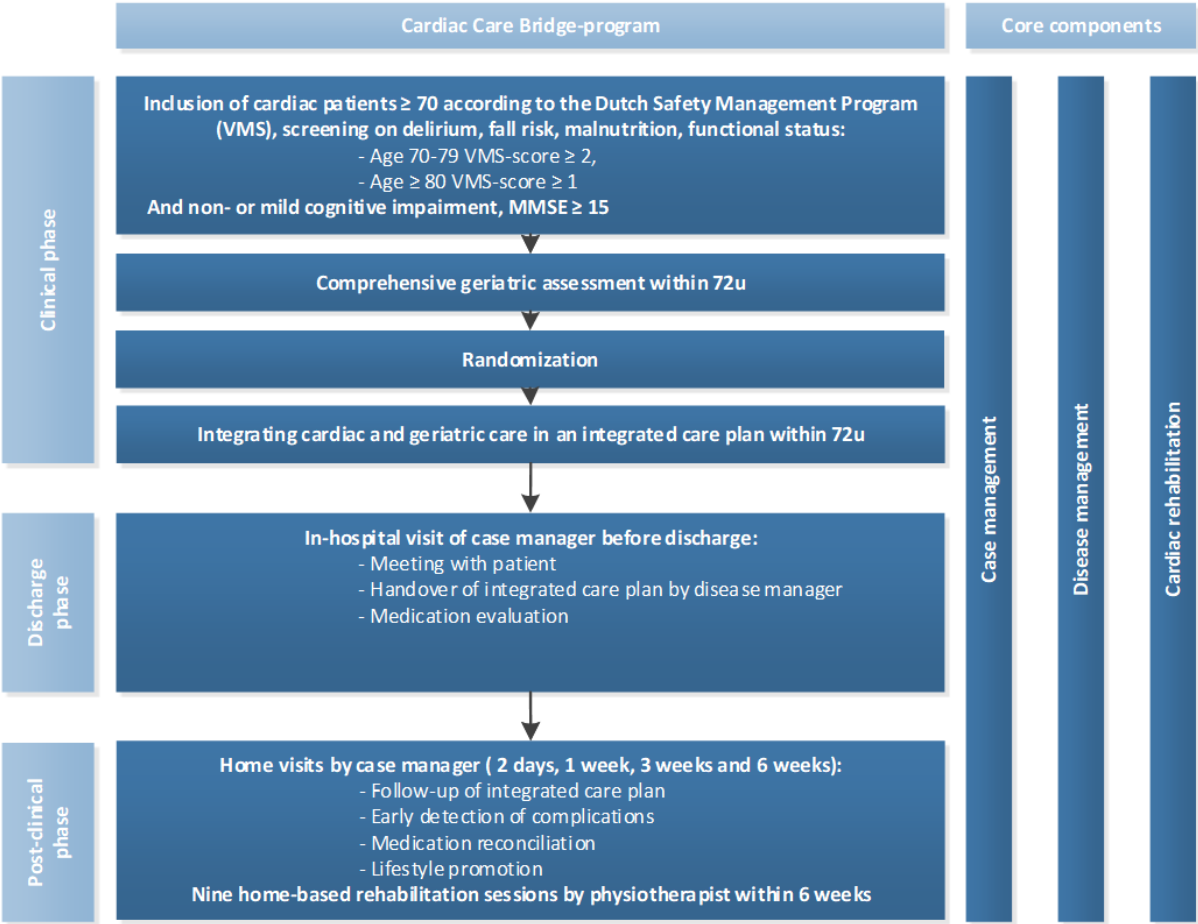
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Appendix 1: Cardiac Care Bridge Transitional Care Program



Appendix 2: Tables

Table 1. Baseline Characteristics

Patient	Age	Sex	MMSE (hospital)	VMS (0-4)	Primary diagnosis	Weeks after discharge	Residency status	Educ. Level	Ethnicity
1	87	Female	21	1	Heart valve replacement	10	Lives with husband	Vocational	Dutch
2	86	Female	29	1	Myocardial infarction	11	Lives alone	Vocational	Dutch
3	81	Male	27	1	Heart failure	12	Lives with wife	Elementary	Dutch
4	85	Female	24	2	Thoracic pain	11	Lives alone	Vocational	Dutch
5	76	Male	27	3	Bradycardia	9	Lives with wife	University/ College	Dutch
6	87	Male	29	1	Heart failure	9	Lives alone	Vocational	Dutch
7	84	Female	28	3	Heart failure	8	Lives alone	University/ College	Dutch
8	82	Male	28	1	Collapse	11	Lives with wife	University/ College	Dutch
9	89	Male	27	1	Heart failure	7	Lives with son	University/ College	Dutch
10	82	Female	29	2	Cardiac insufficiency	11	Lives with husband	Vocational	Dutch
11	79	Male	29	2	AV-block	9	Lives with wife	University/ College	Dutch

12	87	Female	29	1	TAVI	6	Lives alone	Elementary	Dutch
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MMSE = Mini-mental State examination; VMS = Dutch Safety Management Program;

Table 2. Secondary information about the content of the CCB-program performed by the CCRN

Patient	Home-visits CCRN (N)	Home-visit within 2 working-days? (Yes/No/unknown)	Medication verification done? (Yes/No)	Intervention executed for medication? (Yes/No/unknown)	Content of intervention executed for lifestyle (None, MI, Ref, TK, Dif, unknown)	Contact with or referral to other professionals? (Yes/No)	Adjustment to the care plan? (Yes/No/Unknown)	Transmission
1	4	No	Yes	Yes	Dif, MI	Yes, with pharmacist	No	In-person
2	4	Yes	Yes	Yes	None	Yes, with homecare	No	In-person
3	4	Unknown	No	No	MI	Yes, with pharmacist	No	In-person
4	3	Unknown	Yes	Unknown	Dif, MI	Yes, with pharmacist and Ref	Yes	By phone
5	5	No	No	No	MI, Ref	Yes, with GP and PT	No	In-person
6	4	Unknown	No	Yes	MI	Yes, with pharmacist and HF-nurse	No	Unknown
7	4	Unknown	Yes	Yes	Dif, MI	Yes, with pharmacist, PN, GP and hospital	No	By phone
8	5	No	Yes	Yes	MI, Ref, TK	Yes, with pharmacist, PN and Informal carer	No	Unknown
9	4	Yes	Yes	Unknown	MI, Dif	Yes, with pharmacist	No	In-person
10	3	Unknown	Yes	No	Unknown	Yes, with GP and Cardiologist	Unknown	By phone
11*	-	-	-	-	-	-	-	-
12	4	Yes	Yes	Yes	Unknown	Yes, with pharmacist, GP	No	In person

N = Number; CCRN = Community Care Registered Nurse; MI = Motivational Interviewing; Ref = Referral; TK = Toolkit; Dif = different; GP = General practitioner; PT = physical therapist; HF = Heart failure; PN = Practise Nurse;

*Logbook-information was not available for inclusion this study, it was not yet returned from the patients' home.

Table 3. Secondary information about the content of the CCB-program performed by the PT

Patient	Home-visits PT (N)	Content of intervention (PA, MI, none, unknown)	Joint intake CCRN and PT? (Yes/No/unknown)
1	4	Unknown	Unknown
2	8	PA, MI	No
3	8	PA, MI	Unknown
4	6	PA	Unknown
5	7	Unknown	No
6	9	PA, MI	Yes
7	9	Unknown	Unknown
8	8	PA, MI	Unknown
9	9	PA, MI	Unknown
10	9	PA	Unknown
11*	-	-	-
12	0	None	No

N = Number; PT = Physical Therapist;
 CCRN = Community Care Registered Nurse; PA = Physical Activity; MI = Motivational Interviewing;

*Logbook-information was not available for inclusion this study, it was not yet returned from the patients' home.

Appendix 3: Framework Matrix

Themes	Subthemes 1	Subthemes 2	Coding-segments
Sense of security	CCB Hospital phase		
	CCB Transitional phase		
	CCB post-clinical phase	Feel supported	Encouragement of PT Support with medication use Information/education by PT Information/education by CCRN Encouragement of CCRN
		Feeling free from discomfort	Taking tiredness into account by PT Taking wishes into account by PT Taking dyspnoea into account by PT Detection of symptoms by PT Detection of symptoms by CCRN
		Appropriate skills to care	PT's knowledge about the health situation CCRN's knowledge about the health situation Opinion about expertise of PT Opinion about expertise of CCRN
		Approachable carers	Positive experience with PT Positive experience with CCRN Feeling comfortable with PT
	Support of formal caregivers	After admission	Support by other care providers
	Uncertainties		Uncertainties after returning home Not looking forward to treatment Uncertainties physician about diagnosis Uncertainties patient about diagnosis Getting used to it Patients' expectations about the first period at home

Feeling well prepared			Dissatisfaction with the process of applying for domestic help Information about treatment at admission Little information/explanation at admission Experiences during discharge Health situation at discharge Information/education at discharge Course of discharge Preparations before discharge Opinion about discharge process
Influencing patient characteristics			Having confidence in others
Feel supported by informal carers			Experiences of informal caregivers Friends/acquaintances/neighbours Family Opinion of informal caregivers Support by informal caregivers
Sense of belonging			
CCB Hospital phase			
CCB Transitional phase	Opportunity to get to know each other		Home-visits of care providers Face-to-face in-hospital meeting
CCB post-clinical phase	Feel like part of the team		Positive experience with PT Positive experience with CCRN
Maintain a social network			Friends/acquaintances/neighbours Family
Feel like part of the family			Opinion of informal caregivers Support by informal caregivers
Sense of continuity			
CCB Hospital phase	Clear philosophy of care		Involvement in developing a care plan CZB logbook hospital phase
CCB Transitional phase	Known as an individual		Face-to-face in-hospital meeting

CCB post-clinical phase	Time to care	Number of home-visits PT Number of home-visits CCRN
	Consistent relationships	Communication by PT with other care providers Communication by CCRN with other care providers Contact between PT and CCRN Joint intake PT and CCRN
	Exposure to continuous care	Delay in home-visits of PT Follow-up by PT Delay in home-visits of CCRN Follow-up by CCRN Role of CCRN in medication CZB logbook postclinical phase
Multidisciplinary involvement	After admission	Other care providers after discharge
Sense of purpose		
CCB Hospital phase	Purposeful activities	Remembrance about CGA Remembrance about physical tests
CCB Transitional phase		
CCB post-clinical phase	To have something to aim for	Aim of home-visits PT Content of home-visits PT Aim of home-visits CCRN Content of home-visits CCRN Motivation for physiotherapy
	Feel to 'have a say'	Taking tiredness into account by PT Taking wishes into account by PT Taking dyspnoea into account by PT Taking wishes into account by CCRN Discussing necessary support
Sense of fulfilment		
CCB Hospital phase		

CCB Transitional phase			
CCB post-clinical phase	To feel you getting somewhere		Performing exercises Exercising independently
	To be able to grow and develop		Opinion about home-visits PT Follow-up by PT Opinion about home-visits CCRN Follow-up by CCRN Opinion about contribution to recovery PT Opinion about contribution to recovery CCRN
Experience of personal achievements			First period at home Go on holiday What went well at home Satisfied with the first period at home Opinion about current health situation
Ability to grow and develop	iADL		iADL functioning before admission iADL functioning shortly after discharge Current iADL functioning
	ADL		ADL functioning before admission ADL functioning during hospitalization ADL functioning shortly after discharge Current ADL functioning
Influence of comorbidities			Health situation during hospitalization Health situation shortly after discharge Current health situation
Sense of significance			
CCB hospital phase	Involvement in care		Involvement in developing a care plan To discuss the outcome of the CGA To discuss the outcome of the physical tests
	What they do matters		Remembrance about participation in CCB-study
CCB transitional phase			

CCB post-clinical phase	Involvement in care	Involvement in communication between CCRN and hospital Involvement in communication between CCRN and GP Involvement in communication between CCRN and PT CZB logbook post-clinical phase
	Involvement in care	Involvement in communication between care providers Opinion about involvement in communication Involvement in discharge procedures
	Maintain independence	Self-management in medication current situation Self-management in medication shortly after discharge Self-management in coordination of care