

## Projects and Developments

# The Depression Initiative. Description of a collaborative care model for depression and of the factors influencing its implementation in the primary care setting in the Netherlands

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## Abstract

**Background:** In the Depression Initiative, a promising collaborative care model for depression that was developed in the US was adapted for implementation in the Netherlands.

**Aim:** Description of a collaborative care model for major depressive disorder (MDD) and of the factors influencing its implementation in the primary care setting in the Netherlands.

**Data sources:** Data collected during the preparation phase of the CC:DIP trial of the Depression Initiative, literature, policy documents, information sheets from professional associations.

**Results:** Factors facilitating the implementation of the collaborative care model are continuous supervision of the care managers by the consultant psychiatrist and the trainers, a supportive web-based tracking system and the new reimbursement system that allows for introduction of a mental health care-practice nurse (MHC-PN) in the general practices and coverage of the treatment costs. Impeding factors might be the relatively high percentage of solo-primary care practices, the small percentage of professionals that are located in the same building, unfamiliarity with the concept of collaboration as required for collaborative care, the reimbursement system that demands regular negotiations between each health care provider and the insurance companies and the reluctance general practitioners might feel to expand their responsibility for their depressed patients.

**Conclusion:** Implementation of the collaborative care model in the Netherlands requires extensive training and supervision on micro level, facilitation of reimbursement on meso- and macro level and structural effort to change the treatment culture for chronic mental disorders in the primary care setting.

## Keywords

primary care, integrated care, collaborative care, major depressive disorder, policy, implementation, health care system

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## Introduction

### Need for integrated care for depression

In spite of the availability of evidence-based pharmacological and psychological treatments for depressive disorder, and specific guidelines for their application, patients with major depressive disorder (MDD) often receive less-than-optimal treatment in the Netherlands [1]. Possible reasons for this paradox are a lack of acknowledgement of the symptoms by patients and health care providers, delayed treatment, poor collaboration between general practitioners (GPs) and specialist mental health services, difficult access to these specialist services, poor treatment compliance, insufficient adherence to guidelines for treatment with antidepressants and psychotherapy, lack of psycho-education, little effect monitoring, not enough attention to relapse prevention and undervaluation of patients' preferences [1, 2]. Moreover, in case of comorbid physical illness, as described in the competing demands model of Nutting et al., the GPs' attention is often drawn to these physical complaints and the depressive complaints are left for subsequent visits, if dealt with at all [3]. Approaching MDD in the general practice setting with an integrated care model might be the solution to this problem.

### The Depression Initiative

In the Netherlands, the Depression Initiative has, therefore, been launched to develop an integrated care model for MDD in the primary care setting and to evaluate its cost-effectiveness [4]. A promising integrated care model is the collaborative care model that was developed by the IMPACT group in the US, where it was found to be both effective and cost-effective [5].

## Collaborative care

Collaborative is characterized by enhanced collaboration between health care professionals who are involved in the treatment of the depressed patient, for example, nurses, GPs and psychiatrists. In the elaboration of the model in the Depression Initiative, it encompasses treatment for the patients according to their preferences and according to evidence-based guidelines, easy access to a psychiatrist for consultation, a web-based monitoring tracking system with a stepped care treatment algorithm, monitoring of treatment progress, and a relapse prevention plan [6]. The monitoring task is delegated to a care manager (CM). This is a practice nurse, a community psychiatric nurse (CPN) or a social worker.

## Problem statement

Since most studies focusing on collaborative care have been conducted in the US, and often in the Health Maintenance Organisation (HMO) setting [7], an important question is whether or not the positive outcomes of this intervention can be replicated in the Netherlands. For each country outcomes might be different. For instance, the collaborative care model that greatly resembles the one we developed in the Netherlands showed a larger significant effect size in the UK than in the US (0.6 vs. 0.4) [5, 8]. Possibly, the difference in effectiveness between non-US studies and US studies can be explained by difference in the presence of the critical elements for effectiveness of collaborative care as stated in the review of Gilbody et al.: medication compliance, the professional background of the CMs, the method of supervision of the CMs and fidelity to the collaborative care model as described by Katon et al. [7]. This model of Katon et al. includes all three elements of collaborative care (a CM,

a GP and structural access to a consultant psychiatrist for specialist input) [9]. In the UK National Health Service system (NHS), the general practice setting is strongly supported by registered nurses, who are well trained. The construct of a nurse working under supervision of a consultant psychiatrist is also a generally accepted way of collaboration in the NHS. In the US as well as the Netherlands, this may be different.

Besides the critical factors which are mentioned by Gilbody et al., we expect that specific features of the health care system such as the degree of collaboration between GPs and other disciplines, funding arrangements, and access to care in each country may also have an effect on the effectiveness and implementation of collaborative care [10]. Therefore, this article focuses on the influences that the Dutch health care system might have on the implementation of a collaborative care model for MDD in primary care in the Netherlands. This paper first describes the development and implementation of the collaborative care model in the Netherlands in the CC:DIP (collaborative care: Depression Initiative in primary care) trial. Subsequently, the data collected during the preparation phase of CC:DIP will be compared with literature, policy documents and information sheets from professional associations for the analysis of facilitating and inhibiting factors for the implementation of this model in the Netherlands.

## The development and implementation of the collaborative care model in the Netherlands

### Intervention

In the Depression Initiative [4], the IMPACT collaborative care model was adapted for the Netherlands [5]. We remained as close as possible to the original collaborative model of Katon et al. and, therefore, the team that delivers the collaborative care intervention consists of a care manager (CM), a GP and consultant psychiatrist (CP) [9]. In this intervention, the CM has the following tasks:

- psycho-education;
- brief psychological treatment;
- monitoring of treatment progress and the stepped care principle;
- consultation with the CP and the GP;
- relapse prevention.

During the initial visit the CM educates the patient and discusses treatment options. All the patients receive psychological treatment and manual guided self-help.

They can decide whether or not they want to take antidepressant medication with it. Problem solving treatment (PST) and cognitive behavioural therapy are the most frequently used types of psychological treatment in collaborative care [5, 8]. Since time is limited in primary care and mental health professionals are not always available [3], we chose PST which is a brief intervention, and has a strong focus on common sense [11].

The treatment progress is monitored with a short depression screener: the patient health questionnaire (PHQ-9) [5, 8, 12, 13]. If the patient's score on the depression screener drops below a predefined cut-off point this indicates response to the treatment or remission. Once remission has been achieved, relapse prevention consisting of monthly phone calls, is initiated. If there is insufficient response, the treatment is intensified, for instance by adding antidepressant medication or referral to specialized mental health care. The consultant psychiatrist plays an advisory role in such cases.

### Training

The researchers (FdJ and KH) trained the participating GPs and CMs in collaborative care including a web-based tracking system and an antidepressant treatment algorithm. The CMs are also trained in PST.

### Supervision

The method and intensity of the supervision is probably one of the main determinants of the effectiveness of a collaborative care intervention [7]. Hence the actions of the CM are closely monitored via a web-based tracking system. This is a secured website with a separate file for each patient. This is accessible to the CM, GP, and consultant psychiatrist of the patient. The tracking system instructs the CM about the steps that need to be taken according to the collaborative care treatment algorithm. If the CM fails to follow important instructions within a set time period the consultant psychiatrist (CFC) and the researchers (FdJ and KH) are notified by e-mail. The researchers also use this information during their weekly phone calls with the CM, in which the researcher stimulates adherence to the collaborative care protocol. Further, every 6 weeks a meeting with other CMs is organized for PST supervision based on PST sessions that have been audio taped with patients permission.

### Recruitment of GPs

The GPs were recruited from a group of general practices connected to the Research Department of

General Practice of the VU University Medical Centre in Amsterdam, and from the Foundation of Health Care Centres in Amsterdam. In addition, GPs were randomly approached. Allocation to the treatment condition took place after recruitment of the general practices. Eventually, a total of 78 general practitioners working in 20 health care centres were willing to participate in the collaborative care study. Important characteristics of these GPs in the light of the current study are described in [Table 1](#).

## Recruitment of care managers

During the development of the collaborative care model an important question was: ‘Who will take on the role of CM?’ The professional background of the CM is one of the key predictors of the effectiveness of the collaborative care intervention [7]. Ideally, the CM should be a professional who is able to apply a brief psychological intervention, is used to the generalistic approach in primary care, is employed by the GP, and works on the practice premises, but has close communication with the specialist mental health care and social services. None of the primary care professionals stood out as candidates for the role of CM. They all had their pros and cons. Moreover, Richards et al. found that the opinions of the GPs, the mental health care professionals and the patients differed with regard to who should provide the care management. The GPs wanted established and experienced mental health workers to manage depression care, although these workers did not consider themselves suitable for this role [14]. We decided to follow the approach that proved to be most successful in the establishment of the new role of primary care mental health worker in the UK [15], and let each general practice and the primary mental health care professionals decide who would act as CM. The requirements for the project were that the CM had a structural liaison with the primary care practice, had sufficient background knowledge, motivation and time to follow the required training and had time and would be reimbursed for the treatment he/she provided for the project. All except the practices of one GUOR construction (see [Table 1](#) for its definition) decided to ask the health care professional to whom they thus far

referred their depressive patients most often, to take on the role of CM. For the practices of the one GUOR the researchers negotiated with a mental health institution to provide a CPN to take on the role of CM. The CMs who participate in the collaborative care study have the following professional background: three CMs are social workers, four are CPN and two are practice nurses. The two practice nurses started with the project in 2007 and wanted to become mental health care practice nurses (MHC-PNs) as soon as the role of MHC-PN would be introduced in Dutch primary care in 2008.

## Recruitment of patients

The Dutch multidisciplinary guideline recommends to apply watchful waiting when patients have mild depressive symptoms for <3 months, or to proceed with treatment sooner in case of severe symptoms or impaired general functioning [16]. Hence, in the CC:DIP trial, the collaborative care treatment is meant for patients with a major depressive disorder (MDD) which implies impairment in functioning due to the depressive symptoms. Therefore, patients must have a score of 10 or higher on the patient health questionnaire depression subscale (PHQ-9) [12, 13] and suffer MDD according to the mini-international neuropsychiatric interview plus (MINI-Plus) [17] in order to be eligible for the trial. Exclusion criteria are a high suicide risk according to the GP, psychosis, dementia, insufficient knowledge of the Dutch language to fill in the questionnaires, addiction to drugs or alcohol, intensive psychiatric treatment elsewhere and/or age under 18. Use of antidepressants is not an exclusion criterion because it is thought that when a patient still meets the criteria for MDD, the antidepressants apparently do not work sufficiently. The recruitment of the patients is done in two different ways: by recommendation by the GP and by screening. In the latter group all patients who visited the practice within the last 6 months are selected from the files and receive a letter in which they are asked informed consent and then to fill in and return the PHQ-9 [6].

On 30 January 2009, 101 patients were included in the collaborative care study: 39 patients were allocated

**Table 1.** Characteristics of general practitioners in the CC:DIP trial

	Care as usual	Collaborative care
Number of GPs	36	42
Number of GPs working in a solo-practice or collaborating with only one colleague	3 (these GPs collaborate with only one colleague. They work in 2 health care centres)	0
Number of GPs working in a GUOR* construction	4 (1 GUOR)	10 (3 GUORs)
Number of GPs working in a group practice	29 (6 health care centres)	32 (8 health care centres)

\*GUOR=General-practitioners-under-one-roof. General practitioners of a GUOR construction share one building and several other services (for example those of the medical receptionists), but each have their own patient list.

to the care as usual condition, and 62 were allocated to the collaborative care condition. The characteristics of the patients in the collaborative care condition are presented in Table 2. Six of the nine CMs have been participating in the study for more than 9 months, allowing them to give treatment according to the collaborative care model for sufficient time to be able to evaluate the feasibility of the model. Four of them indicated that they treat not only patients that participate in the trial according to the collaborative care model, but also other MDD patients who for some reason cannot or do not want to participate in the study. One of the CMs even applies the model in other general practices where she works as well. Two CMs estimated that they treat 20 patients according the collaborative care model for every patient that they treat in the scope of the trial. The number of patients that were reached with this treatment model, therefore, vastly exceeds the number of patients (n=62) that received the treatment in the scope of the trial.

### Funding arrangements

Since January 2006, all residents are obliged by law to purchase a 'basic' health insurance from an insurance company of their choice. The 'basic' health insurance covers, among other things, GP care and secondary mental health care. The insurance premium for this 'basic' health insurance is paid jointly by the employers, the government, and the insured people [18]. There is an optional extra insurance that covers more specific health care that is not covered by the 'basic' health insurance. Most of the collaborative care treatment is covered by the 'basic' health insurance.

The GPs receive a fee for service payment from the medical insurance companies for all their patients, so also for each consultation within the scope of the collaborative care treatment. Moreover, general practices are able to apply for additional funding from the insurance company when they employ a MHC-PN or provide integrated primary care services [19, 20].

The MHC-PNs are employed by GPs. The GPs receive funding from insurance companies for the MHC-PN. In 2008, this funding was for a maximum of four sessions

per patient [19]. The collaborative care treatment, however, can take up to 13 sessions [6]. That is why the health care centre in this collaborative care study that had two MHC-PNs as CMs, paid the extra sessions itself in 2008. In 2009, the reimbursement of the MHC-PNs improved, as both the maximum amount of sessions and the maximum salary costs were increased, thus enabling the GPs to hire personnel with more expertise for the job [21].

CPNs are employed and paid by the mental health institutions, which in turn need to make a contract with the insurance companies. For the consultation by the consultant psychiatrist, the insurance companies provide a fee by means of the diagnosis related group (DRG) system. Social work is the only service that is not covered by 'basic' health insurance, but is financed by the local councils.

### Communication

An important issue during the implementation was the communication between the members of the collaborative care team as not all the members of the team work in the same building. Moreover, the GP, social workers, CPNs and consultant psychiatrists each often have their own electronic patient files. We intended to facilitate the communication between these professionals by the development of a web-based tracking system. The GP, CM and consultant psychiatrist all have access to the patient file on this secured website and this enables them to follow the patient's progress. It is also possible to leave messages for the other team members on this website. In actual practice it appeared that the web-based tracking system was primarily used by the CMs as a decision aid, not as a communication tool. GPs hardly visited the website. This is caused by the fact that the members of the team still have to keep the electronic patient file in their practice or organization next to the patient file on the website, lack the time to keep two files, and do not share a culture of structural communication fitting a chronic care model for chronically mental ill patients. We will try to solve this problem by further linking the web-based system to the ICT systems supporting the electronic patient files. We also emphasize the importance of this communication during training and supervision.

Subsequently, the collaboration between the professionals improved as time went. The MHC-PNs were already used to frequently confer with the GP on patients' progress. The social workers and CPNs worked more independently and needed to be stimulated more to contact the GP for consultation. The consultant psychiatrist is regularly consulted now by GPs and CMs.

**Table 2.** Characteristics of the patients in the collaborative care condition

	Patients in collaborative care condition n=62
Age (mean, SD)	47.1 (13.9)
Percentage female	72.6
PHQ-9 score at baseline (mean, SD)	16.9 (4.8)

## Influences of the Dutch health care system on the implementation

After the description of the preparation, development and implementation of the collaborative care model in the Depression Initiative, we will combine our experiences with an analysis of the specific features of the Dutch health care system that might influence the implementation.

The first remarkable finding was the fact that the majority (96%) of the GPs that were interested in participation in the collaborative care study, works in a group practice or in a GUOR practice (a practice that shares a building with other practices but that does not necessarily collaborate with these other practices). Official collaboration with other disciplines more often occurs with group practices than with single practices [22]. Thus, single practices apparently have trouble to invest enough time and effort to set up the collaborative care model in their practice. Though the percentage of single and duo practices in the Netherlands is decreasing, it is still higher than in the US. Whereas in the US the percentage of GPs in single and duo practices remained stable over the years, at ~36% in 2004/2005 [23], the percentage of single and duo practices in the Netherlands is still ~77% [22]. An unknown percentage of these single or duo practices do share their building with other general practices in a GUOR construction.

In the collaborative care study different professionals took on the role of CM. The CM role seems to fit best to the job description of the MHC-PN, for the MHC-PN is employed by the general practitioner, works on the practice's premises, and is used to the generalistic approach in primary care. However, this function did not exist until the beginning of 2008 [24]. So, most of the GPs in 2007 collaborated with other professionals. Twenty-five percent of the general practices was co-located with a CPN, 13% with a primary care psychologist, and 10% with social work. The percentages of collaboration between the GPs and the other professionals were lower, but proportionately [22]. Furthermore, in 2008, the maximum amount of sessions with the MHC-PN was set at four and providing treatment themselves was not one of the MHC-PNs main tasks [19, 24]. It is expected that the proportion of GPs that will work with MHC-PNs will increase in the future, as from 2009 the limit of the amount of sessions will no longer exist and providing brief psychological treatment will be added to the job description [21]. It is promising, however, that CPNs and social workers proved to be able to act as CM in our collaborative care study, because there probably always will be GPs that rather refer patients

to another professional for treatment, than stay responsible for the treatment themselves by letting patients be treated by MHC-PNs in their practice [25, 26].

The fact that the collaborative care intervention is covered by the 'basic' health insurance, which every resident is obliged to have, is in favour of the implementation of this model in the Netherlands. The costs will not stand in the way of patients. This is opposite to the situation in the US where a lot of the residents have no health insurance coverage (15.8% in 2006: 47.0 million residents) [27, 28].

Contrary to the primary care physicians and mental health care workers in the US that work for health maintenance organizations, GPs and mental health care workers (CPNs, social workers and psychiatrists) in the Netherlands are often not on the same payroll. The GPs, who are self-employed, and the organizations, for which the mental health care workers work, have to apply separately for funding of the collaborative care intervention. Consequently, a considerable amount of time is expected to be spent on arranging reimbursement for the collaborative care treatment provided by each practice and organization. This might form a barrier to the implementation of collaborative care treatment in practices with insufficient time and staff for these management issues, for example single practices.

Another issue that demands special attention is the communication between the different professionals. In contrast to the GPs and the mental health care workers in the US, the GPs in the Netherlands do not often work in the same building as the mental health care workers. Approximately half of all the general practices share a building with other primary care professionals [22]. Psychiatrists are seldom located in the same building as the GPs. The professionals are used to work rather independently. They do not often confer with each other during the treatment. In other words, the communication culture that is required for successful implementation of the collaborative care model is lacking. Therefore, the web-based tracking system was developed. However, we noticed that this was not sufficiently used as communication tool. After the researchers paid special attention for the communication possibilities during supervision, the communication of the CMs improved. GPs preferred communication by phone. If GPs should use the web-based tracking system, links to the electronic patient files of the GPs are needed.

Despite the potentially impeding factors for the implementation of collaborative care treatment for MDD that are discussed above, the time seems to be right for the introduction of this model in the Dutch primary care setting, if GPs are willing to take on such a broader responsibility for their patients with MDD, in terms of adapting a chronic disease model (versus life difficul-

ties for persons with difficult or vulnerable personalities, which is the commonly used model now), and in terms of their larger responsibility for a mental health nursing staff [26]. In the past decade the government, insurance companies and the professional association of general practitioners have been looking for means to reinforce primary mental health care in order to relieve the secondary mental health care services and reduce mental health care costs in general [24]. This not only led to the establishment of the CPN and MHC-PN in the general practices, but also to financial support for GPs, CMs and CPs who work in a treatment model that improves primary mental health care [29].

## Conclusion

During the development of the collaborative care model in the Netherlands attention was paid to the determinants for effectiveness by choosing a model with specialist input, by providing regular supervision to the CMs, and by using a web-based tracking system with an algorithm to enhance treatment integrity. Features of the Dutch health care system that facilitate the implementation and effectiveness of the collaborative care model are the introduction of a MHC-PN in the general practices, and the new policy for insurance coverage of the treatment by these nurses, so that the whole treatment will be covered by the 'basic' health care system. Impeding factors are the reluctance GPs might feel to expand their responsibility for their patients with MDD, the treatment and communication culture existing so far that differs from the culture required for the implementation of the collaborative care model, the relatively high percentage of solo-primary care practices, the small percentage of professionals that are located in the same building and work collaboratively already, and the reimbursement system that demands regular negotiations between each health care provider (GPs, Mental Health Institutions) and the insurance companies. Also, this approach implies transferring care for patients from the mental health institutions to general practice in a situation of structural lack of communication between GP practices and mental health institutions. However, the implementation so far shows that extensive training and supervision on micro level combined with facilitation of reimbursement on meso and macro level are strong facilitating factors.

## Policy needs at micro level

We recommend the following policies to facilitate the implementation of this integrated care model at micro level:

- Give structural support to GPs and CMs in terms of training, supervision, and psychiatric consultation,

and feedback on their progress in adapting the collaborative care model.

- Let the primary care professionals choose which CM they prefer to work with, i.e. a CPN from a mental health institution, or a MHC-PN who is employed in the practice, or a social worker, so that they can build on existing collaboration.
- Provide not only a web-based tracking system, but also a link between this tracking system and the electronic patient files in order to enhance possibilities for multi-site collaboration.
- Offer the primary care professionals and mental health care services draft applications, which they can use when they apply for funding by the health insurance companies, in order to facilitate implementation.

## Policy needs at macro level

- Implementing a chronic care model such as the collaborative care model in the primary care setting requires structural financial and infrastructural support from insurance companies and policy makers.
- Reimbursement possibilities should enable GPs to hire personnel with adequate expertise and to provide sufficient sessions in order to attain remission of MDD as well as to monitor relapse prevention.
- Although this may require extra means in some cases, the gains might be high as well in terms of alleviation of suffering, efficient health care use and regained productivity of patients.

## Research implications

A randomized clinical trial is needed to evaluate cost-effectiveness in the Dutch health care system, and this is currently underway [6]. Further research is also needed to evaluate other facilitating and inhibiting factors for the implementation of this integrated care model, for example clinician-level barriers. Such research is under construction by this research group.

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