

**Study on the effects and elements of
“care farm treatment” on depressive and anxiety
disorders**

**Studie naar de effecten en elementen van
de “zorgboerderij-behandeling”
op depressie en angststoornissen**

June 2008 - May 2009

Progress Report

May 2009

Funded by: TransForum Agro & Groen

Prof. Dr. J.F.G. Bunders (project leader)

Dr. Marjolein B.M. Zweekhorst (researcher)

Drs. Sorana C. Iancu (PhD candidate)

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1 Abbreviations

CIDI = Composite International Diagnostic Interview

COST = European Cooperation in Science and Technology

EMGO = Institute for Health and Care Research

METC = Medical Research Ethics Committee (MREC); in Dutch: medisch ethische toetsing commissie

NESDA = Netherlands Study of Depression and Anxiety

VU = Vrije Universiteit Amsterdam

VUmc = Vrije Universiteit Medical Centrum

WUR = Wageningen University

2 Basic data

Project titles: EN: Study on the effects and elements of “care farm treatment” on depressive and anxiety disorders

NL: *Studie naar de effecten en elementen van de “zorgboerderij-behandeling” op depressie en angststoornissen*

Short titles: EN: RECDA (Research on the Effects of Care farms on Depression and Anxiety)

NL: *ZEG (Zorgboerderijen: het Effect op de Gezondheid)*

Scientific Theme: Inventions for sustainable agriculture

Project number: WP-064

Duration: February 2007 – March 2011

Project team:

Name	Position	Institution	Task, responsibility
Prof.dr. J.F.G. Bunders	Professor	VU	Project leader, Promoter of PhD candidate
Prof.dr. D.J. Veltman	Professor	VUmc	Promoter of PhD candidate
Prof.dr. A.J.L.M. van Balkom	Professor	VUmc	Co-promoter of PhD candidate
Dr. M.B.M. Zweekhorst	Researcher	VU	Co-promoter of PhD candidate
Dr. J.E.W. Broerse	Associate professor	VU	Advisor
Dr. J. Hassink	Senior researcher	WUR	Advisor
Drs. Sorana Iancu	Researcher	VU	PhD candidate (VU)

Date of report: May 2009

Total costs: 443.812 Euros

Own contribution: 244.097 Euros

3 Overview of the project

The scientific aim of this study is to evaluate the elements and the effects of care farm “treatment” (in Dutch: zorgboerderijen) for people with depression and / or anxiety disorders. Care farms represent agrarian enterprises that combine day care services and agricultural activities for a wide variety of client groups, ranging from problem youth, asylum seekers and psychiatric patients.

In the Netherlands, the care farm sector has become progressively more visible, as the number of care farms increased more than 13 times during the last decade (from 75 in 1998 to 944 in 2008) (Verenigde Zorgboeren, 2009). In response to these developments, and in anticipation to future demands, insurance companies linked to the care farm sector (such as Menzis) have started to ask for scientific evidence of the effects of care farms on health and economic indicators (Leerink, 2009). Recommendations for well-designed research on the efficacy of care farms also come from the Health Council of the Netherlands and the Dutch Advisory Council for Research on Spatial Planning, Nature and the Environment (2004), who emphasized the scarcity of knowledge in this field. Additional insights would assist clients in taking informed decisions regarding their care and would allow for further professionalization of care at farms.

The study is structured on three research questions:

1. Is the care farm treatment of people with depressive and anxiety disorders associated with improvements in the severity of symptoms and / or with improvements in public health indicators?
2. Which patient-related characteristics predict a response in the care farm group?
3. In patients’ view, which elements of the farm environment are part of the care farm treatment?

The main objective of this study is to investigate if day care treatment at a care farm can influence the course (symptomatology) of depressive and anxiety disorders and specific public health indicators (disability, work productivity and healthcare use), compared to specialised mental health care or no care. Given the novelty of the topic that we intend to

explore, several other research questions become relevant for our study. These will be addressed under three secondary objectives:

- to investigate the role of patient characteristics in the response to the care farm environment;
- to investigate which elements of the farm environment are part of the care farm treatment;
- to investigate the relationship between symptom severity and indicators of brain systems functioning.

We chose for a longitudinal one-year study design that follows two cohorts: a cohort under day care treatment at a care farm and a control cohort. The exposed cohort will be formed by 130 adult participants recruited from new clients of three intermediary institutions. The control cohort will be derived from the Netherlands Study of Depression and Anxiety (NESDA), a multi-site, longitudinal, naturalistic cohort study examining the eight-year course and consequences of depressive and anxiety disorders. Both NESDA and the current study follow the same longitudinal design and focus on depression and anxiety disorders, using identical diagnostic procedures, and identical assessment instruments of the same outcomes. These outcomes refer to main study parameters (ratings of depressive and anxiety severity) and secondary study parameters (response and remission of depressive symptomatology; changes in disability severity; changes in work productivity and in health care utilization). Additionally, we will explore several determinants of mental health: demographics; use of medication; social resources; psychological resources (self-esteem, locus of control and meaning in life); cognitive processes (rumination and risk aversion); participants' perspectives on the relationships with the care farm elements; indicators of brain systems functioning (in a small subsample of the study population).

Further details about the research can be found in the attached protocol. In the following sections, we provide an overview of the activities carried out within the project between June 2008 and May 2009.

4 Activities planned for the reporting period

4.1 Meetings with health care organizations and intermediaries

Envisioned time frame: May 2008 – October 2008

We planned to set up a networking with health care institutions that offer to psychiatric patients the option of care within a health farm, with the end aim of identifying and involving several of them in our study. Also, we were planning to contact intermediary organizations (such as Landzijde), in order to organize access to the referral system of the health farms.

4.2 Publications

Envisioned time frame: October-December 2008

We planned to integrate our results regarding care farms in the Netherlands into an overview for the COST meeting in Greece. Also, the planning for the next year referred to an article on the factors that have allowed for the “blooming” of health farms in the Netherlands.

4.3 Development of a detailed design of the treatment-effect study

Envisioned time frame: May - November 2008

Last year we envisioned that, as we would progress in our efforts to establish networks and set up the study, we would learn more about what is possible in terms of research. Our major goal was to incorporate this knowledge into an extended study design, taking the “laboratory blueprint” to the conditions of the real world.

4.4 Appraisal of the study design by medical ethical committee

Envisioned time frame: December 2008

Since our study will involve patients of health care institutions, we decided to submit the study design to the Medical Ethical Committee.

4.5 Establishment of a steering committee

Envisioned time frame: January 2009

Subsequent to the approval by the medical ethical committee, we planned to establish a steering committee, consisting of representatives from partner organizations participating in the project. The aim was to provide advice with respect to implementation of the project.

4.6 Intake phase of the study

Envisioned start date: March 2009

According to the plan, the study was supposed to start with the one-year intake period.

5 Activities carried out during the reporting period

5.1 Development of the study protocol

Between September 2008 and March 2009, we developed a complex study protocol that describes in detail all aspects of the research that will be carried out. The protocol contains ample information about the aim, hypotheses and research questions on which the design is based; explains the study design and describes the study population; gives a detailed account of the data that will be collected, on the methodology used, and on the analysis that will be carried out to respond to each research question; and clarifies the important ethical and organizational considerations related to the research.

In addition to this protocol, we have also prepared an extended folder consisting of: descriptions of the questionnaires and qualitative instruments used in addition to the NESDA study methodology; information letter for participants; information flyer for care farmers; declarations of agreement from collaborating institutions; consent form for study participants; CVs of researchers; financial and administrative documents related to the research.

Both the research protocol and the extensive folder were prepared in agreement with the guidelines outlined by the METC at VUmc. These confidential documents can be provided to Transforum on request.

5.2 Meetings with health care organizations and intermediaries

During the last year, we have learned that, although collaborations between health care organizations and care farms do take place, they are mainly mediated by intermediary organizations. This implies that the recruitment of the study participants could be best carried out in direct relation with such intermediaries. Therefore, we gradually changed the focus of our activities from contacting health care organizations and concentrated our efforts to finding the most suitable partners from care farm intermediaries. Since then, we established a network with three intermediary organizations: Landzijde (in Noord Holland), Den Haneker (in Zuid Holland) and Bezig (in Gelderland). The aim of the network is to provide the

mechanisms for a successful selection of the study participants. These intermediaries collaborate with 164 care farms, and therefore these collaborations can provide sufficient new clients for the exposed cohort.

The three organizations joined our project only after the study proposal had been discussed by their client boards. This internal validation process caused a delay from our initial planning. However, it added value to the overall proposal, which in turn increased the likelihood of a positive advice by the Medical Research Ethics Committee (medisch ethische toetsing commissie, METC). Submission to METC is explained in detail below.

5.3 Submission of the study protocol to the EMGO⁺ Scientific Committee

The submission of the research protocol to the METC requires, as an intermediary step, the evaluation of the content by a scientific committee. We applied to the Scientific Committee of Institute for Health and Care Research (EMGO⁺). EMGO⁺ is a well-established interfaculty research institute of the VU and VUmc, whose interests fall within four scientific programmes: Mental Health; Life, Overweight and Diabetes; Quality of Care; Musculoskeletal Health. Both psychiatrists involved in the project –Prof. Dr. Veltman and Prof. Dr. Van Balkom- are working within the EMGO⁺.

We submitted the research protocol and the accompanying folder to the EMGO⁺ Mental Health Scientific Committee on March 30, 2009. We expect the outcome within the coming weeks.

5.4 Technical and organizational preparations for data collection

The current study will employ a combined methodology to address both the question of what constitutes a care farm (“elements of the care farm treatment”) and the question of the effects it has on various mental health symptoms and on associated public health indicators (“effects of care farm treatment”). This methodology refers to both qualitative and quantitative research techniques.

On the one hand, based on the strong tradition in qualitative research in our institute, we have developed a visualization technique through which to gain insights into the elements of care

farming, as documented by the clients themselves. The technique was developed beginning from November 2008 (see section 5.6) and is currently tested through in-depth interviews, within a master level project. Based on the results from interviews conducted in three provinces, we will further improve this method, so that its use in the PhD study will render valid and reliable results.

On the other hand, the current study is the first research in the field of Dutch care farm to be carried out using a medical approach to disease. This implies that study participants will be assessed at specific times in relation to their illness and disabilities. Progress will be documented with help of validated methodologies, which are also used in psychiatric research in general. The advantage of this methodology will be that the results will be publishable in psychiatric journals, making the care farm sector more visible to healthcare professionals.

However, this methodology requires that interviews are carried out by trained interviewers, with validated instruments (which frequently need to be purchased); that data is stored in using a computerized infrastructure, and that data is handled according to a certain procedure. At this time, our institute doesn't have the required infrastructure in dealing with these requirements. An option would be to let the PhD student follow a series of training courses so that she could carry out the data collection, and to purchase each instrument and their key individually. However, our collaboration with the NESDA study enables us to purchase these services at a reasonable price, while at the same time guaranteeing a high quality of the process. At this time, we are discussing the budget needed for the data collection and management using the NESDA infrastructure. Furthermore, we are pilot testing some of the structured questionnaires to see to what extent they can be used with the care farm clients.

5.5 Publications

Between October and February 2008, we prepared an analysis of the factors that have contributed to the increase in the number of care farms in the Netherlands during the last decade. Such a research has never been carried out before, and therefore we needed to

establish a design for the framework in which we could analyse the data. The article is currently under editors' evaluation.

Further, in collaboration with researchers from WUR, we have conducted a qualitative analysis of the characteristics of care farms, which was submitted recently.

5.6 Bachelor and master level projects on the topic of “care farming”

Due to its connections to both the agricultural and health care sectors, the care farm sector is rather complex. During this project, we found that we needed insights into specific areas, in order to understand the challenges that we face (such as, but not limited to, identifying the right partners for the study) and to find the best solutions.

Therefore, we have developed specific questions into internship assignments for bachelor and master students. During the academic year 2008-2009, two bachelor internships were completed under our supervision:

- developments in the agricultural sector that have influenced the development of the care farm sector in the Netherlands; findings from this research were integrated into the article submitted for publication;
- instruments for measuring some of the exposures at care farms. Findings from this research yielded additional research question, related to the scientific knowledge and theories behind various health interventions with psychiatric patients.

At master level, we supervised thesis and internships, as follows:

- one master student completed her review of literature on theories used for health interventions in psychiatry;
- two master students are currently providing first insights on what are the elements of the “care farm treatment”, as described in section 5.4;
- one master student currently investigates the use of health care services in clients of care farms; in addition, this project test the usefulness of several structured questionnaires in the care farm setting.

5.7 Participation at international and national scientific meetings

Between 5 and 8 October 2008, Sorana Iancu participated at the COST meeting in Thessaloniki, Greece. This was a good opportunity to network with other people working in the field of care farming, to discuss research ideas and to see how care farming can be applied in other settings – for example, in prisons with lower levels of security.

Between 9 and 14 November 2008, Sorana Iancu visited the research team at the Norwegian University of Life Sciences, Department of Animal and Aquacultural Science. This team has conducted research in the field of animal-human interactions for more than five years, and therefore it was beneficial for our PhD student to discuss various evaluation tools with her colleagues from Norway and to learn from the Norwegian practical experience.

On a national level, we enlarged our network through:

- participation in the Dutch Farming for Health meeting (Den Hague, 3 June 2008);
- presenting our project at the TransForum meeting (September 23, 2008);
- presenting our project at the Animal – Assisted Therapy research group (University of Utrecht, October 2008);
- meeting researchers from WUR and Vienna University, to learn from each other's research (February 23, 2009);
- meetings with researchers at LEI (Agricultural Economics Research Institute), WUR (Gabe Wenema, Aide Roest), to discuss mutual research interests

6 Activities not conducted during the reporting period

Given the progress we have done so far, and for the reasons already mentioned, some of the activities we had planned for this period have not been completed:

- Collaborations with mental health institutions
- Steering committee
- Application to the METC
- Start project

They are postponed for a later phase.

7 Results for publication

See publications

8 Activities planned for the period June 2009 – May 2010

8.1 Meetings with health care organizations

Time frame: May – November 2009

We are currently extending our network to include mental health care institutes that have day activities centres. It is possible that the NESDA cohorts will not be suitable comparisons for our study participants; therefore, before we start, we are evaluating the option to build up a second control condition, composed of clients who use other types of day care services.

8.2 Appraisal of the study design by medical ethical committee

Time frame: September 2009

Since our study will involve patients of health care institutions, we will submit our study design to the Medical Ethical Committee.

8.3 Publications

Time frame: January 2010

We intend to publish an article on the participants' views on elements of the day care at a care farm.

8.4 Participation at national and international scientific meetings

Time frame: October 2009

We intend we participate in the scientific meeting of COST in Turkey.

8.5 Tailored training of the PhD student

We are currently setting up a tailored plan for the further professional development of the PhD study. Areas of interest are represented by: philosophy and ethics of mental health; psychiatry course for medical professionals; quantitative data analysis.

8.6 Establishment of a steering committee

Time frame: after acceptance by the MEC

A steering committee, consisting of representatives from partner organizations participating in the project will be established with the aim to provide advice with respect to implementation of the project. This phase will be started after the project has passed the METC.

8.7 Intake phase of the study

Start date: after acceptance of MEC

The study will start with the intake period, which will last for one year. This phase of the study will incorporate questionnaires and visualization methodologies that we have tested and adapted during this year.

9 References

Gezondheidsraad en Raad voor Ruimtelijk, Milieu- en Natuuronderzoek (2004). *Natuur en gezondheid. Invloed van natuur op sociaal, psychisch en lichamelijk welbevinden*. Den Haag: Gezondheidsraad en RMNO. Retrieved March 18, 2009 from <http://www.rmno.nl>

Leerink, B. (2009). Presentation on Menzis. *Dag van de ZorgLandbouw*. 21 april 2009, Apeldoorn

Verenigde Zorgboeren (2009). *Landbouw en Zorg Groeit*. Retrieved March 18, 2009, from the site: <http://www.landbouwzorg.nl/index.php?pagid=55&hb=72>.

10 Appendix 1 – Other activities of PhD candidate

(June 2008 - May 2009)

During the last year, Sorana Iancu has also been involved in educational activities at master and bachelor level. This is an integral part of her contract with VU and is planned to be completed every year. An overview of the courses she has been involved in is given in the table below.

Table. Educational activities of PhD candidate

Period	Module	Activity	No. students
October	Containment strategies for infectious diseases in an international context	Groups supervision	20
January	Clinical Development and Clinical Trials	Computer practicum: Using SPSS for epi data analysis	70
May	International public health	Lecture: Measurements of health and disease	130

In addition, Sorana has carried on with her self-study of the Dutch language. This has enabled us to have Dutch presentations for the clients boards, and speak Dutch during the project meetings, which has been seen as an advantage in working with partners from outside the academic world.