

Chapter 6

Embedding Routine Outcome Monitoring in the Operations and Management of a Care Pathway for Depression and Anxiety. Case Illustration and Lessons Learned in The Netherlands

Chapter 6 | Operation Management

Introduction

Much has changed in recent years in the mental healthcare landscape in The Netherlands. Increasing numbers of patients are exerting consumer demands; insurance organizations have begun purchasing care from providers for their insured customers; there is increased market influence on the delivery of care; output-oriented reimbursement systems have been introduced, such as the Diagnostic Treatment Combination (DTC)¹ system for measuring output and outcome; electronic patient records are becoming more widely available; etc. The question remains whether these changes, often associated with an improvement of the transparency of the clinical-care process and inspired by developments in the United States, will lead to an improvement of the quality of care for patients.

Internationally and nationally, there is an increasing need to find evidence for the improvement effects of these changes. In mental healthcare, it is becoming an essential aspect of treatment to measure the effect of treatment. One of the ways to do this is by way of Routine Outcome Monitoring (ROM). ROM systematically measures the psychological condition of patients before, during, and after treatment (i.e., routine outcome measurement). In The Netherlands, an approach has been developed for ROM supported by a user-friendly software program with scientifically validated measurements (Buwalda et al., 2011b; De Beurs et al., 2011). This systematic measurement of ROM enables the medical professional to evaluate the treatment together with the patient on a regular basis and to correct or improve treatment policies whenever necessary.

This paper describes the introduction of ROM to Dutch clinical practice. Illustrated by a case history with case setting, (1) the implementation of ROM as support for the clinical-care process is described and (2) set in a local context. Furthermore, (3) the added value of an operations-management perspective is illustrated in order to improve the overall organization of the clinical-care process as well as the quality and efficiency of its delivery.

Case setting

The case concerns an outpatient clinic in a psychiatric hospital in a Dutch city with 250,000 inhabitants. The clinic treats around 2,000 new patients annually for anxiety and/or depression (DSM-IV-TR classification). The treatment is delivered by 90 clinicians (consultant psychiatrists, specialist registrars in psychiatry, clinical

¹ The DTC is the Dutch variant of what is widely known internationally as the Diagnosis-Related Groups (DRG) system, including ambulatory care and professional costs.

Chapter 6 | Operation Management

psychologists, and psychotherapists). In 2006 Routine Outcome Monitoring (ROM) was introduced in this outpatient setting to support the clinical-care process. An implementation team, with psychologists, was established with a psychiatrist as project leader. The general psychologists carried out the measurement of patients before, during and after treatment and filled in the assessment forms (Buwalda et al. 2006). They provided feedback on the results of the treatment to the clinicians, who in turn discussed the results of the treatment with their patients.

ROM was introduced on a “learning by doing” basis at three outpatient clinics treating patients with anxiety and/or mood disorders. A plan of action was drawn up and approved by the management. In the course of implementation, the whole clinical-care process was monitored and various hurdles were overcome. The plan of action was introduced from the management in a top-down fashion. In implementing ROM the outcome measures were presented to the patients as part of the intake procedure, as a supplementary examination. The confirmation letter to the patient was accompanied by a brochure with an explanation of ROM and its significance. The patient then made an appointment with a planning officer. The officer was given the task of explaining to the patient that the supplementary examination was a new part of the treatment aimed at improving quality and that extra time would be needed. During implementation it emerged that various elements of the intake and treatment process were not well organized.

It was unclear who organized the intake and the treatment process when treatment was indicated during intake. It was often unclear when treatment would begin and who would invite the patient to begin, the clinician or the planning officer. The transition from intake to treatment was ambiguous. The results of the intakes were discussed in a **clinician’s** meeting in which decisions were made for treatment indications. The progress of the patient in the clinical-care process was not monitored. There was no coordination between clinicians and supporting staff and there was much confusion about how to conclude the treatment and how long patients should be treated.

During the process, due to the lack of the professional counterpart in the dual-management system of the hospital, the general manager and clinicians had different opinions about who was or should be in charge. Solutions suggested by the project leader for implementation of ROM and the management were not adopted by the team leaders.

During the implementation project, a computer program was designed to support the clinical-care process. Unfortunately, the software programmer was

slow to respond and was not able to provide adequate software support due to a lack of knowledge about the clinical-care process. The foundation of the implementation became precarious because the clinicians could not rely on this support. A final obstruction was the constant shift in the psychologist members of the implementation team.

For a better understanding of the project, the following section clarifies the terminology used for organizing the content. The clinical-care process and related responsibilities are also described. This provides opportunities to evaluate the obstacles to the implementation process and possible solutions to future problems.

Care-related terminology: Guidelines – protocols – care programs – care pathways

Standardization with the most-effective treatment methods (state-of-the-art and, where possible, evidence-based methods) makes it possible to organize the care process adequately. A number of terms and definitions play an important role in this respect, namely guidelines, protocols, care programs, and care pathways.

Guidelines

Clinical practice guidelines are statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options (Graham et al., 2011).

Guidelines integrate the most recent scientific information on a particular disorder with the practical knowledge of healthcare professionals and the experience of those seeking help. A guideline provides insight into international views on the relevant subject, as well as thoughts on the matter at a more practical level. Those who establish guidelines based on this knowledge make general recommendations concerning the prevention, diagnosis, and solutions to a specific illness or health problem. Guideline recommendations do not dictate but rather increase the understanding of the clinician and the patient in order to facilitate decisions. Clinicians may make informed decisions to deviate from guidelines.

Protocols

Clinical protocols are generally more specific than guidelines and are defined in greater detail. Protocols provide a comprehensive set of rigid criteria outlining

Chapter 6 | Operation Management

the management steps for a clinical condition or aspects of organization. An example of this is the use of an ECT in treating a depressive patient or evacuation procedures in the case of a fire. Protocols prescribe caregivers' **decisions in the daily routine** and are specifically tailored to meet local circumstances. Psychiatric hospitals generally establish their own protocols, sometimes in conjunction with national guidelines or models.

Mental healthcare programs

Care programs are developed alongside guidelines and protocols. These programs are developed for patients with similar psychiatric disorders, and are ideally based on evidence-based guidelines. Care programs are carried out in a stepped-care manner, with the simplest, cheapest, and quickest form of treatment first. If this is not sufficient, a more intensive and often more substantial **form of treatment is used. It's difficult to implement care programs, and more managerial effort is necessary.**

Care pathways

According to the European Pathway Association (EPA, 2003; Vanhaecht et al., 2007), a care pathway is a complex intervention for the mutual decision-making and organization of predictable care for a well-defined group of patients during a well-defined period of time.

Characteristics of a care pathway are:

1. An explicit statement of the goals and key elements of care based on evidence, best practice, and patient expectations;
2. The facilitation of communication and the coordination of roles, and the sequencing of activities by the multidisciplinary care team, patients, and their relatives;
3. The documentation, monitoring, and evaluation of the variances and outcomes, and;
4. The identification of relevant resources (Vanhaecht et al., 2007).

To a great extent, care pathways are determined by the predictability of the treatment process and the degree to which teams are able to reach agreement on the care process. Neither the professional nor the organization is central to this; rather, the patient is central. **This is called "patient-focused care" (Vanhaecht et al., 2009; Committee on Quality, 2001).** The patient is a full-fledged partner with an

equal voice regarding the organization of the care pathway, and the accent is on individual patients.

Sufficient common factors make care pathways useful as a norm for treatment. The patient and clinicians can deviate from the care pathway if they have sufficient reasons to do so (Vanhaecht et al., 2009; Rogers et al., 2008).

Vanhaecht and Sermeus (2003) report that developing a care pathway is a positive challenge, and that following a care pathway on a sustained basis is difficult. To ensure continuous quality improvement, clinicians, managers, and patients receive regular feedback on the outcomes of the care pathway. Vanhaecht et al. (2003) have developed a framework of care pathway indicators: the Leuven Clinical Pathway Compass. They describe five domains: clinical, process, financial, team and service indicators. Using these indicators, the process of developing and embedding the care pathway can be monitored.

In contrast to protocols, guidelines, and care programs, the development and embedding of a care pathway takes into consideration not only content but also the diagnostic and treatment process for a specific group of patients. During treatment, the process is monitored and problems are solved. The multidisciplinary team and patient are both responsible for a successful care pathway.

Chapter 6 | Operation Management

The *clinical-care process* and *related* responsibilities

Besides defining the content of care, it is essential to describe the process of *clinical* care in outpatient treatment. The process consists of four phases with corresponding tasks and persons responsible for fulfilling the tasks. In Figure 1, these elements are shown in relation to the ROM points of measurement and how it might take place.



Figure 1. The clinical-care process of outpatient mental healthcare.
(Buwalda et al., 2011a)

Phases of the clinical-care process and the responsibilities of individuals

Phase I: Registration phase

The patient is referred to the outpatient clinic, for example, by a primary care physician. After acceptance of the referral, the patient receives a written invitation to call the clinic for a diagnostic interview. The letter contains a brochure with an explanation of the aim and contents of the diagnostic interview. The patient, the referring physician, the intake coordinator (or the intake team evaluating the intake), and the planning officer who makes the appointment with the patient are involved.

Phase II: Intake phase

This includes the initial consultation with the intake staff, the resident in psychiatry, or a clinical psychologist supervised by a psychiatrist. The interview consists of a case history and a psychiatric examination. The results of the intake

are discussed by a team of clinicians who decide whether the patient can be treated. The psychiatrist on the team can schedule a psychiatric interview if he or she thinks it is necessary in cases where uncertainties exist, in a crisis, or when a second opinion is desired. Next, the proposal for treatment is discussed with the patient. In this phase the patient, the intake staff, the intake panel, and the psychiatrist are involved.

Phase III: Treatment

Treatment is limited to a defined period of time. Participants in this phase are the psychiatrist and residents in psychiatry, who are supervised by the psychiatrist. The clinical psychologist can be involved for therapeutic interventions, and the social-psychiatric nurse for supporting consultations.

Phase IV: Conclusion of treatment

A **patient's treatment is stopped** after a period of more than six months free from symptoms of anxiety or mood swings. A discharge letter is sent to the referring physician. The participants in this phase are the patient and the clinician.

The patient

Where ROM is implemented and embedded as a supporting component of the clinical-care process, special attention must be paid to the patient in the process. The patient receives a brochure with information on the ROM procedure and its enhancement of the quality and efficiency of treatment, explaining why treatment is being monitored.

During the completion of the self-report questionnaires, the patient is assisted by one of the psychologists on the implementation team.

Project leader and implementation team

A project leader is appointed to guide the ROM implementation team of psychologists and monitor the process. The project leader has an advisory function to the general manager and is not formally a member of the multidisciplinary team.

Responsibilities

In dual management, the persons in charge (the leading clinician and the manager) have the task of discussing the plan from the bottom up, i.e., implementing ROM with all the clinicians in order to develop sufficient support for its implementation. The broader the support, the more clinicians will be motivated to accept the innovation and be willing to implement it. Of course, this **can't be done** without proper management support (Swinkels & Buwalda, 2011).

Chapter 6 | Operation Management

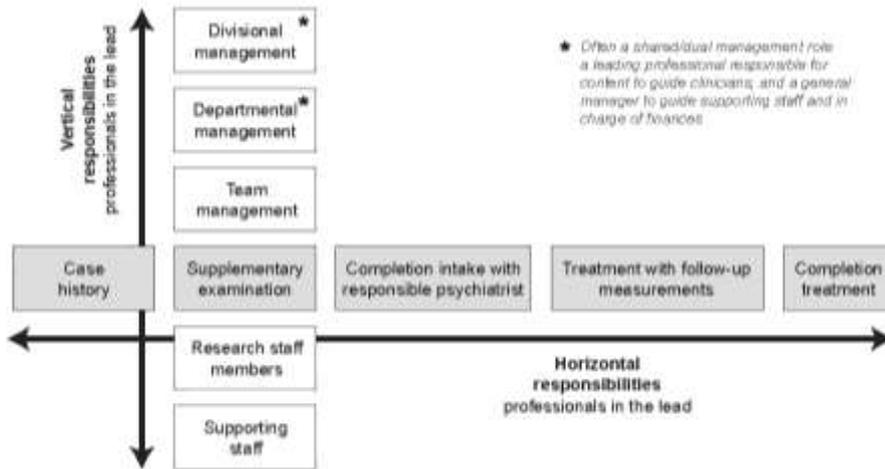


Figure 2. Structure of responsibilities in the clinical-care process.
(Buwalda et al. 2011a)

The general manager must ensure that the staff responsible for patient care is sufficiently enabled to carry out the change. Intensive collaboration in dual management is essential.

Analysis of the case history from a “theoretical” point of view

The problems during the difficult departmental implementation of ROM in this case study can be linked to flaws in the process and to ambiguities in the roles and responsibilities of the participants.

1. The process of registration, intake, and treatment was poorly organized. None of the staff had any idea what the timeline of the patient was in the treatment process and whether norms for waiting times were followed. Therefore, it was impossible to embed the ROM working method in the intake or treatment processes. By formalizing and describing the clinical-care process, the obstacles became clear and a discussion to clarify the roles and responsibilities of the participants could be held. In dual management, the general manager should take on the task of supervising the supporting staff who are indispensable to facilitating the clinical-care process. The general manager organizes support staff where necessary (see Figure 2).
2. The lack of an overview of the increasing number of treatments per doctor can be partially explained by the increasing pressure to provide

better quality for less money. During the implementation phase, the psychiatric hospital (and all the other hospitals) had a budget cut and tried to lower costs. In the majority of treatments, the medical doctor (resident in psychiatry or the psychiatrist) had the final responsibility for the correct execution of the treatment plan. Another problem was the simultaneous introduction of electronic patient files, especially for reimbursement of the treatments. Together with the introduction of ROM, this was too much to ask of the clinicians. The long absence of the leading clinician made this more difficult. Consequently, there was no clear introduction of ROM and no clear understanding of the value it would add to the clinical-care process. This lack of information caused friction between the general manager and clinicians, who were less inclined to cooperate.

3. The project leader was not charged with hierarchical responsibilities by the general manager and was therefore not able to formally influence the implementation process. **The project leader's initiative to monitor the implementation process could not be carried out.** The course of the implementation process was insufficiently evaluated and not adjusted where needed. The whole project slowed down, lessening its urgency and weakening its foundation.
4. Members of the implementation support team were young, newly graduated psychologists. The turnover among these staff members was high, which threatened the continuity of the project. The implementation team was vulnerable within the larger organization, as other departments would happily poach members of the team.
5. At the same time, other research and implementation projects were also carried out by the organization. Due to insufficient coordination, various projects called on the same clinicians at the same time, and the projects interfered with each other. Again, there was no leadership with the authority to guide clinicians and allocate tasks.

Care analyses made it clear that a number of problems arose during the process of implementing ROM. In looking at ways in which this could have been avoided, an alternative view of the clinical-care process is from an operations management perspective. The next paragraph will elaborate this prospect to illustrate the interdependency of the content and organization of the clinical-care process and how both can be optimized.

Chapter 6 | Operation Management

The Healthcare Operations Management approach, an integrated management system.

The term “operations management” refers to the planning and control of processes that transform inputs into outputs. Operations management in healthcare is defined by Vissers and Beech (2005) as the analysis, design, planning, and control of all the steps necessary to provide a service for a client. In other words, healthcare operations management is concerned with identifying the needs of clients and designing and delivering services to meet these needs in the most effective and efficient manner.

Vissers and de Vries (2005) apply this operations management perspective to the organization of care and supporting processes in health services settings. To optimize the process of clinical care for the patient, it is a priority to coordinate all of the contributions by clinicians during the clinical-care process. However, giving attention to the clinical-care process is not sufficient; managing the process always requires an alignment of content and organization (Figure 3). Continuous evaluation through feedback from monitoring is required to measure whether objectives and targets are being realized (as is common in clinical-care pathways). Vissers and de Vries (2005) also describe conditions that need to be fulfilled at an institutional level to optimize care processes. The care that must be delivered within a specific period of time should match the available resources, and reimbursement should cover the costs of services provided (Vissers and de Vries 2005).

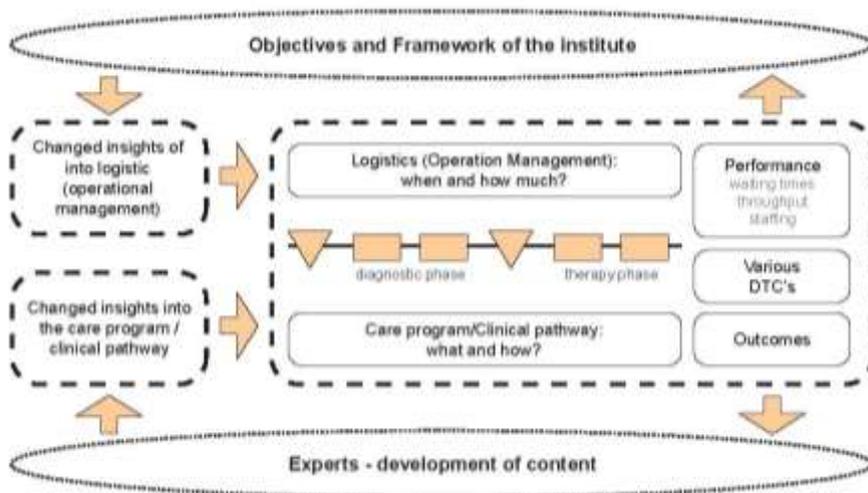


Figure 3. Relationship between the development of content and the operations management of the care process (Vissers & de Vries, 2005).

Figure 3 shows the process that the patient experiences during various encounters with clinicians and administrative staff. The process describes a care pathway that defines the content of care (defining what services will be delivered and how services are delivered), including the monitoring of outcomes. Aligning the clinical-care process with the operations management defines how the process is structured, when an activity takes place, and how much capacity is available for it.

The treatment process of the patient is an important factor in how care is perceived by the patient and how effectively and efficiently it is offered. The performance of this process for patients with a particular problem can be expressed in criteria from both content and the operations management of care, and in terms of financing by DTCs relevant to this particular group of patients. There may be various DTCs within one clinical pathway, depending on the intensity of treatment. In other words, the clinical-care process for a particular group of patients leads to a number of clinical pathways, directing the actions of clinicians; this results in a sequence of care services that can be described in a number of DTCs.

For this monitored process, one can distinguish an organizational learning cycle and a content of care learning cycle. The organizational learning cycle is concerned with organizing and carrying out processes well, with short intake periods and waiting times, throughput, and efforts according to targets with little no-show. Should these targets not be met due to organizational barriers on an institutional level, then processes must be adapted or redesigned. The content of care learning cycle has the objective of realizing the aims of treatment that in turn leads to a positive outcome. If these targets are not met, it must be seen whether the content of treatment needs to be revised. By using clinical guidelines, it may be possible to identify where the content of care offered did not match state-of-the-art thought with respect to diagnosis and treatment. This must then be implemented within the organization and translated into a proper operations management of the clinical-care process.

Applying the operations management perspective to the case of implementing ROM, the following observations can be made: The case clearly illustrates that there was no alignment between organizing the content of the care and organizing the clinical-care process from the perspective of the patient. More

Chapter 6 | Operation Management

specifically, the ambiguity in roles and responsibilities between the clinicians and support staff and between the general manager and the project leader were the main cause for this lack of alignment. This could have been avoided if the **patient's process had been** taken as the starting point for all contributions by clinicians as well as supporting staff.

Conclusions and recommendations

This case history demonstrates how a lack of support among clinicians, the absence of leadership and ambiguity in roles and responsibilities, and the lack of an overview of the organizational part of the process hampered an adequate implementation of ROM in the clinical-care process. A more integrated approach requires combining the organization of the content and the organization of the process of clinical care. From an operations-management perspective, the patient is seen as an involved client and as the starting point of the clinical-care process. An overview of the whole care process, including all contributions from clinicians and support staff, and a balance between the need for capacity for delivering services and the availability of resources, is essential. This can be achieved by reducing uncertainties through increased effective planning and predictability of standardized-care processes (Vissers & de Vries, 2005) and by increasing flexibility through the use of sufficient personnel.

An operations-management view of the implementation of ROM in support of the clinical-care process can contribute to the process and the embedding thereof. In order to embed ROM, the following advice should be helpful:

1. A participatory approach to the introduction and preparation of the implementation is a critical factor in achieving success, both in the quality of ROM and the basis of its implementation. The relevant participants (clinicians, patients, management) and the external participants (insurance organizations and government) are part of the development process. By involving participants in the process, a plan of action emerges that everyone can approve; it also gives the participants ownership of the process.
2. The whole process must be monitored with specific targets and performance indicators to make any necessary changes, as in clinical-care pathways.
3. When ROM has been implemented and integrated into the clinical-care process, it is important to appoint one of the clinicians as the process manager. The clinician should move constantly between the content and management of the care, must thoroughly understand the throughput of patients, know where obstacles can be found, and discuss the results with the

other clinicians to solve the problems. The process manager provides guarantees that the outcomes are effectively used in treatment, that capacities of the professionals are more efficiently employed, and that patient indicators are monitored. In this way, the clinicians are responsible together for a successful clinical-care process and the link between the content and operations management of the care process can be enhanced by the introduction of ROM.

Conclusion

ROM offers support to the clinical-care process of diagnosis and treatment when it is well implemented and accepted by clinicians. The clinicians are more willing to examine the ROM results of the treatment and use them to modify treatment as necessary. Clinicians may find that using ROM provides an overview and support, that it can increase the transparency of the treatment and its quality, and it ultimately increases **the patient's satisfaction**. However, the use of validated outcome measures for ROM serves as complement to the clinical perspective (Buwalda et al., 2011b). If there is a suitable basis for the use of ROM, an important synergy can emerge between the operations management and the content of the care process, resulting in better treatment outcomes. ROM has an impact on capacity and efficiency because delivering state-of-the-art care and the optimal organization of the care process go hand-in-hand.

Chapter 6 | Operation Management

References

Buwalda, VJA. Implementatie van meetinstrumenten in de kortdurende poliklinische behandeling. In: Praktijkboek ROM in de ggz. Een leidraad voor gebruik en implementatie van meetinstrumenten. Redactie Buwalda VJA, Nugter MA, Swinkels JA, Mulder CL. De Tijdstroom, Utrecht 2011a: 103-120.

Buwalda VJA, Nugter MA, Swinkels JA, Mulder CL. Praktijkboek ROM in de ggz. Een leidraad voor gebruik en implementatie van meetinstrumenten. De Tijdstroom, Utrecht 2011b.

Buwalda VJA, Smit JH, Swinkels JA, Tilburg W van. Het gebruik van routine monitoring in de dagelijkse praktijk als onderdeel van de Balanced Scorecard, een kompas voor kwaliteit, doeltreffendheid en doelmatigheid. Utrecht: Divisie Curatief Specialistische Zorg, Altrecht GGZ 2006.

Committee on Quality of Healthcare in America IoM. Crossing The Quality Chasm: A New Health System For The 21st Century. National Academies Press, Washington DC, 2001.

De Beurs E, den Hollander-Gijsman ME, van Rood YR, van der Wee NJA, Giltay EF, van Noorden MS et al. Routine Outcome Monitoring in The Netherlands: Practical Experiences with a Web-Based Strategy for the Assessment of Treatment Outcome in Clinical Practice. Clin Psychol Psychother 2011; 18: 1-12

European Pathway Association (EPA).

<http://www.e-p-a.org/000000979b08f9803/index.html>, 2003.

Graham R, Mancher M, Miller Wolman D, Greenfield S, Steinberg E (Eds.). Clinical Practice Guidelines We Can Trust. Institute of Medicine, Washington, DC: National Academy Press 2011.

Rogers H, Maher L, Plsek PE. New design rules for driving innovation in access to secondary care in the NHS. BMJ 2008; 337: a2321.

Swinkels JA en Buwalda VJA. Implementeren, de kunst van het verleiden? Praktijkboek ROM in de ggz. Een leidraad voor gebruik en implementatie van meetinstrumenten. Redactie Buwalda VJA, Nugter MA, Swinkels JA, Mulder CL. de Tijdstroom, Utrecht 2011: 33-50.

Vanhaecht K, Sermeus W. The Leuven Clinical Pathway Compass. *J Integrated Care Pathways* 2003; 7:2-7.

Vanhaecht K, De Witte K, Panelle M, Sermeus W. Do pathways lead to better organised care processes? *Journal of Evaluation in Clinical Practice* 2009; 15: 782-788.

Vanhaecht K, De Witte K, Sermeus W. The impact of clinical pathways on the organisation of care processes. PhD dissertation KULeuven. Katholieke Universiteit Leuven Zetten 2007: 154 pp

Vissers JMH, Beech R (Eds.). Health Operations Management, patient flow logistics in Healthcare. Routledge, London and New York 2005.

Vissers JMH, de Vries G. Sleutelen aan Zorgprocessen. Een visie op Zorglogistieke Bedrijfsvoering. Oratie bij de aanvaarding van het ambt van hoogleraar Zorglogistieke Bedrijfsvoering bij het Instituut Beleid en Management Gezondheidszorg van het Erasmus MC, faculteit van de Erasmus Universiteit te Rotterdam 2005.

Dissertation Series