Quality management in health care: empirical studies in addiction treatment services aligned to the EFQM excellence model

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PART V
General discussion
and summary

'Ik zal het kort houden.'
Introduction

The general introduction in Part I of this thesis deals with the historical and cultural roots of quality and quality management. During the last century, quality became a central issue for industry and health care. Quality management has been applied successfully mainly in the production industry to optimize production lines, improve customer services, reduce errors and introduce innovations. In health care, the theme quality was primarily focused on health care professionals and their patients. Quality management was hampered by the complexity of care and cure processes and the role of the professionals in the organizations. However, in recent years the scope broadened to the health care organizations as a whole, mainly because of the increasing specialisation of treatment, the organizational changes and the attention for shortcomings in the sector. The changes in mental health and addiction treatment have been described in the introduction separately and it was shown that improvements were even more fundamental then in somatic health care. Nowadays, mental health and addiction patients are seen as clients, consumers or customers of the services and of the professionals. Progressive treatment services have begun to offer evidence-based treatments on the basis of research. Professionals and management are determined to improve treatment, strive for health benefits for clients and minimise practice variation. However, there is a lack of knowledge about quality management, there is little research and a very thin empirical foundation. The quality projects are activity-driven as opposed to knowledge-driven. The research findings from somatic health care and industry concerning quality issues are used inefficiently. Empirical and theory-oriented studies are missing and essential questions have not yet been answered. The findings of this thesis contribute to solve this problem and to fill the knowledge gap.

The general aim of this thesis was formulated as: To conduct empirical studies on quality and quality management in order to contribute to the discussion, to the body of knowledge and to the practical work. The theoretical basis of the studies is the approach of total quality management as defined by the EFQM Excellence Model. The general goal was split into three sub-goals.

The first sub-goal was to study the conceptualisation of quality in addiction treatment services and in health care as well as to align the findings to the EFQM Excellence Model. Part II presented four studies in four chapters. In the general discussion, the findings of the Concept Mappings are discussed and reflected upon using the EFQM Excellence Model, as well as the NIVEL study conducted among Dutch health care services.

The second sub-goal was to investigate the performance of addiction treatment applying a multidimensional framework of indicators aligned to the EFQM Results.
CHAPTER II

criteria. These four studies were presented in Part III. The issue of performance measurements are discussed for each chapter and the findings of somatic health care are included.

The third sub-goal, which was dealt with in Part IV of the thesis, was to analyse, describe and evaluate the implementation processes of quality management in addiction services. The outcome findings of the two chapters are compared by using the abstinence percentages of the MATCH and the Feuerlein Study.

After summarizing and discussing the findings of the three sub-goals the strengths and limitations of the studies and suggestions for theory, research and practice are presented. A short summary closes the general discussion.

Part II: Conceptualisation

The leading question for the conceptualisation of quality was: What are the empirical findings to specify the concept of quality for an addiction treatment programme, for performance indicators and for the improved EFQM Excellence Model?

Quality as a characteristic of an object or an event is, in its fundamental form, a subjective construct. It is anchored in the personal experiences of an individual. The elements employed to define quality are ideas, opinions, convictions or judgements expressed by individuals. In short, quality can be seen as a composition of statements generated by persons about an object or event. This is not a new approach. Philosophers have seen quality as a subjective construct, economists have stated that quality has an extra dimension beyond the financial value and engineers pay attention to quality as perceived by the customer. It is, however, relatively new to transform the subjective concept of quality into a model through statistical analyses.

Using the technique of Concept Mapping, three studies were carried out. Firstly, a framework for addiction treatment programmes was designed; secondly, a multidimensional system for performance indicators of an addiction treatment centre was specified and; thirdly, the prototype for the EFQM Excellence Model was generated. Each time a group of persons that represented a variety of perspectives and ideas was selected. The ideas were collected in brainstorm sessions or by a mailing procedure and were reformulated into statements. The participants then came together and prioritised the statements, and finally the data were statistically analysed using multidimensional scaling procedures. In this way, a framework with dimensions, clusters, statements and specific statistics was designed.
Chapter 1: Quality framework

The first study generated a quality framework for an addiction treatment programme based on 70 statements from 90 participants who represented the three stakeholder groups: customers, providers and the general public. The statements were derived from a pool of 667 ideas generated in four brainstorm sessions and sorted by the participants as a homework assignment. Statistical analyses extracted a framework with two dimensions (Performance and Best Practice) and nine clusters. The three most important clusters were Client orientation, Treatment practice and Attitude of staff. The statements with the highest priority scores refer to the effectiveness of the programme, the respectful interaction with the patient, and the direct access to treatment. The three stakeholder groups agreed on nine of the top-ten statements. However, the opinions of the stakeholder groups differed somewhat regarding the priorities of the three clusters, which reflects their differences in interest.

Chapter 2: Indicator framework

The second concept map generated the performance indicator framework for a treatment centre. Addiction treatment centres have a diversity of programmes, which implies that the centre's concept map of the indicator framework is general and structures general aspects of performance. The procedure was carried out during a one-day workshop with a group of 16 stakeholders representing both an internal and an external perspective. The multidimensional statistical analysis was based on 73 statements. The resulting two-dimensional indicator framework had a horizontal axis labelled Organization and a vertical axis labelled Task. The eight clusters in the two-dimensional framework were ranked in order of priority: Efficient treatment network, Effective service, Target group, Quality of life, Efficient service, Knowledge transfer, Reducing addiction-related problems and Prevention programmes. The most important statements in the framework were: Patients are satisfied with their treatment, early interventions, and efficient treatment chain.

Chapter 3: Improved EFQM Model

The third concept map was not restricted to addiction treatment but basically covered the EFQM Model. The aim of the study was to identify the constituting elements for an improved EFQM Model. A group of 17 members from different European organizations generated several hundred ideas, which were condensed to 90 statements. The members were selected because of their broad knowledge on quality in a variety of organizations. After the statements, which were collected through a mailing procedure, had been scored, 13 clusters were identified by statistical analyses.
and positioned on the two dimensions: Stakeholders and Process Management. The three most important clusters were: Managing customer values; Market and customer focus; and Customer interface effectiveness. The 13 clusters were compared with the findings of two empirical studies and then used to draft an improved EFQM Model with 11 criteria. The improved EFQM Model had a strong focus on customer orientation, processes and the measuring system. Eventually the Model was tested and modified to become the EFQM Excellence Model as used today.

Chapter 4: The EFQM Excellence Model in Dutch Health Care

The subjective opinion of quality was studied in the first three chapters. Chapter four presents an introduction to and overview of the EFQM Excellence Model. The concept maps about quality and quality management show a conceptual similarity with the model of Donebedian and with the more recent EFQM Excellence Model. They seem to reflect the shared framework of quality, which is one of the reasons for the popularity of the latter. Another reason for the attractiveness of the EFQM Excellence Model for health care organizations is its explicit definition of organizational results. The four criteria Customer Results, Personnel Results, Society Results and Key Performance Results seem to form a reasonable multidimensional indicator system. Furthermore, the EFQM Excellence Model provides four Enabler criteria, which are assumed to have causal relationships to the results. This particular combination of a multidimensional results definition in relation to the Enabler criteria makes the EFQM Model attractive for health care organizations. In addition, the model is easy to understand, to memorize and to communicate. It stands outside the traditions of accountancy, economical science, law or administrative science and is not related to a business management school or a consultancy. The model is a non-prescriptive framework, which is owned neither by a governmental agency nor a controlling or inspecting body. It can be used for different purposes such as clarifying the concept of quality management, to structure outcome, to communicate improvement, to plan and steer changes, to assess the level of service quality and to apply for a national or international prize.

In the Netherlands, many health care organizations apply the EFQM model in addition to improvement projects, medical audits, accreditation and certification. The Dutch National Institute for Quality (INK) provides training, supports self-assessments and runs the Dutch quality award programme. Specific guidelines for health care organizations have been developed and many services have developed their own instruments. To illustrate the EFQM approach in an addiction treatment centre, the characteristics and results of the quality project of the Jellinek Centre (1994-1996) are described in this chapter.
Conclusion of Part II and the NIVEL study

The three concept maps can be placed on a continuum from specific to general: Firstly, the concept map of the relatively specific treatment programme; secondly, that of the broader treatment centre and; thirdly, the more generic EFQM Model for all types of organizations. The clusters of the first concept map focus on the daily work with clients, on the treatment practice and on the professionals. The clusters of the second concept map focus on performance, efficiency and effectiveness of a centre and the network of services. The third concept map focuses on customers, stakeholders and overall process management. In general, the differing perspectives of the participants was of little importance. There was more consensus than divergence in all three studies between the participants. There was also a fair amount of overlap between the empirically generated models, and the national and international quality certification schemes and award models. In general terms, all approaches seem to confirm the basic quality categories of structure, process, and outcome coined by Donabedian, and can all be related to the EFQM Excellence Model. The maps demonstrate above all that outcome, performance or results of the services were seen by the stakeholders as the most important aspects. These findings relate well to the EFQM Excellence Model, which has four Result criteria. Although the EFQM Excellence Model seems to be the most popular generic model in health care, health care services focus more on processes and still neglect outcome, which is shown in a study by the Netherlands Institute for Health Services Research (NIVEL).

Every five years, the NIVEL conducts a survey among more than 1700 health care organizations about their quality policy, activities and improvements of the preceding years. The last report was on the results obtained in 2000 from 1739 organizations of which 1142 responded (response rate 66%).

In Table 1, a selection of findings for six health care sectors is presented. The majority of the services use their sector-specific quality models. The Dutch version of the EFQM Model is applied by more than 50% of the mental health and addiction treatment services and by 67% of the hospitals. Furthermore, it appears that 88% of the mental health and addiction treatment services have a mission document, 58% have a written quality policy, and 79% have an annual quality report. Of all services, 31% have a budget for quality management and 63% have a quality manager. Protocols are available in 72% of the mental health services. Patient satisfaction surveys are carried out in 68% of the mental health and addiction treatment services and in 91% of the homecare services. The table gives an overview of the quality instruments in use but it does not provide much information about the actual outcome or performance of the services. It shows that only a small percentage of mental health and addiction treatment services can demonstrate improvements in treatment...
CHAPTER II

Table 1: Quality instruments in six health care sectors

<table>
<thead>
<tr>
<th>No</th>
<th>MHC (N=144)</th>
<th>HCC (N=67)</th>
<th>SS (N=85)</th>
<th>HOSP (N=101)</th>
<th>HCS (N=81)</th>
<th>NH (N=193)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sector specific quality model</td>
<td>50%</td>
<td>70%</td>
<td>87%</td>
<td>64%</td>
<td>82%</td>
</tr>
<tr>
<td>2</td>
<td>Dutch version of EFQM (INK)</td>
<td>56%</td>
<td>30%</td>
<td>14%</td>
<td>67%</td>
<td>26%</td>
</tr>
<tr>
<td>3</td>
<td>Certification scheme (HKZ)</td>
<td>28%</td>
<td>2%</td>
<td>4%</td>
<td>8%</td>
<td>58%</td>
</tr>
<tr>
<td>4</td>
<td>Mission and vision document</td>
<td>88%</td>
<td>76%</td>
<td>89%</td>
<td>91%</td>
<td>94%</td>
</tr>
<tr>
<td>5</td>
<td>Quality policy document</td>
<td>58%</td>
<td>36%</td>
<td>46%</td>
<td>56%</td>
<td>73%</td>
</tr>
<tr>
<td>6</td>
<td>Annual quality report</td>
<td>79%</td>
<td>82%</td>
<td>64%</td>
<td>97%</td>
<td>89%</td>
</tr>
<tr>
<td>7</td>
<td>Budget for quality projects</td>
<td>31%</td>
<td>3%</td>
<td>7%</td>
<td>50%</td>
<td>33%</td>
</tr>
<tr>
<td>8</td>
<td>Time allocated for quality activities</td>
<td>63%</td>
<td>25%</td>
<td>61%</td>
<td>79%</td>
<td>62%</td>
</tr>
<tr>
<td>9</td>
<td>Protocols for protected interventions</td>
<td>72%</td>
<td>91%</td>
<td>79%</td>
<td>96%</td>
<td>79%</td>
</tr>
<tr>
<td>10</td>
<td>Protocols for critical incidents</td>
<td>58%</td>
<td>21%</td>
<td>64%</td>
<td>56%</td>
<td>36%</td>
</tr>
<tr>
<td>11</td>
<td>Client satisfaction surveys</td>
<td>68%</td>
<td>73%</td>
<td>71%</td>
<td>83%</td>
<td>91%</td>
</tr>
<tr>
<td>12</td>
<td>Referral satisfaction surveys</td>
<td>30%</td>
<td>7%</td>
<td>21%</td>
<td>55%</td>
<td>28%</td>
</tr>
<tr>
<td>13</td>
<td>Personnel satisfaction surveys</td>
<td>51%</td>
<td>64%</td>
<td>79%</td>
<td>55%</td>
<td>73%</td>
</tr>
<tr>
<td>14</td>
<td>Participation of the client council</td>
<td>37%</td>
<td>27%</td>
<td>82%</td>
<td>65%</td>
<td>88%</td>
</tr>
<tr>
<td>15</td>
<td>Audits by the client council</td>
<td>8%</td>
<td>5%</td>
<td>14%</td>
<td>15%</td>
<td>30%</td>
</tr>
<tr>
<td>16</td>
<td>Improvement of care processes</td>
<td>19%</td>
<td>25%</td>
<td>21%</td>
<td>31%</td>
<td>28%</td>
</tr>
<tr>
<td>17</td>
<td>Improvement of outcome</td>
<td>8%</td>
<td>15%</td>
<td>14%</td>
<td>12%</td>
<td>20%</td>
</tr>
</tbody>
</table>

MHC: Mental Health Care including Addiction Treatment Services  
HCC: Health Care Centres (Gezondheidscentra)  
SS: Social Services (Algemeen maatschappelijk werk)  
HOSP: Hospitals  
HCS: Home Care Services  
NH: Nursing homes

For the comparison between the 6 sectors the confidence interval (alpha = 5%) is calculated, which ranges between 2% and 11% dependent on the N and the percentage. The exact CI is for: N=144 between 4% and 8%; N=67 between 7% and 12%; N=85 between 4% and 11%; N=101 between 3% and 10%; N=81 between 5% and 11%; N=193 between 2% and 7%; N=144 between 4% and 8%; N=67 between 7% and 12%; N=85 between 4% and 11%; N=101 between 3% and 10%; N=81 between 5% and 11%; N=193 between 2% and 7%.

processes (19%) or improvements in outcomes (8%). The author points out that the impact of the quality instruments on outcome is not yet clear. Wagner states: “Based on the results of this research, it can be questioned whether the implementation of quality systems, in the present form, will produce the expected outcome”.

The question about outcome and implementation is leading for Part III and IV of this thesis. In line with the EFQM Excellence Model, the following definition of
General discussion

quality management, including outcome, was used in this thesis: “Excellent results with respect to Performance, Customers, People and Society that are achieved through Leadership driving Policy and Strategy, and that are delivered through People, Partnership, Resources and Processes”. To further investigate the four Result criteria: Customer Results, People Results, Society Results and Key Performance Results, four studies were conducted and the findings are presented in Part III of this thesis.

**Part III: Performance**

The leading question for Part III was: What is the performance of mental health and addiction treatment services in terms of the four Result criteria of the EFQM Excellence Model?

The NIVEL study shows that there is a clear and dedicated quality orientation in the majority of all mental health and addiction treatment services. Furthermore, approximately half of all services are in the process of certification in accordance with the Mental Health Certification Scheme, but just a few outcome findings are available. Following the multidimensional result definition of the EFQM Excellence Model, four studies were carried out concerning Customer, People, Society and Key Performance Results.

**Chapter 5: Consumer satisfaction**

The most important result criterion of the EFQM Excellence Model is Customer Results. The most important aspect of Customer Results is customer satisfaction. In order to measure consumer satisfaction in mental health and addiction treatment the consumer can be defined as the client, the social network and the referral system. Based on a review of Dutch literature, three representative studies have been selected to illustrate consumer satisfaction, appreciation and confidence in the services.

**Study 1.** The national cross-sectional consumer satisfaction survey, the Mental Health Thermometer, used a multidimensional questionnaire, which showed that more than two-thirds of consumers were satisfied with mental health and addiction treatment services. The overall report card score was satisfactory to good. Clients were especially positive about the expertise and the respectful approach of health care professionals. They were less satisfied about the treatment plan, decision making and available information.

**Study 2.** The longitudinal client satisfaction study, based on the Consumer Satisfaction Monitor, in which mental health and addiction treatment services were compared, demonstrated the complexity of satisfaction as a process and an outcome.
indicator. Clients of addiction treatment services were generally more positive about the communication, the therapist and the results than clients of mental health services. However, comparisons between these settings with regard to client satisfaction were hampered by the fact that satisfaction was confounded with the level of psychopathology. Again, the overall report card score was satisfactory to good.

Study 3. Since every citizen has the chance to encounter a mental health or addiction problem and are therefore considered a potential client of mental health and addiction treatment services, a survey was conducted among representative samples of the Dutch population entitled the Consumer Panel. The potential clients had more confidence in somatic than in mental health professionals and services. Only 50% of the citizens had confidence in mental health and addiction treatment services. The overall report card score was not satisfactory.

From these findings, it can be concluded that consumer satisfaction is a complex quality indicator. More than 90% of the clients are positive about the health care workers, but organizational aspects are not highly appreciated. The findings can be summarized by the quote from the Dutch Consumer Federation: “There is no doubt that many professionals have the best of intentions and that they deliver excellent cure and care, but it is clear that the mental health services as a whole need to be improved”.

Quality experts such as Berwick propagate a change of the system in order to improve results. The fundamental critique of the organizational aspects are confirmed by broader studies. Eight academic medical centres regularly conduct patient satisfaction surveys among more than 40,000 patients. The aim was to benchmark between the medical centres' and their specialized departments and policlincs to provide insights into the development of consumer satisfaction. The results were adjusted for demographic biases and health status. The findings show that patients were very positive about the doctors and health professionals, the intake, the contact and the involvement, but were less positive about information and communication and not at all satisfied about the aftercare service that means the treatment chain or network. The variations between the hospitals were not statistically significant, but significant differences between the eleven medical specialities were identified. Furthermore, 48% of all best practices were achieved in one academic medical centre and three centres did not produce best practices. This allows for the conclusion that there are excellent academic hospitals, which can be seen as the golden standard at present. The best practice should be a challenge for the other academic centres.
Chapter 6: 
Psychosocial work conditions and consequences

In the early versions of the EFQM model a general distinction was made between People, Processes and Results, which shows the central role of the employee for quality management. In mental health and addiction treatment services staff are the crucial factor, putting personnel management and personnel satisfaction in a central position.

Human Resources Management (HRM) deals with issues of personnel management, work conditions, work satisfaction and work stress. As with quality management, HRM aims to improve the functioning, performance and quality of an organization. Furthermore, there is a rich tradition of HRM research including theory building. The Job Demand Control Model is one of the most prominent conceptualisations for work stress and work satisfaction and is used to gain insight into the mechanism of work conditions and well-being. An empirical study was conducted to clarify this correlation.

A cohort of 209 employees of an addiction treatment centre, where a far-reaching innovation programme was carried out, participated in this study using the Work Stress Monitor on Mental Health. Descriptive statistics and regression analysis were used to determine the effect of work conditions in terms of organizational aspects, job demands and job control on work strain and well-being.

With the exception of physical demands, job demands were high, whereas job controls and the organizational supports were low. Seven out of the 18 work condition scales predicted work strain and well-being. Work related well-being was correlated with learning possibilities, organizational changes and high workload. Work-related strain was positively correlated with workload, uncertainties about the future, unstructured work processes, and poor relationships with colleagues. Age and educational level were also positively related to well-being.

Compared to other health care sectors, work in this addiction treatment centre was characterized as high-demand, low-control and thus as a high strain job. The seven predictors that were identified can be used to explain and modify the work conditions.

These findings of the employee survey have to be interpreted together with the results of other studies. It is, for example, interesting to compare the statistics of sick leave with the survey findings. In the treatment centre that was studied, sick leave had decreased from 6.8% in 2002 to 4.7% in 2004 while at the same time high work strain was identified. These and other empirical findings may start to constitute a basis for evidence-based HRM in mental health and addiction treatment centres.
Chapter 7:
Trends 1996-2005 in the opinion of Dutch citizens

The new Dutch version of the EFQM Model puts the stakeholder approach consistently in the centre of quality management, as proposed by the EFQM Steering Group Model Development. A model of all stakeholders for an addiction treatment service was recently published in which the citizen as a potential client has a prominent role. Epidemiological studies showed that the majority of citizens who need help do not receive it. There is a large treatment gap that is likely to be caused by the low expectations of the effectiveness of the treatments given by addiction treatment services. However over the last decade, mental health services and addiction treatment services have started quality programmes. This raises the question as to whether those improvements have influenced the opinion of Dutch citizens as potential clients of these services.

In 1996, a survey system was set up to monitor the opinion of a representative sample of more than 2000 Dutch citizens regarding the confidence, image, quality and other aspects of the services every three years. The results show that Dutch citizens are not very enthusiastic about the quality of the addiction treatment services, and that their judgment has become more negative over time: in 1996, 64% of the citizens were positive about the quality, 23% were neutral and 13% were negative and in 2005, only 53% were positive, 31% were neutral and 16% were negative. At the same time, the image of addiction treatment services was rather positive.

The trend information of this study is supported by a survey conducted by the Social Cultural Planning office of the Netherlands. Citizens were asked if the quality of health care had improved, stayed the same or deteriorated during the last five years. Concerning mental health and addiction treatment services 10% were positive, 50% were neutral and 40% were negative.

These findings suggest that innovation and improvement of the treatment system is not enough to influence the opinion and the image of addiction treatment services among citizens and to lower the threshold to seek for help when needed. Additional initiatives in collateral fields have to be initiated or intensified such as an active public relations policy, transparency of the results, and educational programmes in schools. The current findings are in line with the view of the WHO that mental health is a neglected sector of health care. WHO proposes an action plan to improve mental health and to stimulate broad reforms.

Chapter 8:
Development of an indicator system

The indicator framework for treatment centres generated by Concept Mapping focused on effective and efficient services, with clear target groups, satisfied patients and an improvement in quality of life for patients. Parallel to the Concept Map-
General discussion

ping, an indicator system was developed and implemented in the addiction treat­
m ent centre. The system was also inspired by the idea of the Balance Scorecard. The
objective of the project was to develop and implement a system that delivers con­
cise, specific and relevant information for managers and teams of treatment depart­
ments and in a later phase for the treatment network.

During a period of ten years the indicator system known as Profile Package was
developed and introduced to the teams of all departments of a large addiction treat­
ment centre. The result of the project was an infrastructure to produce a Profile
Package for each team every three months. Five critical indicators were defined: to­
tal number of admissions, number of dropouts, occupancy, sick leave percentages
and total direct costs. Each team used about 50 additional indicators for which the
data was provided via existing databases. The majority of the indicators reflected in­
put, throughput and output figures of the department. In the process of the project,
personnel cost and management indicators were added. For some departments
client satisfaction and clinical outcomes in the form of the ratings of the Addiction
Severity Index (ASI) were also integrated into the Package, which made the system a
multidimensional performance indicator system that could be related to the Result
criteria of the EFQM Excellence Model.

Based on these indicators, the performance of a team was reported in relation to
annual targets. In addition, an annual reviewing cycle and a goal setting procedure
were established, which stimulated the result orientation and the coordination be­
tween the teams. An example from one clinical department showed the perform­
ance of that team concerning 71 indicators. Another example was the detoxification
department that achieved impressive results concerning five critical indicators over
a period of five years.

In reviewing the project, some critical topics proved to be persistent. The process
of information feedback to teams and professionals was difficult. Producing timely,
reliable and valid figures was time-consuming. Technical solutions for interfaces,
administrative solutions for registration processes and audit trails to review the data
were always much more complex than expected.

Conclusion of Part III and
examples from surgery

Mental health services and addiction treatment services have started to measure
their performance. The four studies in this thesis show that performance indicators
aligned to the Result criteria of the EFQM Excellence Model represent a balanced
system and combine survey, clinical, and administrative data. The findings of client
satisfaction are positive. The personnel survey signals "high strain jobs", which are
likely to be affected by innovation and change. The trend of public opinion is un­
favourable, although there is also goodwill for the services among the citizens. The
last study shows that a broad indicator system for teams is possible, but a sound infrastructure, as well as trained and knowledgeable staff are necessary. Benchmarking is demanded but the methodological, technical and personnel resources that are required are often insufficient or not available.

Before closing the discussion of Part III of this thesis, a recent incident is summarized that demonstrates the relevance of performance indicators and benchmarking. The cardio-surgical treatment chain of the Radboud University Medical Center in Nijmegen was known for under-performing, whereas the university medical centre as a whole had a very good reputation, for example, in terms of patient satisfaction. Several initiatives were taken to improve the treatment processes of the cardio-surgical department in order to restructure the workflow and to optimise communication, documentation and procedures. In the latter part of 2005, the performance indicators of the department were discussed in a strategic meeting of the department. The mortality rate of the cardio-surgical department proved to be much higher than the national average (department 6.7%; national average 2.8%). Initially, this negative result was attributed to differences in patient mix and not to the quality of the treatment process. However, this explanation did not satisfy the Netherlands Health Care Inspectorate (IGZ), which together with the hospital Board appointed an external reviewing committee. After a thorough investigation of the validity of the performance indicators and the causal factors, the committee reached the conclusion that the differences in mortality rates had to be attributed to shortcomings and deficiencies in the treatment process. The committee stated that protocols were missing, multi-disciplinary meetings were absent, uniformity in processes was insufficient, reviewing cycles were not conducted and that leadership was not properly executed. The consequences were dramatic. The cardio-surgery department was closed. The Board of the medical centre and the medical staff of the department resigned. Various interest groups initiated financial claim procedures and the image and reputation of the hospital were seriously damaged.

Benchmarking with mortality rates is already accepted in the US. For example, the mortality rates of cardiovascular surgery in hospitals have been published for years. Table 2 shows the coronary artery bypass graph statistics (CABG) with the cases and deaths including adjusted risks and confidential intervals.

The table shows a low rate and no significant differences between the 14 hospitals. In later publications the authors even presented a decreasing mortality rate and concluded: “We believe that this quality improvement programme, based on the collection and dissemination of risk-adjusted mortality data for CABG surgery, played a significant role in the observed decline in the death rate from this procedure. Quality improvement programmes based on similar principles for other procedures and conditions should be undertaken”. The somatic care is more advanced in measuring outcome than mental health or addiction treatment services, but it is
Table 2: Mortality figures of bypass operations

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Cases</th>
<th>Deaths</th>
<th>OMR</th>
<th>EMR</th>
<th>RAMR</th>
<th>95% CI for RAMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper Hospital University MC</td>
<td>797</td>
<td>39</td>
<td>3.64</td>
<td>4.36</td>
<td>3.13</td>
<td>2.09 - 4.49</td>
</tr>
<tr>
<td>Deborah Heart And Lung Center</td>
<td>1676</td>
<td>51</td>
<td>3.04</td>
<td>2.80</td>
<td>4.08</td>
<td>3.04 - 5.36</td>
</tr>
<tr>
<td>General Hospital Center at Passaic</td>
<td>838</td>
<td>36</td>
<td>4.30</td>
<td>3.90</td>
<td>4.13</td>
<td>2.89 - 5.72</td>
</tr>
<tr>
<td>Hackensack University Medical Center</td>
<td>1554</td>
<td>45</td>
<td>2.90</td>
<td>4.08</td>
<td>2.66</td>
<td>-1.94 - 3.56</td>
</tr>
<tr>
<td>Jersey Shore Medical Center</td>
<td>835</td>
<td>40</td>
<td>4.79</td>
<td>4.04</td>
<td>4.45</td>
<td>3.18 - 6.05</td>
</tr>
<tr>
<td>Morristown Memorial Hospital</td>
<td>1860</td>
<td>47</td>
<td>2.53</td>
<td>3.47</td>
<td>2.73</td>
<td>-2.01 - 3.63</td>
</tr>
<tr>
<td>Newark Beth Israel Medical Center</td>
<td>938</td>
<td>66</td>
<td>7.04</td>
<td>5.03</td>
<td>5.24</td>
<td>+4.05 - 6.67</td>
</tr>
<tr>
<td>Our Lady of Lourdes Medical Center</td>
<td>1672</td>
<td>65</td>
<td>3.89</td>
<td>3.97</td>
<td>3.67</td>
<td>2.83 - 4.68</td>
</tr>
<tr>
<td>Robert Wood Johnson University Hospital</td>
<td>1400</td>
<td>42</td>
<td>3.00</td>
<td>2.99</td>
<td>3.67</td>
<td>2.71 - 5.09</td>
</tr>
<tr>
<td>St. Joseph’s Hospital Medical Center</td>
<td>945</td>
<td>41</td>
<td>4.34</td>
<td>4.21</td>
<td>3.87</td>
<td>2.77 - 5.25</td>
</tr>
<tr>
<td>St. Michael’s Medical Center</td>
<td>874</td>
<td>34</td>
<td>3.89</td>
<td>3.94</td>
<td>3.71</td>
<td>2.57 - 5.18</td>
</tr>
<tr>
<td>The Valley Hospital</td>
<td>998</td>
<td>42</td>
<td>4.21</td>
<td>3.51</td>
<td>4.50</td>
<td>3.24 - 6.08</td>
</tr>
<tr>
<td>UMDNJ University Hospital</td>
<td>123</td>
<td>6</td>
<td>4.88</td>
<td>2.74</td>
<td>6.67</td>
<td>2.43 - 14.51</td>
</tr>
<tr>
<td>Statewide Total</td>
<td>14510</td>
<td>544</td>
<td>3.75</td>
<td>3.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OMR: Observed Mortality Rates; EMR: Expected Mortality Rates; RAMR: Risk-adjusted Mortality rates (RAMR = (OMR/EMR) * Statewide OMR)
+ = Risk-adjusted Mortality Rate significantly higher than statewide rate 95% conf. interval
- = Risk-adjusted Mortality Rate significantly lower than statewide rate 95% confidence interval

very likely that comparisons between treatment centres for mental disorders and addiction will be introduced.
CHAPTER II

Part IV: Implementation

For Part IV of the thesis the leading question was: What are the changes assessed when using the EFQM Excellence Model when quality management is applied?

The findings of the Concept Mappings have created the conceptual quality framework for addiction treatment, which aligns with the Result criteria of the EFQM Excellence Model. The four Result criteria were used to study the performance of addiction treatment services. In the last part of this thesis, the question concerning the implementation of quality management is posed. There are several studies of profit organizations that convincingly demonstrate the positive effects of total quality management on financial parameters and a few studies in health care that also show positive effects. In this thesis, two studies describe how a systematic quality management approach was applied in a small outpatient addiction treatment service and in a large treatment centre and the kind of results such an endeavour produced. The two naturalistic single-case studies cover a period of five and ten years respectively. The findings are placed in a broader context and clinical outcome figures of abstinence rates are used as an attempt to benchmark.

Chapter 9:

A single-case study of an outpatient addiction treatment service

Most European countries have outpatient services with a set of practice-based treatments for persons with addiction problems. A number of outpatient services in Germany started an EFQM improvement programme. The documentation of one treatment service that conducted self-assessments was used to evaluate the effects by asking three questions: Is the EFQM approach suitable for a small team? Is there a positive effect on the criteria of the EFQM Excellence Model? Is there a general change towards quality culture?

Over a period of five years, three self-assessments were conducted in 1998, 2000 and 2003. The study engaged all 14 staff members. More than 70 improvement suggestions were collected, and about 20 improvement projects were carried out, of which three were described. Self-assessment was conducted by using the Workbook EFQM Diagnosis Addiction Treatment Services, which includes 42 criteria.

The quality level of the addiction treatment service improved from level three to level four according to the EFQM criteria. The Quality profile of 1998, 2000 and 2003 showed the 30 criteria of the EFQM Enablers that were systematically implemented and evaluated. The quality levels of the 12 Result criteria showed a remarkable increase in result orientation of the service. It can be concluded that the EFQM approach led to an improvement in quality of outpatient services. It was also demonstrated that self-assessment can be conducted with all staff of an outpatient
treatment service and that a broad quality orientation was established among the staff. The study allows the conclusion that the EFQM approach in a small outpatient addiction treatment service is effective. However, replications, including a control group of services that apply other quality approaches are needed, to confirm the findings.

Chapter 10: Evaluating treatment process redesign

The first single-case study investigated the implementation of the EFQM approach in a small outpatient treatment service over a period of five years. The second case study examines the changes in a large treatment centre with 550 professionals over a period of ten years. In this addiction treatment centre, a variety of quality improvement instruments were applied such as multilevel self-assessment, auditing, improvement projects, plan-do-check-act cycles, and education and training programmes. A quality management system was developed and was ISO certified. In a later phase, the attention switched from support processes to treatment processes, including the development of evidence-based treatment protocols and redesigning the treatment processes. Treatment process redesign is the specific application of Business Process Redesign in health care organizations and means that treatment and support processes are fundamentally reviewed and radically redesigned to achieve dramatic improvements in performance measures. For the implementation of the process redesign, a special department for Quality and Innovation with a staff of ten professionals was established. An academic research institute specified evidence-based criteria, which the Quality and Innovation department translated into treatment protocols.

The progress of the programme was monitored over a period of more than ten years. Two EFQM submission reports from 1994 and 2004 with qualitative and quantitative data were produced. In a pre-post design, the changes were evaluated by comparing the scores of the nine criteria of the EFQM Excellence Model. The results showed that in the course of ten years, most intake and care and cure processes were reorganized; the support processes were restructured and received ISO certification, 29 evidence-based treatment protocols were developed and implemented, and patient follow-up measurements were introduced to make clinical outcomes transparent.

The pre-post comparison showed that client satisfaction scores were stable. However, evaluations by personnel and society were inconsistent. Nevertheless production and financial outcome were positive. The first measure of clinical outcome became available in 2004. The overall EFQM assessment by external assessors in 2004 showed much higher scores on the nine criteria than the assessment in 1994.
Conclusion Part IV and
the comparison of abstinence rates

The implementation studies show that an EFQM approach can be effective in an outpatient treatment service. It also shows that evidence-based treatment protocols can be successfully developed and implemented in addiction treatment centres through treatment process redesign as part of a total quality management strategy.

However, this overall positive picture has to be discussed in light of the outcome studies available on addiction treatment. For treatment of clients with alcohol problems as the first diagnosis, two studies have been selected and used as a benchmark. The first is the so-called MATCH Study that was conducted in the US with the goal of comparing four types of evidence-based brief outpatient interventions. Cognitive Behavioural Treatment (CBT), which was also used as the blue print for a treatment protocol called the CBT module or the Life-style Training was applied in the treatment centre under investigation. The second study is the Feuerlein Study conducted in Germany, which evaluated the total treatment chain of more than twenty multimodal inpatient treatment centres. The findings of the MATCH Study are used to benchmark the CBT module of the outpatient treatment centre, whereas the findings of the Feuerlein Study are used as a reference for the treatment of inpatients.

The MATCH Study was carried out approximately ten years ago in order to investigate which of the four psychological treatment modalities was most effective for which patient group. The abstinence rate measured as the percentage abstinent days of the last month before follow-up, nine months after intake was approximately 90%. No substantial differences were observed between the treatment modalities nor between the patient groups (see Figure 1). In contrast, the abstinence rate nine months after intake of the CBT module in the treatment centre in Amsterdam varied between 34% and 37% and the rate for consumption under control varied between 20% and 22%. A direct comparison is not possible. The abstinence criteria, the treatment goal and the inclusion criteria of the CBT module and MATCH CBT are not exactly the same. Critics also pointed out that the impact of the assessments and the research setting of the MATCH Study on the clients had a positive effect on the abstinence rate. Despite those arguments it must be concluded that there is a substantial discrepancy. The MATCH Study demonstrates that high abstinence rates can be achievable and shows that 90% of all clients could be motivated for follow-up assessments. These results should be analysed further and seen as a challenge for the Dutch services.

The overall trajectory model of the Dutch treatment centre can be compared with the treatment chain of the Feuerlein Study in Germany. The German project was carried out almost 20 years ago. A total of 1387 clients with alcohol problems were
Figure 1: Clinical outcomes of outpatient treatment: US MATCH Study

- **Inpatient and aftercare arm**
  - Percentage of days abstinent
  - Baseline: 100%
  - Treatment: 90%
  - 4-6 months: 80%
  - 7-9 months: 70%
  - 10-12 months: 60%
  - 13-15 months: 50%
  - 16-18 months: 40%
  - 19-24 months: 30%
  - 25-30 months: 20%
  - 31-36 months: 10%
  - 37-42 months: 0%

- **Outpatient arm**
  - Percentage of days abstinent
  - Baseline: 100%
  - Treatment: 90%
  - 4-6 months: 80%
  - 7-9 months: 70%
  - 10-12 months: 60%
  - 13-15 months: 50%
  - 16-18 months: 40%
  - 19-24 months: 30%
  - 25-30 months: 20%
  - 31-36 months: 10%
  - 37-42 months: 0%

**CBT** Cognitive Behavioural Coping Skill Therapy: Increase coping abilities in relapse situations.

**TSF** Twelve Step Facilitation Therapy: AA approach, alcohol is a spiritual medical disease.

**MET** Motivational Enhancement Therapy: Mobilize individual's own resources for recovery.

Detailed therapy manual for CBT, TSF and MET; 80 trained and certified therapists; videotaped sessions.

Percentage abstinent days was measured individually with Form 90, which is an interview procedure combining a time-line follow-back methodology and a drinking pattern estimation. Drinking was summarized on a month basis per person. If a person was all days abstinent during a given month he or she was counted abstinent. For the aftercare arm, clients were abstinent about 90% of the time, for the outpatient arm it was about 80%. 35% of the clients in the aftercare arm and 19% of the outpatient arm where completely abstinent for the whole period at follow-up 12 months. Response rate follow up: 90%.

Outpatient: N = 952; Age M = 39; Gender = 28% women; Ethnicity = 80% white; Relationship status = 36% couple; Employment status = 51% employed; Prior alcohol treatment = 45%; DSM alcohol dependence = 95%; Some illicit drug use = 44%; Retention rate = 68% completers. CBT N = 288; MET N = 296; TSF N = 320.

Aftercare: N = 774; Age M = 42; Gender = 20% women; Ethnicity = 80% white; Relationship status = 34% couple; Employment status = 48% employed; Prior alcohol treatment = 62%; DSM alcohol dependence = 98%; Some illicit drug use = 32%; Retention rate = 66% completers. CBT N = 250; MET N = 242 TSF N = 232.

treated in 21 inpatient addiction treatment services. Follow-up results are shown in Table 3. Average abstinence rates for the total period after discharge were 67% and 53% at 6 and 18 months follow-up respectively. Although the inpatient treatment was much more intensive than the treatment trajectory of the Dutch centre, the outcome in the Feuerlein Study can be seen as best practices for addiction treatment.
### Tabel 3: Clinical outcome of inpatient treatment: German Feuerlein Study

<table>
<thead>
<tr>
<th></th>
<th>6 month follow-up after discharge</th>
<th>18 month follow-up after discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short</td>
<td>Medium</td>
</tr>
<tr>
<td>Abstinent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>215</td>
<td>199</td>
</tr>
<tr>
<td>Improved</td>
<td>9,7%</td>
<td>13,4%</td>
</tr>
<tr>
<td>N</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>Unimproved</td>
<td>25,4%</td>
<td>24,4%</td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td>Patients: N = 1387</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>331</td>
<td>320</td>
</tr>
</tbody>
</table>

**Short term treatment:** Less than 3 months inpatient therapy; 5 centres. **Medium term treatment:** 3 to 5 months inpatient therapy; 6 centres. **Long term treatment:** 6 months inpatient therapy; 10 centres.

All treatment centres were staffed with doctors, psychologists, nurses, social workers and occupational therapists. All centres had abstinence as the treatment goal. All centres involved partners and family. Average therapy a week was 33 hours. The therapy programme is eclectic-pragmatic, mainly group and individual psychotherapy. There was a broad diversity of additional therapy. Inpatient treatment is part of a treatment chain.

Outcome drinking behaviour: A seven level drinking behaviour classification was applied and grouped to three levels. Abstinent = No alcohol consumption at all. Improved = Abstinent after relapse or moderate problem-free drinking. Unimproved = Rest categorie. Response rate at follow-up: 84%.

**Patients:** N = 1387; Age M = 39 years; Gender = 27% women; Relationship status = 44% couple; Employment status = 63% employed; Prior alcohol treatment = 71%; Physically and psycho-biologically alcohol dependent = 80%; Some illicit drug and medication use = 57%; Retention rate = 85% completers.

Centres covering intake, different treatment modules and evaluation. The abstinence figures as presented in Chapter 10 for the Trajectory 5 show: Inpatient treatment 68% based on 40 clients. Again methodological differences between the Dutch situation and the German treatment chain have to be taken into consideration. For example, in the German study, improvements in other dimensions, such as employment, co-habiting, life conditions and symptom reduction are shown. The response rate in the Feuerlein Study was high: 84% of all clients participated in both follow-ups, whereas in the Dutch situation the response rate is approximately 50%.

The overall costs of the MATCH and the Feuerlein Study are not reported, but based on the publications, treatment costs were probably much higher than the costs in the Dutch treatment centre. The infrastructure to conduct the research was probably very expensive, whereas the research infrastructure in the Dutch centre was limited and therefore inexpensive. The overall goal for addiction treatment services could be to achieve similar abstinence rates, as in the two studies, improve treatment logistics as well as the follow-up process and to keep costs low for treatment and infrastructure.

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Strengths and limitations of the studies

From a methodological point of view, the studies in this thesis are based on rational empirical research. Empirical is understood as based on observations or measures of characteristics or relations of objects. Rational is understood as the logical analyses of concepts, relationships and theories. The combination of the two positions is seen as the empirical cycle. Modern research methods are in line with this rational empirical approach. In this light, the strengths and limitations of the studies in the ten chapters are discussed and presented in the parts on conceptualisation, performance and implementation.

Part II: Conceptualisation

Concept Mapping was applied to clarify the conceptual frameworks for quality, performance indicators and the improved EFQM Model in chapters 1, 2 and 3. The method is frequently applied because of the elegant combination of brainstorming, sorting of statements and advanced correlation of statistical data analysis. The process to conduct Concept Mapping is structured in six steps and guarantees a high internal validity of the approach. However, studies about internal consistency and re-test reliability have not been published. The point map and cluster map have a high face validity but little is known about the external validity, such as the content, construct and criteria validity. Preliminary analysis of Concept Mapping procedures show that a higher number of respondents increases the stability of the point map, but more systematic research is necessary. Although there are methodological constraints, Concept Mapping is seen as superior to methods such as the Delphi Method or Focus Groups because of the structured and systematic approach. With regards to the interpretation and the use of the three concept maps, it has to be concluded that the quality framework for addiction treatment programmes of the first study is methodologically superior to the others. Details about the limitations of the concept map are described in the chapters.

In the review in chapter 4, the characteristics and use of the EFQM Excellence Model are described. The review refers to the situation before the year 2000. Therefore, the findings concerning the dissemination of the EFQM Model are dated. Recent publications show a constant increase of health care organizations that apply the EFQM Excellence Model conceptual framework for their quality management. A systematic review of the European situation can be expected as a result of the project, Methods of Assessing Response to Quality Improvement Strategies (MAR-QuIS).
Part III: Performance

The three studies on consumer satisfaction in chapter 5 show that the term consumer is still limited to the client who receives treatment, whereas the social network and the referrers should also be seen as consumers of the service. Systematic findings about the social network and the referrers are absent. Therefore, the picture for consumer satisfaction remains incomplete.

One of the limitations of the national satisfaction survey in study one is the unclear sample description, which makes it difficult to compare and generalise the findings. Furthermore, in study two the psychopathology of clients proved to be a confounder for the satisfaction results, which means that results have to be adjusted before comparing different services. The studies show initial results, but these shortcomings have to be solved in the future in order to build theory or benchmark.

The consumer satisfaction studies also show that the results are used in a limited way. For example, each question of the Mental Health Thermometer is currently reported separately. Consequently, the satisfaction score often lies above 90%. Therefore, the 16 questions could be transformed into one satisfaction index. Preliminary calculations show that less than 50% of all clients are positive on the index, thus signalling options for improvement. This way a limitation of a measure could be switched into a strength.

The EFQM Excellence Model relates People Results directly to the Enabler People but is not explicit. In chapter 6, the work conditions in relation to work stress were analysed and predictors were found, which is a good example of how empirical studies can fill the knowledge gap. The findings are concrete and relevant for health care services. However, the cross-sectional design, the self-report instrument and the missing replications limit the use of the predictors.

The representative sample for the Dutch citizen in Chapter 7 deems the findings reliable but when the results are generalized, it has to be pointed out that it is the opinion or the prejudice of the citizens. Only 20% of respondents, had some experience with addiction services thus their opinion was slightly more positive. This difference has to be investigated further.

The development and use of the indicator system Profile Package in Chapter 8 gives a detailed description of the development and use of an indicator system for teams of an addiction treatment centre. The study is a case study or a specific project documentation, which limits the generalization. The case study should be replicated and analysed. Consequently, the value and the underlying mechanisms of indicator systems, of transparency, of benchmarking and of learning could be clarified and could contribute to criteria for best practices.
Part IV: Implementation

In somatic medical research, new treatments and new medications are based on observational and experimental studies. In recent years, the implementation of new methods in daily practice has been accompanied by health service research. This is also more often the case in mental health and addiction treatment. The two single-case studies in Chapter 9 and 10 are a step in this direction. However, the findings of the naturalistic case studies are impressive but have methodological constraints.

The measures of the outpatient service in Chapter 9 are based on the questionnaire, EFQM Diagnosis Addiction Services, which was developed by an expert group. In its present form, the questionnaire is sufficient for practical use, but is not based on a thorough test construction. Reliability and validity statistics are not available. The assessment of the treatment centre is based on the EFQM criteria, but an operationalisation of these criteria for addiction treatment services is missing, which deems the measures weak.

When the clinical results of the treatment centre, defined in terms of abstinence rates were compared with other studies, considerable differences in the abstinence rates were found. Further analyses of the differences are necessary, including the definition of the indicator. The patient characteristics of the different services have to be considered. Basically, abstinence rates are a powerful indicator that could be used for benchmarking on a broad scale but the methodological problems such as standards for data collection, wording of questions, definitions of time-frames and the sampling procedure have to be resolved at the outset.

In the context of the EFQM approach, self-assessment is a common method to assess quality. Simultaneously, there are critics who say that the results might be positively biased in a self-assessment. It should be noted here that the self-assessment procedure is standardized and that the consensus scores are seen by experts as a reasonably reliable and valid strategy representing the actual situation of the service. Self-assessment has many advantages for practical work, such as the shared scores of a team, the exchange of individual evaluations and the underlying assumptions, the promotion of openness and critique, as well as the development of a common language about quality, but inter-rater reliability tests are absent. There is also very little research about the reliability and validity of assessments by external auditors.

The findings of Chapter 9 and 10 have to be seen as an initial effort to study changes and improvements in health care services with alternative and new methods. Bortz also propagates a broader scope of research methods for behavioural and medical science. Berwick suggests a broadening of evidence-based medicine and introduces the idea of a pragmatic science to track effects of time, use service specific measures and small samples to identify changes.
CHAPTER II

Excluded issues

Twenty years ago, Wiese Dekker pointed out that the central themes for health care are costs and quality, which are, in his view, closely related to each other. In this thesis the aspect of costs, such as quality costs, prevention costs, costs of defects and errors have not been studied. Many experts of quality management have shown that quality improvements can lead to enormous financial benefits. The approach of Six Sigma, which is applied by a few health care organizations focuses explicitly on costs and performance and is showing promise.

An additional theme that has an increasing relevance for quality in health care but is not dealt with in this thesis, is the impact of information technology. New possibilities are arising through the increasing digitalisation, accessibility and dissemination of information. The problem of documentation in health care and a reduction of the administrative load can be effected by information technology parallel to a drastic simplification of information and logistic processes. It has been recently stated that health care is transforming from the era of fountain pens to the era of touch screens, which illustrates the fundamental changes that can be expected.

New, successful treatment methods such as heart transplantation or medications like Prozac are awarded the Nobel Prize and receive all media attention. However, the introduction of new methods takes an average of ten years before 80% of the services apply the treatment. This innovation process, which can be seen as part of quality management, is not addressed in this thesis but needs much more attention.

In addition to the issues of costs, other areas that were not addressed in this thesis are: information technology and innovation, education and training of personnel, task responsibilities, practice variation, overuse, underuse of services, safety issues, leadership and the participative role of clients in quality management. Furthermore, patient logistics and treatment chains have been addressed and are seen as beyond the scope of this thesis.

Suggestions for theory, research and practice

Several chapters contain suggestions to build grounded theory, stimulate research and improve practices. Subsequently, the following paragraphs formulate nine overall suggestions.
I. Intensify theory building

This suggestion is to build theories on managing quality. The definitions were presented in the introduction of the thesis and in Chapter 3 the work of Saraph and Black & Porter was discussed. However, more clarity about the concepts and the relations between the concepts is needed. The most frequently used framework is the EFQM Excellence Model. It is used to assess quality and is used as a framework for quality management.

Mental health and addiction services could follow this line and use the EFQM Model as a theoretical framework. Mainly, the description of the Result criteria of the EFQM Model is most suited to health care organizations, especially mental health care organizations. The central criterion, Customer Results aligns well with the way modern mental health and addiction services see themselves. The criteria People Results and Society Results are also appropriate. The Key Performance Results have to be defined but empirical studies are absent. The Enablers, which have not been elaborated upon in this thesis also structure essential elements of quality management. The alignment of the EFQM Model with the three concept maps in this thesis contributes to a scientific discussion about theory building. The suggestion is to study the nine criteria of the EFQM Model and the relations between the criteria. A number of specific questions and hypotheses can be deduced, such as:

- What is the relation between Process and Result criteria?
- What is the relation between client satisfaction and clinical outcome?
- How is personnel satisfaction related to client satisfaction?
- How is leadership conceptualised and related to policy, processes and results?

A theoretical orientation and more emphasis to identify the concepts and underlying mechanism of quality management would stimulate research, cluster-research findings, intensify the academic discussion and professionalize the field of quality in health care.

2. Apply empirical research methods

The Introduction Theory of Science and Knowledge by Leinfelder makes a distinction between rationalism, empiricism and pragmatism. Modern research is characterized by a combination of the three positions, with emphasis on rationalism and empiricism. The studies and projects of quality management can be seen as a form of pragmatic research. The studies answer specific everyday questions and are, in most cases, not related to theory. If put in the context of the empiric cycle, they would contribute to knowledge generation and at the same time the methodological properties of the quality studies would improve.

Present studies in the field of quality often have quite a shortage in methodology such as operationalisation, sampling, design, data collection and statistical analysis. The stronger empirical orientation of quality projects would prevent the projects...
being seen as administrative or accounting projects.

Based on the experiences of the empirical studies in the thesis, the suggestion is to focus on three aspects in order to prevent quality studies from slipping away into meaningless bureaucracy.

Firstly, the conceptualisation of the problem, the operationalisation and the instruments have to be improved. The definitions of the research objects, for example, customers, consumers, clients or patients are often too vague. In addition, the design is often unclear. The measurement instruments do not meet the standards of valid research instruments and the indicators are often poorly defined.

Secondly, the time, energy and expertise to collect data are often underestimated, which means incomplete datasets, and deficient sampling procedures. Defining and building a database is often neglected, which leads to variables that are wrongly coded and lost records. The statistical analysis is often unsophisticated and conducted under time pressure.

Thirdly, quite often in performance studies, there is limited interpretation of the findings. Preliminary figures are produced and presented. Raw data is presented without taking the role of potential confounders into account. It is impossible to make corrections, which can lead to wrong conclusions, incorrect decisions and wrong actions. The reflection of the findings in relation to published studies is, in most cases, absent.

A more sophisticated rational and empirical approach would substantiate results, contribute to the empirical cycle and support decision making.

3. Innovate and learn

Chapter 10 shows that the implementation of evidence-based treatment protocols in an addiction centre takes time and energy and affects almost all aspects of an organization. The former Minister of Health, Els Borst-Eilers, stated that the implementation of evidence-based treatment is a moral duty for health care. However, implementations and innovations in health care need approximately ten years before they are introduced into 80% of the services. More effective and faster implementation methods need to be applied. Improvement and learning cycles could be much shorter. The use of quality tools such as root cause analyses, auditing techniques, control charts, error control methods, and continuous improvement techniques is still very limited. The suggestions are to shorten the improvement cycle, experiment with new tools, work more professionally and demonstrate successful innovations. This approach could be led by the sectors, addiction treatment and mental health services. Innovation projects such as Scoring Results and Outcome Bench have been carried out successfully and the sectors are well-organized under one national umbrella organization.
4. Disseminate knowledge

Quality management is rich in projects and study, but most initiatives or endeavours are isolated, unpublished and are used in a limited context. The small number of publications in PubMed is an indicator for failing knowledge dissemination.

Knowledge generation, in particular dissemination, is a weak area within quality projects. Lack of time and expertise to present results and to generate knowledge is a typical drawback for the last phase of a project. The initial phase usually receives all the attention. Although the access to information through the internet is much faster and cheaper than ever, it remains a bottleneck for quality projects.

This mechanism should be recognised and anticipated. Health care has a different tradition than industry. The publications of the studies in this thesis serve as a positive example. More time, money and attention should be reserved for knowledge generation and dissemination.

5. Study the interaction of client, treatment and professionals

The first Concept Mapping described in chapter 1 identified three main clusters: client orientation, best treatment practice and attitudes of the staff. These clusters seem to be the core for the everyday quality of an addiction treatment programme. They fit in the line of customer orientation of the quality management. The personnel survey shows high commitment of the staff. Experiments with those three elements are needed, such as empowering clients, applying treatment through the internet, and introducing different types of professionals, these could be stimulating for new approaches.

6. Explore treatment networks

The second Concept Mapping study of chapter 2 identified Efficient treatment networks as the most important cluster for an indicator system of a treatment centre. All stakeholders put networks first. Networks are also in line with disease-management, which focuses on the total chain of treatment. That means quality management exceeds the boundary of a treatment module, programme or centre. But there is little known about treatment chains and quality. Topics like treatment paths, quality gates and preferred treatment networks have to be studied.

7. Intensify benchmarking

The performance of mental health and addiction treatment services as studied in Chapters 5 to 8 has to be discussed in relation to other services. Benchmarking is the method to compare, analyse and draw conclusions in order to identify best practices and carry out improvements. The idea is simple and logical, but to date, only a few methods are available. The infrastructure in mental health and addiction treatment services is also very limited. There is a huge discrepancy in comparing the resources.
used for financial accounting with the means to measure, report and learn from outcome, although the primary goal of a health care organization is to create benefit in terms of health. Benchmarking and the infrastructure to benchmark has to be seen as an important part of modern learning health care organizations and should be intensified.

8. Initiate evidence-based quality management

One of the changes in health care is the introduction of evidence-based medicine, which builds bridges between research and practice. Such a bridge is also needed for quality management. There are studies that show that quality management is more effective than other methods but the idea to generate a broad body of knowledge of proven, effective quality management methods is new. The developments in recent years, as shown in the two case studies of Chapters 9 and 10, are promising and contribute to an evidence-based quality management and should be supported and stimulated.

9. Stimulate quality by using financial incentives

In the historical review about quality in health care the link between quality and professionals was described. This link is one of the most powerful motives for professionals and the ethical obligation to put the benefit of the clients first. However, there has to be a financial incentive to promote, stimulate and support quality management. The financial reimbursement in health care is currently based on activities and services. The discussion of overuse in health care shows that financial incentives are counter-productive for quality. New financial systems, which also reimburse quality and quality management, have to be established.

Summary

The studies of this thesis show that quality is one of the important themes for health care and that quality management is a promising approach to improve treatment, services and organizations. Some experts speak about a paradigm shift for health care. However, the studies also show that several methodological problems have to be solved.

Part I of the thesis describes the historical roots, the definitions of quality, the principles of total quality management and the actual quality initiatives in health care in the Netherlands. In the general introduction the focus moves from a broad philosophical perspective to the specific situation of mental health care and addiction treatment services. The conclusion highlights three themes: Firstly, the conceptualisation of quality. Secondly, the performance of mental health care and addiction treatment. Thirdly, the implementation of quality management in addiction.
treatment services. These three themes are dealt with in the three main parts of the thesis.

In Part II, the leading question on conceptualisation and specification of quality was addressed by applying a Concept Mapping strategy in three studies. The studies show that, according to the stakeholders, client orientation, treatment processes, effectiveness and efficiency are the essence of quality management in addiction treatment services. The EFQM Excellence Model was introduced as an overall framework for quality management for health care organizations.

In Part III, four studies were conducted aligned to the four result criteria of the EFQM Excellence Model in order to address the performance of addiction treatment services. In these services, customer satisfaction is high, people satisfaction in an innovating addiction treatment centre is low, but commitment is high. The opinion of citizens on addiction treatment is not negative, but a slight negative trend in their opinion appears over the years. The key performance of addiction treatment teams was studied with an indicator system, called Profile Package, with five critical indicators: admissions, dropouts, occupancy, sick-leave percentage and direct costs of the team. A department with a good performance over the period of five years is presented.

In Part IV, the leading question was about quality improvement in addiction treatment services. Two naturalistic evaluation studies were presented covering a time-frame of five and ten years respectively. The studies show that outpatient treatment teams can successfully apply the EFQM approach, using self-assessment and improvement projects. The result orientation of the team increased considerably over a period of five years. The evaluation of the process redesign programme of a large addiction treatment centre showed considerable progress on almost all EFQM criteria.

In Part V, the findings of the studies are summarized and placed in a broader perspective. It is concluded that the conceptual frameworks generated with Concept Mapping align with the ideas of Donabedian and the EFQM Excellence Model. There is clear emphasis on performance as a quality dimension for addiction treatment services. However the national survey among health care organizations showed that performance is not a central quality theme. The performance of the addiction treatment services is discussed in light of a recent incident at a cardio-surgical department. In that department performance indicators proved to be the signal for low quality of care. The positive findings regarding the implementation of quality management were discussed by comparing the abstinence rates as a result indicator.

The thesis concludes with a discussion of the methodological limitations of the studies and provides suggestions for theory, research and practice, three of which are: the need for more theory building; the application of empirical methods and innovation and learning.
CHAPTER II

Reference list


Shortell, S., O'Brien, J., Carman, J., Foster, R., Hughes, E., Boerstler, H. et al. (1995). Assessing the Impact of Continuous Quality Improvement or Total Quality Management: Concept versus Im-


