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

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PART I

General introduction and research questions

'We gaan samen je stuk herlezen en daarna voegen we er hier en daar nog wat leuke grappen aan toe.'
General introduction

Everyday quality

The word quality is popular, it is used frequently, and generates a positive feeling and image. Quality signals something that is exceptional, good and desirable. It has a strong positive connotation. People speak about quality hotels, quality airlines, German quality. One reads about quality improvement, quality management, quality control, time is spent in quality restaurants, quality resorts, quality shops, and commercials show quality cars, quality homes and quality wine. There is even the expression “quality time”. Apparently everything that is good and valuable in life is associated with quality.

Besides this everyday “use and abuse” of the word quality, the results are interesting if one googles quality on the world wide web.

At the time of writing, Google found 2.6 billion entries for quality; The American Society for Quality came out on top, followed by the Journal Quality Digest and; the Agency for Health Care Research and Quality of the US State Department of Health & Human Services respectively. When President Bush is searched in Google, there are 166 million hits, with The White House on top. Limiting the search on quality to the Dutch speaking countries, Google found 30 million hits for kwaliteit with kwaliteit.startpagina.nl on top followed by INK (the Dutch Quality Institute) and the journal Kwaliteit in Bedrijf. By comparison, the Dutch Queen Beatrix was represented on “only” 1.3 million sites with “Nieuwsresultaten voor Konigin Beatrix” as the first hit. The findings for quality management are limited to 780 000 hits with the homepage of EFQM on top. The number of hits went down dramatically when the words quality management in health care are used (286 hits), quality management in mental health care (11 hits) and quality management in addiction treatment (zero hits). Apparently quality is hot – it is a popular term that is broadly spread and used for numerous products, services, institutes, groups and journals. However, in everyday life, the relation between quality and mental health and addiction treatment seems to be marginal.

Concept of quality

According to the Oxford English Dictionary the word quality has two principal meanings. First the standard of something as measured against other things of a similar kind, indicating the grade or degree of excellence. Second a distinctive attribute or characteristic of an object or event. The word quality is derived from the Latin word “qualis”, which means “of what kind, of such a kind”. Qualis is the translation of the Greek word “poios”, which is translated as “of a certain nature, kind or quality”.

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Historical and philosophical aspects

In historical reviews about quality, a dialogue between Socrates and Theodorus is often quoted and is known as Theaetetus. The author, Plato (428-348 B.C.), explains that the interaction of a person with an object generates the quality of the object, for example the image of a red flower in which red constitutes the quality of the flower. The perception is abstract, accentuates specific features and represents the how and what of the object. Aristotle (384-322 B.C.) developed a system of ten fundamental categories to describe the objects of our world. Quality is one of the categories and has four different aspects: the status for example, sitting or walking, the disposition for example, fast or slow, the characteristic, for example, attractive or boring and the shape, for example, thick or thin. The idea of Aristotle persisted as the predominant theory of quality over many centuries until the emergence of rationalism (Descartes: 1596-1650) and empiricism (Locke: 1632-1704). Locke distinguished very practically between primary and secondary quality. Primary quality is closely related to the object under investigation, whereas secondary quality is generated in the interaction between the subject and the object, as a mental concept. The terms objective and subjective qualities were coined, which are still useful distinctions when quality is evaluated, measured or assessed.

The German philosopher Immanuel Kant (1724-1804) elaborated on the issue of quality in the tradition of Aristotle’s system of categories. He saw objective quality as an a priori category, such as space, time, form and the moral imperative that is given to all individuals by birth. Subjective quality is an a posteriori category that we acquire during our life and which helps individuals to perceive, structure, understand and evaluate our world. This idea of a subjective category is related to the ideas of Locke and is still predominant in today’s philosophical understanding of quality. Munchow formulated in his article “The Term Quality” the following:

“Quality is an abstract concept like honour or love. Like them, it is understood emotionally and irrationally; like them it is defined somewhat differently by each individual, although members of a given culture generally agree on some basic characteristics of a definition; like them it becomes incorporated into each individual’s set of personal values”.

Besides the position of an objective and subjective quality, there are more extreme philosophical streams that for example, state that quality cannot be explained or defined at all or that quality has to be seen as a purely linguistic or logical phenomenon of symbols. An interesting phenomenon discussed in philosophy is the relation between quality and quantity. The materialistic dialectic philosophy poses that new qualitative categories are generated by increasing or decreasing quantity. For example when a house becomes bigger, more luxurious and more expensive it is called a
vila, which means that a qualitative shift happened, related to the increase in quantity. In most publications that explore the nature of quality, the philosophical discussion is very limited although fundamental issues such as quality in relation to time, space and context deserve clarification. Furthermore, the issue of quality as a property, capacity, aesthetical, metaphysical or an ethical entity is narrowly discussed. A thorough investigation might lead to some interesting and unexpected new insights and could contribute to the construction of a framework or a theory about quality.

**Definitions of quality**

Apart from the issue of the subjective aspects of quality, there is little relationship between the philosophical theories and the term quality as it is used in technology and science. It is generally accepted that there is no single or ultimate definition. Each industry or research branch such as engineering, chemistry, economics, business-management, psychology or health sciences has its own definition. There are proposals to define quality in a formula such as Quality = Technology + Attitude or to specify quality as the characteristics of a product. A quality product is useful, complete, reliable, sustainable, attractive, meets the requirements, is well serviced and supported, and has an appealing image. Most attempts to specify quality generally, lead to definitions such as the one that was given by the International Organization for Standardization (ISO), that is, focusing on characteristics and requirements of an entity:

"Quality is the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs."

In this definition the "entity" can be seen as a product, an object, a service, a process, an organization or just an event. The "characteristics" can be seen as properties, functions, capacities or potentials. The additional word "totality" is in most cases limited by the context but accentuates that all assessable characteristics constitute quality. The word "stated" refers to clearly defined requirements, whereas the term "implied" refers to implicit, legal, value, aesthetical or moral aspects. In the ISO definition of quality, no second party is defined, which opens the possibility that all stakeholders related to the entity can formulate their own explicit and implicit needs.

In addition to this general definition, there are numerous definitions proclaimed by experts such as "fitness for use", "meeting customer requirements", "conformance to standards". In his study, Garvin analysed the different definitions of product quality used in industry, engineering and management and made a classification:
General introduction

- Transcendent approaches: definitions of the ideal quality of a product, which is not measurable
- Product approaches: definitions specifying products and measuring the characteristics
- User approaches: definitions focusing on the fulfilment of the user’s needs
- Process approaches: definitions about technical process specifications and error prevention
- Value approaches: definitions about value for money as experienced by the customer

An exploration of the different definitions shows that they are related in most cases to quality experts from the US and Japan who are considered leading, innovating, influential persons on topics such as product quality, quality control and quality costs. Most of them did not work in academia but in an operational environment of the production industry. They were in charge of quality improvement programmes or had consulting contracts in big organizations. Their attention was focused on reducing errors, improving output, optimizing processes, introducing change, measuring, calibrating, managing, and motivating people. Only a few carried out classical research to enrich science and knowledge although measuring, comparing, explaining and improving was central to their work. Through their work the term “quality management” was introduced and has become popular over the last 30 years. It currently refers mainly to a broad concept encompassing the design, planning, improvement and evaluation of functions, processes and outcomes of an organization.

Definitions of quality management

The ISO commission on the definition of terms and terminology formulated the following definition of quality management:

“All activities of the overall management function that determine the quality policy, objectives and responsibilities and implementation by means such as quality planning, quality control, quality assurance and quality improvement, within the quality system.”

The activities around quality management are diverse and range from simple checklists or flowcharts to complex methods such as Quality Function Deployment or Business Process Redesign. Often the instruments carry the name of the expert who invented and used it, such as the Pareto Diagram, the Deming Cycle or the Shewhart Statistical Process Control. An in-depth description of the seven classic quality tools can be found in the Memory Jogger and a comprehensive explanation of eleven major improvement methods is given by Dale. On an abstract level, Schild-
knecht analysed six prominent quality management concepts including the ISO and Total Quality Management (TQM) approach. He used 26 criteria of the socio-technical method and compared and rated the concepts and approaches.

Table 1: Comparison of quality management approaches by Schildknecht modified

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Deming</th>
<th>Juran</th>
<th>Feig.</th>
<th>Crosby</th>
<th>Ishik.</th>
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<td>Socio-technical aspects</td>
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Not at all ✪ = unimportant ✪✪ = quite important ✪✪✪ = important ✪✪✪✪ = very important
Feig. = Feigenbaum Ishik. = Ishikawa
TOM column and performance aspects added by the author
General introduction

Table 1 shows that External customer orientation, Quality as part of strategy, and Leadership training are seen as important or very important in all approaches. The TQM approach has, together with the Juran approach, most criteria marked as very important, which means that a TQM or Juran approach to improve quality is likely to have a deep and overall impact on an organization.

Alongside Schildknecht's analyses of quality concepts and approaches, which are mainly related to the experts in the field, Bounds made an historical overview of the major quality eras of the last century. In this context, Bounds also referred to the fundamental works of Frederick Taylor's Scientific Management approach (Taylor, 1911), Max Weber's theory of a Bureaucracy (Weber, 1905) and Elton Mayo's theory of Human Resource Management (Mayo, 1945) and sees their work as related to quality management. In Table 2, the four eras are presented starting with Inspection and ending with Strategic Quality Management. The category Primary concern in Table 2 illustrates the shift towards a strategic role of quality management.

Bounds (1994) and some other leading experts speak about a paradigm shift. Quality is not limited to a product or process anymore but fundamentally affects structures, people, management and culture of organizations. The definition of Rampey and Roberts for total quality management shows that there is an impact on all persons, all aspects for all times putting processes and customers in the centre:

"... a people-focused management system that aims at continual increase in customer satisfaction at continually lower real cost. Total Quality Management is a total system approach, and an integral part of high-level strategy. It works horizontally across functions and departments, involving all employees, top to bottom, and extends backwards and forwards to include the supply chain and the customer chain ...".

This definition portrays a management system of an organization, focusing on customer, processes, people and strategy. However, it does not explicitly include the results and performance of an organization but it promises financial benefits. In the last decade there is a further broadening of the concept of quality management that also covers the outcomes, performance and cost of an organization. The Baldrige Award criteria and the criteria of the EFQM Excellence Model accentuated outcome and results. In the Baldrige framework (Figure 1) only one criterion (7) deals with performance, but this criterion has six items with a maximum of 450 points and is thus almost as important as all other six criteria together with their maximum of 650 points.
Table 2: The four major quality management eras by Garvin

<table>
<thead>
<tr>
<th>Era</th>
<th>Inspection before 1900</th>
<th>Statistical quality control 1930</th>
<th>Quality assurance 1950</th>
<th>Strategic quality management 1980</th>
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<tbody>
<tr>
<td><strong>Primary concern</strong></td>
<td>Detection</td>
<td>Control</td>
<td>Coordination</td>
<td>Strategic impact</td>
</tr>
<tr>
<td><strong>View of quality</strong></td>
<td>A problem to be solved</td>
<td>A problem to be solved</td>
<td>A problem to be solved, but one that is approached proactively</td>
<td>A competitive opportunity</td>
</tr>
<tr>
<td><strong>Emphasis</strong></td>
<td>Product uniformity</td>
<td>Product uniformity with reduced inspection</td>
<td>The entire production chain, from design to market, and the contribution of all functional groups, especially designers, to preventing quality failures</td>
<td>The market and consumer needs</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>Gauging and measurement</td>
<td>Statistical tools and techniques</td>
<td>Programmes and systems</td>
<td>Strategic planning, goal setting, and mobilizing the organization</td>
</tr>
<tr>
<td><strong>Role of quality professionals</strong></td>
<td>Inspection, sorting, counting, and grading</td>
<td>Troubleshooting and the application of statistics</td>
<td>Quality measurement, quality planning, and programme design</td>
<td>Goal-setting, education and training, consultative work with other departments, and programme design</td>
</tr>
<tr>
<td><strong>Responsibility for quality</strong></td>
<td>The inspection department</td>
<td>Manufacturing and engineering departments</td>
<td>All departments, although top management is only peripherally involved in designing, planning, and executing quality policies</td>
<td>Everyone in the organization, with top management exercising strong leadership</td>
</tr>
<tr>
<td><strong>Orientation and approach</strong></td>
<td>&quot;Inspects in&quot; quality</td>
<td>&quot;Controls in quality&quot;</td>
<td>&quot;Builds in&quot; quality</td>
<td>&quot;Manages in&quot; quality</td>
</tr>
</tbody>
</table>
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Figure 1: Baldrige criteria for performance excellence framework

In the EFQM Excellence Model shown in Figure 2 four of the nine criteria are distinct Results criteria. The criteria cover the Key Performance Results incorporating financial and non-financial outcome as well as the Customer, People and Society results. The weight of those criteria is 500 out of the total of 1000 points.

Figure 2: EFQM Excellence Model

There is a shift towards results and performance, which can also be seen (see Table 3) when the fundamental concepts of the EFQM, the Baldrige and the more classical TQM and ISO models are compared.
Table 3: Comparing the fundamental concepts

<table>
<thead>
<tr>
<th>Fundamental concepts</th>
<th>Core Values and Concepts</th>
<th>Fundamental principles</th>
<th>Key Elements of TQM</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFQM</td>
<td>Core Values and Concepts</td>
<td>BNQA</td>
<td></td>
</tr>
<tr>
<td>Result orientation</td>
<td>Focus on results and creating value</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Customer focus</td>
<td>Customer driven excellence</td>
<td>Customer focus</td>
<td>Customer satisfaction and delight</td>
</tr>
<tr>
<td>Leadership and constancy of purpose</td>
<td>Visionary leadership</td>
<td>Leadership</td>
<td>Commitment and leadership of the chief executive officer</td>
</tr>
<tr>
<td>Management by processes and facts</td>
<td>Managing by facts</td>
<td>Process approach</td>
<td>-</td>
</tr>
<tr>
<td>People development and involvement</td>
<td>Valuing employees and partners</td>
<td>-</td>
<td>Involvement</td>
</tr>
<tr>
<td>Continuous Learning, innovation and improvement</td>
<td>Organizational and personal learning</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Partnership development</td>
<td>Social responsibility</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Corporate social responsibility</td>
<td>Agility</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>Focus on the future</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>Managing for innovation</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>Systems perspective</td>
<td>System approach to management</td>
<td>Measurement and feedback</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>Factual approach to decision making</td>
<td>Planning and organization</td>
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<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Using tools and techniques</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>Education and training</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Team work</td>
</tr>
</tbody>
</table>

The emphasis on results means a broadening of quality management and relates it to management science and business administration. Some authors also extend quality management to the ideas of the learning organization (Senge, 1990). Not all experts share this view. Deming, for example stated in a debate about the Baldrige Award “It contains nothing about management of quality”, and urged leading executives to instigate a broad research programme in order to advance knowledge and theory building concerning quality management. The activities and projects in this field are manifold and leading organizations of the computer and car industries intensively use methods of quality management, but there is little empirical evidence about the fundamental questions such as: What is the theoretical basis? What are the mechanisms and underlying principles? What are the relevant and valid meas-
urements? What are the most effective methods for improvement? What is the best approach for a starting organization and what is the best approach for an advanced organization? How are processes and outcome related?

**Research and theory building**

In science, a theory is a proposed description, explanation, or model of the manner of interaction of a set of phenomena, capable of predicting future occurrences or observations of the same kind, and capable of being tested through experiment or falsified through empirical observation. It follows from this that for researchers "theory" and "fact" do not necessarily stand in opposition but are two faces of the same coin (Leinfellner, 1967). For example, it is a fact that an apple dropped on earth has been observed to fall towards the centre of the planet, and the theory of gravitation explains why the apple behaves so. The theory can be verified by experiments, different aspects can be manipulated and measured but most importantly, the theory can be generalized to other objects, such as aeroplanes, parachutes, mountain climbers and raindrops.

Quality and quality management is a rich field with many ideas, activities and experiments, but it is poor in building and testing theory. Many experts argued that common sense has to be the leading principle instead of a scientific approach, but that means neglecting the scientific advance. After all, a theory, such as that of gravity, has consequences far beyond a single – the falling apple – phenomenon. Kerlinger calls this the common sense trap. In order to advance in knowledge, practice and theory he proposed the empirical circle, which means specification of the subject or the problem in clear language, defining concepts and relations, specifying variables, choosing valid measurement, designing studies, conducting the data collection, analysing the data, discussing the findings in order to give a solution to the problem and to advance theory building. The empirical circle is the royal road to assure that findings are valid, deliver relevant answers and contribute to theory. Opponents argue that this will lead to the scientific trap: a long, irrelevant, academic and costly endeavour. However with modern information technology and advanced methodology the empirical cycle can be short, concrete and inexpensive. Business, management, operational and the socio-technical research apply the empirical approach with success.

Schildknecht showed in his analyses of quality approaches that hardly any empirical evidence or theoretical contributions exist, but that the experts hold isolated views, which are not verified or falsified. Buelens investigated the theories and experts of quality and business management and concluded that the quality management had the most influence for organizations and for the practical work but that there is little empirical foundation. There are many publications reviewing organizational and managerial models but the descriptions are not critical and do not con-
tribute to the building or testing of theories (Berenschot, 1999; Dale, 2003). There are exceptions such as the model of service quality and some examples in the field of total quality management. Those studies are related to the Baldrige and EFQM model but the number and the impact of the studies is modest. The broad interest in quality and the countless quality projects urge the scientific community to advance the theme quality and quality management to a more sophisticated level. This means building theory, identifying underlying constructs, finding mechanisms and carrying out studies with valid measurements and sound data analyses in order to contribute to scientific discussions and to generate knowledge.

**Quality in health care**

**Historical aspects**

Quality in health care can be traced back to Hippocrates (450-370 B.C.) who formulated the oath for medical practice in ancient Greece. Many books were published in Greece about the healing practice as a divine task but the works, which are related to Hippocrates accentuate observation, fairness and respect for the patient. With the oath, the teacher-student relation was defined, specific medical procedures were included and excluded, privacy and rights of patients were formulated. It is likely that the oath in ancient Greece did not play an important role, but it continued to define medical practice and profession throughout the medieval ages. In the renaissance Andreas Vesalius (1514-1564) and Paracelsus (1494-1541) represented a rational, analytical and observational approach to medicine and also proclaimed an oath to guarantee the integrity of doctors. During the 19th century the oath was modified with more emphasis on patient rights and humanistic aspects and a code of conduct for the medical professional was added. After WW II, the World Medical Association formulated nine prescriptive rules of conduct and in 1995 patient centeredness and standards of practice and care were introduced which turned the oath into a professional quality manifest.

Besides Hippocrates, the English nurse Florence Nightingale (1820-1910) is seen by many experts as an important figure for the roots of quality in the field of health care (Wyndham, 1969). Nightingale was active during the Crimean War in Russia, caring for wounded soldiers in a practical, dedicated and humane way. Later she initiated systematic planning and administration including hospital statistics in health care in London and founded a training school for nurses. Through her work the nursing profession was enhanced and quality standards for training were introduced.

Full anaesthesia in dentistry and later in surgery was introduced by Horace Wells (1815-1848) from Boston, USA. At the beginning of the 20th century several new methods were applied such as hygiene measures to control infections by Robert
Koch (1843-1910) and Röntgen diagnostics by Marie Curie (1867-1934). These innovations had a broad impact on health care and issues such as overall hygiene regulations became rules and standards for hospitals. Ernst Codman (1869-1940), a surgeon in Boston, radically followed the idea of best practices and formulated the End Result Theory. He stated that the measurement of end results would be the ultimate means to ensure surgical competency and standardize surgical practice. He opened a small hospital called End Results Hospital, where the outcome of patient care was scrupulously tacked and published. At that time his initiative was rejected by the medical community but was rediscovered some years ago by the Joint Commission of Accreditation of Health Care Organizations (JCAHO) and integrated into the US health care accreditation programme.

**Definitions of quality**

In the last century, the JCAHO, which was founded in the 1950s in the US, probably had the greatest impact on quality issues in health care. Quality was defined by the commission as (Harris-Wehling, 1990):

> "The greatest achievable health benefit, with minimal unnecessary risk and use of resources, and in a manner satisfactory to the patient".

Almost 20,000 services in the US are accredited by the JCAHO every three years. There is a pool of surveyors, a broad system of standards and detailed accreditation procedures. The JCAHO accreditation programme is the largest quality assurance programme in health care worldwide.

Despite the fact that the Joint Commission evaluates whether or not a service meets the agreed quality standards in a practical way, Avedis Donabedian (1919-2000) is seen as the founder of the scientific, systematic approach to quality in health care. In his three volumes on *Explorations in Quality Assessment and Monitoring*, he summarises and discusses the definition of quality, criteria and standards. He also elaborates systematically about the methods of assessment and monitoring. The volumes were published in the 1980s and Donabedian's distinction between technical and interpersonal quality is still used and his ideas about a basic approach for quality assessment in health care concerning structure, process and outcome are well established in health care and also used in industry. Above all, the relation between process and outcome is one of the essential topics of quality in health care today.

The work of Donabedian was groundbreaking but abstract and formal. In clinical practice quality assurance projects that focused on problems and improvements of care were started. The discussion on the definition of quality was revitalized by the Institute of Medicine (IOM), which carried out a review of the definitions. The study group collected 50 definitions and 52 sets of parameters for quality in health
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care. The definitions varied from short arithmetic formulas to elaborate descriptions. The group identified 18 dimensions in the description and gave the following definition:

"Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."

In this definition, "care" is expected to have a net benefit. The benefit is expected to fit the desired health outcome, which means improved health status and quality-of-life, patient satisfaction and well-being. It covers the individual and society as a whole and in that way it can be associated with mottos like "health for all". The phrase "current professional knowledge" reflects the appropriate application of actual scientific knowledge. By this the definition encompasses the expanding knowledge of bio-science and the advances in health care technology. The definition is compelling; implicitly stating that the desired health outcomes should be achieved and that the current knowledge should be applied.

The discussion about achievements and results as part of health care quality was put on the agenda by the Institute of Medicine approximately ten years later when the topic of performance indicators has obtained a prominent position. The committee chaired by Don Berwick specified six key dimensions for outcome indicators for health care. Health care should be: safe (1), effective (2), patient-centred (3), timely (4), efficient (5) and equitable (6). The commission also stated that there is a huge quality gap in health care concerning the overuse, underuse and misuse of diagnostics, treatments and services in health care and declares that "a rethinking of health care in a radically new way" is needed to cross the quality chasm.

Research

This broad review of quality in health care shows that the issue of quality goes far back in time, that the work of the Joint Commission, Donabedian and subsequent discussions have put quality on the agenda. The increase in interest can also be seen in numerous publications available in PubMed as illustrated in Figure 3.

The left scale of Figure 3 shows that in 1990, 2,681 articles about quality in health care were published and stored in the database. In 2005, almost 8,966 articles were published. The histograms show a constant growth over the years. The right scale of Figure 3 shows the number of articles about quality in mental health and addiction treatment. In 1990, there were approximately 106 publications and in 2005 approximately 815. The number of publications on quality in addiction treatment services grew from seven in 1990 to 42 in 2005—a considerable increase. However, 42 publi-
Cations on quality in addiction treatment worldwide in 2005 is not much. When the number of publications on quality in health care is compared with the total number of publications in PubMed, which was more than 15 million in 2005, quality in health care is a small fraction of 0.5%. On the basis of the publications, it can be concluded that the research activity has increased but that the total volume is very small. Quality is a popular topic in health care but there are only a few publications, few research projects and consequently limited development in knowledge and expertise.

Quality in health care in the Netherlands

Historical aspects
During the Golden Age, outstanding doctors such as Herman Boerhaave (1668-1738) introduced new methods, which can seen in the light of quality. To give an example: Boerhaave was well known for his clinical teaching; he introduced the dis-
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tinction between diagnosis, prognoses and therapy, which emphasized observa-
tions, logical thinking, clear argumentation and led to new knowledge and better
practice. More than a hundred years later in 1865, the legal basis for the medical pro-
fection was established. The professional law was a translation of the idea to oblige
doctors to deliver professional quality. In his analysis of the development of quality
management since 1848, Klazinga (1996) focuses on medical specialists and hospi-
tals and makes a distinction between six periods from "the dawn of medical care" till
"the taming and blaming of medical care". His study shows the close interaction be-
tween the socio-economic context, the attempts and interventions of the govern-
ment, the quality initiatives of the medical associations, the disciplinary law, and
the education of the specialists.

Around 1970 the Dutch Ministry of Health took a firm initiative to structure the
health care system, to regulate the tasks and to control costs. In the report of Hen-
driks (1974), a three-tier health care system of primary care, secondary care and hos-
pital care was introduced and a financial ceiling of 8% of the Gross National Prod-
uct was set. As a consequence of the regulations by the ministry, the medical
profession initiated self-regulations for the quality of health care. Together with the
insurance companies and the government, the specialists of the teaching hospitals
introduced medical audits and founded the Quality Institute CBO (2005). The de-
velopment of the institute over the last 25 years can be seen as a succession of consol-
idation and expansion. Firstly, medical audits for specialists were introduced, which
expanded to the professions of nurses and paramedics. Secondly, guidelines were
developed by a consensus procedure for selected medical procedures, which en-
larged to multi-disciplinary guidelines for health care in general. Thirdly, methods
for infection control, indicator, and breakthrough projects for specific health care
problems were developed, which spread to a broad diversity of health care profes-
sions and organizations.

Certification and accreditation

At the end of the 1980s, the Dutch Ministry of Health published the document
Ready to Change composed by the former president of Philips, Wisse Dekker (1987).
In it a broad reform of health care was proposed with two leading themes: Costs and
Quality. In the subsequent years after the Dekker report, a quality law, a certifica-
tion and an accreditation institute were established. The National Council for Pub-
lic Health and Health Care initiated the Leidschendam Conferences and started
quality projects, stimulated research, and defined quality along the ISO definition.

The ISO Quality management system is illustrated in Figure 4. It shows that the
improvement cycle is central within the frame of Customer Demands and Customer
Satisfaction. The certification scheme for the Harmonization of Quality Review in
Health Care and Welfare (HKZ) was derived from the ISO system but combines

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the demands of health care providers, patient interest groups and health insurance companies. The overall goal was to stimulate the implementation and certification of a quality management system of all health care and welfare institutions in the Netherlands in order to guarantee an acceptable service level to consumers, clients and patients.

An institute was established, and until 2005, more than 500 certificates were awarded and many health care services are in the process of acquiring certification. Nineteen certification schemes became available ranging from pharmacies, home care, and mental health care to child nursery services. Seven schemes were under construction in 2005. All schemes are based on the overall harmonization model, which is shown in Figure 5. The care and cure process is in the centre of the HKZ scheme, surrounded by six aspects, which have supportive or steering functions. Alongside the nine aspects, the scheme has approximately 100 themes and several hundred norms, which are derived from practice, regulations and guidelines. In recent years, there have been discussions between the three parties providers, patient groups, and health insurance companies to put more emphasis on outcome, quality control and pathways of care and cure. The combination of certification and performance oriented quality management is often discussed but seems to be a logical solution (Nabitz & Polak, 2004).

Before the HKZ scheme for health care and welfare was introduced, Dutch hospitals, as the dominant sector, started an accreditation programme. They followed the
principles of peer reviews for hospital departments, developed standards and reviewing procedures and founded the Netherlands Institute for Accreditation of Hospitals (NIAZ). By now the institute developed 38 standards, accreditation guides, training programmes for reviewers and coordinated the accreditation process. The Teaching Hospital in Maastricht was the first hospital to be certified and in 2005, more than 20 hospitals were peer reviewed and certified. Originally, the hospital accreditation programme targeted the 100 Dutch hospitals, but primary health care services are also working towards accreditation.

**Quality initiatives**

Reviewing the Dutch situation today, it can be said that all organizations in health care pay attention to quality issues, employ quality managers and carry out improvement projects. The activities are supported by the umbrella organizations of the different sectors and in 1995, the professionals in charge of quality in the services established the Dutch society for quality and care (NVKZ).

In parallel to this general trend, the EFQM approach became popular in health care because of the positive experiences of organizations such as Phillips, KLM and KPN-Post. The Institute for Dutch Quality (Insituut Nederlandse Kwaliteit, INK) was established and the Dutch version of the EFQM Excellence Model, the INK-management model, was launched. Many quality managers in health care followed INK trainings, a broad variety of materials was developed, books were published and a network of consulting firms offered support (Walburg, 1997). The majority of
the health care services carried out at least one self-assessment to check their position on the INK scale. It can be said that the EFQM approach is the most popular Total Quality Management approach in the Dutch health care services.

The Ministry of Health supported this integral approach in many ways and also stimulated and financed projects focusing on efficiency, effectiveness, and innovation. It reports annually to parliament. Improvement projects such as Faster Better carried out by hospitals, medical specialists and nursing professions have been instigated by the Ministry. The Minister for Health Care, Social Care and Sports invited, just like Wisse Dekker from Philips twenty years ago, leaders of Dutch industry to analyse and advise on health care issues of safety, logistics, informatics, innovation and transparency. The reports are online and available free of charge. The Netherlands Health Care Inspectorate, which protects and promotes health and health care by ensuring that care providers comply with laws and regulations, became more active and pro-active. The newly founded and funded patient interest groups started to voice their interests in many different ways.

The media discovered the public interest in health care issues. Opinion polls on the quality of services were held and rankings of health care organizations were published in magazines and newspapers. Radio and TV reported incidents and websites made information more accessible. The role of the internet increased in the dissemination of information and reports, offering of training and invitations to conferences. The reporting on new methods to improve quality, such as Six Sigma, Quality Function Deployment and Business Process Redesign also became available through the medium of the internet.

There are numerous consultancies, which offer services and support health care organizations. For major projects such as the benchmarking of home care services, consulting firms were contracted and they formed alliances with research institutes such as the Netherlands Institute of Primary Health Care (NIVEL) to monitor, study and report the status of the services.

Research

Although there are many initiatives and a broad interest in quality management there is scarce academic research. The evidence base for quality improvement has grown very little and is still very thin. There is an academic centre for Quality of Care Research (WOK), which is aimed at research, development, evaluation and education in quality and quality improvement as a collaboration of the University of Nijmegen and Maastricht. At the Erasmus University in Rotterdam, the Institute of Health Policy and Management (iBMG) has national and international research and education projects in the fields of policy and organizational sciences in health care. But a national substantial research programme has never flourished.

Professionals, patients, policy makers and authorities all insist that a systematic
improvement of the quality of health care can help make patient care more effective, efficient, safe, accessible and patient friendly. The introduction of certification schemes and the diversity of quality projects can be seen as the first step, but appropriate instruments and methods have to be developed and the research activities have to increase to build sound and valid knowledge.

**Quality of mental health and addiction treatment**

**Historical aspects**

The transformations and changes in mental health and addiction treatment services have been, from an historical perspective, fundamental and radical. Two hundred years ago psychiatric patients were imprisoned, isolated and tortured. The reforms by Phillip Pinel (1745-1826) freed psychiatric patients from their chains and introduced humane conditions in asylums. In Victorian times, it was not unusual to declare women who divorced their husbands as deviant or mentally ill and consequently lock them away. The first fundamental changes that came about were influenced by academics such as Emil Kraepelin (1855-1926) who established a first categorisation of psychiatric symptoms including addiction, based on unbiased observations. A clear differentiation was made between the dementia praecox and manic-depressive disorder. The psychodynamic approach of Freud (1856-1939) opened new perspectives for treatment, but during the same period fascistic governments launched euthanasia programmes to purge the "normal" population of psychiatric, addicted and deviant individuals. The history of addiction treatment is not as dramatic but is entangled with cultural norms and rituals. In an analysis of the last five hundred years of alcohol use and abuse, Van der Stel showed that the changes can be explained with the mechanisms of civilisation as stated by Norbert Elias (1897-1990). He illustrates that the development of specialized care and cure for persons with alcohol problems is related to the professionalisation of the sector.

A neutral, sober and more scientific attitude towards mental health and addiction was developed only thirty years ago. In that time, care and cure of mental health and addiction became part of the regular health care financing system. Research activities increased, treatment possibilities broadened and patients were seen as persons, who have rights. The movement of the anti-psychiatry was not only a step towards normalisation but also showed that patients deteriorated rather than improved when treated in psychiatric asylums. New interventions were developed such as the pharmacological treatment for epileptic patients, patients with schizophrenia and bipolar disorder as well as patients with milder disorders such as depression and anxiety. In addition, cognitive behavioural interventions were shown to be effective for a broad range of mental disorders. Large epidemiological studies gave a sound base for estimations of the health care problem, which proved to be bigger
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than expected (Bijl, Zessen & Ravelli, 2003). Together with a gradual change of public opinion to more openness and acceptance of mental health and addiction problems as a health problem, a new era commenced.

From this historical review, it can be concluded that the changes in mental health were almost revolutionary. It is expected that development in the 21st century will be more evolutionary. Mental health and addiction patients are now seen as clients, consumers or customers of services and professionals. Progressive treatment organizations start to offer evidence-based treatments developed through worldwide research. There is apparently a broad motivation among professionals and the service management to improve treatment, to strive for health benefit for clients and to minimise practice variation. The burden of the stigma on mental health problems is gradually diminishing and services are seen as an integral part of the health care system. The new research and treatment paradigm that mental disorders and addiction are brain diseases, gains ground and opens new perspectives (Leshner, 1997). In addition, more specific diagnostic techniques have been introduced, and proven effective interventions are leading. Furthermore, authorities, media and epidemiological studies show that mental health, including addiction, is one of the biggest challenges for health care in the near future.

One of the first publications on quality in mental health is the Handbook of Quality Assurance in Mental Health. The authors follow the definition of quality by the Joint Commission and see the four stakeholders as a driving force: insurance companies, health care providers, patients, and professionals. They describe a system of quality assurance, utilization review, risk management, practice reviews. Several case studies including Health Management Organizations, but very few evaluation studies to determine the impact of quality programmes are presented. One study applied a control group and a prospective design to investigate the effect of the process of care by community mental health treatment teams that did or did not have a quality assurance programme. The programme consisted of a peer review system, education of clinical supervisors and case workers. One year after implementation, the authors found significant improvements in the process of care for the experimental group but not for the control group.

Rodriguez emphasized the influence of economic factors as crucial for the quality of mental health care (Rodriguez, 1988). The change in financing and organizing the delivery of health care in a competitive, market-driven and resource-limited health care economy determines the quality of the services. He points out that quality of care and cure deteriorates for the vulnerable groups of the chronically mental ill individuals, homeless persons with psychiatric problems, children in impoverished and abusive settings, mentally ill persons in prisons and in nursing homes. But again peer-reviewed publications concerning this issue are scarce.

Recent years have seen the appearance of a moderate amount of grey literature on
quality and related issues in mental health and addiction treatment such as the quality standards for addiction treatment in Germany. An overview of quality related issues published as WHO reports, Adequacy in Drug Abuse Treatment and Care in Europe (ADAT) which includes the Dutch situation is also available but only few publications can be found in international journals.

Quality initiatives

Over the last ten years, quality management has been on the agenda in mental health and addiction services in the Netherlands. At first, some of the active health services documented quality projects with the goal to enhance their external profile and to generate an internally dynamic environment to stimulate improvements. They introduced patient satisfaction surveys, documentation systems, new treatment methods and annual statistics on access and productivity.

One of the first mutual efforts of all mental services was the institutional peer reviews, in which multi-disciplinary teams reviewed services and reported the findings. Based on that experience and in line with the development of the HKZ certification, mental health services developed their specific plans (Stichting HKZ, 2002). All mental health organizations: outpatient, inpatient, sheltered homes, addiction, forensic, youth services – in total approximately 130 organizations, have agreed to strive for certification in 2008 (Verhoef & Casparie, 2005). In addition to this certification programme, there is emphasis on development and implementation of standardized diagnostic instruments and treatment programmes. Benchmarking has recently been introduced, mainly in terms of client satisfaction and clinical outcome and a basic set of 23 indicators has been developed (Wennink & Wijngarden, 2006). Driven by a shortage of professionals in mental health and addiction services, a programme has been started to improve work conditions and to make the sector more attractive.

For the last ten years, the overall conceptual framework for quality has been the Dutch version of the EFQM Excellence Model, which guarantees an overall view on organizational aspects, processes and outcome. Most of the mental health services and addiction services follow this line. The EFQM approach is a suitable combination of quality and management (Walburg & Brinkmann, 2001). Management topics receive more attention because many small services have merged with bigger network organizations, integrating outpatient, inpatient and addiction services in regions.

A further positive factor is the fact that the mental health and addiction treatment services are members of one National Branch Organization for Mental Health Care and Addiction Services (GGZ Nederland), which coordinates projects, develops policies and represents the interests of the sector, which has approximately 50,000 employees, half a million clients and more than 100 services. For the past 12
years, the foundation has been supporting a network of over 100 quality managers called the Q-net that meets four times a year. In addition to the foundation and the network, there is the Trimbos Institute with almost 200 professionals that has the national task of carrying out research, innovation projects and the generation and dissemination of knowledge to advance mental health and addiction treatment.

The addiction treatment services, which treat approximately 60,000 alcohol clients and approximately 30,000 chronic drug users a year with a staff of about 4,000 professionals, started the innovation programme Scoring Results (Schippers, Es van, Mulder & Dijk van, 2005) at the end of the last century. The goal of the programme was to innovate the treatment programmes and to develop evidence-based protocols. Furthermore, intake and assessment processes had to be restructured and reorganized and prevention activities had to be renewed. Guided by a national steering group, four development centres worked in a six-step approach starting with a literature review and ending with dissemination of the products. After five years, 35 products were developed, tested and distributed. Furthermore, sixteen protocols became available on the website of the National Organization for Mental Health and Addiction Services (GGZ Nederland). A National Council for Competence Building in Addiction has been established, and has developed a curriculum for university and college education. An evaluation in 2005 showed that more than 75% of the services had implemented the first protocols.

Research

The historical review shows that fundamental changes in mental health and addiction treatment have taken place. Today, patients are increasingly seen as clients, consumers or customers of the services and of the professionals. Quality topics such as patient focus, efficiency, effectiveness and safety are discussed openly and improvement projects are carried out. Treatment services are certified and professional standards are met. A new generation of motivated professionals and service managers aim to improve treatment and strive for the health benefit of clients and to standardize and innovate interventions. Evidence-based medicine is being pushed by information technology and internet use. But research is lacking. Most of the improvements are still guided by intuition and opportunities and not by a sound scientific approach.

More empirical health care research, more implementation and effect studies are needed in order to create knowledge for decision making, improvements and innovations. There is also the need for theory-driven and experimental research to detect fundamental mechanisms of change and improvement. Scientifically based knowledge, proven concepts, tested theories and validated instruments for quality management and continuous improvement are needed to advance mental health and addiction treatment.
Quality and quality management have become major issues in the last century and has historical and cultural roots. Quality management was one of the successful approaches for optimizing production lines, improving customer service, reducing errors and introducing innovations mainly in industry. In health care, the theme quality is much more related to the health care professionals and their patients and was hampered by the complexity of care and cure processes. The topic has broadened in recent years to organizations as a whole, mainly because of the increasing specialisation of treatment, the organizational changes and the attention for shortcomings in the sector. The special role of research and evidence-based thinking in health care adds leverage for quality management.

The fundamental nature of the changes over the last century in the mental health and addiction sector has created a momentum of change that could be supportive for the dynamics of quality management and innovations. Furthermore, the fact that there are some successful initiatives, programmes and projects, which have had an impact on services and professionals points in the direction that continuous quality improvement for mental health and addiction will persist as a major issue in the future.

However, there is a lack of knowledge, there is little research and a very thin empirical foundation. The projects are activity-driven as opposed to knowledge-driven. The research findings from somatic health care and industry concerning quality issues are used inefficiently. Fundamental and theory-oriented studies are almost absent although many questions have to be answered. Since quality management already incorporates the elements of research, more empirical research, which exceeds the unique problem of an organization is all that is needed to raise it to a higher level. In a modern world of health care with highly-educated professionals, new information technologies and an exploding body of health care knowledge, research should be an integrated part of the work. It is a challenge for the sector to fill this gap and to study quality and quality management with modern empirical methods to enrich the knowledge. In this thesis, one such step is taken in that direction.

Aim
The general aim of this thesis is to conduct empirical studies about quality and quality management in order to contribute to the discussion, the knowledge and the practical work. The focus of the studies is addiction treatment. The theoretical orientation is total quality management as defined by the EFQM Excellence Model. The aim is split into three sub-goals.
- The first sub-goal is to study the conceptualisation of quality in addiction treat-
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...ment service and health care and align the findings to the EFQM Excellence Model.

- The second sub-goal is to investigate the performance of addiction treatment applying a multidimensional framework of indicators related to the EFQM Results criteria.
- The third sub-goal is to analyse, describe and evaluate the implementation processes to improve the quality of addiction services using the EFQM Model as a framework.

Structure

The core of the thesis are the ten chapters, which are all independent studies published or submitted for publication. Each chapter is, in this sense, a complete study with an introduction, method, results, discussion and conclusion and a separate summary. The chapters are grouped into Part II, Part III, and Part IV. The complete thesis is structured in five parts. The first and last part are the frame around ten chapters with the ten empirical studies.

In Part I General introduction and research questions, the topic of quality and quality management is introduced in its historical context. The terms are defined. Quality management in industry, in health care, in mental health care and addiction treatment are described. It is shown that the overall total quality management is a prominent approach but many questions remain open.

In Part II Conceptualisation, four studies are described to clarify the concept of quality. In three studies, the method of Concept Mapping is applied in order to specify the conceptual framework for quality. The findings are reflected in a comparison with the EFQM Excellence Model. The last study is a review of the use of the EFQM approach in health care.

In Part III Performance, four studies that match the Results criteria of the EFQM Excellence Model are presented: People, Customer, Society and Key Performance results. The study on Customer Results provides an overview of three client satisfaction studies. In People Results, work conditions and work stress is analysed. In Society Results, the public opinion on addiction treatment is studied and in the last study, the development and use of an indicator system is described.

In Part IV Implementation, two studies show the implementation process and the results of quality management in an outpatient addiction treatment service and in a large addiction treatment centre.

In Part V General discussion and summary, the findings of the empirical studies are analysed and reflected in a broader context. The findings of Part II Conceptualisation are discussed, followed by the findings of Part III Performance and Part IV Implementation respectively. The limitations of the studies are addressed and suggestions for theory, research and practice are given. Part V closes with the summary.
Finally, this thesis also includes an Appendix containing the summary in Dutch and German, the acknowledgements, the literature list and the curriculum vitae of the author.

Research questions
The general research question for this thesis is: What is the conceptualisation, performance and implementation of quality management in addiction treatment services applying the EFQM Excellence Model? This question was broken down into three issues: Conceptualisation, Performance and Implementation.

For Part II Conceptualisation, the leading question 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?

There is broad consensus that quality is one of the core themes in health care but it is likely that the different stakeholders in health care have different opinions on quality. Concept Mapping is applied to identify the conceptual framework for quality of a programme, for an indicator framework and for the improvement of the EFQM Excellence Model. This part closes with an overview of the use of the EFQM Excellence Model in health care. The following research questions were formulated per chapter:

• Chapter 1: What is the quality framework for addiction treatment programmes constructed with Concept Mapping?
• Chapter 2: What is an indicator framework for an addiction treatment centre using a Concept Mapping strategy and reflecting the findings with the EFQM Excellence Model?
• Chapter 3: What is the new input for an improved EFQM model using Concept Mapping and what is the contribution to theory building?
• Chapter 4: What is the European and Dutch experience with the EFQM Excellence Model in health care organizations?

For Part III Performance, the leading question 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 EFQM Excellence Model has four Result criteria that form a multidimensional framework for performance measures for mental health and addiction treatment services. Data from different data collections is used to study performance aspects in terms of customers, personnel, and society. Part IV closes with the description of an indicator system for teams, developed in an addiction treatment centre. The following questions were formulated per chapter:

• Chapter 5: What are the results of consumer satisfaction in mental health and addiction treatment services?
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- Chapter 6: What is the role of work conditions and work stress in an innovating addiction treatment centre?
- Chapter 7: What are the trends over several years in the opinion of Dutch citizens in addiction treatment services?
- Chapter 8: What are the findings after developing an indicator system for an addiction treatment centre?

For Part IV Implementation, the leading question was: What are the changes assessed using the EFQM Excellence Model when quality management is applied.

Publications on innovations that are systematically evaluated are still scarce in mental health care and addiction treatment. Two examples are given for improvement projects that cover a period of several years, demonstrating the measured changes and the limitations of such projects. The following questions were answered:

- Chapter 9: What are the effects of implementing EFQM quality management in an outpatient addiction treatment service?
- Chapter 10: What are the findings in terms of an EFQM assessment after implementing evidence based treatment protocols through a business process redesign strategy?

The research question in each chapter is answered separately and none are related. In the General discussion and summary, the answers are compiled on the level of the parts and discussed for each part in the light of new findings.

Reference list


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