Quality management in health care: empirical studies in addiction treatment services aligned to the EFQM excellence model
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Citation for published version (APA):
CHAPTER I

A quality framework for addiction treatment programmes: Results of a Concept Mapping strategy

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Sucht, 51, 140-152.
Abstract

**AIM** To identify the dimensions, clusters and criteria of a quality framework for addiction treatment programmes.

**METHOD** Concept Mapping strategy was used to generate the conceptual framework based on the perspectives of patients (customers), treatment staff (providers) and the public. In four brainstorming sessions, 45 participants generated 667 ideas about the quality demands for an integrated addiction treatment programme in the Netherlands. The ideas were condensed into 70 unique statements. Ninety representatives from three stakeholder groups rated the final set of statements. Using multidimensional statistical analyses the statements were clustered and positioned on a map.

**RESULTS** Nine clusters with the dimensions Best practice and Performance were identified. The three most important clusters were Client orientation, Treatment practice and Attitude of staff. The three most important statements of the 70 unique statements referred to the effectiveness of the programme, the respectful interaction with the patient, and the direct access to treatment. The three stakeholders agreed with the top ten statements. The opinions of the stakeholder groups differed regarding the priorities of the three clusters, which is a reflection of the customer and provider interests.

**CONCLUSIONS** The empirically derived two-dimensional quality framework with the dimensions Best practice and Performance and the nine clusters, is a specific and comprehensive framework for addiction treatment programmes. It shows an overlap with the quality certification schemes and award models.
Introduction

People in the addiction treatment field generally agree that one should strive for high quality treatment programmes. However, disagreement often arises when the characteristics of a quality programme have to be specified. In the field of addiction treatment there is hardly any literature or research about the definition of quality, meaning the quality of treatment, care or services. In general health care, however, the topic of quality receives a high priority (Committee on Quality of Health Care in America, 2001). There are specialized journals, conferences, institutes and research programmes. This gap has to be bridged if addiction treatment is to attain the quality status of general health care. With this study we are taking the first step in that direction by using an empirical strategy in attempting to clarify the concept of quality in addiction treatment programmes. After a brief review of the literature, we proceed to show the development of the quality framework, and finally we discuss the findings in the context of exciting quality certification schemes and quality award models.

Literature

Production and commercial service industries have a long tradition of quality assessment, quality control and quality management. Since WW II, many authors (Crosby, 1979; Deming, 1986; Feigenbaum, 1983; Imai, 1986; Juran, 1989) have published books and articles, which have had a strong impact on measuring, controlling and improving products and services. Schildknecht (1992) summarises and compares the different approaches, while showing that most of them use a general conceptualisation of quality that emphasises the features and characteristics of a product as defined by the user. The International Standardisation Organisation (Nederlands Normalisatie-instituut, 2000), has defined quality as “meeting the requirements and demands of the customers”, and has developed many norms and standards for a large number of industrial sectors. Organizations that apply the norms to develop a quality system, can acquire certification. The ISO certification is a guarantee for customers that the organization has reached a defined level of quality. As a reaction to the normative approach of the ISO standardisation and certification, the national and international award criteria, such as the Malcom Baldrige Award (Baldrige National Quality Programme, 2002), and the EFQM Award (European Foundation for Quality Management, 2003), were both founded in the 1980s. The award criteria as based on conceptual models are derived from “best in class” and give a central role to the various stakeholders such as customers, personnel and the public. Each year the award criteria are used to identify the award
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winner, who then becomes a role model for quality management. The underlying aim of the award model is to strive for excellence. Experts regard the award models as the most comprehensive quality framework that is applicable to all organizations (Garvin, 1991).

In health care, quality is traditionally defined and controlled by the professionals. Standards and best practices are transferred through education, training and peer review. About twenty years ago a change was introduced to that tradition. Donabedian (Donabedian, 1980) and Berwick (Berwick, Godfrey, & Roessner, 1991) started discussions about the effectiveness and efficiency of treatment, the improvement of health care and the identification of errors and process design. Donabedian introduced the terms technical and interpersonal quality for professionals, and made the distinction between structure, process and outcome for health care organizations. Driven by the challenge to demonstrate and guarantee the quality of health care, many national and international organizations have since proposed frameworks and initiated quality programmes. Many countries have passed quality laws that constitute a legal basis and give definitions for the responsibility for health care organizations. Expert groups from, for example, the Institute of Medicine (IOM) have reviewed and published on various quality issues in health care (Harris-Wehling, 1990), (Kohn, Corrigan, & Donaldson, 2001; Shaw, 2000). Other national institutes have developed certification and accreditation schemes for hospitals and health care services that in most cases were derived from the ISO norms, or from the American standards of the Joint Commission Accreditation of Health Care Organizations (Joint Commission International Accreditation, 2002).

Addiction treatment is generally regarded to be part of the health care system. However, due to historical developments as well as the difficulties in developing effective treatments and demonstrating the treatment results at the same time, the discussion about quality has only just started. International and national working groups have taken the first steps, but national differences of opinion make it difficult to reach a consensus. In the US, the accreditation scheme for behavioural health care, coming from the Joint Commission Accreditation of Health Care Organizations (1998), is being used for addiction treatment. In the Netherlands, a certification scheme for mental health and addiction treatment called the Harmonisation Model has been introduced recently (Stichting Harmonisatie Kwaliteitsbeoordeling in de Zorgsector, 2002). In Germany the funding organizations have started an elaborate quality assurance programme for addiction treatment. In addition to the national initiatives, several addiction services have adopted and adapted the EFQM or Baldrige awards schemes, and have already carried out quality improvement projects within their own services (Nabitz, Klazinga, & Walburg, 2000). It can be concluded that there is interest in quality within the field of addiction, but that there is also a lack of the basic conceptualisation of quality, where addiction
A quality framework

treatment programmes are concerned. We have found hardly any research or scientific publications regarding quality programmes. In order to improve this unfavourable situation, we have conducted a study to develop a specific quality framework for addiction treatment programmes, thereby putting the subject on the agenda and stimulating discussion.

Research question

In order to design an addiction treatment programme quality framework, we started with the basic elements that included the various demands from the different addiction treatment programme stakeholders. We assumed that the demands from the different parties would differ considerably with regard to their unique perspectives. Therefore the stakeholders or interest groups of the addiction treatment programmes had to be defined. The modern theories being applied in service organizations have already introduced the term stakeholder. The term stakeholder includes patients, their families, professionals, referring agencies, neighbourhoods, partners, management, funding organizations and political parties involved with addiction treatment programmes. In our approach we started with the demands of stakeholders in order to design an appropriate quality framework for addiction treatment programmes. We wanted to identify and specify the dimensions and sub-dimensions of a quality framework based on the demands of the stakeholders. Our research questions were as follows. (1) Based on the demands of the stakeholders, what is a comprehensive quality framework for an addiction treatment programme? (2) What are the stakeholders' priorities concerning the quality of addiction treatment? Finally, we wanted to compare and discuss our findings in the light of the popular quality certification schemes and award models.

Method

Reviewing literature regarding the concept development (Normand et al., 1998); (Cleary & Edgman Levitan, 1997; Sofaer et al., 2000), we found that Concept Mapping was the most promising method. Trochim (Trochim, 1989) had developed the method some years ago by combining brainstorming techniques with advanced statistical analysis in order to generate conceptual frameworks. Concept Mapping is used as an empirical, structured, stepwise approach towards clarifying ambiguous, multidimensional or controversial concepts, and has already been applied in the fields of health, social and management sciences (Cousins & MacDonald, 2003; Van der Wal, Casparie, & Lako, 1996; Wiener et al., 1994). It is an inductive method using ideas, suggestions and needs that are generated by a heterogeneous group of experts during a brainstorming session. By way of statistical analysis, a consensus is generated and a common framework is drawn up. In
short, Concept Mapping is an explorative consensus procedure supported by multivariate statistical techniques.

Focus
The Concept Mapping procedure starts by defining the focus. In the current study, we focused on the quality demands of the different stakeholders regarding addiction treatment programmes. Stakeholder representatives were invited to a brainstorming session and were asked the following question: In your opinion what are the quality demands of an addiction treatment programme? The brainstorming sessions focused on ideas, suggestions and demands concerning present and future addiction treatment. Because of the diversity of addiction treatment, we carried out four different brainstorming sessions so that we could generate as many unique ideas as possible in order to fully cover the conceptual domain.

Participants
According to the stakeholder theory (Kay, 1993), we used the distinction between customer, provider and public as it is used by Dutch health care organizations. Customers are patients or clients of treatment programmes who come for help and have expectations concerning service and treatment. The families, the patients' social networks and the referrers were also defined as customers. Providers are treatment programme staff members including nurses, social workers, psychiatrists, administrative staff and management. They have their own professional view with regard to quality criteria. The funding organizations, the regulatory bodies of the Ministry of Health and the local authorities, are representative of the general public or society, and are defined as the public.

Members of the three stakeholder groups were equally represented at the four brainstorming sessions. The ideal size for brainstorming groups is somewhere between 10 and 15 participants. We selected 12 participants for each brainstorming session: four customers, four providers and four stakeholders representing the public. This heterogeneity of the brainstorming group and the size (12 participants) was a good environment for generating ideas and for making suggestions and demands about the quality of the treatment programmes. We aimed to have 30 stakeholders for each of the three stakeholder groups rating the assignment, giving a total of 90 participants.

The participants in the study were recruited using the snowball procedure, and starting off with just three key individuals for each stakeholder group. We contacted 108 individuals of whom 98 (response rate 91%) were willing to participate and who would represent the stakeholders equally. Forty-eight individuals were selected at random and invited to the brainstorming session. Forty-five individuals (85%) actually participated in the sessions. All the 98 stakeholders selected were invited for the
sorting assignment. Ninety participants (92%) completed the sorting assignment, of whom 41 had also participated in the brainstorming session. The non-response analysis revealed that eight sets of data were lost because of a mailing problem, and not because of a systematic bias. Figure 1 shows the selection of the participants, the brainstorming and the stakeholder groups Customer (N = 27), Provider (N = 30) and Public (N = 33).

Table 1 shows that the characteristics of the 90 participants is divided into, the 41 individuals who contributed to the brainstorming session and the sorting, and the 49 individuals who were on standby to brainstorm, but carried out the sorting assignment. They were very well matched in terms of gender, age, employment-status and quality experience. Table 1 also shows that the three stakeholders (customers, providers and the public) are equally represented in the total group of 90 participants.
### Table 1: Characteristics of participants

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
<th>Brainstorming and sorting group N = 41</th>
<th>Sorting group N = 49</th>
<th>Total N = 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>male</td>
<td>61%</td>
<td>63%</td>
<td>62%</td>
</tr>
<tr>
<td>Age</td>
<td>mean (sd)</td>
<td>44 years (7.6)</td>
<td>42 years (8.2)</td>
<td>43 years (8.0)</td>
</tr>
<tr>
<td></td>
<td>min - max</td>
<td>25 - 55 years</td>
<td>25 - 61 years</td>
<td>25 - 61 years</td>
</tr>
<tr>
<td>Employment</td>
<td>yes</td>
<td>90%</td>
<td>85%</td>
<td>88%</td>
</tr>
<tr>
<td>Sector employed</td>
<td>health care</td>
<td>63%</td>
<td>61%</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>governmental</td>
<td>18%</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>business and education</td>
<td>13%</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>other</td>
<td>8%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Experienced with quality issues</td>
<td>much</td>
<td>28%</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>some</td>
<td>65%</td>
<td>69%</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>8%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td>Opinion of quality management</td>
<td>very good initiative</td>
<td>53%</td>
<td>40%</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>good initiative</td>
<td>48%</td>
<td>57%</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>not good</td>
<td>0%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Role of participant</td>
<td>customer</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>provider</td>
<td>34%</td>
<td>35%</td>
<td>34%</td>
</tr>
<tr>
<td></td>
<td>public</td>
<td>39%</td>
<td>39%</td>
<td>39%</td>
</tr>
</tbody>
</table>

1 Not statistically significant differences between the 'Brainstorming and sorting group', and the 'Sorting group' tested with t-test and chi-square test.

Overall type I error P < 0.05. Significant P values after Bonferroni correction: P < 0.007.

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**Brainstorming session and generation of statements**

The brainstorming sessions were conducted on the basis of a protocol. A short videotape of the Jellinek Centre addiction treatment programmes was shown. The video prepared the participants for the topic by stimulating them into formulating their opinions, ideas and demands. An experienced chairman led the brainstorming sessions, which were tape-recorded and transcribed.

The four brainstorming sessions generated 667 ideas and suggestions. Many ideas overlapped and did not align with the focus or were not unique. Two researchers, who were experienced in Concept Mapping, but who did not participate in the brainstorming session, carried out the selection and reformulation. Figure 2 shows the example of statement number eight being generated. Irrelevant ideas and suggestions were deleted and the overlapping demands were merged. A total of 258 sentences remained unique and relevant to the focus. Those sentences were used to
formulate the quality demand statements with an abstraction level that was neither too specific nor too general. This procedure resulted in 70 heterogeneous statements, which defined the conceptual domain of the quality of an addiction treatment programme. Figure 3 shows the stepwise reduction from 667 ideas to 70 statements.

**Sorting and statistical analysis**
The 70 statements were given unique numbers printed on cards and then were sent to the homes of the 98 participants, along with instructions for the sorting assignment. Two sorting assignments were given, namely: (a) grouping and (b) prioritising. The following instruction was given for grouping the statements: “Review all statements and then stack them in a way that makes sense to you. A maximum of twenty groups are allowed.” The participants were asked to execute the assignment under their own specific perspective as customer, provider or member of the public. After the grouping task, the participants were then asked to assign a priority to each
Figure 3: From 667 ideas to 70 statements

Brainstorm 1
11 participants
45 minute transcription

Brainstorm 2
12 participants
45 minute transcription

Brainstorm 3
11 participants
45 minute transcription

Brainstorm 4
11 participants
45 minute transcription

192 ideas

86 ideas

155 ideas

Ideas

Selection according to focus and uniqueness

Sentences

Selection according to abstraction level

Statements

Grouping and prioritising of the statements

of the 70 statements. The instructions were to: “Review all statements and assign one of the following priority levels to each item: 1 = least important, 2 = little importance, 3 = important, 4 = very important, 5 = most important. Distribute the statements equally across the five categories”.

The statistical analysis was done in three steps. Statistical literature was provided, but statistical indicators for the whole algorithm are not yet developed. Firstly, the grouping assignment data were used to carry out a multidimensional scaling analysis (MDS) in order to locate each statement as a separate point on the map called the point map (Kruskal, & Wish, 1978). The analysis showed the typical circular distribution of the statements on the two-dimensional point map. Statements that were
closer together on this map are likely to have been sorted more frequently in the grouping assignment. Only a few participants put statements that were far apart on the map in the same stack.

Secondly, the thus positioned statements on the point map were partitioned into clusters: the cluster map. The coordinate values of each point were used as plotted on the point map as input for a hierarchical cluster analysis (Everitt, 1980). The hierarchical cluster analysis produced as many clusters as there were statements. In the practice of Concept Mapping one starts with a 20-cluster solution and combines clusters until the grouping of the statement no longer makes sense. We chose the nine-cluster representation, which proved to be a meaningful conceptual representation. The first two steps of statistical analyses resulted in a quality framework and is described in detail by Trochim (Trochim, 1989). The analysis is carried out by the computer program ARIADNE (Severens, 1995).

The third step of the statistical analysis was based on the priority data and identified the differences between the three stakeholder groups (customers, providers and the public). Univariate analysis of variance (ANOVA) and multiple-comparison tests of the mean priority of the clusters and statements were carried out. The mean cluster score was defined as the sum of all statements of the cluster. The overall type I error was set at 5%. The Bonferroni rule was used to correct for multiple-testing, P < 0.006 for the nine clusters and P < 0.001 for the 70 statements (Stevens, 2002). We identified three clusters and one statement with statistically significant differences between customers, providers and the public. For further analyses we used chi-square tests for non-continuous variables and t-tests for continuous variables. The statistical calculations were conducted using SPSS 10.1 (SPSS Inc., Chicago, USA).

Results
The data analyses delivered several representations and statistics for the conceptual framework. The two-dimensional cluster map, the table with the cluster specifications and the comparison of the priorities of customers, providers and the public are selected for the result section.

Cluster map
The results of the Concept Mapping procedure based on the grouping data are presented in the cluster map (Figure 4), and the cluster list (Table 2a and 2b). The cluster map is a visual representation of the 70 statements on the point map, the nine clusters and the two dimensions named Best practice (horizontal-axis) and Performance (vertical-axis). The cluster list in Table 2 gives the details of each cluster, with the first three statements and the mean priority rating of the clusters, and the mean
Figure 4: Cluster Map of the quality framework of an addiction treatment programme

priority rating for the three statements. The circular positioning of the clusters invites us to take a round trip over the map.

Starting on the left-hand side of the figure, or in the west of the map, we have the first cluster Client orientation. The statements constituting this cluster imply that clients are approached with respect, that there is a case manager, and that the treatment empowers the client. The cluster Client orientation has an average priority rating of 3.26, which is the second highest priority rating of the nine clusters.

Moving clockwise, the next cluster in the northwest quadrant of the concept map is Treatment practice. The three top statements are: The staff have time and respect for the client; Together the staff and the client monitor the progress of the treatment
Table 2a: The clusters with the top three statements and statistics

<table>
<thead>
<tr>
<th>Clusters and top 3 statements</th>
<th>Stat.</th>
<th>All respond.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nr.</td>
<td>N = 90</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>St.dev.</td>
</tr>
</tbody>
</table>

1. **Cluster: Client orientation** (Ariadne cluster number = 9; Cluster priority = 2; Number of statements in the cluster = 3; Differences between stakeholders: $F(87,2) = 7.42; P = 0.001$)
   1. The programme is client friendly and the staff approach clients with respect.
   2. Clients have a fixed case manager who supports the transfer from treatment to home.
   3. The treatment has a clear target, to make clients stronger and teach them to say "no".

2. **Cluster: Treatment practice** (Ariadne cluster number = 2; Cluster priority = 3; Number of statements in the cluster = 7; Differences between stakeholders: $F(87,2) = 0.56; P = 0.576$)
   1. The staff has time and respect for the clients.
   2. The staff and the client monitor the progress of the treatment plan.
   3. The staff has empathy with the client and approaches the client positively.

3. **Cluster: Attitude of staff** (Ariadne cluster number = 3; Cluster priority = 1; Number of statements in the cluster = 7; Differences between stakeholders: $F(87,2) = 2.45, P = 0.092$)
   1. The staff keep strictly to the appointments.
   2. Problems are quickly signalled by the staff when they take preventative measures.
   3. The staff have a professional attitude, are engaged and keep a professional distance from the client.

4. **Cluster: Task coordination** (Ariadne cluster number = 1; Cluster priority = 5; Number of statements in the cluster = 7; Differences between stakeholders: $F(87,2) = 5.01; P = 0.009$)
   1. The staff and management listen to, and respect each other.
   2. The staff members align their tasks regularly and take into consideration the main objective of the programme.
   3. Relevant working information, such as reports, files, registrations and figures, are made available to the staff.

5. **Cluster: Result orientation** (Ariadne cluster number = 8; Cluster priority = 9; Number of statements in the cluster = 7; Differences between stakeholders: $F(87,2) = 1.58; P = 0.211$)
   1. The results of the programme are regularly fed back to all staff members in order to improve the treatment continuity.
   2. The results of policy decisions are regularly evaluated.
   3. Senior staff take the initiatives and have the responsibility for quality policy.
Table 2b: The clusters with the top three statements and statistics

<table>
<thead>
<tr>
<th>Clusters and top 3 statements</th>
<th>Stat. No.</th>
<th>Mean</th>
<th>St.dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Cluster: Measurement system (Ariadne cluster number = 5; Cluster priority = 8; Number of statements in the cluster = 11; Differences between stakeholders: (F(87,2) = 5.72; P = 0.005))</td>
<td>2.79</td>
<td>0.68</td>
<td></td>
</tr>
<tr>
<td>1. The effects of the programme are regularly evaluated.</td>
<td>12</td>
<td>3.88</td>
<td>1.22</td>
</tr>
<tr>
<td>2. The programme has a quality system and evaluation of instruments.</td>
<td>27</td>
<td>3.58</td>
<td>1.73</td>
</tr>
<tr>
<td>3. The programme carries out annual planning and manages by objective.</td>
<td>64</td>
<td>3.46</td>
<td>1.69</td>
</tr>
<tr>
<td>7. Cluster: Effective treatment network (Ariadne cluster number = 7; Cluster priority = 4; Number of statements in the cluster = 9; Differences between stakeholders: (F(87,2) = 2.48; P = 0.090))</td>
<td>3.11</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td>1. The programme is effective, has a low dropout rate and a positive long-term effect.</td>
<td>68</td>
<td>4.50</td>
<td>0.87</td>
</tr>
<tr>
<td>2. The programme is part of a treatment chain of programmes that work closely together, forming a network.</td>
<td>11</td>
<td>3.49</td>
<td>1.78</td>
</tr>
<tr>
<td>3. The programme has a good information system. The client data is collected and thereafter is used by various staff members.</td>
<td>34</td>
<td>3.37</td>
<td>1.83</td>
</tr>
<tr>
<td>8. Cluster: Accessibility and aftercare (Ariadne cluster number = 6; Cluster priority = 6; Number of statements in the cluster = 14; Differences between stakeholders: (F(87,2) = 6.60; P = 0.002))</td>
<td>3.00</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>1. The programme is easy to access, does not have long waiting lists, and has a low threshold.</td>
<td>8</td>
<td>3.93</td>
<td>1.11</td>
</tr>
<tr>
<td>2. An important part of aftercare focuses on integration and work experience.</td>
<td>9</td>
<td>3.87</td>
<td>1.76</td>
</tr>
<tr>
<td>3. The programme engages the social network, such as partner, family and friends, and offers meetings in order to give advice.</td>
<td>44</td>
<td>3.77</td>
<td>1.73</td>
</tr>
<tr>
<td>9. Cluster: Evidence based treatment (Ariadne cluster number = 4; Cluster priority = 7; Number of statements in the cluster = 5; Differences between stakeholders: (F(87,2) = 3.65; P = 0.030))</td>
<td>2.88</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>1. Client satisfaction surveys are regularly conducted.</td>
<td>57</td>
<td>3.62</td>
<td>1.59</td>
</tr>
<tr>
<td>2. The treatment is based on scientific evidence and professional knowledge.</td>
<td>43</td>
<td>3.50</td>
<td>2.29</td>
</tr>
<tr>
<td>3. It is clear who takes responsibility in the treatment programmes.</td>
<td>38</td>
<td>3.36</td>
<td>1.50</td>
</tr>
</tbody>
</table>

plan; and The staff have empathy with the client and approach the client positively. This cluster contains seven statements and comes third in the priority ranking.

The next cluster is Staff attitude and it groups statements such as: The staff strictly follow appointments; The staff signal and deal with problems in the programme; and The staff are engaged, but also keep a professional distance from the client. This cluster is the most important in terms of priority (mean priority = 3.38; \(sd = 0.51\) on a 1-5 scale). The next clusters clockwise have lower priorities and are named, Task coordination and Result orientation.

The cluster in the southeast of the map is, Measurement system and contains 11
A quality framework

Statements. This cluster has a low priority ranking. The next cluster clockwise, Effective treatment network, is ranked fourth, and contains the most important of all the 70 statements. The programme is effective, has a low dropout rate and has a positive long-term effect (mean priority = 4.50, sd = 0.87 on a 1 to 5 scale). Sixty-five participants (72%) rated this statement as very important. The last cluster in the circle is, Accessibility and aftercare. This cluster groups 15 statements that have diversity of meaning. The ninth cluster Evidence based treatment has five statements, low priority and a central position on the concept map. The central position of this cluster indicates that the statements relate to all other clusters.

The concept map is thus characterised by nine clusters and the two dimensions, Best Practice, and Performance, with the poles; Client (cluster 1,2), Professional (cluster 3,4), Management (cluster 5,6) and Performance (7,8). The cluster, Evidence-based treatment is situated in the centre of the circle. The northern part of the map represents the interaction between the client and professional, whereas the southern part covers most of the organizational and managerial aspects. This cluster map constitutes the conceptual framework for quality of addiction treatment programmes based on the 70 statements as seen by 90 participants.

Stakeholder priorities

The first research question was used to clarify the conceptual framework for addiction treatment programmes. The second question was formulated to explore the differences between the stakeholders. When we compared the clusters using the priority data, we found significant differences between the customers, providers and the public at clusters 1,6 and 8 (P < 0.006 after Bonferroni correction), as shown in Table 2.

Cluster 1, Client orientation was more highly prioritised by the customers (mean = 3.65; sd = 0.92), than by the providers (mean = 2.77; sd = 0.95). Also cluster eight, Accessibility and aftercare, was rated higher by the customers (mean = 3.18; sd = 0.48) than by the providers (mean = 2.75; sd = 0.45). The stakeholder group, the public, took an intermediate position that was not statistically significantly different from the others. This suggests that clients want to be approached in a friendly, respectful manner and to be supported by their own case manager. This is what they see as the important aspects of quality.

A different result was found concerning cluster 6, Measurement system, which was given a lower priority by the customers (mean = 2.45; sd = 0.63), but a higher one by the providers (mean = 3.02; sd = 0.59). Cluster 4, Task coordination, showed both a lower customer (mean = 2.94; sd = 0.57), and public preference (mean = 2.88; sd = 0.66), but a higher provider preference (mean = 3.34; sd = 0.62), although the probability level (p = 0.009) was slightly above the defined level (p = 0.006). That suggested that providers placed more emphasis on regular planning, evaluation pro-
CHAPTER I

cedures and good task alignment. For them those aspects of the quality framework were more important than for the customers or the public.

The analysis of the differences between the three stakeholders and concerning the separate 70 statements, showed that only statement 35, Clients have a fixed case manager who supports the transfer from treatment to home, was prioritised significantly higher by the patients, (customer: mean = 3.59; sd = 1.53; provider: mean = 2.27; sd = 1.48; public: mean = 3.48; sd = 1.58; F (87,2) = 7.36, P = 0.001). The statements concerning self-help (46), a holistic treatment approach (48), and accessibility of treatment (14), were all given a higher priority by the customers, although not yet statistically significant. Personnel satisfaction (40) and programme evaluation (12) were rated more highly by the providers, but were also not yet statistically significant. In general the comparisons showed that patients put more emphasis on statements in the quality framework that reflected their interests, whereas the pro-

Table 3: Top 10 statements and priorities of the three stakeholder groups

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<tr>
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</thead>
<tbody>
<tr>
<td>The program is effective, has a low dropout rate and a positive long-term effect (CL7).</td>
<td>68</td>
<td>F(87,2)=0.51 P = 0.601</td>
<td>4.52 0.94 4.37 1.13 4.61 0.75 4.50 0.87</td>
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<tr>
<td>The staff have time and respect for the clients (CL2).</td>
<td>2</td>
<td>F(87,2)=1.53 P = 0.220</td>
<td>4.22 1.19 3.77 1.10 4.15 0.94 4.04 1.15</td>
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<tr>
<td>The programme is easy to access, does not have long waiting lists, and has a low threshold (CL 8).</td>
<td>8</td>
<td>F(87,2)=1.55 P = 0.219</td>
<td>4.00 1.18 3.67 1.09 4.12 0.89 3.93 1.11</td>
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<tr>
<td>The effects of the programme are evaluated regularly (CL 6).</td>
<td>12</td>
<td>F(87,2)=6.03 P = 0.004</td>
<td>3.30 1.20 4.20 .92 4.06 1.03 3.88 1.22</td>
<td></td>
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</tr>
<tr>
<td>The aftercare focuses on integration, and work experience plays an important part (CL 8).</td>
<td>9</td>
<td>F(87,2)=2.93 P = 0.059</td>
<td>3.43 1.14 3.50 1.46 3.82 1.29 3.87 1.76</td>
<td></td>
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<tr>
<td>The programme is client friendly and the staff approach clients with respect (CL1).</td>
<td>29</td>
<td>F(87,2)=1.39 P = 0.255</td>
<td>3.85 1.17 3.57 1.36 4.09 1.21 3.84 1.55</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The programme engages the social network such as partner, family and friends &amp; offers to meet and to give advice (CL8).</td>
<td>44</td>
<td>F(87,2)=0.69 P = 0.502</td>
<td>3.89 1.48 3.53 1.43 3.88 1.08 3.77 1.73</td>
<td></td>
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</tr>
<tr>
<td>The staff keep strictly to the appointments (CL3).</td>
<td>3</td>
<td>F(87,2)=2.60 P = 0.080</td>
<td>3.96 0.94 3.37 1.22 3.94 1.22 3.76 1.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems are quickly signalled by the staff, when they take preventative measures (CL3).</td>
<td>65</td>
<td>F(87,2)=2.67 P = 0.075</td>
<td>4.11 0.97 3.37 1.38 3.70 1.24 3.71 1.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The treatment offer is clear and well structured (CL6).</td>
<td>21</td>
<td>F(87,2)=0.72 P = 0.489</td>
<td>3.59 0.93 3.57 1.07 3.85 1.06 3.68 1.04</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ANOVA between customer, providers and public. Overall type I error P < 0.05. Significant P values after Bonferroni correction: P < 0.001.
professionals also emphasised their own specific interests. The public took an intermediate position.

Analysing the top ten statements, we see that all stakeholders ranked statement 68, the programme is effective, has a low dropout rate and a positive long-term effect, first and gave it a very high priority (mean priority = 4.50; sd = 0.87). As shown in Table 3, there was no statement among the top ten on which the customers, providers and the public were statistically significantly different from one another.

**Discussion**

Concept Mapping strategy was applied in order to generate a quality framework for an addiction treatment programme. During the four brainstorming sessions the stakeholders of the addiction treatment programmes generated 667 ideas about quality issues. The ideas were reformulated into 70 heterogeneous statements. The statements were sorted and rated by the 90 individuals representing the stakeholders. Through multi-variate statistical analysis, the 70 statements were grouped into nine clusters and placed on a two-dimensional map. The two dimensions being, Best Practice and Performance. The three most important clusters, Attitude of the staff, Client orientation and Treatment practice, reflected the essence of the primary process of a treatment programme. The less important clusters were related to organizational aspects such as, Effective treatment network, Task coordination, Accessibility and aftercare, Evidence-based treatment, Measurement system, and Result orientation. The framework comprehensively covered all the quality aspects of a treatment programme.

Customers, providers and the public represented the addiction treatment programme stakeholder groups. The three groups had different perspectives on the quality of treatment as expressed in the priorities, which they gave to the clusters of the quality framework. Customers saw Client orientation and Accessibility and aftercare as very important, whereas providers saw Measuring system and Coordination of tasks as very important. The public took an in-between position. The differences reflected the interests of the stakeholders, which were also supported by the priorities concerning the separate statements. Clients wished for case management and treatment that is accessible, comprehensive and supportive. The client’s priorities should be used as guidance for creating the addiction treatment quality policy. However, that policy has to be balanced with the priorities of the professionals, who selected work satisfaction and treatment effects feedback. In our view the two positions can be aligned and do not have to be conflicting. This opinion is supported by the fact that all the stakeholders agreed that the most important quality aspects for the addiction treatment programmes are effectiveness, low dropout rates, and a positive long-term effect as formulated in statement 68. The broad consensus regarding
the top ten statements creates a stable basis allowing bridges to be built across the differences between the stakeholder groups.

In Table 4 the results of the current study are compared with the certification schemes and award models, which are already applied in the Netherlands and elsewhere. Initially, we compared the currently observed framework for the Dutch certification scheme for mental health and addiction treatment services (HKZ Scheme). The HKZ scheme is ISO compatible and is developed by the Dutch Certification Institute. In other countries the American Accreditation Scheme for Behavioural Care Services of the Joint Commission (JCAHO) is used, which is shown in the third column in Table 4. Several addiction services also apply the Baldrige or EFQM award model, which is represented in the last two columns. The first nine rows show the clusters that correspond to the clusters on the concept map, followed by seven rows that are not represented in the concept map, but represent clusters from the other schemes or models. In the last rows of the table, some background characteristics of the schemes and models are shown. This table is a first attempt to align and to compare different frameworks. It gives an overview and is of mainly heuristic value. The frameworks have different goals and historical backgrounds and are based on different design methods, so that it is difficult to make comparisons with them, but the intention of the overview is to stimulate discussion and to initiate further research about the quality framework for addiction treatment programmes.

There are many similarities between the quality framework for addiction treatment in the current study, and that of the Dutch ISO certification system (HKZ scheme). In our view, six of the nine clusters can be aligned to the Dutch ISO certification scheme. However the framework of our study emphasizes result orientation and the treatment network, whereas the HKZ system has additional categories concerning the organizational support processes. The Joint Commission (JCAHO) accreditation system also has a broader range of organizational functions and seems to take a middle position lying between the Dutch certification scheme and the award models. The award models have a much stronger emphasis on performance and results, which are not so clearly represented in our study. Furthermore there are the organizational criteria such as leadership, policy, strategy, partners and resources that are not reflected in the framework. The overlap of the award schemes with the findings of the current study can be seen in the five clusters of the Baldrige, and the four clusters of the EFQM award.

In short, we conclude that the empirical quality framework for addiction programmes developed in this current study corresponds in several aspects with the certification and accreditation schemes. The cluster, Result orientation of the concept map is missing in the certification schemes, but it is well represented in the award models. In addition to performance and results criteria, the award models put more
<table>
<thead>
<tr>
<th>Cluster row 1</th>
<th>Current study</th>
<th>HKZ scheme</th>
<th>JCAHO scheme</th>
<th>Baldridge Award</th>
<th>EFQM Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster row 2</td>
<td>Client orientation (1)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Focus on Patients, other Customers and Markets (3)</td>
</tr>
<tr>
<td>Cluster row 3</td>
<td>Treatment practice (2)</td>
<td>Practice (2)</td>
<td>Care</td>
<td>Management of Human Resources</td>
<td>-</td>
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<tr>
<td>Cluster row 4</td>
<td>Attitude of staff (3)</td>
<td>Personnel (5)</td>
<td>Continuum of Care</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cluster row 5</td>
<td>Task coordination (4)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cluster row 6</td>
<td>Result orientation (5)</td>
<td>Accessibility and aftercare (6)</td>
<td>Intake and aftercare (18.3)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cluster row 7</td>
<td>Measurement system (7)</td>
<td>Documentation (9)</td>
<td>Management of Information</td>
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<td>-</td>
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<tr>
<td>Cluster row 8</td>
<td>Effective treatment network (8)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Cluster row 9</td>
<td>Evidence-based treatment (9)</td>
<td>Research and development (6)</td>
<td>Improving Organization Performance</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Cluster row 10</td>
<td>-</td>
<td>Policy and organization (4)</td>
<td>-</td>
<td>-</td>
<td>Strategic Planning (2)</td>
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<tr>
<td>Cluster row 11</td>
<td>-</td>
<td>Infrastructure and material (7)</td>
<td>Management of the Care Environment</td>
<td>-</td>
<td>Partnership and Resources (4)</td>
</tr>
<tr>
<td>Cluster row 12</td>
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<td>External services (8)</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Cluster row 13</td>
<td>-</td>
<td>-</td>
<td>Education</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Cluster row 14</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>People Results (7)</td>
<td></td>
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<tr>
<td>Cluster row 15</td>
<td>-</td>
<td>-</td>
<td>Rights, responsibilities and ethics</td>
<td>-</td>
<td>Society Results (8)</td>
</tr>
<tr>
<td>Cluster row 16</td>
<td>-</td>
<td>-</td>
<td>Leadership</td>
<td>Leadership (1)</td>
<td>Leadership (1)</td>
</tr>
</tbody>
</table>

### Goal
- Clarify the concept quality
- Certify treatment services
- Identify Award Winner and Drive Excellence
- Reviewing procedure of overseers
- Steering group reviews model

### Design method
- Concept Mapping
- Experts translating ISO norms
- Expert task force adapts standards
- Any organization

### Focus
- Mental Health Services
- Health Care Sector Organizations

### Items
- 70 statements
- 90 groups of norms
- 663 standards
- 18 items
- 93 questions
- 32 sub criteria
- 190 areas to address

### Clusters
- 9 clusters
- 9 categories
- 11 criteria
- 7 categories
- 9 criteria
emphasis on the managerial aspects of an organization, such as leadership and policy, which are missing from the quality framework of the current study.

Finally, some methodological considerations had to be taken into account. In order to specify the quality aspects of addiction treatment we used Concept Mapping, which is a new method for generating conceptual frameworks to clarify complex concepts. We used the method very strictly and followed the instructions and the methodological recommendations of Trochim and Severens. Their stepwise approach and fixed statistical procedures support the production of a high internal validity of methodology. Therefore we are inclined to say that the internal validity is high but studies to support this opinion are still missing. The external validity of Concept Mapping is much more difficult to estimate. The maps have face validity but replication studies in different settings are required. The practicality of the method is very attractive and may invite researchers to carry out studies concerning the methodological aspects of Concept Mapping.

The goal of our study was to clarify the dimensions and criteria for addiction treatment based on the demands of the various stakeholders. We generated a framework, which now can be used to discuss and improve the certification and award models whenever they are applied by addiction treatment services. Moreover the findings can be used by treatment services for practical purposes such as:
• To develop evaluation instruments for each cluster using the statements
• To assess the quality of each cluster and to initiate improvement projects
• To reduce the differences between stakeholders and put customers' demands first
• To develop a quality policy aligned to the dimensions and the clusters

For the last twenty years the issue of quality has emerged in health care and has become a prominent topic. In addiction treatment the topic has a short history. In order to support sound discussion concerning quality and to further stimulate research, clarification of the concept is necessary. By using Concept Mapping we generated an empirical quality framework for addiction treatment programmes. This framework is a step towards an empirical approach, and is an invitation to conduct more studies in order to increase the knowledge and expertise about the quality of addiction treatment.

Acknowledgements

This study was carried out as part of the Stimuleringsfonds Gezondheidszorg Onderzoek (SGO) of the Amsterdam Institute for Addiction Research (AIAR). We wish to thank Yolanda Nijssen of the Academic Medical Centre of the University of Amsterdam, Saskia Schipper (AIAR) and Pieter Stegeman for their support. We are grateful to all individuals who participated in the Concept Mapping sessions and carried out sorting assignments.
A quality framework

Reference list


