Exploring day-to-day quality improvement in somatic long-term care in the Netherlands: A mixed method multiple case study

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Abstract

Background: The implicit assumption in quality improvement (QI) is that a good structured and organisation-wide approach leads to better work processes. Improving work processes will lead to improved outcomes. But is this assumption valid, particularly in the somatic long-term care to the elderly? The aim of the study is to explore how QI initiated by feedback on client-related outcomes works in daily practice and to look for the most successful structure, process, and outcome factors in realising QI.

Methods: This study used a mixed methods approach. It is based on 434 facilities of long-term care to the elderly of whom three outcomes were known in 2007, 2009, and 2011. We used quantitative methods to determine best and worst practices with regard to client-related outcomes and qualitative methods to identify crucial structure, process, and outcome factors in a selected sample of long-term care facilities that were reported by stakeholders to be of importance in realising QI.

Results: Culture and leadership were the most important factors that differed between best and worst practices. We learn from best practices that QI was organised close to the client and that professionals used outcome elements to improve, in the contact with the clients.

Conclusions: To improve the QI activities in somatic long-term care to the elderly, culture and leadership of facilities are essential factors. This study emphasised the importance of analysing client-related outcomes, to give insight into the mechanism of QI in the somatic long-term care to the elderly in order to be more successful in QI.

Keywords: Culture, Leadership, Long-term care, Management, Performance measures, Quality, Quality improvement

Background

The assumption in quality improvement (QI) is that a good structured and organisation-wide approach leads to better work processes. Improving the work processes will lead to better outcomes. Since 2007, long-term care facilities for the elderly in the Netherlands base their QI activities on client-related outcomes as measured by the Consumer Quality (CQ)-index, CQ-index for long-term care (Box 1). From previous research, we know that only the availability of outcomes is no guarantee for QI. Long-term care facilities for the elderly perform many different QI activities based on outcomes to improve the quality of care processes. Examples are making health plans for clients, training, developing guidelines, and reorganising cleaning activities. However, for many QI activities, no direct or even an inverse relation could be shown with client-related outcomes. Apparently, we
need to know more about the mechanism behind QI in long-term care to the elderly in order to know how to be more successful in QI.

Box 1: Scales of the CQ-index: description and number of items of the scales

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Brief description</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care plan and evaluation</td>
<td>Presence of a care plan and the evaluation with the client of this plan</td>
<td>1</td>
</tr>
<tr>
<td>Shared decision making</td>
<td>Making decisions in consultation with the clients/reps</td>
<td>4</td>
</tr>
<tr>
<td>Attitude</td>
<td>Attitude of the care givers</td>
<td>4</td>
</tr>
<tr>
<td>Information</td>
<td>Information given by the organisation</td>
<td>5</td>
</tr>
<tr>
<td>Body care</td>
<td>Care for the body of the client given by care givers</td>
<td>3</td>
</tr>
<tr>
<td>Meals</td>
<td>Taste of the meals prepared and served by the organisation</td>
<td>1</td>
</tr>
<tr>
<td>Competency and safety</td>
<td>Competence of the care givers and the safety of the care they give</td>
<td>6</td>
</tr>
<tr>
<td>Comfort</td>
<td>Cleaning of the client’s home</td>
<td>1</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>Atmosphere of the organisation</td>
<td>4</td>
</tr>
<tr>
<td>Housing and privacy</td>
<td>Enough living space and respect for privacy</td>
<td>5</td>
</tr>
<tr>
<td>Activities</td>
<td>Possibilities for daytime activities</td>
<td>5</td>
</tr>
<tr>
<td>Autonomy</td>
<td>Determining the daily schedule by the client</td>
<td>4</td>
</tr>
<tr>
<td>Mental well-being</td>
<td>Experience of mental support</td>
<td>5</td>
</tr>
<tr>
<td>Safety living environment</td>
<td>Safety of the client’s environment</td>
<td>1</td>
</tr>
<tr>
<td>Availability of personnel</td>
<td>Presence and availability of workers in the organisation</td>
<td>4</td>
</tr>
</tbody>
</table>

Previous research has shown that QI is associated with different factors. There are barriers for QI, such as lack of knowledge, increased paperwork, high costs, and limited time.\(^8,9\) There are also facilitators such as the corporate structure.\(^10\) The presence of a corporate quality system and shared values on quality could be relevant.\(^11\) Leadership has been mentioned as a facilitator in QI\(^12-14\) even as focussing on patient-centredness.\(^12,15-21\) Another study showed that the involvement of healthcare workers in QI activities was positively correlated with better outcomes.\(^22\) Further, the culture of a facility, defined as shared beliefs, norms, and behaviour, has been associated with QI.\(^15-20,23\) Overseeing these results, the way that management translates QI activities to the professionals and how professionals actually improve the daily processes could even be more associated with better outcomes than the QI activities themselves. Therefore, the aim of this paper is to explore how QI on client-related outcomes works in daily practice and to look for the most successful structure, process, and outcome factors in realising QI. To identify these factors, we study best and worst practices in QI in the somatic long-term care facilities.

Methods and analyses

Identifying best and worst practices on client-related outcomes

The CQ-index for long-term care – through which client-related outcomes are measured – is mandatory for all long-term care facilities in the Netherlands. These data need to be collected every 2 years for three types of long-term care organisations: somatic care, psycho-geriatric care, and home care. The data are case mix adjusted for gender, age, education, and health status. In order to select best and worst practices, we focussed on client-related outcomes of 434 facilities that provide somatic long-term care to the elderly. We chose this population for two reasons. Firstly, in these somatic care settings, clients answer the CQ-index questions themselves during an interview. This is in contrast to psycho-geriatric care settings where client outcomes are collected using proxy-respondents. Secondly, in somatic long-term care, we found that overall quality improved between 2007 and 2009; no such effect was found in psycho-geriatric care.\(^24\) We retrieved client-related outcomes from the public national database in which aggregated client-related outcomes are presented for long-term care facilities. This public database provides client-related outcomes from 2007 and onwards. We selected long-term care facilities that provided client-related outcomes in 2007, 2009, and 2011.

Analysing the inter-organisational contrast in client-related outcomes as a measure for QI, we
used purposive sampling by maximising the difference in outcomes. To determine the best and worst practices, we firstly calculated for each facility and specific client-related outcome the improvement that was made from 2007 to 2009 as well as from 2009 to 2011. Secondly, in order to arrange the facilities in best, intermediate and worst practices we calculated for each outcome percentile groups, analogue to the method used in the national benchmark for long-term care in the Netherlands.

Percentile group 1 consisted of 43 facilities with the lowest improvement on the client-related outcomes, and percentile group 10 showed the highest improvement on these outcomes (also 43 facilities). The other facilities (n = 348) formed the intermediate groups (percentile groups 2–9). Improvements are easier to realise when the baseline score of outcomes is lower. In order to take account of the baseline score in 2007, we, thirdly, calculated percentile groups based on the baseline score on each outcome and calculated the mean for each facility over all scores of the percentile groups. We randomly chose two facilities from the highest and lowest group as best practices and worst practices and asked them to participate in this study. When they refused, we asked the next facility in the group until we had two participants from each group. In total, seven facilities refused to participate, due to the investment of time.

**Case study and interviews**

We collected documents of the four selected facilities and studied them thoroughly. Next, we performed semi-structured in-depth interviews with professionals, middle management, members of the board, quality managers, facility managers, cooks, and clients. In total, 24 face-to-face interviews were held and three interviews were done by telephone. The interviews were balanced between best and worst practices as shown in Table 1.

The goal of the interviews was to get a comprehensive picture of how the facility worked on QI in the period 2007–2011. Topics discussed in the interviews were based on a topic list made from an analysis of documents, websites, and other information of the facilities. The topic list was based on the model of Donabedian (structure, process, and outcome) and factors mentioned in literature to be crucial for QI. In order to test the completeness of the topics, we discussed them with 13 experts with more than 10 years of experience with QI and organisational development in long-term care to the elderly. They all mentioned culture and leadership as important for QI. We added these as specific structure elements to the list. The following three topics were detailed in nine elements, and these became the frame of the topic list used during the interviews:

**Topic 1: Structure, with six elements: region, type of care, capacity, corporate structure, culture, and leadership;**

**Topic 2: Process, with two elements: QI activities and the process to QI;**

**Topic 3: Outcome, with one element: the use of outcome elements in the process to QI.**

We did not predefine the topics and elements exactly, but asked open questions in order to explore whether and how these topics and elements contributed to QI.

At the end of the interview, a summary of the interview was given and a member check was asked. After each interview, two researchers (S.W. and a research assistant) discussed the level of saturation on the topics and elements. All interviews were recorded and transcribed. Key points extracted from the text were marked with codes covering the nine elements, using Atlas.ti, version 4.2. Two researchers (S.W. and a research assistant) coded the transcripts independently. When coded differently, the differences were discussed until agreement was reached. We made summaries for each facility covering the nine elements. This summary of the interviews was sent to the participants for authorisation. Finally, these summaries were scored by two authors (S.W. and T.K.) independently whether the element was

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Best practice</th>
<th>Best practice</th>
<th>Worst practice</th>
<th>Worst practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewees</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Care givers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Middle management</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Member of the board</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Quality manager</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Facility manager/cook</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Client council</td>
<td>–</td>
<td>2</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
present in the QI policy and practice of the facility or not. The scores were discussed until agreement was reached. In the results, we present our findings and illustrate the findings with quotes, selected by S.W.

**Results**

In Table 2, we present the basic characteristics of the 434 long-term care facilities from which we selected the best and worst practices. The majority were homes for the elderly. Almost a third of the facilities were located in the western part of the Netherlands. Half of the facilities had more than 100 residents and a third of the facilities were part of a larger corporate structure consisting of 11-20 facilities.

In Table 3, we present the percentile scores for all facilities based on the client-related outcomes, ranging from 179 till 320. The selected facilities were both nursing homes and homes for the elderly and located in the eastern, southern, and western part of the Netherlands. In Table 4, we present the similarities and differences between the selected best practices and worst practices on the structure, process, and outcome topics to QI.

### Capacity and corporate structure

Best practices and worst practices both indicated that QI would be an easier task in facilities with a small capacity. QI is easier to reach, for the overview, engagement of professionals to their job, a more personal approach, and the easier way to supervise professionals. One team leader in a best practice described the capacity issue as follows: ‘In a facility with a large number of clients (>100), professionals can hide themselves and take no responsibility’.

At the same time, both best and worst practices mentioned that a facility with a corporate structure size that is too small is not viable. Being part of a corporate structure is necessary, ‘together we are strong’, commented a facility manager in a best practice. In a corporate structure, knowledge and policy on quality, finance, and HRM could be shared. In the best practice as well as the worst practice, a quality system and quality managers were present, and quality was explicitly an item of the agenda of the board.

### Region

Boards of best and worst practices felt the external pressure, e.g. demands of health insurers and supervision by the Healthcare Inspectorate with regard to QI. The client-related outcomes could be helpful to monitor over years. The Healthcare Inspectorate contributed to QI by selecting topics for supervision such as hygiene. By visiting facilities, planned and unexpectedly, for inspection on this topic, they rightly placed the emphasis on necessarily improvements. One team leader of a worst practice spoke about the visits as a burden: ‘QI is sometimes very ad hoc … when the Healthcare Inspectorate was not visiting us, this was not a priority’. The health insurers contributed to QI by stimulating QI activities on low outcomes. A manager of a best practice said: ‘The health insurers have consultation with the client board about the quality of care … and we have to demonstrate a plan for improvement’. The worst practices judged their competitive position in the region

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>Counted percentile score between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst practices in QI (percentile 1)</td>
<td>43</td>
<td>179 and 218</td>
</tr>
<tr>
<td>Middle category in QI (percentile 2–9)</td>
<td>348</td>
<td>218 and 285</td>
</tr>
<tr>
<td>Best practices in QI (percentile 10)</td>
<td>43</td>
<td>285 and 320</td>
</tr>
</tbody>
</table>

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worse than best practices. One team leader of the worst practice spoke as follows: ‘We have missed some opportunities by the lack of competence… and our environment developed more than we do in restoring, computerization, and administration’. If you have to find a place for your father, then it is a very easy choice.’

**Type of care**

Although this study focuses on somatic care, most interviewees have experience in different types of care (somatic and psycho-geriatric care). We asked whether type of care is a characteristic to take into account for QI and how this characteristic influenced QI. The interviewees were unanimous that the type of care (somatic or psycho-geriatric) has an impact on how quality is implemented in daily practices. A manager of a worst practice for the two types of care explained the differences as follows: ‘In general, the family wants a clean living room and clean clothes, and the client also wants sociability’.

**Culture and leadership**

In culture and leadership, the best and worst practices were most distinctive of all elements. In worst practices, addressing each other’s behaviour was
not a normal way of acting. In contrast, in best practices, the culture was characterised as open, honest, and fair, and employees addressed each other’s behaviour. The management advocated open access and showed clear leadership, created clear goals, and made expectations clear for the professionals and clients. There were also differences in how best and worst practices brought quality to the professionals. The managers of best practices shared the same coherent view on how to improve the quality of care and how to translate continuously this view to the daily practice. One best practice manager described this coherence as: ‘We need only one word to understand each other. We know each other and we have the same view of looking at care processes and clients’. The best practices invested in autonomy of professionals by creating a learning environment where it is possible to make mistakes under the condition that you learn from it. Best practice managers were working close to the professionals and coaching them. They stimulated professionals to improve daily care immediately if possible, in cooperation with clients. A best practice manager quoted the following on this subject: ‘As manager, you are the motivator and stimulator. You have to explain everything, to work together with the professional and to change. If you explain what you want, the main part is done’. Best practices were more successful in finding and keeping professionals and being attractive for higher qualified employees.

Management of worst practices seemed to be less involved in the daily practice. Managers in worst practices coordinated QI, and usually organised QI projects in study groups under their supervision. Therefore, their involvement in daily care processes was limited. The QI in worst practices was seen as top down, not always coherent and sometimes ad hoc, as stated by a worst practice team leader as follows: ‘Usually changes are top down implemented and at the end you just have to do it, that is difficult’. The worst practices interaction between professionals and clients was less than in the best practices, and the client-centredness was not a dominant theme in worst practice policy and practice. As a medical director of a worst practice told us: ‘The client council tried to change things, but the way how the manager communicated was not good and there was no documentation and follow up of agreements. According to the manager everything was possible, but nothing was implemented’.

The contribution of process to quality improvement

The QI activities did not differ between the best and worst practices: both used the same interventions and methods: facilitating and organising education, improvements planned systematically, and giving information to professionals and clients in information meetings. The responsibility for QI did not differ either, yet professionals of best practices tried to solve the problems of the clients immediately in daily processes. They have the possibility to translate and change the daily process into a new situation that better fits, including new routines, appointments with colleagues, and so on. Work seemed to be organised very close to clients. Differences could also be found in the involvement of clients. Clients in best practices received feedback about the outcome of the improved quality of care and the best practices tried explicitly to satisfy the needs of the clients as much as possible. Clients seemed to be involved in QI more in best practices than in worst practices, as stated by a manager of a best practice: ‘With the client council, we discuss the outcomes of the CQ-index. We discuss with each other on which points we have to improve. Further, we (management) have conversations with clients in the living room, every six weeks. There you hear the small problems clients deal with. Mostly, we can solve these problems immediately’. Best practices kept in touch with their clients to discuss the meaning of the client-related outcomes and to plan activities. In contrast, worst practices invented mostly QI activities themselves without involvement of clients. A manager of a worst practice reflected on the involvement of clients and why she changed that in 2013: ‘We measured the experiences of our clients and two years later, we did this again. Then, we received the feedback reports and it looked as if nothing had been done. I can’t understand this, because we spent a lot of effort in several projects. How is it possible that the clients do not see this? This year (2013), I spoke to the clients to hear their stories and what they tried to say. The outcomes of the CQ-index are just numbers, but these numbers reflect a lot of experience. If I do not understand that, then I cannot do the right thing’.

The contribution of outcome to quality improvement

Both best and worst practices used client-related outcomes in their planning and control cycle, as described in the processes above. We also asked if the best and worst practices used the scores of the outcomes, for instance by comparing these scores to other facilities, for QI. Both indicated that comparing scores was useful in giving clues for QI. The board of an organisation used this information as starting point for QI projects, but not for monitoring quality. The task of evaluation and monitoring QI of daily work was done by professionals themselves in best practices and by managers or staff in worst practices. As reported by a best practice
cook: ‘I recognize the satisfaction at the pay desk and in the shop and in how clients react. I ask for feedback. That’s how I monitor the quality of care. If clients told me that the meat is stodgy or the potatoes are not cooked well, I would taste it myself and rectify this as soon as possible… we learned to be client oriented. Everybody received cards: this is how we have contact with each other. Just like McDonalds. ‘Is your question sorted out and did I solve your problem?’ For worst practices, information such as client-related outcomes and satisfaction of employees was important to monitor quality, and managers of facilities developed quality plans for QI. The manager made the progress on QI accountable to the board.

Discussion

The aim of this paper was to explore in the Netherlands how QI, as measured with client-related outcomes, works in daily practice of somatic long-term care and to look for the most successful structure, process, and outcome factors in realising QI. We found that best and worst practices differed especially in the way QI was actually carried out, and in the way, management inspires the professionals in improving daily care processes. In the principles of QI, structure, process, and outcome play an important role: a good structured and organisation-wide approach results in better work processes (step one: from structure to process) and improving work processes lead to better outcomes (step two: from process to outcome). Here, we discuss the differences between best and worst practices in both of these steps.

From structure to process

Our study showed that the interviewees believe that a small facility within a larger corporate structure leads to more QI. We found in the interviews as well as in quantitative analyses that region is associated with QI.24 However, best and worst practices of somatic long-term care in our study differed mostly on culture and leadership, also elements of the structure in the model of Donabedian.1 We could distinguish the following activities as crucial elements in realising QI that all reflect the necessity of an open and client-centred culture:

(1) discussing and monitoring outcomes by professionals;
(2) addressing each other’s behaviour;
(3) leaders being close to workplace level;
(4) taking immediate action for problems of clients;
(5) managers showing coaching style of leadership;
(6) translating complex QI policy to unit level into easy-to-understand language;
(7) managers showing interest in employees.

In looking for efficient ways for attaining QI, facilities should be aware of the importance of culture and leadership. QI might be hard to attain without an open and client-centred culture.

From process to outcome

The success of best practices might teach us that improving the work processes in long-term care facilities for the elderly should be organised decentralised, close to the clients in the daily practice. We found that a best practice manager works close to the professional and translates the QI policy into very practical activities at an easy-to-understand level. For QI, it seems necessary that managers have the capability to tell the story, the narrative, to clients and professionals and discuss with them the strategy on how to improve.

Our results confirm the results of a study of Stoopendaal and Bal that described similar findings in long-term care organisations in the Netherlands: ‘The action of implementing improvements can be interpreted as multiple translations that make changes real’.28 They found that ‘improvement projects were not accomplished in a linear way, instead, they were shaped in a network process (...) involving various translations and inscriptions practices’.

Limitations

We only investigated the somatic long-term care in the Netherlands. Although we did not investigate the psycho-geriatric care, we expect similar findings in this sector. The finding that culture and leadership are crucial factors for QI is consistent with findings in other settings, as hospitals.29,30 Next, we used data from a national database. These data were adjusted, whereby differences between facilities – which could be relevant for QI – could disappear. Further, we conducted interviews in 2013, whereby we asked the interviewees to oversee the 2007–2011 time period. The answers could be biased with information about the present-day time. Therefore, in the interview, this time period was mentioned repeatedly in most questions, to keep the attention of the interviewee. Finally, the sample size for in-depth interviews was small and may not be representative of the population. Although interviews have those limitations, this method was the most opportune method to explore ‘the world of QI’.

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Conclusion
To investigate QI in somatic long-term care facilities for the elderly, the structure, process, and outcome classification is helpful when interviewing representatives of facilities. Culture and leadership, as aspects of the structure and the way how QI is performed and stimulated, are essential factors in realising improvement in the Netherlands. This study emphasised the importance of client-related outcomes and to analyse these data, to give insight into the mechanism of QI in long-term care to the elderly in order to be more successful in QI.

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