

DEVELOPING A PERFORMANCE
MEASUREMENT SYSTEM FOR
SELF-RELIANCE.

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COLOFON

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ABSTRACT

Objective: The purpose of this study is to develop a performance measurement system that enables healthcare insurer Menzis to assess home care providers on how they perform on increasing self-reliance of clients. We formulated the following research question: *How can Menzis determine to what extent a homecare provider is structurally improving the self-reliance of clients?*

Study design: We developed performance indicators on the basis of six interviews with directors and managers of home care organizations and a participant observation performed by three home care providers out of the Menzis region. The indicators are organized, according to the model of Donabedian [1], in structure indicators, process indicators and outcome indicators. In addition, on the basis of the interviews, observation and a literature review, we have investigated whether there are client characteristics that influence the possibilities for a client to become (more) self-reliant.

Results: The most important client characteristics that influence the possibilities for a client to become (more) self-reliant out of our research are: age, whether or not the client is a 'new' client and the health condition of the client. Subsequently, a total of fifteen indicators for assessing the extent to which a homecare provider is structurally improving the self-reliance of clients are formulated and thereafter assessed on acceptance, measurability, reliability and validity. The indicators with the highest acceptance, measurability, reliability and validity are listed in a basic list of indicators. This basic list consists out of the following indicators: *(1, structure) Self-reliance has to be taken into account during the making of a plan of care, (2, process) there is active promotion of the use of e-health applications and other technologies that help to increase the self-reliance from clients and (3, outcome) decrease in average time spent per client by the provider (compared to a certain benchmark)*. In addition, we formulated two more lists based on different requirements.

Conclusion: We conclude that it is possible to conduct an overall assessment of a provider, on how they steer on self-reliance, in two ways; the first option is to perform a measurement of the indicators by healthcare purchasers. Another option for assessment with the indicators is to use them as an evaluation framework, that can be used in a conversation with the provider. We advice to use our indicators as an evaluation framework because the indicators are currently not enough reliable for a performance measurement. Besides that, we recommend Menzis to first gain some experience on performance measurement. Within the scope of an explorative research we made a start with formulating indicators. Further research is recommended to make a more reliable list of indicators, for instance by involving a broader set of organizations into the research.

Key words: self-reliance, indicators, performance measurement, home care, healthcare.

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1. INTRODUCTION

The Dutch healthcare system performs well in international comparisons; the position of patient organizations is fairly well, and health services are easily accessible for all [2]. However, healthcare expenditure was 8.9 percent of the Gross Domestic Product (GDP) in 2007 [3] and raised to 11.9 percent of the GDP in 2011 [4]. Herewith the Netherlands ranks second on the OECD-ranking, the United States is the only country that has a higher healthcare expenditure in percentage of GDP on the OECD-ranking list (17.7 percent) [4]. The Netherlands get something back for their high investments in healthcare, according to the Euro Health Consumer Index, the Netherlands has the best quality of care in Europe [5]. This is in contrast with the USA, their high investments do not lead to a high quality of care in comparison with other countries [6].

Nevertheless, the Dutch government aims to reduce the growth of healthcare expenditures. Currently, there is much discussion in the Netherlands about the organization and expenditure of homecare. One specific subject that becomes increasingly important is district nursing. District nursing helps people to remain independent for a longer time when their health is getting worse (whether or not with help of carers and volunteers). The district nurse is mainly concerned with personal care and nursing, related to medical care or high risk to healthcare [7]. The goal of district nursing care is to increase the well-being of clients and prevent avoidable care. To achieve this goal, the district nurse focuses on prevention and self-management and working in a network with integrated primary care, municipality and volunteers (mantelzorgers) [7]. The longer period of independency leads to people using less care or at a later moment intensive care.

Per 1 January 2015 there are several changes in the organization of the healthcare system in the Netherlands, for instance the 'Algemene wet bijzondere ziektekosten' (AWBZ) is not applicable anymore. District nursing is moved to the so-called basic package per 1 January 2015. With this change everyone can directly, or via the general practitioner/"Wmo-loket" contact a district nurse. The district nurse assesses which type of care the client needs to live longer at home and coordinates the process of care with the client [8].

For this research we will focus on district nursing purchased by Menzis. Menzis is a health insurer in the Netherlands with approximately 2.1 million customers. In 2015 approximately 60.000 out of 2.1 million Menzis customers will make use of district nursing. For Menzis, the total purchasing budget for the health insurance act in 2015 is 5.5 billion. Out of this budget, approximately € 490 million is available for district nursing [7]. This budget of 490 million includes: target for personal care (€ 50 million), personal budget (PGB) (€ 80 million), extramuralisation (€ 33 million) and switching tasks with the municipalities (€ 5 million) [7]. The national budgeted expenditure for the health insurance act is € 44.4 billion of which € 3.1 billion is reserved for district nursing [9].

The Dutch government sees the year 2015 as a transition year. The change in organization will lead to a different way of purchasing healthcare. There are many ways to purchase healthcare, but it is not clear what the best manner is. A problem that currently occurs during contracting healthcare is that contractors do not know enough about the quality of the different healthcare providers (i.e. which district nursing providers are the best performers or underperformers). Besides that, it is not clear for insurers how to measure the performances of healthcare providers during the contract. It would be useful for insurers like Menzis to have this information, partly due to the high rate of

responsibility for the district nurses and their direct influences on the insurers costs. When insurers receive this information before and during contracting, they can select and reward the best and most expedient healthcare providers and improve and/or reject underperforming organizations.

As said before, the goals of district nurses are to increase the well-being of clients, prevent avoidable care and increase the self-reliance from a client¹. Among other things, self-reliance and self-direction are increasingly seen as elements that contribute to a better quality of life [10]. Therefore, improving a clients self-reliance is very important for the quality of life. By improving self-reliance from clients, the average costs per client are likely to decrease. So, for insurers it is very useful to know in what way home care organizations steer on self-reliance and what results it yields. There is also an academic interest in this subject. There has been much research on the quality of care, but research specifically focused on the quality of district nursing in combination with self-reliance in order to reduce healthcare costs has not been performed yet.

In this research, we therefore focus on self-reliance. We aim to find out which indicators for home care providers indicate a proper way of working to increase self-reliance by clients. In order to achieve this objective, we formulated the following research question:

How can Menzis determine to what extent a homecare provider is structurally improving the self-reliance of clients?

Multiple sub questions have to be answered before a well-reasoned answer can be given at the main research question. The first sub question is about patient characteristics. This is of importance for a provider because the type of patients influence the quantity of delivered care. Besides that, when a provider has a severe client population it is more difficult for them to improve self-reliance. For further elaboration on this topic see Section 4.1.

To structure the second sub question, we use the categories defined by Donabedian [1], used for quality of care assessment. We elaborate on this topic in the literature review section. These categories are: structure, process and outcome. The third sub question is meant to give some possibilities of practical use of the indicators found in sub question two.

The sub questions are:

- 1) Which patient characteristics have most influence on the success rates of becoming more self-reliant?
- 2) Which characteristics on structure, process and outcome level indicate best that homecare providers are structurally trying to improve the self-reliance from clients?
- 3) How can Menzis use the criteria/indicators for assessment of home care providers?

¹ All respondents in this research were asked what self-reliance means according to them. With input from the interviews, self-reliance is defined in our research as follows: *“Self-reliance means that the client retains control over his or her own life and is able to manage the way of care to achieve this”*.

In the method section we will further elaborate on how we will come to an answer on the main research question, but first we will start with the literature research in the next section. After the method section, we present our main findings. Finally, we discuss our findings and present suggestions for further research.

2. LITERATURE REVIEW

The literature review first considers our main research topic, self-reliance. The most important characteristics of self-reliance are discussed and we explain why self-reliance is likely to become an increasingly important concept. Subsequently, we discuss relevant literature for the sub questions. This will be done by explaining the model of Donabedian [1] under the subtitle 'Quality of care measurement', and by discussing relevant literature about criteria for measurement instruments. We will use the results of our literature review to get a better understanding of the subject self-reliance. The model of Donabedian will be used to make sure that we look to the whole process of care and can make a good assessment on quality. Subsequently, the literature review method is discussed in the method Chapter 3.

2.1 SELF-RELIANCE

In the changeable world of healthcare, self-reliance becomes increasingly important. Self-reliance and self-direction are increasingly seen as elements that contribute to a better quality of life [10]. Self-reliance could even be the key in the transition from a welfare state to the desired participatory society [11]. As self-reliance is our main research topic, we discuss this term in more detail in the next subsections.

In the international literature is little academic information available about our subject, self-reliance. A possible reason for this could be that it is a typical Dutch subject because of our 'welfare state'. Nevertheless, we have to gain most of our information out of reports and policy documents.

The government wants people to live at home for a longer period [9] [10]. Because of this policy it becomes increasingly important for healthcare organizations to steer on self-reliance [10]. An example of this policy is the new social support law (Wmo). The Wmo is focused on promoting self-reliance and participation, and regulates personal support to achieve this [9]. The support is aimed at people who can stay at home as long as possible with help for themselves and for their carers [9]. The health insurance act states that insurers are responsible for the whole process of healthcare between home care and hospitalization [11]. So, there is also an important role for healthcare insurers in steering on/increasing self-reliance in the Dutch healthcare system.

There are several reasons why the self-reliance from clients is likely to increase. One of the main reasons is obtained from a macroeconomic perspective. From this perspective it appears that the current Dutch healthcare system is not future proof because it will become too expensive [9] [10] [12] [13]. The rise in costs will be caused by the aging and rejuvenation of the Dutch population [7] [12]. Because of the link between self-reliance and cuts in budget for healthcare, self-reliance is sometimes seen as a negative aspect. However, there are more reasons that justify an increase in self-reliance. More steering on self-reliance leads to more independent clients who keep control over their lives [12]. Additionally, several healthcare organizations and professionals have the

opinion that they have provided too much care for their clients over the years and this could be the reason that clients became too dependent on care [10]. The responsibility must come back to the client [10].

The most important goal for increasing self-reliance is to increase the quality of life from the client. To be able to be self-reliant a client must be capable to do independently, or with help of a informal carer, his activities of daily living (ADL) and perform a structured household [11]. To be self-reliant, the following activities of daily living are important: come in and out of bed, dressing and undressing, move, walk, sit down and get up again, bodily hygiene, toileting, eating /drinking, take medication, relaxation and social contact [11].

The district nurse has a directing role in increasing self-reliance. The district nurse should act as a contact for all inhabitants of a district or village and regulates care, welfare and housing for the customer [7]. In addition, the nurse has an important role in activating informal care and provides the right conditions to be self-reliant [7].

There are several tools available that are able to map/measure the degree of self-reliance and measure the activities mentioned above. Research by Vilans gives us the six most widely used instruments in the Netherlands to measure and map self-reliance [12]. It is about the following six instruments: self-reliance monitor, self-reliance matrix, effect start, self –reliance radar, self-reliance meter and the list of independency. During this research we will look if home care organizations use one of these instruments to measure self-reliance.

With this part of the literature research about self-reliance we hope we have demonstrated the importance of our subject. Besides that, we have used this information about self-reliance as preparation on our participant observation.

2.2 QUALITY OF CARE MEASUREMENT

According to Donabedian, we have to decide how quality is defined before we can start with assessing quality for our research [1]. It is important to define the research area and what elements will be included in the assessment. There are different levels on which the quality of care can be assessed. We will use these different levels to broaden our vision and make sure we will not miss important aspects. We discuss them below and also describe the relationship with our main research topic 'self-reliance'.

The first level is the performance of physicians and other healthcare practitioners and can be separated into two elements: technical performance and interpersonal performance. "Technical performance depends on the knowledge and judgment used in arriving at the appropriate strategies of care and on skill in implementing those strategies" [1]. Interpersonal performance is about the process of communication between the patient and the healthcare provider, "through this exchange, the physician provides information about the nature of the illness and its management and motivates the patient to active collaboration in care"[1]. Steering on self-reliance takes for the largest part place at the interpersonal performance level.

The second level at which can be assessed is amenities of care. The amenities of care are the desirable attributes of the settings within which care is provided [1]. Examples of amenities of care

are convenience, comfort, privacy and attributes used during care giving. The relation with self-reliance is particularly the use of tools who underset the process of care. This tools are examples of e-health such as a tablet for remote care.

The third level at which can be assessed is care implemented by patients. At this level we assess the contributions to care of the patients themselves as well as of members of their families [1]. In the modern healthcare organization the responsibility for good quality is shared by provider and patient in combination with their relatives [10]. In this case the relation with self-reliance is that district nurses activate and steer 'informal carers' (mantelzorgers). The districts nurse involves the 'informal carers' in the care process, but also keeps an eye on them so they do not become overworked. Another example is that district nurses learn skills to clients, so they will become less dependent from care. There is one more level to assess quality of care and that is care received by the community. At this level we assess the social distribution of levels of quality in the community [1]. The quality of care in a community is influenced by many factors such as access to care and differences in quality between physicians. On this level the relation with self-reliance is access to care, but also the presence of social agencies that help clients to become or stay self reliant. For instance, the availability of a social district team who are able to support clients with problems about healthcare or housing.

In this research we will make use of the model of Donabedian. There are several similar frameworks available to assess and coordinate the quality of care, such as: Wmo quality of care framework, the Andersen behavior framework, the organizational design framework and the relational coordination framework [14]. We have chosen for the framework of Donabedian because it is a well-known model in healthcare research and it is flexible enough to apply in many situations [14].

Donabedian developed a model that can be used during the assessment of quality of care. The model provides a framework/method for examining health services and evaluate the quality of care [14]. The information from which inferences can be drawn about the quality of care can be classified under three categories [1]: "Structure", "Process" and "Outcome". These three categories are also part of our second sub question. We will explain them in more detail below:

Structure denotes the attributes of the settings in which care occurs. This includes the attributes of material resources (such as facilities, equipment and money), or human resources (such as the number and qualifications of personnel), and of organizational structure (such as medical staff organization, methods of peer review, and methods of reimbursement) [1][15]. Examples of structure indicators that we found in our research are that self-reliance has to be taken into account during the making of a plan of care and the availability of training facilities for clients and/or employees.

Process denotes what is actually done in giving and receiving care. It includes the patient's activities in seeking care and carrying it out as well as the practitioner's activities in making a diagnosis and recommending or implementing treatment [1] [15]. An example of a process indicator that we found during our research is that a healthcare provider can demonstrate that they are actively investing in e-health and other technologies that help to increase the self-reliance from clients.

Outcome denotes the effects of care on the health status of patients and populations. Improvements in the patient's knowledge and salutary changes in the patient's behavior are included under a broad definition of health status, and so is the degree of the patient's satisfaction with care [1] [15]. An example of an outcome indicator that we found during our research is a visible decrease in average time spent per client.

2.3 PERFORMANCE MEASUREMENT

Measuring quality of care becomes increasingly important to providers, regulators and purchasers of care [16]. A way to measure and assess the quality of care is with the help of performance indicators. An indicator is developed to indicate something about the performance of an organization. In this research we will make use of performance indicators to assess home care organizations on how they try to improve the self-reliance of clients. It is important to keep in mind that indicators do not provide definitive answers but indicate potential problems or good quality of care [17].

Performance indicators can serve both for internal quality improvements as for external accountability [18]. The indicators we will draw will serve as indicators of external accountability (from the perspective of the care provider). In this research the home care organization has to show their performances and policy to the healthcare insurer. The use of performance indicators has many advantages. It creates transparency in healthcare and provides an incentive for performance improvements [19] [20]. A drawback to the use of performance indicators is that it could create a significant administrative burden on healthcare institutions and professionals [18].

In order to carry out a proper assessment, the performance-indicators must meet certain design requirements. The design requirements are set to ensure that the final indicators have a certain quality and therefore can be used in a responsible way to compare healthcare providers (see method section for further information on these criteria).

To assess whether our performance-indicators will meet these design requirements of scientific usefulness we will make use of the 'appraisal or indicators through research and evaluation' (AIRE) instrument [21] (see the method section for further elaboration). We will use this in the form of a checklist in order to check the quality of the indicators. We have performed literature research on the topic performance measurement in health care to determine on what aspects we want to assess the indicators. Subsequently, we filtered criteria out of these articles and represent them in Table 1 below.

Out of the aspects found in literature we have decided, in agreement with Menzis, to make use of the following aspects in our research: acceptance, reliability, validity and measurability. We did not choose for the aspects feasibility and sensitivity to change because we assume the added value of feasibility relative to acceptance to be low (when it is not feasible it will not be accepted) and if it is not possible to influence an indicator there will not be much support from home care providers and insurer.

| Title | Acceptability / Acceptance | Availability / Measurability | Feasibility | Reliability | Sensitivity to change | Validity |
|--|-----------------------------------|-------------------------------------|--------------------|--------------------|------------------------------|-----------------|
| Research methods used in developing and applying quality indicators in primary care [17] | x | | | x | | x |
| Using performance indicators to improve health care quality in the public sector: a review of the literature [22]. | | x | x | x | x | x |
| Indicators of Quality in Health Care [23] | x | x | | x | | |
| Health Care Quality Indicators Project [24] | x | | x | x | | x |
| Defining and classifying clinical indicators for quality improvement [16] | x | | | x | | x |

Table 1: Possible criteria performance indicators in health care (titles of the articles on the y-as and the criteria on the x-as)

3. METHOD

The method section first considers the research steps taken in our study and subsequently the different phases are explained in more detail. In Section 3.2 the data sources of our research are described and the last section of the method (3.3) is about the way of data collection (observation and interviews).

3.1 RESEARCH STEPS

The research process is summarized in Figure 1 below. In the next subsections we explain the research steps in more detail. We also mention in this figure which sub question(s) the central questions are in the respective phases. The different phases indicate what information is collected at which point time. Most information is taken to following phases. Therefore, some sub questions have overlap between the phases.

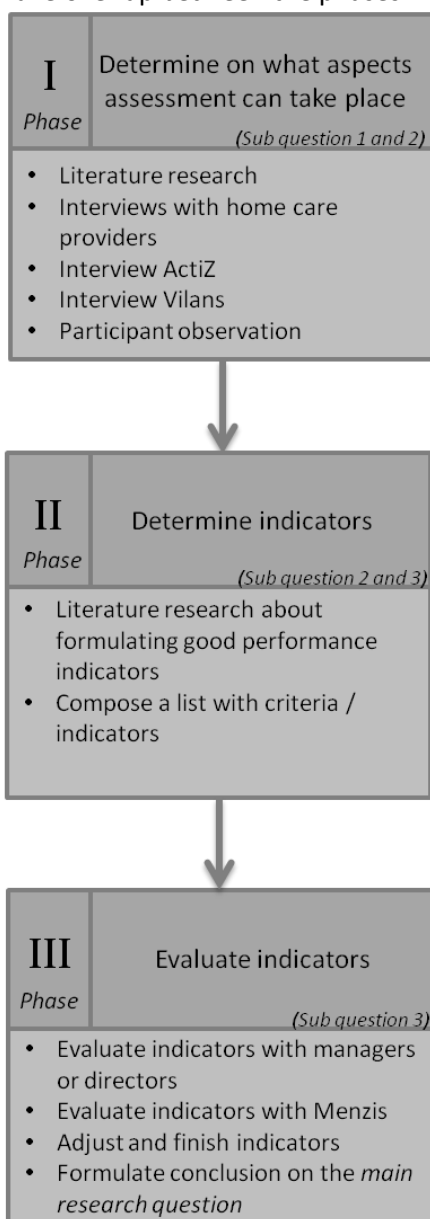


Figure 1: Scheme research process

As shown in Figure 1, the method is divided into three different phases. In the first phase we determined on what aspects assessment will take place, in the second phase we determined the indicators and in the third phase we evaluated and adjusted the indicators. The final indicators could serve as differentiation criteria. Differentiation criteria could help Menzis with choosing the best home care providers during the process of contracting and tariffing. The start of the study consisted of describing the problem situation. Hereby we looked at which actors are involved and which interests they have in relation to measuring the performances of home care providers. In this step it became clear which individuals and organizations would be involved in the further research.

Phase I; Elements of self-reliance

The first step in *phase I* was an extensive research on the elements of self-reliance. This is done by literature research and interviewing professionals. The literature research is done by searching in PubMed, Google Scholar and Scopus with 'self-reliance', 'improving self-reliance', 'home-care', 'healthcare', 'health care', 'district nursing', 'client characteristics' and 'measurement quality of care' as main search terms. We have also combined these terms in order to search more specifically. When we got less than 100 results on our searches, we have scanned the titles and subsequently read the abstract when the title was relevant for our research. When the abstract was relevant as well we have included the full article for further use in our research.

To gather information about internal processes of homecare organizations we have conducted interviews with directors and managers from various homecare organizations. The information gathered in these interviews is used as input for answering the first and second sub question and is used during the formation of indicators. We have chosen to gather information by conducting interviews - instead of a large scale survey - because we expect this yields the most valid and complete information that we need in our research. We expect this because of the fact that the interviewer can ask the respondent to explain his answer or ask new questions that are build on given answers from the respondent. Further information about the interviews will be provided under subtitle '*Data collection*' on the next page.

To determine what could be improved and how firms handle with self-reliance in practice, we also performed a participant observation in *phase I* of this research (more detail about this choice in the section on the next page). The focus during this participant observation was mainly on district nursing because they have the most influence on increasing a clients' self-reliance [7]. With the gathered knowledge the process of how firms handle self-reliance could be described. This information could be input for answering the first and second sub question and could also be used to compose indicators. Furthermore, the participation contributed to a better understanding of the way of working within a home care organization. This was useful during interpreting the results and writing conclusions. The participation is performed at three Dutch home care organizations in the Menzis region. We have chosen for organizations in the Menzis region because these organizations are directly responsible for the expenditures of Menzis. Therefore, Menzis wants to increase the cooperation with these organizations to be better able to steer on their expenditures (see for more information the session '*Data collection*').

The information gathered in *phase I* of Figure 1 is combined and used to answer the first sub question (client characteristics) and make a start of the second sub question (characteristics on structure, process and outcome level). The process of collecting the client characteristics was as follows: all aspects that are found in the literature research are included in the final list and when at least two times an aspect was mentioned during the interviews or observation they are also included in the final list of characteristics.

Phase II; Formulating indicators

The research will be continued with literature research on formulating good indicators. This is done by searching in PubMed, Google, Google Scholar and Scopus on the same way as described in the previous paragraph. We have used the following search terms: *'performing indicators'*, *'performance indicators'*, *'formulating performance indicators'*, *'performance measurement'*, *'healthcare'* and *'health care'*. We have also combined these terms in order to search more specifically. When we got less than 100 results on our searches, we have scanned the titles and subsequently read the abstract when the title was relevant for our research. When the abstract was relevant as well we have included the full article for further use in our research.

Formulating good indicators is of importance for this research because the final indicators are likely to affect the policy of an organization. The expectation is that care providers which meet the performance indicators will be favored by healthcare insurers. The insurer will reward care providers through, for instance, a contract extension or a financial reward. With help of the indicators the insurer is indirectly able to exert some control on the policy of healthcare providers, in this way they try to improve the process of increasing clients' self-reliance.

The indicators will be formed out of the information that is obtained in phase I of the research. First, the interviews will be elaborated and after that the answers will be compared. All possible indicators that emerge from the interviews will be filtered out by expert view and subsequently checked on quality (see phase III for further elaboration). In addition to the interviews, the information gathered out of the participant observation will also be used. The information out of the participant observation is also obtained with an expert view. For instance, this can be a situation or way of working that is often observed. During the forming of indicators we will keep in mind that the indicators have to fit to the policy of Menzis. This is important because the final product has to be used by Menzis' healthcare purchasers. An example of this could be that if Menzis stimulates a certain behavior of providers it would not be logical to set up an indicator that disapproves this behavior. At the end of phase II we have a list with possible indicators that have to be checked on quality before they can be used.

Phase III; Checking indicators

Subsequently, we have evaluated the list with indicators (formed in *phase II*) with three managers of home care organizations. The managers were selected out of the managers with whom we have had a previous interview in *phase I*. We have chosen to interview the same managers because we already have their contact information and in the first interview they indicated they were willing to discuss the results. Besides that, due to a limit of time we were not able to seek new managers.

During these evaluations we explained how the indicators are established and we asked for feedback and their opinion about the quality of the indicators. With the feedback given by managers we adjusted the indicators when it was necessary. After the feedback sessions we checked the performance-indicators on quality with a multi criteria analysis using a checklist. Our checklist contained four criteria that were obtained out of our literature research. The four criteria that we used in our research are shown in Table 2 below. In the table you can also find the reason why we have chosen for these criteria. The information about acceptance, measurability, reliability and validity will be partly obtained during the feedback sessions with managers and directors of home care organizations.

| Criteria indicator | Explanation |
|---|--|
| Home care organization accepts the indicator (acceptance) | In the first place we have to check whether or not there is enough support for the indicator by home care organizations and by Menzis. This is important because without the cooperation of home care organizations it is more difficult to obtain the necessary information. And the indicators will not be used when Menzis disagrees. In addition, it is important that performance indicators are also practicable and this can best be verified in collaboration with home care organizations. Furthermore, this is also likely to meet sensitivity to change of an indicator. If it is not possible to influence an indicator it is not likely there will be much support from home care providers and insurers. |
| (easily) Measurable | For the practical feasibility of the indicators it is important that they are (easily) measurable. If an indicator is not measurable, or very hard to measure, it is not a suitable performance-indicator. |
| Reliability | The reliability of an indicator is also important. The reliability of an indicator means how precise and consistent the performance is measured. For instance, the risk of measurement errors has a negative influence on the reliability. |
| Validity | The validity shows whether the indicator measures what it is intended to measure. In this research we must determine to what extent the performance indicators actually say something about the way of steering on self-reliance by home care organizations (construct validity). |

Table 2: Criteria for indicators.

As said before, we have used the AIRE-instrument during the assessment of the indicators. The assessment of the performance indicators on the different criteria took place on a 4-point scale. For each criterion (acceptance, measurability, reliability and validity), the indicator could get 1 (strongly disagree) to 4 (strongly agree) points [21]. The scores per criterion are given by the lead researcher, and are partly determined during the feedback sessions with managers and directors of home care organizations. All respondents in the evaluations were asked for their opinion about the indicators concerning the criterions. This was mainly possible by the acceptance criterion: when all respondents agreed the indicator got four points on this criterion. When two out of three agreed the indicator got three points on acceptance, when one out of three agreed the indicator got two points

on acceptance and when all respondents were not convinced this indicator got one point on acceptance. The scores for measurability, reliability and validity are determined on interpretation of the lead researcher with input of the respondents. The reason for this other way of scoring is the knowledge of the respondents; not all respondents were able to say something about these criteria in relation to the indicators. In addition, each score has its own color to produce a clearly displayed table of indicators. See Table 3 for an overview. The maximum score an indicator could get is 16 (4*4). The final score for an indicator can be determined with the following formula [21]:

$$\frac{\text{Achieved score} - \text{Minimum score}}{\text{Maximum score} - \text{Minimum score}} * 100\%$$

So, when an indicator has a total of 11 points, the final score for that indicator is 58%:

$$\frac{11-4}{16-4} * 100\% = 58\%.$$

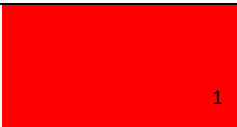



| Score | Description | Color |
|------------------------|--|---|
| 1: Strongly disagree | You are sure that the indicator does not meet the criterion, or there is no information on. |  1 |
| 2 - 3: Agree/ Disagree | You are not sure whether the criterion is met. Depending on the degree to which you think the criterion is met you choose 'agree' or 'disagree'. |  2 |
| | |  3 |
| 4: Strongly agree | You are sure that the indicator does meet the criterion. |  4 |

Table 3: AIRE Instrument [21]

After doing the multi criteria analysis we came up with a basic set of indicators. The indicators had to fulfill the following requirements in order to be included to the basic set of indicators: the indicator must score four points on acceptance and at least three points on measurability, reliability and validity. These scores are determined by the lead researcher. We have chosen to make acceptance the most important criterion of indicators because when an indicator is not relevant it will probably not be used. Subsequently, the basic set of indicators is analyzed by the lead researcher. During the analysis we will check on overlap and completeness before the definitive list could be formed. With this line we want to ensure that we get a list of indicators with sufficient quality. The final list of indicators would help to find an answer to our main research question: *'How can Menzis determine to what extent a homecare provider is structurally improving the self-reliance of clients?'*

3.2 DATA SOURCES

Menzis has a total of 107 contracts with home care providers in the region of Arnhem, Twente and Groningen. Thus, there are many organizations available to include in our study. Before choosing which organizations will be involved in our research we have set up some requirements. See Table 4 for these requirements.

| Requirements | Explanation |
|--|--|
| Organization has self-managing care teams | We have chosen for this requirement because in self-managing teams there is much responsibility for the district nurse. And we think these self-managing care teams are better able to look critical to self-reliance of clients. In organizations without self-managing teams they perform a more executive role. |
| Organization is among the 15 largest suppliers | We have set up this requirement because the 15 largest suppliers are responsible for 75% of the total cost for Menzis on district nursing. Because of this Menzis wants to increase cooperation with these providers. Involving these organizations in this research is preferable for Menzis. |
| Differences in average total cost per client | We try to find organizations with different average costs to find a possible cause for these differences in the observation study. The difference in average costs could be caused by different steering on self-reliance. |
| Geographic distribution | As said before the Menzis region is spread into three different regions. In order to find out whether there are differences in these regions in steering on self-reliance we try to involve all three regions in our research. |

Table 4: Suitability requirements for choosing providers to be involved in our research.

We selected a total of five providers that met the requirements to join our research, out of these five providers three were willing to participate. These providers were located in three different regions, so we did not have to look further for other organizations to meet the distribution requirement. The difference in average cost per client between the most expensive provider and least expensive provider is 10%, all providers have a total revenue of 25 million or higher. Among other things because of the differences in average cost, we expect that there are differences between these three providers on how actively they steer on improving self-reliance.

3.3 DATA COLLECTION AND ANALYSIS

As said before, the information that we need to compose indicators will be collected by interviews and observations. How this process is organized will be explained in the sections below.

3.2.1 INTERVIEWS

We have make use of interviews to gather information from different home care providers and produce data for academic analysis. During this research we have made use of the semi structured way of interviewing to gather qualitative information from different respondents. We asked pre-established open questions during the interviews and let space for divergence and adding questions. The interviews are recorded and worked out afterwards by expert view. Possible indicators, and other remarkable statements, that are mentioned during the interviews are filtered out and used for assessment.

We interviewed a director or manager from all organizations were the participant observation (see the previous subsection for more details about these organizations and why they were selected for our research) will took place. During this interviews we gathered background information from the structure and policy of an organization. We used this information in combination with the information raise out of the observation study to formulate conclusions. As an addition to the interviews with managers/directors of organizations that participate in the observation study, we also interviewed managers/directors of organizations that did not participate in the observation study. We did this to gather enough information for our analysis and make it more reliable.

To broaden our vision on self-reliance we also interviewed employees of Vilans and ActiZ. Vilans is a knowledge center for long-term care and does a lot of research on the topic self-reliance. ActiZ is the branch organization for healthcare organizations and is committed to the entrepreneurship within the market of care, housing, welfare and prevention. We used the output of the interviews as input for the final assessment criteria.

3.2.2 PARTICIPANT OBSERVATION

Observation is a somewhat neglected aspect of research, but it can be useful if the research questions and objectives are concerned with what people do [25]. This is also the case in this study. Observation consists of: systematic observation, recording, description, analysis and interpretation of people's behavior [25]. Two most commonly used types of observation are participant observation and structured observation. In this research a participant observation is carried out, because we wanted to gather qualitative process information. In a participant observation the researcher will observe in the field and gathers information at the same time. During this observation the researcher participates in daily activities of the respondent, and "attempts to learn the respondents' world" and "trying to get to the bottom of the processes" [26]. There are several roles which the observer can take, Gill and Johnson (2002) developed a fourfold categorization [25]. The role you play as participant observer will be determined by several factors, such as purpose of research and the available time. The roles are: complete participant, complete observer, observer as participant and participant as observer.

In the first two of these roles the researcher involves and observes an organization without their knowing, the researcher is concealing his identity in these situations. Naturally, this has as an advantage that the researcher is not influencing the behavior of the respondents who are studied [25]. With the second two observer roles the researcher reveals his purpose to those with whom he will mix in the research setting. Ethically, it is more accepted to choose one of the last two options and reveal your identity [25]. The other choice we could make is between the observer perspective and the participant perspective. In the participant perspective the researcher takes actively part in the process and in the observer perspective the researcher only observes the activity. See Figure 2 for an overview.

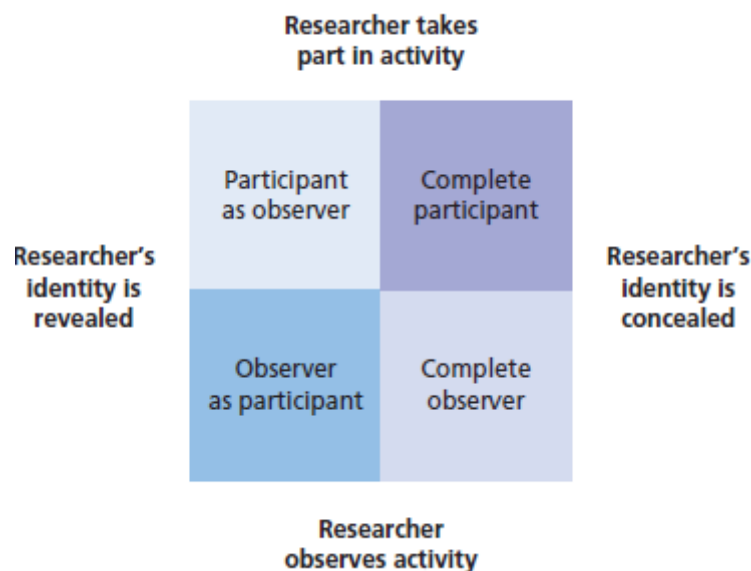


Figure 2: different roles observation

In this research we have chosen for the observer as participant perspective. We chose for this perspective because we observed home care providers with whom Menzis has a long term relation, this relation must not be damaged by giving them wrong information about the research. Furthermore, another problem that could occur by not revealing your identity is that the researcher may lose his actual research target because he is too busy with building a good relationship of trust with the people he is observing [26].

In the observer as participant perspective we could observe the process/activity without taking part in the activities in the same way as the respondent, we were able to be a 'spectator' [25]. However, our identity was clear to all respondents. This had some advantages [25]: we were able to focus on the researcher role and, for instance, made notes when we want, we were be able to focus on discussions with the participants and we were able to ask questions during the observation. Besides these advantages, there are also some disadvantages of this method, examples of these are: the observer could lose the emotional involvement and the respondent may exhibit abnormal behavior [25]. Another disadvantage of participant observation could be the difficulty of documenting the data. It is well known that it is hard to write down everything that is important [27]. To get enough useful information for our research, we took notes of remarkable events during the observation. In order to prevent losing information, we have directly after finishing the observation draft a report with the most useful information gathered that day. Possible indicators are filtered out and used for assessment.

4. RESULTS SECTION

In the results section we answer the sub questions using the information gained during the literature research, interviews and participant observation. We will start with the first sub question about client characteristics that influence the degree of self-reliance.

4.1 CLIENT CHARACTERISTICS

The answer on the first sub question is given by an overview of characteristics that influence the degree of self-reliance. These characteristics indicate a client appropriateness to become (more) self-reliant. The characteristics are composed out of information that is obtained during the observation study, interviews and literature research. See Table 5 on the next page for an overview of these characteristics and which source is used per indicator. All aspects that are collected out of the interviews, literature research and observation sessions are listed in the table.

One of the most important conditions to become more self-reliant is the motivation of a client. We have observed different clients in our study and concluded that there are many different types of clients. There are clients who are very motivated and ask the nurse how they can help or how to improve their lives. On the other hand there are also clients who apparently do not show initiatives. We assume motivated people are better able to become more self-reliant, this is also verified by district nurses during the observation.

Another aspect that contributes to increasing self-reliance is the age of clients. In the observation we have seen and heard that younger people are better able to become self-reliant again:

“It is easier to learn younger people to become more self-reliant, because they have in most cases more energy and are more vital”.

In the literature we found that they make a distinction between 75- and 75+ [28]. In addition to this aspect the respondents mentioned:

“It is easier to learn a certain behavior from the start of the treatment. Clients who already receive homecare for a longer period are more accustomed to certain patterns and it is difficult to adjust this”.

Besides the age of the clients, the type of client has also influence on the change to become self-reliant. Clients who have problems with household / ADL, daytime/social activities or physical functioning and mobility have more chance to become self-reliant as clients who have restrictions with psychological functioning or cognitive functioning [28]. This is likely to be caused by the fact that these clients require more patience and more time and are less able to learn. We have also seen this during our observations, we visited a mentally disabled woman and it was noticeable that everything took a bit longer than at other clients. The nurse confirmed that it is more difficult to improve self-reliance in these situations.

Other aspects that increase the chance to become more self-reliant are a high socio-economic status (SES) and having enough financial spending. People with a high SES have more knowledge of their restrictions and are better prepared for the effects. A quote out of the interviews is as follows:

“People with a low social economic status claim that they ‘have a right to receive care’. It takes us more time and energy to make them aware of the need to improve self-reliance. People with a higher SES often have done some preparations”.

The financial situation of clients is of influence because clients with a large budget are better able to buy for instance some extra e-Health tools or private help.

The last aspect we found during our research is the availability of an active social network around the client, this are for instance informal caregivers who are willing to help. Informal carers are important to support the client with daily activities and managing care. During the observation it was noticeable that all nurses seek contact with the informal carer (if there was an informal carer available). The nurse talked about the situation of the client and asked if there were any problems. In some cases the nurse gave some tasks to the carer. With help of the carer there is more chance to improve self-reliance.

| Client aspects | Source |
|--|--------------------------------------|
| Clients who are motivated to keep in control of their own lives. | Observation |
| The new generation of clients (75 -) [28]. | Observation / Interviews/ Literature |
| New clients. | Observation / Interviews |
| Clients who have only restrictions or problems with: household / ADL (Activities of Daily Living), daytime activities and social activities or physical functioning and mobility [28]. | Observation / Literature |
| Clients who have no restrictions or problems with psychological functioning or cognitive functioning [28]. | Observation / Literature |
| Clients with a high socio-economic status. | Interviews / Observation |
| Clients with enough financial spending. | Interviews / Observation |
| Clients with an active social network around them [29]. | Interviews/ Observation / Literature |

Table 5: Table with aspects for improving self-reliance [28] [29]

4.2 INDICATORS

The second sub question is about characteristics on structure, process and outcome level that indicate structural improving on clients' self-reliance. As said before, the indicators are formed out of information that is obtained during interviews and observations. The formulated indicators can be found in the column indicators of Table 6 on the next page. In the next subparagraph (4.3) is explained how and why these indicators are build up and composed out of the collected information. As mentioned before, the indicators are organized with help of the model of Donabedian (structure – process – outcome).

The indicators in the structure domain relate to the question: *how is it organized (to improve self-reliance)?* The most important elements that we found in this domain are for instance the vision of an organization and the availability of training facilities. Subsequently, the process indicators relate to the question: *what is done?* The most important elements out of this domain are for instance the use of e-health applications and a structural evaluation of the care plan of a client. Finally, the outcome domain is about the results. This domain has to answer the question: *what is done?* Important elements out of this domain are a decrease in average time per client and a decrease in the quantity of delivered 'light' care. Further explanation about the indicators will be given in the next subsection.

| Domain | Indicator | Criterion 1; <i>Acceptance</i> | Criterion 2; <i>Measurability</i> | Criterion 3; <i>Reliability</i> | Criterion 4; <i>Validity</i> | Final score |
|------------------|---|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|----------------|
| Structure | | | | | | |
| S.1 | The organization has a clear and published vision about increasing self-reliance. | 4 | 3 | 2 | 3 | 67% |
| S.2 | Employees receive active steering on increasing self-reliance from the management. | 3 | 2 | 2 | 3 | 50% |
| S.3 | Self-reliance has to be taken into account during the making of a plan of care. | 4 | 4 | 4 | 3 | 92% |
| S.4 | There is a medical center available to clients (for personal alarms and remote care). | 4 | 2 | 2 | 3 | 58% |

| | | | | | | |
|----------------|--|---|---|---|---|-----|
| S.5 | There are training facilities available for informal carers (so they are able to substitute work from the nurse). | 4 | 3 | 2 | 3 | 67% |
| | | | | | | |
| S.6 | There are training facilities available for employees. | 4 | 3 | 2 | 3 | 67% |
| Process | | | | | | |
| P.1 | There is a visible trend of the increase in the quantity of delivered AIV-care (Advice, Instruction and Education) within an organization. | 2 | 1 | 1 | 2 | 17% |
| | | | | | | |
| P.2 | There is active promotion of the use of e-health applications and other technologies that help to increase the self-reliance from clients. | 4 | 3 | 3 | 3 | 75% |
| | | | | | | |
| P.3 | The degree of self-reliance from clients is measured with a measuring instrument. | 2 | 4 | 2 | 3 | 58% |
| | | | | | | |
| P.4 | The nurse evaluates the plan of care with the client and also looks for possible improvements of the plan. | 1 | 1 | 1 | 1 | 0% |
| | | | | | | |
| P.5 | The home care team evaluates the plan of care and looks for possible improvements or changes. | 4 | 2 | 2 | 3 | 58% |
| Outcome | | | | | | |
| O.1 | Decrease in average time spent per client by the provider (compared to a certain benchmark). | 4 | 4 | 4 | 3 | 92% |
| | | | | | | |

| | | | | | | |
|-----|---|---|---|---|---|-----|
| O.2 | There is a visible decrease in 'light' personal care. | 4 | 4 | 2 | 2 | 67% |
| | | | | | | |
| O.3 | The measuring instruments (P.3) show that the self-reliance of clients has increased. | 2 | 3 | 2 | 3 | 50% |
| | | | | | | |
| O.4 | The duration of a client in care has decreased (lead time). | 2 | 4 | 4 | 2 | 67% |
| | | | | | | |

Table 6: Table with scores per indicator

In this subsection we will explain how the indicators are established and why they are chosen. Subsequently, we will describe the performed assessment on quality of the indicator. We will do this again in the order of structure, process and outcome.

| | |
|------------|--|
| S.1 | <i>The organization has a clear and published vision about increasing self-reliance.</i> |
|------------|--|

Why did we include this indicator: We have included this indicator because we hold the view that having a clear vision is a prerequisite for steering well on self-reliance. To make sure that the delivered vision is official, we require that the vision must be published. This can for instance be done on the website of the provider. This indicator was often mentioned in interviews with homecare providers, they indicate that:

“Having a clear vision, and propagate it well within the organization, is very important to achieve successes in the field of self-reliance”.

A clear vision is required to carry out the current problems and solutions to everyone, both employees and clients. Everyone in the organization has to know why it should be different and how this should happen. A quote out of the interviews that indicates that an organization has a good vision is:

“Self-reliance has become part of our DNA”.

Assessment on quality of the indicator: The acceptance of this indicator is high, all respondents said that this is an important indicator. Therefore, this indicator gets four points on acceptance. A statement that captures this is as follows:

“Without a clear visions you don’t have a message for your employees and clients”.

The indicator is relatively easy to measure, it is not difficult to determine for Menzis whether or not a clear vision is published. However, the policy of an organization has to be read and this could take some time. Therefore, this indicator will gain three points for measurability. The reliability and validity of this indicator have less quality. For reliability this indicator gets only two points because the assessment of the vision will be performed by expert view. So it depends on the person who will assess what the result is. For validity this indicator gets three points because there is no direct known correlation between a clear vision and increasing self-reliance. We still give three points because it is according to the care providers very important to have a clear vision to reach goals (increasing self-reliance). We do not give four points for validity in this situation because there is no scientific evidence for this connection. This argument applies to all indicators.

| | |
|------------|---|
| S.2 | <i>Employees receive active steering on increasing self-reliance from the management.</i> |
|------------|---|

Why did we include this indicator: This indicator builds on the previous indicator. It is not only important to have a clear vision, this vision must also be disseminated. A clear and progressive vision is worthless when it is not disseminated in the whole organization. The dissemination can for instance be done by organized meetings with employees or by standardized frameworks for each care team.

Assessment on quality of the indicator: Not all home care organizations are satisfied with this indicator, some organizations say that:

“Active steering doesn’t fit in our organization because our organization consists of self steering teams” or

“It depends on the structure of an organization, furthermore, increasing self-reliance is a social responsibility”.

Not all organizations are unsatisfied, one organization says that they actively motivate and teach their district nurses to increase a clients self-reliance because they think that is a very important aspect. All together, for the acceptance criteria this indicator will gain three points. The measurability get two points because its due to organizational differences between organizations quite hard to determine how this steering will take place in an organization. The reliability gets two points too. During our observations and interviews we found an example that indicates that this indicator is not very reliable; one of the managers said in the interviews that they actively steer their employees on improving self-reliance. However, the employees of this organization denied this during the observation. The validity criterion of this indicator gets three points, we assume that organizations with informed and motivated employees are better able to improve the self-reliance of clients.

| | |
|------------|--|
| S.3 | <i>Self-reliance has to be taken into account during the making of a plan of care.</i> |
|------------|--|

Why did we include this indicator: We have included this indicator in our assessment because we assume it is important to take self-reliance into account before the start of delivering care. The performed participant observation showed us that most organizations made use of a classification system for composing a plan of care (Omaha). With this classification system an action plan can be made to improve the self-reliance of clients. Besides that, the interviews and participations showed us that the family of a client always will be involved during the preparation of the plan of care. By doing this the district nurse can have a critical look at what care the client actually needs and what things they can do with help of the family (informal care). By actively involving the family in this process, the quantity of professional care can be minimized.

Assessment on quality of the indicator: All organizations we have spoken during the feedback sessions said that this is a very relevant indicator. One of the respondents said:

“This is the realization of indicator S.2, with this format we require everyone to look critical to the self-reliance of clients”.

According to the respondents this indicator is also easily measureable. Organizations can show which classification system they use and all client data inside the system can be shown too. Because everyone agrees with this indicator we give both the acceptance criterion as the measurability criterion of this indicator four points. The reliability will get four points because there are less different classification systems and for the assessor it is easy to determine whether or not the self-reliance will be taken into account in the system. The validity of this indicator is also quite high, when everyone is forced to look critical at the situation of self-reliance by clients there will be provided less unnecessary care and more self-reliant clients. We give three points for this criterion. A nuance on this indicator could be that you cannot make sure that all employees actually use the classification system in practice all the time. Hence, we expect that when the facilities around this system are well regulated it is likely that all employees will actively use such a classification system. This was confirmed by our performed observations.

| | |
|------------|---|
| S.4 | <i>There is a medical center available to clients (for instance for personal alarms and remote care).</i> |
|------------|---|

Why did we include this indicator: This indicator is included because we have seen it during our observation. One of the home care organizations has the availability of a medical service center. This medical service center, where a professional nurse is 24/7 available, is used for many purposes. For instance: personal alarming, ‘good morning-service’ (to avoid loneliness), remote healthcare and reading out data about the health of clients. This service lead, according to this organization, to the fact that clients become more self-reliant and are able to live at home for a longer period.

Assessment on quality of the indicator: Not all organizations have the availability of a medical service center, but almost all organizations have the availability about subjects of a service center like personal alarms, this often goes directly via the district team. However, all respondents said that this is a relevant topic and expect that they will make developments on this topic in the future. Therefore, this indicator gets four points on the acceptance criterion. It is also easy to determine whether or not the organization has the availability of an medical service center, but on the other hand, it is not clear for everyone which subjects exactly belong to the medical service center. First there must be a clear framework with subjects who belong to the medical service center. Because of this unclarity about the exact content of a service center, both the measurability as the reliability get two points. The validity criterion gets three points because of the fact that a medical service center is a quite new and promising concept which can contribute to more self-reliance.

| | |
|------------|--|
| S.5 | <i>There are training facilities available for informal carers (so they are able to substitute work from the nurse).</i> |
|------------|--|

Why did we include this indicator: Some organizations offer training for informal carers. Training informal carers can lead to less dependency on professional care and therefore lead to less care costs and more self-reliance. The interviews revealed that there are often situations where:

“There is a carer available but they are too shy and do not exactly know what they can do to help”.

With support for carers this can be improved:

“We have set up a special training for carers so they are able to arrange care with the nurse”.

Furthermore, it is very important to keep an eye on the carers, it is not an exception that they become overloaded. Preventing this is also a subject of the course. During the observations we also noticed that if a carer is present, most of the time the partner of the client, they were actively involved in the process and were assigned tasks. With a training session, this process of cooperation may possibly be optimized.

Assessment on quality of the indicator: All respondents think that this is a relevant subject, they expect that training for informal carers will lead to substitution and more self-reliance for clients. So, for the acceptance criterion this indicator gets four points. Every organization has organized the facilities for training carers in their own way with other modules and systems. It is easy to determine if an organization offers training for carers, but because of big differences between organizations it is difficult to determine what manner is the most successful. Therefore this indicator gets three points for measurability and two points for reliability. We assume that a certain degree of training for carers will improve the self-reliance of clients, therefore we give three points for the validity of this indicator.

| | |
|------------|---|
| S.6 | <i>There are training facilities available for employees.</i> |
|------------|---|

Why did we include this indicator: Besides the training for carers, a home care organization can also offer trainings facilities for their employees. In most cases, the district nurse of each team receives a training and will provide this information to the rest of the care team. The purpose of these trainings for district nurses is to be better able to indicate and compose a care plan. We expect that this will lead to more self-reliance because of the nurse has a more critical and professional point of view.

Assessment on quality of the indicator: This indicator is comparable in quality with the previous indicator (S.5). This is because of the fact that both indicators assess the training facilities. Therefore, this indicator gets the same scores for acceptance (four), measurability (two), reliability (two) and validity (three). It would be an option to merge this indicator with the previous indicator but we argue that the training facilities for informal carers are definitely different from the training facilities for employees. It requires different knowledge and facilities, besides that the presence of the one does not indicate the presence of the other. Therefore, we will not merge them into one indicator.

| | |
|------------|---|
| P.1 | <i>There is a visible trend of the increase in the quantity of delivered AIV-care (Advice, Instruction and Education) within an organization.</i> |
|------------|---|

Why did we include this indicator: We expected that an increase in the quantity of AIV leads to more self-reliance because of the fact that clients received more training and advice in order to improve their lifestyle. In addition, the client learns to become independent again. Because they are well supervised and informed they will at some point have a better control over their disease and become more self-reliant according to several interviewees. The current situation could be compared with the situation of one or two years ago to make a comparison.

Assessment on quality of the indicator: All respondents agreed that this indicator says something about self-reliance, but it is unclear what exactly. In addition, AIV is a part of prevention and it is difficult to demonstrate the effect thereof. We therefore give two points for both the acceptance and validity of this indicator.

The amount of declared AIV is easily measurable, this data is available for the insurer. However, it is not possible to ascertain what is actually delivered at home. Organizations often have a certain amount of money to spend on AIV and that is consumed in most cases. In the interviews, the following statement was made:

“District nurses may only write a limited number of hours on AIV. Because of this limitation, you do not know whether you have the actual amount of AIV. The outcome of this measurement is likely to be not equal to the reality”.

This indicator therefore scores poorly on measurability and reliability, both are assigned to get one point. A nuance on this indicator is that we assume that there are no large differences in AIV-budget between providers.

| | |
|------------|---|
| P.2 | <i>There is active promotion of the use of e-health applications and other technologies that help to increase the self-reliance from clients.</i> |
|------------|---|

Why did we include this indicator: All respondents have high expectations of e-health applications in home care, they think that an increase in e-health applications will lead to more self-reliance for clients. This is indicated by the following quotes:

“We do a lot of investments in e-health to improve the home situation of the client” and

“We are in a digitization drive”.

Examples of promising e-health applications for home care are: remote care through video calls, ‘Medidos’ (helps users to remind that they have to take their medicines) and the ‘Obli’ (helps users adequate and regular drinking). All these examples are currently used in practice, but according to the respondents there is still much room for improvement and expansion. During the observations we have seen some of these e-health applications in practice, it looks promising but we have to keep in mind that it is not suitable for everyone.

Assessment on quality of the indicator: According to the respondents this is a relevant indicator, all home care organizations have some projects with e-health. The acceptance of this indicator will therefore be assessed with four points. The indicator is also easily measurable, the measurement could for instance be done by counting the number of deployed devices. In this case it is not suitable to assess a home care organization on their investments in euro’s because not all e-health applications have to be paid directly by themselves. Furthermore, high investments in e-health may indicate backlog. In addition to the e-health application provided by home care organizations, there are also applications available that can be downloaded on mobile devices outside the system of care. According to the respondents the expectation is that the number of these apps will increase. These apps outside the system of care influence the measurability and reliability of our indicator. Although, we still give three points for both measurability and reliability because we expect that this development will be substantially the same in all organizations. The validity of this indicator gets three points because e-health does not in any case lead to greater self-reliance, it is dependent on the client.

| | |
|------------|--|
| P.3 | <i>The degree of self-reliance from clients is measured with a measuring instrument.</i> |
|------------|--|

Why did we include this indicator: In the literature research we found several tools that are able to measure the degree of self-reliance [12]. This indicator shows us whether a home care organization makes use of one of these tools. We assume that it would be very useful for an organization to measure the self-reliance of clients because this provides the opportunity to see direct results of steering on more self-reliance. With these results the organization can see if they make progression and whether or not they have to change policy.

Assessment on quality of the indicator: The interviews revealed that many respondents do not know about the tools to measure self-reliance. Furthermore, when we ask if organizations are willing to use one of these instruments they responded mostly dismissed. Quotes that support this are:

“For me there is no need to get extra tools to measure self-reliance, I believe that every single person desires to be self-reliant”,

“We do not measure the degree of self-reliance because it is not convenient for my staff and clients” and

“We have to be careful that we should not exaggerate when it comes to measurements. I have great confidence in the quality and professionalism of the district nurse 2.0”.

Not all organizations were against more measurements, there are also proponents:

“Currently, we are investigating whether we can introduce a measurement tool in addition to the Omaha system. We want a simple measurement tool to monitor the self-reliance of clients and make comparisons between different care teams”.

Because of the fact that most organizations are against the implementation of additional measurement tools the indicator gets two points on the acceptance criterion. It is easy to determine whether or not a home care organization makes use of an additional measurement system, so the measurability of this indicator will be good. On the other hand, measuring self-reliance is fairly difficult. The outcome of the measurement has to be corrected for the type of client, some clients are not able to become more self-reliant for instance. However, for Menzis it is easy to determine whether or not a provider makes use of a measurement tool, therefore this indicator gets four points for the measurability criterion. Another problem is that an unambiguous measurement system for all Dutch home care providers is not available, therefore it is hard to compare organizations with different measurement methods with each other. Because of the availability of many different measurement tools this indicator gets two points for reliability. We assume that the use of a measurement tool indicates an active attitude towards steering on self-reliance, therefore this indicator gets three points for validity.

| | |
|-----|---|
| P.4 | <i>The nurse evaluates the plan of care with the client and also looks for possible improvements of the plan.</i> |
|-----|---|

Why did we include this indicator: During the participant observation sessions we have observed that district nurses evaluate the plan of care with their clients. These evaluations are planned six weeks after the care delivering has started and will subsequently be performed biannual. The purpose of these evaluations is discussing whether or not the client is satisfied with the delivered care and whether the delivered care fits the demanded care. A conclusion of these evaluation could be that the client has become more self-reliant and therefore needs less professional care. Although, the conclusion of these evaluations could be that the client needs more professional care as well. Notwithstanding, we think these evaluations will lead to optimal utilization of delivering care and a critical view to optimize self-reliance for clients. Furthermore, it is also a form of increased self-reliance when clients interfere with the content of their own plan of care.

Assessment on quality of the indicator: All respondents stated that it is important to evaluate the plan of care with the client. However, not everyone believes that it actually contributes to increasing self-reliance. Besides that we found out by research that it is obligated for all home care organizations to evaluate the plan of care with the client. Hence, it will not be useful to assess organizations with these indicator because it is not distinctive. Because of that this indicator scores one on all criteria and will not be used.

| | |
|------------|--|
| P.5 | <i>The home care team evaluates the plan of care and looks for possible improvements or changes.</i> |
|------------|--|

Why did we include this indicator: Besides evaluating the plan of care with the client, the plan of care can also be evaluated within the care team. During the observations we have seen that teams evaluate the process of care around clients. The purpose of these evaluation sessions is to optimize the process of care by exchanging experiences and know-how about clients.

Assessment on quality of the indicator: All respondents believe that evaluating the plan of care contributes to more self-reliance for clients. The respondents indicate that it will be useful to have a good classification system to perform a good evaluation. With this classification system they are better able to compare the current situation of the client with the former situation. Because all organizations see the added value of evaluation the plan of care this indicator gets four points for the acceptance criterion. It is difficult to determine whether or not the evaluation actually takes place, all organizations can say that their teams evaluate the plan of care but is hard to prove. Hence, this indicator gets two points for measurability. Because it is difficult to determine to what extent the plan of care will be evaluated, the reliability criterion gets two points. The validity of this indicator is fairly good. We assume that organizations who structurally evaluate the plan of care are better able to improve self-reliance. Therefore this indicator gets three points on validity.

| | |
|------------|---|
| O.1 | <i>Decrease in average time spent per client by the provider (compared to a certain benchmark).</i> |
|------------|---|

Why did we include this indicator: All respondents indicated in the interviews that an improvement in self-reliance will lead to a decrease in average time per client. This is caused by the fact that clients will receive less professional care when they become more self-reliant [12] [30]. Decrease in average time will be a good indicator when a trend can be visualized.

Assessment on quality of the indicator: All respondents agree with this indicator and say that it is easy measurable. It is also easy to compare the current average time per client with the average time per client one year ago to show a trend. Therefore, measurability and acceptance get both four points on this indicator. The reliability of this indicator is also good and gets four points as well because the home care provider monitors the duration of care per client accurately. They also use this information for cost declaration by the insurer. An aspect that influences the validity of this indicator is the client population within an organization. Some organizations improve their cooperation with hospitals and receive patients from the hospital. This is called displaced hospital care (ziekenhuisverplaatste zorg) and needs more specialist care. This shift could lead to a higher average time per clients and has no correlation with steering on self-reliance. Therefore we give three points to the validity of this indicator.

| | |
|------------|--|
| O.2 | <i>There is a visible decrease in 'light' personal care.</i> |
|------------|--|

Why did we include this indicator: We include this indicator because according to one of the respondents:

“An increase in self-reliance will be visualized by a decrease of delivered ‘light care’”.

This is caused by the fact that ‘light care’ could be first substituted by client or carers, with or without tools to support. With ‘light care’ we mean for instance putting on compression stockings and administering eye drops. However, we are aware that substitution is not possible in all situations. In our observations we found an example of this indicator; a nurse teaches a client how to clean a wound whereby the nurse is able to half the time of a visit the next times.

Assessment on quality of the indicator: According to all respondents this is a relevant indicator, but not all home care organizations see this development in their own organization. One respondent said:

“This could be caused by the fact that we already indicate strictly, we can not further scrimp”.

To avoid this it could be possible to compare the data of the last five year to show a trend. Because all respondents agreed, this indicator gets four points on acceptance. The indicator is also easily measureable. All respondents said that they have this data available. Hence, this indicator gets four points on measurability. A comment which affects the reliability and validity of this indicator is as follows:

“If you visit someone you can observe him or her and see if they are looking good, this can work preventively. This is a nuance on the data. This can only be tested by delving into the casuistry (why do you keep giving those two shower sessions)”.

Therefore, we give the reliability criterion two points. The validity criterion gets also two points because you have to know the casuistry behind the numbers to make a judgment.

| | |
|------------|--|
| O.3 | <i>The measuring instruments (P.3) show that the self-reliance of clients has increased.</i> |
|------------|--|

Why did we include this indicator: This indicator builds on indicator P.3. In P.3 was asked if providers make use of a measurement system, a typical process indicator. However, the outcome of this measurement belongs to the outcome criteria. It will be useful for the assessment of an organization to get an insight in the results of the performed measurements.

Assessment on quality of the indicator: Logically, respondents who did not agree with indicator P.3 are also disagreeing with this indicator. As said before there were more opponents than proponents for this indicator. In the review sessions, all providers said that the quality for this indicator is comparable with the quality of indicator P.3. Therefore this indicators scores the same as indicator P.3 (two points for acceptance, three points for measurability, two points for reliability and three points for validity).

| | |
|-----|--|
| O.4 | <i>The duration of a client in care has decreased (lead time).</i> |
|-----|--|

Why did we include this indicator: During the interview sessions this indicator is mentioned several times. The explanation of this indicator is as follows: when district nurses get it done to increase the self-reliance of clients it is possible that the client at a certain moment does not need help anymore because he can fix it independently. So, in this situation the increase of self-reliance has led to a decrease in lead time. However, for this indicator it is very important to correct it for the population, a short duration of care is not favorable when you talk about palliative clients.

Assessment on quality of the indicator: Not all respondents see a strong correlation between self-reliance and a decrease in lead time:

“I do not believe that this has a strong correlation, the only thing I can imagine is that the delivering of care will start at a later moment”.

Other organizations said that they actually look to the lead time and try to make a prior estimate. Because of these different views this indicator gets two points on acceptance. However, all respondents said that the measurability of this indicator is good. They can easily show reliable data about the average lead time per client. Therefore, this indicator gets four points on both measurability and reliability. The validity of this indicator gets only two points because there is currently no strong correlation with self-reliance expected.

4.3 ASSESSMENT HOME CARE PROVIDERS

The third sub question is about how Menzis can make use of the criteria/indicators for assessment of home care providers. The indicators are composed to say something about the quality of a certain organization (in this case about steering on self-reliance). The indicators are likely to be useful for insurers to purchase the best qualitative healthcare and also for home care providers to determine on what aspects they can improve.

The overall assessment (i.e. the assessment based on several measurements) of the home care providers can be done in different ways. We will describe two main options below. Next, we describe what indicators can be used. The results of the assessment could be compared with other home care organizations (compare external), with previous assessments (compare internal) or both. Norms are out of the focus of this thesis and are not discussed in further detail.

Two options for overall assessment

The first option for the overall assessment is to perform a measurement of the indicators by purchasers of Menzis. An advantage of this option is that it is possible for an insurer to assign consequences to the measurement outcome. For this option it will be preferable that the selected indicators are easily measurable and that the required data is available. Subsequently, the results of this measurement will be discussed with the home care provider and the total score can be used to compare different organizations and reward organizations with a high score. Or the insurer can choose to only contract organizations with high scores.

Instead of a measurement of the indicators, another option for assessment with the indicators is to use them as an evaluation framework. This framework could be used during conversations between insurer and home care providers. By performing these evaluations with the indicators as framework, both the insurer and home care provider are likely to get a better picture of the situation and appointments could be made about possible improvements on self-reliance. By choosing for this option, cooperation between the insurer and the home care provider is likely to increase. An disadvantage of this option is that it does not gain hard evidence but merely gives an indication of the situation.

In an ideal situation with qualitative good indicators we will advice to make use of the first option because this gains the most useful information for insurers. Furthermore, this option makes it better possible to make a reliable distinguish between organizations. However, when the indicators do not have enough quality the second option is a good alternative to start with assessment of providers.

Indicators to be used

Menzis must also make a choice on what indicators they will use for assessment. This research has yielded a total of fifteen indicators with different scores on quality. In this sub section we will give two possible lists of indicators that Menzis can use dependent on which criterions are most important. Both lists include the same basic list of indicators, but have a different additional set of indicators (as described in the method section).

The indicators have to fulfill the following requirements in order to be included to the basic set of indicators: the indicator must score four points on acceptance and at least three points on measurability, reliability and validity. In this basic set of indicators is acceptance the most important criterion, so it has to gain the maximum score of four (strongly agree) in order to be included. Besides that, it is desirable to have at least one indicator of each category (structure, process, outcome). This is desirable because of the completeness of the assessment. The indicators in our basic list are by far the best per category (see Table 6). The basic set of indicators is as follows:

| Indicator | Acceptance | Measurability | Reliability | Validity |
|---|-------------------|----------------------|--------------------|-----------------|
| <i>S3; Self-reliance has to be taken into account during the making of a plan of care.</i> | 4 | 4 | 4 | 3 |
| <i>P2; There is active promotion of the use of e-health applications and other technologies that help to increase the self-reliance from clients.</i> | 4 | 3 | 3 | 3 |
| <i>O1; Decrease in average time spent per client by the provider (compared to a certain benchmark).</i> | 4 | 4 | 4 | 3 |

Table 7: Table with basic set of indicators

This basic set is quite limited, just three indicators are not likely to be sufficient to make a good assessment because we assume adverse effects will occur in this situation (see discussion session for further elaboration). It is up to Menzis which indicators will be added to the final list of indicators. In contrast to the providers, measurability of the indicators is an important criterion for Menzis. It will be more practicable to work with indicators when they are easily measurable.

The type of relation between insurer and provider will also influence the chosen indicators. An insurer could state: ‘we determine the measurements’ or ‘we want to increase cooperation with providers’. In the first scenario the measurability is most important and in the second scenario the acceptance is most important because acceptance has much to do with the opinion of the home care providers and they are important in this scenario. For both scenarios reliability and validity will be evenly important because we assume that both parties find it equally important. We assume this because for both parties it is important that the outcome of the indicators is valid and reliable because of the possible consequences. Below we will give the indicators the requirements of the two scenarios. The set of indicators that belongs to each scenario will be added to the basic list of indicators and this forms the final list of indicators. In addition, we checked with a purchaser of Menzis if the indicators are sufficiently distinctive. This means that there will be differences between providers on the outcome of the indicators. When this is not the case it is not useful to measure indicators that correlate strongly. The purchaser of Menzis indicated that our indicators are sufficiently distinctive.

First scenario: *measurability is important*

In Table 8 below we describe the requirements that are set for the first scenario and in Table 9 we present the outcomes. Because measurability is the most important criterion in this scenario it has to gain the maximum score (4 points). We recommend that the average of reliability and validity is at least 2.5 to guarantee a certain amount of quality. Furthermore, in order to prevent inferior indicators will enter the list, all indicators with the minimum score (1 point) are denied.

| Requirements | Description |
|--------------|--|
| 1 | At least 4 points on measurability |
| 2 | Average of reliability and validity is at least 2.5 |
| 3 | Acceptance, reliability and validity at least 2 points |

Table 8: Table with requirements scenario one

| Criterion | Acceptance | Measurability | Reliability | Validity |
|--|------------|---------------|-------------|----------|
| P3; <i>The degree of self-reliance from clients is measured with a measuring instrument.</i> | 2 | 4 | 2 | 3 |
| O4; <i>The duration of a client in care has decreased (lead time).</i> | 2 | 4 | 4 | 2 |

Table 9: Table with indicators scenario one

The first scenario gives us only two additional indicators. Indicators S.3 and O.1 also fit the requirements of this scenario but these are already in the basic list of indicators (Table 7).

Second scenario: *acceptance is important*

In Table 10 below we describe the requirements that are set for the second scenario and in Table 11 we present the outcomes. Because acceptance is the most important criterion in this scenario it has to gain the maximum score (4 points). As in scenario one we recommend for this scenario that the average of reliability and validity is at least 2.5 to guarantee a certain amount of quality. Furthermore, in order to prevent inferior indicators will enter the list, all indicators with the minimum score (1 point) will be denied.

| Requirements | Description |
|--------------|--|
| 1 | At least 4 points on acceptance |
| 2 | Average of reliability and validity is at least 2.5 |
| 3 | Measurability, reliability and validity has to be at least 2 |

Table 10: Table with requirements scenario two

| Criterion | Acceptance | Measurability | Reliability | Validity |
|--|------------|---------------|-------------|----------|
| <i>S1; The organization has a clear and published vision about increasing self-reliance.</i> | 4 | 3 | 2 | 3 |
| <i>S4; There is a medical center available to clients (for instance for personal alarms and remote care).</i> | 4 | 2 | 2 | 3 |
| <i>S5; There are training facilities available for informal carers (so they are able to substitute work from the nurse).</i> | 4 | 3 | 2 | 3 |
| <i>S6; There are training facilities available for employees.</i> | 4 | 3 | 2 | 3 |
| <i>P5; The home care team evaluates the plan of care and looks for possible improvements or changes.</i> | 4 | 2 | 2 | 3 |

Table 11: Table with indicators scenario two

The second scenario gives us five additional indicators. Indicators S.3, P.2 and O.1 also fit the requirements of this scenario but these are already in the basic list of indicators (Table 7).

It is noteworthy that there will not be added any outcome indicator, but a lot of structure indicators. This is caused by the fact that outcome indicators do not score high on acceptance. This may indicate that providers do not like to be assessed on these indicators or expect difficulties with the measurements. For Menzis this has not to be a problem because, according to Donabedian good scores on structure and process indicators may lead to good scores on outcome indicators [1].

5. DISCUSSION

We start the discussion subsections with a short summary of the most important results. After this we discuss the results, describe the limitations of the study followed by some recommendations for further research.

Client characteristics

At first we want to elaborate on the meaning of the results that we found in the first sub question about client characteristics. The characteristics that we found in our research indicate a client appropriateness to become (more) self-reliant. So, before an insurer can make a good assessment on how a home care provider performs on increasing self-reliance with help of the indicators found in this research it would be useful to know something about the client population of a provider. We assume that the formation of a population has a lot of influence on the outcome of improving self-reliance. A provider with only young and vital clients is likely to have better results on improving self-reliance than a provider with old and not vital clients. However, according to Menzis it is currently quite difficult to map the population of a home care provider.

The characteristics that we found in sub question one could maybe be used to be better able to map the formation of a population. The health care provider has to provide some extra data to enable this. We expect that not all aspects are suitable. Therefore we have selected four client aspects whereof we assume that they are suitable to map the situation. We assume they are suitable because they are easily measurable and they are based on both literature research and practical research (except characteristic 'new clients'). Additional research is needed to determine whether or not the other aspects are suitable in the process of mapping the population. We will advice to do this in a conversation between insurer and home care provider in order to discuss the possibilities to gather more data (for the aspects who are currently not available). See Table 12 for an overview of the client aspects.

| Client aspects | Suitable | Reason |
|--|-----------------|---|
| Clients who are motivated to keep in control of their own lives. | No | Not available |
| The new generation of clients (75 -) [28]. | Yes | |
| New clients. | Yes | |
| Clients who have only restrictions with: household / ADL (Activities of Daily Living), daytime activities and social activities or physical functioning and mobility [28]. | Yes | Available in client file |
| Clients who have no restrictions with psychological functioning or cognitive functioning [28]. | Yes | |
| Clients with a high socio-economic status. | Maybe | |
| Clients with enough financial spending. | Maybe | Not, or not easily available (not available in client file) |
| Clients with an active social network around them [29]. | Maybe | |

Table 12: Table with aspects for improving self-reliance [28] [29]

We did not find any evidence in literature about three client aspects in Table 12, these aspects are only based on our observation and/or interviews. This applies to the aspects about motivation to keep in control, the socio-economic status and financial spending. We expect that this is caused by the fact that these aspects are not easily measureable or (currently) not available for home care organizations. However, we expect that these aspects could be good indicators, because our research indicates a relation with self-reliance. Therefore we recommend to conduct further research on these aspects.

Indicators

For answering sub question two we formulated fifteen possible indicators, subsequently we have assessed them on quality with help of home care providers. In Table 13 below we describe the basic set of indicators. These indicators have according to the respondents the best quality and the best potential to be used for assessment. These indicators score at least four points on acceptance and at least three points on measurability, reliability and validity (as mentioned in the method section). However, only three requirements comply to these requirements. We assume that this is not enough for practical use. When you only use three indicators the assessment might be too limited and it is possible that providers pay too much attention to this limited set of subjects. To prevent this, we recommend to increase the set of indicators. Therefore we composed two list of indicators that can be used in addition to the basic list of indicators (see results section). It is up to the policy of an insurer which one will be used. Combinations are possible if desirable.

There is a link between the basic set of indicators and the literature. A variant on our indicator S3 about the plan of care is described in a report from ActiZ. In this report is mentioned that working with systems (a plan of care) improves the quality of care [31]. To realize this, ActiZ developed a format that is called 'zorgleefplan'. This format has to improve the system of multidisciplinary health care around the client. This fits today's society wherein is expected that healthcare providers contribute to the quality of life of clients [31]. Indicator P2 is also in line with the current literature, there are many articles written about the use of e-health in homecare and people are more interested in the use of e-health. Furthermore, with a smart way of introducing e-health into home care, the quantity of delivered care could decrease. However, we did not find much information about our indicator about the decrease in average time spent per client. This is possibly caused by the fact that it is unknown how to apply this in practice and because it is difficult to interpret the results of this measurement.

We recommend to compose a set of indicators in cooperation between insurer and provider to make it workable and acceptable for both parties. The indicators could serve as a tool for the insurer and must not act as a significant burden. By this we mean that the indicators must be easily workable and do not deliver a large amount of work for the insurer.

| | Acceptance | Measurability | Reliability | Validity |
|---|------------|---------------|-------------|----------|
| <i>S3; Self-reliance has to be taken into account during the making of a plan of care.</i> | 4 | 4 | 4 | 3 |
| <i>P2; There is active promotion of the use of e-health applications and other technologies that help to increase the self-reliance from clients.</i> | 4 | 3 | 3 | 3 |
| <i>O1; Decrease in average time spent per client by the provider(compared to a certain benchmark).</i> | 4 | 4 | 4 | 3 |

Table 13: Table with basic set of indicators

As said before, the set of indicators could be used to assess home care providers on improving a clients self-reliance. Besides this, with help of the indicators Menzis can contribute to better care. This is caused by the fact that Menzis actively supports home care providers to improve on self reliance and we assume that this will lead to more quality of care. Furthermore, this fits to the current developments were healthcare insurers get more responsibilities in improving the quality of healthcare and try to stop the rising healthcare costs. Currently, insurers have less tools available with which they are able to measure things. This set of indicators could be an experiment with such a measurement tool and after evaluation the users could decide whether or not they want to make use of more measurement tools to broaden their vision. A possible option for further research by insurers is to look at the supply of different tools that can support clients in their lives. Our performed observations and interviews revealed that it was often unknown which tools are available for clients. One of the respondents suggested that the insurer could take more responsibilities on this topic. When this research reveals that there are many opportunities on this topic, insurers can work on this topic and if this will be successful it could indirectly lead to a better self-reliance of clients.

Finally, it would be useful for Menzis to take into account the clients aspects of an organization during the interpretation of the results of the assessment. Especially the scores on the outcome criteria will be more valuable when a correction for the population is made. However, the scores of the outcome indicators are also useful without correction for population when they are used for internal assessment. It can be used to make a comparison between the current situation and the situation one year ago to show whether or not there are improvements (assuming that the population stays about the same).

Limitations

The study has some limitations. The number of respondents and duration of the study is the first limitation. Currently, we only got an impression of the situation because there were only three organizations in the sample and each observation has a short duration of one week. When more time would have been available the participant observation should have lasted longer to get a better picture of the actual situation. It was not an option to extend the duration of our participation and observe more organizations. In studies of longer duration, it is not unusual that observations will take months [25] [27]. A longer duration could have lead to other findings. By a longer duration you are better able to distinguish structural- and incidental observations. When you come only one or two times at a client it is not possible for the observer to make sure if their behavior is normally or deviant.

Another limitation of this study is that each organization has its own client population. And logically, all populations are different from each other. If an organization has a more severe population to take care of they will, in all probability, deliver more care than an organization who has a moderate population to take care of. To compare organizations, a case mix correction has to be performed to correct for differences in client population. This is difficult to perform and does not fit in the scope of our research. For the case mix correction, it may be an option to make use of the characteristics formulated in the first sub question of this research.

A limitation of the participant observation is that they have not led to additional indicators with respect to the interviews. Knowing this, one week of observation would have been enough to gather this quantity information. However, the observations were instructive and useful to get an impression of the way of working within a home care provider. Furthermore, we have not found many differences between organizations during the observations. This may be caused by the fact that we conducted the observations with an explorative view without any preparations of points of interest.

The choice to work with indicators and the process of formulating and assessing these indicators has also some limitations. Although performance-indicators could provide insight into the quality of care, we have to take into account some risks: performance indicators could lead to providers only focusing on the processes for which an indicator is formulated, and that other processes without indicator are neglected [18]. Performance indicators could also lead to adverse reactions. For instance manipulating the data to get desirable scores or avoid the treatment to severe or high risk clients [18]. Therefore, it is important to formulate indicators for a broad range of aspects. We try to do this with help of the model of Donabedian which states to look at the whole process of care. Another limitation is that the AIRE method is not performed in an optimal way. The assessment of

the indicators on the acceptance, measurability, reliability and validity criteria is performed by one person. This has influence on the reliability of the assessment of the indicators. The outcome of the assessment could have been different if another researcher had performed the assessment. It would be more reliable to do this with several researchers independently and afterwards discuss the scores of these assessments. Due to lack of time this was not possible in our research. To make the list of final indicators more reliable, further research is needed. In further research the assessment of the indicators with the AIRE method has to be performed by several researchers. Another option is to let the providers carry out this assessment independently and compare it with the results of the researchers.

A final limitation is that our research has been limited to the perspective of the insurer. In our perspective Menzis is always the one who purchases healthcare for their customers/membership. But when you talk about self-reliance, the client is the most important one. It can be argued that in an ideal situation to reach a maximum of self-reliance the client has to purchase their care by themselves. The client is the one who will receive the care after all, so they have to choose by themselves who will deliver that care and at what moment that has to happen. This situation asks for another mindset. In this mindset the client receives a certain amount of money to purchase healthcare (personal budget), this is called client chasing budget (money follows demand). This is an explanation of a broader view from another perspective and further does not influence our research.

Recommendations for further research

We have some recommendations for further research. The most important recommendation for further research is to find a way to perform a case mix correction for the population of organizations. Whenever a case mix correction for population is performed, it becomes possible to assess and compare between organizations on output.

In this study we did not test the indicators in practice. However, we will advise in further research to test whether the indicators are practicable, and thereafter adjust them when necessary. We come up with this advice because, despite our quality requirements, it could be possible that an indicator is not sufficient.

Another issue that has been noticed during our research is the direct influence of the district nurse on the quantity of work of a care team. This relation is caused by the fact that the district nurse is responsible for the plan of care and determines how many care a certain client will receive. In the first place, this does not seem to be a problem. However, the district nurse is often part of the whole care team and it could be difficult for him/her to decrease the amount of delivered care. This could be difficult because a decrease in the quantity of care has a direct influence on the quantity of work for the care team, and thus affected their wages. There might be a question of conflicting interests for the district nurse in this situation. For this reason, we recommend further research on this topic.

Our final recommendation is to involve more organizations into the research. The quality and validity of the indicators will be better when more organizations are involved. Currently, only organizations who are set into the Menzis region are part of the study population. To be able to conclude something about the entire Dutch home care sector, providers from all parts of the Netherlands can be included in the study population. When organizations from all parts of the Netherlands are

involved we expect to find more indicators and more aspects that influence self-reliance. This will be caused by the fact of the different environments where providers deliver care and a different policy which is part of this, and given that the self-reliance of a client is likely to be influenced by their environment and available facilities.

6. CONCLUSION

In this research we tried to find an answer to the question how to determine whether a homecare provider is structurally improving the self-reliance of clients.

First of all we found several client characteristics that could influence the chance to become self-reliant. The most important characteristics that we have found are: age, whether or not the client is a 'new' client and the health condition of the client. It is important to take these characteristics into account during interpreting the results of the indicators, especially the scores on the outcome criteria will be more valuable when a correction for the population is made

Subsequently, we formulated a set of fifteen indicators out of information that is obtained during interviews and a participant observation. The indicators are developed to perform an overall assessment of a provider. We propose to do this in one of the following two ways; the first option is to perform a measurement of the indicators by purchasers of Menzis. Instead of a measurement of the indicators, another option for assessment with the indicators is to use them as an evaluation framework. We advise to use our indicators as an evaluation framework because the indicators are currently not enough reliable for a performance measurement. Besides that, we recommend Menzis to first gain some experience on performance measurement.

To determine the quality of the indicators we checked them in cooperation with home care providers on acceptance, measurability, reliability and validity. After the quality check we were able to determine what indicators have the highest scores on these criteria. These indicators are: *Self-reliance has to be taken into account during the making of a plan of care*, *Active promotion on the use of e-health applications and other technologies that help to increase the self-reliance from clients* and *Visible decrease in average time per client (compared to a certain benchmark)*. These indicators are the basic set of indicators and could be extended with other indicators according to the preferences of Menzis. In addition, we formulated two more lists based on different requirements

Within the scope of an explorative research we made a start with formulating indicators for measuring whether a homecare provider is structurally improving the self-reliance of clients. However, this is just the basis for a final list of indicators. Currently, the indicators have not enough quality to use in practice. Further research on the reliability is needed to make a more reliable list of indicators. Possibilities for further research are to involve more organizations into the research and performing quantitative research in order to improve the scientific quality of the indicators.

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