

Analysing information needs of decision-makers in the implementation  
of cost-effective innovations in mental healthcare

*Cost-effective analyses and the importance of supplemental financial information*

Thesis

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## PREFACE

This thesis is written as a final degree for the master of Health Economics Policy & Law, at the Erasmus University of Rotterdam. With an internship commissioned by ZonMw, I started my research at the beginning of September 2011. Given the current cost-savings in mental healthcare my research topic was created with the idea that the development of cost-effective innovations, and in particular their implementation, should be encouraged in the Dutch healthcare system. The main focus of my research, therefore, is how to improve the implementation of cost-effective innovations in mental healthcare.

In the process of this research, I learned to work professionally and independently. Nevertheless, without the help of specific people I would never have been able to stay focused and motivated.

Therefore, I would like to take the opportunity to thank L. Hakkaart-van Roijen for the guidance and coaching during my research. Her guidance and especially her enthusiastic supervision were essential for writing and shaping my thesis.

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## ABSTRACT

Affordability of healthcare is currently a high priority on the political agenda. Through technological progress and the increasing healthcare demand, costs of Dutch healthcare constantly rise. Choices have to be made as to whether or not to implement a medical innovation. Since the eighties, cost-effectiveness analyses are applied increasingly for decision-making in healthcare. Generally, it aims to improve quality and increase efficiency. Although these goals are generally accepted, it seems very difficult to achieve them in practice, especially in mental healthcare. Hence, new strategies must be explored in a tight financial climate and the still increasing healthcare expenditure.

Although the insufficient implementation of cost-effective innovations has been acknowledged by various parties involved (i.e. ZonMw), there is currently limited literature on how to support decision-makers in this process of implementation. In response to this, a qualitative research project was conducted to decrease the so-called gap between theory and practice in mental healthcare. By means of semi-structured in-depth interviews with stakeholders from three different decision-making levels – healthcare insurance level, healthcare institutional level and the national level – this research seeks to identify decision-maker's information needs with respect to the implementation of cost-effective innovations. On the basis of both the literature and the interview findings, information on individual costs and revenues (i.e. budget impact, return on investment, business case) stands out as having a direct association with the implementation of cost-effective innovations. In addition, some supplemental general needs came to light during the course of this research, including appropriate financing, the presence of financial incentives and the need to generate organizational- and social support. Next to these supplemental information and general needs, it became clear that research that provides information on the cost-effectiveness of an innovation was of limited influence on choices being made. Reasons for this were the inappropriate presentation of information (i.e. individually achievable benefits were invisible) and uncertainty about the quality of information.

This research, therefore, recommends the need to support decision-makers by responding to their individual (information) needs in order to improve the implementation of cost-effective innovations. In addition, direct attention should be paid to the way information is formulated and presented.

## INTRODUCTION AND RATIONALE

### 1.1 OUTLINE OF THE PROBLEM

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#### THE NEED FOR EFFICIENCY

The ever-growing healthcare demand is currently a topic of concern in the Netherlands. Due to the aging society and the progress of medical technologies and pharmaceuticals, costs of the Dutch healthcare system are growing rapidly. In addition, the impending financial crisis forces the Dutch government to cut healthcare costs, which stimulates the need for affordable and qualitative care. Therefore, developing and implementing cost-effective healthcare services is important (Kenl and IP, 2008). In order to realize cost-effective healthcare services, different decision-makers should ask themselves how they can continue to improve the quality of care taking costs into account (Øvretveit, J. 2009). The following quotation from a healthcare professional is illustrative of the previous situation (drawn from the empirical research described in this study, see Chapter 4):

*“Helaas is het niet meer zo dat kwaliteit allen nog maar bepaalt. Ook de economie drijft nu vaak het handelen van een instelling.”*

Health insurers want the most effective care at the right time, at the right place with the most suitable provider and optimal costs. Patients want the best care while paying as little as possible. Healthcare providers want to offer their patients the best care, and society wants healthy, vital people, who actively participate in work and community. All these stakeholders will benefit from research into cost-effective healthcare. Cost-effectiveness, however, should not be misunderstood to imply cost-savings. Overall, cost-effectiveness research is an analytical tool whose purpose is to provide information about the relative value of different services and programs. The term “cost-effective” describes the dominant option in such an analysis, whose common meaning is ‘value for money’ (Drummond, 2005). Consequently, over the last years major investment in cost-effectiveness research have been made. Knowledge of cost-effective innovations therefore has increased rapidly.

Mental healthcare seems to lag behind in the move towards a more efficient healthcare, as research on cost-effective innovations is still new and far behind somatic care (Rijksoverheid, 2010). The majority of psychological problems have no scientific evidence of treatment effectiveness and cannot account for additional costs (TOPGGz, 2011). Moreover, the vague and complex character of mental illnesses hinders efficiency. Partly because of this, the high prevalence of mental problems, the major

burden of disease and high costs to society, special attention should be assured to the identification and application of cost-effective treatments in mental healthcare (Brouwer, Hakkaart, and Putters, 2012).

### THE FAILURE TO EXPAND AND IMPLEMENT

Although the total amount of research into cost-effective healthcare innovations has been growing rapidly in recent years, it seems that the transfer of this research into daily practice is often very difficult (TOPGGz 2011, IQ healthcare 2010, Mickan 2011). Many innovations, therefore, require a lengthy period, often many years, before they become widely adopted and implemented (Grol and Wensing, 2006). Indeed, it has been argued that choices about implementing a “cost-effective” innovation are not always the same to anyone, as consequences of the implementation vary among different decision-makers in society (Ioannidis and Garber, 2011). Accordingly, cost-effectiveness results may not be directly applicable to individual decision-making as they seek different objectives (Kumaranayake and Walker, 2002). With respect to mental healthcare, an example is illustrative including the use of information and communication technologies, also referred to as e-health (Putters et al. 2012, TOPGGz 2011). The use of e-health is expected to lead to improvements in healthcare quality (e.g., through better communication) and efficiency (e.g., through reduced duplication of investigations). However, despite the ‘attractiveness’ of e-health initiatives, decision-makers may not be convinced as it’s implementation mainly remains off (Murray et al., 2011). Even though the implementation of cost-effective innovations is probably going faster than before, due to new media and tools for knowledge transfer, implementation still does not occur sufficiently (Grol and Wensing, 2006).

### ZonMw

ZonMw, as a coordinator of many healthcare related studies, including cost-effectiveness research, is one of the largest research-funding organisations in the Netherlands. It commissions inter alia cost-effectiveness research with a focus on the recognition, assessment and the translation of this research into practice. The main objective of ZonMw is to promote healthcare research and to work on a broad implementation of these research results in the Dutch healthcare systems (IQ healthcare, iBMG, NIVEL, 2010). RAND Europe explored in a Dutch pilot study whether the results of ZonMw’s cost-effectiveness research (DO program 2001 – 2004) have actually led to changes in healthcare policy and practice. The study found the attempts at efficiency did not yet succeed in the Dutch healthcare system (Oortwijn, et al., 2006). ZonMw, therefore, seeks initiatives to support and improve interaction between researchers and practitioners (Kammen et al., 2006). In order to respond to these initiatives, this research is developed in cooperation with ZonMw.

## 1.2 STUDY OBJECTIVES

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The outline of the problem, described in the section above, resulted in the following study objectives:

**1)** To explore (information) needs of different decision-making levels with respect to the implementation of cost-effective innovations, in order to better understand the reasons behind the failure to expand and implement these innovations in mental healthcare. In order to achieve these goals, this study aims to present a clear overview of the most important (information) needs from the perspective of healthcare insurers, mental healthcare institutions and the Ministry of Health Welfare and Sport. Accordingly, by responding to these (information) needs, an attempt to support decision-makers in the evaluation and implementation of innovations might be realized, in ways that realistically recognize, encourage and give priority to cost-effective innovations (sub-questions 1, 3 & 5).

**2)** As cost-effectiveness evidence is likely to be required in the future, it is of great importance that decision-makers understand the basics of these data. Therefore, the second objective is to gain understanding about how different decision-makers in mental healthcare conceptualize and assess cost-effectiveness research, and identify factors which possibly inhibit usage. This will contribute to a better understanding of how to make evidence transfer more successful between researchers and users of this evidence. Hence, the utilisation of cost-effectiveness research will be optimized (sub-questions 2 & 4).

Conclusions of this study might challenge the theory and practice of implementation and hence help to change our understanding of how to support decision-makers in the attempt to increase a cost-effective (mental) healthcare system.

## 1.3 RESEARCH QUESTION

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Following from the objectives, this study more specifically aims to answer the following main research question:

*How can researchers support decision-makers in mental healthcare, to improve the implementation of cost-effective medical innovations?*

In order to answer this question, the main research question breaks down into the following sub-questions:



- 1) How is 'implementation' defined in the literature and what are main factors influencing the process of implementation?
- 2) What is cost-effectiveness research and what is its contribution to decision-making?
- 3) What are important information needs for the implementation of cost-effective innovations according to different decision-makers in mental healthcare?
- 4) How do decision-makers in mental healthcare value cost-effectiveness analyses in their decision regarding the implementation of innovations?
- 5) What are similarities and distinctions between and within the needs of the different decision-making levels in mental healthcare?

#### 1.4 SOCIETAL, THEORETICAL AND PRACTICAL RELEVANCE

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As already described, an important development in the Dutch healthcare system is the progression towards efficiency. Research on this topic is relevant because the current implementation policy of cost-effective innovations has not succeeded in achieving implementation optimally. Especially in mental healthcare, the organization of care can be optimized (Lokkerbol, et al. 2011). However, due to contemporary cost containments, an increase in out-of-pocket expenditure and a reduction of the basic benefit package are likely to be enforced (Rijksoverheid, 2011). Studies showed that this will lead to a deteriorating welfare of patients, absenteeism and a rise in costs in the somatic care (Brouwer, Hakkaart and Putters, 2012). Hence, instead of reckless budgets cuts, attention to the optimization of mental healthcare, and in particular its implementation, will be more successful in achieving efficiency. Enhancing implementation of cost-effective innovations may, therefore, contribute to a reduction of serious damage and costs to both the individual and society. Following this, the identification of (information) needs of different decision-makers in the process of implementation might be a primary step towards a cost-effective mental healthcare system.

Next to being relevant for society, this research has a theoretical value as well. To date, little has been written about understanding on how the implementation of cost-effective innovations is experienced by decision-makers in mental healthcare. Most prior research focuses on barriers and influential factors to successful implementation, including strategies to overcome these barriers. This research investigates personal concerns and related (information) needs of different decision-makers with respect to implementation. Therefore, the focus is on the identification and provision of information which will affect the motivation of decision-makers towards implementation, instead of pushing them

into changes. In order to contribute to the current state of knowledge, it is of primary relevance to acquire more research on the identification and facilitation of (information) needs.

The third value of this research lies in its contribution to practice. The primary focus is to connect theory with practice. Identifying the needs of decision-makers with respect to the implementation of cost-effective innovations will help researchers and government to develop strategies in order to support and encourage different decision-makers. More specifically, by identifying concerns and corresponding (information) needs decision-makers experience with the implementation of a cost-effective innovation (for instance that they cannot see associated financial consequences), appropriate (information) tools can be introduced to support practitioners in the process of implementation. Practitioners, such as professionals, insurers and policy-makers might now be able to translate possible consequences of the implementation to their specific context.

## 1.5 BOOKMARK

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This research proceeds as follows: The first part of this research (Chapter 2) consists of an inventory of (inter) national scientific literature on what is already known about the topics covered in this research. The various concepts and possible connections are further elaborated and form the foundation for the empirical research that follows. The first section of this theoretical framework is constructed around the first sub-question to be answered: *“How is ‘implementation’ defined in the literature and what are main factors influencing the process of implementation?”* The theoretical framework also discusses literature pertaining to the second sub-question: *“What is cost-effectiveness research and what is its contribution to decision-making?”* Chapter 3 describes the methodology of data collection that has been applied, in which attention is paid to the justification of choices made, in terms of validity and reliability. The presentation of the most important findings and the corresponding analysis are presented in Chapter 4, which aims to answer the last three empirical sub-questions. Finally, Chapter 5 provides a discussion and draws conclusions, thereby focusing on answering the main research question: *“How can we support decision-makers in mental healthcare, to improve the implementation of cost-effective medical innovations?”* followed by recommendations in Chapter 6.

## THEORETICAL FRAMEWORK

### 2.1 INTRODUCTION

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For a better understanding of the subjects being assessed in this research, different bodies of literature have been used. In order to obtain this literature, an exploratory and systematic literature search was carried out, divided into two main concepts: “implementation” and “cost-effectiveness research”. In this respect the following two sub-questions are formulated:

*How is ‘implementation’ defined in the literature? And what are main factors influencing the process of implementation?*

*What is cost-effectiveness research and what is its contribution to decision-making?*

The purpose of these questions is to create a fundamental framework to which conclusions can be linked.

### 2.2 METHODOLOGY

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In the quest to answer the previous sub-questions an exploratory literature search was performed by means of Google, Google Scholar and PubMed. Alongside key terms like “healthcare”, “implementation” or “cost-effectiveness” the following keywords are examples of additional searches being used in different combinations: *infrastructure, process, innovation, knowledge, development, transfer, effective, changes, influencing factors, economic evaluations, decisions etc.* As the exploratory literature research resulted in extremely wide and diverse outcomes a systematic literature search was performed by means of the ‘snowball method’. The ‘snowball method’ is one way of finding many relevant references on a specific topic through previous relevant publications. Because it is a snowball sampling technique, the number of potential publications gathered can grow quite large (Lecy and Beatty, 2012). To accomplish this the following article seemed a useful starting point in this research area: ‘*het Kennis van Implementatie Programma*’ (IQ healthcare, 2010). From here, the literature list recruited relevant books and articles, for example: ‘*Implementatie, effectieve verbetering van de patiëntzorg*’ (Grol and Wensing, 2006) ‘*Begrippenkader voor implementatie strategieën en beïnvloedbare factoren bij implementatie in de gezondheidszorg*’ (Plas, et al., 2006), ‘*Linking research and policy in Dutch healthcare: infrastructure, innovations and impact*’ (Bekker et al., 2010), ‘*Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations*’ (Greenhalgh et al., 2004). The first section of this theoretical framework primarily draws on the

previous described *implementation literature*. By the continuation of the snowball technique to the initial *implementation literature*, similar theorizing fundamentals appeared to be likely used in prior research (Zaltman and Duncan 1977, Spence 1994, Rogers 1983/1995, Prochaska et al. 1997). Although most of these studies have different purposed targets or disciplines, ranging from organizational theories to psychology sciences, commonalities in concepts and processes were remarkable. In order to further theorize concepts, the second section of this theoretical framework draws on the *cost-effectiveness literature*. The same technique was used to acquire literature on this topic. The following article could be viewed as a relevant starting point: 'Over Euro en Effect' (Wit et al., 2010) which referred to useful articles and books, for example: 'Methods for the Economic Evaluation of Health Care Programs' (Drummond et al., 2005). Different relevant references, in turn, were selected from the literature list and used for further snowballing.

The literature obtained by means of the exploratory and systematic literature search resulted in a clear theoretical framework to which the sub-questions could be answered.

## 2.3 CONCEPTS AND FACTORS INFLUENCING HEALTHCARE IMPLEMENTATION

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### WHAT IS IMPLEMENTATION?

Literature on terms for achieving improvements in practice is particularly complex and relatively difficult to distinguish from other terms as *implementation*, *dissemination* (active and planned efforts to persuade target groups to adopt an innovation), *diffusion* (passive spread), *adoption*, *change management*, *quality improvement*, *knowledge transfer* and *knowledge translation* (Grol and Wensing, 2006, Greenhalgh et al., 2004). In Europe and the US, one uses mainly the term 'implementation', but other terms are also used. The diversity of terms reflects the variation of thinking in science and policy. Because different people in different traditions generally conceptualize implementation differently and use different language and metaphors, the focus in this research will be on the long-standing and still relevant definition from ZonMw:

*Implementation* – a procedural and planned implementation of improvements, in order to introduce them into professional practice, in the functioning of the organization or in the structure of care (Hulscher e.a., 2000; Grol & Wensing, 2006; and Stals e.a., 2008).

The starting point for a process of implementation can be twofold: First, there can be new scientific information available, suggesting that healthcare can be provided more effectively, safely and less costly. Steering of decision-making is mainly from above or outside. This starting point is based on the

availability of new scientific views and methods whose implementation is considered as desirable. On the other hand, a starting point for the process of implementation can be the identification of problems within a certain healthcare setting. Here the needs and experiences of people working in daily practice are being used as reference. Both situations, one more top-down, the other more bottom-up, may trigger the process of implementation. The inspiration for improvement in care and the required medical innovations can be triggered both from practice, because of problems identified, and from research about optimal healthcare (Grol and Wensing, 2006). The exact determination of the starting point of a change is often difficult, as the process of implementation involves many steps and interactions, in which people learn from steps already taken and continue to adjust their approach when needed. With respect to the failure of implementation, Glasziou and Haynes (2005) addresses it as a 'pipeline' where research evidence 'leaks' at various steps and reduces the extent to which changes are implemented in practice. For a better understanding, a theoretical framework on the concepts and theories of this stepwise process is provided below.

## THE PROCESS OF IMPLEMENTATION

Different disciplines propose different approaches to the implementation of innovations based on different theories about changing professional and organizational performance. (Inter) national healthcare literature provides a range of different models and theories of implementing changes. To find a way in this wide range of models, a summarizing model of Grol & Wensing (2006) is selected to underpin the process of implementation. This process considers the various steps which an individual, team or organization must go through in order to integrate an innovation into practice. Below, the various steps are briefly described. *Note: This is a model; the reality is a different sequence, repetition of certain steps or additional steps may be required.*

### 1) Orientation

The aim of this phase is to raise awareness for change. The intended adopters or decision-makers should be aware of and interested in being involved in the innovation. The focus is on *awareness of the intended change and interest and involvement*. Raising awareness of the intended change can fail when people do not read the books or magazines in which changes are published or when they do not apply for specific courses. In addition, the distribution should be to an extent sufficient to achieve a certain level of interest with the intended users. Curiosity regarding the innovation should be stimulated. This may create problems when the information provided does not fit the perspective or needs of the intended users and is therefore not recognized as applicable or relevant to daily practice. The way information is provided should thus be aligned to the perspective of the intended users (Grol and Wensing, 2006).

## 2) Understanding

Potential users and decision-makers should not only be interested in the innovation, they also need to understand its meaning. Furthermore, potential users need to know what is expected of them and why the implementation of the innovation is important. This should create a *sense of urgency*, meaning a sense of unacceptability to continue with the daily routine. In this phase, a problem may arise when people have insufficient background knowledge or experience to fully understand the information. Thus, also in this phase, the translation of information to daily practice is of importance.

## 3) Acceptation

The aim of this phase is the motivation of the intended adopters to fully implement the innovation. Intended adopters must feel that the change makes sense, therefore it must be both an improvement and feasible. The focus is on a *positive attitude* and *motivation towards the change*: The intended users must carefully consider the advantages and disadvantages and create an attitude towards the innovation. A negative valuation can occur when disadvantages outweigh advantages (in terms of effectiveness, workload or financial consequences). Then, the innovation is judged unworkable with respect to their own setting. This also occurs when doubt exist about the scientific sustainability. When one has a positive opinion about the change, the next step is to develop a specific *intention or decision to change*. It is possible that people have a positive opinion but do not see how it could be different or have little confidence in their own capacity to actually change their practice.

## 4) Change

In this phase, the next step is implementing the real change in practice. The essence here is to experiment with the new methods or techniques and gain experience with the innovation and its feasibility. The intended users of the innovation seek, evaluate and find meaning in the innovation. The focus is on *the implementation of the innovation*: The innovation will be applied, and as a result the intended users may need certain skills for its application in practice. Therefore they should be trained in order to achieve the practical and organisational changes. The *confirmation of the benefits or effects from the innovation* forms the next focus and step in this phase. Healthcare providers and teams conclude, based on the application, that the innovation works and that it is not associated with major problems, costs or damage.

## 5) Maintenance of a change

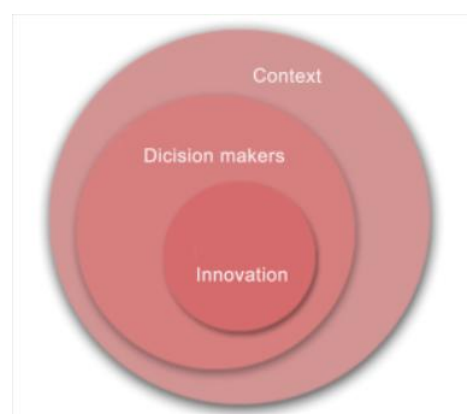
The final step in the process of implementation, when proven beneficial, is the *integration and embedding of the innovation* into existing care protocols and procedures. The innovation should become an integral part of daily routine and processes in practice (sustainability). This means it may become part of the reimbursement system, budget agreements or other contracts. This can be

difficult since people easily fall back into their old pattern. Maintenance of a change is increasingly seen as the major criterion of effective implementation (Grol and Wensing, 2006). Therefore, attention should be focused on the organisational culture, the involvement of the higher management with the innovation (directors, managers, and clinical professionals) and the collaboration between disciplines and departments.

After having explained the conceptual literature around implementation and the linked steps, influential factors are discussed in the next paragraph.

### FACTORS INFLUENCING THE IMPLEMENTATION OF INNOVATIONS

The extent of implementation is not simply determined by stable attributes or factors, but is dependent on the interaction between many different variables. To ensure not much deviation from the proposed research topic, only related variables influencing the process of implementation are



examined in this section. **Figure 1**, from Grol & Wensing (2006), illustrates different variables, structured into three main factors: (1) characteristics of the innovation, (2) decision-makers characteristics and their setting, and (3) characteristics of the context.

**Figure 1.** *Different factors influencing implementation* (Grol & Wensing, 2006)

#### 1) *Characteristics of the innovation*

In the literature, many characteristics of innovations that could enhance or inhibit the actual implementation are extensively described (Wolfe 1994, Rogers 1995, Grol et al., 1998, Greenhalgh et al, 2004). There is still relatively limited research into the actual influence of such characteristics. Before we go deeper into this subject a general definition of an innovation is referred to:

*Innovation* - a method, technique, guideline or organizational pattern, which is new, better, or different from what is common in a particular setting and which can be widely implemented. This can be on certain aspects; i.e. effectiveness, cost-effectiveness and patient safety. (Grol and Wensing, 2006).

One of many characteristics of an innovation, *relative advantage*, is considered as of high relevance for the realization of implementation, as it is repeatedly highlighted in the literature (Roger, 1995). Accordingly, only this characteristic is presented in this paragraph. In order to clarify 'relative advantage', a successful innovation has to be perceived as offering advantages relative to existing comparable services for patients, practitioners, institutions and financiers (Greenhalgh, 2004). A relative advantage consists of both financial (e.g. total costs) and non-financial (e.g. effectiveness) characteristics. Useful evidence or information is needed to show these characteristics. Innovations, including evidence of a relative advantage in, for example, their effectiveness or costs do have a better chance to be adopted and implemented (Grol and Wensing, 2006). While evidence on effectiveness is nearly always provided and useful to different decision-makers, evidence on financial consequences is not (Ploch, 2007). In order to provide evidence on related costs, cost-effectiveness analysis can be very informative within this level of implementation. It is one of the most well-known analyses, which provides evidence of, and increases the perceived relative financial advantage of an innovation and its implementation. Because the relevance of this method is of significant importance for this study a theoretical background on cost-effectiveness research is described in chapter 2.2. In general, when decision-makers weigh possible advantages against disadvantages, and the balance of advantage and disadvantage is favorable, the implementation is expected to proceed successfully. The definition of advantage and disadvantage of a particular innovation can be complex and controversial as people with a stake in healthcare innovations hold different views (further referred to as perspectives). Therefore, it is of major importance to obtain an overview of the perceived (dis)advantages to different decision-makers.

## 2) *Decision-makers characteristics*

This paragraph comprises an analysis of people (also referred to as decision-makers) who have to make difficult decisions about which services to provide for which patients in which circumstances. Within the framework of this research a 'decision-maker' refers to any person or group with an interest or stake in the success of healthcare decision-making, with respect to the implementation of innovations. Decision-makers can be situated in different phases on their way to the actual implementation. It is, first, important to consider persons and organizations that might play a role or participate in healthcare decisions-making. Furthermore, it is important to properly reflect goals and needs decision-makers have in this process. In an attempt to obtain an overview, a list of different decision-maker's perspectives is provided below, which are broken down into three main groups involved in decisions about the implementation of innovations (Grol & Wensing, 2006).



1. Provider's/institution's perspective: includes both persons and organizations that furnish or are paid for healthcare. These decision-makers generally care about effectiveness and a fair distribution of care for patients. *Also referred to as the institutional level* (Klein, 1993)
2. Purchasing perspective: these decision-makers normally aim to improve quality and reduce healthcare costs since they are responsible for coverage decisions. *Also referred to as the healthcare insurance level* (Klein, 1993)
3. Societal perspective: this perspective includes all previous perspectives. It can be seen as the broadest perspective in healthcare decision-making and therefore aims to improve public health. *Also referred to as the national level* (Klein, 1993)

One of the main factors influencing the variation in perspectives is probably the longstanding cultural divide (other language, different priorities and needs, different goals) between decision-makers. It is unavoidable that goals and needs of different decision-making levels sometimes collide. This is evident from the relative importance that each person attaches to, for example, effectiveness, cost-effectiveness or a fair distribution of care. Providers usually value effectiveness and a fair distribution of care over cost-effectiveness, while from the national and purchasing perspective cost-effectiveness is of increased influence in their decisions (Grol & Wensing, 2006). Incorporation of the different perspectives is therefore particularly important for a shared understanding of the meaning and value of the innovation and should work towards a shared language for describing the innovation and its impact (Rogers, 1995, Greenhalgh et al., 2004). According to Simmons (2008), this is important to secure the agreement of different decision-makers to succeed in the wider use of innovations.

Although healthcare decision-makers can be classified into groups with different perspectives, a classification based on needs is much more difficult, since the corresponding literature is complex and broad. However, from existing preference studies among different decision-makers, several criteria can be distinguished, which may be relevant in the realization of the implementation (Al et al., 2004, Baltussen et al., 2007, Schwappach, 2006, Koopmanschap et al., 2010). Criteria such as the amount of health gained from and cost-effectiveness of an innovation are key elements. But, disease severity (equity issue) and national savings in costs of absence from work (productivity costs) are criteria which often have been demonstrated to be major considerations too. The above-mentioned needs are usually included in any cost-effectiveness analysis as key elements. The budget impact (national additional costs per year) is not yet a standard ingredient of a cost-effectiveness analysis, however, it appears that decision-makers often demand a budget impact estimation while making their decisions (Niezen et al., 2009, Mauskopf et al., 2007). This indicates a scope for supplemental information needs in relation to stakeholder's personal knowledge, skills, attitude, norms, values and personality, which might be relevant in the process of implementation as well.

### 3) Characteristics of the context

As the realization of implementation is to a large extent determined by the characteristics of both the innovation and decision-makers, an analysis of the context is essential as well. Accordingly, the next step is to analyse the main fostering or inhibiting characteristics of the context. The main characteristics of the context, which affect the likelihood of implementation, can be divided into social, organizational and economic characteristics.

Within *the social context*, involvement of patients, professionals, managers and innovators are seen as crucial to the success of implementation. The opinion and attitude of decision-makers regarding an innovation is strongly influenced by the culture in their professional network (e.g. opinion colleagues, managers and key players) (Grol & Wensing, 2006). Next to this, organizational structures and arrangements of the working process may have major impact on the implementation as well. When the *organizational context* supports the innovation (e.g. according to their policy or culture), enthusiasm increases as well as the chance of application. Additionally, the availability of technical tools, financial resources and the size of the organization are of influence on the implementation. Finally, negative and positive financial consequences, *the economic context*, might be crucial to the success of implementation. Generally, these consequences are related to national healthcare systems and societal or political developments (Grol & Wensing, 2006). Many healthcare decision-makers suggest financial incentives to be of significant importance for implementation (Hayward 1997). In addition, the financial structure (fees, contracting providers and institutions) and the adaption to law and regulations are important. The following quotation by H. van der Schoot (Newsletter Skipr, 2012) explicitly confirms this:

*“Wij zitten allen in een enorm star financieringssysteem. Er is sterke behoefte aan meer experimenteer ruimte en grotere flexibiliteit in de bekostiging van innovaties”.*

This implies a reduction in the realization of implementation when an innovation is not authorized or cannot be financed (Grol & Wensing, 2006).

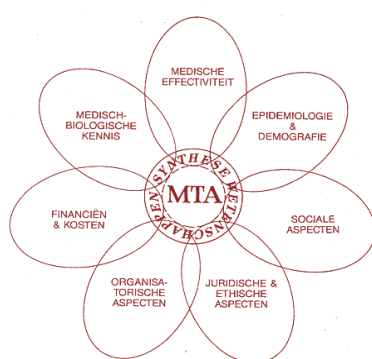
In order to encourage and convince decision-makers about a cost-effective innovation, scientific information on financial advantages is considered to be relevant to support them in the step-wise process of implementation. Accordingly, an extensive explanation of evidence on cost-effectiveness is outlined in the next chapter.

## 2.4 COST-EFFECTIVENESS RESEARCH AND EVIDENCE

In the previous chapter, implementation was introduced as a step-wise process and linked to different factors of influence. Based on this, the next step is to find out how cost-effectiveness evidence is conceptualized in the literature as information on cost-effectiveness is likely to be required in the future by different decision-makers in mental healthcare. Practicing and financing healthcare increasingly depends on the ability to prove the efficiency of a treatment, meaning that healthcare professionals and organizations in the future work according to these results (Klopper, et al., 2006). The same applies to policy-makers, who are deemed to acknowledge that a new healthcare policy needs to be supported by cost-effectiveness research. As there is a growing interest in evidence on costs-effectiveness (L. Tummers, 2011), cost-effectiveness research is an important concept within this study. This chapter provides an overview of the *cost-effectiveness literature*, starting with a broad description of the different techniques linked to this concept, and ending with a description of the usefulness of these techniques in practice. By presenting literature on this field, this chapter aims to answer the second theoretical sub-question: *‘What is cost-effectiveness research and what is its contribution to decision-making?’*

### MEDICAL TECHNOLOGY ASSESSMENT

A technique, which is especially designed to evaluate medical innovations from various research perspectives, is the Medical Technology Assessment (MTA, also known as HTA, “Health Technology Assessment”). It supports policy-makers, health insurers, health providers and patients in making decisions on the introduction, reimbursements and application of new technologies or other innovations (Gezondheidsraad, 2010). MTA research is intended to identify all the consequences of introducing a medical innovation. The so-called MTA-flower symbolizes this in **Figure 2** in which the leaves indicate the various aspects (Habbema et al., 1989).



**Figure 2.** Graphical illustration of all aspects of a full MTA-flower

The two leaves, which indicate information on “finance and costs and medical effectiveness”, are often combined in an economic evaluation (e.g. cost-effectiveness analysis). In the next section, the economic evaluation will be further explained, in which only the latter two aspects will be explored.

## ECONOMIC EVALUATION

An economic evaluation seeks a complete picture of all the financial consequences of introducing a medical innovation. The basic task of any economic evaluation is to identify, measure, value and compare the costs and effects of competing healthcare innovations being examined. It might help decision-makers to choose between these competing alternatives. This brings us to the definition of an economic evaluation as *the comparative analysis of alternative courses of action in terms of both their costs and consequences* (Drummond, 2005). In an economic evaluation, decision-makers investigate what the extra costs and effects of the new healthcare innovation will be and whether or not it is worth using it, compared to the competing alternatives they could choose with the same resources. While conducting an economic evaluation, aspects that are not expressed in 'money' or 'health effects' will be disregarded. This is in contrast with a full MTA in which all possible aspects receive attention.

## COST-EFFECTIVENESS ANALYSIS

During the last decades, different techniques have been developed to conduct an economic evaluation. A cost-effectiveness analysis (further referred to as CEA) is a specific type of economic evaluation out of four options (Drummond, 2005 and Donaldson, 1990). As the CEA is generally seen as the core of an MTA and in addition the most used and crystallized form of an economic evaluation (Feenstra et al., 2006), explicit attention will be on this type of economic evaluation. Within a CEA, the outcomes are often expressed in terms of extra costs per unit of effects. For a better understanding the following example is presented: Therapy A recovers 1 patient extra compared to therapy B at a cost of 10 Euro's. This number of 10 Euro's per unit of effect is called the *incremental cost-effectiveness ratio* (further referred to as ICER). An ICER represents the extra amount of money that has to be invested or will be saved to gain or lose one extra unit of effect compared to an alternative (Asselt, 2008). When decision-makers have to choose between two competing alternatives they usually face four possible outcomes, of which choices are clear when the innovation is both more effective and less costly (dominant case) and when results of the innovation are the opposite (reject). With respect to the last two possible outcomes, choices depend on the maximum incremental cost-effectiveness ratio one is willing to accept. Nevertheless, in practice the impact of most healthcare innovations centre themselves to one outcome, in which a health gain goes hand-in-hand with more costs (Drummond, 2005). However, there remains discussion, particularly among professionals, as to the utilisation and ethics of this technique.

## UTILISATION OF COST-EFFECTIVENESS RESEARCH

As cost-effectiveness research only focuses on costs and effects, it usually does not include all aspects and concerns to be considered in the field of healthcare decision-making (Williams, 2007a and Williams, 2007b). Opinions on the usefulness and the impact that cost-effectiveness research has on priority decisions, therefore, vary. To clarify: on one hand, evidence suggests that decision-makers appreciate the potential value of costs and effects and their usefulness in practice (Drummond et al. 1997; Elsinga and Rutten, 1997). On the other hand, evidence suggests a minor utilisation of cost-effectiveness research, as intended users feel held back by factors such as financial constraints and the capacity to access, generate and interpret information (Elliott and Popay, 2000 and Williams, 2007b). Decision-makers often lack specific knowledge to fully understand the results and additionally experience uncertainties on a number of assumptions and methodological choices. Accordingly, these factors might lead to concerns on the applicability of cost-effectiveness research to their setting (Bekker et al., 2010, Neeling, 2004).

This brings us to the so called “gap” between the conceptions of research uptake and the more complex reality of the stakeholder’s environment. This gap has been recently identified in the field of health economics. According to Martens et al. (2009), researchers use a ‘scientific paradigm’ and decision-makers, an ‘individual paradigm’. As an example, the scientifically chosen “base” of research is intended to be generally applicable, but as the different needs of researchers and people involved in healthcare decisions, there seems to be a discrepancy between the way they cost-effective results. As a consequence, it is not always generally applicable (Ioannidiss and Garber, 2011). The scientifically chosen “base” of researchers generally incorporates a societal perspective, in which they present their findings on a national level, while those who have to make decisions decide to implement a certain innovation on findings according to their setting (Martens et al., 2009).

Knowledge brokering is a promising strategy to close the gap between producers (researchers) and users of knowledge. The basis of this strategy aims to encourage users to be more responsive to research findings, and stimulate researchers to conduct relevant research and translate their findings to be meaningful to the intended user (Kammen et al., 2006). However, Koopmanschap et al. (2010) considered the utilisation of cost-effectiveness research as still too recent to fully understand how decision-makers prefer the multidimensional information it offers and whether it incorporates their dominant concerns (Koopmanschap et al., 2010).

## METHODOLOGY

### 3.1 INTRODUCTION

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In the previous sections, the theoretical framework and most relevant literature on the implementation of cost-effective innovations have been discussed and the first theoretical sub-questions have been answered. Now, the empirical sub-questions need to be answered. In order to answer these questions relevant data was gathered in the field. This section addresses first the kind of study conducted, followed by the sample size of the study and finally discusses the process of data collection. The data analysis is attached to the findings in the following chapter.

### 3.2 STUDY DESIGN

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The methodology used for this study is a combination of a literature review and qualitative empirical data sourcing. The purpose of qualitative research is to describe or understand the phenomena of interest from the respondent's perspective. To assure credibility and avoid biasing, the grounded theory was used. The grounded theory seeks to uncover relevant data to the emerging conclusions and involves a constant comparison which, among other things means that research questions can be adjusted during the research. It identifies criteria for the research process and for the empirical grounding of the theoretical findings. In short, it bears directly on the issues of how verified any given study is (Strauss and Corbin, 1998). Inductive, qualitative data were gathered by conducting semi-structured in depth interviews with eight healthcare decision-makers who were, in one-way or another, related to cost-effectiveness decisions in mental healthcare.

### 3.3 RESPONDENTS

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For the empirical part of this study people from three different decision-making levels were selected with the assumption that they yield different experiences and practices with the implementation of cost-effective innovations. The selected respondents included eight key representatives from one of the following healthcare decision-making levels: healthcare insurance levels, (mental) healthcare institutions level and the national level (i.e. Ministry of Health Welfare and Sport). These levels are partly based upon the theoretical levels of priority setting described by Klein (1993). The distribution of the respondents among the different levels is shown in **Table 1**, including corresponding perspectives. As the respondents were selected from different healthcare decision-making levels, it enabled me to better understand each professional perspective and hence address the topic from

different environments. By including respondents with different perspectives, variations in needs should come to light.

Decision-making level	Amount of represented interviewees (proportion)	Perspective
Healthcare insurance level	2 (25%)	Purchasing perspective
Mental healthcare institutions level	4 (50%)	Institutional perspective
National level	2 (25%)	Societal perspective

**Table 1:** *Decision-making level distribution among respondents.*

The selection of these respondents proceeded based on the experience they had with decision-making in mental healthcare. In addition, it was important that respondents were able to reflect the level of decision-making they belong to and that they are familiar with cost-effectiveness analysis. Furthermore, respondents were selected according to their ability to legitimately judge the internal validity or credibility of the results. In order to promote validity in opinions and needs, at least two respondents were gathered in each group. This in turn, could help to define similarities and distinctions between and within the different levels. Details of all eight respondents are shown in **Appendix 1**.

### 3.4 DATA COLLECTION

Prior to the interviews, a topic list was defined, which functioned as a guide for preparing the interview questions. In order to gain accurate and reliable results, semi-structured, in-depth interviews were conducted and questions were open-ended. In-depth interview, where flexible and responsive interaction between interviewer and respondent is possible, allowed meaning to be traced, topics to be covered from a variety of angles and questions made clear to respondents (Healey & Rawlison, 1994). The open-ended questions covered experiences of decision-makers regarding the implementation of cost-effective innovations alongside related concerns and (information) needs on this topic. A topic list of the most relevant aspects within my research functioned as a framework for building and rebuilding appropriate interview questions (**Appendix 2**). During the course of my research these questions were refined and reformulated when necessary.

Before conducting the interviews, a 'snowball sampling' technique was used in order to select only well known experts, which are in general hard to find or reach, in my sample. 'Snowball sampling' uses recommendations to find people with the specific range of skills that has been determined as useful for a specific topic (William, 2006). The application of snowballing started by approaching the following two initial contacts: my supervisor and a colleague from my internship at ZonMw. In

consultation with them I asked for experts in my research field, who were initiated as most eligible and closely related to the research topic. These experts included: decision-makers from the healthcare insurance level, the mental healthcare institutions level and national level (**Table 1**), who were in one-way or another linked to mental healthcare. Subsequently, I asked these decision-makers to recommend others who they may know who also meet the criteria for inclusion. By means of this so-called 'snowball technique' the probability of responses increased and recruitment of eligible respondents proceeded prosperously. Initial contacts were followed by an email explaining the objectives of the research. If respondents indicated a willingness to participate, practical arrangements for an appointment were made.

Initially, a semi-structured approach was adopted when conducting the interviews. Eventually, for validity and reliability purposes knowledge of Yeung (1995) was used, in which he argues that using different methods (e.g. interviews, participant observations, quantitative research) can improve the validity and reliability of data collected. According to this so-called 'triangulation research method' one extra feature was applied to my data collection, through posing verification questions within my interviews. Before commencing the interviews one preliminary talk functioned to explore the field and discover overcoming practical problems. Subsequently, the interviews were carried out in two stages: (1) semi-structured in-depth interviews with representatives from mental healthcare institutions and insurance companies, followed by (2) unstructured interviews with the Ministry of Health Welfare and Sport (further referred as to Ministry of Health). The first stage interviews and at the same time main source of data collection became progressively more structured as themes emerged in the data. This progressive focusing allowed for targeted data collection in the attempt to identify patterns across concepts and participants. The second stage interviews emerged for verification purposes, as I assumed the Ministry of Health would not to yield deviating interests or perspectives compared to insurers and institutions as their perspective should include all perspectives in the society (see: societal perspective *p.* 15). Much of the contents of these second stage interviews focused on themes represented in the emerged results from the prior first stage interviews. Hence, a modified interview design was submitted to the Ministry of Health. Findings from these interviews provided additional information through which the findings of the main interviews with insurers and healthcare institutions could be compared. Only remarkable and deviating views from the Ministry of Health were integrated and used for analysing purposes. Notes were taken from all interviews and the discussion was recorded. Duration of the interviews varied from 45 minutes to 65 minutes. After conducting the interviews, the interviews were analysed directly by writing out and summarizing the taped interviews in an established format. In addition, member checking occurred, where the summarized written interviews were sent to the interviewees in order to check and correct the



information gathered in the interviews. From here, objective and proper results were analysed and compared to the findings of the literature study. In the next chapter the analysis of all eight interviews is presented. In order to maximize the internal validity, quotations provided within the next chapter are not translated into English, as the perspective and understanding of the quotation might lose their validity in translation.

## FINDINGS

### 4.1 INTRODUCTION

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This chapter reveals the most important findings derived from the qualitative data. It aims to answer the following empirical sub-questions: *“What are important information needs for the implementation of cost-effective innovations according to different decision-makers in mental healthcare?”*; and when focusing on cost-effectiveness analysis: *“How do decision-makers in mental healthcare value cost-effectiveness analyses, in their decision regarding the implementation of innovations?”*; and finally: *“What are similarities and distinctions between and within the needs of the different decision-making levels in mental healthcare?”* First of all, a description of how the data have been analysed is provided, followed by an overview of the interview results, in which the third and fourth empirical sub-questions are described from the data collected. An overview of the findings related to the fifth sub-question is attached as a final part of this chapter.

### 4.2 DATA ANALYSIS

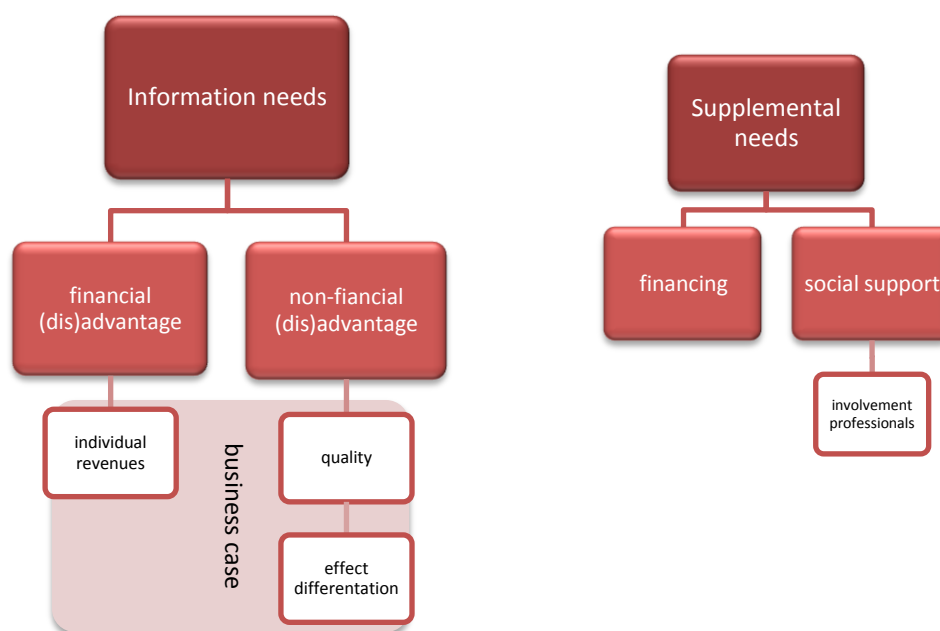
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Systematically carrying out the procedures of data collection and analysis expands the research process to capture all potentially relevant aspects as soon as they are perceived. To analyse the interview transcripts an open coding approach was used, so that all the data gathered were coupled to a code. Ten codes were deducted consisting of elements, which are, according to the interviewees, dominant concerns and needs influencing the implementation of cost-effective innovations. Some codes were determined from the literature before the interviews were conducted and some were defined after the interviews were conducted, derived from the interview transcripts. Data belonging to a specific code were summarized into first order concepts. Concepts that were found to pertain to the same theme were grouped to form categories. These elements are the basic units of the analysis and the “cornerstones” of the developing theory (Strauss and Corbin, 1998). **Appendix 4** provides an overview of the ten codes used in this analysis, including the concepts they illustrate. For each respondent the interview transcripts were marked by colours with their matching code to facilitate comparisons between and within interviews. An example can be found in **Appendix 3**. An aggregation of the different codes provides the most important dimensions out of the empirical findings. The analysis ends with the interpretation of relations and variations, which appear between the different theoretical concepts and the empirical findings. In analysing the data, many overlapping, as well as contrasting outcomes were found. In order to emphasize differences between concepts, a degree of impact has been attached to each concept as illustrated in paragraph 4.4 (**table 2**). The degree of

impact has been considered high when all respondents within the same group mentioned the corresponding concept at least once. When one half or fewer respondents mentioned the corresponding concept, the concern is considered as having a low impact. Everything in between is judged as of moderate impact. This process of analysis and the constant comparison of data across respondents are employed as integral part of my grounded research process.

### 4.3 INTERVIEW RESULTS: SUB-QUESTION 3

Starting with the interview findings concerning the first empirical sub-question, “*What are important information needs for the implementation of cost-effective innovations according to different decision-makers in mental healthcare?*” overlapping and contradicting outcomes were observed. Accordingly, figure 3a and b are provided, including the perspective of healthcare insurers and mental healthcare institutions, respectively. Concepts within the two figures are based on the coding scheme provided in **Appendix 4** (interview analysis Q3 and 4). A discussion of the developed categories (financial (dis) advantage, non-financial (dis) advantage, financing, social support) and related concepts will be given in this section. I will start with the first category of figure 3a: *financial (dis) advantage*, in which representative quotations from the purchasing perspective are used to support and enhance credibility of the findings. Only remarkable quotations from the Ministry of Health were integrated.



**Figure 3a.** Categories and related concepts of (information) needs according to healthcare insurers.

## PURCHASING PERSPECTIVE

### *Financial (dis) advantage*

Implementation of a cost-effective innovation by insurers relies on different financial considerations. The first related concept, **information on individual revenues** stands out as having an important contribution to these financial considerations. This aspect illustrates a financial advantage in terms of *savings on healthcare expenditure, budget and costs of absence from work*. The importance of *savings in costs of absence from work* is surprising as Koopmanschap (2010) described *productivity costs* as not crucial in decision-making about implementation. By a lack of the above mentioned information, insurers conduct a **business case** (when possible) presenting added value for the patient and corresponding individual costs. Both respondents indicated a willingness to invest and implement when this analysis is provided. This can be illustrated by the next quote:

*“Wanneer er voldoende inzicht is in de meerwaarde voor de klant (groep, collectiviteiten) en de kosten niet excessief zijn, kan er al snel besloten worden tot implementatie over te gaan”. (Respondent 1, data-analist, werkzaam bij verzekeraar)*

This is in line with Grol & Wensing (2006), who illustrated the importance of consideration of advantages and disadvantages in order to create a positive attitude and motivation towards the innovation. Although both respondents reveal positive values from evidence of individual financial advantage (**the business case**), respondent 2 also emphasized:

*“Het is niet zozeer de informatie maar hoe je het financiert, en past het in de bekostigingsregels zodat wij het kunnen betalen. Grootste bottleneck van omzetting naar de praktijk zit hem hierin, omdat het vast zit aan regels die er bestaan en het teveel regels zijn waar je je aan moet houden.” (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

*“Dus de bekostigingsregels of systematiek zijn veel eerder het probleem dan de informatie over hoe kosteneffectief een innovatie is. (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

This might suggest that the problem of insufficient implementation of cost-effective innovations cannot easily be solved with more information on financial (dis) advantage, but must be accompanied by a better alignment with the **financing system** (supplemental needs). Even when a certain

innovation fits the policy of the government, it does not guarantee that it fits within the financing.

This is confirmed as respondent 2 noted:

*“Al jaren is E-Health een belofte maar gebruik door cliënten komt moeizaam op gang, omdat implementatie door bestaande regels niet mogelijk of moeilijk is. Je loopt er heel vaak tegenaan dat er bepaalde bekostigingsregels zijn waarin zorg omschreven is, bijvoorbeeld bij E-health..... moet je dan in minuten rekenen dat je achter de computer hebt gezeten? Dit kan je niet uitschrijven als je ervan uit gaat dat in de geestelijke gezondheidszorg voor 1 consult 2 uur staat.” (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

This suggests that when a cost-effective innovation is not accompanied by appropriate **financing**, it becomes difficult to proceed to implementation. This again matches with the literature of Grol & Wensing (2006) in which they emphasized the importance of *embedding the innovation into practice* (phase 5: *page 12/13*). This means it should become part of and fit the reimbursement system, budget agreements or other rules. An insurer would not invest in innovations, which entail such uncertainties because of their risk-averse behaviour. Appropriate **financing** is, according to both insurers and the Ministry of Health, of high concern as well:

*“Omdat wij nu vaak merken dat een aantal **financiële bekostigingssystemen** in feiten de implementatie en verspreiding tegenwerken.” (Respondent 7, adviseur ontwikkeling & onderzoek, werkzaam bij overheidsorganisatie A)*

### *Non-financial (dis) advantage*

On the other hand, both respondents indicated information about non-financial advantages to be of significant importance too. This includes information on **quality** and outcomes which enables them to **differentiate among effects**. Respondents indicate information of these outcomes as important, as these are seen as the basic ingredients for a business case (see figure 3a). With this information, respondents eventually aim to calculate and achieve a reduction in costs and a maximization of individual revenues.

*“Ons idee is dat kwalitatief betere zorg uiteindelijk **kosten bespaart**, maar dat is vaak op langere termijn natuurlijk.” (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

*“Kwaliteit is een groot thema, omdat iedereen gelooft dat door kwaliteitsverbetering de **zorgkosten omlaag** gaan”. (Respondent 1, data-analist, werkzaam bij zorgverzekeraar)*

The above-mentioned aspects capture a financial focus. This might suggest that a financial focus is constantly present and part of the main considerations of insurers within the process of implementation. Unfortunately, information on effects differentiation and quality is often lacking, especially in mental healthcare, which confirms the need for information on non-financial advantage. This is, to a large extent, in accordance with the thoughts of the Ministry of Health whose respondents emphasized a lack of useful information on quality necessary for selective contracting.

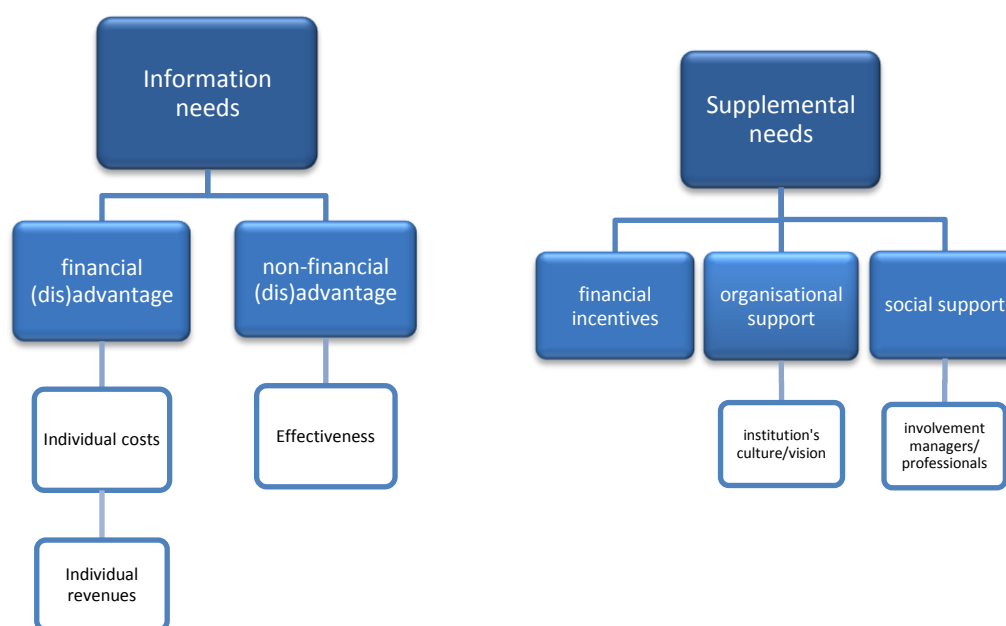
*“Er is een informatie tekort, dat zal niemand ontkennen. Er is in ieder geval een informatie tekort voor diegenen die selectief zorginkoop willen doen. En wat dan de selectie criteria zijn.... Ja, dat zal doelmatigheid maar ook kwaliteit zijn, en dan kom je onmiddellijk op de informatieachterstand.” (Respondent 8, beleidsmedewerker bekostiging curatieve GGZ, werkzaam bij overheidsinstantie B)*

Alongside the need for information on the quality of care, both insurers added **involvement of professionals** as a supplemental need (see figure 3a). This is because (mental) healthcare providers still have a large role in the selection of care. The following quote is illustrative:

*“We kunnen wel een behandeling stimuleren door een voorkeur uit te spreken voor de behandelaren, maar het is belangrijk dat vooral de beroepsgroep erachter staat.” (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

### INSTITUTIONAL PERSPECTIVE

With respect to the perspective of mental healthcare institutions, findings show both contradicting and overlapping outcomes. An overview of these outcomes is provided in figure 3b below, followed by a discussion of the developed categories (non-financial advantage, financial advantage, appropriate financing, organisational support, social environment) and related concepts. To enhance credibility representative quotations from the institutional perspective were added where possible. Only remarkable quotations from the Ministry of Health are integrated and used.



**Figure 3b.** Categories and related concepts of information and supplemental needs according to mental healthcare institutions

#### Financial (dis) advantage

With respect to the first category, overlapping needs were found according to the institution's perspective. All four respondents mentioned financial impact (cash flow) on their budget as of significant importance during the interview. Here, they refer to costs and revenues incurred by the institution itself (**individual costs and revenues**). In contrast with insurers, little or no attention is paid to costs outside the institution, such as costs of absence from work or overall healthcare costs. This is in line with the theory of Grol & Wensing (2006) who indicate less interest and involvement in the

innovation when the information provided does not fit the perspective or needs of the intended decision-maker. The next quotes illustrate the institution's interest in individual costs and revenues.

*“Wij kijken niet naar verzuim of kosten van de algemene gezondheidszorg. Deze meten we wel in onze ROM maar die leidt absoluut niet ons besluit. Wij kijken echt naar onze eigen kosten en dat is ook onze primaire insteek.” (Respondent 6, directie, werkzaam bij GGZ instelling D)*

*“Bij grote investeringen moet er echt gekeken worden naar wat brengen die investeringen nou op en dan kijken we alleen naar onze eigen kosten en opbrengsten.” (Respondent 6, directie, werkzaam bij GGZ instelling D)*

This statement confirms that institutions take into account their own costs and revenues, disregarding societal perspective. This is in accordance with the theory of Grol & Wensing (2006), which demonstrates the importance of stakeholder's specific advantages and disadvantages to be considered in order to create a positive attitude and motivation towards the innovation (in terms of workload or financial consequences).

*“Door naar een analyse van ons financiële plaatje te kijken, kunnen wij ervoor zorgen dat de baten gelijk blijven maar de kostenmix wordt gereduceerd. Dit kan de motivatie tot implementatie bevorderen.” (Respondent 6, directie, werkzaam bij GGZ instelling D)*

In order to analyse their own cost and revenues, respondents often perform a so-called budget impact analysis (or business case) themselves. Moreover, all four respondents explicitly mentioned the provision of information on financial consequences of less added value as long as **financial incentives** are not sufficient or not present at all. Moreover, existing incentives contradict policy.

*“Ondanks dat er een beleidsvisie is om efficiënt te werken, worden de financiële prikkels hierop niet aangepast. Dit leidt tot een inefficiënte markt.” (Respondent 3, directie, werkzaam bij GGZ instelling A)*

*“Als je er geen financiële incentives aan gaat binden gaan mensen toch handelen naar waar ze het meest geld gaan krijgen, dat is helaas wel zo. Dus iedereen kijkt op zijn eigen vierkante millimeter en zolang we dat blijven doen ja, dan kunnen we onderzoek blijven doen totdat we een ons wegen. Daarom heeft het ook zo weinig*



*impact omdat er geen consequentie aan verbonden wordt." (Respondent 6, directie, werkzaam bij GGZ instelling D)*

This points to a misalignment or even mismanagement of the current policy and its corresponding incentives, where a positive association aligns with the mechanism used to pay both healthcare professionals and institutions. Professionals still work on an hourly basis and institutions are often settled on a specific "time-indication" per patient. This means that incentives, in order to improve usage of cost-effective treatments, will fail, as long as institutions are not held accountable financially. However, with the exception of institution B, all institutions indicated a slow but growing interest among healthcare insurers in selective contract negotiations (pay for performance), which, in some cases, might bring an incentive.

*"Verzekeraars zijn langzaam meer selectieve contracten aan het sluiten. Hierin wordt echter vooral de behandellengte besproken. Slechts in enkele gevallen wordt een behandelmethode gestimuleerd." (Respondent 4, Directie, werkzaam bij GGZ instelling B)*

*"Er bestaat geen relatie tussen behandelmethode en inkomsten. Alleen als het de ureninspanning sterk naar beneden brengt." (Respondent 4, Directie, werkzaam bij GGZ instelling B)*

The above-suggested lack of financial incentives does not encourage movements of the organization towards more efficient care, according to all the institutions. Therefore, I suggest financial incentives to be of high influence on the realization of implementation. This is confirmed by the Ministry of Health, who referred to "pay-for-performance" as a useful measure and, at the same time, an incentive to ensure a more efficient organization of care by insurers and healthcare providers.

*"Als het goed is moet de verzekeraar straks op basis van bv. doelmatigheidsgegevens of andere gegevens kunnen kiezen. [...] een verzekeraar zal dan zijn zorg inkopen bij die instelling die het hartstikke goed doet en werkt voor veel minder geld en in veel kortere tijd veel meer patiënten behandelen, niet bij zijn buurman die maar telkens die 400 min probeert vol te maken en weinig effect bereikt. Dus op die manier zou prestatiebekostiging op termijn ook dat moeten stimuleren." (Respondent 8, beleidsmedewerker bekostiging curatieve GGZ, werkzaam bij overheidsinstantie B)*

### *Non-financial (dis) advantage*

Alongside needs for information on individual costs and revenues, information on non-financial (dis) advantage, have been mentioned as well (i.e. **effectiveness**). The following quote suggests that information on effectiveness is a part of the main considerations of mental healthcare institutions within the process of implementation.

*“Dus eerst gaan we kijken naar de effectiviteit want ja... uuhm niet effectief is altijd, ook qua kosten, overbodig.” (Respondent 6, directie, werkzaam bij GGZ instelling D)*

However, respondents stated that this information often is already provided and useful, so there is no urgent need for evidence on effectiveness. In addition, when effectiveness is proven and the financial implications are acceptable, 3 out of 4 respondents referred to **organizational and social support** as of supplemental importance for the realization of implementation (see figure 3b). This can be derived from the following quotes:

*“Ik denk dat het bijna niet mogelijk is dat wanneer de directie van iets overtuigd is en de rest van de organisatie niet, dus managers en medische professionals, dan gebeurt het ook gewoon niet. Dat is dan geen effectief bestuur.” (Respondent 5, directie, werkzaam bij GGZ instelling C).*

*“Pas wanneer de behandeling potentie heeft en past binnen de visie van de instelling wordt er verder gekeken.” (Respondent 3, director, werkzaam bij instelling A)*

Only when it fits within the institution's culture and the way medical professionals and managers prefer to work will an institution decide to apply the innovation. These latter, non-financial factors are in accordance with the stepwise model of implementation (Grol and Wensing, 2006), in which attention to the organizational structures and the involvement of colleagues, managers and professionals with the innovation are important for the maintenance of a change.

#### 4.4 INTERVIEW RESULTS: SUB-QUESTION 4

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The second empirical sub-question reads as follows: *“How do decision-makers in mental healthcare value cost-effectiveness analyses, in their decisions regarding the implementation of innovations?”*

The most relevant arguments are listed below, illustrated by quotes. First, findings from the purchasing perspective will be presented followed by the findings from the institutional perspective. These findings are derived from the interviews with reference to a specific cost-effectiveness analysis. **Appendix 5** provides an overview of the analysis as shown to the interviewees.

##### **PURCHASING PERSPECTIVE**

With respect to the above stated question, insurers experience both feelings of importance and hesitation about cost-effectiveness analyses. As one interviewed insurer stated:

*“Je zou kunnen zeggen dat het handvatten biedt om een keuze te maken, maar of het genoeg is? Dat hoop ik dat het voldoende is. We kunnen wel een behandeling stimuleren door een voorkeur uit te spreken voor behandelaars met de gewenste therapie, maar het gaat te ver om die andere therapie te verbieden.” (Respondent 2, zorginkoop, werkzaam bij zorgverzekeraar)*

This quote, at the same time, indicates the powerful influence of healthcare providers on the selection and content of care. Insurers, therefore, are not yet able to affect the content of care. In addition, some respondents indicated a lack of ways to enforce use of cost-effective treatments. This was confirmed by the Ministry of Health A:

*“Het punt is kosteneffectiviteit is geen wettelijk criterium” (Respondent 7, adviseur ontwikkeling en onderzoek, werkzaam bij overheidsinstantie A)*

Nevertheless, respondents indicated information on **cost-effectiveness** as of increasing importance since selective contracting and increasing financial risks are introduced.

*“Nu de risicodragendheid van verzekeraars toe neemt, neemt ook het belang van kennis over kosteneffectiviteit toe.” (Respondent 1, data-analist, werkzaam bij zorgverzekeraar)*

Information on cost-effectiveness and its influence seems to become important considerations in decision-making (Koopmanschap, 2010).

In case information on cost-effectiveness is provided, results are valued as clear and understandable. Although, respondents declare cost-effectiveness results within mental healthcare to be more complex and inconclusive compared to the somatic care.

### INSTITUTIONAL PERSPECTIVE

In accordance with insurers, most institutions are convinced that cost-effectiveness analysis is required to succeed in the move towards a more efficient provision of care within mental healthcare. This matches the study of L. Tummers (2011) in which more than 75% of professionals in mental healthcare confirm the need for efficiency. However, its uptake and use is defined as no explicit part of their organization of care, yet. One institution, however, offered a dissenting view: *“kosteneffectiviteit is één van de twee assen waar wij op werken.”* The slow uptake and limited use of cost-effectiveness analysis was attributed to a wide range of factors including limited provision, concerns about the quality of research and an inappropriate presentation of information. Of these, concerns about the **quality of research** and an **inappropriate presentation of information** were most frequently mentioned, with mental healthcare institutions noting that:

*“Kosteneffectieve studies zijn toch vaak maatschappelijke studies en ook hier speelt nog steeds dat wat maatschappelijk opportuun is hoeft niet per se opportuun te zijn voor een individuele organisatie.” (Respondent 5, directie, werkzaam bij GGZ instelling C)*

Two of the institutions mentioned having no affinity with information that does not fit their perspective because it is not part of their own beliefs and values. Hence, there is no clarity about how the innovation would affect them personally, in terms of costs and revenues. This implies some discouragement towards the use of cost-effectiveness analysis, as individual achievable advantages are unclear or not visible. Consequently, it is not considered as applicable or relevant to daily practice. Even when valuable evidence exists, including costs and effects, it will not automatically be used or useful for different decision-makers in mental healthcare (Drummond, 2000 and Martens et al., 2009).

Accordingly, two respondents raised their concerns about the quality of cost-effectiveness analyses. Within these concerns the scientific sustainability was argued as the most impeding factor. This was motivated partially as institutions were hesitant about the transferability of the scientific outcomes to real life.

## 4.5 INTERVIEW RESULTS; SUB-QUESTION 5

Based upon the above analyses, the final step towards the research question is to find similarities and variations between the needs of the different decision-making levels. This will contribute to formulating an answer to the fifth sub-question: “*What are similarities and distinctions between and within the needs of the different decision-making levels in mental healthcare?*” In order to address this sub-question and facilitate comparisons between the different levels, an overview of the needs, labelled by a degree of impact (high/moderate/low), is presented in **table 2**.

### COMPARISON BETWEEN THE NEEDS OF THE DIFFERENT DECISION-MAKING LEVELS

Starting with the first concept illustrated in table 2, a similar value is attached to the importance of information on financial (dis) advantage, in which both decision-making levels are driven by information on *individual* cost and revenues.

DECISION-MAKING LEVEL	CONCEPTS	NEEDS	IMPACT OF NEEDS
INSTITUTIONAL LEVEL	Information needs	Financial (dis) advantage (i.e. individual cost and revenues)	High
		Non-financial advantage	Low
	Supplemental needs	Social support	High
		Organizational support	Moderate
		Financial incentives	High
	Cost-effectiveness analysis	Quality of information	Moderate
Presentation of information		High	
PURCHASING LEVEL	Information needs	Financial (dis) advantage (i.e. individual revenues)	High
		Non-financial advantage	High
	Supplemental needs	Social support	Moderate
		Organizational support	Low
		Financing	High
	Cost-effectiveness analysis	Quality of information	Low
Presentation of information		Low	

**Table 2:** Impact of the needs on the realization of the implementation of cost-effective innovations from the analysis of the empirical findings.

In addition, from the institutional perspective, information on financial advantage is preferred over non-financial advantage, while insurers prefer both. Furthermore, although both insurers and mental healthcare institutions felt that more and better information provision has a number of essential advantages in the field of implementation; they felt slightly the same with some potential supplemental needs. To clarify, mental healthcare institutions, on one hand, identified *organizational* and *social support* as moderately to highly relevant. Insurers, on the other hand, essentially emphasized *social support* as moderately relevant. The limited impact of these environmental aspects

on insurers can be explained mainly by the separation between insurers and patients. Institutions would be more affected by opinions of professionals, patients and the organizational culture. In addition, both decision-making levels mentioned economic aspects, *financing* and *financial incentives*, of high impact. The provision of information is less successful without alignment to the above-mentioned *supplemental needs* (see table 2).

A final distinction between the needs of institutions and insurers comprises the difference in assessment of cost-effectiveness analyses. It appears that mental healthcare institutions attached the most pronounced concerns to the quality of information and the presentation of information. Insurers, on the other hand, did not raise these concerns. This might suggest that the different perspectives of insurers and mental healthcare institutions affect the use of cost-effectiveness analysis.

#### COMPARISON WITHIN THE NEEDS OF THE DIFFERENT DECISION-MAKING LEVELS

Although the previous section showed some similarities and differences between the needs (findings) of the different decision-making levels, the same occurs within the needs of these two levels. When looking at the institutional level, variation exists in the use and uptake of cost-effectiveness analyses. This could be explained by the variation in organizational culture, vision, size and commitment of the institution to cost-effectiveness (analyses). Innovative and progressive oriented institutions will be more likely to capture cost-effectiveness analyses in their decisions, than institutions which deviate from this.

This is in contrast to the purchasing level, which did not show such variations within their experience with the use and uptake of cost-effectiveness analyses. Moreover, insurers did not show any remarkable differences in needs at all, except from the difference in emphasis on the *financing aspect*.

## CONCLUSION & DISCUSSION

### 5.1 INTRODUCTION

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Based upon the findings from both the literature and the interviews, some conclusions will be presented in this chapter. Furthermore, a discussion of the conclusions is presented. After discussing the conclusions, the contribution of conclusions to appropriate bodies of literature, in terms of practical and theoretical implications, will be assessed.

### 5.2 CONCLUSION

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By linking the findings from the interviews to the literature, on the basis of the sub-questions, an answer can be given to the main research question:

*How can researchers support decision-makers in mental healthcare, to improve the implementation of cost-effective medical innovation?*

The implementation of cost-effective innovations is important for mental healthcare in light of the number of patients and societal costs of mental illnesses. The move towards efficiency in mental healthcare will enhance quality and reduce costs of care. In order to achieve these two goals, cooperation of decision-makers is necessary to realize a more efficient provision of care. Therefore, a qualitative study concerning needs and experiences from different decision-making levels with the implementation of cost-effective innovations in mental healthcare was performed. Findings revealed that the move towards efficiency in mental healthcare is a goal that every stakeholder can accept, but when looking at the actual implementation into daily practice, different aspects appear to impede moves toward more efficient purchasing and provision of care. In order to contribute to the improvement of the implementation of cost-effective innovations, three main conclusions can be drawn from both the findings and literature.

**Firstly**, we should support decision-makers, reflecting the purchasing and institutional perspective, with information that shows clear (dis)advantages of financial consequences regarding the implementation of cost-effective innovations. When insurers and institutions do not see individual financial advantages, they usually will not consider the innovation further. Successful coping with the implementation of a cost-effective innovation is, to a large extent, determined by the provision of supplemental information about how the implementation of innovations would affect them personally in terms of individual costs and revenues (i.e. a Budget Impact Analysis, Return on

Investment and a Business Case). Additionally, we primarily should support insurers with non-financial information that shows clear improvement of quality and effects, regarding the implementation of cost-effective innovations.

**Secondly**, provision of information that shows clear (dis)advantage of financial consequences alone does not guarantee widespread adoption and implementation. Economic aspects, i.e. *appropriate financing and financial incentives*, seem to be crucial for the realization of implementation as well. Alongside these economic aspects, the *organizational culture* and *social support* stand out as having a direct association with the implementation of cost-effective innovations. Although insurers as well as institutions identified the latter two aspects, it most often came to light in connection with the institution's perspective. Hence, I conclude that attention to social support and the alignment to the organizational culture are essential, especially to mental healthcare institutions. Moreover, the provision of information should be accompanied by appropriate financing and financial incentives (e.g. in terms of pay-for-performance). In response to this, different aspects appear to be inextricably linked, which means that supplemental financial information in combination with adjustment to environmental aspects should be warranted to insurers and institutions.

**Thirdly**, the presentation and quality of research that provides information on the cost-effectiveness of an innovation appear to be an important determinant for the use of this cost-effectiveness analysis. Primarily from the perspective of mental healthcare institutions, cost-effectiveness research will have more influence on their decisions when outcome variables are translated to their professional environment and quality is guaranteed. Cost-effectiveness analyses, therefore, should reflect individual achievable benefits of persons and institutions who are affected by the outcome of interest. Hence, appropriate outcomes will be visible for each level of decision-making. This indicates a need to improve adjustments to the individual perspectives of the different decision-making levels.

This study shows that a combination of the previous three aspects directly affects the implementation of cost-effective innovations. By linking these aspects to related phases in the process of implementation (Grol & Wensing 2006), a final conclusion can be drawn. The first aspect, the *provision of information on financial consequences*, can be linked to the third phase of the process of implementation: *acceptation*. The second aspect, *adjustment to environmental aspects*, refers essentially to the fifth phase in the process of implementation: *maintenance of the change*. The last aspect, *the presentation of cost-effectiveness research*, can be linked to the first and second phase; *orientation* and *understanding*. This leads me to a final conclusion that insurers and mental healthcare institutions should be supported mainly within these three phases. This, in turn, will affect stakeholder's motivation and the way they value any cost-effective innovation.



### 5.3 LIMITATIONS AND DELIMITATIONS

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As qualitative research relies on a variety of understandings in the process of describing and interpreting phenomena of interest, several limitations and delimitations might constrain the internal and external validity of my findings (Maxwell, 1992). In this paragraph therefore, conditions beyond my control, that might place restrictions on the conclusions that have been drawn, are discussed.

Because this research concerns a qualitative data collection, explicit attention to the reliability of the results is required. The **first** limitation concerning the internal validity can be addressed in that no statistical verification is attached to the findings of this study. Based upon Maxwell's (1992) validity framework, this is called the descriptive validity. A plausible explanation for this comprises the research subject, in which mental healthcare is hardly to define. Besides, outcomes and processes in mental healthcare are less transparent and concrete in comparison with, for example, somatic care.

The **second** limitation concerns the interpretive validity, which relies on an accurate accounting of the meanings, intensions and beliefs respondents attribute as significant (Maxwell, 1992). This means that answers and perspectives derived from this might be affected by conscious and unconscious personal values. This, in turn, allows participants an opportunity to deal with individual interests instead of focusing on problem solving. According to the process of my interview method, some features seems to have commonalities with features within an official delineated data collection technique, also known as the 'Delphi method' (Hsu and Standford, 2007). This can be explained as I provided all respondents with a delineated summary of their answers in order to enable respondents to reconsider and adjust their responses. According to the 'Delphi method', provision of multiple delineated refocused iterations assumes opinions to be more problem solving oriented and pure. Eventually, this will minimize concerns of the interpretative validity. One final comment about the interpretive validity comprises approaching participants, which proceeded by sending them an email explaining the objectives of the research. Herewith, the risk of purposive answers will increase. Avoidance of explaining such research purposes would probably increase the internal validity of my findings, as respondents do not seek for beliefs or views with the explained purposes in mind.

The **third** limitation that applies to this study concerns the theoretical validity limitation. From the empirical study, I found that information on cost-effectiveness is not yet part of the main considerations and needs of the interviewed decision-makers in mental healthcare, while from the theory (Koopmanschap et al., 2010) it is said to be one of the main considerations in decision-making. The theory of Koopmanschap et al. (2010) may not reflect the needs of my respondents as their sample size deviated from mine. Furthermore, outcomes were constructed on the basis of questions

about reimbursement decisions, which do not reflect the actions of all respondents included in this research.

After a discussion of the internal validity of my findings the external validity will be discussed. The external validity, which might affect the generalizability of my findings, is the degree to which the conclusions that have been drawn hold for other people in other places and other times. Primarily, it relies on the size and choice of respondents. Despite the inclusion of a grounded research process, this study has some features that suggest that my findings are less generalizable to wider domains. Starting with the amount of respondents, only eight decision-makers within mental healthcare were interviewed and two perspectives analysed. This implies a relatively small variation between and within perspectives, which in turn entails that the perspectives of the different decision-making levels might not quite come to their full potential. This can be seen as the **fourth** limitation. The caution, in particular, should be on the purchasing perspective as only two decision-makers from the same organization were interviewed. However, as I wouldn't fall into the pitfall of focussing too heavily on 'how many interviews to conduct', I rather focussed on how to maximise the quality of the interviews.

Furthermore, findings are less general in application as the probability of similar values and results seems not very likely at other decision-making levels, such as the patient's and provider's level. In addition, these research findings may not hold for other healthcare sectors, as mental problems and illnesses are much more complex and inconclusive compared to, for example, the somatic care. In order to overcome this **fifth** limitation and improve generalizability, future research on this topic should be taken to a more comprehensive group of respondents, in which the number of respondents should be increased and the various decision-making levels extended.

The **sixth** and final feature of this research that might suggest doubts about the representativeness and external validity of my findings is that the empirical data collection involved respondents who were approached by means of 'snowball sampling'. The application of 'snowball sampling', could be seen as a useful tool to quickly find experts who are hardly reachable in the field. However the success of this technique depends greatly on the profile of initial contacts and their ability to vertically network and find appropriate connections. As my initial sources had different profiles and were both closely related to different disciplines, it reduces the bias of only collecting respondents within a particular social network. Hence, diversity of contacts could be ensured. However, 'snowball samples' (also referred to as nonprobability samples) leads to less representative samples compared to probabilistic sample. At least with a probabilistic sample, we know the odds or probability that we have represented the population well. Therefore, there will be a risk of introducing bias as the

technique might reduce the likelihood that my respondents represent a good cross section from the different decision-making levels in my research.

Given previous limitations, findings of this study cannot, without any doubt, be generalized to the entire curative mental healthcare system. However, the results give an indication of the concerns and (information) needs of decision-makers with cost-effective results they should implement. The findings and grounded research process thus serve as an initial, empirical step.

## 5.4 THEORETICAL AND PRACTICAL IMPLICATIONS

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This research has implications for both theory and practice. Starting with the theoretical implications, findings of this study contribute to the literature in several ways. Overall, the needs of decision-makers concerning implementation of cost-effective innovations are rarely mentioned in the literature. Moreover, when literature on this is presented, it is in general terms. Therefore, insights into supplemental (information) needs according decision-makers at specific individual level, that is: the purchasing level and (mental) institutions level, will contribute to the contemporary preference studies. Furthermore, findings of this study enhance understanding on how to support decision-makers in response to their individual (information) needs. Besides, it will contribute to the discussion on how to use or complement cost-effectiveness analysis in a way that would be more useful for decision-making at different levels in society.

Alongside being relevant to the theory, this study also has value in practice as the identification of and response to supplemental (information) needs will affect the way decision-makers value the implementation of innovations and their consequences. Provision of information that shows clear (dis) advantages of (non-) financial consequences regarding the implementation of a cost-effective innovation, will therefore support decision-makers with the construction and reframing of meanings. This, in turn, will motivate and encourage decision-makers to proceed to actual implementation. This contributes to practice, as it might help decision-makers embrace the implementation of cost-effective innovations. Furthermore, the improvement of information transfer from researchers to practitioners will contribute to the progression towards a cost-effective mental healthcare system.

## RECOMMENDATIONS

### 6.1 INTRODUCTION

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After concluding and discussing the findings and literature in the previous chapter, this chapter presents a number of practical recommendations for intermediary organizations, like ZonMw, as they are a promising link to improve knowledge transfer between researchers and practitioners. In addition, suggestions for further research have been given.

### 6.2 PRACTICAL RECOMMENDATIONS

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For organizations (like ZonMw) a number of recommendations can be suggested. In general, practical conditions show that the implementation of innovations should be accompanied by supplemental and useful information. In addition, alignment of environmental aspects (i.e. financing and organizational/social support) should be warranted. Following this, researchers and resource organizations should target their strategies on a local or individual level, in order to incorporate important inter-individual differences that might affect the value of a particular innovation (Ioannidis and Garber, 2011). This specific exchange of information can be linked to a so-called 'knowledge broker'. A 'knowledge broker' is a popular knowledge translation strategy emerging in Canada to promote interaction between researchers and end users (Dobbins et al., 2009). As ZonMw moves in an interface, which connects researchers and practitioners, they are most able to fulfil the task of a knowledge broker. Therefore, I would recommend institutions, like ZonMw, to develop mutual understanding of goals, collaborate with end users to identify issues, and facilitate the assessment, interpretation and translation of cost-effective evidence into individual and local preferences (Dobbins et al., 2009). This might be one of the best contemporary strategies to improve translation of cost-effective research results.

Furthermore, ZonMw, as a financier of research, pays much attention to valuable and useful research of cost-effectiveness. In order to encourage users of these results to implement, they should supplement their research results with information on how the innovation would affect decision-makers personally (i.e. insurers and healthcare institutions), in terms of individual costs and benefits. In addition, ZonMw should increase the utilisation of cost-effectiveness research by improving codification and transfer of information from one context to another. This, in turn, might be one of the tasks of the previous mentioned 'knowledge broker'.

Although cost-effectiveness analysis is not yet part of the main considerations of decision-makers in mental healthcare, they realize that the promotion of this should be fostered. A final recommendation, therefore, includes awareness of and a constant attention to the presentation and quality of economic evaluations, in order to meet the ever changing needs of decision-makers in healthcare.

### 6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

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The identification of concerns and needs with the implementation of cost-effective innovations, is still in its earliest stage. Future research could contribute further to this by extending this study to all decision-making levels in practice (e.g. provider's level and patient's level). Extending future research with remaining decision-making levels is recommended as a broader and complete view can be constructed.

In order to increase the validity and reliability of this study, a prospective research design should ideally be conducted in future research on this topic. Hence, issues and related needs can be traced and evaluated throughout the entire process of implementation, which will allow needs to be linked to a specific phase or moment in the process of implementation. However, this will take a lengthy period of time. Furthermore, future research is required on the needs of decision-makers corrected for contextual factors, e.g. the size of their organization and culture, so that a more reliable comparison between the information needs of decision-makers can be guaranteed. Finally, as qualitative researchers are less able to insulate themselves from data, a more quantitative research approach on this topic is required to improve the internal validity of this study.

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## APPENDIX 1: LIST OF INTERVIEWS AND PRELIMINARY TALK

NR. OF INTERVIEW (I) OR PRELIMINARY TALK (PI)	NAME OF INTERVIEWEE	PROFESSION	ORGANIZATION	DATE & LOCATION OF INTERVIEW (DAY:MONTH.YEAR)	LENGTH OF INTERVIEW (HOURS:MIN:SEC)
PT1	C. de Ceunink	Healthcare Insurer	Achmea	16.11.2011 Leiden	<b>01:21:25</b>
I 1	M. Hageaars	Data-analyst mental healthcare purchasing	Achmea	15.12.2011 Amersfoort	<b>00:50:00</b>
I 2	J. Jongmans	Mental healthcare purchasing	Achmea	22.12.2011 Zwolle	<b>00:55:00</b>
I 3	J. van Busschbach	Managing director	de Viersprong (Institution A)	20.12.2011 Rotterdam	<b>01:10:00</b>
I 4	J. van Luik	Director	Forta (Institution B)	19.12.2011 Rhoon	<b>00:54:00</b>
I 5	R. Janssen	Board of directors	Altrecht (Institution C)	04.01.2012 Den Dolder	<b>01:05:00</b>
I 6	M. Blom	Psychiatrist & director	PsyQ (Institution D)	12.01.2012 Den Haag	<b>00:45:00</b>
I 7	C. Gimbrere	Research & Development advisor	CVZ (organization A)	24.01.2012 Diemen	<b>00:45:00</b>
I 8	P. Gill	Policy advisor mental healthcare funding	VWS (organization B)	22.02.2012 Den Haag	<b>01:07:00</b>

## APPENDIX 2: TOPIC LIST INTERVIEW ANALYSE AND VARIABLES

Analysis variables	Questions
Welcome	
Icebreaker questions	
Introduction of interview purpose, permission of taping	
<b>Sub-question 3:</b>	<i>What are important information needs for the implementation of cost-effective innovations according to different decision-makers in mental healthcare?</i>
The process of implementation	<i>Describe the process of implementation</i>
Important concerns and related needs	<i>What are important concerns you would like to consider in the process of implementation?</i>  <i>What information do you need to encourage and support your decision?</i>
Role efficiency	<i>To which extent does information on cost-effectiveness influence your decision?</i>  <i>Do you incorporate evidence on cost-effectiveness in your decision?</i>
<b>Sub-question 4:</b>	<i>How do decision-makers in mental healthcare value cost-effectiveness analyses, in their decision about the implementation of innovations?</i>
Utilization of cost-effectiveness research and restrictions, on the basis of a case (Appendix 5)	<i>Which elements might restrict utilization of CEA's?</i>  <i>Are the elements and outcomes covered in a CEA key interest/concerns in decisions?</i>
Supplemental financial information needs (on the basis of two instruments on beforehand expected interests)	<i>What kind of supplemental information is important to value individual financial consequences when implementing an innovation?</i>  <i>Budget Impact Analysis/ Return on Investment?</i>
Closing note	

## APPENDIX 3: INTERVIEW TRANSCRIPT WITH MATCHING CODES

### Interviewverslag Marc Blom

Organisatie: PsyQ (GGZ instelling)  
 Functie: Psychiater en directeur Zorg bij PsyQ  
 Tel: -  
 Email: m.blom@psyq.nl  
 Datum: 12-01-2012  
 Lengte: 45 min  
 Respondent/letter: 6/D

### Samenvatting

Spelen kosten een rol?	Ja
Speelt kosteneffectiviteit een rol?	Wenig
Is daar voldoende informatie over beschikbaar?	-
Is de informatie voldoende bruikbaar?	Gedeeltelijk
Bekend met KEA/KUA/BIA/ROI?	Ja
Case bruikbaar?	Ja
Beslissing?	Invoeren
Wat voor informatie nodig?	Effectiviteit + financiële kosten herinstelling
Belangrijkste driver(s)/ motiverende factoren	Herstelde patiënt + grote van de doelgroep + financiële draagvlak
Bevestiging hypothese*	Gedeeltelijk

### Conclusies

1. Beslissingen worden voornamelijk bottom-up gestuurd, en niet zozeer op wat doelmatig is maar wat het meeste opbrengt.
2. Kosteneffectiviteit speelt een bescheiden rol, maar het belang binnen GGZ instellingen wordt erkent en bevordering is zeker nodig. Het zou ten eerste een grotere rol moeten spelen in dialoog met verzekeraar.
3. Financiële prikkels zouden zo moeten worden gemaakt dat ze in lijn liggen met het beleid. Nu zorgen de systeem vaak voor perversie prikkels die de zorg juist duur maken. Overheid zou incentive moeten zetten op dure kosten die niet effectief zijn (bv. Bedden reductie).
4. Verbetering van informatievoorziening heeft wel meer waarde, maar die moeten in lijn zijn met beleid.

### Verslag

#### 1. Implementatieproces

Er zijn nieuwe inzichten waar professionals mee komen aandragen over het algemeen, vervolgens wordt dat getoetst in een raad van professionals of dit wel/niet tot standaard pakket van de instelling gaat horen. Zodra er wordt besloten het te implementeren moet er vervolgens worden gekeken wat er nodig is aan trainingen en opleidingen.

- 1.1. Het bestuur hogere management van deze instelling speelt hier eigenlijk pas een rol als er naar investeringen wordt gekeken (bv. Aanschafkosten). "Dit gaat laatste tijd steeds meer spelen omdat nieuwe technieken een steeds grotere rol gaan spelen, hier kan je denken aan bijvoorbeeld investeringen op het gebied naar het maken van Apps uuumh dat zijn grote investeringen en daar moet echt naar gekeken worden wat brengen die investeringen nou open dan kijken we alleen naar onze opbrengsten he."
- 1.2. Er wordt vooral gekeken naar de effectiviteit (ook op langere termijn) en daarna pas naar de kosten die daarbij komen kijken. "Dus eerst gaan we kijken naar effectiviteit want ja... uuumh niet effectief is altijd, ook qua kosten, overbodigen dan gaan we kijken of we dat goedkoper kunnen maken (bv. in groepsvorm). (Effectiviteit -> kosteneffectiviteit (als die positief is, mooi meegenomen -> wat hebben ze aan investeringen nodig). Dit wordt vaak d.m.v. houtje-touwtje onderzoek gedaan, dit wil zeggen onderzoek naar kosten die zij zelf maken om een patiënt beter te maken (business case). Dit gebeurt alleen als er echt investeringen gemaakt moeten (in apparatuur e.d.) worden en niet bij nieuwe therapie waar weinig trainingen voor nodig zijn.
- 1.3. Dus zodra er een effectiviteitsstudie is en de business case positief uitkomt zal er over het algemeen besloten worden om de innovatie te implementeren. De grote van het patiënt bereik speelt hier een doorslaggevend rol (volume).
- 1.4. Deze instelling kijkt heel weinig naar de externe wereld; "Want we kijken niet naar verzuim of kosten in de algemene gezondheidszorg. Die meten we wel in onze ROM maar die leidt absoluut niet ons besluit. Wij kijken echt naar onze eigen kosten en dat is ook onze primaire insteek".
- 1.5. Maar de omgeving speelt ook een rol. Nauwelijks externe prikkel om te kiezen voor de beste prijs kwaliteit verhouding, maar langzaam aan gaat het steeds meer naar prestatie bekostiging.

## 2. Doelmatigheid /Kosteneffectiviteit

**Doelmatigheid en kosteneffectiviteit speelt een zeer kleine rol.** Zit aan de achterkant van het lijntje. "Maar dan is dat een klein venstertje waar wij door kijken, alleen onze korsjes zeg maar. En dit is ook logisch eigenlijk omdat er zit geen winst voor ons en voor niemand"

- 2.1. KEA worden weinig in de gewone praktijk uitgevoerd waardoor de relevantie kleiner wordt. "Want ja, als het van die geselecteerde patiënten groepen zijn, wat zegt dan kosteneffectiviteit bij die groep als wij het overnemen bij onze doelgroepen." (Experimenteel vs. real life). Hierdoor is er minder vertrouwen in het onderzoek.
- 2.2. In kosteneffectiviteitsstudies zit bij deze instelling geen enkele incentive om daar naar te handelen. Echter hopen ze wel dat anders wordt, omdat ze langzamerhand kunnen aantonen dat dmv deze behandelingen de somatische kosten ook kunnen afnemen, wat voor verzekeraars natuurlijk enorm kan schelen in de kostenpost.
- 2.3. Doelmatig werken in een instelling heeft zin om aan te tonen dat de kosten op een ander niveau kunnen afnemen. Maar voor instelling zelf is daar nog weinig incentive omdat zij worden afgerekend op hoeveel patiënten zij kunnen behandelen per tijd (inspanning).
- 2.4. Bij onderhandelingen met verzekeraars wordt doelmatigheidsonderzoek niet besproken, is geen issue. Men wordt daar niet om gevraagd. "Wat raais". "Iedereen kijkt verkokerd" Idee van deze instelling is dat ook verzekeraars zo kijken.
- 2.5. "Want kijk de kosten van de gezondheidszorg reizen de pan uit duzecht bizar dat we in Nederland nog steeds zo doen hoor" als je er geen financiële incentives aan gaat binden gaan mensen toch handelen naar waar ze het meeste geld gaan krijgen, dat is helaas wel zo. "Dus iedereen kijkt op zijn eigen vierkante millimeteren zolang we dat blijven doen ja, dan kunnen we onderzoek blijven doen totdat we een ons wegen" Daarom heeft het ook zo weinig impact omdat er geen consequentie aan verbonden wordt.

## 3. Case kosteneffectiviteit

De uitkomstmaten in de case worden herkend, case is helder. Maar zouden meer bruikbaar zijn als op instelling gericht perspectief

- 3.1. Missende waarde is numbes needed to treat. "Dus hoeveel patiënten moeten we nou eigenlijk behandelen om 1 gezonde te krijgen." En wat geeft een instelling uit om 1 herstelde patiënte krijgen.
- 3.2. Van een QALY loopt deze instelling niet warm.
- 3.3. Als alle maten positief zijn (zoals hier) en volume patiënten hoog genoeg is dan kunnen hoge kosten voor lief worden genomen.

## 4. Andere behoeften

**De BIA en ROI spelen beide een rol.**

- 4.1. Systeem veranderen vaak; nu twee bekostigingsystemen (DBC, NZa). Dit betekent dat professionals louter op financiële gronden keuzes moeten gaan maken wat ze moeten gaan doen. Door van bv NZa naar DBC te switchen, kunnen dingen minder efficiënt worden ingericht. "Overheid is niet heel nadenken over efficiency winst, dat roepen ze wel maar daar zitten hele perverse prikkels in." Dus in de systemen zitten hele perverse prikkels.
- 4.2. Helaas is het niet zo dat welleten altijd bepaalt. "De economie drijft het handelen van een instelling vaak. Dus bijv. wanneer het systeem verandert dan kan een instelling ineens geen groepstherapieën meer doen, en dit is niet omdat dit dan niet meer doelmatig is (is buitengewoon doelmatig) maar omdat het de instelling niets meer oplevert. Hoe gaan wij die systemen zo krijgen dat je er het maximale uit kunt halen.

\* Hypothese = De implementatie van zorginnovaties, waarvan de kosteneffectiviteit aangetoond is, zou kunnen worden bevorderd als onderzoekers aan de praktijk aangepast en bruikbaar bewijs leveren.

## APPENDIX 4: CODING SCHEME

1A: Interview analysis Question 3												
Interviewees			1	2	3	4	5	6	7	8		
Color interview transcript	Codes	1e order concepts	aggregate categories								Matching theory	
red	1	a. Evidence of cost-effectiveness	x	x	x				x	xx	Relative advantage (Grol)	
green	2	a. Evidence of individual costs/revenues b. Evidence of healthcare costs / expenditure			xx	xx	xxx					
grey	3	a. Evidence on productivity gain/ absence from work	x	x					x			
dark red	4	a. Evidence of cashflow / ROI / business case	xx	xx								
blue	5	a. Evidence of effectiveness / effect differentiation b. Quality (ROM)	x	x	x	x	x	x	x	x	Relative advantage	
yellow	6	a. Dis- no financial incentives b. Alignment financing	x	x			xx	x	xxx	xxx	phase 5, embedding in the organ	
pink	7	a. Involvement and approval patients, professionals, managers etc.	x	xx		xxx	x		x		Opinion professionals	
	8	a. Organizational structures / vision / culture	x	x		x	xx	x	xx		Incorporate vision	
1B: Interview analysis Question 4												
Interviewees	code	1e order concepts	aggregate categories								Matching theory	
red	9	a. Inappropriate and unclear data / outcomes b. No relevant case-mix (target group)		x			xx	xx	n.v.t	n.v.t	groups opinions use/unused	
yellow	10	a. Scientific sustainability / artificial / no real life					x		x	n.v.t	n.v.t	involment diff. perspectives
							xx	x	x	n.v.t	n.v.t	

x = important, but often provided so no urgent need

## APPENDIX 5: CASE STUDY BORDELINÉ

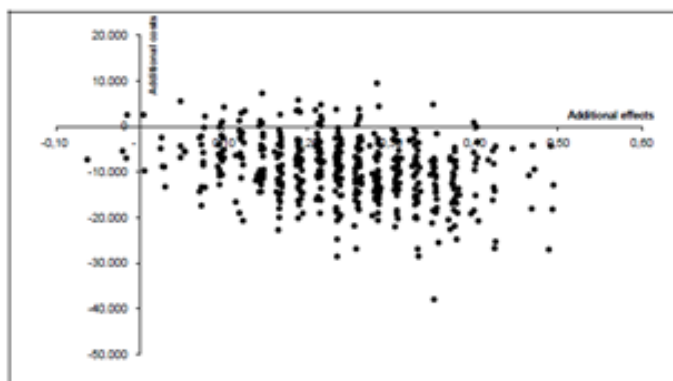
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### case: Borderline

Bordeline persoonlijkheids stoornis, staat bekend als een ernstige psychiatrische conditie. Kort geleden is de kosteneffectiviteit van twee outpatient psychotherapieën vergeleken, Schema focused therapy (SFT) en Transference focused psychotherapy (TFP). De kosteneffectiviteitsratio berekent de extra hoeveel aan geld dat zal worden geïnvesteerd of bespaard wanneer je 1 extra unit effect wint of verliest voor een patiënt. In deze case wordt dit op twee manieren berekend over 4 jaar, 1) kosten per herstelde patiënt en 2) kosten per QALY (quality adjusted life years).

<b>Ernst van de ziekte:</b>	<b>Hoog</b>
<b>Relevantie:</b>	<b>1,1% v/d populatie</b>
<b>Effectiviteit:</b>	<b>1) % herstelde patiënt: 52% voor SFT en 29% voor TFP</b> <b>2) QALY's: 2,15 voor SFT en 2,27 voor TFP</b>
<b>Kosten:</b>	<b>€37.000 voor SFT en €46.000 voor TFP</b>

### **Kosten-effectiviteit:**



**1) SFT kost minder en is meer effectief**

Figure 1: Bootstrapped costs and effects for cost per recovered patient, showing 1000 bootstrap replications for incremental cost-effectiveness of SFT compared to TFP. Costs are on the y-axis, and effects on the x-axis, so a bootstrap replication in the south-east quadrant means that SFT is less costly and more effective than TFP for that replication.

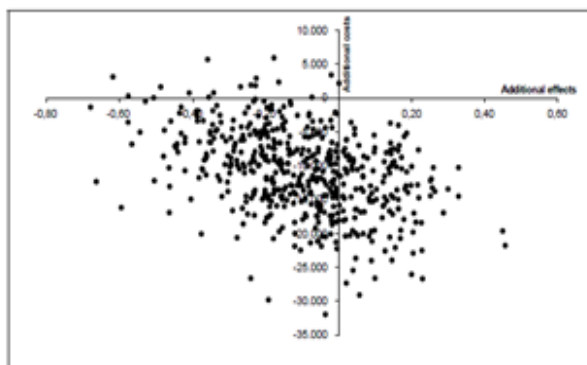


Figure 2: Bootstrapped costs and effects for cost per QALY, showing 1000 bootstrap replications for incremental cost-effectiveness of SFT compared to TFP. Costs are on the y-axis, and effects on the x-axis, so a replication in the south-west quadrant means that SFT is less costly but also less effective than TFP for that replication.

2) SFT kost minder maar heeft ook minder effect

Ratio = - €90.000/verloren QALY

- 9) Evalueer de resultaten: Zou deze informatie een rol spelen in uw besluitvorming over de implementatie of vergoeding van SFT of TFP?
- 10) Zo ja? Wat zijn de belangrijkste gegevens waarop u uw besluit zou willen/kunnen nemen? (5 min)
- 11) Vind u deze gegevens bruikbaar in uw situatie? (1 min)
- 12) Toelichting keuze bovenstaande; (3 min)
- a. Waarom niet bruikbaar? Niet begrijpelijk/ anders perspectief/ andere wensen?  
.....  
.....
  - b. Wat zou er moeten veranderen om het bruikbaar te maken?  
.....  
.....
- 13) Welke gegevens zou u nog meer willen weten (missende waarden)?