Exploring Barriers to Value-Based Procurement in Healthcare: The perspective of 3 Dutch hospitals

Author: Luc Lefers
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT,
The aim of this research is to find out what barriers or challenges Procurement Professionals in healthcare institutions experience when it comes to the implementation of Value Based Procurement (VBP). As Value Based Healthcare (VBHC) makes steady progress, the role of procurement in its implementation is becoming more and more clear. Learning from the previous experience of several procurement professionals in 3 Dutch hospitals and what they perceived as the largest barriers or challenges when it comes to implementing VBP will help future procurers navigate these challenges when it is their turn to implement VBP. It will also help policymakers identify ways in which rules and regulations might inhibit VBP's implementation. This research does so by doing semi-structured interviews with 4 top ranking procurement professionals in Dutch hospitals and inquiring into their experience with VBP. It has become apparent that in The Netherlands, although being one of the countries most experienced with VBHC in the world, not much experience with full-scale VBP has been built op. one of the main challenges as such is the novelty of the concept to all stakeholders: insurers, MedTech companies and healthcare institutions. Barriers related to this are lack of trust, short term focus of hospitals & MedTech companies and limited practical experience with long term value measuring. Future research could inquire into the perspectives of other stakeholders, such as MedTech companies or Healthcare insurers. Another direction could be into the role of government regulation and its negative effects on VBP implementation, or on how different Government regulation could improve VBP implementation and adoption.

Graduation Committee members:

Dr. Carolina Belotti Pedroso, Assistant Professor at University of Twente
Dr. Klaas Stek, Assistant Professor at University of Twente

Keywords
Value-based procurement; Value-based Healthcare; Patient Value; Healthcare; Healthcare procurement

1. INTRODUCTION

Value based healthcare (VBHC) as a concept was first introduced by Porter and Teisberg in 2006. It differs from the traditional Cost-based approach that has permeated widely throughout the Healthcare sector in the way that it intends to shift the focus from minimizing the cost of care in general to maximizing the value for the patient. Within the concept of VBHC value is measured as the health outcomes of the patient, divided by the total cost of care to achieve these outcomes. The value for the patient can thus be increased by achieving better health outcomes and a better patient experience in general, while having the total costs be lower or equal (Sieburgh, 2021).

The interest in Value-Based Healthcare is steadily increasing. This can be explained by the rising costs of care and the increasing demand for care due to demographic changes towards an older population (Sieburgh, 2021). Despite these trends, the implementation of VBHC is still in the pilot phase (Cossio-Gil et al., 2021). Many healthcare organizations implement only a few components of VBHC that already fit their existing strategy, or simply only focus on decreasing the cost of care without increasing the health outcomes of these costs. Procurement can be a significant driver of Value-Based Healthcare, however also in this category implementation remains lacklustre as purchasing price of equipment and materials remains the number one criterion in procurement (Cossio-Gil et al., 2021).

About 70% of all global MedTech sales go through a public-procurement process and in 70% of those cases the decisions are based on cost-price. Both of these numbers are also rising. This focus on the upfront cost-price has many unintended consequences for the industry as a whole, such for example reduced competition in the MedTech sector and reduced innovation and adoption of new technologies (Gerecke et al., 2022). Some organizations did adopt a Value-Based approach and have already seen the benefits, such as improved patient outcomes, lower total costs and increased benefits for other stakeholders such as medical professionals (Gerecke et al., 2020). Still, there are factors that hinder the adoption of value-based procurement in healthcare despite the advantages. One of the most commonly named barriers is the pressure for immediate price reductions, despite sub-optimal results in the medium/long-term (Meehan et al., 2017).

In most developed markets the healthcare sector suffers from many problems. Examples of such challenges are dealing with an aging demographic, advancements in and implementation of IT systems, high costs of care & disparities in health outcomes. Among these problems, two of them are highlighted. The first problem is a significant difference in patient health outcomes from care. Even for routine procedures like a hip or a knee transplant, two very common replacement surgeries that 1 in 7 Europeans undergo have a vast range of potential outcomes, even in a well developed country like Germany (Gerecke et al., 2022). Other countries experience similar disparities in outcomes across varying care procedures. These disparities are mainly due to different medical practices and can therefore be addressed. Another issue that arises is the how these outcomes are measured, or the lack of outcome measurements in general (Antunes et al., 2014). Without accurate measurements of health outcomes, calculation of 'value' according to Porter & Teisberg (2006) is impossible.

The second problem in the healthcare sectors are the rapidly rising costs. These costs can be experienced in many ways, such as rising drug prises and higher costs of service and these rises are due to a variety of causes, such as underdeveloped competitive markets and technological innovations

(Bodenheimer, 2005). In many developed countries the costs of care are increasing at rates far above the growth rates of national GDP, rates that are therefore unsustainable (Gerecke et al., 2022). These 2 problems are cause for a need for change in the way that the healthcare system operates. One of the proposed solution to these 2 problems is a more holistic approach that takes the view that the patient takes centre stage, otherwise known as the Value-Based Healthcare approach.

This approach knows many long-term benefits for multiple different stakeholders. For patients it results in lower costs and better health outcomes, for care providers it results in higher patient-satisfaction rates and better care efficiencies, for payers it results in better cost controls and reduced risks, for suppliers it results in alignment of prices with patient outcomes and for society at large it results in reduced healthcare spending and overall better health (Porter & Teisberg, 2006).

Despite of the long-term benefits value based procurement can provide, few healthcare organizations have adopted the Value-Based Procurement approach. Based on that, the following research question is proposed: What are the main barriers healthcare organizations face when implementing value-based procurement? In order to investigate the research question, this research explores the main issues of procurement professionals in the healthcare sector related to the VBHC approach to procurement. As implementation of VBHC can be the solution to some important problems the healthcare sector is facing, it is important to know why so few organizations are actually deciding to implement it or why they are unable to implement it. Figuring out how to overcome these obstacles will then be the natural next question so that VBHC can be fostered in its entirety throughout the entire sector.

The goal of this research is to identify and analyse the barriers that hinder the implementation of Value-Based procurement in healthcare in practice, by interviewing members of organizations that have (partly) adopted VBHC and analysing their experiences of the implementation of Value-Based Procurement. The popularity of Value-Based Healthcare and procurement keeps growing and are increasingly recognized as a promising approach to improve health outcomes while containing costs. By studying these few organizations that have taken an early-adopter role with regards to VBHC adoption, this research aims to identify the specific barriers that hinder the adoption of value-based procurement in healthcare, as well as the potential strategies that can be implemented to overcome them. This knowledge can help other healthcare organizations interested in implementing value-based procurement to anticipate and address the challenges they may face, ultimately improving the quality and efficiency of healthcare delivery

Despite the growing interest for Value-based Healthcare and procurement, there is still limited empirical evidence on the specific practical barriers that hinder its adoption. This research contributes to the literature by helping to fill this gap in the research. Besides the research gap, this research also has practical implications for practitioners and policymakers as the knowledge generated by this research on the specific barriers and potential strategies to implement Value-based procurement in healthcare can influence the decision-making and resource allocation processes, ultimately improving the quality and efficiency of healthcare delivery.

2. LITERATURE REVIEW

2.1 Value based procurement

Value Based Healthcare in general has emerged as an answer to the rising costs, inefficiencies and lower quality of care in the broader public healthcare sector (Kokshagina & Keränen, 2021).

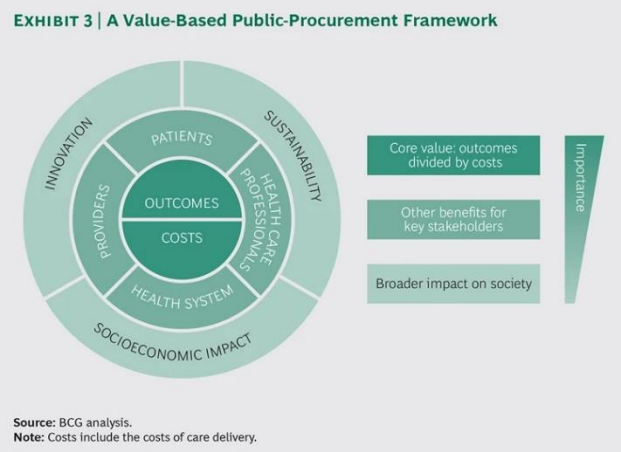

Figure 1. Value-Based Procurement Framework

It is aimed at reducing costs and increasing patient health outcomes, or more formally it is aimed at increasing the health outcomes per pound spend (Porter & Teisberg, 2006). More broadly, it aims to broaden the focus beyond cost-saving and price-centric organizational value creation to a broader holistic focus that concentrates on increased quality-of-care and patient-centric outcomes (Berry, 2019). For procurement, its role in the enhancement of an organisation's effectiveness through value creation is well known, however the definition of value in value based procurement is hotly contested (Williams & Shearer, 2011). One of the reasons for this is that there are many different stakeholders, for example hospitals, vendors, policymakers and patients, that often have conflicting goals and requirements (Kokshagina & Keränen, 2021). The idea of value thus is different for each stakeholder and is therefore hard to calculate, define and deliver (Meehan et al., 2017). Generally, value in VBHC is described by Porter & Teisberg (2006) as the Health Outcomes of the Patient divided by the total costs of care. This simple definition is one of the most supported definitions, however it is also criticized due to the implication that value can be increased even whilst decreasing the health outcomes (Prada, 2016). For example, in a case where the health outcomes of an intervention decrease by 10% the value can increase as long as the costs decrease by more than 10%. Prada (2016) therefore argues that it is crucial to look beyond simply decreasing costs in order to increase value, as decreasing costs with little regard for health outcomes is dangerous to health systems and societies and goes contrary to any high-performing system's goals. For this reason, the definition as given by Porter & Teisberg can be used, however it should be kept in mind that order to increase value in a sustainable way, one should focus on both decreasing costs and increasing health outcomes and not on just a single of these two factors.

According to Meehan et al. (2017) value can be generated in three areas: competing and responding to industry level changes, exploiting relational capabilities and understanding & responding to customers' needs. In procurement value creation needs to be viewed longitudinally, with the costs and benefits being evaluated over time (Terpend et al., 2008). Value from a procurement perspective needs to be considered throughout the life of a contract in a holistic approach, not just at the sourcing stage while simply looking at price (Meehan et al., 2017).

The exact definition of VBP is hard to pin down, however according to Pennestrì et al. (2019) it can be described as "*The process in which providers purchase medical technologies and devices in order to provide good quality healthcare at competitive or sustainable prices"*, or more succinctly "*achieving outcomes that matter to people at the lowest cost*

possible". Meehan et al. (2017) sees Value Based Procurement as a collaborative effort through strategically aligning suppliers' resources, products and services to broad outcomes-based goals of the organization, exploring the wide range of costs and benefits holistically across a large spectrum of interdependent activities.

To conceptualize Value Based Procurement, The Boston Consulting Group and MedTech (Gerecke et al., 2022) created a new framework (see Figure 1) which visualizes the concept of VBP and shows the different aspects of value derived from it. The inner circle shows the basic principle of VBP, the core value creation as calculated by health outcomes that matter to people divided by the cost of delivering these outcomes, including not only the initial purchase costs but also the total cost of care delivery (Gerecke et al., 2022). The first ring visualizes the second-tier benefits to patients, health care professionals, providers and the health care systems. These benefits include the relative convenience and comfort of patients, the safety and ease of use for health care professionals, better care pathways for providers and reduced overall costs for the health care systems (Gerecke et al., 2022). Finally, the outer ring shows the tertiary considerations that reflect the broader impact on society in the forms of innovation, sustainability and socioeconomic impact (Gerecke et al., 2022).

How to actually implement Value Based Procurement can be vague to procurers, as the simple definitions above are not always adequate to base an implementation strategy on. Healthcare systems are complex and implementing VBP therefore needs a more elaborate strategic vision. Prada (2016) describes a few key lessons that were gathered from early adopters that organizations can take into account when transitioning towards a more strategic and value-based procurement approach: (I) take a longer term view of success and broaden the definition of value, including, for example, patient experiences and longer term efficiencies, (II) foster collaboration and cooperation between public and private stakeholders, (III) engage clinicians and other key opinion leaders in the procurement process to determine value and enable and accelerate adoption, and (IV) ensure that value-based procurement is broadly adopted, aligned between all funders and buyers, and informed by relevant data. Besides these recommendations, Gerecke et al. (2020) also provide 3 general steps that organizations should follow in order to develop a VBP implementation strategy that is effective and more ready to face challenges along the way: (1) make VBP a strategic priority and set up a multidisciplinary VBP team to drive the change, (2) prioritize and focus, through VBP pilots that build up internal expertise, and (3) develop organizational capabilities. These 3 steps are in accordance with recommendations of Bulens et al. in their 2018 Deloitte Report. Therefore, with these suggestions other early adopters should be able to write a strategy and implement principles of VBP for themselves.

2.2 Barriers to implementation

This report aims to find the perceived challenges to adoption of the Value Based Approach to procurement. The existing literature already predicts and describes barriers that could be experienced by purchasers. For example, Porter & Teisberg (2007) name some barriers in the same book that introduces the concept of VBHC, like entrenched mindsets to the way physicians are organized, prevailing reimbursement models and obsolete regulations. Meehan et al. (2017) conclude that full government support for an approach is necessary, which is currently lacking for the Value Based Approach. Furthermore, there are organizational facets missing, like supportive resources, infrastructure, organizational cultures and processes. Current government incentives lead to a focus on cost reductions and an aggregation approach, which hampers the ability for other approaches to gain traction (Meehan et al., 2017). Besides these barriers due to governments' approaches to healthcare, Prada (2016) identifies the disjointedness of governmental organization and agencies as a barrier, which can be seen in for example the large variety in highly specialized Government agencies, Shared Services Organizations (SSO) and Group Purchasing Organizations (GPO) which create challenges for innovators and vendors to access the health markets. Thus in general, the approach to healthcare by many governments creates a barrier to adopt or implement VBP, as organizations can feel unsupported in their intention to implement VBP by their government or can feel overwhelmed by the complexity and amount of government agencies that need to be accessed in order to enter a market.

Other potential barriers to the implementation of VBP could be the lack of data on patient outcomes (Cosio-Gil et al., 2021). Causes for these could be the difficulty of accurately measuring the health outcomes for, for example, patients for whom treatment knows no end date. Other reasons could be lack of skills and training for professionals in healthcare institutions or lack of collaboration or communication between purchasers and physicians (Cosio-Gil et al., 2021).

More generally, Prada (2016) describes the disjointedness of many key stakeholders in the healthcare system as an obstacle to derive more value from the procurement process. For example, universities and innovators that are developing innovative appliances and techniques appear disjointed from government funds to fund further development, or disconnected from companies that have the capabilities to market and produce said innovations. At the same time, these companies might find it difficult to access the venture capital and bank finances necessary to bring these innovations to clinicians and patients (Prada, 2016). Barriers can thus be very broad political issues and focuses, or can be very organization specific, or anything in between.

Gerecke et al. (2020) did a survey among procurements professionals in healthcare organizations to identify which challenges these procurers feel they face in the implementation of VBP. Among these challenges the most frequently reported challenge is the lack of a Value Based Procurement strategy, a clear direction and willingness of leaders to make a leap into VBP. Furthermore, the most frequently self-identified challenges of procurers in VBP implementation include a lack of experience in measuring outcomes (Gerecke et al., 2020). Procurers also believe that there is a lack of expertise when it comes to measuring the value proposition of a given product, service or solution, which in consequence causes them to still focus more on the upfront costs in price, which is also one of the most frequently reported challenges (Gerecke et al., 2020). The other 3 major self-reported challenges according to Gerecke et al. (2020) are a lack of financial incentive to change, lack of total cost of care expertise and short procurement timelines.

3. METHODOLOGY

3.1 Data Collection Method

This research will be conducted in the procurement department of several healthcare institutions that have already (partly) adopted Value-Based Procurement. In the Netherlands, a collaborative partnership between 7 hospitals that aims to improve the adoption of Value-Based Healthcare within these 7 hospitals is active, called Santeon. These hospitals will be the main sources of interviewees for this research, as they operate within the same healthcare system and therefore share the same background context with regards to for example governmental regulations. Besides these Santeon hospitals, other organizations that have adopted VBHC will be approached. The context of this

research is procurement for healthcare in the Netherlands with a focus on Value Based Purchasing. This research will be conducted through case study research. Case study research is an appropriate research method to investigate this research problem since the outcomes could be hard to deal with as they can vary widely, which is a case study's unique strength in dealing with (Yin, 2009).

The method for collecting data in this report is semi-structured interview. Semi-structured interviews are a method of data collecting whereby the data emerges from the interaction between 2 people (Dolczewski, 2022). These interviews are mostly protocol-driven, where frameworks and questions are used consistently throughout the different interviews in order to ensure interviewer neutrality and validity (Dolczewski, 2022). In the process of interviewing there are 2 parties: the interviewer and the interviewee. The task of the interviewer is to consistently ask questions according to the protocol, but even more importantly to support the interviewee in clarifying the story, generating additional details and further unpacking certain aspects (Dolczewski, 2022). Furthermore, the task of the interviewee is to respond to the questions of the interviewer with stories and talk about events related to the questions (Flick, 1999). According to Flick (1999) it is the responsibility of the interviewee to tell the stories, but it is up to the interviewer to decide upon the ways to further explore these stories.

The goal of this research is to find the main challenges that Healthcare organizations face when adopting Value Based Procurement. To find out these challenges, Procurement specialists working for these organizations were interviewed using semi-structured interviews. For these semi-structured interviews an interview protocol was established that aims to guide the Interviewer/researcher during the process of interviewing. The entire list with its questions can be found in Appendix 1.

Each interview starts with an informal greeting moment, where the interviewer is able to introduce themselves to the interviewee and thank them for their time. When the interviewee has agreed to start recording, the interviewer states the right of the interviewee to not answer questions if they do not wish to, the interviewer states that all data is anonymized and the interviewer tells where and how long the gathered data is stored and when it will be destroyed. The interviewer will then start with the questions in the standard order. The first questions will ask the interviewees what their role is in the procurement department and what their responsibilities and duties are. The reason for this is so that it is clear whether all interviewees share similar levels of access, authority and experience, which could make a difference to the extent to which they are exposed to Value Based Procurement in practice. In the next part the interviewer asks questions related to whether VBP is actually practiced by the organization, in what contexts such initiatives are used and how the interviewee and its host organization conceptualizes VBP and related concepts. When it these factors are clear, the interviewer asks questions related to barriers and challenges that the interviewee encountered in their career with regard to VBP. Then finally the last question is about facilitators that the interviewee thinks could help speed up the process of VBP adoption. Depending on the answer that the interviewee gives to each question, the interviewer can ask follow-up questions that aim to gather deeper information about topics that the interviewee brought forward themselves. In this way, the interviewer aims to get more information and perhaps unique perspectives.

3.2 Sampling Method

The sample from which data is collected for this research must match the assumptions and aim of the research, as discussed by Palinkas et al. (2013). Since this research aims to find the challenges related to the adoption of VBP, the sample will consist of procurement professionals In healthcare institutions that have (at least in part) adopted VBP and VBHC.

To gather data, all 7 Santeon Hospitals were approached with a request for an interview with one or more procurement professionals within the organization about the experienced barriers to adoption of VBP. Out of these 7 Hospitals, 4 procurement professionals from 3 different hospitals agreed to an interview: Hospital A supplied Interviewee 1 and Interviewee 3, Hospital B supplied interviewee 2 and Hospital C supplied interviewee 4. the order in which Hospitals and Interviewees are named is a consequence of the order in which they were interviewed, Hospital A being the first of the hospitals to supply this research with an interviewee and hospital D being the last. The same rule applies to the interviewees, Interviewee 1 being the first procurement professional to be interviewed and Interviewee 4 being the last. This order is important, because knowledge gathered from the first interview can be used in later interviews to give these more depth and as a consequence more knowledge could potentially be gained from these later interviews.

Only 3 out of 7 Santeon Hospitals were represented in this research. This is due to only 3 out of 7 hospitals responding to the request for interview in a positive way, the other 4 hospitals stating that there was no available time to contribute to this research due to, for example, personnel shortages, or stating that Value Based Procurement was not yet being applied in the procurement process of that hospital. Other healthcare organizations were also approached, some hospitals and some other types of institutions, however often without response or with the response that VBP was not being applied currently in the institution. Due to this lack of response from all types of healthcare institution only 4 responses were available for this research within the window of opportunity of this research. The interviews were executed through Microsoft Teams and after each interview the recording was transcribed. These transcription documents were then coded using Atlas.Ti in order to find patterns and see which sentiments were reflected by most of the interviewees. Each interview lasted between 27 to 45 minutes, most lasting around 30 minutes. Overall, most interviewees shared the same amount of interest in the research and shared similar amounts of information. One interview lasted longer than the others. The reason for this might be a spin-off discussion during the interview, which was not entirely related to the research question, but which did relate to unique ways in which patient centeredness is being applied in their region.

Interviewee	Function	Organization	Interviewed via	Duration (min.)
A	Head of Procurement	Hospital A	Teams	27:47
B	Head of Procurement	Hospital B	Teams	44:31
C	Strategic Procurer	Hospital A	Teams	29:30
D	Head of Procurement	Hospital C	Teams	33:27

Table 1. Overview of respondents

3.3 Coding method

The method used to code the transcribed texts is inductive coding. Inductive coding's primary purpose is to allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies (Thomas, 2006). Inductive coding allows codes and categories to emerge during the analysis of the texts. This is in contrast to deductive coding, which starts with predetermined codes and fits these into the texts. Inductive coding is more fitting in this research, as VBP is quite a new approach and there are few actual expected barriers. Therefore, using inductive coding will allow interviewees to share their views without being railroaded towards certain answers which will lead to more varied but experiential answers. Finally, these codes were divided into 5 codegroups, or categories.

4. FINDINGS

The findings of the research will be presented in the following chapter, using each coding category as a subchapter. The interviews were coded using 4 subcategories: VBP application, VBP Goals, VBP Barriers and VBP Facilitators. VBP application discusses what parts of the VBP approach was or was not applied in the case of each interviewee, VBP Goals discusses what the goals for each interviewee's organization is with regards to VBP, VBP Barriers discusses what barriers to adoption of VBP each interviewee experienced and VBP Facilitators discusses what facilitators to adoption of VBP each interviewee thinks are the most important.

4.1.1 VBP Application

This subchapter discusses the ways in which aspects of VBP in theory were applied in practice. All 4 respondents stated that VBP itself was implemented, sometimes in very limited extent, to at least some of the existing VBHC care pathways that were established within the Santeon programme. Interviewee 1 stated: *"So where we started with really the first steps towards value driven procurement is within those Value Based Healthcare programs"*. Interviewee 4 stated something similar: *"And of course there are also a number of those care pathways where some attempts have been made to apply VBP, or at least to apply VBHC"*. However, not all Interviewees stated that healthcare pathways were the only locations where VBP is being applied. Interviewee 1 stated: *"We did have a value-based procurement process with a very strange subject perhaps, but that is with the coffee"*. In some cases healthcare was not the main location of application. Interviewee 4 stated: *"Yes, that is done, but I think in particular in terms of facility services"*. Interviewee 1 stated: *"We did have a value-based procurement process with a very strange subject perhaps, but that is with the coffee"*.

What parts of the VBP concept are applied in practice differs per Interviewee. In most cases the quality of materials is assessed by medical professionals, as stated by Interviewee 1: *"This is not done by the purchasing department, but by the medical specialists"*. These medical professionals also measure the value of such materials. The way in which value is measured can also differ a lot per interviewee. In 2 out of 4 cases a total sum is taken to assess Value using more than just cost price as a criterium, but giving a certain weight to all criteria. Interviewee 4 states: *"So that is translated into a kind of total sum of things that have a certain weight"*. Only 1 out of 4 Interviewees states that value is measured using the internationally recognized ICHOM standards in the form of a balanced scorecard, as stated by Interviewee 2: *"Yes, we measure that based on the scorecards (...) those are the ICHOMs that were once made up"*. In some cases this measured value and the patient outcomes are linked back to the procurement process, as Interviewee 1 states quite explicitly: *"Not on all products, but really on products where we have done this very consciously. So that we consciously choose a certain type, or that involves a bit of innovation, or that they say in advance that the results are much better, we really follow those products. Sometimes even through scientific research, in which we compare products from a number of suppliers"*. In one case however, the measured outcomes are not at all used for future procurement processes, as Interviewee 4 states: *"there, all kinds of outcomes are measured and collected and also shared between those hospitals, but we have not applied that to purchasing in value-based procurement"*. This would mean that the measuring of outcomes would only be useful for medical professionals in their attempt to implement VBHC, but not for procurers since they do not use these outcomes, which are vital for VBP.

Another pillar of VBP is the interaction between the healthcare institution and its suppliers. In none out of 4 interviews did it become clear that there was already some VBP specific contracts with Suppliers in action. Interviewee 2 states: *"We have already tried to have a few conversations with them, but they act very much like suppliers. They just want to push in as much stuff as possible at the highest possible price"*. Mirroring a similar sentiment, but being more hopeful for the future, Interviewee 1 states: *"I do think they are prepared to do so, but I notice that the suppliers are also struggling with it a bit. And that has to do with the fact that it is still a bit new for our suppliers"*. According to interviewee 1, this struggle has to do with the fact that *"more responsibility goes to our suppliers"*, which comes with more risk for these suppliers. Finally, an important part of VBP from the procurers perspective is the use of VBP specific KPI's. None of the Interviewees and their organizations have implemented such VBP specific KPI's, however. Interviewee 3 simply stated *"No"*, and Interviewee 4 stated: *"We do use certain KPIs for the performance of suppliers, but not so literally linked to such a purchasing process"*.

So far the state of implementation of VBP within the respondent Hospitals. As can be gathered from the responses given, there is still a long way to go before full blown VBP can be observed in action. Interviewee 2 states: *"I really have quite a large network, because I am also in the steering group for 'Care Purchasing Network Netherlands. I dare say that there are not many hospitals yet or perhaps none that will do it (*read: *VBP) this way"*, which indicates that very few health care institutions in general apply VBP principles in even small amounts. According to most interviewees, the main reason for this is the novelty of VBP. Interviewee 2, for example, states: *"from purchasing we have just started"*. Later on in the interview Interviewee 2 indicates that this was the very first year in which their department has tried to implement VBP. Interviewee 3 states: *"Because the Netherlands, it is also quite a new concept"*. This novelty is not only a challenge to the procurement departments of hospitals, but also to the suppliers of these hospitals. Interviewee 1 has stated as much, as can be read above, and Interviewee 3 has also stated something similar*: "So the entire suppliers market is still far from being able to work in this way"*. This novelty of VBP for all parties, or VBHC in a broader scope, is the main explanation for why even within Santeon hospitals the implementation is still in the very early stages.

4.1.2 VBP Goals

This subchapter discusses what the main goals of the interviewed procurers and their departments were with regards to VBP. These goals were similar for most Interviewees. 3 out of 4 Interviewees stated that the main goal was to create more value for the patient. Interviewee 1 answered, while responding to a question about VBP goals: Interviewer: *"improve care in general?"* Interviewee 1: *"Yes, and then for the patient. And then really specifically focused on the patient"*. Interviewee 2 states in a similar vein: *"Yes, that's really about patient outcomes. So it's about, What is*

the best way to help the patient?". It thus seems that the patient is central in the eyes of procurers when it comes to VBP, as is one of the core pillars of VBP. Something that 4 out of 4 interviewees agreed upon is the importance of cost price or costs savings related to procurement processes. All 4 interviewees stated that, while still an important factor in an ecosystem of criteria, that price is secondary to creating patient value. Interviewee 4 states: *"And what the goal is then is more added value in a broader sense. So it's not necessarily about cutting costs. Of course that is always a goal"*. This sentiment reflects a change in attitude and a shift towards more Value driven thinking among procurers. Interviewee 3 states: *"So the p of price is a big driver, but patients always come first"*. A third goal that 1 interviewee felt strongly about was the value created for hospital employees, such as nurses, surgeons and other medical professionals. This interviewee 4 stated: *"Or employee satisfaction, so that it is also very pleasant for our employees. That is also very important. This has become increasingly important in recent years"*. In short, the main goals of Procurers is to improve the value for the patient, whether by increasing outcomes or by decreasing costs. Cost price, while still a big factor, will become secondary compared to the total picture.

4.1.3 VBP Barriers

This subchapter discusses the main point of this research, namely the barriers that the interviewed procurers face in the implementation and adoption of VBP. Many potential barriers were identified by the interviewees, in total 44. 12 barriers out of these 44 were mentioned by at least 2 out of 4 interviewees. The most often mentioned, 4 out of 4 times, was the fact that there was too little trust between all related parties, parties such as MedTech suppliers, healthcare insurers and healthcare providers. Interviewee 3 for example states on the relationship between insurers and Hospitals: *"There is always a look of unease coming from both sides. Like, they say no, the hospital is always difficult and we always say health insurers are always difficult and they don't actually give us enough budget and they negotiate way too hard, and that puts patient care at risk"*. There might also be a bit of distrust within the ranks medical professionals or within the variety of suppliers, who might feel vulnerable when compared to others in the same field. This *"A doctor has to be very vulnerable about his results, because it's compared with six other hospitals and then you as a doctor or as a product supplier might not come out so well, because another hospital is doing better. So in the beginning you have to work very hard on that trust to create that with each other. That it is not about which doctor, or which procedure, or which material is best, but that it is much more about the patient at the center and those outcomes"*. Building on this trust between all stakeholders is therefore of great importance. Interviewee 3 states that one of the main challenges will be to get all relevant parties to collaborate: *"There are so many parties that you have to get on the same page and that is just damn difficult. You have to get a hospital on the same page with their specialists and then you also have to get the health insurers and the (MedTech) companies involved and everyone to work together"*.

A second large barrier is the position of power, or leverage, that suppliers have over the interviewee's organizations. This leads to an unfavorable position to negotiate with these suppliers about VBP related contracts. This view was uttered by 3 out of 4 interviewees. Interviewee 4 states: *"We are not always market powerful, so to speak. Also in terms of suppliers, they think if you don't do it, then I'll go to someone else"*. Interviewee 1 also states: *"Yes, I want to mention it anyway, what is also a barrier is that hospitals are in a completely different position of power compared to medical suppliers"*. This might be one of the reasons why suppliers are hesitant to embrace VBP, as they might perceive it as a force that will erode their position of power.

Another large barrier is the short term focus that is still predominant in health care institutions. This view was uttered by 3 out of 4 interviewees. Interviewee 3 states: *"We think that also in the long run, if you look at quality of life and things like that, that's going to be the most profitable in terms of money as well. That is very difficult to sell to hospitals that still have a very short-term vision, work with budgets and the like. You just notice that, yes we don't look further than five years in principle"*. Interviewee 4 states: *"It is a long-term vision, the project remains long in term. And yet it often remains short-term"*. One reason for this short-term focus is given by Interviewee 1: *"where hospitals often have a hard time surviving in the short term, so they need money and therefore like to buy cheaper. I think that's a big barrier"*. After the Covid pandemic hospitals have already had a hard time to stay afloat. This was followed by large amounts of inflation in 2022-2023, which made VBP less of a priority. Interviewee 3 states: *"Yes, such an initiative also depends very much on the economic circumstances. Now there is a lot of inflation, then there is of course less room to implement those fun projects"*.

A third large barrier that was shared by 3 out of 4 interviewees was the shortage of materials needed. Interviewee 2 states: *"But what can also be an obstacle in this world is simply the availability of products. Because you can buy what you want on a value-based basis, but after Covid in the Netherlands we are actually dealing with all kinds of availability problems"*. In the view of some, this is an even larger theme than saving costs in the procurement process, as reflected by the following statement by Interviewee 4: *"The focus has actually changed since Covid. So at the moment, and that could change again, availability of materials is a much bigger issue than saving costs"*. This barrier can in large parts be written down as a consequence of the covid pandemic and its effect on the global supply chains. Acquiring materials that have become rarer and harder to acquire might be more important than applying aspects related to VBP.

The fourth barrier that was mentioned by 3 out of 4 interviewees were organizational structures that slow down all kinds of processes in Hospitals, including procurement processes. Interviewee 1 states: *"There are just a lot of those committees or advisory bodies that have to give their opinion on everything before I approve something"*. This barrier is not a large barrier, as all 3 out of 4 interviewees also state that there is a reason for all these committees and advisory bodies to be instated. Interviewee 3 states: *"On the one hand, that's good, because the many-eyes principle means that a lot of people are watching, which keeps the Dutch standard of care so high and so safe, but on the other hand it can also be a bit sluggish from time to time"*. Another organizational structure that can be perceived as a barrier is the existence of Partnerships within healthcare organizations, in this case hospitals. This barrier was mentioned by 1 of the 4 interviewees. Interviewee 3 states: *"Plus you also have to deal with the partnership construction within a hospital. Many specialists are not employed by the hospital. (...) So those are barriers as well"*.

Next are barriers that were pointed out by 2 out of 4 interviewees. The first barrier of these is one that is expected according to the theory, which is the difficulty in measuring the long term outcomes. Interviewee 1 states: *"These results relate to a longer period of time, so it is sometimes quite difficult to make them properly measurable and transparent"*. Interviewee 4 states: *"So something more tangible than that the patient might be doing better in ten years time. because that could be related to so many other things"*. This statement also shows the barrier that it is

difficult to know to what extent or for how large a part a purchased product is actually responsible for improved outcomes. Interviewee 4 also states: *"of course it only partly has to do with the material. It is also the doctor himself and the nurses and everyone else, who also provide labor"*. Another issue that arises from long term product outcome measurements is the fact that the product itself has become outdated, and thus has a possibility arisen that the outcomes that need to be measured have become obsolete as well. Interviewee 4 makes a statement on this: *"and that there are already completely different materials. Then you say, yes, nice, that very old pacemaker, that is a pacemaker from 2023, nobody works with it anymore. Then it becomes obsolete or irrelevant again. And then I guess we set that all up for nothing"*. Interestingly, the measuring of outcomes itself is not regarded as a barrier by both interviewees. According to the interviewee 1 doctors actually enjoy measuring outcomes out of their own interest: *"When it comes to very critical medical devices that can really contribute to the patient experience or to a patient's health, there are even a lot of doctors who follow it purely out of their own interest"*. Interviewee 4 also states that Doctors are already quite familiar with measuring patient outcomes and thus that the act of measuring patient outcomes is not a large barrier: *"I think that is less of a hindrance, because especially when it comes to the medical aspects, for example, people are very used to measuring outcomes there. So the whole system around it is pretty much set up for that. So that's not impossible"*. All these statements more or less indicate that the measuring of outcomes itself is not a barrier, but that doing so over a longer period of time is a barrier.

Another barrier is suppliers and their attitude towards VBP. 2 out of 4 Interviewees mentioned that not all suppliers are open to VBP in general, but not all suppliers are ready for VBP either. Interviewee 2 states: *"And the suppliers market is not that far at all"*. Additionally, Interviewee 4 states: *"Of course there are also parties with whom we are very transactional, so I don't see that just getting off the ground"*. according to the interviewees, suppliers are still very profit focused. Interviewee 4 states: *"And that also applies to such a company, they are also there for a certain reason, so if they think this is going to cost me a lot of time and not yield an extra euro, then I just won't do it"*. The reason for this, as mentioned before, is the novelty of the VBP concept. Furthermore, 2 out of 4 Interviewees stated that the Suppliers' focus is often still on short term profit, as previously shown by a statement from Interviewee 2: *"but they act very much as a supplier, they just want to push in as much stuff as possible at the highest possible price"*.

Furthermore, 2 out of 4 interviewees identified a potential clash between VBP and sustainability as a potential barrier. Interviewee 2 states: *"Sustainability is of course a completely different starting point from purchasing. Sometimes that can go hand in hand with value-based purchasing, sometimes not"*. In such cases, the hospital will often not choose the sustainable option according to interviewee 4: *"It's a very nice green solution, but it does indeed cost quite a bit extra, it doesn't immediately yield anything in terms of patient value, people say yes, that's nice, but we're not going to do that now. We'll wait until it gets cheaper or something"*.

Finally, a factor that forms a barrier for VBP, but also healthcare in general is the inhibiting effect of certain regulations on innovation, among suppliers but also among medical specialists. Interviewee 1 states: *"And those laws and regulations in particular hinder small new companies, innovative companies, from entering that market properly, because it is simply very expensive to release new products in this market"*. Furthermore, Interviewee 1 adds: *"Or sometimes even doctors who have a very good idea and have made a fantastic product for it, but who then cannot get the CE markings"*. Such factors make it difficult for start-ups and other small businesses to compete with the larger MedTech organizations. This in turn makes the position of power of these companies even greater.

Barrier	Mention rate	In %
Too little trust between parties	4 out of 4	100%
Unfavorable position of power of Hospitals compared to suppliers	3 out of 4	75%
Short term focus predominance within Hospitals	3 out of 4	75%
Availability of materials	3 out of 4	75%
Organizational structures	3 out of 4	75%
Long term outcomes difficult to measure	2 out of 4	50%
Suppliers not ready for VBP	2 out of 4	50%
Suppliers focus on maximizing profit	2 out of 4	50%
VBP clashing with sustainability	2 out of 4	50%
Regulations inhibiting innovation among specialists and suppliers	2 out of 4	50%

Table 2. Most mentioned Barriers to VBP implementation

4.1.4 VBP Facilitators

This subchapter discusses potential facilitators for the adoption of VBP that the interviewed procurers recognized. 2 out of 4 procurers mentioned explicitly that the largest facilitators would simply be more funding specifically aimed at VBP and more available time for, for example, medical professionals and procurers to invest in such a project. Interviewee states: *"It's a cliche, but in the end it's often just time, because if you want to be able to measure patient outcomes properly the doctor really needs to have time for that, you know"*. Interviewee 2 also states: *"And with time also money, because that doctor then has to spend hours that he therefore has no patient care (...) And that doctor's time must also be paid. So time and money"*. Interviewee 4 states: *"It could just be time or money, that could be the case of course"*. Another Facilitator that was identified by 2 out of 4 interviewees was the linking of certain systems, such as ERP's and supplier systems. Interviewee 4 states: *"That it is easy to link to systems on both sides. The one ERP system we have that talks to the supplier and that you also have a link to your patient file. That there are all kinds of links that make it easier. One push of a button, that's it"*. Something similar that 2 out of 4 interviewees agree upon is the usefulness for VBP of a centralized database that allows procurers to compare different products and suppliers with one another. Interviewee 3 states: *"you would greatly benefit from a large database in which different medical equipment and medical disposables are compared with each other by means of studies and that a ranking is simply made of what the best product is for which procedure, for example"*. This would also help solve one problem, which is the fact that procurers know too little about the materials they purchase. This is stated by 2 out of 4 interviewees. Interviewee 4 states: *"We are actually also a very large consumer, so we don't know that much in a lot of areas"*.

Besides more funding, time investments and interconnected systems, a fourth facilitator was recognized by 2 out of 4 procurers, namely a clearer big picture vision of how VBP specifically or healthcare in general can be given shape. Interviewee 1 states: *"I would like to talk more about it. I think that from the point of view of value-driven care, the big one, how do we deal with care in the Netherlands? Where do we want to go and how do we want to factor it in? That if you interact from there to value-driven purchasing, then you are on the right track. And I also think that you will sooner get all hands together to really do it in this way"*. This larger vision should be designed by a governmental body that is able to coordinate the parties involved as well according to interviewee 3, as can be read from their statement: *"you would almost have to organize this nationally, centrally from VWS or something similar, in order to roll this out properly. However, that doesn't mean we shouldn't try it for ourselves"*. In short, the main facilitators that were identified by the procurers are more funding for VBP implementation, more time being made available for VBP related things, interconnectible systems and coordination and vision from a central body.

5. DISCUSSION & IMPLICATIONS

The goal of this research was to find out what the main barriers to implementation of Value Based Procurement in healthcare are according to the experiences of procurement professionals. It will fill the gap between theoretical barriers and those barriers that are actually experienced by Procurement professionals. This research is one of the first to look at the practical side of implementing VBP, as implementation is still in the very early stages. Many barriers are theorized, some have already been observed, but many might remain undiscovered. This research has aimed to discover some as of yet undiscovered barriers to implementation and investigate which of the theorized barriers are actually experienced as barriers. Besides the barriers, this research also briefly shows the state of implementation of VBP within Dutch hospitals and gives some facilitators as experienced by the procurement professionals that could accelerate the implementation.

First the state of implementation. It is clear that VBP is still in the very early stages of its development. Despite VBHC being applied in more and more healthcare pathways in the pioneering Santeon group, VBP remains behind in these hospitals. Some core concepts of VBP according to Gerecke et al. (2020) are being applied to some extent, such as the measuring of patient health outcomes and value. In some cases these outcomes are not linked back to the purchasing process however, limiting the extent to which effective VBP can be executed. Furthermore, supplier involvement and outcomes-based contracts are hardly being used in practice. Suppliers are not yet ready for VBP according to the interviewees, due to the novelty of the concept. Suppliers are also very much still focused on short term profits instead of long term value, in accordance with the findings by Gerecke et al. (2020). As a result, VBP related KPI's for suppliers are not used at all, with procurers so far sticking to standard purchasing KPI's. In general, the implementation of VBP is thus very much in the early stages. The novelty of VBP is the main reason for this, however the economic realities and other factors also contribute. As hospitals gain more and more experience with VBHC and more positive results flow in, VBP might also eventually gain more and more traction as a supplement to VBHC. So far, in general, the implementation of VBP in these pioneering Santeon hospitals can be considered to be in step 2 of implementation according to Gerecke et al. (2020), or the step of prioritizing and focusing through VBP pilots that build up internal expertise.

The goals of Procurement departments with regards to VBP are in general to improve patient value. This is in their eyes achieved by either improving patient health outcomes or by lowering purchasing costs. Lowering these purchasing costs were however generally regarded as a secondary goal. This indicates that the interviewed procurement professionals share the view of Prada (2016), who argued that for sustainable value increases it is crucial to look beyond just simply decreasing costs, as decreasing costs with little regard for health outcomes is dangerous to health systems and societies and goes contrary to any high-performing system's goals.

The barriers experienced by the interviewed procurers are varied in importance and in type, but are largely in accordance with the barriers expected according to the theory (Kokshagina & Keränen, 2021; Meehan et al., 2017; Prada, 2016; Gerecke et al., 2020; Cosio-Gil et al., 2021; Porter & Teisberg, 2006). The main barriers were related to the relationships between the healthcare institution and other key stakeholders in the healthcare process, such as MedTech companies and health insurers. Too little trust between all these parties could lead to a vicious circle, in which neither party wishes to take the initiative for fear of taking a loss due to other parties taking advantage of the vulnerability that the initiative taker might show. This lack of trust is a result of clashing interests between these parties, but hinder their progress towards the main goal that all these parties have in common: improving patient care. Therefore one of the main challenges to be overcome is to get all stakeholders to work together towards the implementation of VBP.

Another main barrier is the leverage that MedTech suppliers have over hospitals. This allows such companies to effectively keep a short term focus and maximize their profits with less regard for long term value creation for the patient. This leverage will make it less likely that these companies will agree to make concessions to its customers, when making outcomes-based contracts for example, which are necessary to implement VBP. This short term focus is not only limited to suppliers, but to hospitals themselves as well. Due to the economic realities and due to the current government incentives, these institutes are often still focused on short term cost savings.

Other barriers are mostly practical, such as figuring out how to measure outcomes long term. There is already work being done to make the measuring of outcomes simpler and achievable, for example by using the ICHOM standards. Learning how to use these effectively is part of the learning curve, and as hospitals and other healthcare institutions gain more expertise with VBHC and measuring outcomes, this barrier will solve itself.

Most of these barriers are results of government incentives and some free market dynamics. The interviewee's facilitators therefore also often link back to governmental interventions, such as the government creating a grand Value Based Healthcare vision for the coming years, taking a coordinating role and allotting more public funds for VBP related projects. The government could stop incentivizing short term cost savings and incentivize longer term thinking in hospitals, and needs to think of ways to balance the scales between all parties to foster collaboration more to enact VBP in the way that Meehan et al. (2017) envision it: a collaborative effort through strategically aligning suppliers' resources, products and services to broad outcomes-based goals of the organization, exploring the wide range of costs and benefits holistically across a large spectrum of interdependent activities.

6. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

To conclude, the research question of this paper was: What are the main barriers healthcare organizations face when implementing value-based procurement?. This paper has aimed to answer this question by interviewing top procurement professionals in healthcare organizations that have partly implemented Value-based procurement. By hearing and learning from their experiences, future procurers can be alert to such barriers and be prepared to face them. Furthermore, policymakers are now aware of barriers that are caused and can be solved by regulations and incentives, which makes this paper relevant for future policy that aims to improve the adoption of VBP.

The approach taken in this research is flawed to some extent, as the sample size is quite small. Due to practical reasons it was difficult to increase the sample size and still generate data that is equal. During the interviews it became apparent that mostly only the heads of procurement departments in hospitals were to some extent actively engaged with VBP. This fact alone, reduced the possible sample size quite dramatically. Although all interviewees mirrored similar sentiments and the data can thus be considered representative, more data would have made this research better. Even so, this research affirms the barriers as described by the literature and has identified some new barriers, such as the availability of materials and the differences in the balance of power between parties.

Beyond the small sample size, this research has also focused on hospitals in the Netherlands. This limits the external validity of this research, as the situation in other countries can be quite different due to, for example, differences in regulations and government incentives. Further research into the situation in other countries could therefore be of interest, as it could uncover unique barriers that arise from different circumstances. Furthermore, it could be interesting to hear the perspectives of other parties in the healthcare sector, such as MedTech companies and healthcare insurers, to see what in their experiences are the main barriers to implementing VBP.

In order to advance policy it might be also be interesting to research what regulations and incentives encourage the short term thinking of hospitals and MedTech, and how the government can change these in order to encourage long term thinking and collaboration between all parties.

Finally, it might be interesting to find out more about possible facilitators that encourage the adoption and implementation of VBP.

7. LIST OF REFERENCES

ANTUNES, B., HARDING, R., & HIGGINSON, I. J. (2014). IMPLEMENTING PATIENT-REPORTED OUTCOME MEASURES IN PALLIATIVE CARE CLINICAL PRACTICE: A SYSTEMATIC REVIEW OF FACILITATORS AND BARRIERS. PALLIATIVE MEDICINE, 28(2), 158–175. HTTPS://DOI.ORG/10.1177/0269216313491619

BERRY, L. L. (2019). SERVICE INNOVATION IS URGENT IN HEALTHCARE. AMS REVIEW, 9(1–2), 78–92. HTTPS://DOI.ORG/10.1007/S13162-019-00135-X

COSSIO-GIL, Y., OMARA, M., WATSON, C., KORETZ, R. L., CHAKHUNASHVILI, A., MIGUEL, M. C. S., KAHLEM, P., KEUCHKERIAN, S., KIRCHBERGER, V., LUCE-GARNIER, V., MICHIELS, D., MORO, M., B, P., SANCINI, S., HAZELZET, J. A., & STAMM, T. (2021). THE ROADMAP FOR IMPLEMENTING VALUE-BASED HEALTHCARE IN EUROPEAN UNIVERSITY HOSPITALS—CONSENSUS REPORT AND RECOMMENDATIONS. VALUE IN HEALTH, 25(7), 1148–1156. HTTPS://DOI.ORG/10.1016/J.JVAL.2021.11.1355

DEFINITIVE HEALTHCARE. (N.D.). 5 REASONS WHY HEALTHCARE COSTS ARE RISING. HTTPS://WWW.DEFINITIVEHC.COM/BLOG/5-REASONS-WHY-HEALTHCARE-COSTS-ARE-RISING

DOLCZEWSKI, M. (2022). SEMI-STRUCTURED INTERVIEW FOR SELF-ESTEEM REGULATION RESEARCH. ACTA PSYCHOLOGICA. HTTPS://DOI.ORG/10.1016/J.ACTPSY.2022.103642

FLICK, U. (1999). QUALITATIVE METHODS IN THE STUDY OF CULTURE AND DEVELOPMENT, PART II: AN INTRODUCTION. SOCIAL SCIENCE INFORMATION. HTTPS://DOI.ORG/10.1177/053901800039001004

GERECKE, G., CLAWSON, J., & VERBOVEN, Y. (2022, 20 JANUARI). PROCUREMENT: THE UNEXPECTED DRIVER OF VALUE-BASED HEALTH CARE. BCG GLOBAL. HTTPS://WWW.BCG.COM/PUBLICATIONS/2015/MEDICAL-DEVICES-TECHNOLOGY-PROCUREMENT-UNEXPECTED-DRIVER-VALUE-BASED-HEALTH-CARE

GERECKE, G., CLAWSON, J., PROSS, C., VERBOVEN, Y., & BAX, H. (2020, 9 JANUARI). HOW PROCUREMENT UNLOCKS VALUE-BASED HEALTH CARE. BCG GLOBAL. GERAADPLEEGD OP 20 MAART 2023, VAN HTTPS://WWW.BCG.COM/PUBLICATIONS/2020/PROCUREMENT-UNLOCKS-VALUE-BASED-HEALTH-CARE

KOKSHAGINA, O., & KERÄNEN, J. (2021). INSTITUTIONALIZING VALUE-BASED HEALTHCARE IN A SERVICE SYSTEM: A POLICY AND DOCUMENT ANALYSIS OVER THREE DECADES. JOURNAL OF BUSINESS & INDUSTRIAL MARKETING, 37(8), 1607–1622. HTTPS://DOI.ORG/10.1108/JBIM-08-2020-0380

MEEHAN, J., MENZIES, L., & MICHAELIDES, R. (2017). THE LONG SHADOW OF PUBLIC POLICY; BARRIERS TO A VALUE-BASED APPROACH IN HEALTHCARE PROCUREMENT. JOURNAL OF PURCHASING AND SUPPLY MANAGEMENT, 23(4), 229–241. HTTPS://DOI.ORG/10.1016/J.PURSUP.2017.05.003

PALINKAS, L. A., HORWITZ, S. M., GREEN, C. A., WISDOM, J. P., DUAN, N., & HOAGWOOD, K. (2013). PURPOSEFUL SAMPLING FOR QUALITATIVE DATA COLLECTION AND ANALYSIS IN MIXED METHOD IMPLEMENTATION RESEARCH. ADMINISTRATION AND POLICY IN MENTAL HEALTH, 42(5), 533–544. HTTPS://DOI.ORG/10.1007/S10488-013-0528-Y

PENNESTRÌ, F., LIPPI, G., & BANFI, G. (2019). PAY LESS AND SPEND MORE—THE REAL VALUE IN HEALTHCARE PROCUREMENT. ANNALS OF TRANSLATIONAL MEDICINE, 7(22), 688. HTTPS://DOI.ORG/10.21037/ATM.2019.10.93

PORTER, M. E., & TEISBERG, E. O. (2006). REDEFINING HEALTH CARE: CREATING VALUE-BASED COMPETITION ON RESULTS. HARVARD BUSINESS PRESS.

PRADA, G. (2016). VALUE-BASED PROCUREMENT. HEALTHCARE MANAGEMENT FORUM, 29(4), 162–164. HTTPS://DOI.ORG/10.1177/0840470416646119

RESAH (2020). UNDERSTANDING VALUE BASED PROCUREMENT: A NEW APPROACH TO PURCHASING. RETRIEVED JUNE 9, 2023, FROM HTTP://WWW.RESAH.FR/RESSOURCES/FCK/FILES/GUIDES%20RESAH/RESAH-%20EDITIONS-GUIDE-VALUE-BASED-PROCUREMENT-ENG.PDF

ROBERT K. YIN. (2014). CASE STUDY RESEARCH DESIGN AND METHODS (5TH ED.). THOUSAND OAKS, CA: SAGE

SIEBURGH, T. E. (2021). A SURVEY-BASED EXPLORATORY ANALYSIS ON THE IMPLEMENTATION OF VALUE-BASED HEALTHCARE IN DUTCH HOSPITALS [MASTERTHESIS]. UTRECHT UNIVERSITY.

Terpend, R., Tyler, B. B., Krause, D. R., & Handfield, R. B. (2008). BUYER–SUPPLIER RELATIONSHIPS: DERIVED VALUE OVER TWO DECADES. Journal of Supply Chain Management, 44(2), 28–55. https://doi.org/10.1111/j.1745-493x.2008.00053.x

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. American Journal of Evaluation, 27(2), 237–246. https://doi.org/10.1177/1098214005283748

Williams, I., & Shearer, H. M. (2011). APPRAISING PUBLIC VALUE: PAST, PRESENT AND FUTURES. Public Administration, 89(4), 1367–1384. https://doi.org/10.1111/j.1467-9299.2011.01942.x

8. APPENDIX 1: INTERVIEW PROTOCOL

Questions for Purchasing Professionals

1. Can you describe the purchasing department ? What are the main responsibilities and tasks?
2. Does the purchasing department conduct Value-based Procurement ? (Provide a short description of VBP, so the interviewee will know what you are talking about)
3. Which kind of products are purchased under a value-based procurement initiative?
4. What are the main goals of the organization regarding VBP?
5. How does the organization define and measure value in the case of VBP?
6. How do you measure the value in practice?
7. Health outcomes can be difficult to quantify and measure in many cases. Do you track if a new product purchased under a value-based procurement approach improved the patients' outcomes? (i.e. reduced the time of stay of the patient in the hospital). Does this act of measuring outcomes in itself create a barrier due to more bureaucratic overhead?
8. What are the main barriers you face to value-based procurement?
9. Are there any cultural barriers within the organization that inhibit the implementation of VBP?
10. Are there any barriers imposed by Governmental rules and regulations? (For example, budget restrictions)
11. Are there any organizational barriers within the organization that inhibit the implementation of VBP? (for example, silos within the organization or bureaucratic administrative structures)
12. How does the healthcare organization engage with suppliers to develop outcome-based contracts, and what challenges does it face in this process (for example, are suppliers willing to engage with ?
13. Do you have KPIs to monitor the suppliers' performance regarding VBP? How does the organization deal with this challenge?
14. Are the suppliers committed to improve value on the products they offer?
15. What could facilitate value-based procurement adoption ?