

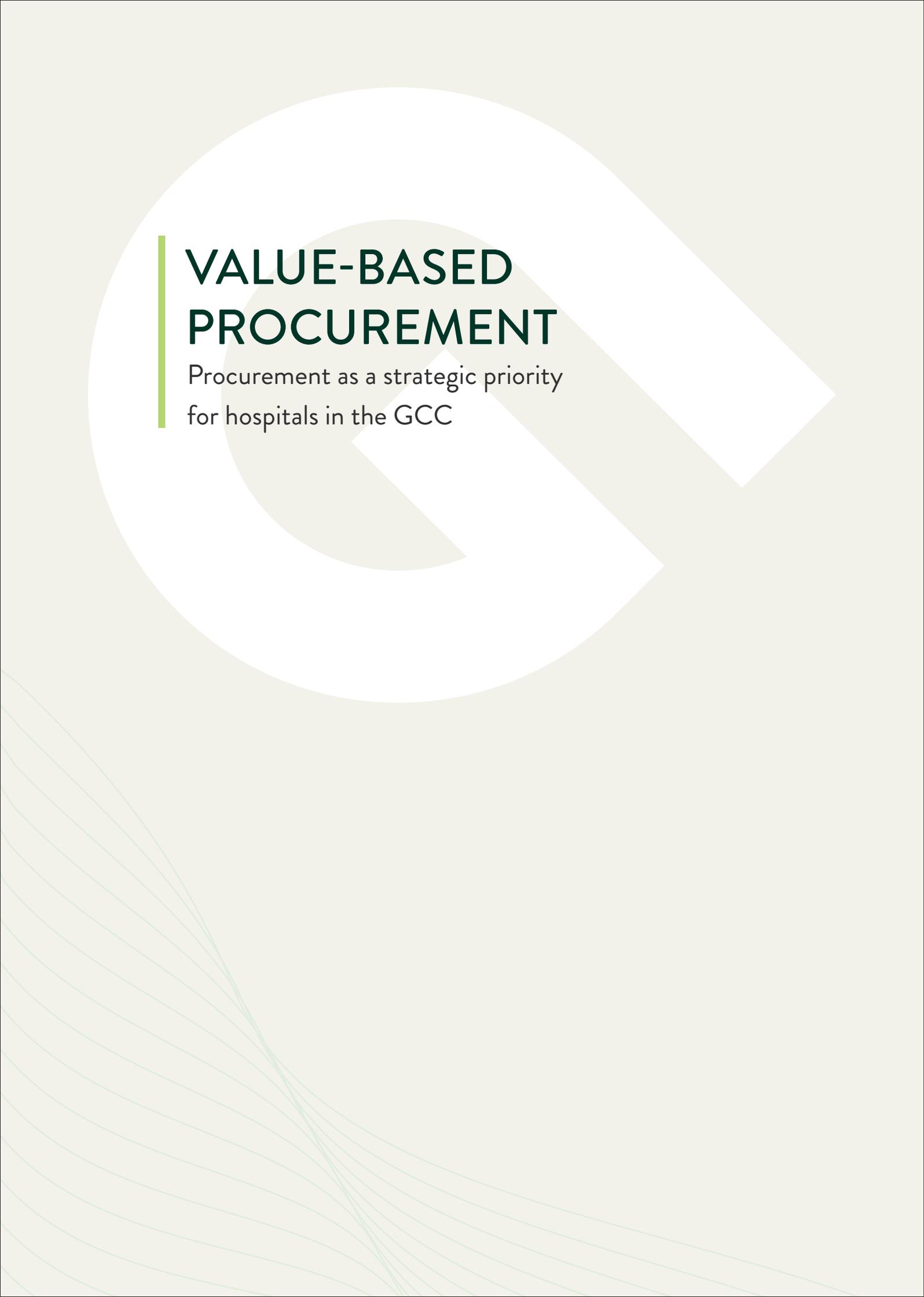


MARCH. 2021

# VALUE-BASED PROCUREMENT

Procurement as a strategic priority  
for hospitals in the GCC

**GS**  
HEALTH

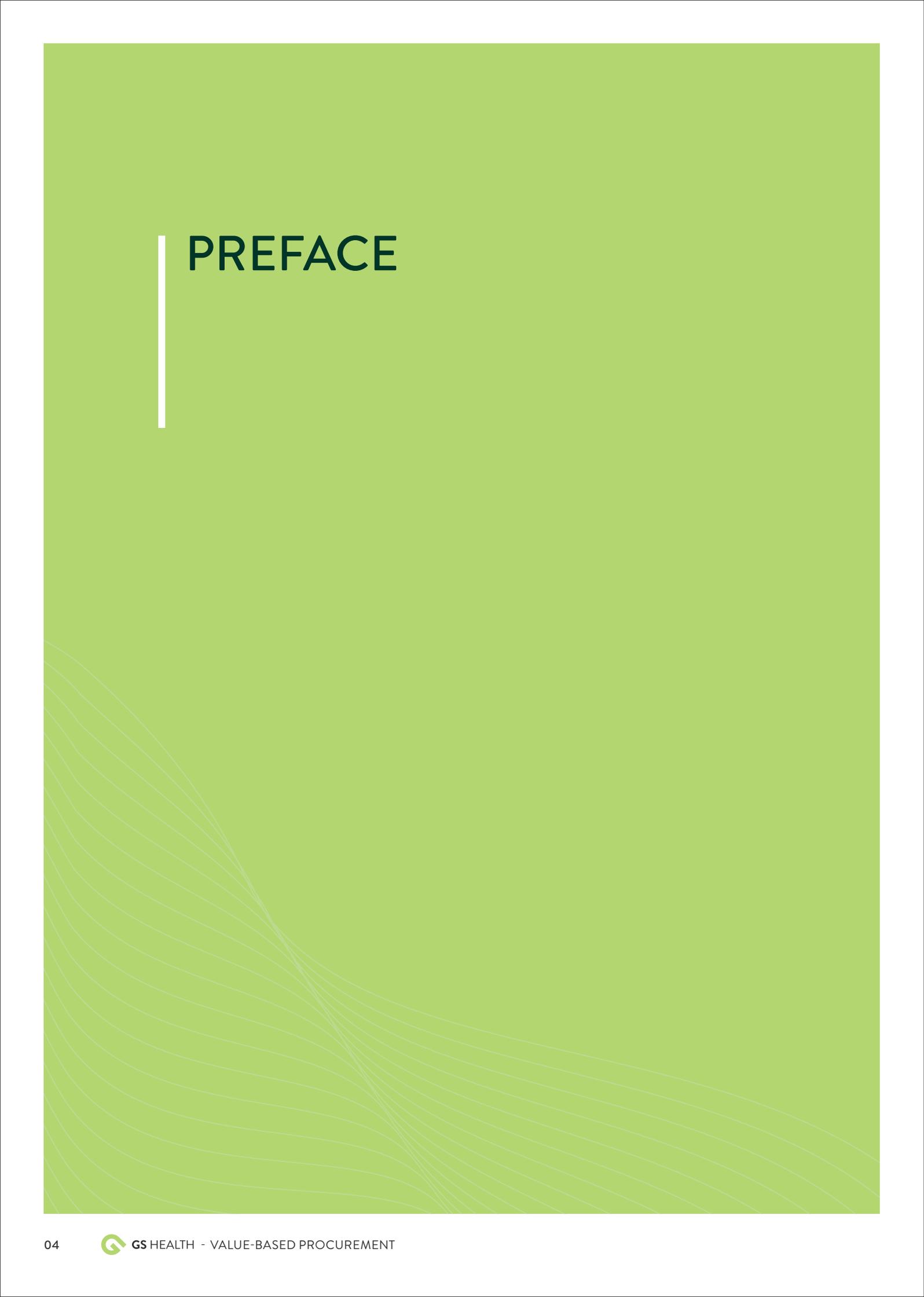


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# PREFACE

**T**raditionally, procurement has mostly revolved around the supply chain: about getting ordered goods, on time, to the departments that require them. The key message of this report is that procurement can be a driver to realize many more goals: from reducing direct cost to making the administration more efficient to accelerating the integration of new technologies. In order to achieve those goals through procurement, procurement should become a key priority and move to a more prominent place on the agenda of senior management.

Just before this report was meant to be published, the COVID-19 pandemic kicked in. The impact of the COVID-19 outbreak is enormous and affects us all: from many vulnerable elderly or sick people dying to businesses going bankrupt. While COVID-19 has caused a lot of harm, it has also brought some positive changes. In procurement we have seen unprecedented effects:

Masks, PPE and ventilators were in short supply. This led to procurement departments and even the hospital or countries leadership trying to find alternative methods to obtain PPE materials. The focus was on building new and 'resilient' supply chains, mostly from China. Moreover, countries seem to develop a desire to become less reliant of foreign supplies.

- Vaccines are not yet available, but government officials, including ministers, prime ministers and presidents were personally trying to secure deals with big pharma for when a vaccine would become available.
- eHealth initiatives that have taken several years to implement, have sprouted, and become functional. This has required flexibility from ICT specialists, physicians, technology suppliers but also from procurement officers to quickly arrange contracts and manage the projects to integrate this technology.

In other words, it has been demonstrated that procurement can be a priority of the c-suite; when the sense of urgency is high, exceptional accomplishments can be made through procurement, improving care for patients.

The urgency that COVID-19 brought (and might bring again), and the 'power of procurement' experienced by senior management and physicians can be leveraged and by doing this, many more positive outcomes can be achieved.

This report provides insights to inspire, and practical guidelines to elevate procurement to a strategic level and make procurement a driver for value in healthcare.

# BACKGROUND

## GS HEALTH

GS Health supports healthcare organizations with strategic issues and structural improvement of their performance. Clients include healthcare providers, insurers, regulators and financiers. Clients request our support on strategic choices including mergers and acquisitions, cost reduction, portfolio choices, big data, value-based health care and procurement. Procurement is a growing part of our portfolio.

Besides our project work we structurally make time to develop independent studies. This study is one of them. With these studies, we contribute to our own development and aim to answer social questions in healthcare.

This study is about procurement in hospitals. Although many of the insights and recommendations in this study apply to all healthcare providers, this study specifically focuses on hospitals. We have done this because hospital procurement cost make up the bulk of total health system procurement cost, and because more data and insights are available for the hospital sector, which enables fact-based analytical insights.

For this study, we have gathered information and data on procurement in the GCC. Naturally, wherever we were able to, we have used local data, but this has proven challenging at times. Therefore, this study is based both on European data, mainly from The Netherlands, as well as on data from the GCC. When we were unable to access GCC data the insights that we show are based on European data. Considering the increasing pressure to improve value for money in healthcare in the GCC, we believe that these insights are highly valuable to the healthcare sector in the GCC.

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## ACKNOWLEDGMENTS

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# EXECUTIVE SUMMARY

## DEVELOPING STRATEGIC PROCUREMENT SHOULD BE TOP PRIORITY

Medical products are invaluable for patient care. Unfortunately, the sad practice is that in some hospitals in low-income countries, there are insufficient financial resources for medicines and other essential medical products. A doctor without tools is like a carpenter without a hammer.

In addition to medical goods and services, hospitals also spend money on for instance IT and hospitality. All those non-labor operational expenses we call procurement cost. Procured goods and services make up a large portion of the money that hospitals spend in the GCC, around ~40%, equaling totaling to USD 20B for the entire GCC. These procurement cost will continue to grow because of technological innovation, the shift to care at home and the growth of outsourcing. Based on some practical examples, we expect that the hospital of the future will spend up to 50% of its total budget on procurement.

The question is whether the increasing expenses add value to patients in terms of better care. The role of hospitals is shifting from being a large employer to being the director of care and (medical) technology, managing not only direct employees but also suppliers and new technologies, to improve patient care. This is a new role, for which professionalizing procurement is required.

Hospitals are not well prepared for this new role. They are at a disadvantage because of insufficient management attention, limited investment in quality and quantity of the procurement function and a lack of fruitful cooperation with (medical) procurement specialists. The fact that procurement often is scattered (there are however examples that demonstrate successful bundling), and therefore makes limited use of economy of scale, is withholding progress. The development of strategic, value-based procurement is a top priority for hospitals, and this is a topic that belongs in the boardroom.

## IMPROVING RESULTS IN PROCUREMENT IS CHALLENGING BUT ACHIEVABLE

In practice, it is challenging to achieve appealing results in procurement. In our experience, there are two reasons for this. First, vendors have a sharp focus on sales, a strong relationship with many doctors and substantive knowledge of their product and the market. Thus, they have a strong market position and are often able to somehow disconnect the price from the value of the product.

Secondly, buyers, users and consumers are often blinded by the label 'medical' and do not carefully assess why a product has a specific price. The 'common sense' that people use for private purchases, comparing prices and considering if the value outweighs the cost of the product, regularly seems absent when it comes to healthcare. Sometimes the opposite happens: buyers only look at the price, while the quality gets little attention.

The current challenging practice does not mean that it is impossible to achieve good results in procurement. For example, one hospital realized a decrease of 18% in procurement cost within 12 months, without decreasing the quality for the patient. Moreover, the comparison of the procurement performance of hospitals within one country and between countries shows that there are significant differences and thus opportunities to improve performance.

When the foundation is right, hospitals and suppliers can focus on improving outcomes at lower cost. This requires a shift in focus from the existing products to new, integrated services. There is still much to gain, both in outcomes for patients (20 healthy life years per capita) and cost (both procurement and staffing). By making procurement a top priority, hospitals can encourage their suppliers to accelerate the shift of focus to value for the patient.

## A PRACTICAL ROUTE TO SHORT-TERM, STRONG PROCUREMENT RESULTS

Hospitals can greatly improve their short-term procurement results by setting up a firm 'procurement house' in five steps:

1. Make procurement a board priority and set ambitious targets. Ideally, the objective for each product(group) is based on a benchmark of procurement performance.
2. Align the organization so that procurement has a strong mandate and works closely together with the affected users. This can be done by establishing eight procurement categories (pharmaceuticals, diagnostics, disposables, implants, medical technology, facility, IT and others) who report directly to the Board of Directors.
3. Invest in the development of analytical skills within the procurement team, focusing on practical and actionable insights in prices, volumes, cost and medical value.
4. Develop an approach for each of the eight procurement categories. A tailored approach is required because the market structure, type of products and starting points are different for each group.
5. Monitor impact and results by linking expected results for each procurement category to the actual results as reported at the end of the year by finance.

This 'procurement house' will only be solid with a results-oriented procurement culture as the foundation. This culture is obviously not simply a matter of 'flipping the switch' but needs to develop gradually. Keywords for this culture are focus, a critical attitude, courage, curiosity about the medical practice and perseverance.

## TRANSFORMATION INTO LONG-TERM, VALUE-BASED PROCUREMENT

When the foundation is right and the 'procurement house' is developed, hospitals can start the transformation to value-based procurement, aimed at cooperation with suppliers and increasing value for the patient (quality vs. cost). The next step requires an upgrade of the knowledge of buyers and collaboration between hospitals. Collaboration is needed to achieve the scale required to develop the necessary knowledge on the hospital side. From there, hospitals and suppliers together can develop new forms of care and redesign the entire pathway of the patient (such as hospital to home), for which they can jointly invest in products and services that are not yet in place instead of optimizing what is already there. That way, procurement can greatly contribute to the strategic position and the 'sales' of the hospital.



01.

TO DEVELOP STRATEGIC  
PROCUREMENT SHOULD  
BE TOP PRIORITY FOR  
GCC HOSPITALS

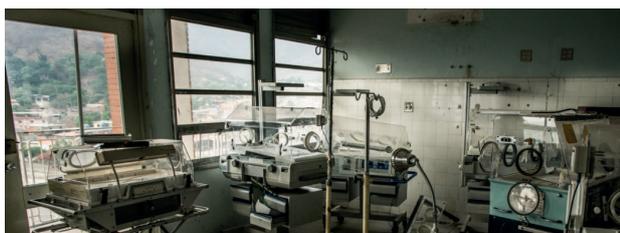
This chapter shows why the procurement of medical products and services is an important topic for hospitals. Starting point is the fact that without good suppliers it is not possible to provide good care (section 1.1). Next, analysis shows that amongst GCC hospitals, spend on procurement is approximately USD 20 billion and has increased over the past years (Section 1.2). Moreover, we expect further growth in the future due to various (technological) trends (section 1.3). This cause the shift in the role of hospitals from being a large employer to being the director of care and (medical) technology (section 1.4). Hospitals are not prepared for this. To make up for this deficit, procurement should be a top priority in the boardroom (Section 1.5).

## 1.1 NO GOOD CARE WITHOUT GOOD SUPPLIERS

Suppliers of (medical) products are a vital link in good hospital care. Even though the observation seems obvious, it remains disillusioning how badly the provision of care fails at hospitals where medication or other necessary products are not available for their patients (see Figure 1). Look for example at the situation in Venezuela, where doctors cannot perform the most basic medical treatments because of a lack of supplies. Many hospitals face a serious crisis due to the lack of money for medicines and other medical products. Consequences for public health are disastrous: infant mortality and overall mortality are now 100x and 5x higher than before the medical crisis, respectively. A doctor summed up the sad situation concisely: “actually, we can better close this hospital”. Instead of looking at other less developed countries, we can make a comparison with our own countries about a century ago. Back then, the hospital was a place where you were taken care of, but good medical products and medications were only sparsely available.

Figure 1 - Without the supply of medical products hospitals cannot provide good care<sup>1</sup>

Venezuela deals with a health crisis where hospitals rarely receive deliveries

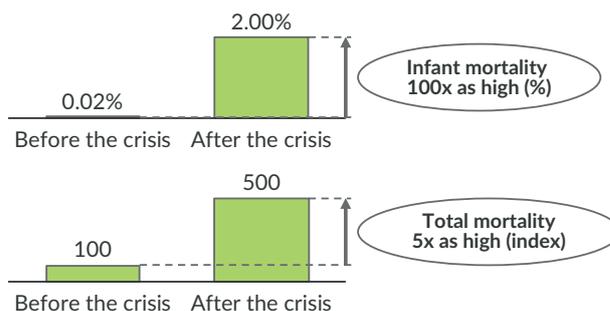


Broken incubators, no electricity



Bottles to fix broken legs

... the impact of this lack of (medical) products on the quality of care is dramatic



Quotes from physicians from Venezuela

“We do not have any water, disinfectant or soap; healthy people that enter the hospital die here”

“Only 1 of the 10 operation rooms is operational”

“To be honest, it would be better to close the hospital”

<sup>1</sup> Source: Johns Hopkins Bloomberg School of Public Health and the international group Human Rights Watch (<https://www.hrw.org/report/2019/04/04/venezuelas-humanitarian-emergency/large-scale-un-response-needed-address-health>)

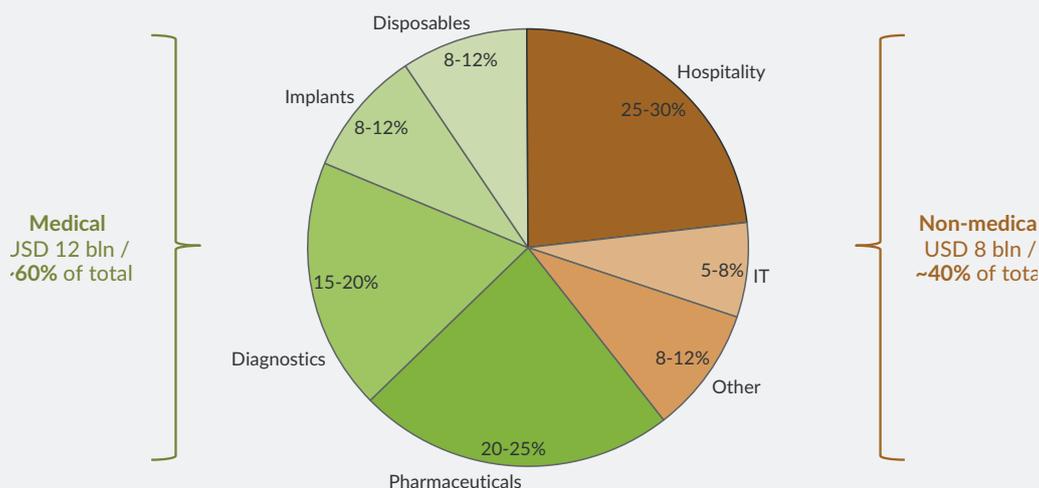
Fortunately, in most cases, hospitals in the GCC as well as in Europe have sufficient medical products to treat patients. The fact that suppliers are essential for patient care should therefore not be a topic of discussion. For example, innovations in cardiology such as drugs, stents and implants contributed to a demonstrable increase of two years to the life expectancy. In this study we do take a moment to reflect upon the question of value: what do patients get in terms of healthy life years (QALYs) and what cost are required for that? Then the question becomes: how can care providers and suppliers of medical products work together to increase the value for patients per USD, in both the short and the long term?

## WHAT DO HOSPITALS SPEND THEIR PROCUREMENT BUDGETS ON?

We define procurement cost as all operational expenses excluding direct labour and depreciation; this in most cases is equivalent to all cost that are backed by an invoice from the supplier. The cost of procurement for the operations of GCC hospitals (excluding capital cost, i.e. cost of buildings and large devices) sums up to an estimated USD 20 billion<sup>2</sup>, accounting for 40-45%<sup>3</sup> of the total cost. Of the total procurement cost, 60% is spent on medical products, consisting of pharmaceuticals, diagnostics, implants and disposables. The type of product markets ranges from a commodity market, with many providers and many competitive prices, to monopoly markets, for example for expensive drugs and implants, with one or a few producers and limited price competition. If you compare the GCC to Western European countries, there seems to be a slightly higher barrier for suppliers to enter the market or to introduce new products in the GCC. Most if not all products become available in the GCC, but the time-to-market is often slightly longer in GCC compared to Western European countries.

The non-medical expenses consist mainly of IT and facility services, such as cleaning, maintenance, food and energy. The category 'other' includes for example temporary staff and business services such as legal and financial advice. Both in the GCC as well as in Western Europe, there is sufficient supply and competition in the market for these products and services.

Figure 2 - Approximately 60% of procurement goes to medical products and services



<sup>2</sup> In addition to the operational cash expenses, hospitals investment in equipment and buildings leading to depreciation and possibly financing cost. These capital expenditures make up approximately 5-10% of the cost basis.

<sup>3</sup> Source: secondary research that included hospital annual reports, market reports, government statistics and interviews with experts (including from hospitals), analysis by GS Health.

| Category            | Example 1               | Example 2                  | Example 3                           |
|---------------------|-------------------------|----------------------------|-------------------------------------|
| Pharmaceuticals     | Intravenous Fluids      | Conventional pills         | Blood and related products          |
| Diagnostics         | Repairs on devices      | Maintenance contracts      | Lab supplies incl. reagents         |
| Implants            | Cardiac: Stents, Valves | Orthopedic: Hip, Knee etc. | Vascular: AAA                       |
| Medical disposables | Sutures                 | Wound dressing             | IV disposables                      |
| Hospitality         | Catering                | Security                   | Laundry                             |
| IT                  | Software licences       | Peripheral devices         | IT consulting                       |
| Other               | Insurances              | Professional services      | (Clinical) literature subscriptions |

## 1.2 PROCUREMENT COST HAS RAPIDLY INCREASED THE PAST YEARS

In 2016, the cost of procurement of hospitals in the GCC has increased to an estimated ~USD 20 B<sup>4</sup> as illustrated in figure 3. This cost has been rising for two reasons; firstly, the healthcare spending in the region is growing due to an increasing demand, both because of demographic changes as well as due to increasing prevalence of diseases. Secondly, the cost of procurement as a percentage of total cost is increasing due to technological advancements. This trend is also visible in Western European countries. The share of the total hospital cost that is spent on procurement is higher in the GCC compared to Western European countries. This indicates an opportunity to improve spending on healthcare procurement in the region.

<sup>4</sup> To arrive at these figures, we have first established the size of the healthcare market in the GCC, which is USD 68,1B in 2016, measured in 2016 dollars. No correction for purchasing power was done, because we wanted to determine the absolute amount of spending across the GCC countries. Next, we looked at the share of hospital cost, which is around 70% based on WHO data on the number of beds and doctors in the GCC and validated with health sector insiders, as elaborated in the study 'Strengthening the Healthcare pyramid' which looks at Qatar. Lastly, we estimated the share of the total hospital cost that is spent on procurement. This is 40-45%, based on a top-down analysis of the cost structure and bottom-up analysis of the different components of hospital procurement (see box). This estimate is based on secondary research and GS Health knowledge and analysis.

Figure 3 - Total procurement cost is estimated at ~USD 20B in the GCC<sup>5</sup>

**The GCC cost of healthcare and procurement**  
[USD bln, 2016 dollars]

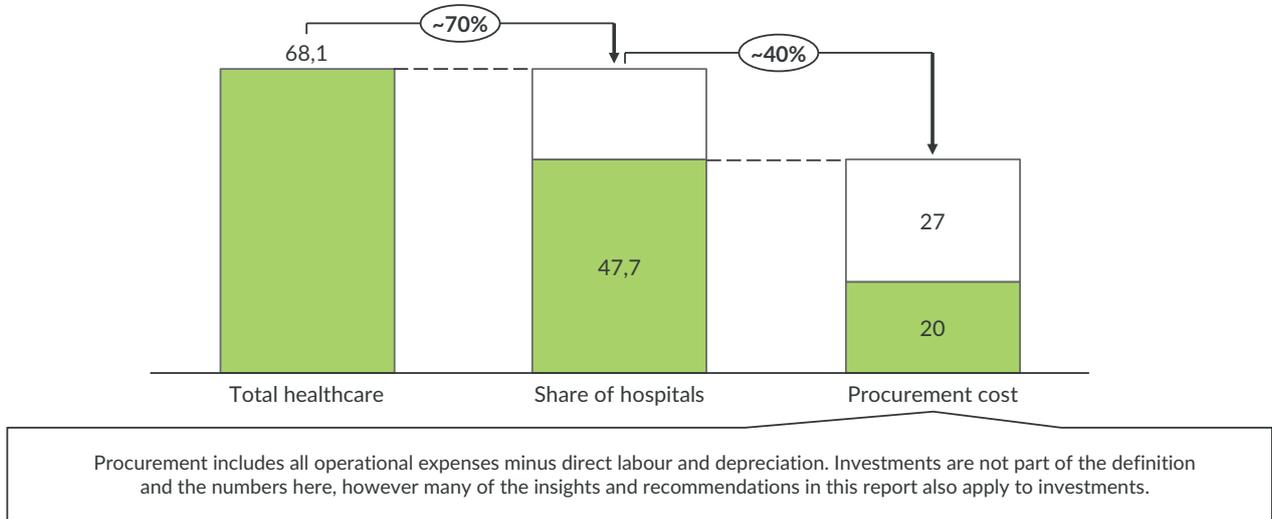
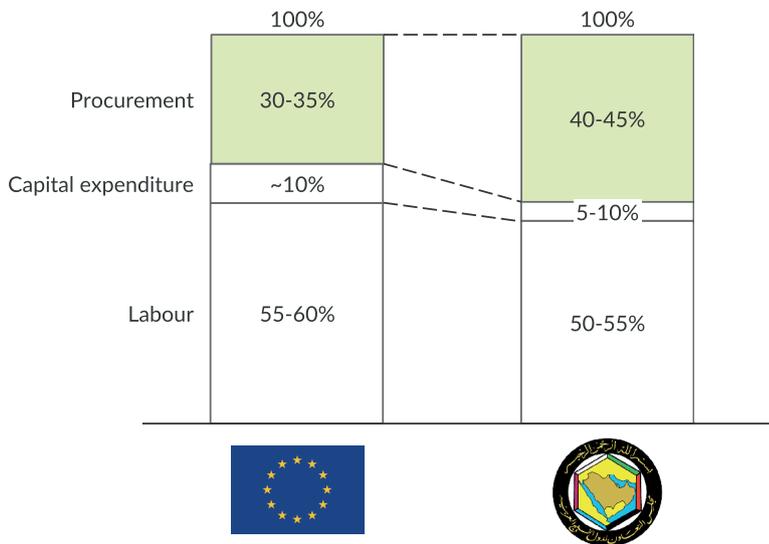


Figure 4 - Procurement cost as a percentage of total cost is higher in the GCC than in Western European countries

**GCC spend on procurement**  
[% of hospital cost]



<sup>5</sup> Based on primary and secondary market research, including the study 'Strengthening the Healthcare Pyramid' by GS Health. The share of procurement is detailed in this study.

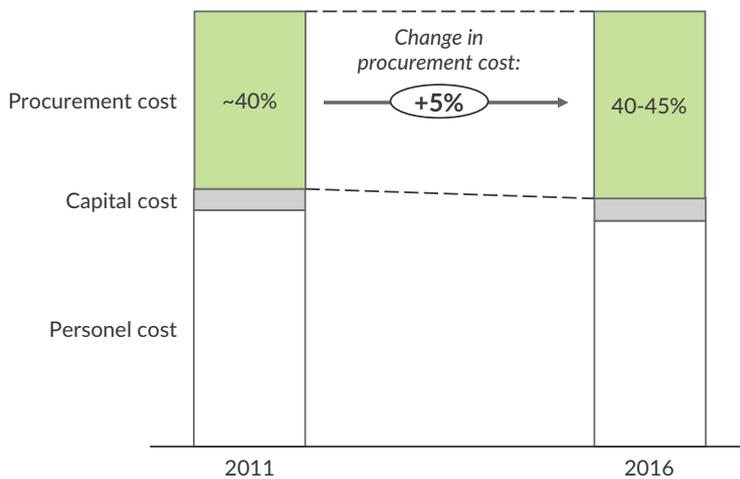
Figure 5 – Procurement cost increased rapidly in 5 years<sup>6</sup>

**GCC hospital spend on procurement**  
[USD bln, 2016 dollars]



Figure 6 – The share of procurement cost has increased over the past years

**Development of hospital cost structure GCC**  
[% of total]



Procurement cost has increased rapidly within 5 years, between 2011 and 16, for two reasons; firstly, the healthcare spending in the region is growing due to an increasing demand, both because of demographic changes as well as due to increasing prevalence of diseases. Secondly, the cost of procurement as a percentage of total cost is increasing. Because of a lack of data, it is challenging to find out why this is happening in the GCC, but in Western European countries the exact same trend is visible. Therefore, to better understand this rising cost of procurement as a percentage of total cost, we dive deeper into the rise of procurement cost of hospitals in The Netherlands.

<sup>6</sup> Source: secondary research that included hospital annual reports, market reports, government statistics and interviews with experts (including from hospitals), analysis by GS Health

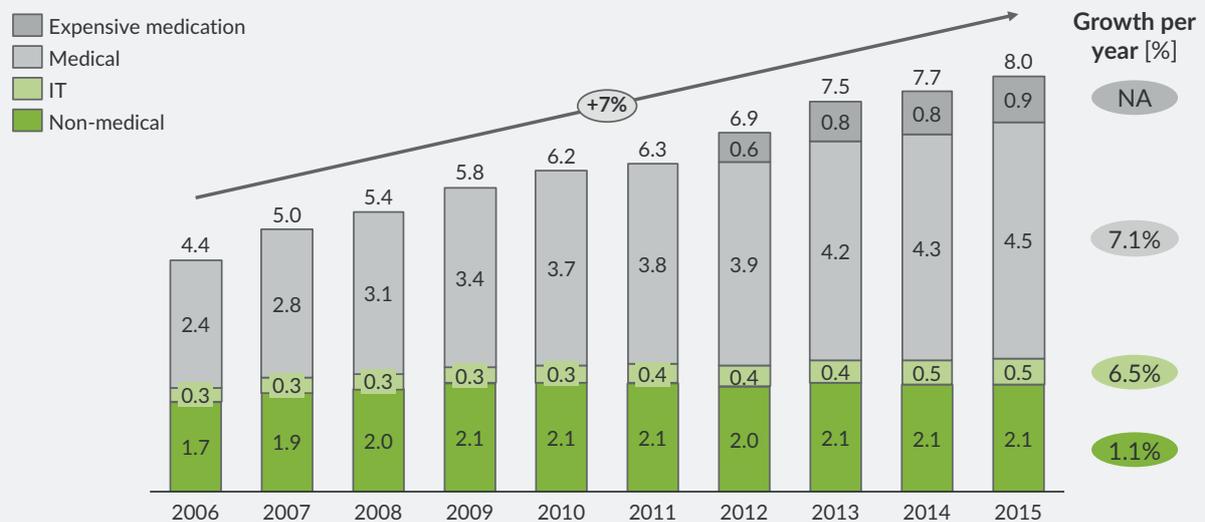
## THE REASON FOR INCREASING PROCUREMENT COST IN THE NETHERLANDS

In the Netherlands, the increasing cost of procurement as a percentage of total cost is mainly (87%) due to an increase in spending on medical products and IT. The cost of medical products, excluding expensive medication, increased 7% per year and the cost of IT increased 6% per year. On top of that, the growth of expensive medication adds another 9% to the procurement cost (see figure 7). Spending on **non-medical products** has been stable, growing only in sync with the inflation in recent years. In the GCC a similar trend as in Europe is seen. Hospitals have governed these expenditures successfully by professionalizing their procurement functions. This is for instance reflected in the well-configured tenders of large contracts for food and energy. In procurement of **medical products**, the performance has been less convincing, despite the increased investment and focus on the subject. The increased cost is partly a result of innovations in treatment methods like non-invasive surgeries and new (expensive) drugs. However, there is little understanding of the added value in relation to the cost, showing that hospitals have not yet found a successful recipe.

The expenditure on IT has risen significantly as well. Given the growing importance of IT in healthcare this is no surprise. The challenge is to redesign care processes using IT. Without actual re-design, cost will remain increasing without demonstrated quality improvements or cost savings down the road. There is still a great opportunity: where the use of IT has led other industries to large increases in productivity, this is not yet the case in health care<sup>7</sup>.

Figure 7 - Procurement cost in the Netherlands has almost doubled over the past 10 years due to the rising cost of medical products and IT<sup>8</sup>

### Development procurement cost hospitals in The Netherlands [EUR bln, 2006 - 2015]



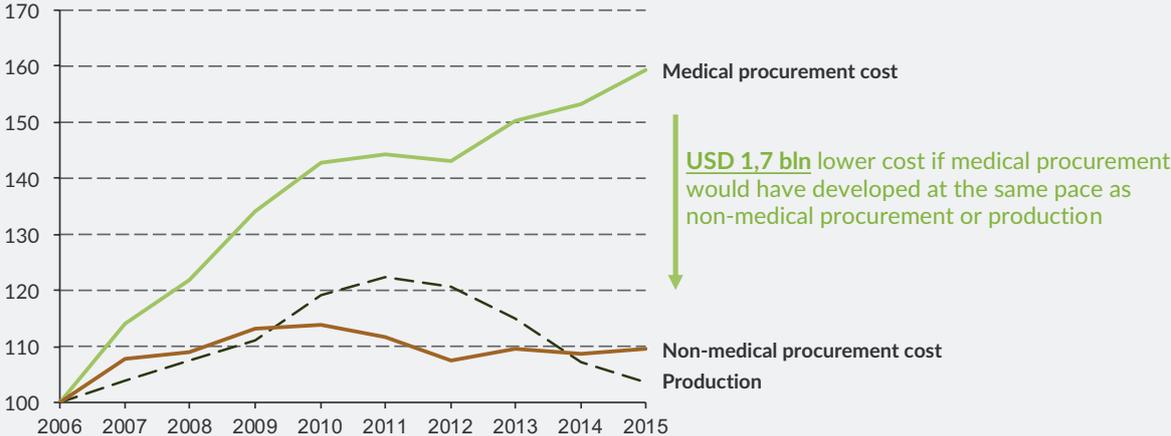
<sup>7</sup> What Hospitals Can Learn from Airlines About Buying Equipment, Harvard Business Review, 2017

<sup>8</sup> Before 2012 the Government in The Netherlands covered this cost. of expensive medication Since 2012 they are in the hospitals' budgets. Therefore, this cost is presented separately and not taken into account in the totals. Source: GS annual reports database

To put the rising procurement cost in perspective, it has been compared to the development of the production (corrected for inflation), which is a way to report how much care hospitals have provided. This shows that both the production and the non-medical procurement cost have increased slightly over the past 10 years, while the medical procurement cost (without expensive medication) increased by 60% (see figure 8).

Figure 8 - Medical procurement cost grows much faster than the hospitals' production<sup>9</sup>

Development medical and non-medical procurement cost<sup>1</sup>, and production<sup>2</sup> hospitals in The Netherlands [index, 2006 = 100, 2006 - 2015]



1) After correction for inflation  
 2) Development of the number of 'patient units', a method to measure production of hospitals  
 Source: GS annual reports database

### 1.3 COST OF PROCUREMENT WILL INCREASE TO HALF OF THE COST BASE

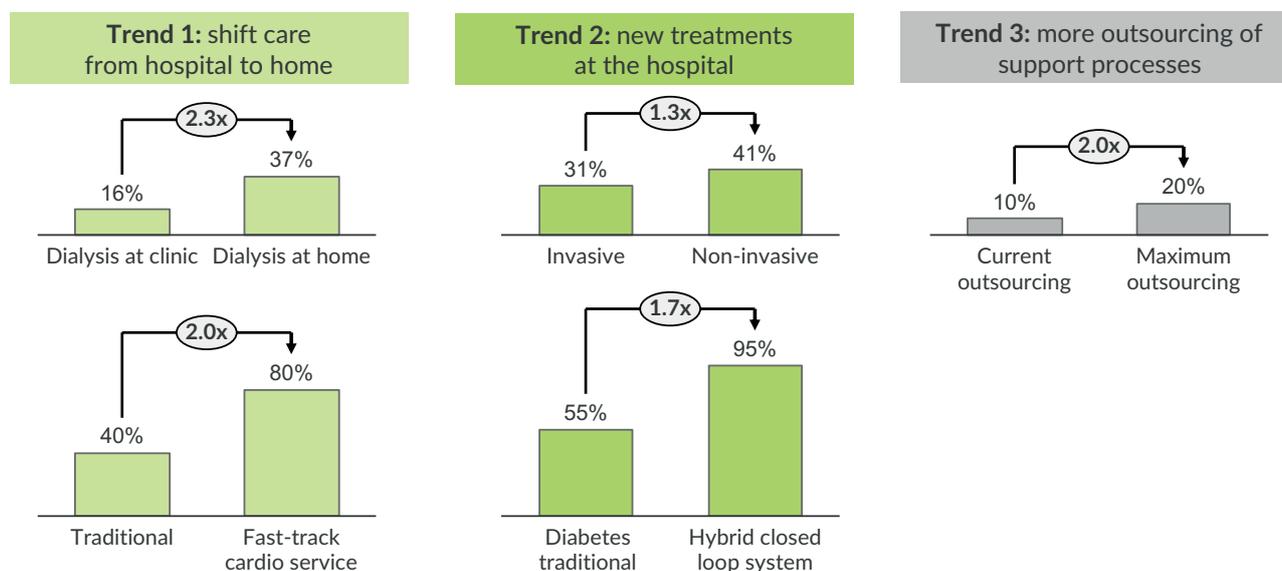
With a growing population in the region, healthcare is set to become even more important. The GCC healthcare market is projected to grow at a 12.1% compound annual growth rate (CAGR) from an estimated US\$40.3bn in 2015 to US\$71.3bn in 2020, according to a report by Alpen Capital.

But procurement costs are subject to a double whammy. Because in addition to growth of healthcare, we expect the growth of (medical) procurement to accelerate, creating the situation where hospitals in the near future do not spend 40-45% but 50% of their total cost on procurement. This rise will be driven by (1) the shift of care from hospital to home, with substitution of labor by technology and self-care; (2) shift from low- to high-tech interventions in the hospital, and (3) increase of subcontracting. Based on practical examples, it appears that the proportion of the procurement cost will increase by a factor of 1.3 to 4, as shown in Figure 9.

<sup>9</sup> After correction for inflation. Production is based on the development of the number of 'patient units', a method to measure production of hospitals.  
 Source: GS annual reports database

Figure 9 – The percentage of procurement cost increases with various innovations

Share of procurement cost in total cost of innovations [% of total cost, before and after innovation]



- 1. Relocation of care home** - In our study No place like home<sup>10</sup> we show that, with the technological capabilities in 2016, 46% of the hospital care can be delivered at home. This requires a different infrastructure, which relies on more devices, disposables and self-care by the patient and less on care staff. Think of a high-low bed or wheelchair at home, but also more sophisticated devices such as remote monitoring devices, or oxygen at home. Practical examples show that by shifting care home, the procurement cost almost always increases, while the total cost of care usually decreases. Hemodialysis at home is usually done by patients themselves, causing the percentage of procurement cost to be 37%, against 16% for dialysis in the hospital. Another example is the fast-track cardiology service. In this process of care, the percentage of procurement cost is 80%, against 40% for the traditional process of care which much more heavily relies on care staff instead of IT and self-care.
- 2. Shift to high-tech hospital treatments<sup>11</sup>** - Besides the emergence of costly medications for specific target groups, the use of devices to record data such as heart rate, glucose, weight and sleep patterns, also increases rapidly. Data are increasingly aggregated and converted into usable insights for the doctor. Moreover, techniques such as machine learning accelerate rapidly. Practical applications of these techniques can more and more support, supplement or even completely replace tasks of the physician. Realizing this potential requires investment in software and analytical skills. The increased importance of new, highly expensive drugs for instance is reflected in the cost of highly specialized cancer centers, a good example of a hospitals that use a lot of (new) medications. For example, for NKI-AVL, a specialized cancer center in The Netherlands, the procurement cost as a percentage of total cost (excluding depreciation) were 27% in 2005. This percentage was 34% in 2010 and increased further to 41% in 2015. Another example is the shift from invasive to non-invasive treatments. Our analysis shows that the share of the procurement cost in total cost for a non-invasive surgery are on average a factor of 1.3 higher than for traditional invasive surgery. The last example is the treatment of diabetes type 1 with a glucose monitor that is equipped with a so-called hybrid closed-loop system. This piece of equipment adjusts the administration of insulin continuously based on the blood sugar level of the patient so that it stays within a safe range. The total treatment cost per patient can decrease using this product, while the share of the procurement cost in relation to the total cost rises to 90%. For comparison: the cost of care of a diabetic patient treated by a medical specialist exist for only 55% of medical aids and medicines. The most extreme example is the assessment of diagnosis through the use of machine learning instead of a doctor. In theory, the proportion of procurement cost may rise towards 100% here, with complete substitution of labor by technology and self-care.

<sup>10</sup> [https://gupta-strategists.nl/storage/files/Gupta\\_strategists-Overig-studie-No-place-like-home.pdf](https://gupta-strategists.nl/storage/files/Gupta_strategists-Overig-studie-No-place-like-home.pdf)

<sup>11</sup> Sources: <https://www.cardiologiecentra.nl/the-netherlands-heart-journal/>

**3. Outsourcing** - Hospitals outsource more and more. Traditionally, cleaning is often outsourced, and food & beverages are often contracted to external parties. Hospitals now move towards activities near or in the care process. Our analysis shows that about 20% of labor cost eventually qualifies for outsourcing, based on services already outsourced by hospitals internationally. In the GCC, the portion of external staff is around 10%, mostly driven by outsourced hospitality functions such as cleaning. The degree of outsourcing, potentially in the form of commercial partnerships, can thus rise by a factor of two. Examples are remote management of IT infrastructure, business analytics, (parts of) the laboratory diagnostics, imaging, and sterilization department.

The exact pace at which these trends will (continue to) occur is unpredictable. However, the direction and cumulative impact is clear: the importance of procurement is increasing, and the various innovations contribute to the substitution of labor by products and services of third parties.

#### **1.4 THE ROLE OF THE HOSPITAL SHIFTS TO ‘DIRECTOR OF CARE AND TECHNOLOGY’**

The role of hospitals is shifting from a traditional large employer to a director of care and care technology. The fulfillment of this new role is challenging. How hospitals and providers together can improve patient care pathways and measure outcomes is still largely unexplored.

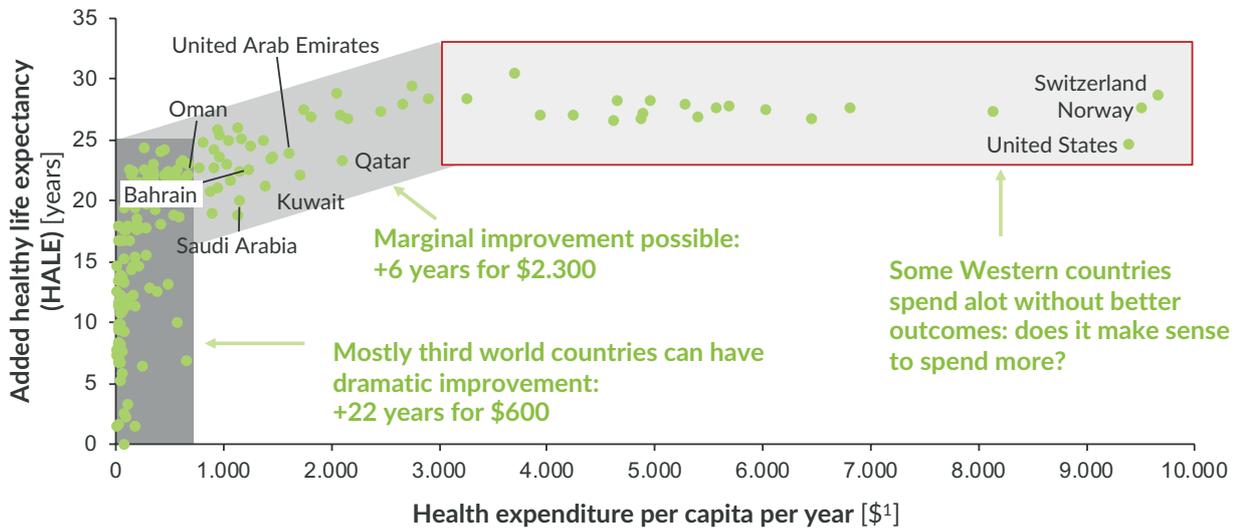
Hospitals will invest more in IT and analytical skills. The traditional, more operational role of the procurement function shifts to a more strategic function. Hospitals will often form alliances with other hospitals and suppliers to invest in new pathways to improve outcomes at lower cost. For a small hospital with limited scale, it is difficult to build up the skills to managing IT infrastructure or data analysis. We expect that the growing importance of technology will lead to economies of scale, for example by the formation of (international) hospital chains.

In this new role, the value of procurement is a key question: what is the total cost of a procured product or service and what does this contribute to the healthy life expectancy of patients? Figure 10 shows, at country level, that spending on basic care is generally valuable, while the value of spending on top of that is much less clear in terms of healthy life years. While GCC countries are in the threshold zone where additional spending may lead to an increase in life expectancy, many Western countries (including the Netherlands) seem to be at an expenditure level at which extra spending on healthcare wouldn't necessarily increase life expectancy. This is a generalization: at the micro level there are innovations that contribute to a longer healthy life expectancy of patients. This shows the major challenge for procurement: how can we make sure that additional expenditures generate better results for the patient?

Figure 10 - Additional money spent on healthcare has decreasing marginal benefit<sup>12</sup>

### Healthcare expenditure vs. added life expectancy (HALE)

[Expenditure from 2014, HALE at birth from 2015 compared to lowest level (44,4 in Sierra Leone)]



## 1.5 PROCUREMENT DESERVES A PRIME PLACE IN THE BOARDROOM

Hospitals do not have a strong starting position for their new role as director of care and technology. There are several reasons for that. Firstly, most hospitals operate on a relatively small scale compared to medical providers that usually operate worldwide. In addition, hospitals have invested insufficiently in building a strategic procurement function. The focus was mainly on price and non-medical procurement. Finally, hospitals are trailing behind other sectors when it comes to the development of IT and data analytical skills. The figure below summarizes the current and desired state together.

Figure 11 - Hospitals have an underdog position when it comes to procurement

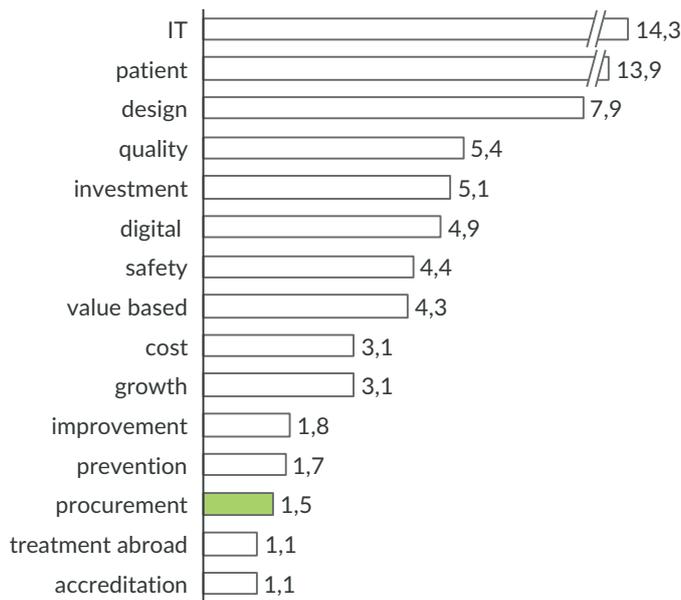
| Current situation                           | Desired situation                                     |
|---|---|
| Limited knowledge, skills and scale         | ▶ More talent and substantive expertise               |
| Focus on prices and administration          | ▶ Focus on value for patients together with suppliers |
| Focus on non-medical procurement            | ▶ Focus on medical procurement and IT                 |
| Limited investment in connection with users | ▶ Good relationship with and appreciation of users    |
| Limited analytical skills                   | ▶ Good facts base and intelligent data analytics      |
| Little transparency                         | ▶ More transparency, data-sharing between hospitals   |

<sup>12</sup> Corrected for purchasing power. Source: WHO, GS Health analysis

Because hospitals have a vulnerable position, more emphasis is required for procurement. It should shift from a somewhat stuffy topic, in which the organization has often not invested enough, to a top priority with a primal place in the boardroom. By accentuating procurement and investing in the required professionalism and analytical power, hospitals can reduce the asymmetry of power and information with suppliers. Although by no means a strong proxy for boardroom attention, we have also looked at social attention related to hospital topics. Figure 12 illustrates the current lack of social attention to procurement, based on analysis of the number of words in reports and news articles about health.

Figure 12 - There is limited focus on procurement based on Google search results

**Frequency of words occurring on google**  
 [GCC + hospital + ..., million search results]



02.

**DELIVERING RESULTS  
IN PROCUREMENT IS  
CHALLENGING BUT  
ACHIEVABLE**

**T**his chapter first elaborates on why procurement seems to be so complex and challenging. We believe this has two reasons. First, vendors have a very good position due to their sharp focus on sales, strong relationship with users and in-depth product and market knowledge (section 2.1). Secondly, we are often blinded by the label “medical”. Because of that we do not tap into our common sense enough and the fairy tale of “everything is different in healthcare” perpetuates. (section 2.2).

The contumacious practice does not mean that it isn't feasible to achieve good procurement results. For example, one hospital realized 18% lower procurement cost within 12 months, without any decrease in quality for the patient. Moreover, the comparison of the procurement performance of hospitals within one country and between countries shows that there are significant differences and thus opportunities to improve performance (section 2.3).

By making procurement a top priority, hospital and providers together can take a step forward towards a more value-based procurement model, aimed at maximizing value and optimizing QALYs per USD spent (section 2.4).

## **2.1 SUPPLIERS ARE STRONG IN SALES, RELATIONSHIPS WITH USERS AND PRODUCTS**

The power of suppliers in sales is numerically visible: analysis of annual reports shows that for every buyer at a hospital, 20 to 25 salespeople or sales-related employees are employed by the various suppliers. These include various different functions like sales analyst, product specialist, clinical specialist or specialist digital marketing. In addition, there are often large differences in salary between buyers at hospitals and sellers with vendors. It is not unusual for a salesperson to earn twice as much as a buyer. The fact that this wage difference impacts the quality and effectiveness speaks for itself.

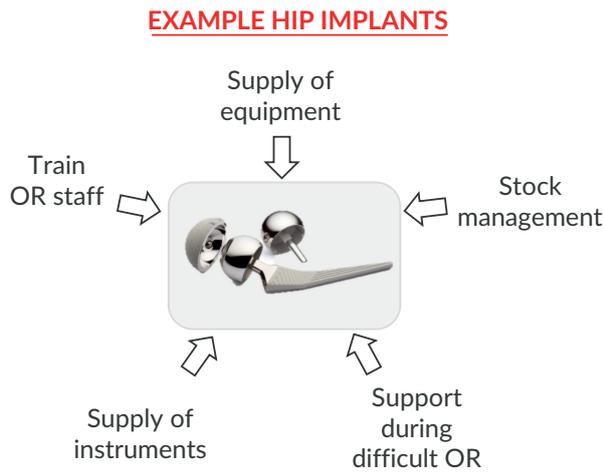
The second factor is the strong focus of vendors on the doctor or nurse as a user of the product. Suppliers provide additional products and services that provide value to the user. For example, training, patient education, support at the OR, new devices on loan basis, advice on the design of the care process, participation in subject-specific conferences and financing or facilitation of scientific research. These services obviously have added value for the user, but at the same time contribute to less transparency on price (because cost are encrypted into a total price) and higher barriers to switch between providers (because users are attached to the total package of services). Moreover, for a doctor to arrange these additional services separately is usually far from easy in the average hospital.

In contrast to the suppliers, procurement departments usually have less attention for the end user. This is caused by the imbalance in the number of employees. By the time the buyer has an appointment with the doctor, the supplier often already visited. Moreover, buyers are not always “welcome guests” for a specialist: as a doctor, what do you get out of a competitive deal? Figure 13 illustrates the strength of suppliers to users.

A complicating factor is that agreements on additional services often take place out of sight of procurement, management and administration. Therefore, there is uncertainty as to which services a supplier precisely provides. Sometimes there are verbal agreements between a supplier and a doctor that have not been further contracted. Also, doctors do not always have a full oversight on the agreed products and services. Users are, by the way, usually sympathetic in this; in practice, procurement does not always request full transparency about these kinds of arrangements.

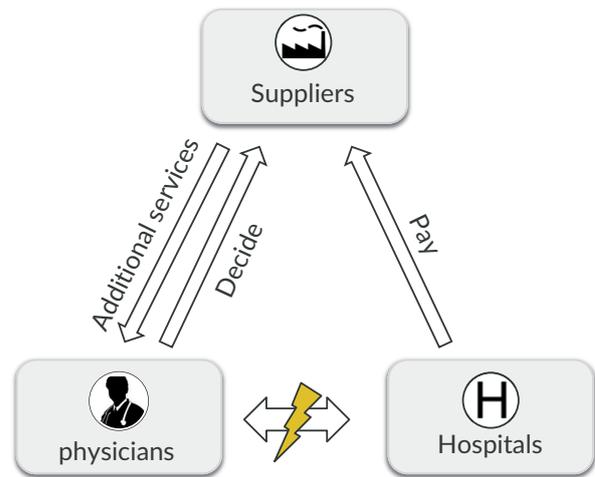
Figure 13 – The position of suppliers is based on services to and relations with users, which is not easy to disrupt

Suppliers deliver all kinds of additional services that benefit physicians...



It is more difficult for hospitals to deliver these additional services because staff is not available or budgets are not approved

... which is a reason for physicians to have a preference for certain suppliers



Physicians do not benefit directly from rationalization, and hospitals cannot force physicians to rationalize

The third factor is the advantage that suppliers have in terms of in-depth knowledge, because of their scale. The average turnover of the 25 largest suppliers of medical products is over USD 20 billion while the largest hospitals in the GCC, which are among the largest in the world, spend around USD 1B on procurement. Where a supplier has a team of product specialists who for example know all about pacemakers, a procurer of a single hospital just has a few days to delve into these products and markets. For a smaller product, such as biopsy needles, a buyer sometimes only has a day to gather information. The salespeople of suppliers do not only know a lot about their products itself, but also have an arsenal of sales and marketing tactics at their disposal. Creating fog around the price is one example of this, which makes it difficult to reliably compare prices in the market. For example, there are often many different article numbers for what turns out to be roughly the same product, that on top of that regularly change. This makes price comparisons challenging. Figure 14 shows a few other examples.

Figure 14 - Suppliers have an arsenal of smart sales techniques

---

|   |  |
|---|--|
| <b>Bundle products</b>                  | By creating interdependency between products, manufacturers make it difficult to use alternatives. For example: the hip implant of brand X only works with the matching screws and instruments of that brand   |
| <b>Create ambiguity</b>                 | Manufacturers often come up with new article codes, combinations of products or complex discount structures. Receiving complete and transparent information is sometimes difficult. This makes it difficult for buyers to evaluate quotes                |
| <b>Deploy regional price bandwidths</b> | Manufacturers determine price bandwidths per region. For example: a sales representative should not sell device X in the GCC below USD 500, while that same device is sold in India for USD 300  |
| <b>Block parallel import</b>            | Often medical items have batch numbers. This way, the manufacturer can find out which parallel import flows exist and intervene (for example, by banning the division in India from selling to European customers)                                       |
| <b>Technically hinder recycling</b>     | A cardiac stabilizer - used in cardiac surgery - is registered in certain European countries for single use. In India that is not the case, and doctors use the device for years without problems. This also happens with mechanical suturing equipment. |
| <b>Tailor packages</b>                  | Suppliers make customized packages for a hospital or doctor, for example with suture material or surgical trays. This can be useful, but it also makes it difficult to change and deteriorates the negotiating position of the hospitals                 |

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## 2.2 WE GET BLINDED BY THE LABEL ‘MEDICAL’

To increase the value of a partnership with suppliers requires a change in mentality. While many people believe in the mantra “high quality at the lowest price”, this critical eye seems to disappear like snow in the sun when it comes to healthcare. The average consumer will first do their groceries while holding the purse strings, then pays the jackpot for a hearing aid. The same applies to hospitals: it generally acquires the premium product of the premium brand, while often a cheaper option would suffice.

Take the implantable cardioverter-defibrillator, abbreviated as ICD. This device can give the patient a life-saving shock while in cardiac arrest. A hospital pays about USD 10,000 for an ICD. But what would be the cost of production? One approach is to compare the technique with other products outside the medical field. An ICD consists of a battery, a sensor, a variety of chips that analyze the inputs from the sensor and a pulse generator. All this in an expensive titanium housing. An iPhone is more technically advanced than the ICD and costs about USD 250 to produce. As the scale of production for an ICD is smaller, it is hard to imagine that the production cost of an ICD lies above USD 1,000. That’s a factor of 10 below the price paid by hospitals. Figure 15 shows more examples of products in healthcare that can be compared to consumer products but are 4 to 10 times more expensive.

<sup>13</sup> Based on European prices

<sup>14</sup> On YouTube several videos can be found of a dismantled ICD

Figure 15 - There are large price differences between medical and similar other products

| Price of medical products   |                  |           | Difference | Non-medical equivalents  |                     |          |
|---|------------------|-----------|------------|--|---------------------|----------|
|  | People lifter    | USD 4.000 | 10 x       |   | Barrel lifter       | USD 400  |
|  | Medical TV       | USD 1000  | 5 x        |   | Normal TV           | USD 200  |
|  | Medical keyboard | USD 180   | 7 x        |  | Regular keyboard    | USD 25   |
|  | Medical lamp     | USD 430   | 4 x        |   | Prof. working lamp  | USD 129  |
|  | Implant screw    | USD 30    | 4 x        |   | Titanium screw 50mm | USD 7,50 |

This does not mean that medical products should never be more expensive. There could be good reasons for this, such as higher R&D cost, valuable additional services included in the product price or a higher confidence level. It is however necessary to use common sense as a buyer and user ask yourself why something has a certain price and whether there is another way. The following examples show that indeed sometimes there is another way.

### IT CAN BE DONE DIFFERENTLY: THE CRITICAL VIEW OF TESLA AND NARAYANA HEALTH

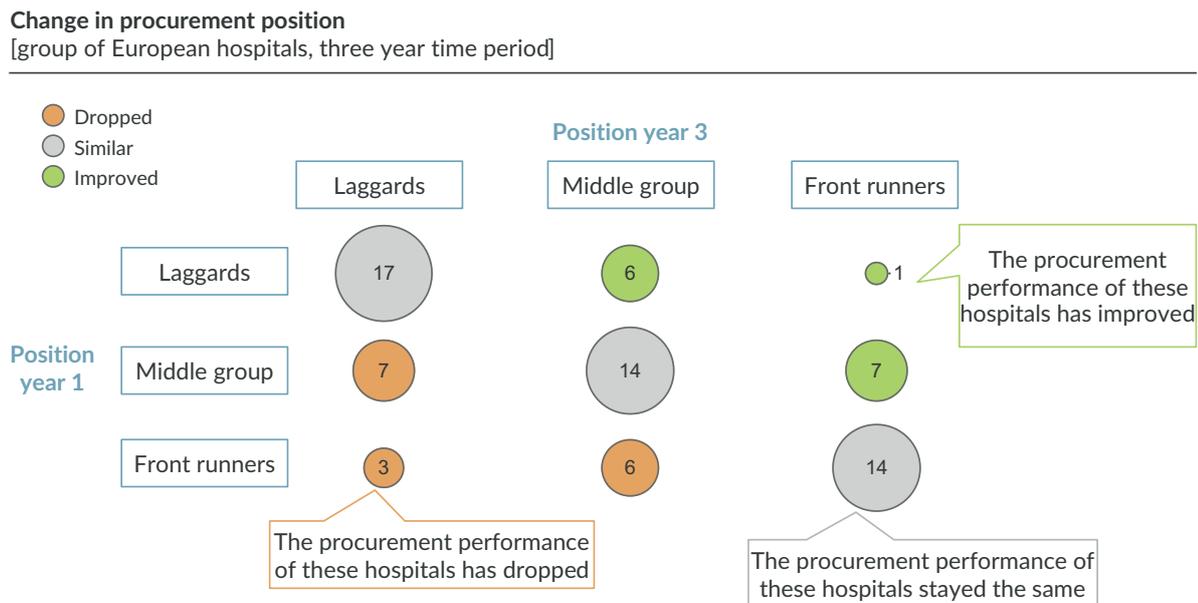
Elon Musk is the founder of aerospace company SpaceX and electric car maker Tesla. His success shows that even in complex industries things can be done radically different. For SpaceX, Musk dismantled all the components of a rocket as traditionally assembled by NASA and per part critically approximated a reasonable cost price based on the used materials and complexity of the production process. Through this teardown approach he and his colleagues came up with some surprising choices. For example, SpaceX replaced the displays specifically developed for space with displays from the consumer market, that met the needs at tenfold lower cost. Moreover, there was a part of a rocket that cost USD 120,000. Musk found the resemblance to a garage door striking and put an engineer to work. The result was the same functionality for USD 3,000. Another example was a space radio offered by a supplier for USD 10M. Musk’s team came up with an alternative for USD 10,000. These examples show that nothing is impossible, especially in an environment with scarce financial resources and the challenge to compete as a business with governments.

Take the NH Hospital, the largest heart center in the world in Bangalore, India. Their aim is to treat everyone, regardless of financial resources. NH is critical when it comes to procurement. One example is the price of suture materials, of which large quantities are required for open-heart surgery. NH paid the equivalent of USD 5 for sutures and found that to be a lot for a needle and a thread attached to each other. NH searched for suppliers of these parts and set up a subsidiary company that assembles these components and supplies them in a sterile and convenient standard kit per operation. The quality is better than the original sutures and the price is as much as 80% lower. NH has chosen a similar approach with heart lung machines: they have their perfusion kits tailor-made. Scarcity, entrepreneurship and common sense played a big part in seeing opportunities and achieving results.

## 2.3 SOME HOSPITALS ACHIEVED STRONG RESULTS LOWERING THE COST OF PROCUREMENT – A FEW EXAMPLES FROM EUROPE

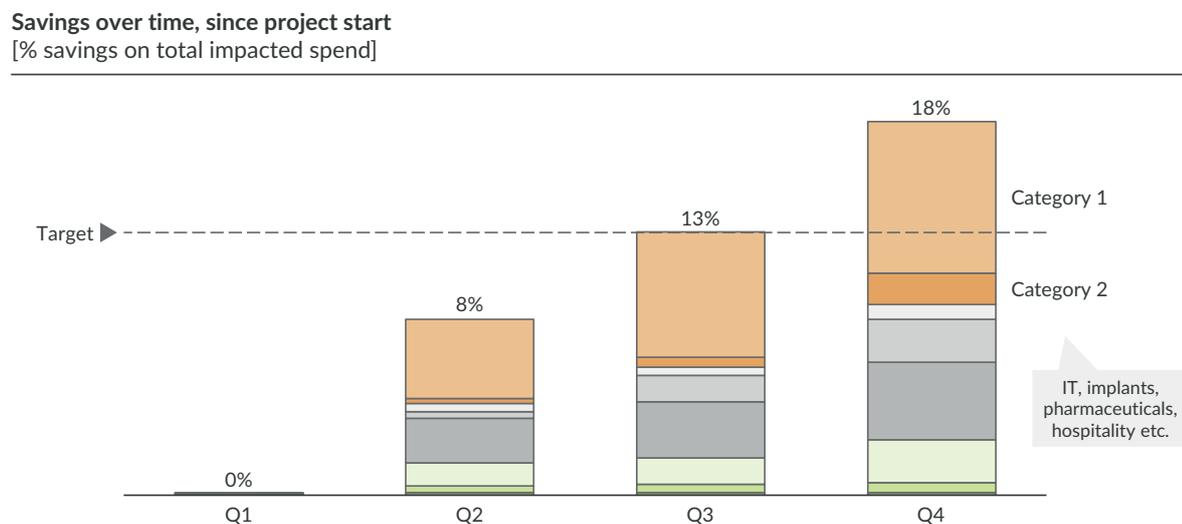
The comparison of procurement performance between a group of European hospitals shows that short-term improvement in results is possible. In this example, 14 hospitals increased their procurement performance significantly in three years. At the same time, 55% of the hospitals had the same relative performance in procurement in year 3 as they had in year 1, while 25% dropped in performance (Figure 16). This is not random; among the hospitals that improved are some that have seriously stepped up their procurement efforts.

Figure 16 - Group of 14 hospitals improved relative procurement performance



A factor of 5 to 10 times return on investment are possible in procurement. For example, a hospital in The Netherlands managed to structurally reduce procurement cost by 18% within 12 months (Figure 17). These savings have been realized without decreasing the quality for the patient. This result required a rapid acceleration of the way of working and an impulse of quality at the department.

Figure 17 - One Dutch hospital saves more than 10% on procurement in one year



## 2.4 A JOINT MOVEMENT TOWARDS FOCUS ON VALUE FOR PATIENTS IS REQUIRED

In the long run hospitals and providers can add more value for patients. This requires a shift in focus from existing products and services towards new, integrated services. In the box below a few examples of initiatives that increase the value for hospitals and patients by reducing overall cost and increasing quality are described.

### THREE EXAMPLES THAT FOCUS ON VALUE FOR THE PATIENT

#### Case Study 1 - A medical disposables supplier

This specific supplier of medical disposables supports hospitals to improve logistics and utilization. With their proven program, hospitals can save 10 to 15% on direct procurement cost. In addition, they also save on indirect cost such as administrative cost and internal handling of logistics. They do this by the rationalizing and standardizing the current range of disposables by using their own brands or, if the hospital wishes to do so, alternatives from partner suppliers (as long as quality and functionality is maintained). This derives a single supplier for disposables, clarity in the range of products and a protocolled way of working. The supplier supports this process through education and training.

#### Case Study 2 - BSN medical

This supplier of wound dressings has developed a benchmark and QuickScan methodology to identify an assortment analysis with associated workflow and cost within the hospital. Based on this analysis, BSN provides an advice in the form of an improvement plan to optimize inventory, product selection and workflow. Content experts from BSN support the various care provider departments with the implementation of the improvements. This way, overall supply chain cost decreases and quality of care increases. This is because often the providers have several products for the same indication, and there are also several 'levels' of one and the same bandage on site, from which nurses easily pick the most expensive, out of convenience.

A commonly used method to quantify medical value is the contribution to quality-adjusted life years, QALYs, per USD. This method is standardized across different diseases but is not always available for every treatment. This standardization of the term 'quality' for treatments is important to relate quality to cost and to be able to 'sum up' quality.

The potential is large, both at the outcome as well as on the cost side. Based on the current healthy life years of patients, there are still 20 healthy life years to be gained per capita. Integrating new technologies into care delivery can be a major driver to capture these gains. In addition, hospitals have high labor cost, while staff is still scarce. The potential of medical technology to support deployment of personnel or even replace them, is massive. The above changes could be achieved through commercial partnerships, for instance.

Healthcare organizations sometimes also join forces, even setting up dedicated organizations to pool volumes and pool expertise to get more value out of procurement. The box below highlights a number of examples from the GCC.

## EXAMPLES OF JOINT PROCUREMENT PROGRAMS IN THE GCC

### **The Gulf Health Councils' Joint Procurement program**

The Gulf Health Council (GHC)'s Joint Procurement program aims to standardize the supply of medicines in the GCC.

The GHC is a regional specialized organization that aims to develop cooperation and coordination among member states in the preventive, curative and rehabilitative health fields, with its membership restricted only to the GCC countries and Yemen. Within this organization, the GHC Joint Procurement program provides the countries a shared but legally impartial and financial and administrative independent vehicle for procurement.

The idea of this joint procurement for medicine began already in February 1976, when the Ministers of Health of the GCC states requested that the Council form a technical committee among the states. The committees' main objective was to study the possibility of member states benefiting from direct control, like the processes in Saudi Arabia and Kuwait. A second key objective was to standardize the purchase of certain medicines. The set objective at that time was to study the development of a unified system for the registration and control of medicines and the development of a guide for medicines in the GCC states.

Nowadays the Gulf Health Council seeks to standardize the directory of pharmaceuticals as well as devices and medical supplies through the Gulf Joint Procurement Program, with controls in place across the GCC member states.

### **NUPCO**

National Unified Procurement Company "NUPCO" is a national program in Saudi Arabia for the unified purchasing of medicines, devices, and medical supplies. They ensure adequate healthcare for those who need it, through a system of integrated services, like standardized procurement, logistics services (which include storing and delivering products to hospitals and health centers) and business solutions. NUPCO's aim is to provide the right product, in the right place, at the right time and at the right price.

NUPCO was established in 2008 and began operating in 2009, with a main objective of raising spending efficiency in purchasing medicines, devices and medical supplies. It is the Kingdom's largest provider of standardized procurement services to government agencies working in the healthcare sector. During the past years, the company managed to enhance the efficiency of spending significantly and contributed to raising the level of quality of service provided to health authorities.

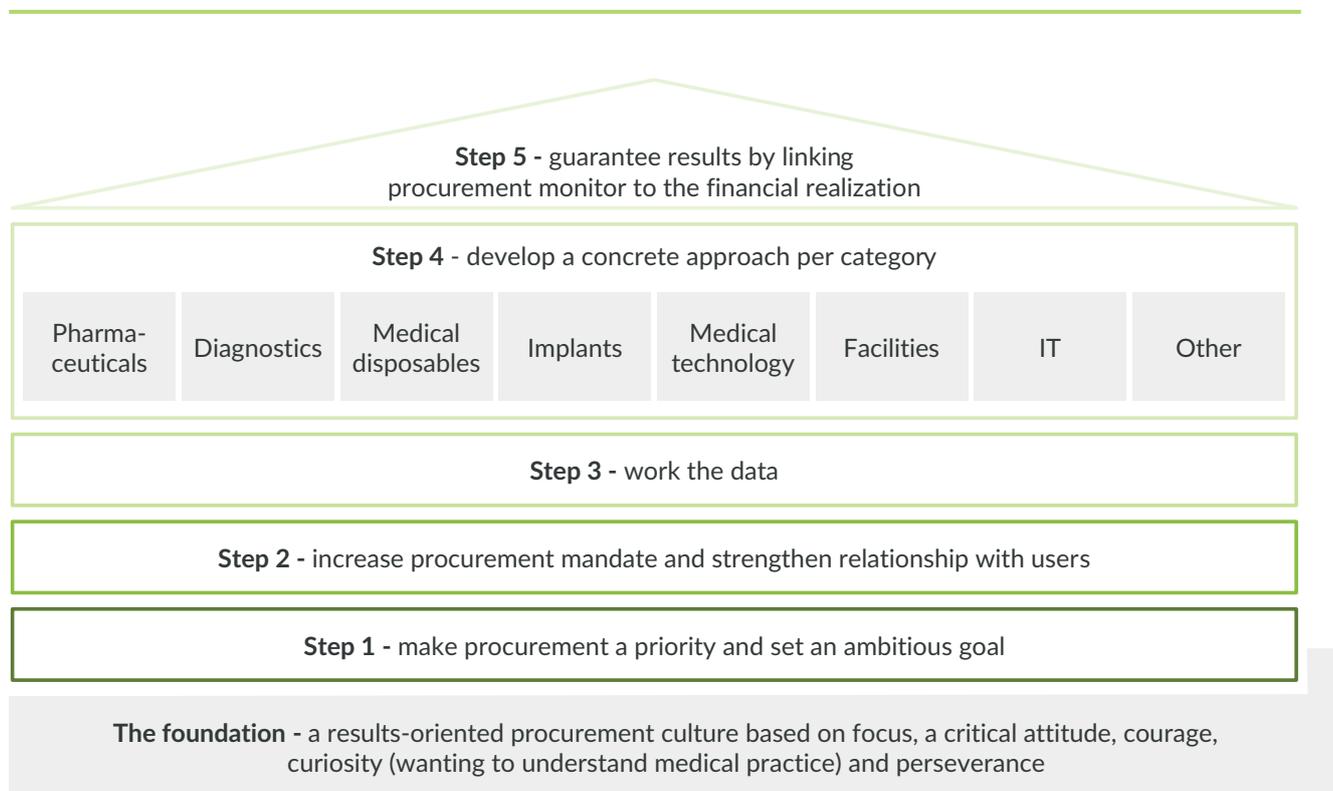
NUPCO played an important role in securing COVID-19 related medical supplies including test kits, ventilators and an inflatable lab. They did this by building a new supply chain with advanced Chinese suppliers.

03.

A PRACTICAL  
ROUTE TO SHORT-  
TERM RESULTS IN  
PROCUREMENT

This chapter contains practical tools to achieve good procurement results in the short-term. The foundation for success is building a results-oriented procurement culture (section 3.1). Next, step one is to make procurement a boardroom priority with a matching ambitious target (Section 3.2). Step two is to set up the organization in such a way that procurement has a strong mandate and works closely together with doctors and other users involved (section 3.3). This can be done through the establishment of eight procurement categories<sup>15</sup> reporting directly to the Board of Directors. The third step is to 'work the data'; build analytical skills in order to create more transparency in prices and volumes (section 3.4). Step four is to develop an action plan for each procurement category (Section 3.5). The fifth and final step is to monitor the impact and the actual results, by linking expected procurement results to the actual results (section 3.6). Figure 18 summarizes this 'procurement house'.

Figure 18 - Results on procurement by the construction of a solid 'procurement house'



<sup>15</sup> In accordance with the layout of Figure 3: pharmaceuticals, diagnostics, implants, disposables, hospitality, IT and other purchasing cost

### 3.1 THE FOUNDATION FOR SUCCESS IS A RESULT-ORIENTED PROCUREMENT CULTURE

The procurement house needs a solid foundation. If the five steps of the procurement house are a recipe that should lead to a result, then the foundation is the creation of a results-oriented culture and attitude. This culture is obviously not a matter of simply “flipping the switch but instead will have to develop gradually, in that regard it is not really a step 0 but something that is cultivated gradually. It is shown as a foundation because the mindset and willingness to change need to be present. In our experience, key concepts for a successful buyers-culture are: focus, a critical attitude, courage, curiosity (really wanting to understand the medical practice) and perseverance. Exactly these aspects make the difference between success and failure.

### 3.2 STEP 1 - MAKE PROCUREMENT A PRIORITY AND SET AN AMBITIOUS TARGET

The first step is to put hospital procurement on the strategic agenda. This means that the hospital should formulate an ambitious goal, based on their starting position, which is included in the budgets of the relevant departments. Setting goals is a prerequisite as it contributes to momentum and support to get started. In addition to the goals in terms of savings, targets on quality and for example the number of vendors are important.

A benchmark with one or more other hospitals of the procurement performance for each category could be a sound base for goal setting. In addition to this general overview, deep dives are possible on various levels, for example in interventions or specific products. The improvement potential for each procurement category is an objective base to determine the objectives for each department. Of course, the benchmark is not the ultimate truth and doesn't provide a roadmap on how to achieve improvements. However, it does provide a clear focus: targets in the budget contribute significantly to the success rate.

### 3.3 STEP 2 - INCREASE PROCUREMENT MANDATE AND STRENGTHEN RELATIONSHIPS WITH USERS

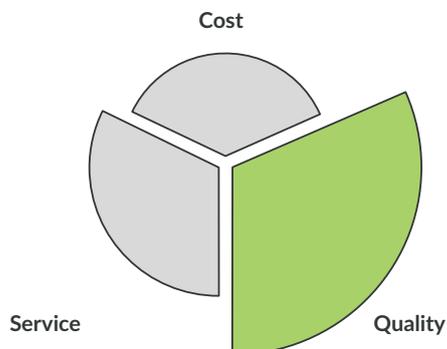
Procurement has a strong mandate and requires close collaboration with physicians and other concerned users. This can be done by forming procurement categories, each of which is overseen by a permanent procurement steering group. The steering committee consists of (a member of) the board, an active physician (e.g. chairman of a department), an experienced care manager (e.g. OR manager), the Director of Finance and the Head of Procurement.

Within a procurement category, the procurement department works closely together with finance, the budget holder and the relevant specialists and nurses to identify improvement potential and to create a proper procurement process. Organizing procurement around a category is a practical way to develop a firm and department-transcending mandate and to use a broad perspective when defining improvement potential. Direct cooperation between the procurement team and users throughout the entire procurement process, up until the negotiation, is crucial to success.

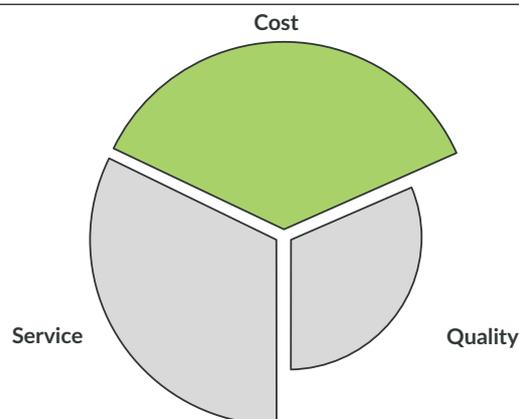
The first step for a procurement category is to formulate a practicable vision per product to the triangle of cost, service and quality. Users are often most interested in quality, while buyers often care more about the price (Figure 19). Balancing this triangle together as a group is the starting point for achieving results. It is key that users and buyers empathize with each other's interests and experiences.

Figure 19 - Finding the right balance together for the cost, service and quality triangle

Perspective users



Perspective buyers



It is important to make a collective decision per product group about the focus of buyers and users: is it cost, quality or service that is of key importance? It is necessary to do this prior to each procurement process, to know and set each other's expectations and to prevent blockages afterwards.

To find the right balance, mutual curiosity is of crucial importance. Since the worlds that both users and buyers live in are so different, it is important that they try to understand each other's takes and interests and identify common ground. Buyers can for example spend an afternoon in the OR, so they can personally experience the proceedings of a surgery. That way, it is easier to really understand the position of the doctor.

Besides curiosity is also important to set the mandate that everybody aims to achieve the best result for the hospital instead of for their own department. It takes courage to be successful here. The following two case studies serve as an example:

- An IT department creates high cost for backups, because it does not want the responsibility of anything going wrong on their account. Closer inspection revealed the backup to be redundant, because information is stored using another backup.
- Suppliers of a diagnostic camera sometimes offer insurance as part of their package. Suppose a new component cost USD 40,000, and that the part will last 10 years. The expected cost per year is USD 4,000. Suppose that the supplier provides insurance for USD 10,000 per year. A rational entrepreneur who would pay for it himself would never take out that insurance. Yet in practice we see that hospital departments regularly buy this type of insurance because they are not confident that a budget request for a new camera would be approved.

Caution is of course required, but these examples do show that it is important to weigh risk and cost consciously and to look beyond the boundaries of one's own department.

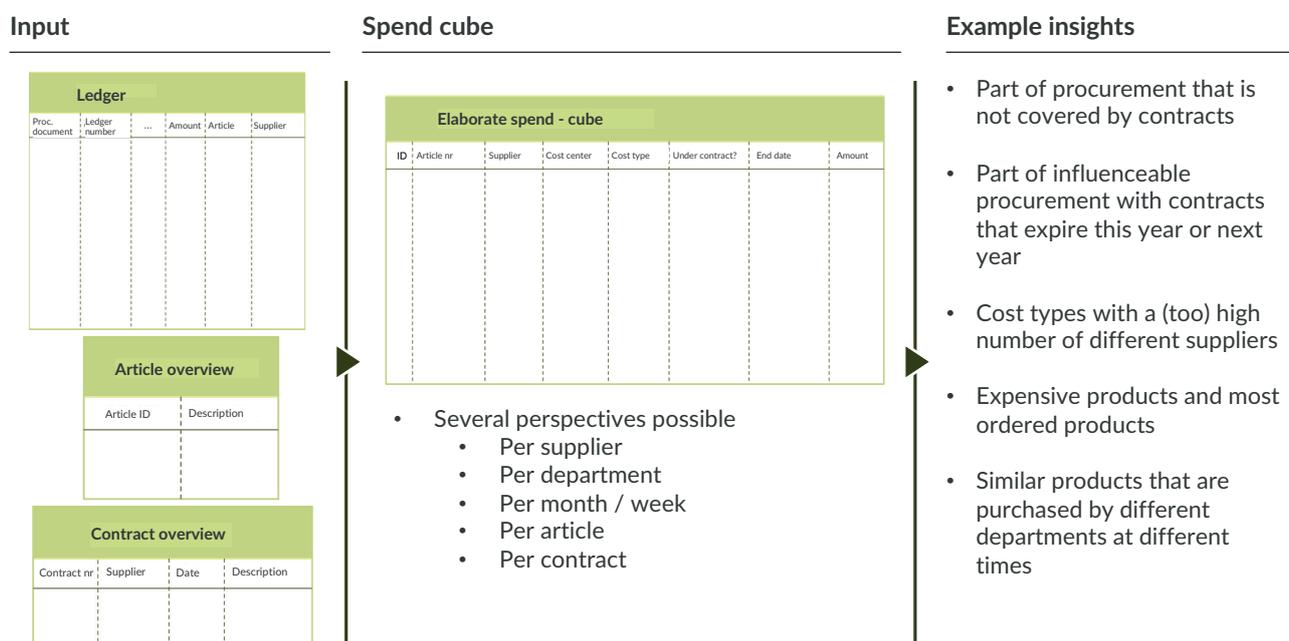
Because improvement in procurement sometimes 'hurt', it is important to have the support of the medical staff. A positive incentive can contribute to increased engagement of the medical staff, for example to reinvest a portion of the savings in innovations that medical specialists can stake their claim to. But even without this incentive it is imperative to be persistent. Once you make a difficult procurement decision together as a group, for example to switch providers for hip prostheses, have the courage to hold the physicians accountable, for example when several physicians continue to use the old hip prosthesis.

### 3.4 STEP 3 - WORK THE DATA

A sound procurement strategy can develop faster with investments in gathering, accessing and analyzing relevant data. Therefore, step 3 is to build analytical skills within the procurement team, possibly supported by analysts from finance or application managers. The two priorities are (1) development of a 'spend cube', which provides insights into the expenses per category and supplier and (2) understanding of the supplier market, including understanding of the cost structure: what do we actually pay for as a hospital?

The 'spend cube' is made up of the invoice lines, numbers and cost per supplier, general ledger, and cost center (see Figure 20). In addition, a link with the contract overview is required. Ideally, the fields are linked. The practice however is resilient, because not all procurement packages and financial software allow for these views. Sometimes it takes months of work to even build such a list from multiple tables. However, a less than perfect version of the 'spend cube' is still useful.

Figure 20 - The 'spend cube' provides insights from different angles into procurement performance



With the 'spend cube' you can for example calculate what percentage of the total procurement is actually handled by the procurement department. There are improvement opportunities here because this rate is often lower than expected. Furthermore the 'spend cube' helps to develop a procurement calendar in order to create more focus on the right areas.

This way one can avoid spending months of work on purchases with very low potential, while elsewhere savings of six figures could be achieved. Moreover, the 'spend cube' enables the procurement team to follow the development of the cost per procurement category. A deeper analysis may show that what seemed to be a decrease in prices, is nullified by a change in product-mix.

Using the 'spend cube' you can also show the total spending per vendor for renegotiation of the total contract. Additionally, you can show the number of suppliers across all departments for one product group and determine whether choosing fewer suppliers is an interesting option. Also, monitoring of compliance is important: which articles have defined prices in the contract and what percentage of the total products that users order fall outside of a contract? Moreover the 'spend cube' contains all the additional services that are provided by a supplier, but that the supplier does not charge for. This is how the procurement department can gradually increase transparency of the information required to reliably monitor and compare prices and cost.

The 'spend cube' provides the insights that lead to full control on procurement cost – it is a tool for quick wins. However, to achieve an optimal result in negotiations additional insights are required. These additional insights are best created in small teams per procurement category and in short sprints. It is useful to act with perseverance and look beyond the traditional data sources. For example, it could help to understand the cost structure of providers by analyzing their annual reports. If it appears that the cost of the product is only a fraction of the retail price, negotiations are possible. Even for products or services for which the hospital does not have a choice, it helps to create transparency in cost. If analysis shows that the vendor has 25% transaction cost, the hospital could propose an agreement in which the hospital and supplier aim to reduce those cost together. For example, by developing protocols that enable the deployment of a specific brand or by optimizing the delivery process. Another example is an innovative way to objectify the price of bandages. It is possible to model the relationship between the price and certain objective product characteristics such as surface area, thickness, and material type. This could be done based on (inter)national price lists. Such a model can calculate the predicted price of the bandage. Using those insights, procurement can discuss deviations from the predicted price with suppliers.

What applies to the cost of the products also applies to the value of products. By gathering the right (outcome) information, one can create an overall picture of what the value of a specific product is with respect to other products. This provides a framework for interoperability and thereby procurement power to the hospital. It also lays the foundation for outcome- or shared-savings-contracts with suppliers. For example, a supplier might claim that a new disposable will save 20 minutes OR time. Given that the marginal cost in a hospital are around USD 10 per minute OROR, the hospital has a maximum additional USD 200 to spend on these disposables, if the supplier is willing to commit to the promised OR advantage.

### 3.5 STEP 4 - DEVELOP A SPECIFIC, TAILORED APPROACH PER CATEGORY

The fourth step is to develop an approach for each of the eight categories of procurement. The procurement categories for each category have the mandate to steer on all drivers of value: price, volume, product mix and the quality as experienced by users and patients. This way, the procurement teams can determine their focus depending on the (starting) position. In our view there are five typical areas:

1. Jointly develop procurement strategy and implement negotiations: select focus topics that users and buyers prepare and execute together. There is a wide variety of options to explore; parallel imports and outsourcing are also possible.
2. Delete services and products that add little value: go through all expenditures with a fine-toothed comb to determine whether bills are unfairly high or matters can be organized more economically.
3. Aim for practical use: standardize the range of products (remove unnecessary products, decrease variation between products), learn from best--practices between departments, reduce consumption, etc. The box below elaborates on a few examples.
4. Increase cost consciousness: insight into prices of stock product, feedback cost made between departments, etc.
5. Involve suppliers to increase their added value: commit providers to deliver extras against current conditions, such as advice on the range of products, services that increase efficiency of the work, delivery in consignment, etc. Value for money could immensely increase when hospitals and suppliers work towards commercial partnerships.

The procurement department has the responsibility to encourage and accelerate the process and develop an evidence-based fact pack for each procurement category based on the generic 'spend cube' and selective additional analyses. The process role entails for example to bring stakeholders together, schedule periodic meetings, contributing content to the various procurement records and tracking the actual procurement results with finance.

## REALIZE OPPORTUNITIES TO INCREASE CONTROL ON CONSUMPTION AND PRODUCT MIX

Procurement has traditionally been focused on lowering prices, while volumes and the choice of the specific product are very important. The ultimate responsibility for the cost lies with the budget owners, but procurement along with finances can certainly play a role to rationalize consumption. Below are examples of monitors that contribute to transparency and a learning process with users.

1. **The consumption monitor 'OR'** provides an overview of the exact consumption of materials (how much and which) per doctor per surgery, what the cost are and how consumption varies between doctors. Periodic discussion provides insight into opportunities for improvement.
2. **The consumption monitor 'medical disposables'** shows the monthly expenses and compares them to other departments. Moreover, it provides valuable compilations of the top 10 products with the highest cost. Periodic discussion increases cost awareness and leads to ideas for improvement, such as reducing the range of products, changing the standard product selection or less consumption for certain treatments or diagnoses.
3. **The consumption monitor 'pharmaceuticals'** provides insights for each drug and the difference between the expensed and procured volumes. In addition, this monitor enables transparency of the prescription behavior of physicians, broken down into the relative number of patients, the duration of the therapy and dosage. This contributes to rational prescription behaviors and price negotiations with suppliers.

The focus for each procurement category is customized. Some products do not have a lot of alternatives, think of the manufacturers of expensive medication, which causes the possibilities to improve the performance to be limited to volume and value agreements. In other markets, there are more alternatives available. In that case, the first challenge is to achieve alignment between buyers and users of their vision on the triangle cost, service and quality. Moreover, the extent to which lock-in exists with one supplier can determine the appropriate strategy. Figure 21 summarizes the size, the potential for improvement, and the typical actions that have a lot of impact per procurement category.

Figure 21 - The potential percentage savings and typical actions per procurement category

| Procurement        | Potential [USD, min-max] | Actions with large improvement po  |
|--------------------|--------------------------|--|
| Pharmaceuticals    | 5 10                     | <ul style="list-style-type: none"> <li>• Proactive policy for accelerated substitution to biosimilars</li> <li>• Increase compliance with procurement policy through fast cycle</li> <li>• Strict prescribing policy: everything on generic, no 'me-too's, unless...</li> </ul>    |
| Disposables        | 10 25                    | <ul style="list-style-type: none"> <li>• Extensive rationalization of product range (reduce unnecessary variation)</li> <li>• Bundled procurement of entire package from 1 or 2 suppliers</li> <li>• Focus on consumption by increased insights into variation and cost</li> </ul> |
| Implants           | 10 25                    | <ul style="list-style-type: none"> <li>• Choose joint starting point triangle price - service - quality</li> <li>• Bundle 1 or 2 suppliers in close collaboration with doctors, who receive an incentive to realize benefits (such as innovation fund)</li> </ul>                  |
| Diagnostics        | 5 15                     | <ul style="list-style-type: none"> <li>• Outsource clinical chemistry due to large economies of scale</li> <li>• Set up collaboration with other hospitals (in the region)</li> </ul>  |
| Medical technology | 5 15                     | <ul style="list-style-type: none"> <li>• Scan for expensive maintenance packages that are no longer needed</li> <li>• For smaller hospitals: outsource total management and maintenance</li> <li>• Procure in a much larger context, invest together</li> </ul>                    |
| Facilities         | 5                        | <ul style="list-style-type: none"> <li>• Make hard agreements around quality of the service</li> <li>• Carefully check contracts and invoices</li> <li>• Create awareness on consumption within the hospital</li> </ul>  |
| Facilities         | 5 15                     | <ul style="list-style-type: none"> <li>• 'Make or buy'-decision for all IT components</li> <li>• Critical check on the use and necessity of applications: avoid overlap</li> <li>• Analysis of price- and cost structures of largest suppliers</li> </ul>                          |
| IT                 | 5 15                     | <ul style="list-style-type: none"> <li>• Work with framework contracts for regular suppliers</li> <li>• Act sharp on the added value of outsourcing; create thresholds</li> </ul>  |

## EXAMPLE APPROACH TO PROCUREMENT CATEGORY MEDICAL DISPOSABLES

Typically, a hospital spends 10% of the procurement expenses on medical disposables. This includes dressings, incontinence pads, sutures, OR instruments (including disposables for laparoscopy) and ventilation materials. For most products, there are several vendors in the market. Their products are broadly similar; in general, there is no single vendor that delivers demonstrable better quality. The combination of a large number of suppliers and fairly homogeneous products leads to a situation where suppliers find other ways to strengthen their relationship with users and with this try to create a bond with their product.

Savings of 10 to 25% are possible without loss of quality, depending on the starting position of the hospital. For example, health insurers in the Netherlands saved 20 to 50% on diabetes test strips and bandages by defining packages and by buying large volumes over the past years. This indicates the improvement potential that still exists in the market. Figure 22 details the three-tiered approach to rationalizing this category.

Figure 22 - Three focus areas for the procurement category 'medical disposables'

| What?                                    | Why?   | How?   |
|--|--|--|
| <b>1 Rationalize assortment</b>          | <ul style="list-style-type: none"> <li>Wide variety of products, for example &gt; 150 types of suture materials</li> <li>Many unnecessarily expensive alternatives in use</li> </ul> | <ul style="list-style-type: none"> <li>Talk to user groups about options for limiting assortment and reducing stocks</li> <li>Allow suppliers to play a role in this where possible</li> </ul>   |
| <b>2 Bundle packages at one supplier</b> | <ul style="list-style-type: none"> <li>Many different suppliers, some without contract</li> <li>Unnecessarily high procurement and logistics cost</li> </ul>                         | <ul style="list-style-type: none"> <li>Reintroduce a restricted range of products into the market</li> <li>Ask suppliers to let go of their contract in exchange for extra sales</li> <li>Select preferred suppliers based on objective criteria with users</li> </ul> |
| <b>3 Steer on conscious consumption</b>  | <ul style="list-style-type: none"> <li>Unnecessary variation in consumption between departments / employees</li> <li>Increasing cost awareness can lead to lower cost</li> </ul>     | <ul style="list-style-type: none"> <li>Apply / update article prices in stocks</li> <li>Develop and distribute a consumption monitor, with historical consumption per department</li> </ul>  |

### 3.6 STEP 5 - ENSURE RESULTS BY LINKING MONITORING TO FINANCES

The final step is the effective monitoring of impact and outcomes by linking the expected results from the procurement categories to the actual results as reported at the end of the year by finance. The challenge in this step is that often savings calculated by procurement are not consistent with actual results. Procurement keeps a record of the savings, for example, on the basis of price reductions compared to an earlier contract. This is difficult to measure, because a yearly prognosis is required. Simply using a higher discount rate for the calculations does not always work, because suppliers can increase gross prices or change the product mix. Additionally, procurement departments sometimes count avoidable cost increases as a saving. This is the merit of procurement, but of course no reduction in the eyes of finance, who instead observe an increase in procurement cost.

In order to achieve a consistent overview, close cooperation between procurement and finance is required. Moreover, it is important to distinguish between cost reductions and avoidable cost increases and distinguish between budgeted and additional savings. Classify savings per procurement category so finance can assess which expected cost savings were realized.

04.

TRANSFORMATION  
INTO LONG-TERM  
VALUE-BASED  
PROCUREMENT

**W**hen the foundation is right, there are many opportunities to increase the value of procurement by innovating, which can lead to 20 additional healthy years per capita (see Chapter 2). We also explained that in order to do this, hospitals must take a role as the director, measuring and controlling the value of vendors. This involves shifting the focus from what most procurement departments are currently doing (lowering prices) to new ways of working (increase value for patients with new and improved products and services).

How hospitals can do this is uncharted territory. In this chapter we provide the first steps on how value-based procurement could work for hospitals and we describe a framework that hospitals can use to initiate this shift. Finally, we give some examples of the application of this framework.

#### 4.1 THREE CONDITIONS TO REALIZE VALUE-BASED PROCUREMENT

To successfully start with value-based procurement, it is important that hospitals invest in three areas of prerequisites: strategic priority, development of knowledge and skills and content-driven cooperation with other healthcare providers.

1. **Procurement as a strategic top priority.** This point is also reflected in the previous section and is even more relevant for value-based procurement. When procurement becomes the driver behind the integration of technological trends and strategic decisions such as outsourcing and commercial partnerships, it should be high on the management agenda. Its importance must resonate throughout the hospital. Procurement should be a “welcome guest” for physicians, who provide support by developing business case, for example for robotic surgery or telemonitoring.
2. **Upgrade the knowledge and analytical skills.** Value-based procurement requires a different way of working, looking beyond the divisions and boundaries of departments, developing care pathways for target populations and applying contracts focused on outcomes. The development and validation of outcome indicators are intensive, multi-year projects.
3. **Cooperation with other healthcare providers.** Some issues require a larger scale to outweigh investments against the potential benefits. It would be obvious for hospitals to cooperate, for example, within a hospital group but also nation or even GCC wide. Independent procurement organizations can also play a role here.

## IT AS A BASE FOR THE SOLUTION INSTEAD OF PART OF THE PROBLEM

It is difficult for hospitals to get a grip on the overall cost and benefits of IT. Where it is usually still doable to map the cost, it is challenging to identify the increase in benefits. It constitutes a tangle of large and small applications, servers and other devices that are all interdependent. Hospitals are thereby mainly occupied directing what they know: what kind of equipment and applications do we currently have and how can we control these costs?

The challenge is to steer towards what is not there yet. Take the, often limited, functionality of patient portals that often focus on transmitting information (appointments, contact details etc.) and not on interaction and smart advice. There are several trends that will require a lot from hospitals, such as the Internet of Things (IoT), digitization and applications of machine learning and artificial intelligence. We focus on the shift of care towards home. At the supplier side this means a shift of products inside the hospital towards products and services outside of the hospital: this requires new devices but also the necessary software to move care to the home setting. How do hospitals organize these necessities? How to procure this and determine a reasonable price? And how to monitor the benefits?

The solution and the problem itself lie close to each other. Only a well set up and connected EMR enables cost-benefit tracking. A powerful applied EMR can calculate the effects of treatment of different populations in seconds. The method to do this is described in the recently published study “The World is a Clinical Trial”<sup>16</sup> that GS carried out in conjunction with the Amphia Hospital in The Netherlands. Conducting a cost-effectiveness study becomes much cheaper. Therefore, the hospital gets a new toolkit to organize value-based supplier management.

Whenever measuring and analyzing the EMR is anchored into the primary process, there are strategic implications. There will be a need for more collaboration in the care-delivery-chain, for example, to make analysis statistically significant or to understand differences in outcomes. There will also be a need for comparison groups. Answers will be found by asking the right questions. This requires creativity and analytical skills of medical professionals. This fits perfectly with the new role of the physician as described in the study “No Place Like Home”<sup>17</sup> where we describe that the role of the physician shifts to that of an air traffic controller.

## 4.2. THE ‘DIAMOND’ AS AN ASSESSMENT FRAMEWORK FOR VALUE-BASED PROCUREMENT

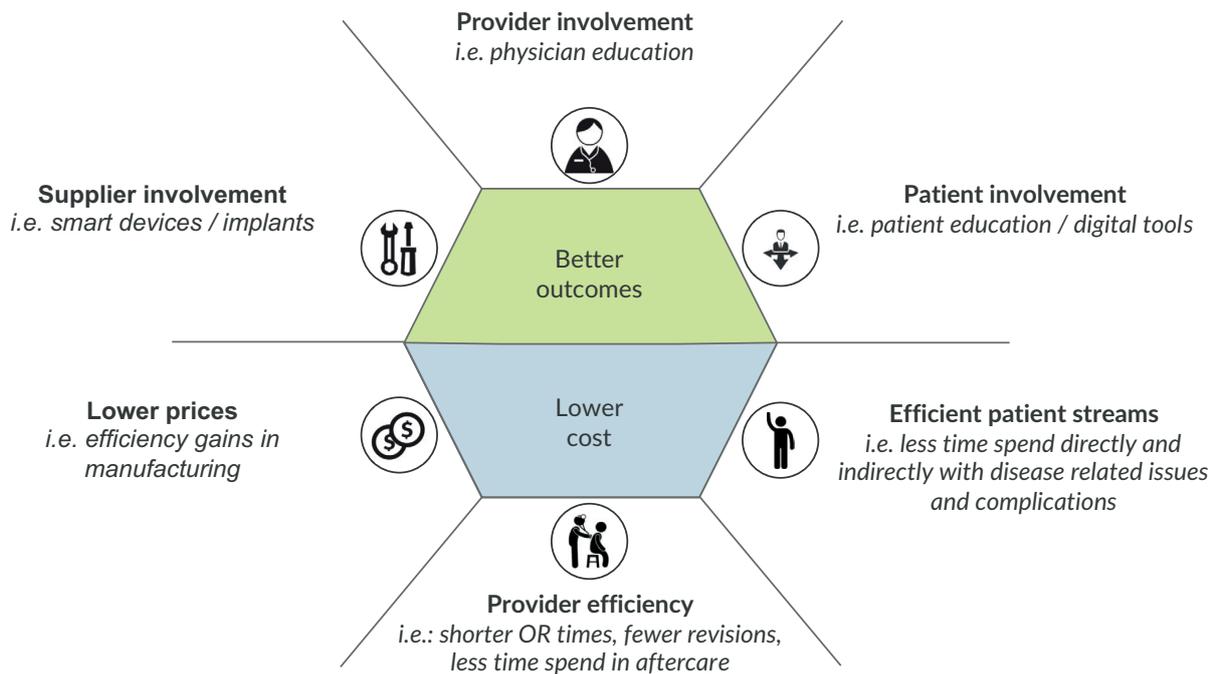
To access value-based procurement in a transparent and rational manner, it is important to determine the benefits and expenses that are to be optimized. The idea is that healthcare organizations maximize value for patients. Value is defined as the outcomes relevant to the patient (e.g. quality of life) compared to the cost that that entails.

The top of the “diamond” of value-based procurement (see Figure 212) is better outcomes for patients. This may be due to better products, better care by doctors and health professionals or better care by patients. The bottom of the “diamond” is the cost: again the cost of products, personnel and the patient. Now procurement does not have a monopoly on delivering value. In the contrary, this is often not part of the mandate of procurement. However, procurement can actually influence each part of the diamond.

<sup>16</sup> See [http://www.gupta-strategists.nl/storage-files/Gupta\\_strategists-BigData\\_The-world-is-a-clinical-trial.pdf](http://www.gupta-strategists.nl/storage-files/Gupta_strategists-BigData_The-world-is-a-clinical-trial.pdf)

<sup>17</sup> See [https://gupta-strategists.nl/storage/files/Gupta\\_strategists-Overig-studie-No-place-like-home.pdf](https://gupta-strategists.nl/storage/files/Gupta_strategists-Overig-studie-No-place-like-home.pdf)

Figure 22 - The “diamond” of value-based procurement



The full review of all aspects of the diamond takes time. A first pragmatic step is to define the additional cost and the additional value of innovation from the product. Here, the reference point is the common alternative.

There are many different ways to define the added value. In this approach the increase in the number of Quality Adjusted Life Years (QALYs) has been selected. There are also alternative measures of added-value conceivable, for example: less pain or fewer inpatient days, lower chance of complications, etc.

When an innovation is much more expensive than the conventional alternative, and the added value is small or unproven, the hospital should not use the innovation, unless there are circumstances that justify its deployment. In the opposite scenario, where innovation has a low cost, but the added value is large, the hospital should try its best to get the innovation to the patient as quickly as possible.

The response to innovations in the other scenarios is less obvious. For example, if a hospital is presented with a marginal adaptation of an existing product for a small fee, or if the added value of the innovation is not clear. Scrutinizing on the basis of facts is necessary here; many innovations fall into these categories, and it is appropriate to compare the added value to the additional cost, otherwise procurement cost increases rapidly without an equally rapid increase of the added value for the patient.

### 4.3 VALUE-BASED PROCUREMENT APPLIED IN PRACTICE

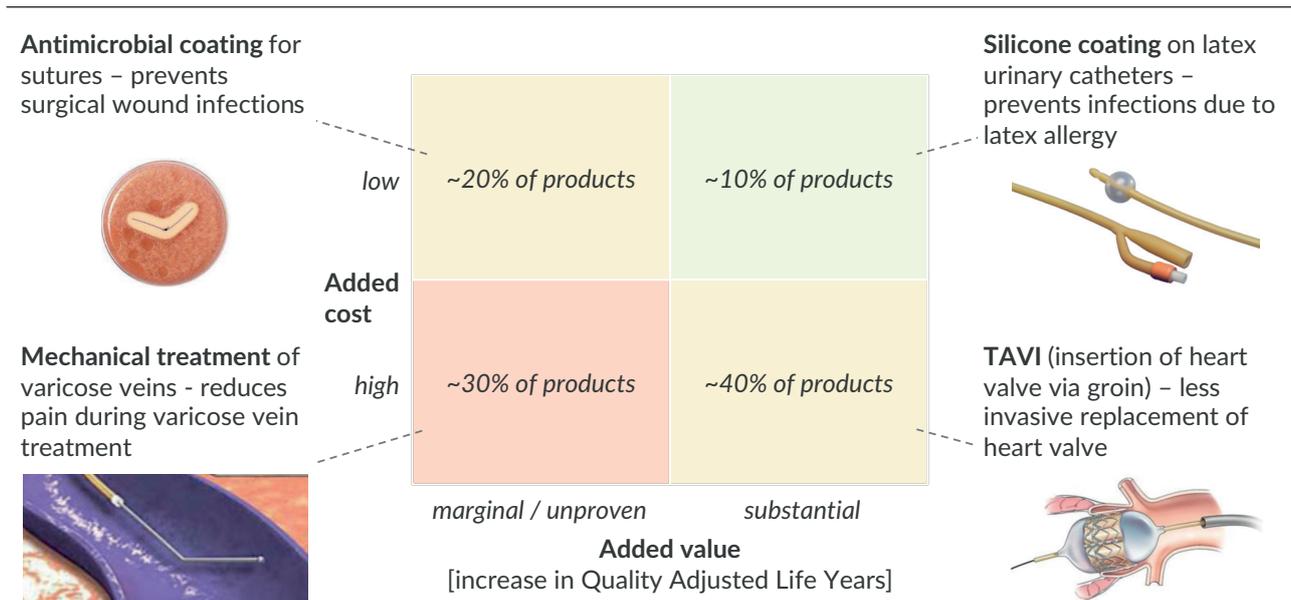
To demonstrate the use of the procurement framework, Figure 22 shows some example. In this example we once again choose QALYs as the outcome measure. This is the ultimate outcome, and this relates to the aims for healthcare in the various National Visions and National Health Strategies of the GCC countries.

Because this is not adequately measured for all diseases, we work with translation tables that convert other outcomes into QALYs. This creates a uniform consideration framework for all the diseases. An example of an innovation that, based on the criteria falls in the category of “direct use”, is the application of a silicon coating on latex urinary catheters. The additional cost of the application of a thin coating on the latex base are low. A direct comparison however cannot be made, because uncoated latex catheters are no longer available. Many patients with a latex catheter suffered from strong side effects (narrowing of the urethra), caused by latex allergies and cytotoxic effects of chemicals that were released from the latex. These effects are almost entirely eliminated by the application of the silicone coating.

A more recent application of coatings, however, asks for a more critical assessment as per the framework. The use of antibacterial coating for sutures has less value, partly because the surgical infections that it aims to prevent are rare (~ 0.3% of operations). Moreover, the result of an infection is often “only” a few extra days in the hospital and the risk of dying because of a surgical site infection is low (~ 4%). But the additional cost compared to normal sutures are not high.

Figure 22 - Products can be divided into quadrants based on additional cost and added value

#### Extra quality / outcome versus extra cost of innovations



Another innovation for which a hospital should make a critical assessment is the deployment of a TAVI, by which a heart valve is inserted through the groin. The surgery is less invasive than open-heart surgery and provides demonstrable additional QALYs for the patient. However, the procurement cost of this procedure are almost 10 times higher than the materials needed for open heart surgery, because an expensive expandable heart valve is used.

Finally, there are those innovations which the hospital should not deploy. An innovation that could fall into this category is the mechanical treatment of varicose veins. The procurement cost are more than two times higher than the cost of alternative (radiofrequency ablation), while the added value for the patient, in terms of qualitative life extension has not been established in the medical literature.

Hospitals that compare cost and outcomes should prepare for the ultimate question: if a new product demonstrably leads to better results, but it is expensive, where do you draw the line? This obviously is also a social question that lies with the payers and government. There is a role to play for hospitals, to be critical to the value of innovation and look at the benefits using facts, for example based on cost (USD) per healthy life year (QALY).

It takes some getting used to considering medical treatments analytically from a cost-benefit perspective. But we have no choice, given the high spending that we have in the GCC and the fact that the gains in terms of QALYs lack behind compared to other countries. Moreover, we invest billions in EMRs, accounting and financial records. The only way to recuperate these investments is to really use all this data in the public interest: a long and healthy life at the lowest possible cost.

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## METHODOLOGY

The purpose of this study is to contribute to the regional knowledge on hospital procurement, provide relevant insights and highlight important trends. Based on estimates on market size and procurement cost in the GCC and our knowledge and expertise, we drafted concrete recommendations.

We used the following methodology to determine these estimates:

1. WHO provides numbers for total health expenditure
2. We used National Health Statistics reports to determine the share of hospitals of the total health expenditure
3. We used GS Health knowledge derived from projects and market insights and various academic reports and sector studies to determine the share of procurement cost within hospitals. This is not a straightforward calculation since the data is not available for each country, , therefore we extrapolated and combined various sources

Estimates were validated by various experts in the field



