



The health(care) future of the Netherlands

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Reading time: 15 minutes

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Numerous perspectives on the future of Dutch healthcare have already been published, focusing on topics such as Artificial Intelligence (AI), Virtual Health(care), digital transformation, data interoperability and 'the right care in the right place'. However, many of the parties involved still seem to struggle with the challenge of bridging the gap between inspiring visions for the potential long-term health(care) landscape and the concrete priorities for the coming years.

In this article we aim to add value to the debate on the future of health in the Netherlands in five ways. We start by describing the 'case for change' and why, as Dutch society, we can, want and must improve healthcare. We then provide greater focus and coherence to the many and diverse future developments by clustering them in **five major shifts**. We describe the resulting **new health ecosystem** and its consequences for traditional and new healthcare providers. We discuss the **pace** of these changes and the role of COVID-19 as a catalyst. Finally, we attempt to translate this future vision into **concrete next steps** for the year ahead.

Despite some uncertainty about the shape of the future healthcare and the pace of the shifts described here, there does seem to be clarity with respect to the direction and contours of the changes. Taking the right actions at the right time will offer huge potential and enable leaders to make a significant contribution to even better healthcare in the future.

This article is the first in a Deloitte series on 'The health(care) future of the Netherlands', which presents the main themes involved. In subsequent articles, we will elaborate on these themes in more detail, together with the leading parties in the health ecosystem of the future.

1. The case for change: why we can, want and must improve Dutch healthcare

What we want to achieve for health in the Netherlands: the four main objectives

Any discussion about possible healthcare improvements must be based on the desired objective. We follow the 'Quadruple Aim' in this. The first three objectives (the Triple Aim) are to improve public health, enhance the quality for individual patients and keep per capita healthcare costs affordable. The fourth objective is to reduce the workload and increase job satisfaction for the (increasingly scarce) healthcare professionals who play such a key role in achieving the first three objectives.

Here it is important to note that optimising public health involves more than simply looking after patients. It starts with a healthy lifestyle and prevention of diseases in the population as a whole. It is then followed by the curative aspects of patient diagnosis, treatment and aftercare.

Our current healthcare ecosystem: four types of players, emphasising healthcare for patients

Our current Dutch healthcare ecosystem is still largely a **system aimed at healthcare rather than health**. A key element is the timely and correct diagnosis of a **patient** and offering the right treatment, followed by appropriate aftercare and medication at home. Lifestyle and prevention are obviously considered but most resources (time, money and attention) are assigned to interventions and aftercare.

The main players in this healthcare ecosystem therefore focus on **healthcare** for the **patient**. We divide them into four categories (the examples per category are a selection and therefore not exhaustive):

- **Providers:** hospitals (academic hospitals, 'top clinical' hospitals, general hospitals and private treatment centres), mental healthcare, residential and home care services and primary care
- **Payers:** health insurers and municipal authorities, as well as banks and investors
- **Suppliers:** pharmaceutical companies, medtech companies and various other parties (including ICT and service providers)
- **Government and regulators:** Ministry of Health (VWS), as well as the Dutch Healthcare Authority (NZA), Zorginstituut (ZIN), and the European Medicines Agency (EMA)

Why we can, want and must improve healthcare in the Netherlands

There are three driving forces of change in healthcare. These are technological trends, consumer behaviour trends and demographic & economic trends. To put it more simply: we **can**, **want** and **must** improve Dutch healthcare.

We **can** improve healthcare, in terms of both costs and quality:

- Ongoing technological developments and decreasing costs of technology make it much easier for us to provide healthcare outside the hospital and close to the patient, through remote monitoring, diagnosis and consultation, for example;
- Combined with better data analysis techniques, the 'data explosion' enables personalised intervention to prevent diseases or their progression.

We **want** to improve healthcare and achieve a better user experience and quality:

- Healthcare is not a luxury consumer product. In other words, patients do not need to be targeted as healthcare consumers who should be spoiled. However: in this era of Netflix, Uber, Amazon, Zoom and mobile banking, where the world comes to us, on demand, fast, efficiently, in a data-driven and user-friendly way, is it acceptable for the healthcare sector to lag so far behind? Preventing consumerism is no excuse for an unpleasant and inefficient user experience;
- This is not merely about the user experience. Patients and the general public increasingly want personalised advice based on insights from their data. This must lead to better quality healthcare and ultimately to lower costs.

We **must** improve healthcare and provide more effective solutions

- Ageing and the rise in chronic disorders, in combination with innovative but expensive therapies, lead to rising healthcare costs (which are outpacing our GNP);
- The pressure on government budgets is translated into pressure on health insurers and hospitals, for example by limiting volume growth via a governmental measure ("hoofdlijnen akkoord");
- Besides the financial pressure, we also face growing shortages of qualified healthcare staff, alongside increasing stress and dissatisfaction.

2. The Future of Health(care): five major shifts

It is difficult to predict what the healthcare landscape will look like in the future or when the changes will occur. However, the direction of the changes seems clear. In any event, we believe that five major shifts must be taken into account.

1. From healthcare to health: more focus on lifestyle, prevention and early diagnosis

There is a shift in focus from healthcare to health. More resources (time, money and attention) will be allocated from the end of the health chain (treatment and aftercare) to the start. There will be a greater focus on promoting a healthy lifestyle, vitality and wellness, on primary and secondary prevention and on early diagnosis.

2. Virtual Health(care): (truly) patient-centred healthcare

The second shift is from a (logistical) supply-driven model of healthcare at a (hospital) location to Virtual Health(care). Healthcare will be much more patient-centred, with a 'digital first' motto. The current system still favours the healthcare professional, not the patient. Logistics is a major component of the patient healthcare journey: they need to make calls, arrange appointments, travel to and from the hospital and spend time in the waiting room. We are moving towards a more flexible system, where patients are more empowered and have more input. Patients can monitor and regulate far more at home, only visiting the hospital when absolutely necessary. Virtual consultations will be the norm.

3. Data-driven and personalised ('N = 1') health insights and interventions

The third shift is from treatment based on standard protocols to personalised, data-driven insights and interventions. A new value chain will emerge around health data. Individuals are experiencing a data explosion through wearables and growing numbers of 'always on' sensors in the home, at work and in the medical environment. This data will increasingly be used for personalised insights and interventions, and primarily aimed at vitality, prevention and early diagnosis. This will create a new data value chain, offering interesting opportunities for existing healthcare players and new entrants. These value creation opportunities will be in data collection, for example through sensor technology and the Internet of Things (IoT). But also in data analysis (through AI and machine learning), translating analyses to personalised insights and interventions for patients, and accessing these insights through a user-friendly visual interface (apps). These data value creation opportunities are based on combining different datasets, so we need to ensure data interchangeability through secure data platforms.

4. Future of work in healthcare: a new 'what, where and how' for healthcare professionals

The role of healthcare professionals will change dramatically in terms of the kind of work they do, where they do it and how they do it. A fundamental change is the way healthcare professionals will be supported by robotisation, cognitive automation and AI. Healthcare professionals will be able to spend considerably less time on data collection and administrative processes, freeing them up for a more personal approach, quality and safety. They will be less likely to be associated with a specific institution but work more from their own homes and/or a central location. Permanent contracts will be less common, with health professionals working more in networks or district teams, perhaps under their local municipal authority.

5. New funding and business models: more focus on promoting population health

Funding will also need to change in this new health ecosystem. Silo budgeting, with separate funds for primary healthcare, hospitals and healthcare, is not consistent with integrated patient health management. A 'fee for service' payment model has no place in a world of data-driven prevention. New funding will also produce new business models for traditional and new players in the health ecosystem.

3. The new health ecosystem: new roles and alliances

The five shifts will result in a new health ecosystem that is no longer primarily focused on patient healthcare but on improving the health of the population. The four traditional healthcare parties will continue to be part of this ecosystem, but in a different form and role. New entrants will supplement the 'healthcare chain', mainly focused on value creation based on personalised health data. This will generate insights into the improvement of wellness, vitality and prevention and will enable them to facilitate Virtual Health(care) solutions. New alliances will emerge between these new and existing parties, with health data being an important binding factor.

New entrants in the health ecosystem: responding to the five shifts

New players in the health ecosystem will respond to the five shifts. They will focus on data and platforms, for example data gathering (collection, connection and security), data analysis, translating analyses in terms of personalised interventions and the necessary underlying infrastructure for data platforms. New entrants will also focus on new solutions relating to vitality and wellness and on secondary prevention with respect to chronic patients through lifestyle interventions (diet and exercise), monitoring and improving compliance with therapy. Further solutions for offering and facilitating Virtual Health(care) will also attract investment.

Some major tech parties from outside the healthcare sector are typical foreign examples of entrants to the new health ecosystem: Google, Apple, Amazon and Microsoft. Retailers like Walmart are also investing in healthcare, as are financial parties like Berkshire Hathaway and JP Morgan Chase (in combination with Amazon).

After an initial orientation, we expect leading Dutch companies in the food industry, retail, financial services and telecoms to redouble their efforts to carve out a role for themselves in the new health ecosystem. Alliances with existing parties will be a key success factor here. They will not replace the existing parties but collaborate with them.

Besides the big established companies from other industries which will focus more on healthcare, we expect strong growth in start-ups aimed at healthcare and scale-ups in the health data value chain, particularly in areas like AI.

Traditional healthcare parties: changes in role and form

The existing parties in the health ecosystem will partially adopt a new form and role in the new system. Below we will discuss some initial examples.

Hospitals will take on a different role in the regions. Due to successful prevention, early diagnosis and insights into appropriate care ("Zinnige Zorg"), a significant part of the current care they provide will no longer be required. Some care will still be provided, but in virtual form, so outside the hospital or at other locations in the regions, such as in primary care or long term care institutions. Acute and complex care will be divided among the hospitals in a region, creating more distinctive 'Centres of Excellence'. Medical staff, including doctors and nursing staff, will be less bound to the physical location of the hospital and their roles will change in response to the growing use of robotisation and AI. This will have a major impact on portfolio choices, infrastructure decisions and discussions about financial stability and business models. Hospitals must also consider the value of the data they generate, how they can valorise this data and with which partners.

Residential care, nursing homes and home care providers will take up some of the volume from the hospitals, requiring close collaboration with these hospitals. Ageing will pose the greatest challenge to these providers in terms of providing long-term complex healthcare despite scarce human resources. They will therefore put more emphasis on implementing major digital transformations. The accelerated introduction of digital healthcare will generate greater demand for more extensive digital capabilities to keep pace with technological changes, both now and in the future.

Primary care providers will start to focus more on prevention, with respect to both physical and mental health. With all the new technological possibilities, the role of GPs could move further towards that of 'case managers' for their patients, who can also act as guides to help patients through the many possibilities. Based on a good overview and insight into the data, GPs will also be able to create an even more personalised approach, together with their patients.

Health insurers will play a crucial role in forming a regional vision: the 'right care in the right place' in the region, including the shift towards Virtual Health(care). Based on this vision, the funding will be designed to facilitate and support healthcare providers in this transformation. Working with other parties in the ecosystem, they will also use their data more often to improve vitality, prevention and early diagnosis.

For **pharmaceutical companies** different considerations apply to the local affiliates in the Netherlands than to global headoffices. As our focus is on the future of healthcare in the Netherlands, we explore the role that the local affiliates could play in this. Their main ambition will be to act as partners for hospitals and insurers to facilitate the right care at the right place in their therapeutic focus areas. They will contribute to a healthy population (beyond just providing the medication) by concentrating on lifestyle interventions and education, and investing in prevention, faster recovery and better treatment outcomes. They will also promote value-based healthcare by optimising diagnoses based on testing for a more efficient use of medication for the right type of patient (personalised medicine).

The main issue for the **government** is how it can play a cohesive, stimulating and facilitating role to ensure that the various stakeholders in the healthcare system can create value together. The top priority here is to amend obstructive regulations, for example relating to data exchange.

New ecosystem alliances: value creation and distribution

Interesting alliances will arise between the new and traditional parties in the ecosystem. New parties bring specific knowledge of data analysis and perhaps large investment budgets. Existing parties provide healthcare knowledge and enjoy the trust of the 'healthcare consumer'. Recent examples of alliances include Google and health insurer Oscar, or Walmart and health insurer Humana. Many of these alliances are based on creating value by combining and analysing datasets and converting these into interventions that save costs or improve quality and the user experience.

A successful alliance starts by identifying the individual ambitions and knowledge of the parties. In which areas of the healthcare chain can and do we want to add societal value: by improving public health, the quality for patients and/or the costs of healthcare? Or by reducing stress and improving job satisfaction among healthcare professionals? Which part of this societal value can we retain and where does it come from? In other words, who pays for the value-added solution that we offer?

The next question is how collaboration with an ecosystem partner adds value. Which value do the parties bring and where do the synergies lie? How do we distribute the value that the coalition itself can retain? And how do we ensure a balanced division of the investments and risks?

4. The pace of change

In discussing what can and must be improved, it is easy to underestimate the results already achieved by the various healthcare parties. Hospitals have made substantial investments in measuring and improving quality. Health insurers have played an important role in targeting higher quality at lower costs and in stimulating efficient care. The pharmaceutical industry has developed medicines that have saved, prolonged and improved many lives. Cooperation in the healthcare chain has also improved in many fields (e.g. in relation to diabetes and COPD) and there are many technological innovations making remote healthcare easier and more accessible.

Nevertheless, many challenges have not been sufficiently overcome yet. The financial pressure on the system is still growing and hospitals are struggling to find sustainable business models and achieve structural financial stability. Developments in prevention, the right care in the right place and digital innovation tend to represent a financial threat rather than an opportunity. There is a shortage of healthcare staff and their workload continues to grow. Innovations (like the provision of remote healthcare) and regional cooperation often shows only slow progress. The right approach, incentives and direction, for example, are still often hard to find. The various ecosystem parties such as health insurers, hospitals and pharmaceutical companies often end up in 'zero sum' discussions on prices and do not always manage to create added value together. Meanwhile, people who need healthcare still too often experience our supply-driven system as a bastion of user-unfriendliness, with limited access to information and inefficient logistics.

The healthcare system is sometimes resistant to change, perhaps more so than other sectors. How can we explain this and how do we break through it? And what impact will COVID-19 have, as a potential catalyst of the five major shifts?

Overcoming obstacles to change

To understand why healthcare changes are not always implemented, or not in a timely manner, it is useful to return to the factors of 'can, want and must'. Even if we can, want and must do something at system level, this may not apply to all the individual stakeholders involved.

To begin with 'can': many healthcare professionals still find it difficult to use all the various technological improvements. With an already high workload, they may not always feel they have the time or opportunity to learn about them, deviate from existing methods or experiment with new ones. The capacity and execution power for change is also often limited in healthcare organisations.

The second challenge is 'want'. A good example is prevention. Improvements in health and cost savings clearly create value for the society. So as an overall system, we do want this. But for the hospitals and the individual medical specialists, prevention is often not an advantage but a disadvantage in financial terms. They lose revenue and receive no returns for this. This is not to say that they do not make any efforts in this direction, because the societal objectives may outweigh the financial disadvantages for them. However, it is important to be aware that this is certainly not always a win-win situation.

This brings us to 'must'. With fundamental changes, it is not always possible to satisfy everyone. In many cases, embarking on a change process with unanimous consent is a utopian dream. If a majority wants something but a minority does not, a breakthrough can be forced because this is a 'want' for the majority and a 'must' for the minority. Leaders, such as hospital boards, must weigh up the advantages and disadvantages for the different groups, reaching the right decision for the collective. In healthcare, they do not always appear to have been given that mandate or are not using it as individual doctors have substantial obstructive power.

What is needed to overcome such resistance? For the 'can', it is important to invest in the right infrastructure, tooling and training. For the 'want', it is important to create and communicate a clear vision on value creation and distribution. The government and insurers and the way they design the funding play a major role here. For the 'must', it is important that the leadership teams of the various healthcare parties really demonstrate leadership. The business and medical leaders must join forces to do the right thing for their institutions and the populations that they care for and not be held back by the resistance of a small minority.

The role of COVID-19 as a catalyst

Despite the major short-term impact of the COVID-19 pandemic on our healthcare system (2020 and 2021), we do not expect it to add a significant long-term shift to the five shifts discussed in the preceding chapters. Much of the impact will be temporary (12 to 18 months) until a vaccine is available for the most vulnerable groups, the gap created by delayed healthcare has been closed and the financial damage is divided across the chain.

The main question then is which shifts will be accelerated by COVID-19 and which will be delayed. We mainly expect the COVID-19 pandemic to have an accelerating impact on Virtual Health(care). This drove the rise in phone- and video-consultations, as well as the adoption of remote testing and diagnosis and data analysis generated by coronavirus apps. A small reversal will follow when physical appointments are possible again. A virtual consultation is not always a good alternative to a physical appointment, for example if an explanation of a complicated diagnosis or treatment is needed.

Meanwhile the logistical and cost benefits are evident and some factors slowing the adoption (such as resistance from doctors and financial fees) will remain lower. We do expect hospitals and other parties in the healthcare ecosystem to seize the momentum for Virtual Health(care). They will do this firstly by creating a sequence: which types of care processes and patient groups qualify first for a shift towards Virtual Health(care)? Secondly, investments will also be required in the right technological infrastructure and appropriate training of medical professionals to enable them to use these technologies properly. Good structural agreements on a sustainable business model must also be reached with health insurers and capacity planning must be tailored accordingly.

A frequently heard statement by healthcare professionals is that the Virtual Health(care) 'genie is now truly out of the bottle' as a result of the COVID-19 pandemic. If this is true, it is one of the most positive changes that will emerge from this serious crisis.

5. Most important next steps

It is important for leaders in the current healthcare ecosystem and leaders of companies wishing to play a role in the health ecosystem of the future to develop a strategic vision of future Dutch health(care) and of the role that their organisations can and want to play in this. Of course, it is also possible to wait and see what the future brings. However, to play a leading role and keep control over our own future, it is important to anticipate the shifts described in this article now.

Firstly, this means developing their vision of how the health requirements will change in the coming years for the specific population (e.g. the population of a region, or specific groups of patients or healthcare consumers) on which the organisation is focusing. Which needs will increase and which will diminish? What is the best way and the best location to meet those needs, given the developments in Virtual Health(care), value-driven healthcare, data-driven personalised interventions, and a growing focus on prevention and early diagnosis? What role will our own organisation then play in that network of care (and healthcare) providers around the individual? How do we become a leading, excellent party in that role? What are our specialist fields and skills? Who are the best partners to work with in these fields, what value is created with those partnerships and how should that value be divided? What does this all mean for our investments in infrastructure and employees? How do we ensure a sustainable business model that is consistent with this future vision? How do we ensure that all internal stakeholders are on board and that as an organisation, we have a shared vision of what we can, want and must do in relation to the future?

We hope that this article has helped by providing an initial overview and hence a mirror for the future vision based on how the various players now operate and a good basis for the continued evolution of that vision. We would be happy to embark on a dialogue to elaborate on that future vision and make it more concrete together.

As we mentioned, this article is the first in a Deloitte series about the health(care) future of the Netherlands. Subsequent articles will develop these themes in more detail, together with leading parties in the health ecosystem of the future.

Deloitte wants to play an active role in the health ecosystem and to strengthen and accelerate the improvements described in this article. We will do this through multiple events: hackathons, roundtable discussions and C-level dialogues. The aim is to bring together the various parties in the new health ecosystem and explore which alliances can create value.

We look forward to an interesting journey together towards the health(care) future of the Netherlands.

We are more than happy to start a conversation with you, supported by [this visual](#), about what you must, can and want to improve.

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Value creation and value distribution in the Dutch health ecosystem

An exploration of money flows and business models in the health ecosystem of the future

[Lees de Nederlandse versie](#)

Authors: John Luijs, Nicole Lentink and Lucien Engelen

Reading time: 20 minutes

In the article [The health\(care\) future of the Netherlands](#), we discussed five major shifts that will shape the Dutch health ecosystem of the future. These five shifts have the potential to create a great deal of value for Dutch citizens: we can gain years of healthy lives for lower costs. The shifts should be driven by innovations of parties that are currently already active in healthcare and of new players within the healthcare ecosystem. In exchange for the resulting value that they create for Dutch citizens, there should also be value for them to distribute. Nevertheless, the reality appears to be different.

For the existing healthcare ecosystem parties, value creation can be an elusive phenomenon. Initiatives that work well locally are not always upscaled sufficiently. However, initiatives that start on a larger scale become stranded in too much complexity. Besides the challenges relating to scale versus complexity, these parties also face conflicting stimuli in our system. In our system, the party with a key role in creating the added value can consequently lose out.

For the new players in healthcare, our current healthcare ecosystem can seem a complicated labyrinth. A place with many stakeholders, established interests and inadequate market forces. These companies come from ecosystems with market forces where 'value creation for an end-customer' leads to a 'return on investment' in the form of a larger share in the 'profit pool'. To them, healthcare often seems to be a place with a different language, where a different logic applies.

How can we unlock the potential value of the healthcare ecosystem of the future?

This article starts by discussing the value potential of the five shifts and the challenges for realisation. Followed by a point of view from outside healthcare, in order to reveal the special dynamics of our current healthcare ecosystem. Based on our knowledge of and experience with other ecosystems, we offer an overview of typical ecosystem market forces dynamics in relation to value creation and value distribution.

We use this to describe the current money flows in healthcare: who pays whom how much, and for what? After that we translate these insights into five fundamental system-level discussions that we feel must be taken into account in the debate on [the future of Dutch health\(care\)](#). We close this conceptual experiment with a concrete suggestion for a roadmap for value creation in the health ecosystem of the future.

1. The healthcare ecosystem of the future: value potential and challenges for realisation

1.1 Value potential: largely avoiding an increase of €74 billion in healthcare costs

We currently spend around €100 billion a year on healthcare in the Netherlands, or about €6,000 per resident per year (Statistics Netherlands (CBS), 2018). According to the National Institute for Public Health and the Environment (RIVM) and other sources, if we continue in this way, this will grow towards €174 billion in 2040, or more than 16% of GDP. Besides the financial pressure, the pressure on the available staff will continue to rise even further. According to RIVM forecasts, about a quarter of the Dutch workforce will need to be working in healthcare in 2040, adding to the chronic shortages of trained healthcare employees we are already seeing now. Apart from the challenges in terms of costs and staff recruitment, improvements can be made in healthcare in terms of quality and the 'user experience' of patients.

In our article ['The health\(care\) future of the Netherlands'](#), we summarised the above with the statement that we can (technological advancement), want (quality and user experience) and must (unsustainable cost increase and pressure on staff) improve healthcare.

This improvement will be driven by five parties in the healthcare ecosystem:

- Existing care providers: including hospitals, long-term care institutions, mental healthcare institutions (GGZ) and primary care
- Their suppliers: including the pharmaceutical industry, MedTech and Health IT
- Payers: health insurers, the government as well as banks and private financiers
- Regulatory institutions: including the Ministry of Health, Welfare and Sport (VWS), the National Health Care Institute and the Dutch Healthcare Authority (NZA)
- New players in healthcare, from e.g. the technology and retail industries

What is the value that these parties can jointly create for Dutch citizens? The present expenditure of €100 billion primarily consists of the costs of healthcare, in the form of diagnosis, interventions, nursing, care, medication and accommodation. The €74 billion increase over the next 20 years concerns these healthcare costs. About one third of these are driven by an ageing population and two thirds by technological innovations (e.g. in the field of medicines and new surgical interventions). In the current (RIVM) forecasts, technology will therefore lead to more and better treatments, but also to soaring costs.

The challenge for the healthcare system of the future therefore primarily involves avoiding that €74 billion increase. This can be achieved by investing in innovations that promote health and prevent healthcare, including the accompanying earning models. These innovations are part of the shifts discussed in the previous article: 'from healthcare to health', 'virtual health' and 'data-driven personalised interventions'. This leads to prevention of (the progression of) chronic disorders, better treatment of disorders, more appropriate and meaningful care, and care at the right location - with precedence for digital applications. In addition to preventing the increase in healthcare costs, this must also lead to improved welfare and higher labour productivity. We do not suggest that these innovations can prevent all new costs, driven in part by ageing. A large part of preventing the increase of 74 billion euro making the current 100 billion euro of care spending even more efficient.

In our view, the role of employers in this respect is underestimated, both in terms of the costs that they bear for absences and in terms of the impact of the role that they can and are increasingly willing to play.

We refer to the €74 billion to be saved (as opposed to the 'doing nothing' scenario) as 'the well being dividend'. This can be divided between Dutch citizens (who will keep more spending power for other things), the government (which will have more budget for other social issues) and the parties that offer these health solutions.

The value for Dutch citizens is clear. Instead of a future in which ultimately, 16% of our income will be spent directly and indirectly on collective healthcare needs, we will face a substantially lower rise in costs and remain healthy for longer.

But what is the added value for the parties in the healthcare sector who offer these health solutions? In theory, these parties can distribute part of the welfare dividend. Part of the €74 billion that we will not spend on additional healthcare costs can be spent on solutions relating to health, based on new earning models. In addition, part of the current €100 billion will be spent differently, for example on digital infrastructure rather than physical infrastructure and on investments in technology rather than investments in labour. This shift creates major opportunities for new entrants, but also threats for existing players.

We already see this dynamic occurring in other countries. The US, where tech parties like Apple, Google and Amazon are focusing more on the healthcare market, as are retail parties such as Wal-Mart and CVS, is a typical example of this. To what extent will we also see these developments in the Netherlands? We discuss this in more detail later in part 4 of this article.

1.2 Challenges: who profits from healthcare innovations?

As we mentioned in the previous article, although we 'can, want and must' do something as an ecosystem, this does not mean that all actors in that system will actually do this.

Financial incentives in the system are among the greatest challenges. These lead to some parties being unwilling to implement the necessary changes, because their disadvantages appear to outweigh their advantages. Do existing healthcare providers benefit from investments in prevention, or does this only lead to a loss of revenue and profits? Even if profit maximisation is not the objective, a certain result is necessary to be able to guarantee continuity of operations. The stimuli provided by the government and insurers are often still vertically positioned (within their own institution or healthcare silo), while a horizontal model (stimulating more chain cooperation and prevention) would be more appropriate in this phase.

For new entrants and investors, the question is to what extent they can achieve returns on their investments in innovations that lead to better health. The logic of the market is that they invest capital in activities that add value for the end-customer in the system, and in exchange for that value, receive part of the money flow, part of which they can convert into profits for their shareholders. But in that case, who is that 'end-customer' in healthcare? And is that 'end-customer', and are the payers that it mandates (e.g. health insurers), really willing to pay for the extra quality and user experience that they can offer? Are there good earning models for 'staying healthy' as opposed to treating illness? And are there restrictions on the profits that can be made from this?

Incidentally, we do not want to suggest in any way that a patient is a customer, but because of the conceptual experiment, we also use terms from other sectors. In addition, a patient does expect similar processes in other sectors in the role of a consumer.

It may be a conscious choice to want to keep out such new entrants and private investors, because there is no place in healthcare for players with a profit motive. However, this is not consistent with the current reality. Significant profits are already being made in healthcare, however, not by the care providers but by their suppliers, such as the pharmaceutical industry, MedTech and health IT.

Removing the incentive for private innovation also means that there must be more active steering of public innovation and public investment in a better 'healthcare infrastructure'. The answer may be that there is a need for private innovation and infrastructure in some places and not in others. Developing this more clearly would provide strong guidance for the different parties in the healthcare ecosystem.

In short, we have a challenge relating to value creation and value distribution in healthcare. The value creation is not always clear: what does a particular improvement achieve concretely for which target group in comparison with the existing alternatives? In relation to value distribution, the incentives in the system do not always appear to stimulate innovation by the right parties in the right places.

2. Value creation and value distribution in ecosystems: five preconditions for success

In this chapter, we describe the main features of a (non-healthcare) ecosystem driven by market forces, followed by five preconditions for successful value creation and value distribution in such an ecosystem.

An ecosystem with market forces essentially consists of four elements:

- Every ecosystem starts with an end-customer with certain needs and the willingness and ability to pay to meet those needs
- These needs are fulfilled by products and services
- These are supplied by an ecosystem of parties in different steps from the end-customer (e.g. 'distributor', 'producer', 'suppliers of raw materials')
- In exchange, the ecosystem receives a money flow from the customers, in the form of the volume that they (as a group) buy, times the price that they pay
 - That money flow forms the total revenue for the ecosystem, which we can divide at the total ecosystem level into salaries (remuneration for work) and profit (remuneration for capital), defined as the 'profit pool'
 - In 'private' ecosystems with strong operation of market forces, this profit pool is one of the main drivers of innovation and disruption. This is also what attracts new entrants

We will use these four elements to define the money flows in the existing healthcare ecosystem more clearly. We will then use the five preconditions for value creation described below to validate the dynamics in the healthcare ecosystem.

2.1 Value creation for the end-customer

The first precondition for successful value creation in an ecosystem is value creation for the end-customer. In a stable situation, the ecosystem meets the customer's needs with a particular quality and user experience, for particular costs. Value creation for the end-customer takes place if the quality and user experience rise (in relation to the price) or if the price falls (with constant or at least a relatively smaller decline in quality).

It is therefore important to be clear about the precise target group, their needs and the extent to which these could be met more effectively through innovation in products and services in relation to the existing solutions.

2.2 Willingness of end-customers to pay for this

The value creation for the end-customer is the result of an innovation by one or more parties of the ecosystem. This may be an existing party or a new entrant. In order to realise these improvements, ecosystem players must invest resources (time, money, management attention) and take risks. These resources are allocated from the existing products and services to the new, improved versions. Ecosystem players have an incentive for this resource allocation if the customer is willing to pay for this improvement.

This willingness to pay is different for a quality improvement than for an efficiency improvement. A quality improvement (that is not linked to an efficiency improvement) should be rewarded with a higher money flow to the ecosystem. This may be through higher volumes, because the product appeals to more customers, or through a higher price, because customers are willing to pay (more) for the new product.

The other form of value creation for the end-customer is a price reduction, because an ecosystem party can supply a product or provide a service for lower costs. This could be a new entrant with a digital model with far lower costs, for example. The end-customer's 'willingness to pay' lies in the fact that the provider does not have to pass on part of the efficiency improvement to the customer (in the form of lower prices) but may keep this itself. This then leads to lower ecosystem revenue, but with a larger 'profit pool'.

2.3 Return on investment for the innovator through the right earning model

If the first two preconditions are met, there is relevant value creation for the end-customer for which this end-customer is willing to pay. An additional money flow therefore arises (or a larger profit pool as a result of efficiency benefits that are not passed on in full) to the ecosystem that realises those improved (or cheaper) products and services.

In a system with market forces, it is important that the party that is the primary driver of the improvement may keep a significant part of that additional money flow or profit pool as a return on the invested resources and the risks taken. If this does not happen, there is no incentive to innovate, even in places where such innovation must take place.

Even if profit, or profit maximisation, is not the end goal, the innovating party does allocate resources for this improvement, and risks are taken. If this is not rewarded, the result is value destruction for that party and consequently, a disincentive for innovation.

2.4 Value surplus for the other necessary ecosystem parties

Many improvements require the cooperation of multiple ecosystem parties. For example, the producer implements a product improvement, but the distributor must also change its processes or learn new skills in order to sell this and thus incur costs and invest resources for that purpose. In that case, the distributor also expects to profit. This is an example between links in the chain. An example within one link of the chain arises if a single supplier does not have sufficient scale itself to realise a particular improvement and needs multiple other suppliers to make this successful.

It is therefore important to understand which parties are necessary as ecosystem partners, what their costs and benefits are for this improvement and how to make this positive. Disincentives are also important: there must also be a cost for 'not taking part'. In other words, it must be possible for parties that do not innovate to lose out (for example because they lose volume when customers opt for the 'better' providers).

2.5 The right balance between scale and complexity

The final precondition is the right balance between scale and complexity in cooperation between and with ecosystem partners. Cooperation at the right scale offers substantial benefits, such as the spread of investments over multiple parties to make a bigger impact. Cooperation can also have disadvantages: it often leads to greater complexity, more coordination and slower decision-making. The advantages of the partnership must be clear enough to those concerned to compensate for the disadvantages (and general resistance to change).

In short, it is extremely important to compose a like-minded coalition with a shared view of the potential value creation, individual opportunities for a positive return on investment and good governance.

3. The existing Dutch healthcare ecosystem: who pays whom how much, and for what?

This chapter describes the existing Dutch healthcare ecosystem based on the four elements that we introduced in the previous chapter: the 'end-customer' and their needs, the products and services for which the end-customer pays, the ecosystem that supplies these and the resulting money flows. In other words, who pays whom how much, and for what?

3.1 Who is the 'end-customer'?

Determining the 'end-customer' in the Dutch healthcare ecosystem is a complex affair. Is it the patient requiring a specific treatment? Or is it all Dutch citizens, with a broader need for health? In the Dutch healthcare ecosystem, the 'user' and the 'payer' roles are split, and the payer role is then sub-divided into the 'final payer' (Dutch citizens) and the 'aggregated collective payer' (including the health insurer).

First and foremost, there is 'the user'. The aforementioned €100 billion is spent on healthcare that is supplied in hospitals, in long-term care, by the primary care services, through medication and medical aids, etc. This amount does not include the healthy nutrition market, exercise, clean air, traffic safety and other forms of welfare provisions. The user of this healthcare is therefore the patient, and the need that is met for this €100 billion is the need for products and services relating to the patient's condition.

However, the patient does not personally pay for its 'healthcare needs'. Most of these payments are made by 'aggregated payers' such as the health insurers. Of the €100 billion, 45% is paid via the Health Insurance Act, 20% via the Long-Term Care Act and 20% via the government. Personal payments account for only 11% (largely personal contributions) and 4% via supplementary insurance. These largely flow via the health insurers (e.g. in the form of personal contributions).

The money that we spend on healthcare reaches these payers via the health insurance premiums, taxes and employer's contributions. Ultimately, all these amounts therefore come directly and indirectly from every Dutch citizen. They are therefore the 'end-payers'.

Based on the 'follow the money' principle, the 'end-customer', by analogy with non-healthcare markets, is the party that pays for its needs to be met, the Dutch citizen, who pays for collective healthcare needs via different routes. They do this partly as a contribution towards covering their own health risks and partly as part of their social responsibility. This also makes one of the major complications of value creation in healthcare transparent, i.e. the role of the payer as a balance controller between quality for the patient and costs for the citizen.

For better fulfilment of the needs of a patient (the user), in the form of extra quality, the patient may be personally willing, but perhaps unable, to pay a substantial amount. But the payer not only controls the interests of the patient, but also those of all paying citizens who must choose which of their scarce resources they make available for improvements for specific patient groups.

3.2 What do we pay for?

What we pay for can be described in different ways. We can divide this into conditions, but also into patient populations which may have multiple conditions. We can divide it into the different activities in healthcare, such as diagnosis (visits to physicians, imaging, laboratory work), interventions, nursing and care, accommodation, medication, medical aids, and also into the outcomes of these interventions.

In the current payment system, we primarily pay for a matrix of conditions and the activities related to those conditions. The top 40 conditions jointly account for more than 50% of total healthcare costs. The conditions with the highest costs are dementia (approximately €9 billion) and mental disability (approximately €8 billion). Clusters of conditions with high costs are cardio-vascular diseases (approximately €10 billion), mental disorders (approximately €7 billion), cancers (approximately €6 billion), and chronic illnesses such as diabetes, COPD, rheumatic diseases and back complaints.

If we consider the costs per age group, we find that of our total annual healthcare costs, around €40 billion is driven by the group aged 65 and above. This amounts to €12,000 per person per year (versus around €4,000 for the population aged below 65). On average, the healthcare costs of the group aged 65 and above are three times those of the population aged under 65. The real peak lies here among those over 80. On average, the healthcare costs for this group are more than €20,000 per person per year. For this population, by far the highest care needs relate to dementia, followed by coronary disease, cerebral infarctions, diabetes, and COPD. In the future, this demographic group will grow rapidly and these are therefore the conditions in which a major increase can be expected.

There are also significant healthcare needs among people aged under 65. They still take up 60% of our healthcare budget. The highest healthcare costs in this population are for dental care and mental health. Specifically among the population aged 20 to 45, the major costs are for mental disorders (personality disorders, anxiety, depression, and addiction) and for maternity care. In the population aged 45 to 65, these primarily involve coronary disease, diabetes, breast cancer, back complaints, and depression.

3.3 Who do we pay?

Of the €100 billion in healthcare costs, the vast majority (>80%) is spent on medical treatments and long-term care. The rest is spent on welfare, youth care, and childcare and on health policy and management organisations.

The largest healthcare spend goes to the hospitals (approximately €25 billion), followed by long-term care (approximately €17 billion), disabled care (€9 billion) and mental health care (€6 billion). The remainder is spent on primary care, pharmacies, dentists, paramedical care providers, and a number of smaller categories.

Salary costs and fees account for more than 60% of these healthcare costs. The remaining money flows to suppliers of medicines, medical technology, medical aids and IT. Finally, there are generic cost items such as real estate, energy and catering, which come from 'non-healthcare-specific' suppliers.

3.4 Money flows and 'profit pools'

By analogy with non-healthcare ecosystems, money flows in healthcare pass through the 'End-Customer'-'Payer'-'Providers'-'Suppliers' chain. With each step, the money flows can be divided into salary costs, profit (the profit pool) and what is passed on to the next step in the ecosystem. We look at the money flows and 'profit pools' in the healthcare chain step by step. The figures in this paragraph, in particular for the profit pools, are indicative, because not all the details can be deduced from public information. In addition, some providers operate in several sectors, so it is not always possible to split the result.

The first money flow goes from citizens to the insurers (the payers). Of the revenue of about €45 billion, more than 96% flows through to the healthcare providers; management costs account for less than 3% and less than 1% is profit (which is not distributed). The cumulative net result for healthcare insurers in the Netherlands is less than €500 million and not distributed. These are reserves that can be used for unforeseen events, such as now, during the pandemic. De facto, therefore, there does not appear to be any profit pool attainable here for new entrants.

The money flow then moves on to the providers. We estimate the total profit pool for providers in healthcare to be about €1 billion (at the 'institutional level'). Based on the Deloitte annual reports benchmark for all healthcare institutions in the Netherlands with revenue of more than €10 million, we can see that:

- The cumulative net result of hospitals in 2019 was €350 million (average of approximately 1.4%)
- For care, nursing and home care (VVT), this was about €300 million (approximately 1.8%)
- For care for the disabled, this was about €130 million (approximately 1.3%)
- For mental healthcare this was just below €100 million (approximately 1.2%)

The total profit pool on this revenue pool of almost €60 billion is therefore less than €1 billion. There are no major upward outliers. The top 20% most profitable hospitals have a result of about 3%. This is substantially higher than the average, but still a relatively low profit pool. The differences between the different independent treatment centres (ZBCs) are greater, but here too, net results of more than 5% are highly exceptional. Moreover, their share in the total provider revenue is low.

These are the 'net result' profit pools. The EBITDA is higher, e.g. at around 10% for hospitals. This is therefore an EBITDA pool of around €3 billion in the hospitals. The difference is primarily spent on capital investments, in particular real estate and technology, and therefore flows to the suppliers of these assets.

In the above calculations, the fees of medical specialists are classed as salaries, not as profit. The profit pools for the smaller providers, GPs and dentists are difficult to determine due to the limited scale of these providers. The difference between profit and 'high salaries' is also somewhat arbitrary in these sectors. A previous analysis of profit in healthcare by Gupta (2017), the conclusions of which are consistent with our figures, estimates the profit of these healthcare professionals at about €1 billion.

The biggest profit pools in healthcare are found among the suppliers. Here we see a profit pool in excess of €3 billion (with margins around 10 times higher than at the providers). The profit pool for the pharmaceutical companies is estimated at about €1 billion, or 17,5% in a market of some €6 billion. A similar estimate exists for MedTech, which appears to make a profit of €0.5 billion to €1 billion (net margin of 10-20%) in a market of €5 billion. The estimates of sales and profit percentages in this market vary. Incidentally, we see a much greater variation in results between providers (the manufacturers). The total margins of all suppliers, including healthcare IT, is difficult to determine. Further profit is made by, for example, the providers (real estate) and financiers (banks) of the physical infrastructure. The precise figure is less relevant for the purposes of this article than the conclusion of where the relatively large profit pools lie, and that does appear to be clear based on this indicative calculation.

It is clear that the profit pools primarily lie 'at the edges' of healthcare. Logically, that is the part that attracts most of the investments and innovations. But if we want good quality healthcare to remain accessible and affordable in the future, the primary process will also need to change radically. How do we ensure that investments and innovations take place among payers and providers in the healthcare chain? And if digital health solutions become an alternative to the growth of providers in the primary process, do we accept that salaries will be replaced by profit here? For example, how does all this compare with the US, which is not an example for the Dutch healthcare system in terms of effectiveness and quality, but where new entrants do drive many innovations? We discuss these questions in more detail in the next chapter.

4. Value creation and value distribution in the healthcare ecosystem: five system discussions

How does our current healthcare ecosystem score on these preconditions for successful value creation and which challenges appear? This validation leads to five system-level discussions. These are discussions that must be conducted at the system level, with the government (e.g. in the form of VWS, the National Health Care Institute and the NZa) in a leading role. The outcomes of these discussions will provide far more guidance for the system in relation to value creation.

4.1 Which target groups have the highest potential for value creation and how do we measure that?

In many discussions on improvements in healthcare, the precise target group is not defined clearly enough. For example, in regional discussions of 'the right care in the right place', the scope often appears to be too large and too complex: 'all parties around the table together to solve all the problems in the region', rather than focusing on the value for specific patient populations, conditions or healthcare paths. Firstly, the correct definition of a region for addressing a particular problem is not clear. In addition, the target groups are not defined sharply enough. This also applies for a subject such as prevention of chronic diseases. The economic value of this prevention (and the willingness to pay) is different for a working target group of people in their 40s than for an older target group of people aged more than 70. It is important to specify the target group, in a combination of a condition with other characteristics, such as age and socio-economic score.

Furthermore, value is often not quantified sufficiently (holistically) for that target group. How do we measure an improvement in quality or user experience as something for which we can pay? For some innovations, this is already a clearly defined process, such as the QALY method for new medication. For other innovations no valid process is available yet. How do we measure the value of a new AI algorithm for the IC and link the correct payment to this? The same applies to the quantification of savings throughout the healthcare chain. How much value does a particular care path improvement deliver in comparison with the existing solution, taking account of the entire effect throughout the chain? And how, for instance, do we include improvements in welfare or productivity in this value calculation?

It would be good to arrive at a list of top 10 'focus target groups' where the highest value can be created at both the national and the regional level. This will provide guidance for the innovation within the healthcare system. That focus can be determined on the basis of two axes:

- The scale of the problem: the present burden of disease and costs, and those forecasted for 2040
 - Possibly with the addition of the negative impact on welfare and productivity
- The potential impact that innovations can have in improving these matters

One obvious example for a focus target group is the current population aged over 65 (which is the future population aged over 80). After all, much of the assumed growth from €100 billion to €174 billion is driven by the proportional growth of the group of people aged 80 and above. The value creation lies primarily in preventing, postponing, curing and treating the main conditions among that population: dementia, coronary disease, cerebral infarctions, diabetes, and COPD. These diseases currently involve €20 billion in healthcare costs and this will more than double in 2040; so there is clearly strong potential here for value creation.

A second target group is the population aged 45 to 65 with chronic disorders such as diabetes, coronary disease and COPD. We can make this target group more specific by focusing on the groups with a low socio-economic score. Particularly strong gains can be made here through lifestyle interventions.

A third target group, which is more easily forgotten, consists of the people who will have to continue to bear these increased costs in the future: a continuously shrinking group of working people aged between 18 and 65. Everything that improves the productivity of this group is highly valuable for a future-proof healthcare system. For the target group aged 20 to 45, mental problems (depression, anxiety, addiction and burn-out) are on top of the list. Everything that can be done to improve the user experience and quality here, resulting in higher productivity, is vitally important.

4.2 Who is willing to pay what for different types of value creation?

To what extent are we willing to pay for extra quality or a better user experience? Is this the same for every condition? And for every target group covered by that condition? To what extent are we willing to 'share' efficiency gains with the party that is the driving force behind these? To what extent are we willing to pay for health-related matters (such as productivity) which we cannot express in terms of healthcare costs? And who will pay for those matters?

In relation to willingness to pay, the ratio of users to payers in the healthcare ecosystem is striking. Two disruptive dynamics play a role here. The first is that patients make only limited contributions themselves. The actual payers are the large aggregated payers, such as the health insurers. The second is that these healthcare insurers do not ultimately represent the interests of those patients (alone), but those of all their payers: the Dutch citizens. Third is almost invisible payer of hidden 'healthcare' costs: absence due to sick leave. Here the employer bears the costs, and in view of the foregoing, the employer may play a role at the level of early diagnosis, early access to accessible intervention as well as offering scope for 'temporary flexibility'.

The interesting dynamic with a large group that pays for services used by a small group is that any quality improvement primarily benefits that small group, whilst a cost improvement benefits the large group. This partly explains why there often appears to be no scope for improvements in quality that do not lead to lower costs.

The total healthcare budget appears to be a 'zero sum' budget, with no extra money to be added. Initiatives relating to 'appropriate healthcare' must create that scope, but often lie outside the control of the innovator. Hence the dependency here on the rest of the system, under the direction of the payer. In order to be able to create value in terms of quality as an innovator, it appears that additional efficiency improvements are crucial for 'funding the journey'. However, the willingness of payers to return part of this efficiency improvement to the driver of these efficiency gains sometimes appears to be limited too. Which allocation key should be used for this?

The fact that the value of a particular intervention varies per target group gives rise to an interesting discussion. Everyone has the right to good medical care. But with regard to the value of fast recovery (return to work), for example, or the productivity gain through virtual health rather than unnecessary logistics for patients, productivity gains are seen as more valuable. The question is whether the current payers, such as health insurers, who represent Dutch citizens, also see matters in this way or wish to differentiate themselves on that level.

We may be moving towards a more diverse model in terms of payers and money flows, where the health insurers concentrate on a certain basic quality, employers make additional investments in productivity for certain populations and patients themselves pay more for a better user experience.

4.3 'Return on investment' for the party that drives innovation

Is the willingness to pay for an innovation in healthcare the same for a non-profit party as for a for-profit party? In other words, if a private party is able to offer a better quality solution at lower costs than the public party, may that party then make a (high) profit from this?

With regard to the return on investment, it is first and foremost important not to confuse this concept with profit maximisation. As already mentioned in the previous chapter: even if profit, or profit maximisation, is not the end goal, the innovating party does allocate resources (time, money and management attention) to this improvement, and risks are incurred. This means that for existing providers such as hospitals, we must ensure that initiatives relating to appropriate or sensible healthcare do not lead to financial problems, otherwise the revenue will drop faster than the costs. In any event, there must be a plan to guide that transition, reward good initiatives or remove disincentives. Preferably, the government and insurers should include incentives that stimulate horizontally (i.e. the ecosystem) rather than vertically (i.e. the institution/silo).

The discussion on profit and profit pools leads to the question 'what kind of innovations and innovators do we want? Regarding the 'new entrants' from other sectors, are we willing to reward these new entrants, who often introduce technology as a replacement for labour, with profit rather than salaries?

The comparison between the Netherlands and the US is interesting here. The US is certainly not an example in terms of the quality of the healthcare system, but the examples of innovation that we cite often do come from the US. A comparison of figures can provide more insight:

- US healthcare costs per resident: approximately USD 11,000 (almost twice as much as in the Netherlands)
- US profit pool (Bain 2019 estimate): USD 477 billion, with (as in the Netherlands) large profit pools in Pharma (USD 125 billion) and MedTech (USD 52 billion), but also among providers (USD 180 billion) and payers (USD 86 billion)
- The US profit pool per resident is therefore USD 1,500 versus €300-400 per resident in the Netherlands

In the US, the profit pool is almost 100 times higher in absolute terms, but is also four to five times higher per resident in relative terms. This therefore attracts more innovation from large corporations and explains why there is so much investment in health by parties from other industries.

It may be necessary to distinguish between public and private infrastructural investments. The government must play a leading role in the former, where there is no role for private providers (other than via government funding/subsidies including a return on investment agreed in advance). In the latter case, there is scope for private providers and we must allow market forces to do their work, so that making high profits for more value for the end-customer is possible.

Whichever choice we make, it is important to be consistent and to make clear to potential new entrants where they are welcome to add value based on a commercial model.

4.4 How do we provide for the right incentives in the system for value creation coalitions?

The first question here is 'which parties are really necessary for a particular improvement?' Too many parties around the table discussing too many subjects leads to too much complexity.

Among the parties that are necessary, such as medical staff, the costs of change sometimes appear to outweigh the benefits for them. This produces resistance. The power of these parties to obstruct change in healthcare is considerable. There is not a strong enough mandate to overrule this power, because the fragmented way healthcare is organised and these parties are therefore a highly specific and powerful stakeholder in decision-making. Because we do not provide enough clarity about the benefits and value for all parties concerned, we cannot create the right scale in solutions.

Perhaps the most fundamental question is 'to what extent are we also willing to accept losers among parties who structurally do not participate in value-improving innovations?' This applies both between and within organisations. Are we ultimately willing to allow healthcare providers to disappear if better

solutions are found for the healthcare needs of the relevant target group? Do we accept that there is less work or income for specific professional groups within healthcare?

4.5 How do we ensure the right balance between scale and complexity?

Cooperation between different ecosystem parties is necessary for many improvements. In establishing this cooperation, we quickly encounter one of the two pitfalls of upscaling. Sometimes the chosen scale is too small, so that the solution has too little impact or support by the chain. Sometimes the chosen scale is too large, so that too many stakeholders need to reach agreement on too many subjects and their efforts become stranded in complexity.

How do we break out of this dilemma? In many discussions, for example those concerning the right care in the right place, reference is made to the need for a (regional) director. Our assertion is that there is no standard formula in which the composition of a coalition and the logical regional director must always be the same. Healthcare is too complex and regional requirements are too varied to organise everything uniformly in all regions.

In order to achieve effective cooperation, its benefits must be clear to the individual parties. What opportunities can we use better or which threats can be avoided by working with other parties?

Based on these individual objectives, coalitions can be formed in relation to specific subjects and the relevant region can be defined for that subject. This coalition of the willing philosophy therefore follows the principles of market forces, value creation and value distribution. With the right incentives such coalitions can arise, partly through stimuli on the horizontal rather than the vertical axis. This should also mean that those innovations that have already been validated with public funding in one region must be mandatorily implemented in others, unless it can be demonstrated that this is truly not appropriate. If it is not possible to bring together the right parties in such a like-minded coalition at specific locations, more persistence and execution power of the public parties is necessary.

5. A concrete roadmap for value creation: five steps that individual healthcare ecosystem parties can take now

The system-level discussions described above will take time to solve. What can individual parties do now to promote innovation and value creation in the healthcare system? In which we try to learn from the lessons from other ecosystems, to the extent to which these appear to apply to the healthcare ecosystem.

1) Define the target group and quantify the value that you realise for them

- Define the characteristics of the desired target group
 - A target group could be patients with a particular condition (diabetes), or a population segment (vulnerable people aged more than 85, low socio-economic score with risk of chronic illnesses), or a mix (people aged over 65 with diabetes and coronary complaints, or women aged 30 to 40 with symptoms of depression)
- Determine the geographical scope (local, regional, national)
- Quantify the existing situation of this target group
 - Prevalence, incidence, illness burden (DALY), costs
 - Current money flow, revenue pool and profit pool
- Determine the 'scope' of the improvement for this segment
 - Which part of the care path / patient journey will be improved?
- Quantify the (relative) value of the improvement/innovation for that segment:
 - Not the absolute/total value, but the improvement in relation to existing alternatives
 - First in underlying drivers, e.g. shorter hospital stays, fewer complications, etc.
 - Then translate this into a measure of improved quality (e.g. QALY) and/or costs
 - Finally, add the 'non-healthcare metric-related' improvements, e.g. fewer absences

2) Determine what the payer is prepared to pay for this improvement

- Who is the payer (e.g. insurer, employer) and what does this party regard as important?
- To what extent is this payer willing to pay for the extra quality?
 - If they are prepared to pay, quantify the payment per quality unit
- To what extent is the payer willing to share the efficiency improvement throughout the chain?
- Are there alternative payers?
 - The patients themselves, for instance?
 - Whom may be willing to pay for other things (e.g. productivity)?

3) Determine the expected return on investment

- What investments are necessary to realise the improvement?
- What (given the combination of steps 1 and 2) is the expected return? Is this balanced?
 - In the first instance, this is a 'stand-alone' ROI for this specific intervention
 - Which is then supplemented with the ecosystem dynamic and distribution (see step 4)

4) Determine the ecosystem coalition and how there can be a 'value surplus' for each party

- Which ecosystem parties are crucial, which optional, and which superfluous?
 - Find the right balance between scale and complexity: if a party is not necessary, do not include it in the coalition in order to reduce complexity.
- For the crucial parties: what is their benefit from the change (without active redistribution) and what are the disadvantages (costs, investments, complications, risks)?
- How do we improve that net benefit, so that all necessary parties benefit from the innovation?
- Are there existing ecosystem parties outside this coalition who will lose out?
 - What will be their reaction, and do we need to mitigate that risk?

Please note: from the point of view of an ecosystem party, steps 1 to 4 can be repeated multiple times for different combinations of focus population segments and improvements. If the same ecosystem coalition always results from this, benefits of scale can be realised together.

5) Set up the coalition with an explicit joint vision of value creation and value distribution

- Create a joint vision: which value do we create for the end-customer / the system?

- Scope of the partnership: what do we do together and what not, and what are the roles and responsibilities?
- Value creation for the coalition: what do we expect in terms of the total revenue pool and profit pool?
- Return on investment for the individual coalition parties
 - a. Which part of the above revenue and profit pool does each party expect?
 - b. Which investments does each party contribute? Which costs and risks?
 - c. 'Sanity check': is this in balance within the coalition? This does not necessarily need to be in every individual partnership field, as long as it applies at the portfolio level
- Governance: how do we steer the coalition? Decision-making, meeting structure, reports
- Concrete initiatives: deliverables, activities, milestone planning

As we described at the beginning of this article: the value potential of successfully realizing the five shifts towards the health ecosystem of the future is very significant. Both for the Dutch citizen who can gain more healthy years of life at relatively lower costs, as for the ecosystem parties that will offer the associated health solutions. Our biggest challenges are value creation and value distribution. Value creation by focusing on the combination of target groups and improvements that deliver the most value. Value distribution by introducing (and seeking) the right incentives in the system and by forming effective coalitions with the right balance between scale and complexity. We hope that this article can take all parties involved one step further.

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