



Flanders
State of
the Art

Smart business models with IMPACT.

How to connect industry and healthcare?

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Foreword

We live in a society that is constantly undergoing changes in many areas – all of which is prompting us to re-think both our healthcare and economic system. Today, many leading organisations, profit and non-profit, are still using traditional business models that are driven mainly by volume and end-user paid services. As such, the keywords are the quality of the product and the unit cost.

As a result, we are all becoming 'prosumers': consumers with a voice. We no longer want just quality alone, but we want value, too¹. This begins with a high-quality and cost-effective product. But in addition, we also want services and solutions that contribute to our health and wellbeing. Tailored to our needs, as well. To achieve that, other business models are needed in which the end-user is at their core and where suppliers, such as health organisations, social organisations and businesses, collaborate along the entire health value chain.

There is also an irreversible trend towards automation and digitisation. These are generally present in our society and are radically changing our way of living and working. At the same time, they are paving the way for new innovative solutions, smart combinations of products and services that are within reach of the user, innovative production processes, ground-breaking business models and new ways of working together in today's network economy. To fully unlock the potential of these trends, healthcare organisations need to join forces with businesses. That's because each player involved has its own unique core skills which, when put together, create a single integrated solution. Only by doing this, both societal impact and economic growth become possible.

Naturally, this brings challenges – because the transition to value-based healthcare models is radically changing the healthcare ecosystem, while payers and providers are driving the transition from volume to personalised value. New, integrated business models require collective accountability, common measurement indicators and procedures for assessing the impact, shared risk models and different payment models. Bringing all that together and steering it in the right direction is no easy task.

¹ <https://hbr.org/2015/10/turning-value-based-health-care-into-a-real-business-model>
and https://www.hbs.edu/faculty/Publication%20Files/3_13615129-eeec-4987-bf1a-1261ff86ae69.pdf

Yet it is essential for businesses and healthcare-providers to take up their role together as part of this far-reaching transformation of the sector. This applies just as much to governments in various areas of their policy, because increasing and improving the health and wellbeing of an entire population – affordably – is a feat in its own right. Only by working together can we provide solutions for particularly complex societal issues, such as population ageing in Europe and the rising cost of healthcare that goes with it.

At the Flemish government agency for Innovation & Entrepreneurship, in 2013 we launched a call for the 'New Industrial Policy (NIP) Healthcare Economy'. The aim was to use funded projects to encourage vital cooperation between industry and healthcare. Today, it is our pleasure to present the four projects selected: four innovative business models that are having a positive impact on the user and provider, as well as on society. These are unique business models capable of generating an economic impact worldwide.

First, we outline the theoretical framework of the integrated business model. Then we present the four projects. Finally, we provide a number of policy recommendations. Our hope with this detailed whitepaper is to interest other players in the world of business, healthcare and politics and encourage them to establish or strengthen similar forms of collaboration.

This whole process has only been made possible thanks to the ongoing input of Ben Devis, Carine Boonen, Guido Hattink, Inge Taillieu, Jasmijn Nuyts, Kim Denturck, Michèle Vanroose and Stefan Vandecandelaere. Together with more than thirty healthcare organisations and businesses, they have put their shoulders to the wheel with enthusiasm to drive the four projects forward. Very special thanks also go to Katia Van Buyten, who kept everything together. Without their energy, we would not be where we are today – many thanks!

Lieve Apers and Johan Moyersoen



Economic growth by creating (evidence-based) impact



1.

From isolated to collective impact

In healthcare, isolated impact is focused on finding and financing a solution within each individual organisation. But this method cannot take advantage of all the factors that influence the provision of preventative or curative services. For this reason, we are looking increasingly to more integrated care pathways to generate impact: a collaborative effort involving people and organisations, covering a whole range of disciplines and sectors that make it possible to meet needs better. In so doing, business are increasingly playing a strategic role in the development, delivery and scale up towards integrated systems. And as part of this integration, each organisation – both in healthcare and in industry – seeks out innovative business models.

PERSONALISED INTEGRATED HEALTHCARE

Many regions in Europe are committing to integrated personal care, for example in case management. A case manager acts as an independent, constant guide for people with (complex) care needs. There are also co-creative models in which multidisciplinary interaction is used to involve the parties directly in a particular approach and way of working together. Frequently from this case management and multidisciplinary cooperation, individual care pathways are developed in which a person's care and social needs are addressed.

On a local level, we are seeing primary care organisations that are transforming themselves into person-centred homecare models. The aim is to achieve a centralised, virtual setting that facilitates partnerships between the person requesting the care, his or her personal doctors, other healthcare-providers and the person's family. The increased availability of ICT and health data enables better and more personalised healthcare services to individuals requesting care, receive the appropriate attention when and where they need it.

In addition, we are also seeing financial innovation through which the user with a personalised health budget can integrate his or her care to suit requirements. The basic premise: if people requesting the care act as the budget-holder, they can gear their care better to their needs by purchasing services from various providers.

Despite these innovations in personalised healthcare, access to service still remains restricted to individual silos and sectors. We are not seeing enough collaboration that would make it possible to combine comfort and care into a model where the person is the focal point.

GROUP INTEGRATED HEALTHCARE

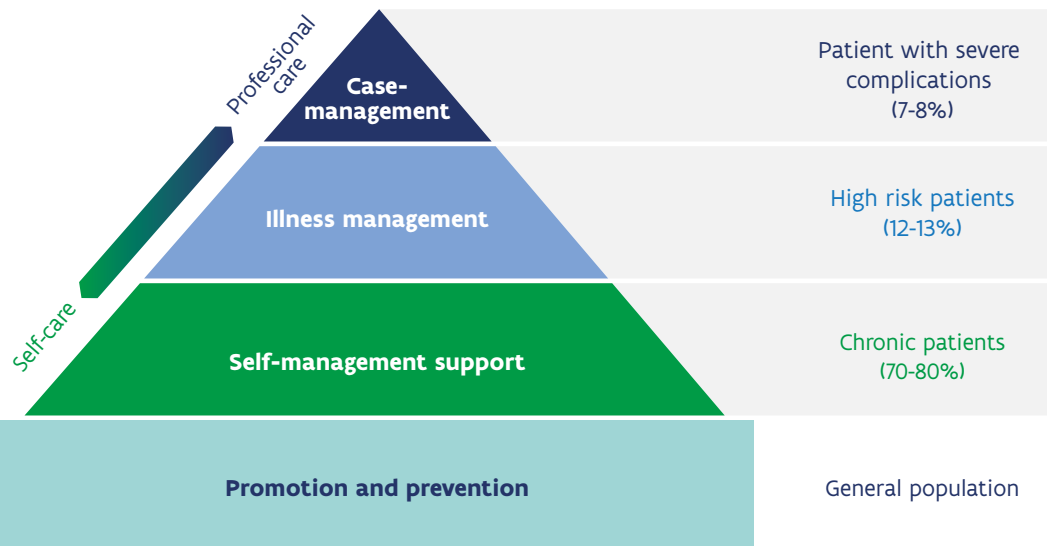
In addition to individual models, there has been an increase in group models. The chronic care model is the most prevalent of these and has been developed in acknowledgment of the shortcomings in the health system to meet the needs of the chronically ill. It provides a framework in which informal and formal care, social welfare and health services, self-management, distribution, support in decision-making and clinical information systems are all combined to improve results for people with chronic disorders. Models for the better integration of care for people with certain illnesses and long-term conditions, such as diabetes mellitus, heart and vascular diseases, COPD and bronchial asthma are examples of this.

Integrated care models for the elderly and vulnerable people represent a specific group of initiatives. PRISMA¹, for example, is a Canadian model that provides integrated services for people living at home with moderate to severe disabilities. The model acts as the point of contact for the system and coordinates care across a network of different providers. The aim is to maintain the functional autonomy of the individual. This integration is achieved by a joint board of directors of health and social care. The board defines the strategy, allocates resources to the network and manages the service-providers.

POPULATION-RELATED INTEGRATED HEALTHCARE

In addition to individual and group models, the movement in integrative models on a population or regional level is also of interest. The best-known example of this is the Kaiser Permanente (KP) model² of integrated care, which is based on stratifying the population into different groups with care requirements and then delivering the various services based on that.

Figure 1: the Kaiser Permanente model



COOPERATION ACROSS ACTIVITIES

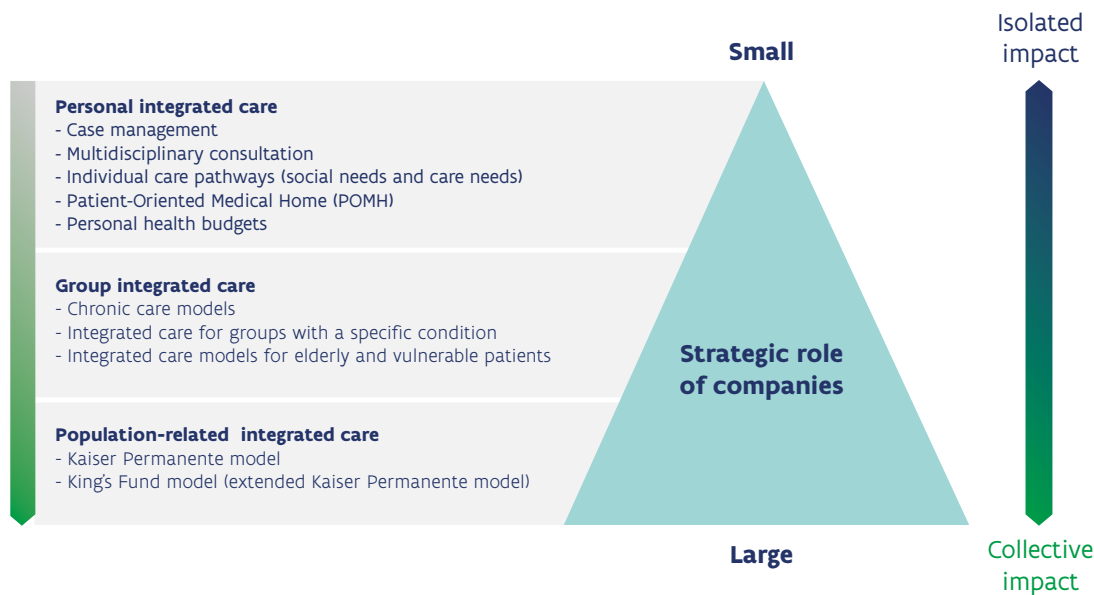
In the trend towards integrated care, we note increasingly far-reaching collaboration between organisations: in the area of client/interface relations, financial flows, distribution channels and product/service combinations for improving the health outcomes for individuals, groups or whole populations. This integration is being accelerated by governments which, because of demographic trends such as ageing, are looking for models where they can achieve care efficiency per capita, without compromising quality. As a result of the integration of care, as well as the associated digitisation and intensive cooperation between organisations, government departments, companies and healthcare organisations are able to increase cost efficiency.

Within these innovative partnerships, the mix of parties involved is becoming more heterogeneous. In addition to formal and non-formal healthcare-providers, both social organisations and the private sector play an important role in integrated care. Because through integrated – as well as curative – care, the more emphasis is placed on prevention, the more the input of companies grows in importance. Businesses are positioning themselves increasingly as a partner for prevention and better health outcomes. On the curative side, companies no longer want to be merely providers of products and services, but instead they are aiming to become a full partner in the value chain.

The growing trend to cooperate to generate more societal impact is striking. We are convinced that no one is able to resolve the increasingly complex social problems facing our society on their own. Businesses from a variety of sectors and (healthcare) organisations need to work together to achieve a common agenda, with shared measurements and a dovetailing of efforts and activities³.

For companies, the challenge is to step away from their role as traditional suppliers and to adapt their strategy so that they can capitalise on these business models. We are currently seeing a trend of companies seeking to gain greater added value by transforming their service based-model into a value-based model – i.e. moving from being a service-driven to a value-driven model.

Figure 2: spectrum of integrated care versus isolated and collective care





2.

Value-based model for economic growth and impact

Previously, healthcare was based on the offering of doctors, healthcare organisations and the government. Today, it is the user who is increasingly becoming the starting point and obtaining value is the objective for the end-user. But how is 'value' defined? According to Michael Porter, who introduced the value-based concept in healthcare in 2006 with Elizabeth Olmsted Teisberg in the book *Redefining Health Care*, it is 'health outcomes that are important for patients over the cost of delivering these outcomes. The relevant analysis unit must be the value that is administered to a patient throughout the whole care cycle for a specific medical condition, such as diabetes or breast cancer⁴.

This translates to better treatment results at a lower cost. That is the value-driven model in a nutshell. No longer volume as a criterion for evaluation, but care quality, efficiency and user experience.

Historically, healthcare has been organised in delineated isolated services. But this focus on isolation is not consistent with what is needed to measure value. Because this requires the holistic analysis of results, costs and experiences, from beginning to end, across an entire healthcare cycle.

Value-driven is the future

A recent survey conducted by the investment firm, Lazard Partners⁵, among more than 200 healthcare managers and 80 investors in the healthcare sector, underlined the development of value-driven business models as an emerging transformation. The main conclusions were that non-traditional price models may change healthcare more in the coming decade than science. Almost half (47%) of the C-level executives questioned named the introduction of value-based or risk-sharing price models as the number one changing point for the next 5 to 10 years, compared with 38% who indicated scientific breakthroughs.

THE CONSEQUENCES

This paradigm shift has important consequences for how companies and healthcare-providers will have to develop their business and service models to turn this vision into reality. Instead of developing isolated services, they will need to offer innovative total solutions by bundling their products and services. This goes hand in hand with the outlining of integrated, inclusive business strategies that generate both value and impact for the end-user, as well as producing economic added value.

Of course this trend is being accelerated by government departments and major healthcare-providers, as well as public and private health insurers, who are faced with an increase in the level of ageing in Europe and the accompanying growth in the number of people with chronic diseases. This is why these macro-payers want to leave the pay-for-service model behind quickly and switch to a value-based model.

Within the value-driven healthcare model, there are new models such as the IHI Triple Aim framework, developed by the Institute for Healthcare Improvement (IHI). In this model, value is measured not only on an individual level, but also for whole populations. According to the IHI, new designs need to be developed in order to achieve three dimensions at the same time⁶:

1. improving the way care is experienced (including quality and satisfaction);
2. improving the health of the population;
3. reducing the cost of care per person.

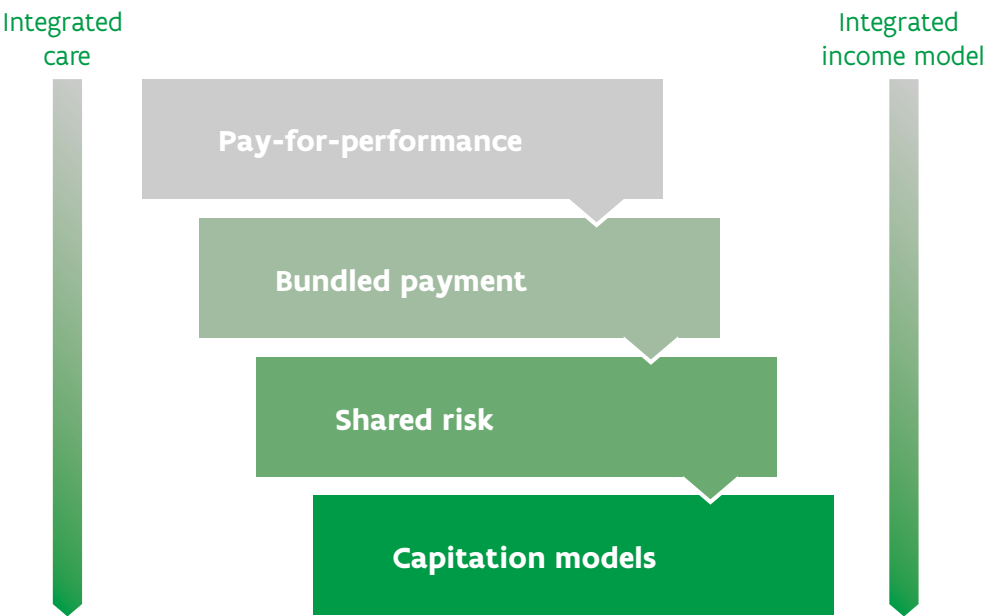
To sum up, business and healthcare-providers in the healthcare value chain should not be asking themselves if they need to switch to a value-driven healthcare model, but when and which specific healthcare and risk model.

PAYMENT MODELS WITHIN VALUEBASED MODELS⁷:

- **pay-for-performance-model (P4P):** financial incentives and disincentives that are linked to measured performance. These may include performance or improvement thresholds or relative performance barriers. In addition to its traditional pay-for-service charges, the healthcare-provider also receives an incentive for achieving a care result: usually bonuses for exceeding the target. But sometimes there can also be a claim-back if the provider falls short. A variant is the shared service model: the healthcare-provider receives payment for each service provided, but after a certain period of time, the total spending is compared with an ex ante target. If spending is below that target, then the organisation receives part of the difference as a bonus.
- **a bundled payment-model:** healthcare-providers receive a single payment for all services in the treatment during a particular care process. For example, if a patient is operated on, traditionally the payer makes separate payments to the hospital, surgeon, anaesthetist and comfort services. With a bundled payment model, the payer makes a collective payment to the providers involved at a fixed price for the care period, based mainly on historical costs. Healthcare-providers automatically benefit from the savings that they generate through efficiency. The payer receives a total solution via one invoice and also knows the price in advance.

- **shared risk-model:** healthcare-providers are given incentives for achieving a certain target. This model is based on an agreed budget and asks the healthcare-provider to cover part of the costs if the savings target is not achieved. That may be a percentage of the bonus, or a fixed amount, such as a 50/50 share of extra costs.
- **capitation-modellen:** with a capitated-payment model, a group of healthcare-providers receives a fixed amount from the payer – usually per month – per patient for specific medical services. That way, the provider takes 100% of the insurance risk for the patients and services covered. These costs are determined by an actuarial analysis of the historical costs of the patient population. They are then adjusted according to the risk level of the patient population in question. After that, the healthcare-providing organisation or group has to define the amount per person. This usually comes out of the fund via a combination of incentives and fee-for-service agreements. The two basic models are:
 - **global capitation:** an arrangement whereby a healthcare-providing organisation or group of organisations receives one fixed payment for all of the healthcare services that a client (or 'member' in the eyes of the payer) might receive. This includes front-line care, hospital admissions, specialist care and support services.
 - **blended captitation:** a once-a-month payment to the healthcare-provider which only covers a certain number of care services. Such as just medical services (front-line care and specialisation) and laboratory services, but no hospital care, pharmacy expenses and mental health benefits.
- Services not covered are usually paid based on a payment per service.

Figure 3: spectrum of value-based business models





3.

Fundamentals for the evidence-based business model

In value-based business models, **the impact for the end-user is of central attention in terms of better health outcomes**. The main premise for making impact a central factor, is that businesses and healthcare-providers measure the impact of their products and services in an evidence-based way. Without demonstrable and substantiated impact in the products and services provided, no value can be measured of the impact delivered and so no value-based model can be developed. As a result, impact monitoring and evidence-based impact measuring of result indicators should get a central role in these business models. The data generated for this enables the company – the co-organisier in the new collaborative model – to conduct ongoing quality monitoring and arrive at better market segmentation and ground-breaking innovations.

Value-driven business models are not separate business models, but rather a layered or 'lasagne model':

- **layer 1: transactional approach**

The transactional approach covers the perception of value from the point of view of the end-user, on the one hand, and the interpretation by the healthcare-provider, on the other. However, there is no question of collaboration, this is a closed business model.

In other words, it is one-way traffic in which the end-user simply pays for a service or product.

- **layer 2: relational approach**

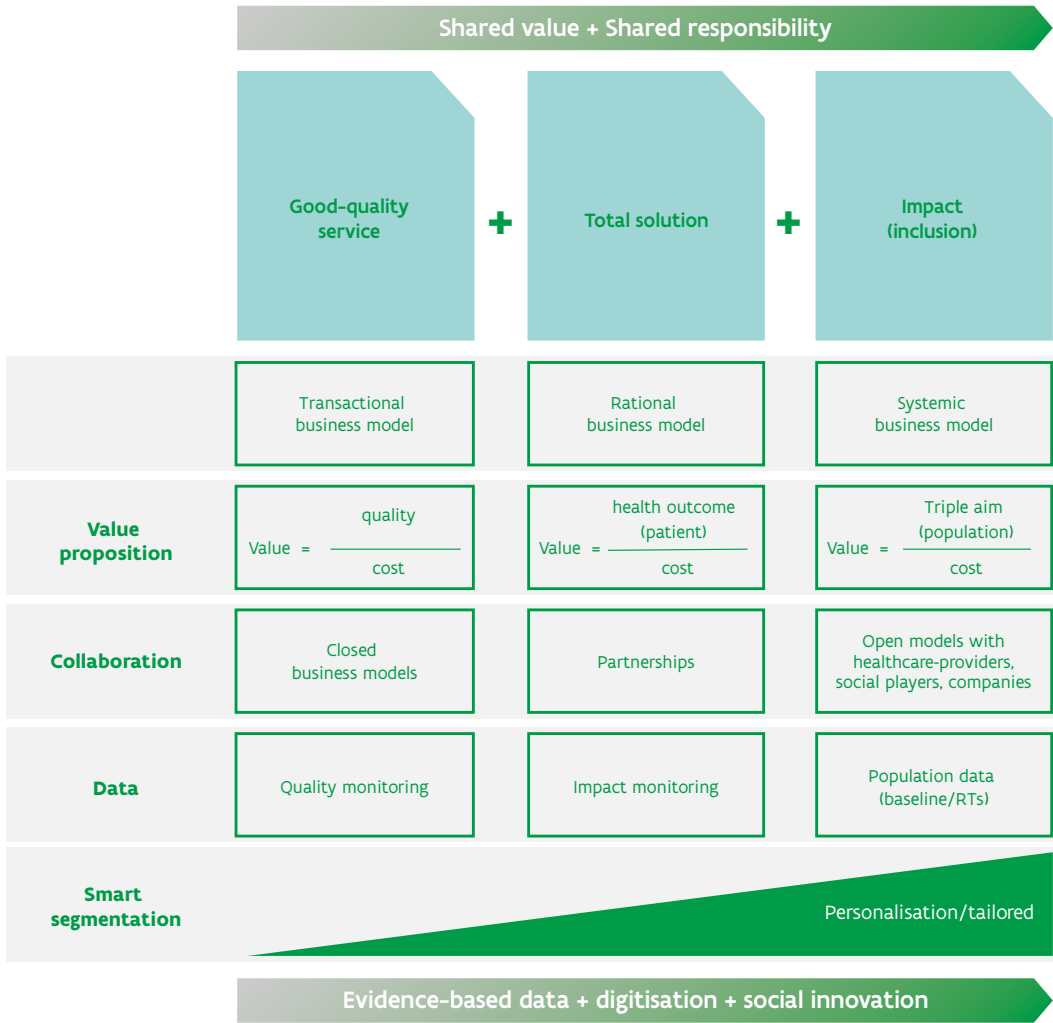
This approach is formed on an organisational or sector-based level and targets organisations and managers instead of end-users. This involves two-way traffic, because the healthcare-provider develops the value in consultation with its end-users. The positional added value of having unique access to the end-user serves to cream off a percentage of the transactions of another provider as part of the bundled service.

- **layer 3: systemic approach**

This is where value creation and outcome are considered on a societal level. This broad and holistic view includes the role and input of all players involved in the creation of value, outcome and impact. In these types of models, the added value of impact, such as a better health outcome, is enhanced and captured.

Each layer of the income model searches to integrate impact. By generating more impact, more income and/or profit are achieved. In these models, the trade-off between impact and economic benefit is avoided as much as possible. The aim is to achieve a win-win situation between impact and economic growth on every level. Michael Porter calls integrating economy and impact 'shared value'⁸. And to achieve it to the full, measuring and demonstrating impact is all the more essential. In integrated business models, the three layers are often combined strategically so that they reinforce each other.

Figure 4: three layers within value-based business models



PERSONALISATION

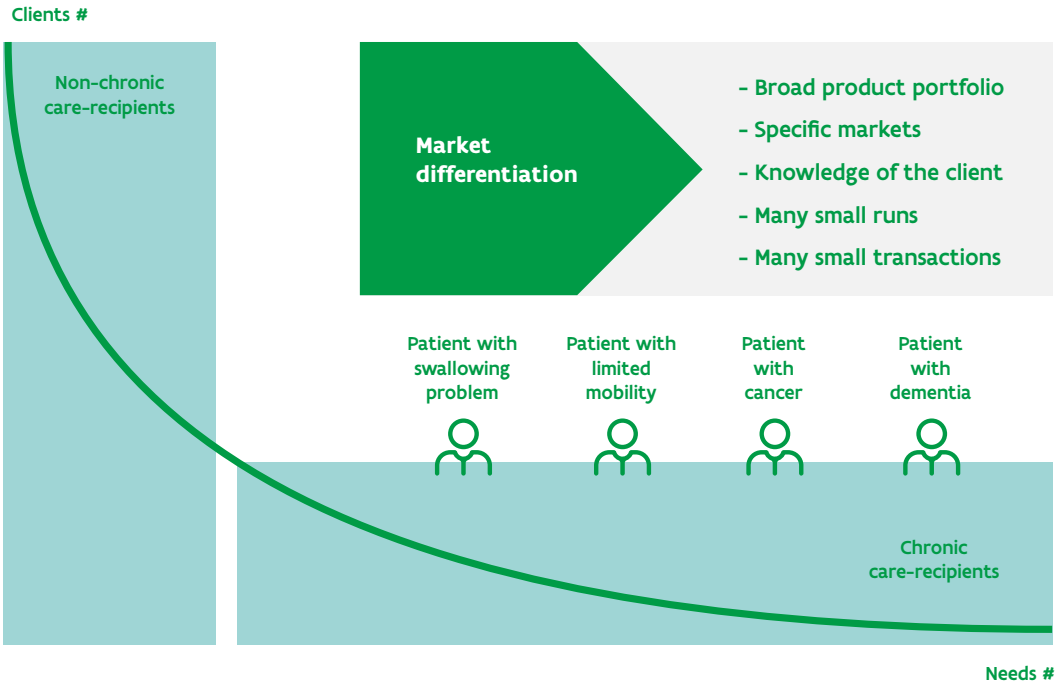
Our health system is currently at an important crossroad. Better access to health information and revolutionary medical breakthroughs make personalised healthcare possible. This means that persons with a care need can look for services and treatments that are geared to their personalised objectives and challenges. For example, there is a user-driven healthcare and welfare system in which users select online tools, technologies and other resources tailored to match their needs.

The explosion of over 97,000 mobile health apps worldwide clearly illustrates this change. They are used mainly for the self-management of personal goals and in peer-to-peer communities in which information is exchanged outside the traditional paradigm of healthcare-provider/care-requester.

Personalisation is used more often in industry to gain a competitive edge. Think of multinationals such as Disney and Amazon, which use consumer preferences to personalise and strengthen customer experiences and to gather valuable customer analyses. Another example: in the banking sector, customers use secure online portals to access services that are geared to their individual preferences and risk levels.

Chris Anderson called this market strategy 'Long Tail' in his article in Wired Magazine from October 2004 to describe the business models of players such as Amazon.com or Bol.com. He expanded this further two years later in his book 'The Long Tail: Why the Future of Business is Selling Less of More'⁹. His theory states that products that have fewer buyers or for which there is less demand can still gain a greater market share than popular bestsellers provided the store or distribution channel is big enough. Translated to healthcare, that viewpoint looks like this:

Figure 5: long tail economy in healthcare



Companies and healthcare-providers wanting to develop integrated business models are able to apply similar techniques for personalising care for individuals and populations. In his article 'It's all about me', Charles Alessi identified ten possible steps for doing this¹⁰:

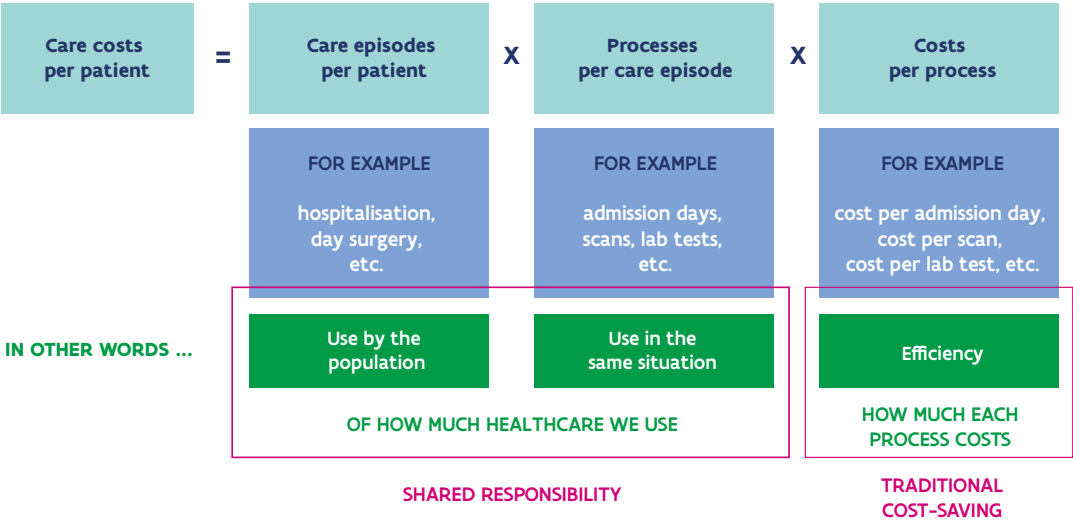
1. Talk about the person, not the disease. People assess their experience in healthcare by how they are treated as a person and not how their disease is treated.
2. Define success in terms of the health and welfare aims of the person and not the diagnosis or the prescription of the provider.
3. Indicate the person responsible for the decisions, not the provider. A personalised system supports individuals, families or communities in taking decisions about their own health. He or she also develops healthcare strategies by offering the entire spectrum of options and how they intersect with one another during the lifecycle.
4. Switch care processes from 'one size fits all' to 'one size fits one'. Current clinical protocols must be supplemented and personalised to fit the lifestyle, values and personal health objectives of users.
5. Stop competing and work together. Change the incentives for providers to achieve results in the short and long term, instead of just providing services. Outcomes encourage health workers or organisations to work together to determine the most efficient and effective strategy for achieving results on a whole population level.
6. Make connections. Provide all members of the health team, including users, with digital tools. That way they can be active partners in managing their own health and wellbeing.
7. Get information out to everyone. By having access to their health information, users can take informed decisions and take the lead in terms of their health and wellbeing.
8. Adjust healthcare to the needs, expectations and values of the population. Different segments have different needs and challenges when it comes to their health.
9. Make the population responsible for defining value. People must define value for healthcare systems and then work together to decide which services will be provided and what results will be paid for in the financing models.
10. Measure what is important. The current metrics for assessing healthcare systems must be supplemented and strengthened so that they reflect value for individuals, communities and populations. This means measurement values that measure the health and wellbeing targets, the health outcomes of the community and the wellbeing and quality of life of the population.

SHARED ACCOUNTABILITY

For many managers in companies who focus on healthcare, it is important to position their organisations strategically. That way, working with the healthcare-providers, they can create a solution that can have an impact on the cost of providing care and improve the outcomes of the users of that care. A joint approach offers various benefits, such as better access to user data and analyses from the real world. That may lead to actions that can improve healthcare still further and reduce costs. Collaboration also encourages closer and more deep-rooted relations in the whole ecosystem. It even provides potential for sharing in new value chains. These include more shared efficiencies and forms of finance-based results, such as shared risks and global capitation. In these types of collaboration it is also vital to aim for cost-efficiency and shared responsibility.

Care organisations such as Intermountain¹¹ have succeeded in past years in improving efficiency and lowering the costs per unit of care equipment and - processes. This can be done through innovations in the supply chains, turnover cycles, information systems and other initiatives that improve operating effectiveness. But costs per unit are only one component of the total cost of healthcare, with demand for care or 'population usage' and the number of processes per situation or 'intra-use' also counting:

Figure 6: cost components in shared accountability¹²



Demand for care can be affected by prevention, wellbeing and healthcare management programmes that enable people to stay as healthy as possible. If all providers adhere to demonstrable best practices in providing healthcare, they will have an impact on the number of processes per situation.

To meet the challenge of rising expenditure on healthcare, Bert Zimmerli¹³ believes there needs to be a focus on the three cost components:

1. efficiency, to analyse unit costs;
2. proven and demonstrable best practices;
3. prevention programmes and commitment of users.

However, the focus on efficiency remains and while the focus on welfare needs to be expanded, the biggest challenge lies in defining and implementing the best approach. So that the number of unfounded differences can be reduced in the way we give about users. Reshaping the provision of healthcare requires a change in organisation culture and a new mindset on the part of all the parties involved – care-recipient, healthcare-provider, the government and businesses.

With integrated collaboration, all of these parties have a common goal: to provide care of a higher quality and to achieve better medical and non-medical results. If they are successful, the growth in costs will naturally be lower. This is the 'paradox of healthcare quality': **in healthcare, higher quality often leads to lower total costs for a population.** Although this seems to be counter-intuitive, it has been demonstrated by organisations such as Intermountain Healthcare, Mayo Clinic and Cleveland Clinic. **Because when care is delivered in the right way in the right place at the right time, users experience fewer complications, have fewer readmissions and enjoy better results in general.**

One innovative approach to collaboration is the shared responsibility model. In it, everyone – businesses, providers, healthcare-providers and care-users – all help to improve results and lower costs. These models go further than traditional shifts in risk, such as contracts based on results. These are genuine partnerships, with shared commitment and responsibility for achieving results, with a smart link between shared value and shared risk. When the benefits for all parties are aligned with one another, shared responsibility models are the most effective. But the challenge lies in defining the measurement units for measuring the results effectively.

Over the years, businesses and healthcare-providers have developed capabilities that may be crucial for these models to succeed. For instance, a sound understanding of all the phases that a user goes through as part of a process can help to identify and solve pitfalls for healthcare and welfare-providers, as well as payers and care-users. Proactively exploring collaborative links with payers and healthcare and welfare-providers can increase the value of the healthcare ecosystem, while equally improving the value proposition of businesses in the healthcare value chain.

AUTOMATION AND DIGITISATION

One of the biggest challenges facing healthcare is the automation of processes – as is the case in many other sectors. Recent pressures on reforming healthcare and the increased competition lead to a greater importance in this to reduce costs and cutting the waste of resources.

According to a report from the Institute for Health Technology Transformation, **‘Automation makes public health management achievable, scalable and sustainable’**.

Automation will never be able to replace humans. But it can make the workflows of many healthcare-provision processes more efficient and improve productivity. For instance, the care-recipient can be made accountable and supported by automated check-ins and reminders. This also saves time for service-providers so that they can focus on their core business, which are more productive and which usually create more satisfaction and engagement.

Automation in healthcare delivers seven major benefits¹⁴:

1. Simplification for both the client and the healthcare team.
2. Labour-saving: if machines carry out labour-intensive tasks, this generates major time-savings and the focus can be on tasks where clinical expertise is really needed.
3. Higher quality and consistency: automation tools are not affected by human error or tiredness, which means that they function consistently. Research conducted in hospitals in Texas¹⁵ show that greater automation in the area of medical records, receiving orders and supporting decisions resulted in fewer cases of death, complications and costs.
4. Fewer slack resources: no more waste of paper, spreadsheets and other work-overs needed when the workload is too high.
5. Increased predictability of results: if users follow a standardised care pathway that is supported by automation, there is a greater chance that they will remain on the right road to the predicted results. Automation also helps detect when the user deviates from the recommended care plan, in which case the healthcare team can intervene.
6. Higher volume: a service-provider given help by automation tools is able to deal with a larger group of users at a time. Instead of scaling staffing levels up and down according to the number of users, an automated platform can be scaled flexibly to deal with groups of all sizes.
7. Data-driven insights: the technology used to automate processes can be a source of data in an environment of continuous feedback.

EVIDENCE-BASED BIG DATA

As in many other sectors, healthcare is also entering the age of big data through the use of sophisticated analytics and data science technologies. The catalyst for this transformation includes both the transition to evidence-based healthcare and the switch to value and quality-based payments. It also involves significant challenges. Because the implementation of evidence-based healthcare requires access to the latest research and all available clinical and non-clinical data from a multitude of sources. Also, a shift to value and quality-based payments requires improvements in reporting, data management, process automation and customised services.

McKinsey assumes five areas of added value for evidence-based big data¹⁶:

1. **right living:** users can extract added value from big data by taking on an active role in prevention and their own health. This information can coach, redirect and encourage them to make lifestyle choices in terms of exercise, food and diet, medication and so on.
2. **right care:** big data can contribute towards the right choice of health solutions for the users and to better coordination of models in which healthcare is central for them.
3. **right provider:** big data can help the user to select the right provider.
4. **right value:** evidence-based big data can demonstrate the added value of a bundled solution and contribute towards making an efficient choice.
5. **right innovation:** evidence-based big data makes it possible to identify new target group segments that need innovative solutions and to explore new opportunities for innovations.

SOCIAL INNOVATION

Social innovation is the development and implementation of new ideas – products, services and models – to meet social needs or create partnerships. It represents new answers to societal challenges. Social innovation in healthcare is given momentum by factors on three levels:

1. Person

- **empowerment of the end-user:** users are better informed and want to have more control over their health.
- **socialisation of healthcare:** government alone is not able to deal with the challenge of healthcare. Both market and societal solutions will be part of change.
- **collaborative economy:** the move towards a functional economy in which ownership is no longer central, but where the simplicity, accessibility and flexibility of solutions becomes more important, is sharpening the need for social innovation.
- **technology and the last mile:** a digitally connected society and the Internet of Things provide major leverage for efficiency and an active client relationship.
- **behavioural change:** healthcare begins with users and their attitude or behaviour regarding preventative and curative solutions. For them, behavioural change is often needed and then social innovation can provide significant leverage.

2. New flexible (healthcare) organisation

- **innovative collaboration:** integrated healthcare and the search for total solutions for the person with a need of healthcare brings together various healthcare organisations, social organisations and businesses as part of an innovative collaboration in which creating added value for the user is focal point.
- **innovative work organisation:** the search for greater effectiveness and efficiency and the connection of curative and preventative services require new work processes in which the impact for the client is central.
- **cooperation between formal and informal care:** innovation to create better collaboration on supporting someone with a need for care, brings formal or professional care together with informal healthcare-providers, such as unpaid carers, friends and family.

3. Systemic reforms

- **results-driven funding:** the growing trend towards financing more results-driven healthcare – e.g. bundled payments and impact bonds – is pushing organisations towards innovative models such as the accountable healthcare organisation.
- **prevention:** the growing emphasis on preventative services is contributing towards an innovative perspective and vision in healthcare institutions where health is placed centrally, rather than caring for the sick.
- **innovation to zero:** innovative models with as few negative health outcomes as possible that can be avoided through being proactive and providing good-quality healthcare. These contribute to systemic social innovations in which various parties work together in a coordinated and strategic way.

These social innovations contribute to various key components:

- **healthcare quality:** how can we develop new models in which the health outcomes of the user are central?
- **accessibility:** how can we ensure that innovative healthcare services are accessible to socially vulnerable and disadvantaged groups in society?
- **care efficiency:** how can social innovation contribute towards affordable healthcare in which healthcare quality comes first?
- **job satisfaction:** how can social innovation contribute towards better appreciation and good-quality contentment for anyone working in healthcare?
- **user experience:** how can social innovation put users first and improve their experience?
- **economic sustainability:** how can social innovation contribute towards impactful models that are economically sustainable and upscalable?



4.

New forms of collaboration

At the moment we are seeing a wave of new business models in which healthcare and other healthcare related organisations are bundling their products and services to achieve better health and enhanced wellbeing for the end-user. This collaboration is crucial. At the same time it implies that they must establish a common vision and shared objectives.

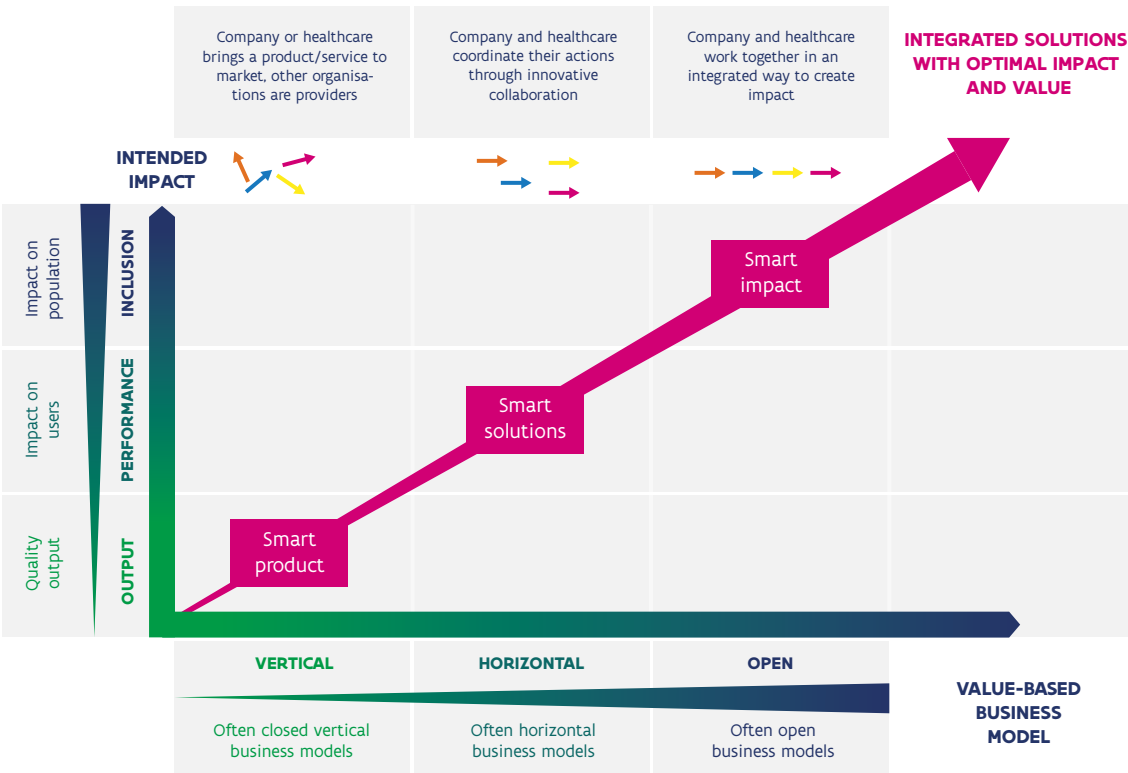
To reduce the transaction costs and increase coordination in these complex collaborative models, the digitisation of health value chains plays a major role. Digitisation also enhances business models by providing better communication with the end-user, as well as a better user experience and greater personalisation of services. In the same way, digitisation gives users and healthcare-providers more control, greater decision-making power and access to information and interaction opportunities.

Approaching society via smart segmentation has major consequences. To address diverse user needs, providers need to work together more in open and innovative business models, providing an optimal match for each target group. They also know that their partnerships are assessed on results and impact. This evolution is creating new innovation and scalability for businesses across borders and populations.

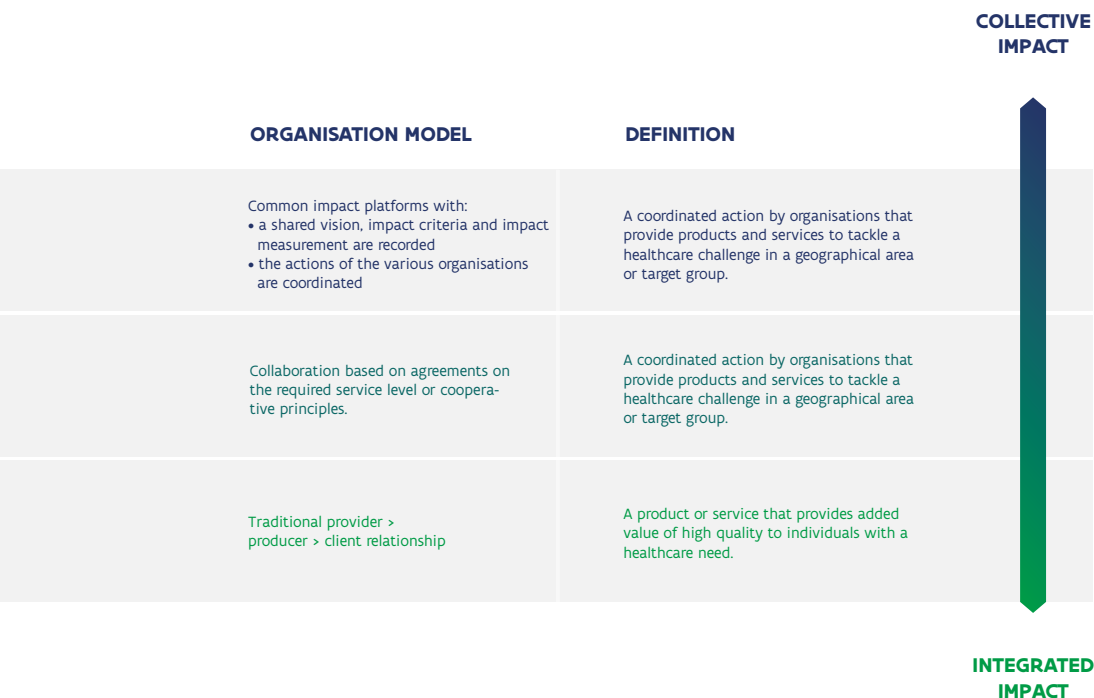
In parallel there is also renewed interest in mitigating the exponentially rising health costs as the result of the ageing population in Europe. Government agencies and health insurance organisations are looking for innovative business models with the type of healthcare that increases cost-efficiency per capita, while improving healthcare quality and the experience of the end-user: these are triple-aim models.

The evidence that services created in this type of data-driven model can effectively resolve the healthcare demands of regions or populations in an inclusive way is a major driver. Which is why these collaborations are developing shared impact indicators and measuring tools: to achieve a demonstrable result and proven impact on a population-wide regional level. This is what gives these business models their *raison d'être*. This enables them to establish new, results-driven income models and to work on a structural basis with major players. To sum up, the increase in triple-aim business models generates leverage for a cluster organisation that develops shared value strategies for achieving inclusive impact and sustainable economic growth. The European Union, with its many different healthcare systems and the broad sector of healthcare and welfare-providers, is the ideal breeding ground for developing these triple-aim models and transforming them into more preventative healthcare models.

Figure 7: closed and open business models in integrated healthcare



- 1 www.ncbi.nlm.nih.gov/pmc/articles/PMC1483944/
- 2 www.euro.who.int/__data/assets/pdf_file/0005/322475/Integrated-care-models-overview.pdf
- 3 Piet Colruyt, Marieke Huysentruyt, Johan Moyersoen, Everyone Social 3.0: Can businesses save the world?, Manteau
- 4 Michael Porter and Elizabeth Olmsted Teisberg, Redefining Health Care, Creating Value-Based Competition on Results, 2006
- 5 <https://www.lazard.com/perspective/global-healthcare-leaders-study-2017-executive-summary/>
- 6 <http://www.ihl.org/Engage/Initiatives/TripleAim/Pages/default.aspx>
- 7 <https://revcycleintelligence.com/features/understanding-the-value-based-reimbursement-model-landscape>
- 8 Michael E. Porter and Mark R. Kramer, Creating Shared Value, Harvard Business Review, February 2011
- 9 Chris Anderson, The Long Tail: Why the Future of Business is Selling Less of More (2006)



- 10 www.hsj.co.uk/comment/-its-all-about-me-how-to-personalise-healthcare/5069017.article and www.ivey.uwo.ca/cmsmedia/3467873/its-all-about-me-the-personalization-of-health-systems.pdf
- 11 <https://intermountainhealthcare.org/research/media-publications/> - Bert Zimmerli, Improving Health Care Value through Shared Accountability in Health Care Reform Insights, Winter 2013.
- 12 Figure from www.willamette.com/insights_journal/13/winter_2013_4.pdf
- 13 Bert Zimmerli, Improving Health Care Value through Shared Accountability in Health Care Reform Insights, Winter 2013.
- 14 See also <https://hitconsultant.net/2014/07/21/6-big-benefits-of-applying-automation-to-healthcare/>
- 15 <http://www.healthcareitnews.com/news/texas-hospital-study-points-benefits-automation>
- 16 The Big Data Revolution in Healthcare, McKinsey https://www.mckinsey.com/-/media/mckinsey/industries/healthcare%20systems%20and%20services/our%20insights/the%20big%20data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx



2. Innovation where industry and healthcare meet

Innovative partnerships
between private providers and the healthcare sector

Innovation where industry and healthcare meet

In 2013, Flanders Innovation & Entrepreneurship (VLAIO) launched a call for the 'New Industrial Policy Healthcare Economy'. The aim, through these funded healthcare economy projects, was to encourage collaboration between the world of business, healthcare, social profit and the knowledge sector. These collaborative models were to result in placing new, forward-looking healthcare and welfare solutions, featuring smart combinations of products and services, within reach of users.

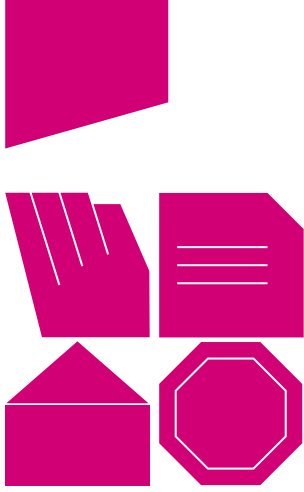
Important focal points for these models:

- the **lead customer** with a generic healthcare need;
- the **healthcare vision with international potential**;
- the **transition¹** from a classic industrial to a more sustainable growth model.
This transition is driven by open innovation, the greening and more transparency of the production system, knowledge, smart specialisation, creativity, involvement, etc. It is also focused on societal challenges, needs or requirements that have clear economic effects as well as a societal impact;
- the **'New Factory for the Future'²**, as a production and services company for the 'manufacturing' of solutions with high added value and societal impact;
- **multidisciplinary and cross-sector** collaboration with stakeholders from the healthcare sector (care & cure) and the business world;
- **open innovation and shared IP**.

The four projects fit together seamlessly into Vision 2050 and provide answers to 'Health in all policies', an approach that is also being promoted by the WHO³ for the purpose of putting the health policy into practice across all policy areas and levels. They also form an integral part of the transition priority 'Living Together in 2050'⁴.

'Health in all policies' in turn hooks into the transformation priority 'Industry 4.0'⁵. Because in the years ahead, the technology revolution – which includes artificial intelligence, nanorobotics and big data – will provide a boost to the development of new production processes, business models and solutions.

In this whitepaper, we present you with the results of the four projects selected. All of them are innovative business models that benefit society and which could generate economic impact worldwide.



1. Four smart business models with triple-aim impact

The NPCC ('Nutrition Platform for Chronic Care'), 2ZEN (TOEgankelijk Zorg Economisch Netwerk), Mobiele Zorg and ILOZ (Integrale LijnsOverschrijdende Zorg) projects each tackle a different challenge. The consortiums behind them have developed a blueprint for an innovative health-care organisation and business model that have impact in the area of care perception, health outcome and cost-efficiency. Societal impact here goes hand in hand with added economic value.

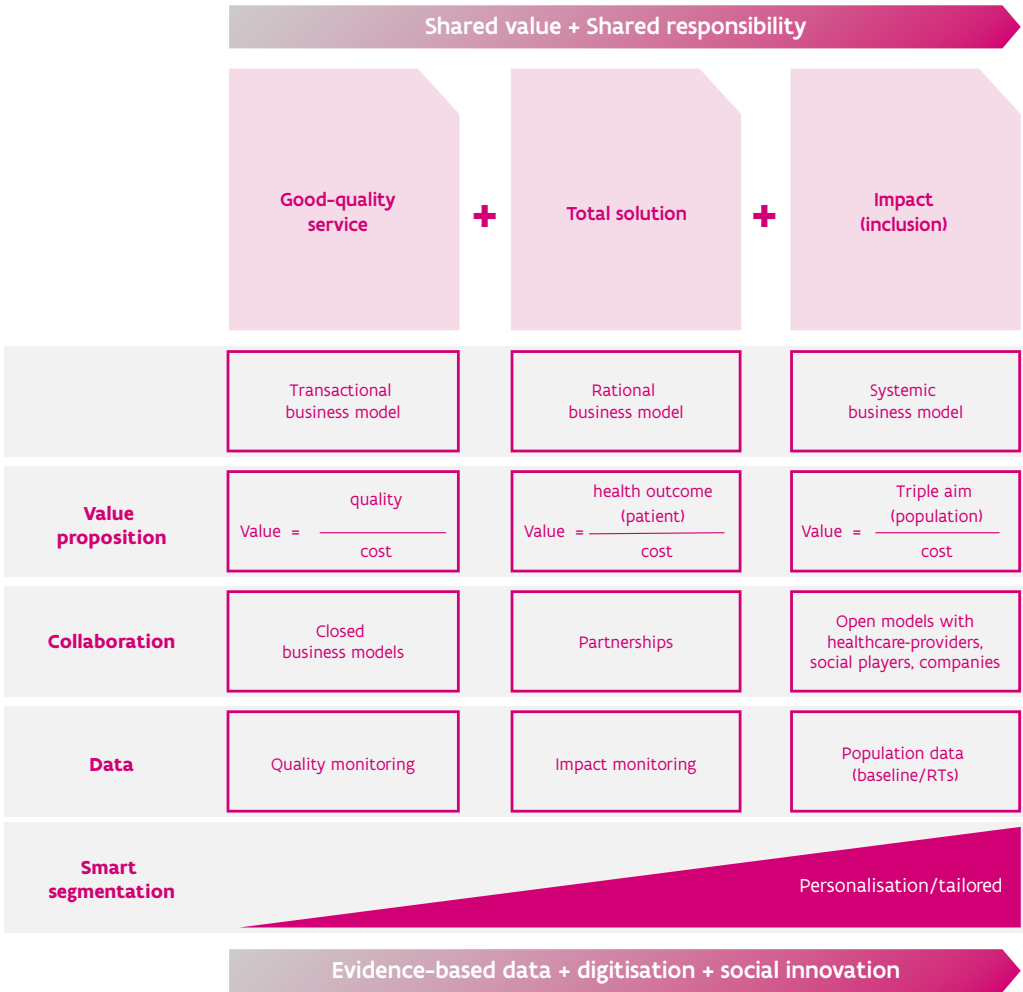
Each project has developed an innovative business model that consists of:

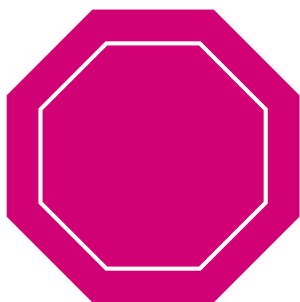
- a transactional business model
- a relational business model
- a systemic business model

Based on these three layers, each project has examined how to achieve triple-aim impact in its own area: cost-efficiency per capita, care quality and the improvement of health outcomes per capita and the improvement of the user experience.

Each model is based on five drivers: personalisation, digitisation and automation, evidence-based big data, shared accountability and social innovation.

Figure 1: basic components of an integrated business model in care





1.

NPCC: nutrition platform for people with a chronic care requirement

Malnutrition and poor diet are common side effects in people with a chronic condition, both in the home situation, in residential healthcare centres and hospitals. For example, it is reported, in European hospitals – depending on the study method used – that 20% to 62% of patients are malnourished. Sometimes the problem of diet existed prior to admission, at others it only occurs in the hospital or is exacerbated during the patient's stay. A reduction in muscle mass, a reduction in taste and loss of autonomy all have a role to play in this.

Anyone who receives too little nutrition or the wrong types of food is likely to see increased complications and (re-)admission, quite apart from struggling with an increased risk of dying. The result: longer stays in hospital and an overall increase in the health costs on a whole-population level. NPCC, which stands for 'Nutrition Platform for Chronic Care', aims to decrease malnutrition and poor diet by implementing an integrated services solution.

INTEGRATED SERVICES MODEL

NPCC seeks to offer an evidence-based personalised total solution in the area of diet for people with a (risk of a) chronic condition. The aim is to penetrate a growing economic market, eliminate malnutrition in our society and achieve a triple-aim⁶ impact. To do this, NPCC intends to set up an innovative company with healthcare-providers and industrial players based on an integrated business model: to deliver scalable economic results with a societal impact.

**‘Nutrition Platform for Chronic Care’ (NPCC)
aims to halt malnutrition and poor diet with
an integrated services solution.**

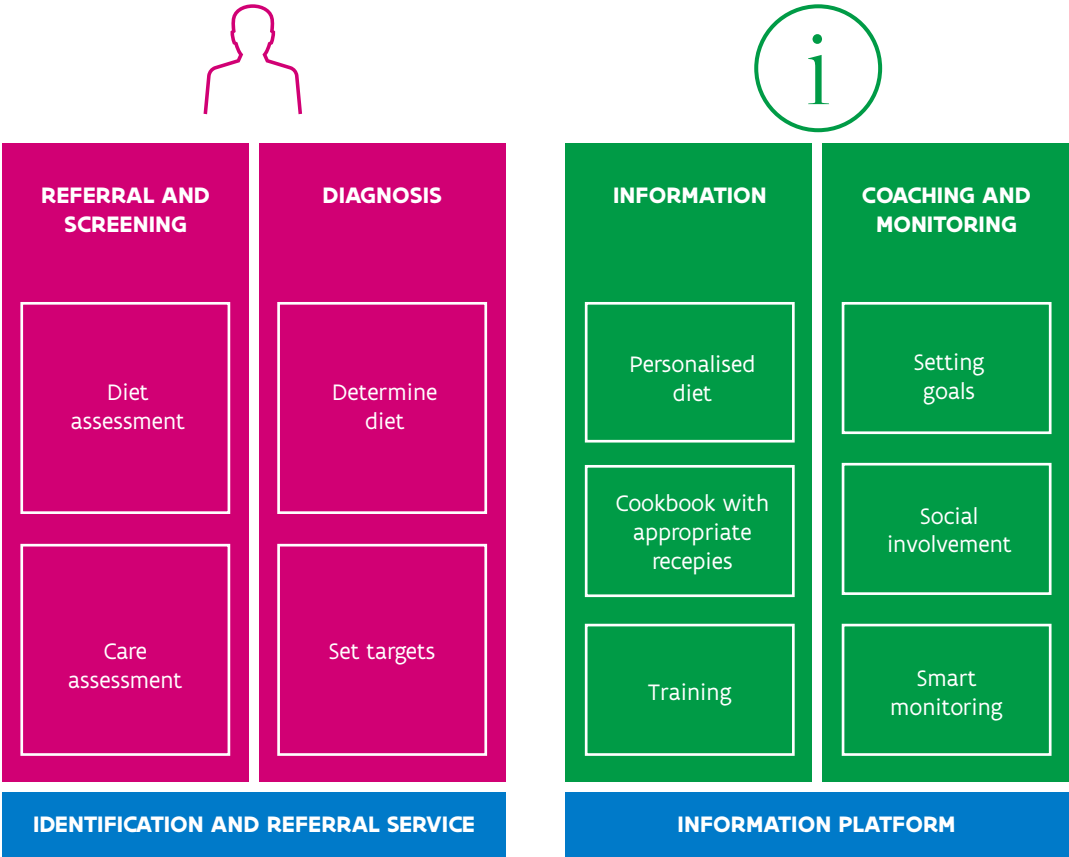
NPCC offers its clients a total concept. The various phases in the integrated services model are (1) refer on and screen, (2) detect malnutrition and overfeeding, (3) establish the diagnosis, (4) provide information, (5) advise and coach, (6) provide diet solutions in the home situation and healthcare centres, (7) offer personalised meals, (8) order via an online platform (intramural and extramural), (9) provide solutions for logistics and regeneration, and (10) monitoring and reporting.

The products and services need at the same time to be ‘comfortable’ (taste good, offer sufficient choice, be easy to prepare, be available and affordable) and encourage the ‘ability to manage’ (to be reliable, informed, action-focused, interactive and autonomous).

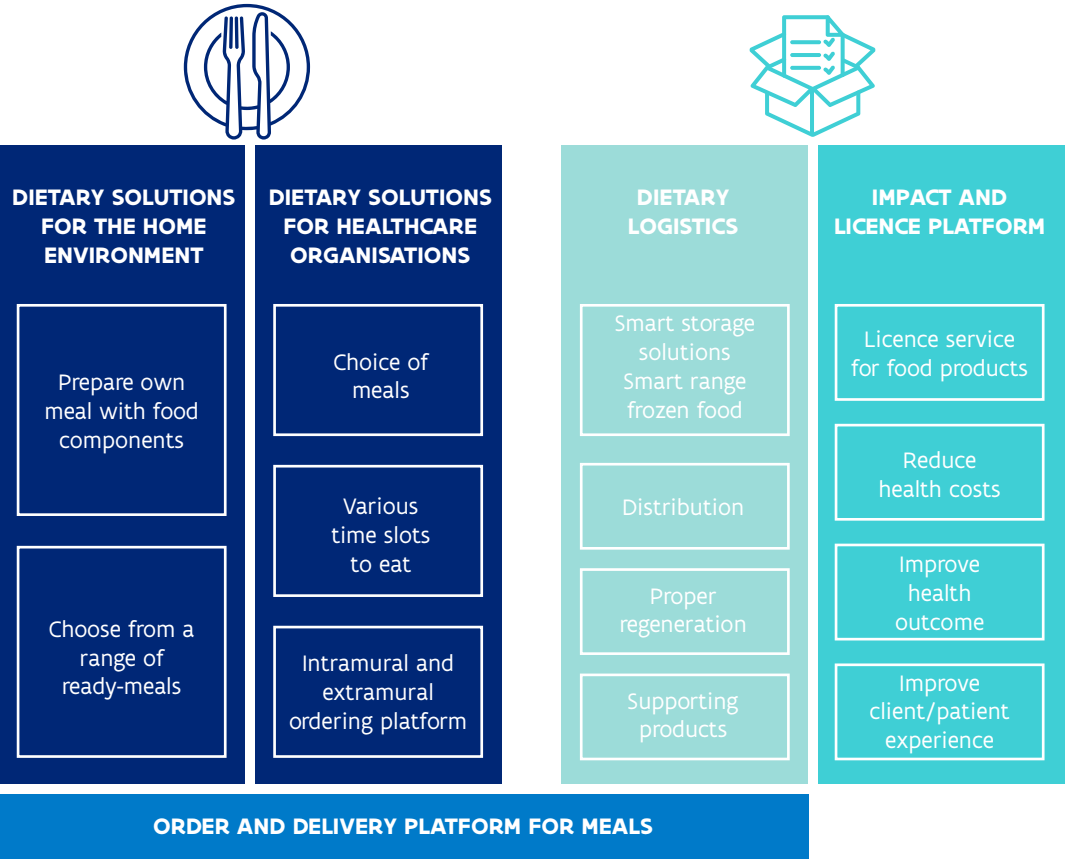
FOCUS ON 3 KEY MARKETS

The dietary requirements of a person with dementia are totally different from those of a cancer patient. Which is why NPCC does not want to market a generic solution, but instead seeks to offer products and services tailored to various niches. In the first instance, NPCC is focusing on 3 key markets:

- 1. people with (risk of) a chronic care need in the home environment, from people who are still capable of cooking for themselves, to people with physical problems and for whom buying and cooking their own food is no longer an option;
- 2. people with (risk of) a chronic care need in a residential healthcare centre;
- 3. people with (risk of) a chronic care need in an hospital.



Depending on their specific situation and needs, clients decide about the services they take. For example, they can arrange to have dietary advice and diet screening, prepare their meals themselves using meal components or order ready-meals. Within each product range, seasoning and texture can be adjusted to individual tastes, dietary requirements, problems with chewing or swallowing and so on.



THE VALUE-DRIVEN BUSINESS MODEL OF NPCC

1. Transactional component	<p>Bundled product and services model:</p> <ul style="list-style-type: none">• End-user with (risk of) a chronic condition who needs a dietary solution.• Monthly payment for:<ul style="list-style-type: none">(a) a standard package for food (meal components and/or ready-meal);(b) access to the online information platform;(c) access to the coaching and monitoring tool;(d) rental of a storage and regeneration facility. <p>Automated ordering platform:</p> <p>Additional orders of meal components and ready-meals are placed automatically using a smart connection, with stock management and local storage.</p>
2. Relational component	<p>Reference model:</p> <ul style="list-style-type: none">• Providers within healthcare (first-line and second-line) and services who refer clients to NPCC;• Incentive model to encourage referrals: (1) commission on new clients and (2) contribution into a fund for further development of dietary solutions for people with (risk of) a chronic condition(s). <p>Co-branded licence model:</p> <ul style="list-style-type: none">• NPCC obtains intellectual property rights for the product/ service combination and support of evidence-based impact;• NPCC obtains exclusivity to market and sublicense products with an 'evidence-based' label;• NPCC grants a royalty to the fund for further development of dietary solutions for people with (risk of) a chronic condition(s).

<p>3. Systemic component</p>	<p>Results-based financing model:</p> <ul style="list-style-type: none"> • NPCC includes a mechanism through which government departments and/or other third parties can co-finance on condition that they achieve triple-aim impact – better care efficiency, health outcomes and patient experience. • NPCC provides a smart segmentation so that third parties can offer cross-financing discount vouchers to vulnerable individuals.
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INTEGRATED COLLABORATION

To optimise the integration of impact and economic return, NPCC has a dual legal structure: a CVBA (limited liability cooperative) and a foundation. The foundation owns the licence to the impact measurement and – if possible – the intellectual property of the meal component. The foundation then grants its licence exclusively to the CVBA – NPCC Coop – in exchange for a licence and referral fee. The CVBA and foundation will manage an open business platform on which interested parties from the food industry, healthcare sector and patient/user organisations can find each other to develop new food/dietary solutions:

- **Product innovation:** co-development of innovative food solutions between patient/user organisations, knowledge institutions, healthcare-providers and industry;
- **Pilot test region:** development of a pilot test in the region of Midwest Flanders to measure quality, output and impact indicators in an evidence-based way;
- **NPCC domestic market:** the start of a cooperative with industrial parties and healthcare-providers, who together contribute to good coverage with end-users in the domestic market;
- **NPCC franchise:** the roll out of a franchise model for marketing in other European countries.

BUSINESS MODEL WITH VARIOUS DRIVERS

1. Personalisation	<ul style="list-style-type: none">• NPCC develops targeted food/dietary solutions customised for people with (risk of) a chronic condition(s) by personalising:<ul style="list-style-type: none">- the quantities, the level of seasoning and texture of the meal components in each product range;- the additional services for uptake of the meals;- the integration of other services, such as exercise and social contact.• Each individual is given a personal diet and action plan.• NPCC offers individual coaching and innovative social incentives.• Within the risk group for malnutrition, NPCC segments each client for tracking and monitoring.
2. Digitisation and automation	<ul style="list-style-type: none">• Smart technologies are used in the production process, such as IQF for freezing food.• Intensive tracking and stock management technology ensure an efficient logistical process.• A smart referral and ordering platform (intramural and extramural) encourage circulation between healthcare-providers and NPCC.• Systems will be developed for digital monitoring and coaching.
3. Evidence-based (big) data	<ul style="list-style-type: none">• Data analysis results in finer and smarter segmentation to develop the right combination of products and services.• People with a risk profile of malnutrition are closely monitored via screening and data monitoring so that preventative intervention is possible.• Data-collection on a whole-population level can enable accessibility to and the inclusion of all groups in society to be monitored and reinforced.• By measuring a host of indicators and defining intervention logics, objective measuring solutions will be developed.

<p>4. Shared accountability</p>	<ul style="list-style-type: none"> • Accountability in the production process: through intensive traceability of food, traceability and accountability will be encouraged across the whole value chain. • Accountability in the healthcare chain: linking intramural and extramural to counter malnutrition in hospitals, healthcare institutions and the living environment. The aim is to avoid the escalation of healthcare needs and contribute to better health outcomes. • Accountability in management: use automatic stock management to ensure that a meal is always delivered to the home; achieve efficiency gains in ordering and sales. • Early warning trigger: speed up communication within the care team and prevent an escalation in healthcare by incorporating an alert function and offering transparency. • Smart incentives: achieve greater care efficiency and better healthcare via a system of 'health coins'.
<p>5. Social innovation</p>	<ul style="list-style-type: none"> • Self-care: the end-user is given tools to make a meal in line with his or her capabilities (a cookbook for preparing meals using the person's own ingredients, cooking with meal components or ready-meals). • Personal goals: NPCC works with the end-user to establish achievable and impactful personal goals in terms of food/diet, exercise, social contact, etc. • Active involvement of volunteers: voluntary carers are given an active role in providing food support for a person with a care requirement by way of information, training, coaching and incentives. • Social isolation: as part of its bundle of services, NPCC provides various actions to help counter social isolation. • Health coins and social incentives: a reward system is used to support people achieve their personal goals. • Innovative collaboration: between food companies, healthcare-providers, patient organisations and knowledge institutions.

PILOT PROJECT IN ROESELARE

As part of an initial test of the project model, NPCC will develop and produce appropriate food components for a limited group of people with Parkinson's disease or Parkinsonism who have problems with chewing and/or swallowing. The aim is to test the whole process in the field and to gather insights about taking meals in this specific target group. The test group is made up of people in their home environment, in a residential healthcare centre or in a hospital in the Roeselare area. The pilot partners are healthcare organisations, food companies, logistics-providers, patient/user associations and a government body.

“People with problems chewing and swallowing take up to 45 minutes over a meal. In addition to good presentation on the plate, a good balance of moisture and the ‘controlled release’ of taste and flavour are an absolute must.”

– Yves Meersseman, driving force and general coordinator Parki's cooking atelier

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- 1 www.vlaanderen.be/nl/publicaties/detail/witboek-een-nieuw-industrieel-beleid-voor-vlaanderen
 - 2 http://ec.europa.eu/research/industrial_technologies/factories-of-the-future_en.html
 - 3 http://www.who.int/social_determinants/publications/9789241599726/en/
 - 4 <https://www.vlaanderen.be/nl/vlaamse-regering/visie-2050/samen-leven-2050#nieuws>
 - 5 <https://www.vlaanderen.be/nl/vlaamse-regering/industrie-40>
 - 6 Triple-aim: reduction in health costs on a whole-population level, better health outcomes and better client/patient experience



2.

2ZEN: hub for care solutions

The figures don't lie: today, 1 Belgian in every 4 has a chronic condition and as the result of a fast-ageing population, that proportion will increase quickly over the coming years. The number of long-term sick workers is also on the rise, reaching in excess of 400,000 at the end of 2017. All of which boils down to the fact that every Belgian will be looking for a suitable care solution at least once in their life.

Acting as matchmaker between care-recipients (voluntary carers and end-users) and health-care-providers sums up the concept behind 2ZEN. The Accessible Care Economic Network project in Flanders aims to develop a digital platform where people can find an appropriate solution for every healthcare requirement, taking a non-clinical approach. It will not include its own care offering, but call on services from a network of providers. The specific cluster of services that will be presented to the care-recipient will be put together based on data from other users with a similar profile.

Thanks to 2ZEN, the care-recipient gains control over the entire care process.

INTEGRATED SUPPORT SERVICE

ZZEN's mission is to support people with a care need by taking a non-clinical approach in their search for an appropriate solution. This is done through 4 key tasks:

1. end-users and their care team help to **define the right care need** by developing the care profile based on smart data;
2. by working smartly with digital healthcare-providers, **optimise and simplify** the choice, coordination, financial and administrative handling of formal and informal care coordination;
3. **put end-users and their care need at the centre** by allowing them to decide themselves on which parts of the tasks need to be coordinated and how;
4. track and monitor care quality, care efficiency and user experience in order to achieve better care. ZZEN wants to **acknowledge people** who contribute towards better healthcare in a caring environment **and reward them 'socially'**.

ZZEN offers informal carers and others who take on the task of coordinating care an integrated support service made up of (1) clarifying the request for help, (2) matching care requests and solutions, (3) authorisation, (4) an ordering platform, (5) financial and administrative simplification, (6) tools for taking care of the coordination (e.g. communication, task planning), (7) health coins and social incentives, and (8) monitoring and reporting.

The aim is to develop a user-friendly digital platform to do this. Based on the specific need for healthcare, the platform will respond with an appropriate care cluster, as well as keep the continued process along the right lines:

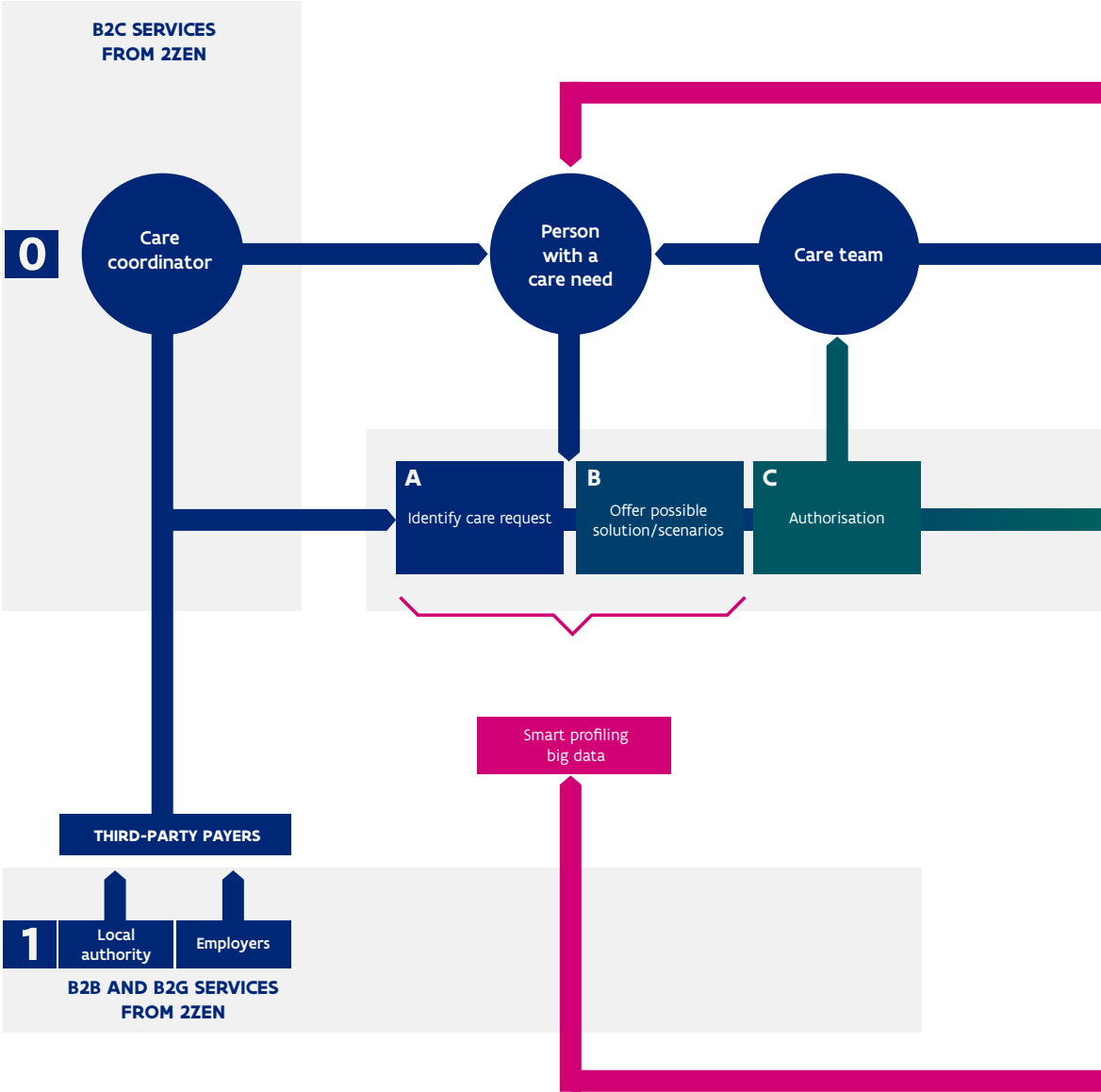
- authorisation and sharing out of tasks and roles;
- ordering and monitoring services;
- personal budget management and administrative follow-up;
- communication within the care team.

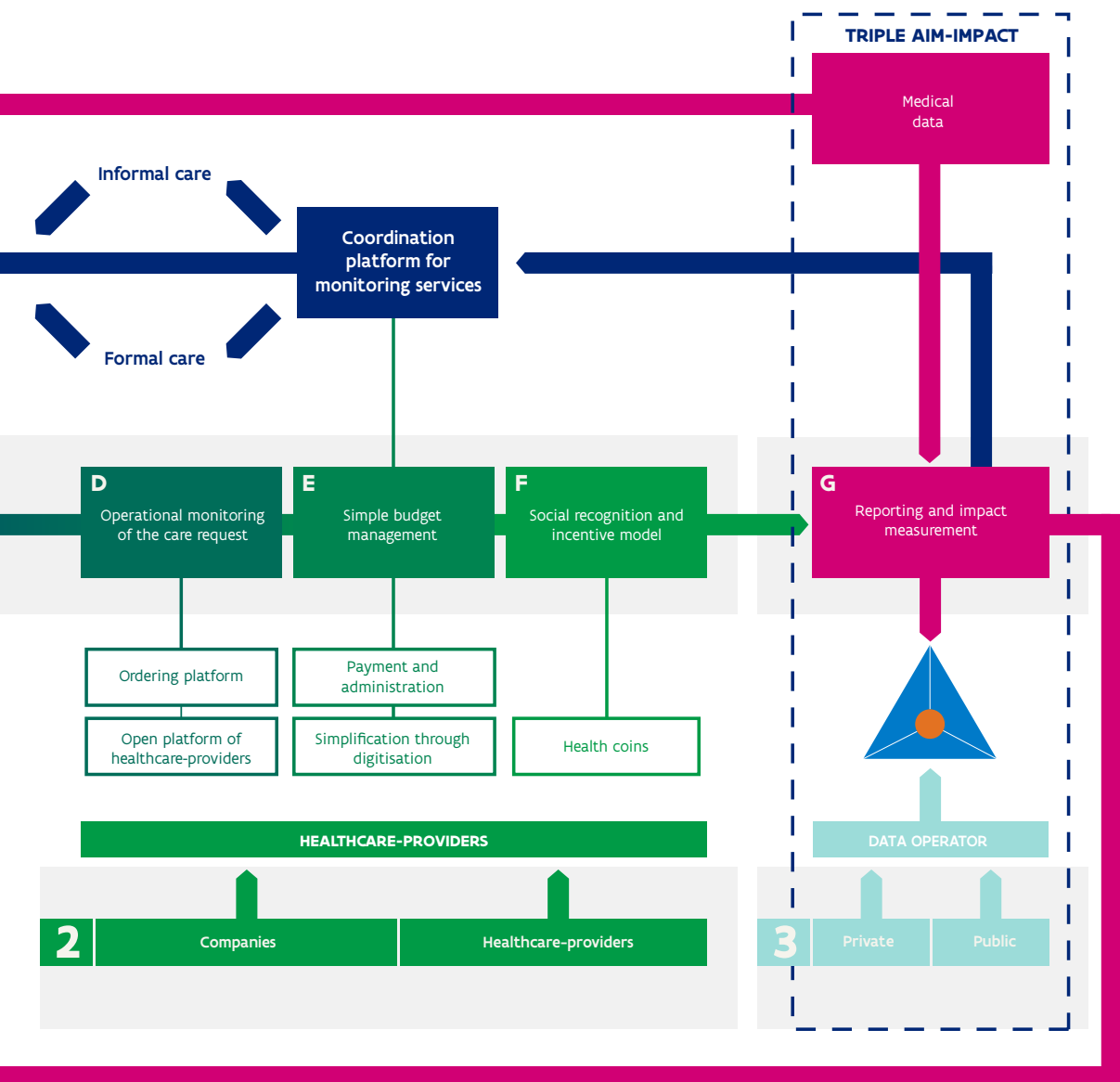
CARE-RECIPIENTS DECIDE ABOUT THEIR OWN CARE PROCESS

Thanks to ZZEN, the person requesting the care is given control over his/her whole care process. In this way, the concept fits seamlessly with the personalised budget of the Flemish government, in which people are able to purchase their own care and support services.

In the **B2C market**, ZZEN focuses on 3 segments: (1) self-care (people who want to better coordinate care for themselves or for their partner), (2) informal care (people who want to organise the care for someone else better) and (3) professional care coordination (people who professionally organise the formal and informal care for a person, including care coordinators and case managers).

ZZEN also aims at the **B2B market**: (1) organisations (e.g. companies, social organisations) and local authorities that want to provide support to their informal carers, (2) product and/or service-providers who offer added value in care or care coordination, and (3) organisations wanting to have an impact on a whole-population level (e.g. public and private health insurers).





2ZEN'S VALUE-DRIVEN BUSINESS MODEL

1. Transactional component	<p>Freemium model:</p> <ul style="list-style-type: none"> • For people handling the coordination of care for someone. • Three formulas: (1) free basic product (services limited to defining the request for care), (2) integral product (subscription formula) and (3) premium service (integral product and personal support in the form of 'mini' case management). <p>Third-party payer model:</p> <ul style="list-style-type: none"> • For organisations (e.g. companies, social organisations) and local authorities that want to provide support to their informal carers. • The organisations pay an annual contribution to make the 2ZEN services accessible for a clearly delineated target group (e.g. residents of a local authority area, client base, employees). The price depends on the term, size of the target group and type of end-user.
2. Relational component	<p>Commission-based income model:</p> <ul style="list-style-type: none"> • For providers of products and/or services who offer added value in support or coordination. • Every provider pays a commission per transaction that is triggered through the platform. • Advantage for certified providers: i.e. providers with which 2ZEN has an SLA in place.
3. Systemic component	<p>Result-based financing model:</p> <ul style="list-style-type: none"> • For organisations wanting to have an impact on a whole-population level (e.g. public and private health insurers). • The insurer pays a bonus when previously defined output and/or impact indicators (triple aim) are achieved. <p>Subscription model:</p> <ul style="list-style-type: none"> • For organisations wanting to access anonymised data (in line with GDPR legislation). • They pay an annual contribution.

INTEGRATED COLLABORATION

2ZEN sets up a cooperative structure between healthcare-providers and digital service-providers, on the one hand, and third-party payer organisations – which want to offer the service to their members – on the other. As such, the organisation fulfils a bridging function between the various parties, designed to achieve a triple-aim impact. To make this possible, 2ZEN creates a shared vision, coordinated action and develops overarching impact and outcome indicators. It also optimises the added value of the parties working together as part of a sustainable economic model, while not itself searching to maximise profit or dividend.

2ZEN’s open business model can be accessed by all service-providers. Although a distinction is made between certified providers with which 2ZEN has signed an SLA – and non-certified ones. Organisations can use a data platform to identify new wishes and requirements, segment their target audiences in a smarter way, and develop evident points about certain combinations of products and services.

BUSINESS MODEL WITH VARIOUS DRIVERS

1. Personalisation	<ul style="list-style-type: none">• 2ZEN links the non-clinical care request of a person with the selected care solutions of people with a similar profile.
2. Digitisation and automation	<ul style="list-style-type: none">• An end-to-end digital platform that (a) clarifies the request for care, (b) offers clusters of solutions, (c) distributes authorisations and role tasks, (d) monitors the ordering of services, (e) simplifies payment and administration and makes them transparent, (f) gives incentives to individuals within the support network to achieve better results, (g) encourages communication within the care team, and (h) enables impact and reporting.

	<ul style="list-style-type: none"> • Digital linking of care supply and demand. • Personal digital budget management and administrative monitoring. • Health coins: a digital incentive tool for encouraging people to take on support tasks and carry them out in a quality manner. • Blockchain to secure data centrally and place the end-user in the centre of concerns.
3. Evidence-based (big) data	<ul style="list-style-type: none"> • Smart profiling: use big data to develop smart profiles of people with a different kind of care need and match that requirement with solution clusters that they have put in place to meet this demand. • Impact measurement: use data from output and impact indicators to measure the impact of various solution clusters for a range of care profiles. • Population management: identify factors that enable healthcare quality to be improved for various target groups in society, based on as large a volume of data as possible.
4. Shared accountability	<ul style="list-style-type: none"> • Smart authorisations: all members of the network around the care-recipient – including professional healthcare-providers – are able to go through and guide the full process and be accountable for it. In this sense, the ZZEN process is a ‘true collaborative process’. • Formal and informal care: by developing tools to bring in both formal and informal care in a flexible, complementary and usable way, ZZEN aims to obtain support that is both efficient and effective .

	<ul style="list-style-type: none"> • Digitisation: the matching of the supply and demand of healthcare, handling and automating ordering, payment and administrative monitoring to make the healthcare chain more efficient. • Smart incentives: using health coins to improve care efficiency and quality.
5. Social innovation	<ul style="list-style-type: none"> • Transparent budget management: tools provide transparency within the whole support network and make it possible to oversee the cost of the various parties involved. • Working together on formal and informal care: ZZEN establishes flexible cooperation and clear communication streams. • Authorisation and empowerment: everyone involved within the care team

“At a later stage our children will use ZZEN to find an appropriate care solution for us. In consultation with us, of course.”

– Ilse Gorissen, nurse and staff worker Policy WGK Limburg



3.

Mobile Care: temporary homecare concept in the home environment

For anyone who needs care, but would prefer to stay in the own home environment for as long as possible. Trouble is, adjustments to the home often involve major structural works. These works also are permanent in nature, whereas the healthcare requirements and the link between patient and voluntary carer are often temporary or short-lived. This means there is a need for new homecare solutions within the home environment.

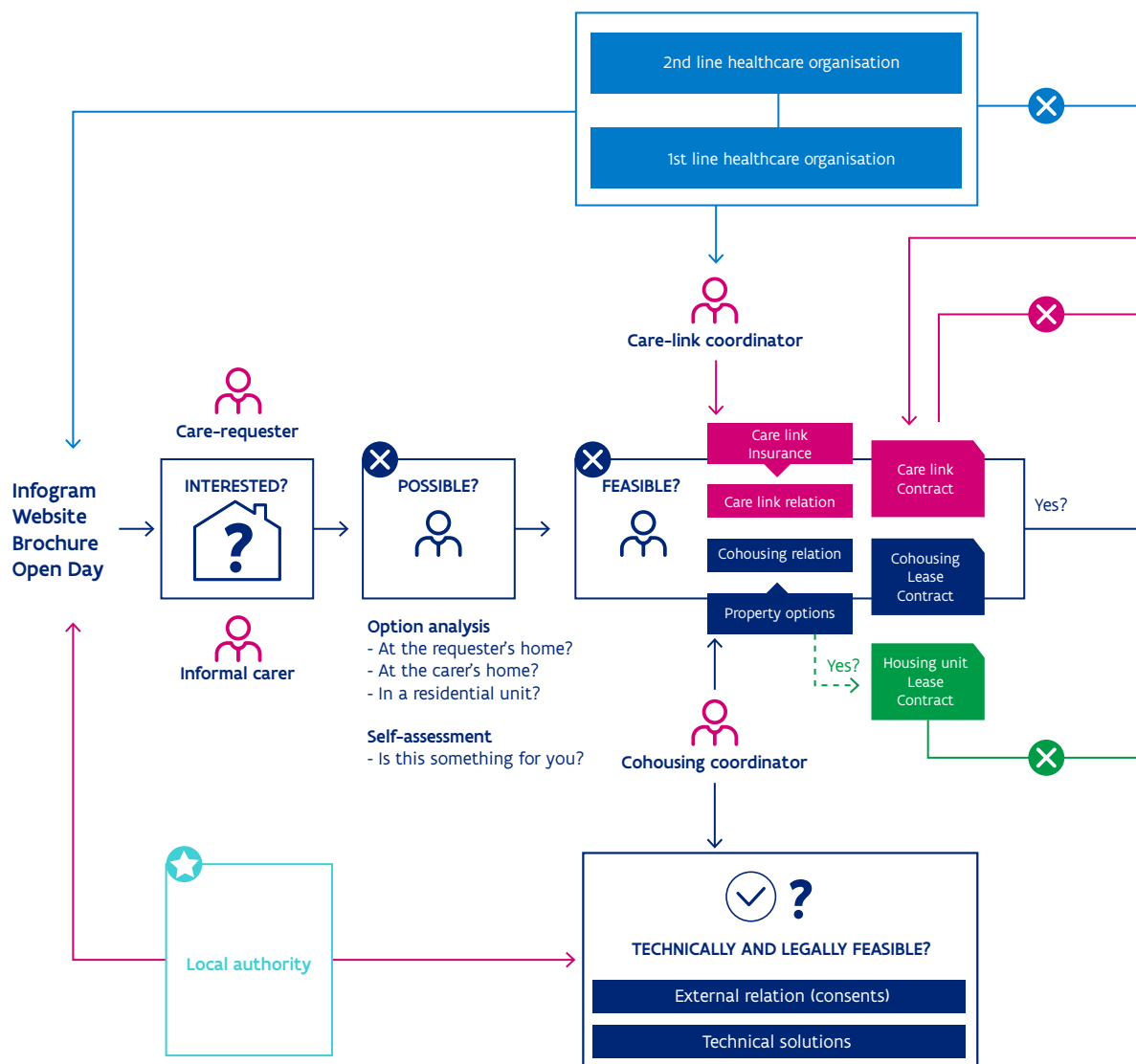
How can we, as a society, organise ourselves as well as possible so that people can be provided with quality healthcare in their own familiar environment and in doing so increase their empowerment? That was the basic question facing Mobiele Zorg (Mobile Care), a project model that straddles the issues of home construction, homecare and urban planning.

THE SOCIALISATION OF CARE

Mobile Care aims to develop functional, secure, modular residential units for people requiring care and their informal carers. But the concept is not limited to housing alone. By embedding residential solutions in the existing ecosystem of healthcare and support, Mobile Care seeks to lift the quality and efficiency of healthcare to a higher level, while also improving the user experience. This will also be an important new step in the socialisation of care in which districts can become caring neighbourhoods.

TAILORED FOR TEMPORARY CARE

The housing solutions are suited to a specific healthcare requirement, while at the same time taking account of the temporary nature of the care connection. Clear-cut care and cohousing arrangements between the care-recipient and the informal carer form the basis for this concept. Indeed, they invest together in the healthcare requirement in ways that include cost-savings, increased safety and security and by providing a way of fighting social isolation. Mobile Care works on the basis of a lease or rental model for mobile care accommodation and its additional service-provision.



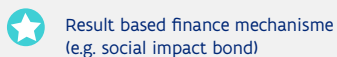
Client pays fixed amount +
Client receives the equivalent of the
value of a discount on the next
service



Advance payment (install and
remove housing unit) + guarantee
(1 month's rent) + monthly rent



Monthly insurance



Mobile Care works with four types of care accommodation. These units can be installed at the property of private individuals in the garden, but also by extension in the vicinity of residential care centres and hospitals:

- 1. **the transfer home:** the care-recipient lives in his/her garden, the informal carer in the house;
- 2. **the Mowgli home:** the care-recipient lives with the informal carer in the garden;
- 3. **bridge home:** in the context of residential care centres and (psychiatric) hospitals, temporary care accommodation units are installed as a bridge between staying in the care institution and living independently;
- 4. **sick-bay home:** the patient recuperates in a care home in the immediate vicinity of a hospital/healthcare organisation.

Digitisation and automation mean that Mobile Care is able to refine its solutions further, both in terms of functionality and cost-efficiency. The Internet of Things also makes it possible to constantly monitor the health, welfare and safety of the end-user. And, of course, technology will also play an important role in speeding up and encouraging communication streams between the various parties involved in the care and support team.

1. Transactional component	<p>Advisory and voucher model:</p> <ul style="list-style-type: none">• For anyone interested in allowing a mobile care accommodation unit on their property.• The end-user pays an amount for advice in advance.• Voucher: the end-user orders a mobile care accommodation unit, then that amount is converted into a discount on the installation costs. <p>Rental model with additional services:</p> <ul style="list-style-type: none">• The end-user pays a monthly rent and a rental guarantee for the mobile care accommodation unit.• In addition, there is a monthly cost for monitoring, access to the emergency center, communication and other services.• The user pays a fixed amount to install the unit and have it removed again.
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2. Relational component	<p>Reduction model:</p> <ul style="list-style-type: none"> • For product and/or service-providers that offer added value in fitting out the care accommodation unit, relocating and supporting the end-user and the informal carer. • Providers offer the end-user a discount on the transactions.
3. Systemic component	<p>Pay-for-performance model:</p> <ul style="list-style-type: none"> • For organisations that operate directly with higher cost-efficiency or better quality outcomes from Mobile Care. • The organisations pay for a share of the efficiency gains achieved to Mobile Care. <p>Results-driven model:</p> <ul style="list-style-type: none"> • For organisations that gain their profit from a more dynamic property market or caring neighbourhoods. • The organisations cross-finance advice and/or part of the rent in order to increase accessibility.

INTEGRATED COLLABORATION

Mobile Care sets up an innovative company with these players in investment capital:

- industry: companies with R&D capacity to develop further innovations in flexible, mobile residential care solutions;
- healthcare-providers: healthcare organisations with R&D capacity to develop innovative products and/or services for mobile, flexible residential care accommodation;
- financing: players that can strengthen Mobile Care in developing the growth of strategic relations regarding the pre-financing of the residential units;
- businesses: players with the know-how for marketing innovative and disruptive residential care solutions.

To develop, test and market innovative and flexible residential care concepts, an open innovation model is used. Mobile Care is developing a shared IP model to anchor the intellectual property of the concepts to the company. A franchise model is used for further upscaling in Europe.

BUSINESS MODEL WITH VARIOUS DRIVERS

1. Transactional component	<p>Mobile Care develops flexible care and living solutions tailored to end-users and their care and support environment.</p> <ul style="list-style-type: none">• Open: products and services in a modular and flexible model tailored to the client and the various (healthcare) requirements.• Functional: products and services with innovative product-service combinations to be able to take optimum advantage of the changing wishes and requirements of the end-user.• Integrated: residential solutions within the existing care team and local ecosystem of support to achieve better healthcare quality, care efficiency and user experience.• Co-housing agreement: establish co-housing terms tailored to the end-user and the informal carer.• Informal care agreement: establish care and support arrangements tailored to end-users and their informal carers.• Smart: measure the outcomes and impact of the products for clients in an evidence-based way in order to improve the products and services. In this, value for the client (better health outcomes and client experience) and cost-efficiency are at the focus.
2. Digitisation and automation	<ul style="list-style-type: none">• Increase accessibility and the social contact between the residential unit and the environment.• Use IoT technology to make it possible to closely monitor the health, welfare and safety of the user.• Drive the sales cost down significantly and inform end-users and their voluntary carers better.• Speed up and encourage communication within the care and support team.

3. Evidence-based (big) data	<ul style="list-style-type: none"> • Impact measurement: use analysis of big data to gain insights into the terms of flexible and mobile care accommodation for various target groups in society, so that care efficiency, healthcare quality and client experience can be improved. • Advanced patient care: detailed data capture and monitoring make it possible to provide better services, such as the development of early-warning indicators for preventative assistance. • Population management: big data makes it possible to detect triggers and tools that increase accessibility and receptiveness for all social target groups. • Virtual sick-bay: by linking data with healthcare institutions, extensive extramural monitoring becomes achievable.
4. Shared accountability	<ul style="list-style-type: none"> • Integrated collaboration: promote integrated care by supporting collaboration in the area of co-housing and aspects of informal care. • Formal and informal care: develop tools to organise the coordination between formal and informal care in a flexible, complementary and usable way and hence increase the efficiency and effectiveness of support. • Early-warning trigger: speed up communication within the care team and prevent the escalation of care by building in transparency and alert functions.
5. Social innovation	<ul style="list-style-type: none"> • Empowerment of the end-user: he or she is able to stay in their familiar environment for longer. • Empowerment of the voluntary carer: he or she is reinforced in his or her role. • Co-housing agreement: facilitate the organisation of the co-housing relationship. • Informal care agreement: facilitate and monitor the care link. • Collaboration between formal and informal care: capitalise on flexible cooperation and good communication streams between formal and informal care.



4.

ILOZ: one-stop shop for support at home

In recent years we have seen a notable shift from intramural care – in a healthcare institution – towards homecare. As such, elderly people requiring care are able to stay living at home for longer, instead of moving to a residential healthcare centre. There have also been systematic cuts to the length of admissions to hospital, resulting in large numbers of patients still requiring after-care in their home environment. In both cases, people need support with their care and/or with the running of their household.

ILOZ is short for Integrale LijnsOverschrijdende Zorg or Integral Across-the-Line Care. Its aim is to provide individuals in a range of conditions with high-quality and efficient care, health and comfort services in their home environment. As such, their specific care needs and wishes in terms of living comfortably are central. Care-recipients and their voluntary carers are faced with the challenge of surrounding themselves with appropriate services. This means that the client can be relieved of those concerns and be generally reinforced.

SOONER BACK HOME OR LONGER AT HOME

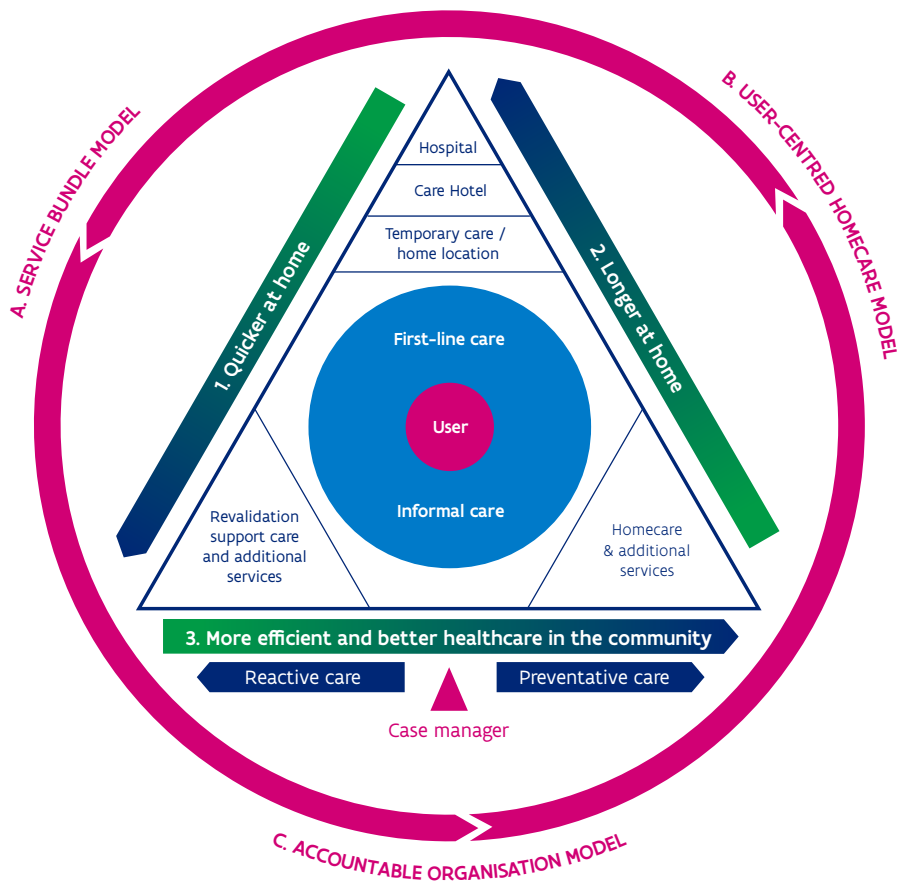
ILOZ focuses in the first instance on patients looking to recuperate at home after a hospital stay. If there is an extensive package of support in place for them, they are able to be discharged more quickly from hospital after, for example, an operation. ILOZ also targets the growing group of the elderly who want to stay for as long as possible in their familiar home surroundings, rather than have to move to a residential healthcare centre. For them, ILOZ will put together an affordable, coordinated 360° platform of services of preventative homecare and other services.

ILOZ also helps service organisations to make the person's move to a value-driven healthcare organisation faster and easier. This is done by measuring results and impact and by developing results-driven SLAs. By pooling the purchase of services and implementing intensive digitisation with the logistics process, ILOZ aims to generate significant gains in efficiency in the way services are provided.

ILOZ focuses in first instance on patients who are discharged from hospital, as well as people with a chronic care need and people preparing for a planned admission or who are following a targeted care pathway. For this group, bundles of care and comfort services are developed that enable them to recover in a high-quality way after their hospital admission or operation. Having a preliminary process enables better preparation for an admission. Examples of service bundles are: oncology, knee replacements, heart failure, pregnancy, etc.

In addition, people with a care need in the home environment also belong to the ILOZ target audience. For them, an ordering platform is developed with care and other services for living at home in a better quality manner and for longer. Finally, ILOZ uses a services package to organise community care efficiently and effectively.





ILOZ’S VALUE-DRIVEN BUSINESS MODEL

1. Transactional component	<p>Bundled services model:</p> <ul style="list-style-type: none">• For end-users who are preparing for an admission to hospital or who have just been discharged.• The end-user follows a specific pathway of bundled care and support within the home environment.• End-users pay a single invoice for their care and support cycle, with a specific health outcome as the goal (value-based healthcare model). <p>Membership model:</p> <ul style="list-style-type: none">• For end-users who live at home and have requirements for support care and comfort services.• End-users pay a limited monthly membership fee.• They are allocated a single point of contact who guarantees optimum ordering and monitoring of the comfort and care services. <p>Prepaid model:</p> <ul style="list-style-type: none">• This is where services are paid for in advance, in which case, the end-user receives a discount on care and quality services ordered.• The end-user can authorise another person (e.g. the children) to monitor orders and payments.
2. Relational component	<p>Shared accountability model:</p> <ul style="list-style-type: none">• ILOZ uses automation to actively seek out cost-efficiency in the delivery of services and products.• ILOZ takes on a proportion of the efficiency gains. <p>Commission-based income model:</p> <ul style="list-style-type: none">• ILOZ coordinates group purchases for suppliers on the services platform and then takes a commission on that.• ILOZ takes a commission on every transaction for planning and follow-up.

3. Systemic component	<p>Results-based financing model:</p> <ul style="list-style-type: none"> • ILOZ works with third parties to achieve triple-aim impact and receives a results-driven payment for the outcome of the services. • Results-driven bonus on the services provided.
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INTEGRATED COLLABORATION

To scale up its integrated services, ILOZ will establish an innovative company that brings together (digital) service-providers and healthcare-providers. The following services are central to this: (1) creating and monitoring SLAs, (2) an interface for the client and marketing strategy, (3) impact and quality monitoring, (4) setting up a backbone infrastructure (e.g. e-care pathways, telecentre, ICT infrastructure) and (5) financial management.

ILOZ uses an open business model:

- a collaboration set of care and comfort services with providers in each region;
- a franchise and support platform for upscaling services in various regions in Belgium and Europe;
- a co-creation platform designed to help healthcare organisations make the move to an accountable healthcare organisation more quickly and easily using results-driven SLAs and impact measurement.

BUSINESS MODEL WITH VARIOUS DRIVERS

1. Personalisation	<ul style="list-style-type: none"> • The end-user is central: clients and the people immediately around them take informed decisions about ILOZ services. • SPOC: having a single point of contact helps to arrive at a total solution for living longer at home in a quality manner. • Grouping and bundling care and comfort services for people with specific care profiles and social needs. • Services delivered as much as possible in line with the wishes of the user. • Impact and output monitoring tailored for the end-user.
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<p>2. Digitisation and automation</p>	<ul style="list-style-type: none"> • Digital care pathways with comfort services integrated to suit the patient. • Automation of work process management in care logistics: <ul style="list-style-type: none"> • digital linking of tasks to standardised work processes for quality management and monitoring; • work process optimisation tailored to the client and the organisation; • interoperability and collaboration by automating dispatching and tracking of work processes across organisations and people; • accessibility of scripts and reporting tools. • Artificial intelligence: <ul style="list-style-type: none"> • make care at a distance possible via smart technologies and encourage just-in-time communication of support; • refine and extend quality monitoring and impact measurement in real-time.
<p>3. Evidence-based (big) data</p>	<ul style="list-style-type: none"> • Advanced patient care: using smart data management, develop service bundles that improve the quality of healthcare and the health outcome. • Improve operational efficiency: create disruptive healthcare models by connecting logistics and healthcare programmes. • Support for decisions: enhance the client experience by linking wellbeing and social aspects with healthcare programmes and logistics processes.

<p>4. Shared accountability</p>	<ul style="list-style-type: none"> • SLAs, communication and reporting between the care and comfort factors involved in a specific care and comfort pathway lead to stronger shared accountability about the quality of support. • Intensive digitisation of work processes leads to a disruptively efficient logistics model in which a minimum number of people are responsible for care at home. • Lean logistics processes and delivery by the same people create personalisation and a better client experience as a result. • By standardising the monitoring of input, output and impact indicators, the various parties involved in the programme are made accountable. • By continuously improving the process, innovations are introduced more quickly and existing impactful solutions are scaled up and consolidated more quickly.
<p>5. Social innovation</p>	<ul style="list-style-type: none"> • Empowerment: end-users are central to the organisation of care and comfort services within their home environment. • Education: informal care is given the necessary support to follow up on tasks, while the capacity of informal carers is strengthened. • Work innovation: ILOZ is looking for innovative models for integrated care and the provision of comfort services. • Greater availability: work processes become accessible for the whole care team and support network. • Innovative collaboration between healthcare-providers and providers of comfort services.

Example: Karin and Lucas are active seniors who, so far, have been spared the ailments of old age. Yet they are gradually noticing that they have less energy for tasks such as ironing, cleaning and maintaining the garden.

So they bring in ILOZ to subcontract some of their domestic tasks. They are also considering renovating their home so that it is ready for when they become less mobile. For instance, they are thinking about relocating their bedroom and bathroom from upstairs to the ground floor. Double-glazing would also improve their living comfort and help reduce their energy bills considerably. ILOZ comes to the party with advice, including information about any grants they may be entitled to.

Example: Francine is 65 years old and a widow. Her children don't live nearby, but they come to visit each weekend, bringing the grandchildren. Through the hospital, she calls on ILOZ for support after her operation for breast cancer.

In consultation with Francine, a care coordinator puts together a support package tailored to her specific needs and also calculates the cost of the package. After being discharged from the hospital, a nurse comes every day to treat her wound and prepare her for chemotherapy. ILOZ arranges Francine's transport, appropriate food, medication and domestic help. The whole support process can be tracked via the ILOZ platform and the whole package paid for in one go.

The aim of ILOZ is both to help relieve the client, as well as to provide reinforcement.

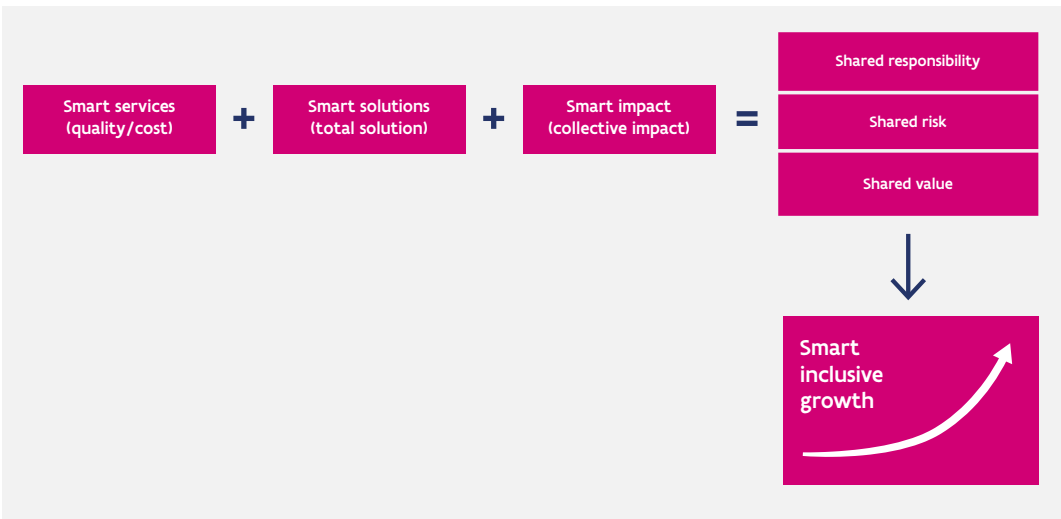
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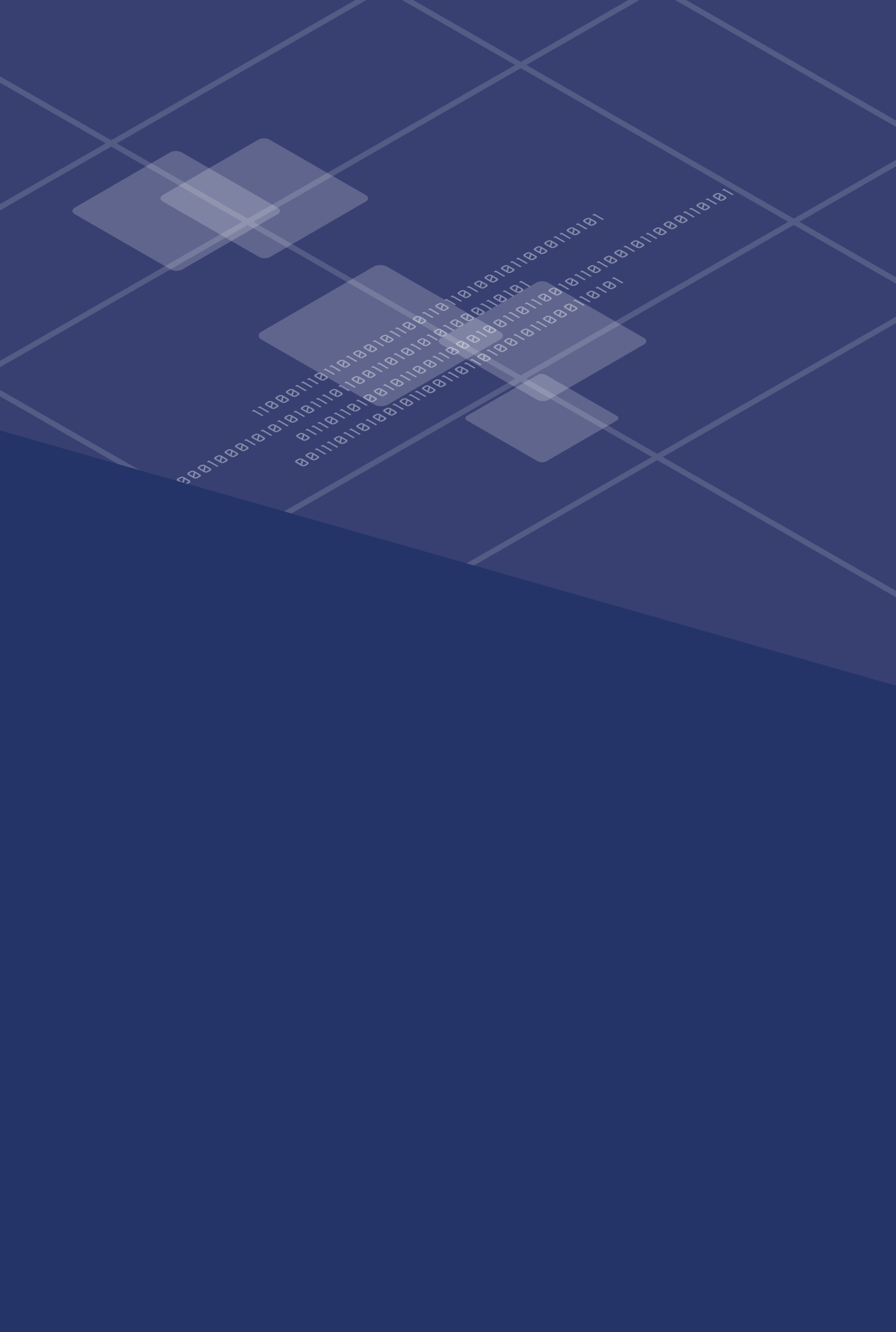
Conclusion

In addition to the co-creation of innovative integrated models in the healthcare economy, the four NIB projects have each identified a cluster of interested companies, healthcare organisations and knowledge institutions. These parties will be used to guide and ultimately start up the models.

All of these players are convinced that future-focused entrepreneurship goes further than just the development of smart services in which cost and quality are central. Innovative businesses in the healthcare economy need to develop total solutions that genuinely assist end-users with a healthcare need. But none of them can do it alone, which means that collaboration between businesses and healthcare organisations is essential.

This kind of collaboration stands or falls by having a collective vision about the required impact and shared indicators and measuring procedures for gauging and evaluating output and impact. Because only as part of a smart impact strategy are shared responsibility, shared risk models and shared value feasible.



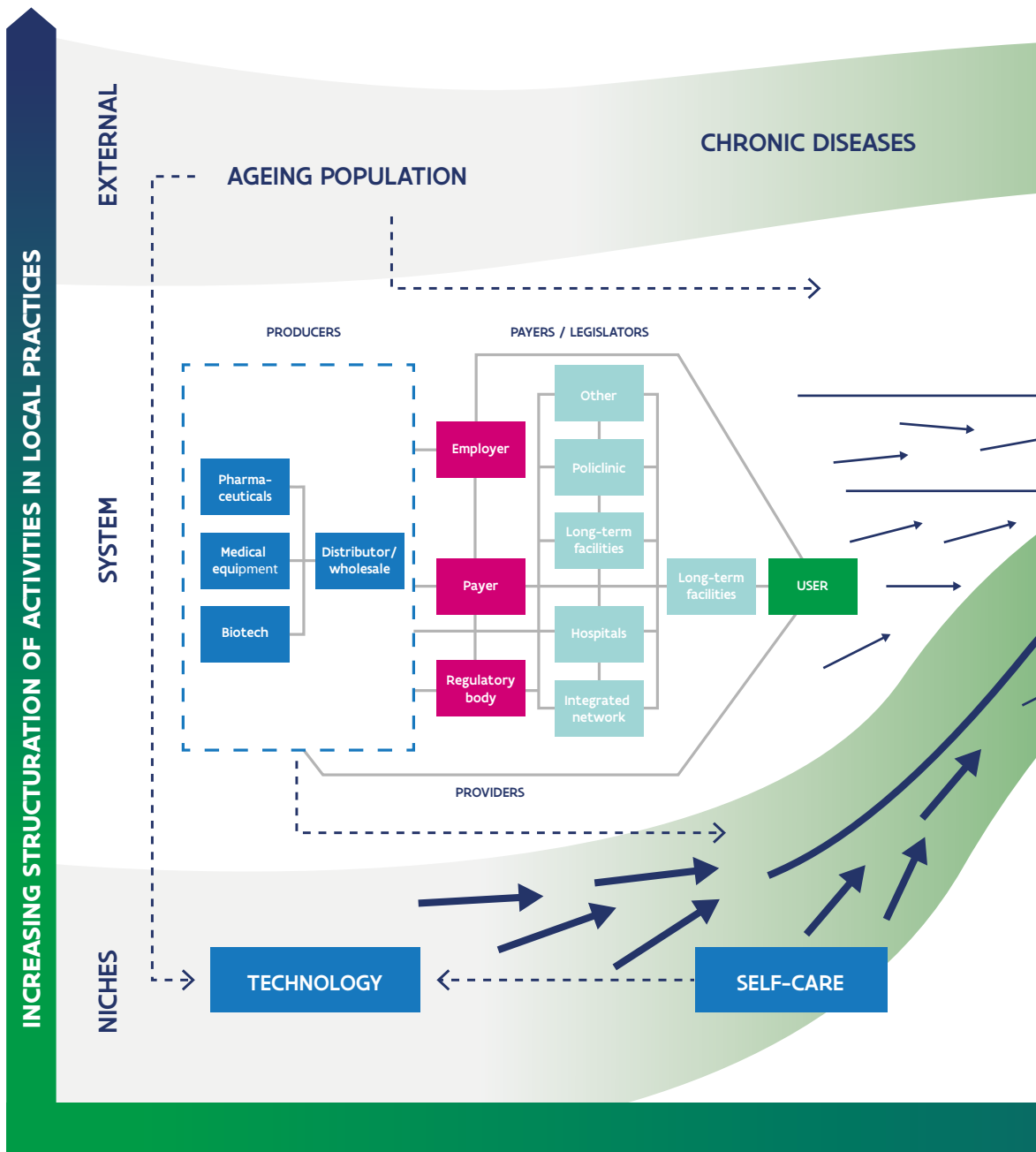




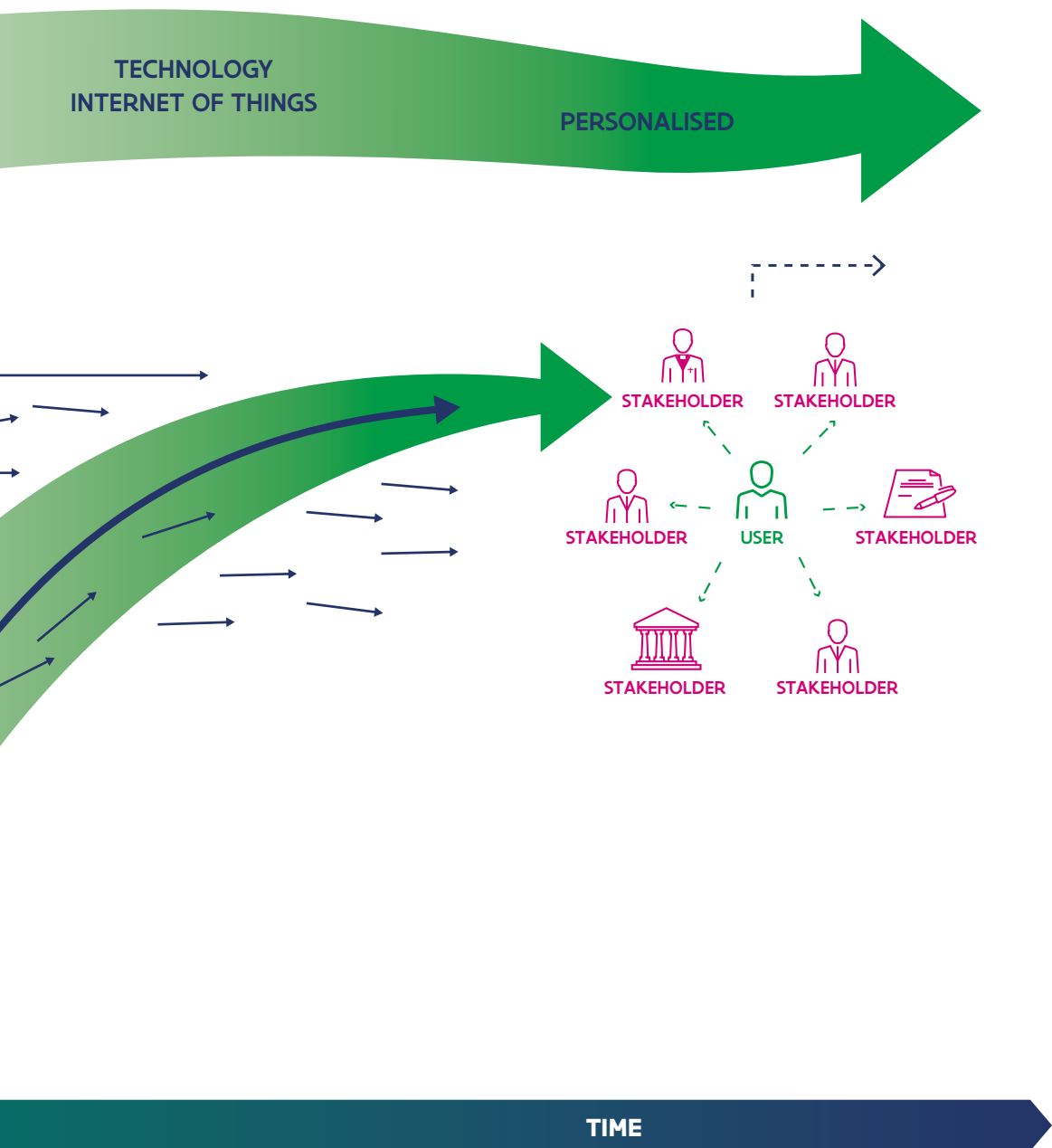
3. Policy recommendations

Towards the right setting to support growth
in the healthcare economy

Towards a cross-sector ecosystem



The figure above is based on the Multiple Level Perspective (MLP) within which system innovation and transformation are considered as non-linear processes from the interaction between 3 dynamic layers.





1.

Health: a major societal challenge

Improving the quality of life and welfare on a whole-population level is a complex matter. Not only because the diversity of people with a care need, but also because there are a whole series of stakeholders involved: individuals, large organisations, government bodies within wide-ranging areas of policy and so on. Society is also demanding that this improvement be achieved in an affordable way. To sum up, to bring about change in line with the 'Health in all policies' principle requires complex, lengthy processes, as well as the commitment of a whole range of other parties. The ultimate goal is to achieve an integrated, cross-sector cross-fertilisation based on uniformity and complementarity.

For this to happen, a transformation of systems¹ is both necessary and insufficient. The transition goes hand in hand with a shift from a supply-oriented to a solution-oriented way of thinking. The aim is for all of the parties involved to bring their individual core skills together into a single integrated solution. That way, societal impact and economic growth go hand in hand.

But although collaboration across fields is the magic word in policy programmes and the vision development, each individual continues to think and work mainly from his or her own field of expertise. This is because there are all sorts of restrictions standing in the way of crossovers: regulations, different (re)payment systems, gaps in the adoption of new technology and so on. But undoubtedly also because all of the parties involved – industry, healthcare organisations, the academic world, government, etc. – only feel safe within their own familiar frame of reference. In other words, they would rather leave it to others to explore new pathways.

Technological breakthroughs create leverage for the development of better quality and more efficient healthcare. But the foundations for a value-driven, cross-sector ecosystem² will only be laid when there are also shared values in place that can be identified by all of the parties involved and transformed into a so-called ‘customer journey’. The result takes the form of a cross-sector ecosystem with these objectives, among others:

- sharing insights about trends and developing the opportunities that go with them in the healthcare sector;
- encouraging collaboration across all of the various stakeholders;
- starting out from co-creation and the needs of the future user;
- anticipating unexpected needs and challenges in good time and then developing and rolling them out in a scientifically supported way;
- bringing together all stakeholders – industry, healthcare organisations, government, the academic world, investors and end-users;
- developing and organising support measures.

In this whitepaper we have put forward a number of policy recommendations in the areas of approach, potential roles and support tools. That way, the foundations can be laid for the development of value and impact-driven ecosystems between healthcare and industry. Collaborative- and business models that can also be implemented on a European or even global level. Because, of course, a societal challenge such as health does not end at our national borders.



2.

Trends that impact healthcare

Diversity, technological breakthroughs, big data, individualisation, etc. Internationally they delineate a number of major trends that are shaking the very foundations of our society. Each one has a direct influence on our living environment and hence on the healthcare organisation models of the future.

TREND 1: AGEING, GREENING AND DILUTION

The fact that demographic shifts will have a major impact worldwide is beyond doubt. For instance, the Flemish population will continue to grow: from 6.5 million in 2017 to 7.8 million in 2070³. It is ageing fast, but at the same time it is also greening as the result of migratory flows. As the result of family dilution, the number of Flemish households has grown by almost 10% over the past decade and this trend will continue. It is expected that by 2050, almost 4 households in 10 (39.3%) will consist of 1 person.

Demographic developments lead to changes in the area of space, mobility, healthcare organisation, family and social interaction. This means that the need for integrated and tailored solutions will become all more relevant.

TREND 2: FROM ONE-FITS-ALL TO CUSTOMISATION

With an increasingly more heterogeneous population, the universal organisation of healthcare will become less efficient. Individual expectations in terms of the quality, sustainability and reliability of products and services vary widely, while personal perceptions and freedom of choice are increasing. As in the rest of society, healthcare is seeing a shift towards a demand-driven economy, with personalised solutions.

Through a whole range of research processes – co-creation in living labs, demonstration projects, user-centred roadmaps, etc. – all deserving attempts have already been made to find an answer. Yet taking a tailored approach to people with a care need is still not an essential link in the development process of businesses and healthcare organisations and so the innovation gap remains a real bottleneck.

TREND 3: THE HYPER-CONNECTED WORLD

Smart devices, big data, cloud computing, encryption technology, etc. The digital revolution means that we are living in a hyper-connected society. Major breakthroughs in nanotechnology, biotech and materials also mean we are looking at more efficient and more effective health applications.

In the Flanders' Care 2015-2019⁴ action plan, a collaborative project covering multiple areas of policy within the Flemish government⁵, technology provides the horizontal dimension across the entire working context. Technology provides particularly amazing leverage for innovation and enhancement within healthcare. As a result, actions can be carried out in an increasingly more time and place-independent manner. Remote care is expected to be fully embedded by 2050. Only we note that translating this into practical implementations in healthcare is still a very slow process.

To enable technology to be adopted by the healthcare sector, new, integrated collaborative and business models are required with a triple impact: added value in terms of quality of life, health outcomes and cost efficiency. Cross-sector cooperation in every link of the value chain is also vital if we are to anticipate the growing demand of end-users.

TREND 4: AN EXPLOSION OF BIG DATA

The digital interaction between people, machines and applications is generating enormous flows of data. Patterns in this data may deliver totally new services and solutions in many societal areas and business sectors. But advanced analysis techniques and complex algorithms are required to unlock big data.

Cloud computing offers the necessary capacity and infrastructure to capture, analyse and process data streams from a variety of sources – often in real-time. Better still, the cloud is a major driver for the development of new products, services and processes in many areas⁶. Certainly when data are shared (open data), innovation opportunities increase enormously. This immediately creates new challenges, including in terms of privacy.

Today, the business world is investing extensively in know-how about how to analyse and interpret big data. To fine-tune their offering and processes, but also to connect the data with the data from other parties as part of a partnership. One thing is certain: big data will have a huge impact on how we tackle economic and societal challenges in the future.

TREND 5: DISRUPTIVE PLAYERS CHANGING THE RULES OF THE GAME

In many areas, we can see how digitally oriented newcomers are changing the rules of the game forever. Indeed, to realise their added value, they use business models that are totally different from their traditional sector counterparts. To capture these sorts of disruptive breakthroughs within the healthcare sector, intensive forms of multidisciplinary collaboration are an absolute must:

- between healthcare organisations (across all lines of healthcare), industry (SMEs and multi-nationals) and knowledge centres;
- between areas of expertise and specialisation (engineers, doctors, biologists, etc.)
- on a national, European and worldwide scale.

Disruption creates a wide range of new opportunities for all parties involved, although at the same time it leads to a reorganisation of industries. The healthcare sector is no exception. Here, it is also a question of reaping the rewards, for the individual with a care need and for society in general.

TREND 6: EACH PERSON IN CONTROL OF THEIR OWN LIFE

In addition to having a personalised approach, people with a care need particularly want to retain their independence. These are the people wanting support within their home environment, but who want to organise and control their own care. And informal carers want to keep an eye on their own work-life balance. Keeping a firm hold on the reins can be an important aspect of the perception of quality of life.

Technological developments also mean that remote care is becoming within reach. Demand for affordable, good-quality customised care also remains.



3.

Support tools

To achieve multidisciplinary, cross-sector partnerships and value-driven ecosystems, having a systemic approach is essential. This approach, in turn, must be embedded as part of a clear long-term vision across a range of policy areas, with a government-wide set of tools.

1. FACILITATING COLLABORATION

All of the parties involved – such as end-users, healthcare-providers, businesses, knowledge institutions, investors and government – need to sit around the table. In particular it is crucial that the project outcomes can be implemented within healthcare and that the triple impact – perception of healthcare, health outcome and cost-efficiency – are monitored. Each partner in the partnership is jointly responsible for the result, with each one viewing the challenge from the point of view of its core business and as a prosumer.

Possible approaches:

- design a practical and phased crosscutting policy framework with clear initiatives and commitments;
- let relevant players work together to develop tailored solutions for specific societal challenges and then challenge them to deviate from the traditional ways of thinking;
- provide transparency with demonstrable societal and economic impact targets and how these will be established in the long term;
- focus on the end-user at the top of the list of priorities;
- invest in the development of cross-sector and multidisciplinary forms of collaboration;

- invest in a tool to measure the impact from different points of view (e.g. regional and ecosystem);
- train the decision-makers in healthcare organisations and businesses in network account management⁷, managing and measuring impact, etc.;
- train the coaches or project managers in the new partnerships;
- support the development of international partnerships, with establishment in the Flemish healthcare economy.

As a neutral player in the ecosystem, the government makes sure that the focus lies squarely on impact and enhancement so that government resources are used efficiently.

2. DEVELOP NEW BUSINESS MODELS

Developing a networked organisation with added value for industry and healthcare within a cross-sector and multidisciplinary ecosystem requires a new approach. The impact for the end-user is central to this in the form of better health outcomes. All stakeholders are expected to be able to substantiate the impact of their products and services, which is the basic condition for developing a value-driven business model.

Possible approaches:

- invest in integrated models to provide a scientific way of measuring and monitoring the impact of the outcome indicators, both for the ecosystem as a whole and on an organisational level;
- invest in scientific research into these integrated, value-based business models;

- invest in new investment and funding possibilities;
- invest in building knowledge about shared IP models as a valuable alternative for individual IP ownership;
- invest in collaborative models about open innovation in which co-creation is central;
- implement open innovation as a means of resolving societal challenges or giving communal ideas a chance;
- put awareness programmes in place to bring about a change in mindset for non-IP-driven collaboration and to unlock open innovation;
- train coaches and project managers in integrated business modelling.

3. USE (BIG) DATA EFFICIENTLY

Data is everywhere and it is expanding exponentially. It is good news that technological innovation means data can be captured, linked and unlocked more efficiently all the time. In practice, though, it is still too fragmented across various silos in healthcare, industry, the research world and the government.

Possible approaches:

- encourage collaboration with the academic world to investigate the potential of (big) data;
- make it mandatory to share data between the parties involved within the boundaries of privacy and ethics;
- encourage the use of big data as leverage for monitoring quality and impact and by doing so arrive at better market segmentation and innovative applications;

- put awareness programmes in place with the various stakeholders to underline the potential of big data for a better health outcome;
- invest in the training of coaches and project managers to be able to capture, unlock and use big data within the collaborative model and in so doing to achieve both societal and economic added value;
- support the development of a tightly meshed health data structure on a local and regional level in order to arrive at scientifically supported product innovation and monitoring;
- co-create ethical guidelines and transparent quality standards with the private sector for the use of health data.

4. INVEST WITH IMPACT CAPITAL

There is still much inertia in Flanders today for making healthcare innovations inclusive and economically sustainable and upscalable. There is still an investment gap for capital designed to achieve both societal and economic return. Nonetheless, this impact capital is still essential for creating societal force and economic sustainability. Developing smart investment methods is a major form of leverage for this.

Possible approaches:

- expand the existing FINMIX method with impact investors;
- establish an investment capital fund that monitors the societal and economic added value of investments in healthcare and that also opens up to international investors;
- invest in training for the various stakeholders so that they can better assess their investment risk, added value and impact and can also develop investment strategies in healthcare;

- organise an investment pool so that parties can invest structurally in various projects and in doing so spread their risk;
- encourage providers of risk capital to increase the expertise in cross-disciplinary and inter-sector models in co-creation with stakeholders in the ecosystem.

5. PAVING THE WAY FOR EXPERIMENTS

To speed up innovation processes and the effective adoption of new technologies and methods, experiments and demonstrations play an important role. Establishing loosely regulated areas – geographical or virtual delineated zones in which parties set up experiments and for which certain regulations do not apply (temporarily) or for which certain administrative requirements are not imposed – make it a good deal easier to set up these types of processes.

Possible approaches:

- design a clear framework for experiments and pilot projects as part of healthcare-related collaborative and business models;
- provide efficient procedures that cross policy areas in order, if necessary, to translate these experiments into new policy guidelines, appropriate regulations, innovative products and services, and other values and conduct among citizens and organisations;
- encourage the effective organisation of the positive outcome of experiments and pilot projects;
- invest in the training of coaches and project managers to be able to roll out scientifically substantiated experiments within the complex framework of multidisciplinary and cross-sector collaborative models.



4.

What's next?

Society is changing at great pace. Before we know it, the explosion of technological innovations will create new markets and business models. All of which creates opportunities for optimising healthcare, which at the same time facing us with breakthrough challenges.

The clock is therefore at five to twelve for beginning with the transition of our healthsystem. The four projects – NPCC, ILOZ, ZZEN and Mobile Care – can provide great inspiration for new initiatives that have impact. The business models for these projects are revolutionary in our country. Internationally, too, there are plenty of forums in place showing how innovative their cross-sector and multidisciplinary approach actually is.

In this whitepaper we have put forward a number of policy recommendations in the areas of approach, potential roles and support tools. That way, the foundations can be laid for the development of value and impact-driven ecosystems between healthcare and industry. Collaborative and business models that can also be implemented on a European or even global level. Because, of course, a societal challenge such as health does not end at our national borders.

Taking action quickly is the message. We have been through a whole learning curve with each of the four collaborative models, but there is still work to be done. Allow us to put the experience we have built up to good use so that we can now start taking large strides forward. Various organisations and businesses are ready to support the implementation of the four projects and to scale them up further. This provides great hope, especially when we take into account how much time and energy has gone into developing them.

At the time, the Flemish government allocated resources to these projects. Now it can encourage their roll out by establishing a framework enabling experiments with economy, science and innovation as the keywords in order to achieve a broad-based societal impact.

5.

Sources consulted

- 4 New Industrial Policy Healthare Economy projects
- Transversal Action Plan Flanders' Care 2015-2019, February 2015
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- VRWI future explorations 2025
- Vision 2050, Long-Term Strategy Flanders, 2016 & 2018
- Vrind 2017, Federal Planning Bureau, Demographic Forecasts 2017-2070, Population and Households, February 2018
- DIGITAL CARE Challenges to Success, Voka paper June 2017
- Breaking Through Taboos for Transforming Care, Voka paper April 2018

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- ¹ 'Through system innovation, breakthroughs in technology and science are combined with the way in which citizens, consumers and companies conduct themselves, with changes in the policy and adjustments to the social settings on which our society is built. This system innovation involves risks and at the same time is necessary to make the transitional leap. We can encourage this as a government by implementing a transitional approach.' (Source: 'Vision 2050, long-term strategy for Flanders', 2018, Transition priority Care and Society, p. 86)
 - ² Shared-value concept of Kramer and Porter (2011, Harvard Business Review) which places economic value creation in a broader social perspective: "Shared value involves creating economic value in a way that also creates value for society by addressing its needs and challenges."
 - ³ <https://www.plan.be/publications/publication-1752-nl-demografische-vooruitzichten+2017+2070+bevolking+en+huishoudens>
 - ⁴ Transversal Action Plan Flanders' Care 2015-2019, a co-creation of policy and stakeholders.
 - ⁵ The mission of Flanders' Care is "To demonstrably improve the offering of good-quality healthcare through innovation and to encourage responsible entrepreneurship in the healthcare economy."
 - ⁶ VRWI future explorations 2025, p. 29
 - ⁷ Network account management: shared-value approach, bringing together stakeholders with conflicting interests





Acknowledgments

Having the healthcare sector and the business world work together: not an easy task in practice. We thank our various partners for the time and energy that they have invested in the projects. The future will show whether they are the pioneers of new collaborative business models between healthcare and industry. Now the Flemish government is ready to provide the wind to fill their sails.

About the authors



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Lieve Apers has spent 20 years working with the Flanders Innovation & Entrepreneurship Agency, encouraging innovation and corporate social responsibility in healthcare in Flanders. Nine years ago, Lieve started the Flanders' Care Impulsloket, specialising in connecting businesses with healthcare-providers for the purpose of introducing innovative customised solutions and integrated business models in Flanders that offer both economic and societal added value. On a European level, she represents Flanders in the Healthcare sector group of the Enterprise Europe Network, supporting Flemish businesses in setting up partnerships. She is also NCP (National Contact Point) for H2020 'SC1-Health, demographic change and wellbeing'. Lieve has a background in Occupational Therapy (HoGent) and holds a Master's degree in Applied Economic Science: Commercial Engineer (VUB). Lieve is a driving force and initiator for the New Industrial Policy Healthcare Economy projects.

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