



The quest to incorporate end user value and societal health impact in scalable revenue models

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This paper is the result of the SHINE (Shared value creation in the Healthcare economy through INtegrated business modELs) project as part of the 2016-2020 Interreg North Sea Region Programme with the support of the European fund for regional development.

The SHINE project's core objective is to implement integrated business models for the healthcare economy based on a smart specialisation strategy. The quadruple helix model acts as the inspiration behind the method to be developed and will both foster and maintain complex partnerships. The method is essential to creating a support base for the implementation of the new, integrated business models.

Key words

end user innovation, shared value, integrated business models, impact, smart specialisation

1 Introduction

Today, patient needs are at the very core of every health innovation. Although there is still a long way to go to make the health sector fully patient-centred, it is imperative that today, innovation in the health sector is focused on the end user.

To better understand the needs of the end user, innovation processes in health have moved closer to reality. Today, many innovation processes deploy end-user focus groups to create detailed descriptions of user archetypes, to establish end user feedback groups and to develop real-life data on how users experience new innovations. This trend resonates strongly with Von Hippel's insights which demonstrate that many innovations are not invented by a company's R&D centre or research centre but by the end users themselves¹.

Moreover, the new trend towards customisation in healthcare entails a high level of user involvement and constant information flows between patient and practitioners. The healthcare provision along an integrated patient journey enables practitioners to identify "experience-drivers, value-creating activities and reasons for dissatisfaction and complaints, ideas for service development and innovation"². In other words, innovation in health is increasingly leaving the ivory tower of R&D centres and literally shifting closer to the end user. The ability to reach and interact with end users provides a key competitive advantage in the innovation health industry. Products and services which have been co-created and prove effective in practice give an edge in market. In sum, the rediscovery of the patient has opened new opportunities for entrepreneurs entering the healthcare sector.

At the same time, we see the need for smart collaboration between providers with an eye to delivering more effective and efficient care. Integrated care is becoming a craze in the health sector. Integrated healthcare³ pushes actors to increasingly coordinate and align their services, processes and 'client' interactions. New roles such as case management and activities (such as multi-disciplinary consultation) are being rolled out in Europe as we speak. Patients are also becoming increasingly empowered and can choose the best healthcare service fit through personalised budget allocation. This new reality is forcing healthcare actors to become more aware of patients' needs and to reach out to other service providers to complement their offerings. Moreover, we are seeing new innovative initiatives to integrate care for large population groups (for example the PRISMA program in Canada) or even regions (for example the Kaiser Permanente model).

To respond to these needs for integrated care, the traditional innovation process has shifted from isolated, closed models to collaborative and open innovation models. In closed innovation models the ideas, inventions, investigations and developments required the placement of a product in a society generated within one organisation. Under the open innovation paradigm there is an important flow of external knowledge into the organisation, allowing for projects in co-operation with external partners (healthcare organisations, social organisations and companies alike) incorporating external technologies, insights and ideas in new service solutions.

Consequently, healthcare entrepreneurs must increasingly work together to bundle and combine services in order to create the desired impact. This is certainly true as integrated care shifted the dominant business model in health from a fee-for-service one, in which providers are paid based on the amount of healthcare services they deliver, to a more value-based model. The "value" in value-based healthcare is derived from measuring health outcomes against the cost of delivering the outcomes. The idea of connecting healthcare outcomes with costs—defined as value—was popularised in 2006 by Michael Porter and Elizabeth Teisberg in their book *Redefining Health Care*⁴.

Value-based business models are models that go beyond the key drivers of product or service quality at an efficient price and aim to deliver better health outcome for the end user at the right price, reflecting the value of the outcome. Through smart product-service collaborations between industry and healthcare participants, these ventures aim to develop a healthcare platform solution by bundling services and products by bringing together all subcompo-

nents (such as movement, nutrition needs, medication, social isolation, etc....) that influence one's health.

This paper aims first to create awareness and deeper understanding for health entrepreneurs to move towards integrated value-based models in health. In addition, it aims to provide basic tools to understand the challenges of creating a value-based model. Finally, it seeks to highlight the important leverage regions can have in accelerating and supporting value-based models. In sum, let this paper be a warm invitation to enter the space of value-based models.

2 The rise of a new integrated (value-based) health enterprise

Ventures with integrated business models in healthcare develop a growth strategy for their enterprises (a) by putting value-based business models into practice and (b) by shaping smart product-service collaborations between industry and healthcare organisations. The promise of value-based health models creates new important opportunities for entrepreneurs and innovators in the healthcare sector. This is certainly the case here, as integrated value-based models combine four unique strategies:

1 Focus on the end user

By offering a value proposition which puts the health outcome of the end user first and by offering a total solution (instead of a fragmented one) for the end user, integrated business models in healthcare are better aligned to the real needs of the customer.

2 Collaborative

Value creation and competitive advantage enable companies to capture value in the market. A competitive advantage exists when the company can deliver the same benefits as competitors but at a lower cost (cost advantage) or can deliver benefits that go beyond those of competing products (differentiation advantage).

In integrated business models, the main driver of competitive advantage, alongside the usual business incentive of quality and cost, is the company's ability to collaborate with other partners. Companies must team up to deliver the variety of services and products that improve health outcomes. **The coordination and the facilitation of the integration of services and product across sectors and geographies into bundled healthcare solutions is an important game-changer.** Hence, in integrated models the competition among companies to provide products at the lowest cost remains an important factor but it's not the most important one. Instead, competition for collaboration between companies, healthcare and social organisations is becoming a pivotal factor. In short, in a value-driven health domain, the capacity and the (open) business model infrastructure that enables collaboration is the key to competitive advantage.

3 Measurable impact

Peter Drucker taught us: "If you can't measure it, you can't improve it."⁵ Since integrated business models aim to create economic and societal return, monitoring economic performance is not enough; their impact must also be measured. Also, if something is not measurable, it is not transactional, and it remains ineffectual. Once impact is measured it can (a) convince investors in your company that you are delivering the impact you promise, (b) help improve the effectiveness of your services, (c) demonstrate to partners and key-stakeholders that you are delivering your impact, (d) convince your customers to pay for your services and (e) convince third parties to pay for your services solely for the impact you generate in society in terms of improved health outcome, care efficiency, patient satisfaction, social inclusion,.... Hence, if you don't measure the impact in integrated business models, there will be no impact, and you will be excluded from important value creation levers. By monitoring the health outcomes with the different service-product bundles accurately and by adapting the product-service mix to needs for different user groups, integrated business models can demonstrate their effectiveness in solving health outcomes for different user groups in society. This evidence enables these companies to develop convincing market strategies and to scale up beyond the home market.

4 Hybrid values

Integrated business models in healthcare optimise the impact they seek to create together with economic valorisation in a coherent re-enforcing strategy -i.e. more impact creates more economic value and vice versa. In this perspective, value-based business models subscribe to shared value strategy models aimed at tackling societal challenges. In this way they create societal value through business itself by providing services within an economic market model. Companies embracing shared value models are outperforming competitors in different economic sectors. Many factors suggest that shared value will have the same impact in the health and life science sector. This is primarily due to public and private insurers being increasingly obliged to deliver societal value with scarce resources and thus being more inclined to collaborate with organisations that are open to sharing risk and value models.

3 The business model challenges for integrated models in healthcare

Value-based health delivery is forcing a paradigm shift in attitudes to business models that is more pertinent than one might think. It has a dramatic impact on the very definition of the organisation, on the value creation model, the value capturing model and the value delivery model.

1 Value definition

The value definition in integrated models defines the scope and the purpose of the organisation, so as to tackle a societal need and turn it into a business opportunity. The value definition enables the organisation to define the DN algorithm of the organisation: the vision, the mission, the strategic focus of the organisation and also the core values of how initiators want to approach their business. In value-based business models, the central aim is to have a certain effect on the patient in terms of health improvement, efficiency and/or care experience. Organisations that want to be active in value-based business models must make that impact focus the core of their organisation. The strategic alignment with value-based models often invokes a re-purposing of the identity and DNA of the organisation. This can have a disruptive impact on the organisation's leaders, on HR and recruitment and on the identity of the shareholders. A strategic misalignment between the mission and vision of the organisation and the impact focus of the value-based model can fundamentally undermine the credibility of the value proposition that the organisation aims to promote, and as a result, can impair its license to operate.

2 Value creation

The value creation in integrated models is the implementation of actions which increase the worth of goods, services and business not only in terms of economic impact but also in terms of societal impact. The value creation strategy of a value-based business model goes beyond the boundaries of the organisation. It influences the sequence of the entire end-to-end value chain. Traditionally, value creation has been a linear process. In integrated business models, however, the situation is much more complex. Bundling services and products and putting these on the market as an integrated solution is what

creates value. To this end, integrated business solutions reduce the transaction cost by curbing multiple supplier-client interfaces (=dis-intermediation) and creating a novel intermediation platform to bring the integrated solution to the market. In this perspective, value-based models can be compared with platform businesses in the ICT sector such as Airbnb, Uber, etc...

These businesses are masters in disintermediation, re-intermediation and counter-intermediation of the value chain.⁶

Disintermediation means removing intermediation from the supply chain. With the advent of internet-based shopping in the 1990's, the term became the buzzword signifying the elimination of middlemen as a result of e-commerce methods aimed directly at consumers and consumers dealing directly with service providers.

Re-intermediation is the process of adding intermediaries to the supply chain. It occurs when pre-existing intermediaries offer a new value proposition and re-enter with a new function or when they offer innovative value-adding services.

Counter-mediation is when the company re-intermediates and actively invests in the creating of the new intermediary that it owns. The whole idea with traditional platform models is to control key elements of a supply chain to prevent the competitor from gaining a competitive advantage. In value-based business models, the idea is to create a platform of product and services that can have a decisive effect on the positive health outcome of the patient.

3 (Enhanced) value capturing model

The value-capturing process is the core process of companies that optimise revenue streams and manage allowable costs in an efficient and scalable way. The paradox of integrated business models is to develop a value-capturing model that does not conflict with the company's social mission. Integrated business modelling developed in the last decades delivers new ways of enhancing a company's revenue system without compromising its social mission by capturing the value not only from the end user but from a diverse value net, for example from other stakeholders in the ecosystem. Value-based models aren't often mono-consumed, but in many cases co-consumed. In integrated business model, end users and customers are not necessary the

same. Providing the services and impact to the end user creates value for different actors such as for example the children of elderly, the employer, the private and/or public insurer, etc.... Identifying the value net in the broader network of actors around the end user makes it possible to develop more robust income models. Enhanced value-capturing (=EVC) models are business models that capture value from different stakeholders in the ecosystem.

Three different value-capturing layers can be identified in EVC:

The first layer is the transactional value perspective

A transactional approach to customer value creation is concerned with the value perception of the end user and their willingness to pay for these services.

The second layer is the relational value perspective

A relational approach to customer value creation and delivery is conceptualised at the venture or industry level.

It is oriented more towards companies and managers than to consumers. This is a bi-directional view of value: by creating a platform (=reintermediation) for third parties to find customers willing to purchase their services, the venture develops value. These models are often (quasi-) open business models where different providers can offer their services. The startup reaps a profit by creating matches between customer needs and product-service provision.

The third layer is the systemic value perspective

A systemic or networked approach is concerned with customer value creation and delivery at societal level, an expanded holistic understanding. This encompasses the role and contribution of all players in the value-creation, delivery and receipt network. In these models, we see clients that are willing to pay for the services if the venture can demonstrate that a certain outcome or impact is fulfilled (i.e. result-based financing). By capturing value from the different layers of the enhanced capturing value model, one can develop virtuous cycles where impact has a positive re-enforcing effect on profit outcome.

4 Value delivery model

Value delivery is the system that ensures that the promised value is served to the customer in an efficient and scalable way. A benchmarking of several integrated business models helped us to identify different leverages for value delivery: personalisation, digitalisation and automation, evidence-based data, shared accountability and social innovation.

Personalisation and precision health: Personalisation in healthcare is a game changer. The development of a one-size-fits-all health solution is not enough. Personalisation in health is an important opportunity for integrated business models, as businesses must develop product-service provisions that help individuals with their specific needs. To do so, one needs to monitor and capitate the impact and outcome of its performances (health efficiency, health outcome, patient experience,) at individual as well as group levels. Data allows the development of smart segmentation strategies on health risk and the promotion of healthy behaviour and disease prevention. The need for data to develop these predictive algorithms and the need for smart segmentation through big data for personalisation brings us into the field of artificial intelligence and machine learning. These evolutions in personalisation and precision health enable us to proactively develop a service tailored to the end user.

Digitization and automation: Digitisation and automation are disruptive trends in our society and economic markets. Integrated business models should embrace these evolutions as they enable us to develop better one-stop solutions for the end user. Digitisation can resolve important transaction costs and it simplifies the process for the end user. Digitisation can also help companies avoid a multitude of registration forms, develop a one-stop client-interface platform, simplify their financial and administrative burden, and can inform and digitally coach the end user in the journey. Also, from the supply perspective it could significantly reduce the costs of coordination and quality control. Digitisation enables companies and healthcare organisations to develop efficient and effective protocols.

Shared accountability: Collaboration in service delivery require shared accountability protocols. Shared accountability distributes the responsibility to deliver the impact and health outcome across the different partners delivering the service. Moreover, shared accountability contracts create important levers for reducing the overall cost of the bundled service and for creating a coherent and aligned service bundle.⁷

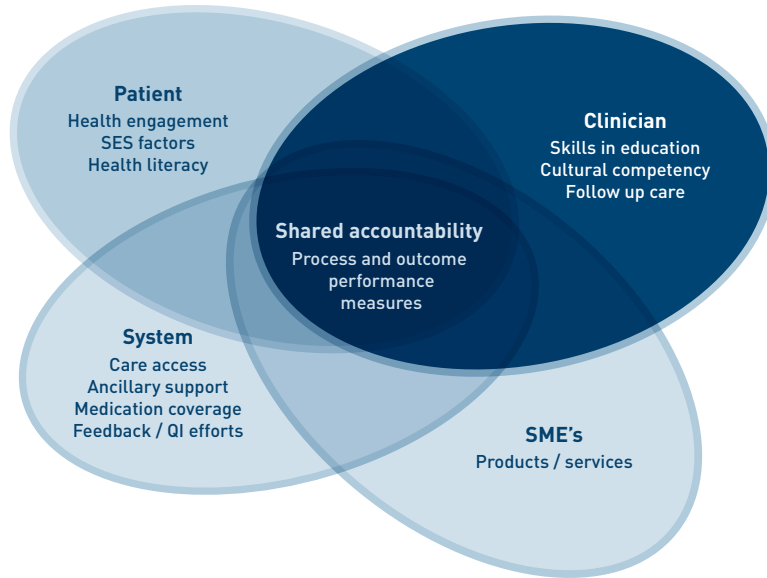


Figure 1. Shared accountability

Evidence-based outcome and impact measurement: As with many other sectors, health care is entering the era of large data transformation, driven by advanced analytics and big data technology. The catalyst for this transformation involves both the transition to evidence-based healthcare and the transition to value-based and quality-based payments.

Social innovation: Social innovation is the development and implementation of new ideas - products, services and models - to meet social needs and create new social relationships or partnerships. We can identify several different drivers of social innovation for integrated business models:

- Socialisation of care: the government cannot accept the challenge of care alone. Both market and social solutions will be part of the change.
- Sharing economy: the turnaround towards a functional economy where ownership is no longer central, but the simplicity, accessibility and flexibility of solutions become more important, accentuates the need for social innovation.

- Behavioural change: care starts with the user and his attitude or behaviour towards preventive and curative solutions. Often, behavioural change is required, and then social innovation can be an important lever.
- Collaboration between formal and informal care: the initiative to achieve better cooperation in supporting a person with a need for care brings formal or professional care together with informal care providers such as informal caregivers, friends and family.

The incorporation of these levers for enhanced value capitation create new challenges and complexities to the business model but enables the company to build a robust and future oriented growth strategy.

4 Regional perspective on integrated business models

Value-based business models have far-reaching implications for smart specialisation strategies in the health and life science sector and influence how regions can accelerate the emergence of value-based healthcare models.

Smart specialisation strategy means the national or regional innovation strategies that set priorities to build competitive advantage by developing and matching their own research and innovation strengths to business needs in order to address emerging opportunities and market developments in a coherent manner, while avoiding duplication and fragmentation of efforts⁸.

Smart specialisation is increasingly gaining traction as a model for decentralised and innovation-led territorial development policies in several countries and regions around the world.

We see four key recommendations for regions to support and accelerate value-based business models in health and, ultimately to create a smart specialisation strategy on this basis.

Recommendation 1:

Develop a smart specialisation strategy for the region

The core of defining smart specialisation strategies is the assessment of the knowledge base in companies, research centres and organisations in a space-bounded area. To assess the readiness to develop a smart specialisation strategy for value-based models in healthcare, we must also assess the accessibility of interaction with end users in that health region (access to end users with different pathologies, in different environments). The access to end users relies heavily on the awareness and maturity of primary and secondary care organisations when it comes to engaging in value-based healthcare innovations.

Recommendation 2:

Create the infrastructure and partnership to facilitate real-life evidence-based impact measurement of solutions in health

Regions can empower value-based health companies to develop solutions that demonstrate an evidence-based impact on customer health outcomes. The measurement of impact not only in a lab context but also in daily life makes it possible for business models in the healthcare economy to develop a growth strategy that better demonstrates, captures, introduces and scales up the added value of a product in the market. Regions should invest so they can attract expertise, cooperate with primary and secondary care actors and connect with data infrastructure to measure and objectify the impact of innovative solutions in society in an efficient and high-quality way.

Recommendation 3:

Support infrastructure for the development of value-based partnerships and business models in the healthcare economy

Regions should support companies in developing strategic partnerships with healthcare actors, patient organisations and knowledge institutions and in finding underlying (open) business models. To arrive at integrated solutions, in many cases it is necessary to establish far-reaching collaborations between different parties with part of the solution. This rather complex collaboration between actors from business communities as well as from healthcare and social sectors requires business models that optimise impact and economic added value. Regions should support companies through methodologies, guidance and expertise in the development of these innovative integrated collaborations and business models.

Recommendation 4:

Active guidance in finding the right financial resources and property rights for the development and marketing of evidence-based products and services in the healthcare economy

Regions should actively support companies in finding the right financing for the development, introduction and growth of innovative solutions in the healthcare economy. The challenge with innovation trajectories in the healthcare economy that aim to bring a substantiated and proven impact to the

market is that these trajectories are more complex than traditional corporate financing. For this reason, many companies need to pay attention to how they develop and market both economic growth capital (start-up capital and investment capital) and impact-driven capital (subsidies, venture philanthropy and investment capital impact).

In sum, regions should become more proactive in accelerating and supporting value-based models. After all, they are an effective response to important large, macro trends such as demographic trends (ageing of Europe, migration..), digitisation (big data, collaborative software, sensors..), the rise of the prosumer (the increasing empowerment and access to information of the citizen in health service), glocalisation (the tendency to develop services at scale and at the same time being sensitive to the diverse needs of individuals and communities), the perseverance of the public sector to become more accountable and to deliver value for money and, last but not least the increase of scarcity of public resources for health.

About the authors

Inge Taillieu is coordinator healthcare economy at the West Flanders Development Agency (POM West Flanders). She nurtures a special interest in new types of business models developing between companies and healthcare organisations. In her work, Inge integrates the multidisciplinary expertise of POM with entrepreneurship, healthcare and digital innovation. She works on solutions with partners of POM West Flanders and is committed to creating and capturing shared values. Inge holds a master in Physiotherapy (2002), in Medical and Social Health Sciences, Management and Policy (2004) and has been working at POM for 8 years, currently setting up various tangible models of cooperation to add value to the end user.

Johan Moyersoén is founder and executive director at iPropeller. He developed a strong expertise in the development of value-based business models in healthcare and life sciences. He is currently initiating the impact licensing initiative, a technology transfer organisation to deploy technologies for societal impact. He has an extensive international expertise of 15 years in the creation of social business models and the formation of joint ventures between companies and social organisations. Johan is a serial social entrepreneur and has written diverse articles and books on value-based healthcare, shared value, social innovation and conflict management.

www.healthcare-economy.eu is an online tool, which aims to guide companies, healthcare organisations and other stakeholders involved in the ecosystem of the healthcare economy to create shared value by developing integrated business models.

By means of a structured step by step approach this tool provides them with an accessible method to develop their integrated business model. In addition, this online tool provides insight into how to set up an ecosystem that supports best innovation and what should be considered when scaling up the integrated business model.

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