How social business innovates health care: two cases of social value creation leading to high-quality services

Original Article

Accepted Version

Bohnet-Joschko S, Nelson E, Zippel C, Morgan T, Øvretveit J (2019): How social business innovates health care: two cases of social value creation leading to high-quality services. Journal of Public Health, doi: /10.1007/s10389-019-01026-y

Available at http://www.uni-wh.de/MIG

The final publication has been published in the Journal of Public Health and is available at http://link.springer.com via https://doi.org/10.1007/s10389-019-01026-y

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How social business innovates health care: two cases of social value creation leading to high-quality services

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January 2019

ABSTRACT

Background

Health systems worldwide are experiencing increasing cost-cutting pressures with more intense competition and rising customer requirements. We aimed to find out and compare the characteristics and successes of two different sustainable business cases in healthcare delivery from an innovation-driven, organizational perspective.

Subject and Methods

The data for the two cases were collected through structured literature research as well as personal interviews with the founders of the two healthcare business models. Data were analyzed using the business model canvas as a structured framework as well as by cross-case analysis.

Results

The two business models operate successfully, but pursue different approaches to healthcare innovation. We were able to show that one model pursues a very complex, network-based approach that is focused on one specific rural region, while the structure of the other is characterized by a scalable concept. In addition, we observed that the founders had a decisive influence on the development and success of the healthcare business models.

Conclusion

Our study highlights the multitude of complex relationships required to build and establish innovative and successful business models for providing high-quality and cost-effective services in two of the world's largest healthcare systems. Moreover, it could be shown that the business model canvas offers a suitable methodological framework to compare and analyze in a structured manner the extent to which innovative care approaches also require an economically successful and sustainable business model. Results give a holistic, structured description of specific organizational features and environments that can then serve decision-makers in health and health economics as lessons learned and aid them in decision-making.

Keywords

business model innovation; case study; healthcare services; integrated care; population health system; primary care

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BACKGROUND

"Where are the healthcare entrepreneurs?" asked David Cutler before asserting that medical care is still characterized by inefficiencies and waste caused by misleading incentives for patients and providers, by inadequate coordination of care, and by poorly designed production processes (Cutler 2011).

In a market-driven economy, why aren't more innovators standing in line to offer better quality and/or lower costs and thus close the inefficiency gap with their superior products and services? Possibly because healthcare services in many developed countries must be delivered on a scale large enough to solve the problem of rapidly rising expenditures while delivering measurably better health outcomes for the population. However, there are entrepreneurs and business models that do successfully change healthcare delivery by scoring on all three triple aim measures — better health outcomes, better patient experience, and lower per capita costs (Berwick et al. 2008) — and they deserve our attention because they can offer precious lessons that can be broadly applied.

In this paper, we present two cases of value creation in healthcare that stand out because they are based on a social business model. The first case, Gesundes Kinzigtal (Healthy Kinzigtal), is a population-based health services model serving a region in southwestern Germany. The second case, Dartmouth Health Connect, is a primary care-based model offering personalized services for Dartmouth College, the King Arthur Flour company, and the Carpenters' Union in rural New Hampshire and is part of Iora Health, a national primary care enterprise. As an analytical framework for our case studies, we use the business model canvas, which provides a structured account of an organization by focusing attention on the core principles of value generation and customer retention (Osterwalder and Pigneur 2010; Stenn 2016). To better match the field of healthcare services, we have systematically substituted the term patients for customers. We also look at the innovative minds and strategic beliefs behind the genesis of these two models.

METHODS

For our research, we used a case study approach to identify new causal pathways by exploring two innovative models for healthcare delivery. By using the case study method, we hoped to draw a holistic picture to provide both a grounded understanding of context and key lessons learned that can be used to design better healthcare delivery systems (Stake 1995; Yin 2014). For this inquiry, we purposely selected two outstanding examples, (i.e. two distinct, successful and novel healthcare models) that are broadly acknowledged as being both innovative and entrepreneurial (Struckmann et al. 2015). For example, in 2015 the Kings Fund featured Gesundes Kinzigtal as one of five innovative population health systems (Alderwick et al. 2015), and in 2016 it was awarded first prize in the nationwide innovation competition 'Intelligent Regions of Germany' which was

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launched by the German Federal Ministry for Economic Affairs and Energy, and for which more than 100 initiatives applied through an open innovation platform. As for Dartmouth Health Connect, the world's leading social entrepreneurship network, Ashoka, recognized Rushika Fernandopulle, founder of Iora Health, as an Ashoka Fellow and an innovator for the public good. In 2016, Iora Health also won the National Patient Safety Foundation's John Q. Sherman award for excellence in patient engagement as well as first place in the New Models category of MIT's Inclusive Innovation Competition.

Having chosen two organizations that share a social business model heritage, we decided on an analytical framework that was developed to visualize the building blocks of innovative businesses. Osterwalder and Pigneur presented their 'canvas' as a 'handbook for visionaries, game changers, and challengers' who are destined to design tomorrow's successful enterprises (Osterwalder and Pigneur 2010). They introduced nine building blocks that we adapted to health services delivery, as described in Table 1.

We then used both publicly available information on the two cases as well as personal, semi-structured interviews with their founders and leaders — Helmut Hildebrandt, and Rushika Fernandopulle and Joel Lazar — to analyze the two respective business models by applying the building block structure. The last step was to conduct a cross-case analysis to compare the two models and to focus on success and risk factors related to these innovative healthcare delivery enterprises.

RESULTS

Case Study 1: Gesundes Kinzigtal

Looking at Gesundes Kinzigtal in Germany, we see a well-functioning health services management company taking a population-based and physician-owned approach (Busse and Stahl 2014; Groene and Hildebrandt 2017; Hildebrandt et al. 2010; Lupiañez-Villanueva and Theben 2014; Schubert et al. 2016; Struckmann et al. 2015). Key partners (see Table 2) are providers in a rural region in southwest Germany, especially the physicians but also hospitals, therapists, nursing homes and social providers who participate in a network approach to provide coordinated services and follow evidence-based guidelines. In addition, Gesundes Kinzigtal cooperates with municipalities, local authorities, regional sports clubs, and other associations. Germany has a health system with currently over a hundred public, non-profit, autonomous sickness funds that are mandated to provide a broad benefit package which is defined on the basis of a comprehensive health insurance plan. Gesundes Kinzigtal has long-term contracts with two of the sickness funds covering nearly 46% of the residents in Kinzigtal to serve this geographically defined population and take over the function of an 'integrator' organization (Berwick et al. 2008). Most of the staff of Gesundes Kinzigtal have a health science background.

As founding partners and main shareholders of the management organization, a physicians' network has been, and still is, crucial for enrollment into Gesundes Kinzigtal and for developing and offering superior health services for their patients. While the Kinzigtal physicians are still paid on a fee-for-service basis by the German statutory public health insurance system (i.e. healthcare insurance companies) as before, as shareholders they also participate in the financial success of Gesundes Kinzigtal Ltd. and receive additional payments from the healthcare management company for added services (e.g. for passing a comprehensive examination at time of enrollment, for taking the extra time needed for patient communication and education, for medication reviews

including consulting a pharmacist, and for many other services). “We want to get back to the real heart of medicine” says Helmut Hildebrandt, founder and CEO of Gesundes Kinzigtal. His company, OptiMedis, is the strategic headquarters for replicating this integrated approach in other regions (Hildebrandt et al. 2010). He says: “High-quality healthcare delivery is key to better outcomes and a pre-condition for long-term cost control.”

While physicians and other health providers do receive additional payments for extra services and are allowed an expansive scope for designing health services “as they should be”, they also ensure the Kinzigtal’s value proposition for enrolled patients: better health services without additional payments from patients, superior access to programs for chronic conditions and integrated care, all individually secured by the attending family physician and personalized for the enrolled patient. There is a value proposition for the physicians’ network as well: clinicians can deliver high-quality services in a comprehensive care model that promotes their significant role in delivering needed ambulatory care in the region they serve. In fact, the physicians’ network holds 67% of the Gesundes Kinzigtal management company shares which is a limited liability company and controls the CEO via an elected Board of Physicians.

In addition, the physician's workload is lowered by case managers and trained physician assistants who perform tasks that the doctors need not do themselves. In addition to personalized primary care services, Gesundes Kinzigtal offers services beyond traditional healthcare, including primary prevention and health promotion services (e.g. patient education, club sports, fitness programs), and evidence-based programs for chronic conditions, like 'Healthy Weight' for patients with Type II diabetes at risk to develop a metabolic syndrome (Lang et al. 2017). Other programs exist for patients with heart failure, back pain, depression, a general mental health crisis, or geriatric issues (Hildebrandt et al. 2011b; Nolte and Knai 2015). Value is measured using evidence-based quality indicators (Busse and Stahl 2014) and high quality is promoted by using special incentives and specific health promotion and health management programs.

Thus, the physicians’ primary care network is the main channel for communication with patients. The physicians, who are part of the network and are usually the first contact for the patients, explain the benefits of the program and encourage patients to voluntarily enroll. Enrolling physicians informally become a doctor of trust for their patients, rather than be just their first or only healthcare advisor. There is a sharp focus on patients with chronic conditions – they are encouraged to engage in shared decision-making to select appropriate medical care as well as to make behavioral changes involving nutrition and exercise. At the end of 2016, nearly 10,000 patients were actively enrolled in specific care programs that enhance patient engagement. In addition, the Gesundes Kinzigtal organizes community events, festivities, and health lectures. Numerous reports, flyers and press communications are regularly published to keep the public informed of the program’s successes, stimulating more patients to enroll while affirming the benefits of participating for those already registered.

The network physicians attempt to customize patient relationships in a way that helps each individual patient to participate fully in making important healthcare decisions, co-producing their own health management plan and practicing capable self-management at home and between visits by defining individual target agreements. In addition, Gesundes Kinzigtal holds biannual meetings with the patient board that advises management. In a survey, more than 93% of all enrolled patients stated that they would enroll again based on their experiences with Gesundes Kinzigtal.

Considering all of the 'additional' services that are used — ordering special diagnostic and therapeutic procedures, using a team of health professionals to assist individual patients, and providing gym vouchers and patient

education programs that are payed for by the management company — we have to ask about the company's revenue streams. The founders of Gesundes Kinzigtal believed that better healthcare should first be preventive, and should continuously match patients with different types of providers to meet the patient's individual and changing needs. Moreover, they were of the opinion that better healthcare would result in lower costs for care in the long term by preventing unnecessary and avoidable use of services like hospitalizations. Based on these beliefs, they signed a long-term, shared-savings contract with two of the region's biggest statutory health insurance funds to benefit from the future savings that would be realized by the two respective insured populations of about 33,000 people (Hildebrandt et al. 2010; Hildebrandt et al. 2012). A contract with a pre-payment clause allowed the management company to start working and to offer the special, additional services. The result is that the management company is profitable and earned savings compared to the pre-intervention situation, so that the 10-year contracts which were signed in 2006 were extended to become a permanent contract in 2015. After start-up funding for the first year, Gesundes Kinzigtal was, and is, exclusively financed by the shared savings.

Looking at the cost structure of Gesundes Kinzigtal, it is important to note that it does not replace the service delivery or payment systems, but works with them. The remuneration system is based on the standard payment for health professionals by German statutory health insurance, thus all basic services are remunerated as before and physicians obtain 80–90% of their income from the traditional system. However, providers under contract with the management company receive special payments — on-top-of-fee-for-service payments — for providing additional Gesundes Kinzigtal services, and participate in profits if they are also shareholders of the company.

Among the key resources of Gesundes Kinzigtal is the shared IT-system for patient health records (Hildebrandt et al. 2011a). It is regarded as an essential feature to integrate care across providers, reduce communication barriers and share vital information. This allows the different providers who are contributing to the care of an individual patient to see the patient's entire record of treatments and results over time and to thereby promote integration, continuity, and efficiency.

In terms of key activities, the management company uses extensive data mining to search for potential savings and then to develop and evaluate new programs to accomplish the triple aims (Swart et al. 2011). Furthermore, data-driven feedback reports enable a comparison of the physicians' performance in the network based on evidence-based, or internally agreed upon, performance measures. The two sickness funds, as well as the physicians' electronic health records and additional surveys, provide data for the performance management system. As the physicians' network is crucial for the company's success in addition to being a major shareholder, the communication and decision-making processes within it are of utmost importance. The management company's key activities include the organization of collective decisions, the transparent publication of evaluations, contract management with the cooperating sickness funds, and all corporate communications and public relations. Gesundes Kinzigtal is also evaluated by a team of external health services researchers to ensure the reporting of objective results (Schubert et al. 2016).

It is important to note that Gesundes Kinzigtal offers enrolled patients a number of additional services but the patient target group for the Kinzigtal's revenue system — and the basis for calculating the shared savings — comprises not only the enrolled patients, but ALL members of the cooperating sickness funds, whether or not patients use the services that the physician network and the larger organization provides (Pimperl et al. 2015). This contract design was deliberately chosen to avoid potential risk selection behavior. In comparison to other sickness funds in the region, the Kinzigtal population is characterized by lower-socioeconomic status, higher

age, and a higher prevalence of chronic diseases (Lupiañez-Villanueva and Theben 2014). As in other population-based healthcare systems, the triple aim results are measured against this larger denominator of patients, and savings are shared based on the cost experience of the entire population of individuals living in the region that are covered by the two respective sickness funds. Clearly, Gesundes Kinzigtal will offer the most benefit to those enrolled patients that suffer from chronic disease and who benefit from individualized and integrated healthcare, shared decision-making, negotiated commitments, and the special programs for chronic conditions. It is this patient subpopulation — the active patients served by the physician network — that drives the revenue system, because these patients will be most expensive for statutory health insurance and offer substantial savings if their disease is successfully managed. External evaluations show that specifically not young and healthy, but old and multi-morbidity patients are enrolled in Gesundes Kinzigtal, which is exactly the kind of 'adverse risk selection' which was intended by the contract design.

After ten years of operating experience by Gesundes Kinzigtal, there is evidence of success as measured by triple aim performance metrics (Hildebrandt et al. 2015; Hildebrandt et al. 2012; Pimperl et al. 2016):

- Health outcomes: Longer survival rates for members of the region compared to the rest of Germany; lower number of days with incapacity to work; reduction of hospital cases for patients with mood and affective disorders; fewer fractures for patients with osteoporosis; lower use of unnecessary antibiotics; lower number of ambulatory care-sensitive hospitalizations compared to the rest of Germany (Schubert et al. 2016).

- Patient care experience: High recommendation rates, high satisfaction rates with treating physicians and the integrated care system overall, and enrolled members feel that they live healthier lives after enrollment.

- Affordable costs: In a single year (2014, which was nine years after the start of Gesundes Kinzigtal), €5.5 million for insured patients of the AOK Baden-Württemberg health insurance company were saved in comparison to the risk-adjusted expected cost for such a population in Germany. This corresponds to €166 in savings per insured individual (7 percent). Per year this health insurance company reported about €700,000 net savings after start-up funding of about €4.9 million. For the second smaller health insurance company LKK, a positive cost difference of 17% or €416 per insured patient was reported (Gesundes Kinzigtal 2016).

Case Study 2: Iora Health and Dartmouth Health Connect

Dartmouth Health Connect was the first practice initiated by Iora Health, an innovative primary care system that is spreading rapidly in the United States. Starting with just one practice in 2012 — Dartmouth Health Connect, located in Hanover, New Hampshire — by the end of 2016 there were 59 Iora Health practices serving approximately 100,000 patients.

Dartmouth Health Connect, like all Iora Health practices, serves a delimited patient segment. The main patient target groups for this practice are adults employed by Dartmouth College, the King Arthur Flour company, and members of the Carpenters' Union, and their spouses. The practice provides the full spectrum of primary care services including acute care, chronic care, prevention and mental health. Some of the patients are young and have just moved to the area, while many are middle aged and older people nearing retirement. A basic need for all the patients is easy access to personalized, comprehensive, affordable primary care.

The final publication has been published in the J Public Health and is available at https://doi.org/10.1007/s10389-019-01026-y.

The value proposition for patients is fourfold. First, the location of the practice in downtown Hanover is convenient, merely a block from the Dartmouth College campus and for many people just a 10-minute walk from work. Second, patients can access services in any way they wish, anytime they want, by making a visit to the practice, or by phoning, texting, or e-mailing their physician, health coach or any member of the practice team at any time of the day or night. Third, the practice aims to keep every patient healthy and 'out of trouble' and even to improve the lives of their patients by building personal relationships designed to meet their changing needs. Fourth, all services are 'free' to the patient; the employer or union pays Dartmouth Health Connect directly. Therefore, there is never a co-payment or charge for a visit or consult or for participating in other special services offered by the practice.

All Iora Health practices, including Dartmouth Health Connect, use multiple channels of communication to attract prospective members. Dr. Fernandopoule, one of the founders, says “Our marketing model is completely different. We use a community engagement model versus an advertising approach. We hire community organizer-type people who we train to become health coaches, and they go out into the employee community to talk about Iora Health and to tell them our story about the kind of care they will experience.” They tell prospective patients that the practice will focus on meeting their health needs and on building positive relationships with each and every patient. The message is that care in Iora Health practices is not based on 'transactions' (i.e. visits that are paid for by patients on a fee-for-service basis), rather care is based on building personal 'relationships' to take care of medical problems and to meet people’s health needs. While employees can learn about Dartmouth Health Connect at orientation or at health fairs, or by reading the Dartmouth Newsletter, word of mouth from delighted patients is the main source of new members to the practice.

Dr. Joel Lazar, the medical director for Dartmouth Health Connect, believes that “a dogged commitment to patient relationships is our core value” and a key success factor. Once a person joins an Iora Health practice, they meet their personal doctor and their health coach. When they make a visit, they usually see both their coach and their physician; in between visits they can work with either their coach or their physician using the phone or secure email. The coaches are hired for their empathy and trained in health coaching techniques and in how to build a helpful relationship with each of their patients. Dr. Fernandopulle says that once a person joins Iora Health, “then health coaches are key. Their job is to engage the patient so that they can follow the treatment plan.” There are many examples of Dartmouth Health Connect team members doing things for patients that most practices would never dream of doing — like driving a patient to an appointment with an orthopedic surgeon 50 miles away, or finding someone to take care of the patient’s beloved dog while the person was in the hospital recovering from surgery (Fernandopulle 2013; Fernandopulle 2014; Nelson and Lazar 2015; Schutzbank and Fernandopulle 2014).

The revenue streams for Iora Health practices are based not on fee-for-service payments, but on 'double down' primary care capitation. This means that instead of getting paid fee-for-service for every physician visit (as most primary care doctors are paid in the United States), Iora Health gets a risk-adjusted (i.e. more for sicker patients) 'capitation fee' for each enrolled patient. In addition, Iora Health sets its 'capitation fee' at a level that is twice as high as the 4% to 6% of total healthcare payments that health plans in the United States typically spend on primary care. Dartmouth Health Connect, the first Iora Health practice, has a contract that does not include shared risk or shared savings with Dartmouth College. However, Iora Health now has risk-sharing contracts with their sponsoring organizations, with Iora Health getting rewards for improved outcomes and savings on total medical costs.

A combination of key resources provides a solid foundation for Iora Health practices to flourish. First, the practices are located in convenient locations and are constructed and furnished to be attractive and comfortable spaces. Iora Health waiting rooms are more like living rooms and the practices include spaces for special services (e.g. yoga classes, group visits, etc.). Second, people who staff the practice are recognized as the most valuable resource with the aim being to "hire great individuals for keeps who are mission driven and relationship centered." Third, Iora Health has developed their own electronic health record (EHR) system—CHIRP—because they could not find any existing EHR that could meet their IT needs. CHIRP is designed to support longitudinal care for individual patients as well as for population management. "Dashboards" are used to organize care for individuals, to identify key subpopulations, to ensure that evidence-based services are offered, and that clinical outcomes are measured and improved. For example, in the past few months, the proportion of patients with well-controlled blood pressure has increased from 75% to 87% at Dartmouth Health Connect. The fourth key resource is start-up capital. It takes two to three years to break even in a new practice, and therefore Iora Health has raised over $45 million USD from angel investors and venture capitalists to gain a foothold in the market.

The key activities that promote patient-clinician relationships and convenient services include office visits (acute, chronic, prevention, mental health), virtual visits (via phone or email) and sometimes walking visits and shopping visits by coaches. Group visits are held for mindfulness, nutrition, weight, and wellness. Special services are offered such as cooking classes and "Happy Pappy" an event that includes Pap smears mixed with discussion of women's issues and massages. Another key activity is the daily huddle that takes place at the start of each day and is viewed as a "sacred part of what we do." The huddles are used for pre-visit planning, post-visit follow-up, reviewing the "worry list" (i.e. patients with acute or special needs that put them at risk and who staff are worried about), as well as for sharing culture-building stories about successes and failures in attempting to take excellent care of patients. Finally, time is scheduled into the day for population management work to focus on people with diabetes or hypertension or in need of preventive care such as colonoscopies, and to review what needs to be done for people having high "worry" scores, (i.e. a semi-quantitative method that Iora Health uses for identifying high risk patients who require special, pro-active attention).

Iora Health benefits from key partnerships who sponsor new practices, including individual employers (e.g. Dartmouth College, King Arthur Flour), unions (e.g. casino workers, carpenters), and special interest groups (e.g. Grameen program in New York City). In the past year, Iora Health has forged strategic alliances with national healthcare insurance plans including Humana and UnitedHealthCare that involve starting new practices in locations with large numbers of people served by these organizations.

The cost structure for Iora Health includes operating expenses for building and maintaining small "end unit practices" in communities, as well as for investing in big "back end" infrastructure that can enable rapid scaling up of new practices to grow the organization. The back end infrastructure includes not only development of the Iora Health electronic health record, but 80 core staff that manage all the basic functions of the company (human resources, information technology, business development, planning and evaluation, management and leadership). Approximately 80% of operating expenses are for labor and benefits, with the remainder of operating expenses invested in supplies, materials, space, etc.

After three years of running the Dartmouth Health Connect practice, there is evidence of success in all aspects of the triple aim:

- Health outcomes: Patients have improved outcomes for chronic conditions such as hypertension (e.g. have gone from 50% of patients being well controlled when they enter the practice to 81% well controlled currently).
- Patient Care Experience: Patients rate their care experience as being very good with a net promoter score averaging 91% over the past 6 months (the average net promoter score for primary care practices in the United States is only 3%) (Zuehlke 2015).
- Affordable Costs: A case-control study looking at the first 1,160 patients to enroll in the practice showed Dartmouth Health Connect patients had 33% fewer hospitalizations, 24% fewer emergency room visits, 43% fewer specialist physician visits, and 4.7% lower total spending compared to a well-matched control group.

DISCUSSION

The two case studies, one from Germany and one from the United States, have important similarities and differences. Table 3 provides a side-by-side comparison of the two organizations using the nine building blocks for creating healthcare value and attracting and retaining patients. A brief comparative, cross-case discussion follows. We will discuss the aspects mentioned above in an integrated manner, indicating the nine building blocks of the business model canvas by numbers (B1–B9).

Macrosystem or microsystem?

Comparing the two models, we see that Gesundes Kinzigtal is a macrosystem covering an entire region and its population that is fundamentally based on building a network of medical doctors and other health professionals who partner with reliable payers (e.g. sickness funds). By way of contrast, Dartmouth Health Connect is better depicted as a microsystem with Iora Health scaling the model by spreading the microsystems to diverse locations with reliable payers (e.g. employers, unions, sickness funds). Starting up and scaling up is easier for Iora Health because it needs only one or more willing employer (or union or insurance plan) to build a new microsystem. Meanwhile, to replicate Gesundes Kinzigtal would require communicating its ambitious goals and track record in a way that would attract one or more major health insurance plans with a large segment of a regional market to become the funding partner. Also, Iora Health focuses solely on primary care and enrolled patients, while Gesundes Kinzigtal offers much more comprehensive services. In many respects, Gesundes Kinzigtal is like an Accountable Care Organization (ACO) (Barnes et al. 2014; Cohen et al. 2018) that seeks to target an entire population of people living in a single region to improve health and lower per capita health expenditures (B1). The revenue streams of the two models are also markedly different (B5). Gesundes Kinzigtal operates on shared savings that are calculated based on the pre-intervention performance in a region while allowing 'on-top fees' for extra services provided by physicians, as well as profit sharing options. Iora Health, however, uses a primary care capitation model as the basic funding mechanism that can be supplemented with shared risk/shared benefit.

Prevention, personal relationships, own earnings

We also see a number of similarities. To start with the most obvious, both models share a firm belief in the value of prevention, excellent chronic disease management, and patient engagement. Consequently, they both value a broad understanding of "needed" health services and employ an individualized and integrated approach that features nutrition, exercise, patient education, and coaching for self-management of chronic conditions (B7).

Personal relationships are part of both value propositions (B2). Gesundes Kinzigtal builds upon the network physicians' existing relationships with their patients, whereas Iora Health uses a different approach for relationship building — it hires and trains relationship-centered people (regardless of their professional background) to become expert health coaches who work with relationship-oriented physicians — thereby allowing more time for patients to interact with clinical staff whom they come to know and to trust (B3, B4).

Though the models generate income from different revenue streams (B5), both are sustained by their own earnings and positive bottom line performance, while at the same time patients do not have to pay anything extra in the way of out-of-pocket costs (B9). The revenue models work and show that an investment in health prevention, protection and patient engagement 'pays' — but it takes time until the benefit of such activities become manifest (B5). To start up and to grow, partners such as health insurance companies or social impact bonds are needed to finance this investment, and they must believe in a return on prevention and disease management and be willing to wait a few years for their returns (B8). Gesundes Kinzigtal and Dartmouth Health Connect are built to be replicated by their management companies, and each replication needs an initial investment. While private investors often prefer to stay in markets that are more predictable and with which they have experience, health insurance companies might be expected to be forward-looking and be willing to wait their time for social and financial returns on investment (assuming that the turnover in members is not too large to negate the longer-term view).

Management and IT-support

In both models, health professionals are unburdened from many management duties because each has a centralized management back end that takes care of the core infrastructure and supports all key management functions. Electronic health records are not only part of the integrated care delivery approach, but also provide a platform for evaluation and strategic planning to improve performance and to expand operations in new regions. Dashboards are used to manage individual and population health. They help to identify individual patients and patient groups with special health problems or prevention needs, are used to steer and control the implementation of evidence-based services, and to measure and compare clinical outcomes as proof of performance and as a basis for improvement (B6, B7).

Leadership

Looking at the leaders who inspired both models, we find two passionate and talented individuals who are both social entrepreneurs and who aim to spread 'game-changing' models for improving health and decreasing costs (B6). They challenge the health delivery system with their ideas and never tire of communicating the message that breakthrough innovation in healthcare is possible, is feasible, and is proven.

Limitations

Our study provides a valuable insight into the similarities and differences between two innovative business models in two of the world's largest healthcare systems. However, a number of limitations exist in our comparison, in particular with regard to the chosen case study method (Stake 1995; Yin 2014). For example, case studies are generally difficult to duplicate and to generalize, especially in a very highly regulated environment such as healthcare. Therefore, the country-specific financial and regulatory characteristics of the German and United States health system have to be taken into account when adapting these approaches to other environments.

Furthermore, Gesundes Kinzigtal was developed specifically for a regional care structure, so that in an urban context further specificities might have to be considered and more stakeholders in the healthcare system, such as other health insurance funds and physicians, have to be involved. It should be mentioned here that the model is currently being transferred to an urban context, which is then also a starting point for further research.

CONCLUSIONS

While Gesundes Kinzigtal and Dartmouth Health Connect work in different countries with different health systems, while the models are different in structure and size, and generate income from different revenue streams, our analysis provides some common lessons learned:

- Our cases confirm the enormous potential for disease prevention and patient engagement and show ways to unfold it. They offer returns on health and on investment, and give examples that there is more than one way to activate it. The triple aim of lower costs for better health outcomes and patient experience can be met by innovative business models.
- Social innovators and investors taking this path will need stamina and better not expect short-term returns but stay for long-term and sustainable gains.
- Relationship management and extensive communication might be underrated prerequisites to win patients, employers, payers, and health professionals. As in all start-ups, the founders' foremost function is communication — first for trust and support, later to present evidence on the model's success. Our cases for two health service enterprises show no exception to this rule.
- Investment in scalable technology is key to the business model: a data-driven management approach with joint IT-systems and real-time health records can integrate care for patients and identify patient populations in need. For example, engaging patients will mean extensive use of mobile applications for communication, for records, and for shared and interactive management of health status.
- We offer insights into two very different ways to achieve the same end: a comprehensive macrosystem with ambitious goals for a region, along with an indication of the amount of investment in time and resources required to develop and to replicate it, and a microsystem that can be scaled up more easily while the change it brings about will be restricted to smaller populations. Chronic diseases are an optimal starting point to create near-term as well as long term value.
- Medical doctors continue to be central for ambulatory care delivery in our cases, but delegation to

other professionals with appropriate training can allow intensive patient support without costs exploding.

- Finally, we find the entrepreneurial point of view gives an important perspective on health delivery systems. Here, the business model canvas offers a suitable conceptual framework to generate and analyze complex systems for interactive health services delivery

List of Abbreviations

ACO Accountable Care Organization

AOK Allgemeine Ortskrankenkasse (German sickness fund)

CEO Chief Executive Officer

EHR Electronic health record

GP General practitioner

IT Information technology

LKK Landwirtschaftliche Krankenkasse (German sickness fund)

MIT Massachusetts Institute of Technology

DECLARATIONS

Ethics approval and consent to participate: Not applicable

Consent for publication: Not applicable

Competing interests: The authors declare that they have no conflict of interest.

Funding: No funding was obtained.

Acknowledgements: Not applicable

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Tab. 1: The building blocks of innovative healthcare business models for delivering value and retaining patients

Building Block	**Description**
Patient Target Group (B1)	Patients are at the heart of every healthcare delivery model, so the first building block asks: For whom is value created, which patients does the organization serve, and what are their needs?
Value Proposition (B2)	What will be the main reason for patients to enroll in a certain health services delivery model, which problems will be solved, and which patient needs will have to be fulfilled?
Channels (B3)	How does the health services delivery organization communicate with patients or patient segments? How can the enterprise raise patients' awareness, give them opportunities to participate or to enroll, and to recognize that they are receiving excellent services at an attractive price?
Patient Relationships (B4)	What type of relationship is established and maintained between patient segments and the health service delivery organization?
Revenue Streams (B5)	Who is going to pay? How can revenue streams for value delivered be generated and internalized?
Key Resources (B6)	What physical, financial and human resources are crucial for the health services delivery model?
Key Activities (B7)	What are the key activities for creating value, reaching patients, maintaining relationships and generating revenues?
Key Partnerships (B8)	Who are the key partners? Does the organization have strategic alliances or work in a joint venture?
Cost Structure (B9)	Which resources and activities are expensive and can economies of scale or scope be considered?

Tab. 2: Key partnerships for Gesundes Kinzigtal (September 2014)*

	Partners	**No.**
Providers with partnership contracts	GPs, specialists, psychotherapists (~56% of those physicians working in the Kinzigtal region)	63
	Staff in the provider offices	~190
	Hospitals (~85% of all cases in the Kinzigtal region)	6
	Physiotherapists	9
	Nursing homes	11
	Ambulatory nursing / psychosocial agencies	6
Full partners in cooperation	Pharmacies (~70% of all pharmacies in the Kinzigtal region)	16
	Self-help groups; enterprises (Network Health Companies in Kinzigtal); government/administration	48
	Fitness centers (~80% of all in the Kinzigtal region)	6
	Voluntary associations, sports / social clubs	37

*Enrolled insurees of AOK and LKK (n=9,547)
GP = General practitioner
AOK= Allgemeine Ortskrankenkasse Baden-Württemberg (German sickness fund)
LKK = Landwirtschaftliche Krankenkasse (German sickness fund)

Tab. 3: Comparison of two innovative, population-based healthcare models: Gesundes Kinzigtal (Germany) and Dartmouth Health Connect (United States)

Building Block	Model	Gesundes Kinzigtal	Dartmouth Health Connect
B1	**Patient Target Group**	All members of cooperating sickness funds, parallel enrollment model for patients at risk and patients with chronic conditions	Enrolled patients and patients with chronic conditions
B2	**Value Proposition**	Better care without additional payment; physician managed care; superior access to programs for chronic conditions	Better care without additional payment; 24/7 access; inter-disciplinary treatment; individualized coaching
B3	**Channels**	Physicians' network for acquiring and retaining patients; publications; community events; press releases	Employers for acquisition; health coaches for enrolled patients; real-time electronic health records and special communications
B4	**Patient Relationships**	Dedicated personal relationship with patients via physicians' network; co-creation of health in programs for chronic conditions; patient advisory board	Dedicated personal relationship with patients via health coaches; co-creation of health in programs for chronic conditions; patient advisory board
B5	**Revenue Streams**	Shared savings (and initially prepayments on shared savings) from non-profit sickness funds	Lump sum per patient, paid by employer or sponsoring organization in advance
B6	**Key Resources**	Leadership with a vision; engaged physicians; long-term contracts with prepayment clause; system for integrating patient health records	Leadership with a vision; engaged health professionals; long-term contracts with Dartmouth College and other employers; system for integrating patient health records and population health management
B7	**Key Activities**	Assurance of superior health services for enrolled patients; data mining for potential savings; development of programs for chronic conditions; evaluation of programs; communication and joint decision-making within the physicians' network; health services cockpit for GPs practice management; contract management with sickness funds; public relations	Assurance of superior health services for enrolled patients; intensive and personalized health coaching; negotiated commitments for patient self-management; virtual visits; group visits; daily huddle; population management
B8	**Key Partnerships**	Two non-profit sickness funds; physicians; hospitals; therapists; nursing homes; pharmacies; social providers	Dartmouth College; King Arthur Flour; Carpenters' Union
B9	**Cost Structure**	Fixed costs for management and head office; variable physicians' fees for extra services for enrolled patients; programs for chronic conditions	Fixed costs for health professionals providing primary care