INTERNATIONAL FEDERATION OF HEALTH PLANS

Unravelling Value-Based Health Care

What health funds can learn from 15+ years of experience implementing Value-Based Health Care within international health markets

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Executive Summary

A major reform of how health care is provided and purchased is necessary to assure its continued sustainability. The end goal is to achieve the "quadruple aim" of improving population health, patient satisfaction, and healthcare workers' wellbeing while lowering costs. Hence, in 2006 Porter and Teisberg introduced value-based health care (VBHC), a concept that aims to maximise "value" for patients by providing high-quality care at a low cost. In a VBHC system, clinicians are rewarded based on the accomplishment of patients' relevant health outcomes. Nevertheless, the transition toward the VBHC system is arduous. Numerous health plans and providers are still uncertain about initiating or executing it. Thus, to analyse the secret recipe of successful VBHC programmes, the obstacles, and what additional ingredients will be crucial for a successful future for VBHC, we conducted a qualitative study through semi-structured interviews with health plans worldwide.

Based on our analysis, we believe it is difficult to identify a clear set of uniform criteria for determining what constitutes an exemplary VBHC programme, as each programme is unique and seeks to achieve various objectives. However, we identified some key elements that work as enablers for successful VBHC programmes, including stakeholders' involvement, engaging clinicians strategically, a dedicated team, and the way outcomes are measured. Drawing from health plans' experiences, we discovered several main obstacles in adopting VBHC, owing to the challenge of disrupting the status quo, mitigating the upfront risks, getting a similar level of understanding, as well as limited resources and authority. Learning from health plans' experiences, we have been able to summarise several strategies to mitigate those challenges and propose two ways of thinking about the future of VHBC by assessing the possibility of uniformity within the health plan and designing the appropriate incentives for VBHC. Lastly, we support the view that value-based health care is a long journey that requires a collaborative effort and commitment.

Contents

Introduction

Prologue

In the foreseeable future, health care systems must adapt to the dual demands of an ageing population and a growing prevalence of chronic illness. Despite limited resources and budgetary constraints, the demand for health care delivery continues to expand globally. Health care prices are expected to climb ever higher and become less affordable due to escalating inflation, supply shortages and the emergence of new health technologies. If healthcare inflation keeps up with inflation for all services by 2022, the healthcare industry's profit might fall by 12% to 24%.[1] Thus, to ensure the sustainability of health care for populations, providers, and payers for the coming decades, a fundamental transformation of how health care is currently purchased and delivered is needed. The ultimate goal is accomplishing the quadruple aim – minimising costs, enhancing population health, better patient experience, and healthcare staff wellbeing.[2,3]

So how should we reform our health care system? Decades have passed as we have transitioned through various health care concepts and systems. We continue to face several hurdles in ensuring that health care is fairly compensated and truly enhances health outcomes. In 2006 Porter introduced the notion of optimising the "value" for patients by providing the best outcomes at a low cost,[4] including transforming the current physician-centric, supply-driven system to patient-centric, demand-driven. Porter emphasised the need to revolutionise the way the care is delivered, measured, and purchased to deliver high-value care to patients, promoting what he called the "value agenda".[5] Porter and Teisberg claimed that health care should be determined by the value created for patients through value-based health care (VBHC).[6]

Porter emphasised the need to tilt the focus from volume to value. Even so, establishing a common concept of value has been one of the greatest obstacles to implementing VBHC, and as there is no unified definition, so there is no unified approach.[7] [8] In spite of this lack of a unified approach, by virtue of compensating providers based on patients' outcomes, VBHC continuous to offer promise as a strategy for accomplishing the quadruple aims and addressing future health challenges. When we align patients', providers', payers', and policymakers' goals through the improvement of patients' outcomes we will have achieved true value.[9]

This paper investigates why it has been so difficult to achieve the optimised balance of outcomes versus costs that VBHC pursues, and why the shift toward a value-based system has slowed in recent years. There is ample guidance, there are success stories and there is best practice to share, but finding a suitable starting point, developing an adequate roadmap and pursuing VBHC requires significant commitment of time and resources, and an understanding of how each payer's unique place in the health ecosystem may require a different approach. This paper will set out how payers can shift more easily to VBHC despite the vast array of health ecosystems and their various opportunities and limitations.

Objectives

This white paper aims to identify the prerequisites for moving towards value-based care, as well as the main impediments that payers experience. Drawing on lessons from real world successes and failures we explore what innovation is needed to create the VBHC models of the future that deliver on the promise of higher quality care at a lower cost, and at scale.

Methodology

This white paper is developed based on qualitative analysis through semi-structured interviews with 17 respondents from 13 institutions across 8 countries conducted between June and August 2022. Secondary data was collected from key respondents' reports, archives, and other internal documents made available for review. Data collected from interviews were thematically analysed. Ethical approval was sought from and granted by the Ethics Review Committee of The London School of Economics and Political Science (*Ref: 93926)* prior to the commencement of the study. All respondents' names and institutions will be anonymous throughout this paper. For further information regarding the programmes or experiences of particular respondents or health plans, please contact iFHP.

Respondents' Characteristics

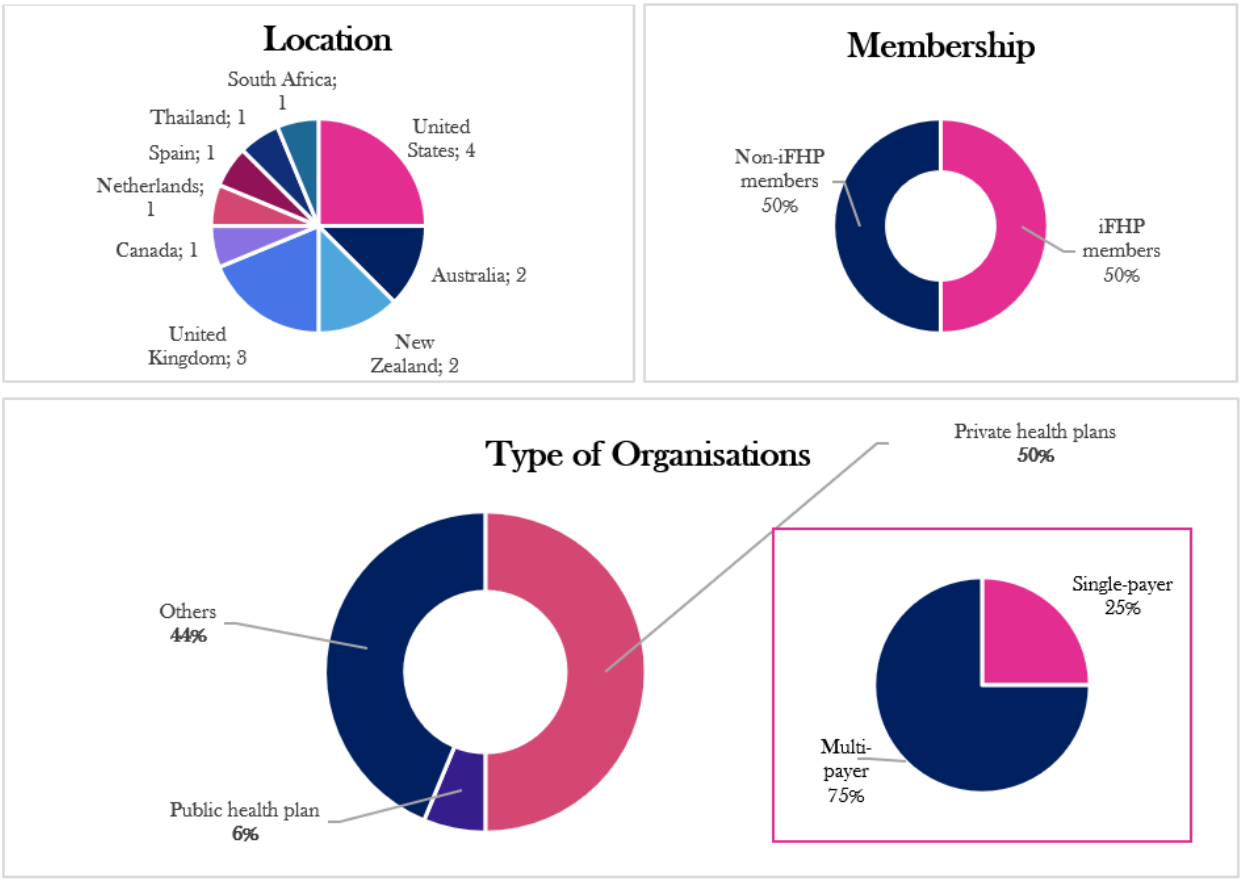

Figure 1. Respondents' Characteristics

Prerequisites for Moving Towards VBHC

In the healthcare sector, system reconfiguration towards value-based health care commonly perceives disruption of the status quo as a crucial prerequisite. While this is true, based on the conducted interviews, we determined that accelerating the transition to VBHC also necessitates the following elements:

1. Stakeholders' involvement

In line with theories of policy change,[10,11] the key actors of the health care system, including payers, providers, patients, and policymakers, all play a vital role as enablers in the transition to VBHC. Given their different interests and understandings of VBHC, ensuring providers understand early on what definition of VBHC is used and what the overall objectives are, is an underestimated and important first step in the journey towards VBHC. Engaging patients is equally essential as they are the centre of the care and instrumental to how value will be interpreted. Our interviewees, including health plans in Australia and United States, as well as ICHOM, the International Consortium for Health Outcomes Measurement, incorporated patients' voices into their programme in various ways, such as patient portal, focus-group discussions, questionnaires, or working directly with the patients' working groups.

"I think it is important to highlight **the alignment idea**… how to **align the different ideas of the different stakeholders** across the batch.**"**
[A health plan in Spain]

Five health plans emphasise the absolute imperative of garnering clinicians' support, which is extensively supported in literature.[5,12,13] Nevertheless, securing such support might be challenging due to the convenience of the "status quo" and the unpredictability of new risks. Similarly, a lack of understanding of VBHC and its overall objectives, or a different understanding that is not addressed will invariably exacerbate the difficulties of garnering the much-needed buy-in and support of the clinicians. Evidence indicates that healthcare systems with the highest levels of physician engagement tend to be the most successful. By involving physicians, shared decision-making between doctor and patient will optimise the value of the whole healthcare process.[12] Put more directly: a successful transformation to VBHC cannot occur unless physicians are involved.[14] Porter also emphasises that changing the way clinicians are managed to provide care is fundamental to the value transformation.[5] Invariably, health plans reported that the best approach is to ensure the engagement of the clinical leadership, who can then in their turn influence the clinicians in their organisations to align with the objectives of VBHC.

"So, **change is always hard**. In our case, **one thing that enables the change is physicians leading physicians. It is not the health plans telling doctors**."
[A health plan in United States]

"**Clinical leadership is absolutely imperative. Without it, it doesn't work.**"
[A health plan in Australia]

Four health plans shared four viable strategies from their experiences in engaging clinicians.

a. Getting clinical leaders involved

The first step in getting other physicians on board is getting the clinical leaders involved. Moreover, it is crucial to involve them from the beginning of VBHC planning and to do that in a meaningful way: incorporating their input. Since many components of VBHC require the expertise of clinicians, and as they will be accountable for its execution, this early engagement is not just prudent, it is imperative.

"**You can actually bring them on the journey from the get-go**, and they understand the process and the thinking and **provide input from the start and not at the end**."
[A health plan in South Africa]

b. Shape the language of VBHC differently

Secondly, introducing VBHC as a novel concept will be difficult if it is perceived by clinicians as a complex and burdensome, requiring a transformation that risks increasing their workload and jeopardise their income. Introducing VBHC might sound more palatable in certain circumstances if the term is coined slightly differently, such as 'shared decision making' or other terms that convey the notion of "value" without emphasizing the change aspect. One

health plan never uses the terms of VBHC in their documents to minimise providers' excessive focus on the potential need for organisational change.

"If you would look in our policy briefs, or in our contract terms, **you will never find terms "value-based healthcare**." And the reason why is that the value-based healthcare gives providers very much to focus on their own organisation."
[A health plan in the Netherlands]

c. Adopting 'no-risk' approach

Thirdly, one health plan introduced a prolonged "no-risk" approach, and shifted risk away for several years from clinicians. This allowed for the building of mutual trust while incrementally transitioning towards VBHC. How care was purchased would initially not change, fee-for-service (FFS) remained in place and new payment models that shifted and shared risks were only introduced when providers were ready. This strategy meant providers fully embraced VBHC when it was deployed and committed to its success.

"I had a program with **no risk for a number of years**. There were a lot of ideas, but **it was very collaborative, we didn't build anything that wasn't informed by the doctors.** That's a completely different model than historically happens in the US… There was 15 million dollars of savings through the program, and **nobody was at risk yet**."
[A health plan in the United States]

d. Using the 'Carrot', but not the 'Stick'

Lastly, it may be worthwhile to consider adopting the carrot and stick approach without actually using the 'stick'. Employing some form of 'stick' as a penalty to providers may discourage the partnership between payers and providers from flourishing and erode trust and collaboration. One health plan in the US demonstrated that using the 'carrot' solely could work well in cultivating partnership and even encourage physicians to voluntarily endorse it to their colleagues, producing a ripple effect of participation in VBHC. "Carrots" do not need to be monetary only. Literature demonstrates other successful strategies to promote physician involvement such as supporting and enabling physicians' professional development, using methods that are labelled "activation".[12]

2. Dedicated team

Two health plans accentuated the importance of having a dedicated team from the beginning. Both indicated the teams' crucial role in data collection, analysis, and monitoring. In such dedicated teams it may be beneficial to have a mix of different skill sets to increase ideation, innovation and implementation. Such different skillsets are helpful to support the programme from conceptualisation through implementation to monitor further and assess its progress.

"So, **you can't do it just sit at your desk**, (…) **you need a dedicated team**, (…) you need people on the business side, as well as on the clinical side and on the data side."
[A health plan in the United States]

3. Outcome measures

Determining which outcomes to measure depends on how payers, physicians, patients, and policymakers define "value" in VBHC.[15,16] Porter and Teisberg[17] argue that value resembles what matters the most for the patient, but even different patients may have different preferences, and providers or payers may interpret patients' values differently. Despite this lack of consensus, it is critical to have a clearly defined outcome measure to carry out VBHC and build incentives around the relevant outcomes.

"I think it's almost going back to Michael Porter's phrase of health care being a fact-free zone. **The things that we currently measure don't bear any resemblance to the reason why the individual customer or patient decided to purchase our product in the first place**."
[A health plan in the United Kingdom]

ICHOM was established as a catalyst for setting universal standardised outcome datasets for prevalent health conditions.[18–20] This is important as we should consider standardization as an enabler for scale. Three problems we encountered were firstly, that not all health plans have the privilege to control the whole patient pathway in their health system, often leading to the need to develop their own sets of outcomes; secondly that not all providers treat equally healthy populations, and as baselines differ, the same outcome will be harder to achieve in some places than others.

Hence we may want to either nuance the outcome sets to accommodate such varying baselines, or set different incentive thresholds in our models for different providers. Thirdly, we found health plans typically implement simplified versions of such standardized sets for reasons of organizational complexity with implementing the full sets.

"So, you need to make sure that **you're not punishing a provider who takes more complicated patients that are more likely to have complications**. So, for outcomes, that means actually accounting for that **so you are able to standardise the outcome measurement between them, because a provider that does simpler stuff may have artificially inflated outcomes.** And I think that **concept of fairness and fair comparison is absolutely essential**."
[A health plan in the United Kingdom]

ICHOM | International Consortium for Health Outcomes Measurement
Aiming to develop universal sets of patient-centred outcome measures that matter most to patients.

- Conditions were selected based on their burden, impact, identified existing gaps, and clinical lead.
- Examples of existing sets: Atrial fibrillation, coronary artery diseases, diabetes, heart failure, heart valve disease, hypertension In LMICs, stroke, venous thromboembolism, various congenital anomalies, inflammatory bowel diseases, COVID-19, HIV/AIDS
- Developing sets by taking into account the viewpoints of clinical experts and patients.
- Moving towards more harmonised sets across the family of diseases to accommodate multimorbidity.
- These sets can be adopted in paper-based systems at the very minimum and will work well within a digital system.
- ICHOM does not collect or own the outcomes data from providers.

"The ICHOM sets have that granularity that **allows you to look exactly at the same things (across providers)**." [ICHOM]

Starting Points

VBHC may be initiated from a number of different starting points. The choice of approach may be affected by any number of factors, such as the context of the health system and the payer's position within it, the extent and level of control over the patient pathway, the scale of the payer, the existing care financing system, the number and size of populations, data availability, and current delivery of care. In addition to these considerations, a plan may decide to initiate VBHC from procedure, condition or population, depending on where the greatest impact can be achieved.

"I think they began in the hip and knee replacement like others began in hip and knee, not only because they are so prevalent, but because **they are prevalent and there's a tremendous variation in the care, the cost of care, and the outcomes of those procedures**."
[A health plan in the United States]

The three main approaches to initiate VBHC are: procedure-based, condition-based, and population-based (see **Figure 2**). It is essential to note that these are not mutually exclusive, which means a health plan can deploy a combination of these approaches, apply them simultaneously or move from one approach to another. There is no single best starting point. Instead, the choice of starting point will be inspired by what matters the most for the patients, by the capacity, capabilities and priorities of both payers and providers, how they both interpret value, and whether there is any 'low-hanging fruit' that can be seized upon to make a quick start. Our study finds that different starting points may generate different definitions of success and require different baselines. Regardless of the starting point, what counts most is the payer's strategic preparedness and willingness to collaborate well and early in pursuit of their aims.

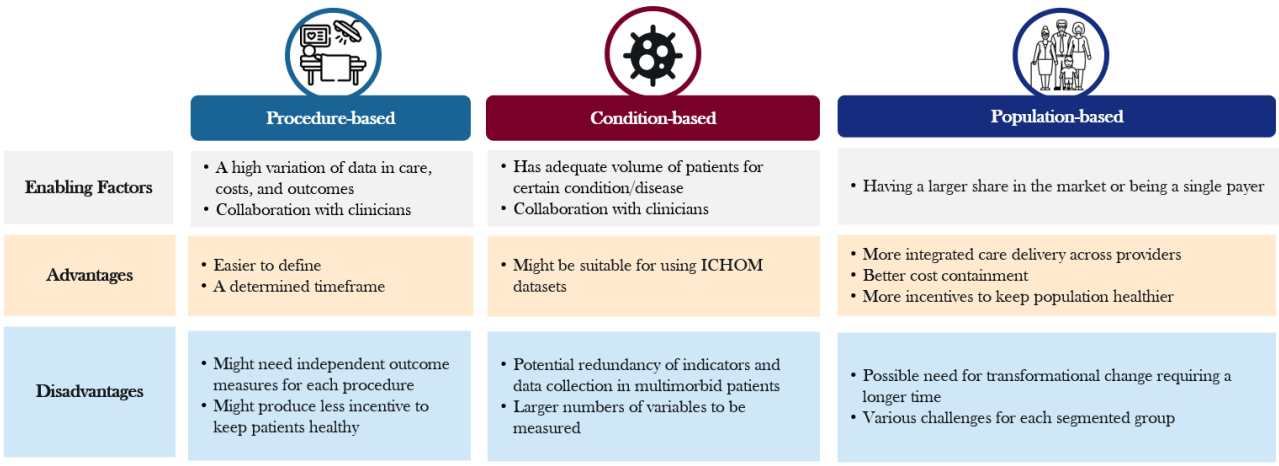

Figure 2. Various Staring Points in Initiating VBHC

"**At the end of the day, just start,** even if you have to do it on a bit of paper. Just find one thing you think is important, if the patient says it is important to them, **start measuring it**."
[A health plan in Australia]

The Implementation of VBHC

Success Stories

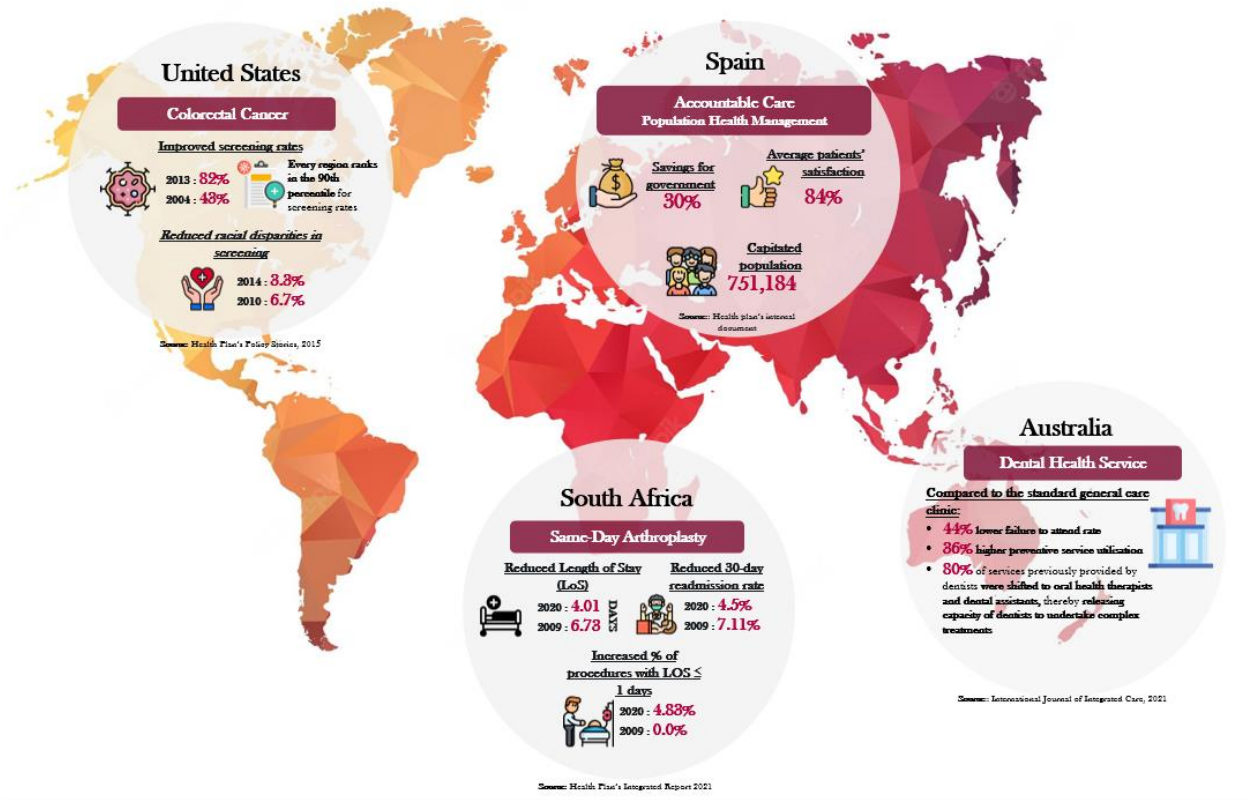

Figure 3. Examples of VBHC Programmes' Successes

Since every VBHC programme is unique, there are no universal criteria for deciding what constitutes a successful programme. Ultimately, by adapting to their respective context and challenges, the programmes can achieve their goals in their own unique ways at their own pace.

"**We don't get everything done right at the beginning, and it's okay**. It's okay to be sort of **moving into the right direction**."
[A health plan in the United States]

Main Impediments

1) Change Management

A myriad of data indicates the urgency of health care transformation to accommodate ageing populations and chronic diseases.[23,24] All the while there is ample evidence to demonstrate that territorialism and inertia within the health sector result in time-consuming care and long waiting lists.[25] In spite of all this, initiating change in health care is challenging. In our study, seven out of ten health plans interviewed pointed to the difficulties they encountered when they embarked upon VBHC.

"**The world changes faster than most organisations can change.** We're good at making small changes fast, but it's hard for us to make big changes fast."
[A health plan in the United States]

Since changing the whole organisational culture may encounter resistance, many health plans try to transition to VBHC incrementally. An early focus on collective support and engaging a coalition of willing physicians is most often referred to as an important first stepping stone.[26] Because cultural transformation is a long journey consisting of multifaceted variables[27], it requires institutional commitment. Many variables influence this change process and how it will be sustained.[28] Having clinical leaders actively supporting VBHC will be a key factor in managing the change process effectively.

2) Upfront Downside Risks

Introducing a new concept that will revolutionise the entire delivery and payment of care, such as VBHC, is likely to trigger anticipations around income and risks. Providers seek predictable income and predictable health expenditures. Payers seek predictability of costs to purchase the care against the members' premium to ensure the continued affordability and viability of their plans. Transforming to VBHC may endanger the current financial status quo, exposing payers, providers, and physicians to the uncertainty of upfront risks. According to a study by Deloitte,[14] physicians can handle financial variability of between 10-15% of their overall pay being contingent on patient outcomes and costs. This willingness to take risks has stayed constant throughout time, and it is often lower among non-surgical specialists.

Physicians agree that the current care paradigms are not value-driven. Transforming to VBHC will require a big system shift. Payers and providers must manage and mitigate those risks by adopting an appropriate payment method to prepare the necessary budget and minimise future catastrophic effects.

"**some of the biggest hurdles are upfront risks**, as (…) a lot of provider and insurers are very comfortable with how things are at the moment, they are familiar with a system that has been like this for decades."
[A health plan in the United Kingdom]

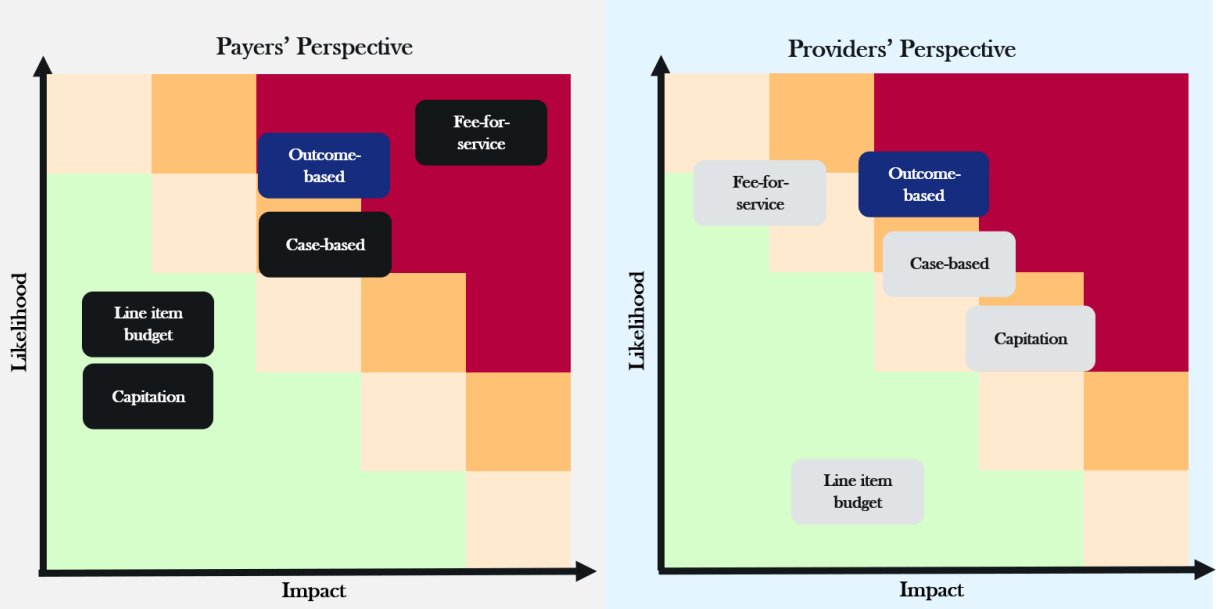

Figure 4. Risk Metrics of Various Existing Payment Methods (Authors' analysis)

We navigate the risks of each payment method from the payers' and providers' viewpoints:

- *Fee-for-service* (FFS); as a predominant way of purchasing care, many providers may feel that this is one of the most secure methods to earn income. Potential income increases flow from increasing the number of patients treated. However, from the payers' viewpoint, FFS has the potential to considerably inflate expenses. This shift of the risks to the payers motivates them to transition towards more bundled payments that will balance the risks more between payers and providers.
- *Capitation*; in contrast to FFS, capitation can provide secure and predictable expenses for payers but not providers. This method shifts the risk to providers while still providing full flexibility to manage their budgets.
- *Line-item budget;* allocating a fixed budget for a particular item, such as a salary for health professionals, provides security for health workers and minimises the risks on the provider and payer side.
- *Case-based;* DRGs, as one of the case-mix payments, can be regarded as the pioneer of future bundled payments.[29] Although it provides for predictable expenses for each case group, it exposes both providers and payers. For high-cost complex cases, there might be a chance that the ceiling of the determined price cannot fully cover the

health expenses of the patient, which shifts the risk to providers. On the other hand, it increases the risk on the payers' side if the number of patients treated surges.

- *Outcome-based*; this approach bears the closest similarity to value-based health care. Nevertheless, most existing billing systems have not embraced this method.

Bundled payments cover a procedure over a predetermined period, emphasising the course of a patient's care. By fostering coordination of services throughout the whole cycle of care, bundled payment schemes attempt to eliminate FFS arrangements that are fragmented[30] and thereby incentivise providers to improve coordination and efficiency while enhancing quality and outcomes at reduced costs.[31]

There is a broad spectrum of bundled payment options available; nevertheless, health plans may want to convert cautiously from one payment method to another, considering providers' responses and overall effectiveness and efficiency. For example, some health plans sought to complement their existing payment with a small portion of reward and punishment variability according to the achievement of outcomes. By transitioning gradually, it will be easier for providers to assess the risks and consequences, as well as adjust their system before moving further toward a more bundled system. Nonetheless, it is essential to highlight that a similar approach to bundled payments may not work as well in one setting compared to another. The message is: try, try small, try incrementally, assess and expand.

"Current scientific literature on bundled payment tends to be from single-payers systems. This may cause **serious publication bias on bundled payments (BP). People tend to be very optimistic on BP based on those studies, but they make the mistake that applying bundles in a multi-payer system introduces complexity that may limited the uptake and effect of BP**. And especially the results from the US, are very difficult to compare with countries with universal coverage."
[A health plan in the Netherlands]

3) The Scale of the Payer

In this study, we discovered that the most advanced and mature VBHC implementation comes from seven health plans with a larger share in a multi-payer market or who are monopsonist. With market dominance comes greater ability to transition swiftly, often enabling smaller health plans to follow suit more rapidly.

Just as studies indicate the influence of size and position of payers' in their health care markets on their negotiation power vis-à-vis other stakeholders,[32] we see a clear advantage of size and position in the market when it comes to ability to drive VBHC. Learning from the experience – where competition law allows it – smaller payers could consider aligning with other smaller payers to mimic this advantage of scale.

"The reality is because **we are the largest (fund) and providers pivot for us**, they are probably going to start doing the same for everybody. And that's fine it's good. **At the end of the day, it's right for the patients**. **And vice versa**."
[A health plan in New Zealand]

Regardless of scale and position in the market, payers need to be mindful also of the risk of increasing clinicians' workloads by laying the burden of inputting multiple sets of outcomes and costs solely and squarely on their shoulders. This could lead to less efficiency in the long run. To avoid such increases in clinician-led reporting, one possible solution lies in the development a system of patients' self-reporting to gather the requisite outcome and value data. One payer in Australia is in the process of developing a patient portal as a comprehensive platform for patients to access their information, make appointments, and fill out a questionnaire, including monitoring their progress by themselves.

"**Paying for value and outcome at the level of one provider in a multi-payer system is very complex** because you have the **free-rider problem and competition on the premium is very harsh**."
[A health plan in the United Kingdom]

4) Fragmented Health Information Systems

Numerous nations struggle with fragmented health information systems due to the wide variety of health system structures and resources in play. As outcomes assessment is essential to assess and incentivise value, the absence of robust data collection and analysis makes adopting VBHC more challenging. As a result, providers may need to collect and submit the same data multiple times to different portals to meet the varying needs of various payers. Furthermore, it may be very challenging for payers to monitor patients' outcomes at the end of the entire care pathway if they do not cover the entire care pathway, and therefore only have access to part of the data. It is well known that data fragmentation and partial absence impede the ability to better predict diseases, better estimate health risks, better forecast costs, and better evaluate the cost-effectiveness of diagnosis and treatments, thus to achieve better outcomes at lower costs. This data fragmentation is a material obstacle to achieving universal VBHC. Having an interoperable and integrated health information system will be advantageous for accommodating VBHC and for achieving more transparent, measurable, and comparable outcomes across providers at larger scale.

"Because **there's a fragmentation of funding** in the Australian sector, **we don't necessarily look holistically at whole various ways of medication and treatment** across a patient anymore, we're more focused on things that are based around the hospital."
[A health plan in Australia]

5) Scarcity of Payment-by-Outcome Billing System

As indicated by one respondent, most existing billing systems are not designed for a pay-by-outcome model, a fundamental principle of VBHC. The absence of such a system will likely hinder any effort in transforming the current payment system to be more outcome-based. Our research found that the current technology and infrastructure can accommodate the transformation to the pay-by-outcome model and that doing so would not require a significant amount of time. An expert third party claims settlement service provider pointed out that real difficulty and the primary bottlenecks are rather caused by the complex and contested variables applied to the pay-by-outcome system.

"We have had some system issues because **our payment platforms are not set up to pay by the outcome**. They are set up as pricing platforms."
[A health plan in New Zealand]

6) The Gap in Levels of Understanding

Countries are adopting VBHC principles all over the world. However, there is great variety in the way and extent to which these ideas are put into practice. Its emerging and diversified paradigm,[33] led to a wide variety in physicians' understanding of fundamental VBHC notions.[34] Payers and policymakers too, often have a heterogenous interpretation of VBHC. Half of the health plans interviewed for our paper emphasised the importance of having a similar level of understanding of VBHC.

"If you come from of **two different levels of understanding**, (…) **it will be very hard to come to a conclusion**."
[A health plan in Canada]

Mitigating the Challenges

While change, upfront risks, smaller market share, fragmented health information system, and different degrees of understanding may pose challenges in implementing VBHC, there are strategies to counter these challenges. We identified three main strategies to mitigate the existing bottlenecks and accelerate the advancement of VBHC into the future.

"We always talk about **the triangle of success** within this model. This triangle combines three key areas**, clinical management, people (HR), and technology**, that turn the model **into a patient-centred model.**"
[A health plan in Spain]

a. Tight-Loose-Tight approach

Gorman (2020) argues that there are three approaches to purchasing arrangements (i) Loose-Loose-Loose (LLL); (ii) Loose-Tight-Loose (LTL), and (iii) Tight-Loose-Tight (TLT). Health plans are encouraged to employ the TLT technique.

The TLT method is distinguished primarily by its well-defined goals and definitions for accomplishing specific outcomes. However, they do not explicitly specify the process for attaining those objectives.[35] Mutual trust is the key to adopting the TLT strategy. Payers need to establish clear goals (tight), empower providers with the flexibility to achieve those goals in the way they deem best (loose), and hold providers accountable for the achievement of the goals (tight).[36] For population-based funding or capitation, this approach is attractive, as it is more likely to be effective,[35] enabling the accomplishment of targets within the budget but, by being "loose", it offers flexibility for providers to determine their strategies and delivery of care.

b. Education and training

VBHC has not yet been introduced into the medical curriculum throughout the world. Medical professionals are trained and educated with no concept of VBHC. It would be advantageous to introduce the concept of VBHC, along with the related aspects of leadership and funding, into medical school and health worker training to better prepare future practitioners for the continued development of VBHC.

"And we groom leaders in the medical group, we send them to executive education to get an executive MBA so they learn how to run the medical group as a business, **we give them leadership training, we do the same thing on the health plan side**, it's a reinforcement of how we do things here."
[A health plan in the United States]

Four health plans arranged various activities to equip the providers with information and training on VBHC. One health plan visits providers directly to explain the concept of VBHC and accommodate their enquiries, concerns, and opinions. Other health plans either established a medical school to prepare the health workers early on or provided training for their staff. Despite the diversity in methods, the goals are to arrive at a shared understanding of VBHC and to define a common goal.

c. Leveraging the power of data

Data is the backbone of VBHC, as practically every aspect of VBHC requires data to some degree. For instance, health plans require cost data and outcome measures to incentivise providers appropriately. By measuring and analysing data, health plans may determine which cost-effective interventions can simultaneously increase value while reducing expenses. They can also estimate the risk of disease and promote prevention and early detection. On the therapeutic side, data enables physicians to identify their patients' conditions more efficiently. Data allows pharmaceutical industries to predict which populations would benefit most from their treatment and they leverage outcome data for better drug research and development. The data can be utilised for further monitoring, evaluation, and benchmarking, albeit with several data collection and analysis limitations. Hence, continuous IT advancement across the care cycle is imperative.[37]

"The concept of value-based care initially was more around data-driven interventions. It was about understanding, and because we are quite a data-driven organisation, we had a lot of information. **And initially it was trying to partner with health care workers, care delivery providers, to understand where opportunities work in a shared value frame**."
[A health plan in South Africa]

Unfolding the Future of VBHC: What's Next?

Collaboration for Value-Based Health Care: Is Uniformity of Health Plans Possible?

In a multi-payer system, having numerous health plans with different sets of outcome metrics and billing systems may be problematic for providers. If providers are required to adapt to different funders and meet their very specific and very different requirements,[38] it will likely place an unwelcome administrative burden on their staff and operations. Such fragmentation would drive an inefficient health care system.

"It is challenging, and I think this is the feedback from a lot of hospital groups that **they would like more uniformity across health funds in terms of recording and requirements**."
[A health plan in Australia]

As private health insurance accounted for over 26% of worldwide insurance premiums, maintaining its position as the fastest-growing sector at 6.9% in 2018 and 5.9% in 2019,[39] covering hundreds of millions of lives,[40] the international collaboration of health plans may generate a ripple effect of healthcare delivery and billing system transformation at a larger scale. Hence, a quantum leap of uniformity across health plans can be a possible alternative that needs further exploration and discussion among health plans. Uniformity does not necessarily require that every aspect of every health plan must converge. But streamlining data collection, billing systems and outcome measures will reduce inefficiencies and release capacity that will benefit patients, whether that is in faster care, better outcomes, reduced premiums, or all three.

Determining the Right Incentives for VBHC: Monetary and Non-Monetary

It is challenging to identify a single payment mechanism that is optimal for all health plans. The approach in which payers incentivise their providers may be adjusted to accommodate the "value" delivered. Accordingly, incentives may be the "missing piece of the equation" for the successful and effective adoption of VBHC. Financial incentives are necessary but are not always effective or worth the investment.[41] Some tasks are more effectively motivated by non-monetary incentives over others.[42] Thus, we explored the potential of optimising monetary and non-monetary incentives to strengthen the effectiveness of VBHC.

"I often call value-based health care incentive-based health care because **lining up those incentives is essential for driving change in the system**."
[A health plan in the United Kingdom]

1) Monetary Incentives

The way monetary incentives are designed will determine providers' behaviour within the health care system. In general, there are two types of effects of monetary incentives: (i) direct price impact, which increases the desirability of the rewarded activity; (ii) indirect psychological effect, which sometimes counteracts the price effect and might stifle the activity that is motivated by monetary incentives.[43] The target of incentives, whether the person or the indicators, may affect the delivery of care to some degree. Boosting monetary incentives for value can expedite the transformation of care delivery.[44] Nonetheless, financial incentives have little effect on long-term behaviour and practice change.[45]

Select appropriate aspects to be incentivised. There is no single standard of what should be incentivised in VBHC. The goals of the program and the agreement between payers and providers will inform this. Financial incentives can be aimed at both clinical and non-clinical aspects as required, or they can also be an 'add-on' to a single or multiple payment method, constituting a blended payment model.[46] For instance, one health plan in Spain shared its quality indicators (KPIs) with its providers and kept 20% of their salaries flexible depending on the accomplishment. In addition to incentivising clinical outcomes, they rewarded providers who dedicated time to teaching and guiding new doctors.

"Our idea is to share part of this achievement with the professionals, and to that end, the **professional must be also aligned to get the incentive**. Part of their flexible salary refers to **productivity**, another part refers to **quality,** another part is set according to the **financial outcomes** of the company, and the fourth part refers to **all the things that are out of their regular job**."
[A health plan in Spain]

Potential contradictory incentives. One of the problems encountered in designing financial incentives is that an incentive for one entity may be a disincentive for the other. Thus, payers need to be aware of these conflicting rewards

and their consequences. To address possible disincentives, it may be worthwhile for payers to strike a balance between incentives and disincentives to motivate providers to enhance value.

"Often achieving that could financially penalise the hospital because it's their own rehabilitation ward where they're sending their patients. So, in that instance, **it's hard to get these incentives to line up with a hospital if better value care is actually reducing their revenue**."
[A health plan in Australia]

A shift to team-based incentives. Abundant studies imply that for more effective health care delivery, a system must be explicitly structured in a clinician-team-based approach that works toward shared patient care objectives. In other words, payers must develop and execute compensation structures that incentivise team-based care.[47] Furthermore, enhanced teamwork is expected to play a crucial role in future initiatives to improve patient outcomes and system efficiency.[48] For instance, ICU patients treated and monitored by multidisciplinary teams had a markedly decreased mortality rate.[49] In another example, The Massachusetts General Hospital has successfully generated remarkable improvements, such as mammography screening rates, adherence to diabetes guidelines, and hand-washing rates through the adoption of team-based incentives.[50–52]

The long-term effects of monetary incentives. As long as there is a reward scheme that incentivises admitting more patients or prescribing more care, there is a possibility that health care expenses may inflate at some time. In contrast, an incentive derived from establishing a global budget or capitation would drive cost containment but may jeopardise the quality of treatment if not appropriately structured or risk-adjusted.[53,54] One of our respondents explicitly states that capitation is part of the future of VBHC.

"If value-based healthcare contributes to better procedures with improved outcomes, **but the volume of patients that get those interventions is not reducing, it will not add to sustainable health care**."
[A health plan in the Netherlands]

2) **Non-monetary Incentives**

A study reviewing evidence of health workers' motivation emphasises the significance of non-monetary incentives.[55] Even under unfavourable circumstances, such as inadequate salary and lack of personnel, some non-monetary incentives may positively influence motivation.[56] A research study explored alternatives to monetary incentives for promoting better quality care and synthesised a strategy using the Behaviour Change Wheel, indicating that the best ways to encourage doctors to alter their behaviour were to educate, empower, and persuade them.[57]

Training and professional development. Training and professional advancement are significant sources of motivation because they foster health practitioners' personal goals and values. Many health care workers are dissatisfied due to their inability to fulfil their professional development due to limited resources and improperly implemented human resource management (HRM) tools. Some HRM instruments may even have a negative impact on the health workers' motivation.[58]

"**You must incentivise the professionals not only with money, but with better conditions**. You need to be flexible and innovative; you have to implement a modern policy in terms of HR strategy."
[A health plan in Spain]

Recognition and appreciation. Health professionals place a high value on acknowledgement and appreciation from superiors, peers, and patients, which further boosts motivation.[58] Losing respect is something no one aspires to. Our pride is something that must be guarded, and it is fragile in each of us.[59] One of the more successful VBHC programmes in place at Martini Klinik in Hamburg promotes team inclusivity by giving appreciation to employees, and involving teams in decision-making.[60]

Rigorous performance evaluations. Many organisations have found success in encouraging development without financial incentives, merely by conducting one-on-one annual medical professionals' performance evaluations, which increases pressures through imposing transparency to varying degrees. For example, the University of Utah Health Care

placed patients' feedback on clinicians' web pages, demonstrating the power of external transparency. The effect was reported as 'astonishing'. In 2009, around 1% of its doctors were in the top 1 percentile, and currently, over a quarter are.[59] However, while some medical professionals find it encouraging, a minority argue that it does not influence one's practice.[58] We need to be cautious in designing and disseminating the reporting as it may elicit varying reactions depending on the country. For instance, in South Africa, one of the health plans indicated that public reporting is still not a common approach due to sensitivity issues; however, private reporting is routinely conducted by developing a provider profile and sharing feedback with physicians directly.

Lessening the administrative workload. While electronic medical records can greatly improve patient safety and care coordination, if non-automated they are also recognised as a major cause of burnout among medical professionals. If overly burdensome they are known to disrupt workflows and physician-patient interactions, leading to interruptions and distractions, as well as prolonged time spent on administrative tasks.[61,62] A study in the US revealed that the majority of physicians (two-thirds) reported that administrative tasks hinder their capacity to provide high-quality service,[63] while the increased time spent on administrative simultaneously led to lower work satisfaction.[64]

"So, by actually creating an experience for doctors where they have **minimal administrative burden** and especially by applying that to your top tier doctors, **that's another way of incentivising doctors to actually improve their outcomes**."
[A health plan in South Africa]

Conclusions

Value-based health care (VBHC) is a powerful model that transforms the way care is delivered, purchased, and measured. VBHC enables the shift to a patient-centric demand-driven healthcare system by optimising the "value" for patients through improving health outcomes at a lower cost. While patients' engagement is imperative, clinicians' involvement is equally vital. Without their support and participation, transforming care and determining outcomes measures would be unattainable. Patients' needs and preferences are at the heart of the VBHC system. Similarly, clinicians are indispensable in designing and executing the care. Therefore, engaging them from the beginning and throughout the program is crucial. As prerequisites in initiating VBHC, many health funds also emphasise the importance of establishing a dedicated team and developing the appropriate outcome measurement system.

VBHC can be initiated from a variety of different starting points. Its initial success depends on the existence of low-hanging fruit and the extent to which the existing health care system context contains enabling factors or obstacles. The health plans we interviewed either built their VBHC journey around procedures, diseases/conditions, or populations. Regardless of the chosen starting point, most health funds confronted similar challenges, such as change management, upfront risks, limited authority due to payers' market share, a fragmented health information system, and different levels of understanding. In mitigating these challenges, respondents shared their most valuable lessons, such as the adoption of a tight-loose-tight approach, the importance of providing education or training, the absolute imperative of collaboration, and leveraging the power of data. Of all the challenges encountered by VBHC, access to quality data is the most intractable and poses the best opportunity for unlocking the future success of VBHC. We believe that more uniformity across health plans in how outcomes are measured and billing systems are set up, coupled with the development of appropriate outcome-based incentives has the potential to be a strong catalyst in the transformation towards VBHC.

In **Figure 5,** we summarise the pivotal roles of each key actor in the healthcare sector on the road to VBHC.

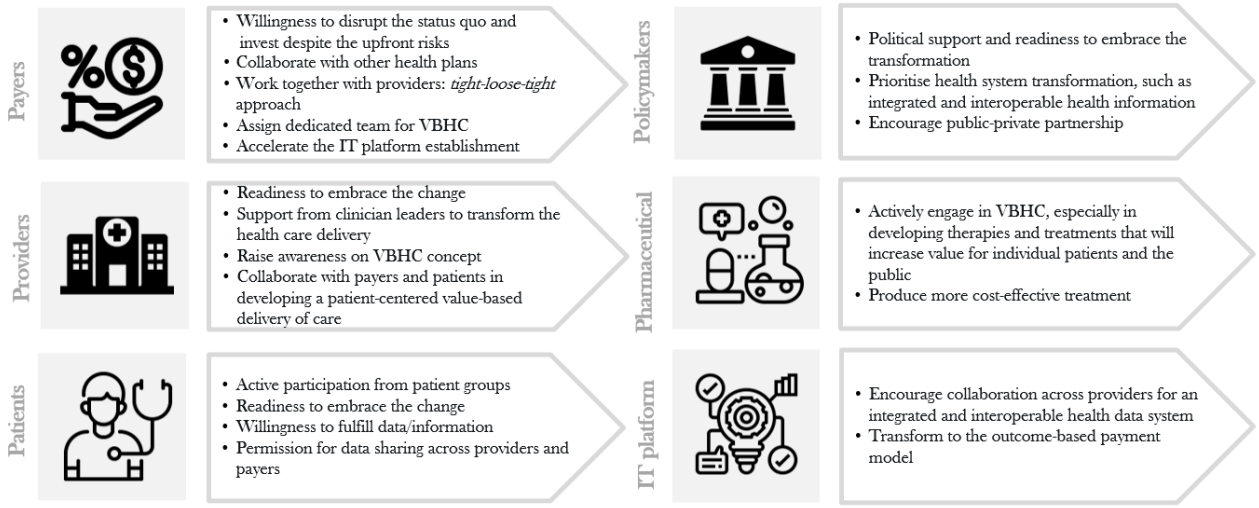

Figure 5. Recommendations for Key Actors in Healthcare Sector in Transforming Care to VBHC

Whilst deep-diving the variety of definitions and approaches towards VBHC, we found there is no single gold standard answer as to what the right path is toward successful patient-centred value-based care. VBHC can be initiated anywhere, in a variety of ways, starting with small, incremental, strategic steps. Success hinges on a commitment to disrupt the status quo, an embracing of the change, and a willingness to cooperate with other key actors in the health sector. VBHC is not a one-entity job. It is an uphill climb with a multi-stage process requiring collaborative effort and commitment.

References

1. McKinsey & Company. Prices are rising--healthcare isn't far behind | McKinsey [Internet]. 2022 [cited 2022 Jul 28]. Available from: https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/consumer-prices-are-rising-fast-and-healthcare-isnt-far-behind
2. Arnetz BB, Goetz CM, Arnetz JE, Sudan S, Vanschagen J, Piersma K, et al. Enhancing healthcare efficiency to achieve the Quadruple Aim: an exploratory study. BMC Res Notes [Internet]. 2020 Jul 31 [cited 2022 Aug 3];13(1). Available from: /pmc/articles/PMC7393915/
3. Sikka R, Morath JM, Leape L. The Quadruple Aim: care, health, cost and meaning in work. BMJ Qual Saf [Internet]. 2015 [cited 2022 Aug 3];24:608–10. Available from: http://qualitysafety.bmj.com/
4. Porter ME. Redefining Health Care: Creating Value-Based Competition on Results. In: National Association of Chain Drug Stores Annual Meeting. 2006.
5. Porter ME, Lee TH. The Strategy That Will Fix Health Care [Internet]. Harvard Business Review. 2013 [cited 2022 May 25]. Available from: https://hbr.org/2013/10/the-strategy-that-will-fix-health-care
6. Porter ME, Teisberg EO. Redefining Health Care. Harvard Business Review Press; 2006.
7. Casey J. How can you define value in healthcare? [Internet]. King's Health Partners. 2019 [cited 2022 Aug 13]. Available from: https://www.kingshealthpartners.org/latest/2608-how-can-you-define-value-in-healthcare
8. Porter ME. What is Value in Health Care? N Engl J Med. 2010;363(26):2477–81.
9. Teisberg E, Wallace S, O'hara S. Defining and Implementing Value-Based Health Care: A Strategic Framework. Acad Med. 2020;95(5):682.
10. Walt G, Gilson L. Reforming the health sector in developing countries: the central role of policy analysis. Health Policy Plan [Internet]. 1994 Dec [cited 2022 Aug 6];9(4):353–70. Available from: https://pubmed.ncbi.nlm.nih.gov/10139469/
11. Kingdon J, Stano E. Agendas, alternatives, and public policies [Internet]. Boston: Little, Brown, and Company; 1984 [cited 2022 Aug 6]. Available from: https://pdfs.semanticscholar.org/b601/985c67970ba87d79fabf6160ca91b1933003.pdf
12. Gray CF, Parvataneni HK, Bozic KJ. Value-based Healthcare: "Physician Activation": Healthcare Transformation Requires Physician Engagement and Leadership. Clin Orthop Relat Res [Internet]. 2020 May 1 [cited 2022 Aug 11];478(5):954. Available from: /pmc/articles/PMC7170687/
13. Porter ME, Teisberg EO. How physicians can change the future of health care. JAMA [Internet]. 2007 Mar 14 [cited 2022 Aug 19];297(10):1103–11. Available from: https://pubmed.ncbi.nlm.nih.gov/17356031/
14. Bethke MJ, Gordon R, Elsner N, Varia H. Equipping physicians for value-based care: What needs to change in care models, compensation, and decision-making tools? [Internet]. Deloitte Insights. 2020 [cited 2022 Aug 12]. Available from: https://www2.deloitte.com/uk/en/insights/industry/health-care/physicians-guide-value-based-care-trends.html
15. Steinmann G, Van De Bovenkamp H, De Bont A, Delnoij D. Redefining value: a discourse analysis on value-based health care. BMC Health Serv Res [Internet]. 2020 Sep 14 [cited 2022 Aug 9];20(1):1–13. Available from: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-05614-7
16. Marzorati C, Pravettoni G. Value as the key concept in the health care system: how it has influenced medical practice and clinical decision-making processes. J Multidiscip Healthc [Internet]. 2017 [cited 2022 Aug 9];10:101. Available from: /pmc/articles/PMC5367583/
17. Porter ME. Redefining Health Care: Creating Value-Based Competition on Results. Boston,, MA: Harvard Business School Press; 2006.
18. ICHOM. ICHOM [Internet]. 2022 [cited 2022 Aug 9]. Available from: https://www.ichom.org/
19. Lagendijk M, van Egdom LSE, Richel C, van Leeuwen N, Verhoef C, Lingsma HF, et al. Patient reported outcome measures in breast cancer patients. Eur J Surg Oncol. 2018 Jul 1;44(7):963–8.
20. Gangannagaripalli J, Albagli A, Myers SN, Whittaker S, Joseph A, Clarke A, et al. A Standard Set of Value-Based Patient-Centered Outcomes and Measures of Overall Health in Adults. Patient [Internet]. 2022 May 1 [cited 2022 Aug 6];15(3):341–51. Available from: https://link.springer.com/article/10.1007/s40271-021-00554-8
21. Ackerman IN, Cavka B, Lippa J, Bucknill A. The feasibility of implementing the ICHOM standard set for hip and knee osteoarthritis: A mixed-methods evaluation in public and private hospital settings. J Patient-Reported Outcomes [Internet]. 2018 Aug 1 [cited 2022 Aug 7];2(1):1–16. Available from: https://jpro.springeropen.com/articles/10.1186/s41687-018-0062-5
22. Depla AL, Ernst-Smelt HE, Poels M, Crombag NM, Franx A, Bekker MN. A feasibility study of implementing a patient-centered outcome set for pregnancy and childbirth. Heal Sci Reports [Internet]. 2020 Sep 1 [cited 2022 Aug 7];3(3):e168. Available from: https://onlinelibrary.wiley.com/doi/full/10.1002/hsr2.168
23. Palmquist I, Lindell G. Emergency Departments in Sweden—Today and in the Future: https://doi.org/101177/010740830002000406 [Internet]. 2016 Aug 1 [cited 2022 Aug 9];20(4):28–31. Available from: https://journals.sagepub.com/doi/abs/10.1177/010740830002000406
24. Porter ME, School HB. Redefining health care: creating value-based competition on results [Internet]. 2006 [cited 2022 Aug 9]. Available from: https://books.google.com/books?hl=en&lr=&id=Kp5fCkAzzS8C&oi=fnd&pg=PR10&ots=V-x2Hbcrax&sig=eR7nKDLIFLvluQPArktGbVZqwSc

25. Carlström ED, Ekman I. Organisational culture and change: implementing person-centred care. J Health Organ Manag [Internet]. 2012 May [cited 2022 Aug 9];26(2):175–91. Available from: https://pubmed.ncbi.nlm.nih.gov/22856175/
26. Malina D, Nurok M, Lee TH. Transforming Culture in Health Care. NEJM. 2019;
27. Buchanan D, Fitzgerald L, Ketley D, Gollop R, Jones JL, Lamont S Saint, et al. No going back: A review of the literature on sustaining organizational change. Int J Manag Rev [Internet]. 2005 Sep 1 [cited 2022 Aug 9];7(3):189–205. Available from: https://onlinelibrary.wiley.com/doi/full/10.1111/j.1468-2370.2005.00111.x
28. Willis C, David ;, Saul J;, Bevan H;, Scheirer M, Ann ;, et al. Sustaining organizational culture change in health systems. J Heal Organ Manag [Internet]. 2016 [cited 2022 Aug 9];30(1):2–30. Available from: https://doi.org/10.1108/JHOM-07-2014-0117
29. Mehrotra A, Hussey P. Including physicians in bundled hospital care payments: time to revisit an old idea? JAMA [Internet]. 2015 May 19 [cited 2022 Aug 11];313(19):1907–8. Available from: https://pubmed.ncbi.nlm.nih.gov/25856460/
30. Scott BC, Eminger TL. Bundled Payments: Value-Based Care Implications for Providers, Payers, and Patients. Am Heal Drug Benefits [Internet]. 2016 Dec 1 [cited 2022 Aug 11];9(9):493. Available from: /pmc/articles/PMC5394559/
31. NEJM Catalyst. What Are Bundled Payments? [Internet]. NEJM Catalyst. 2018 [cited 2022 Aug 11]. Available from: https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0247
32. Roberts ET, Chernew ME, Michael McWilliams J. Market share matters: Evidence of insurer and provider bargaining over prices. Health Aff. 2017 Aug 2;36(1):141–8.
33. Bonde M, Bossen C, Danholt P. Translating value-based health care: an experiment into healthcare governance and dialogical accountability. Sociol Health Illn [Internet]. 2018 Sep 1 [cited 2022 Aug 11];40(7):1113–26. Available from: https://onlinelibrary.wiley.com/doi/full/10.1111/1467-9566.12745
34. Makdisse M, Ramos P, Malheiro D, Felix M, Cypriano A, Soares J, et al. What Do Doctors Think About Value-Based Healthcare? A Survey of Practicing Physicians in a Private Healthcare Provider in Brazil. Value Heal Reg Issues. 2020 Dec 1;23:25–9.
35. Gorman D, Horn M. Purchasing better, innovative and integrated health services. Intern Med J [Internet]. 2015 Dec 1 [cited 2022 Aug 9];45(12):1205–10. Available from: https://onlinelibrary.wiley.com/doi/full/10.1111/imj.12929
36. Gierlinger S, Barden A, Giammarinaro N. Impact of a Patient Experience Leadership Structure on Performance and Engagement. J patient Exp [Internet]. 2020 Apr 21 [cited 2022 Aug 9];7(2):146–50. Available from: http://www.ncbi.nlm.nih.gov/pubmed/32851133
37. Mjåset C, Nagra NS, Feeley TW. Value-Based Health Care in Four Different Health Care Systems. NEJM Catal. 2020 Nov 10;
38. Milad MA, Murray RC, Navathe AS, Ryan AM. Value-Based Payment Models In The Commercial Insurance Sector: A Systematic Review. https://doi.org/101377/hlthaff202101020 [Internet]. 2022 Apr 4 [cited 2022 May 27];41(4):540–8. Available from: http://www.healthaffairs.org/doi/10.1377/hlthaff.2021.01020
39. Binder S, Klais P, Mußhoff J. Global Insurance Pools statistics and trends: An overview of life, P&C, and health insurance | McKinsey [Internet]. McKinsey & Company. 2021 [cited 2022 Aug 23]. Available from: https://www.mckinsey.com/industries/financial-services/our-insights/global-insurance-pools-statistics-and-trends-an-overview-of-life-p-and-c-and-health-insurance
40. HCCI, IFHP. International Health Cost Comparison Report 2022. London; 2022 Jul.
41. Lagarde M, Huicho L, Papanicolas I. Motivating provision of high quality care: it is not all about the money. BMJ [Internet]. 2019 Sep 23 [cited 2022 Aug 12];366(74). Available from: https://www.bmj.com/content/366/bmj.l5210
42. Levitt SD, List JA. What do laboratory experiments measuring social preferences reveal about the real world? J Econ Perspect. 2007 Mar;21(2):153–74.
43. Gneezy U, Meier S, Rey-Biel P. When and Why Incentives (Don't) Work to Modify Behavior. J Econ Perspect. 2011;25(4):191–210.
44. Damberg CL, Sorbero ME, Lovejoy SL, Martsolf GR, Raaen L. Measuring Success in Health Care Value-Based Purchasing Programs | RAND. RAND Heal Q [Internet]. 2014 [cited 2022 May 25];4(3). Available from: https://www.rand.org/pubs/periodicals/health-quarterly/issues/v4/n3/09.html
45. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implement Sci [Internet]. 2011 Apr 23 [cited 2022 Aug 12];6(1):1–12. Available from: https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-6-42
46. Srivastava D, Mueller M, Hewlett E. OECD Health Policy Studies Better Ways to Pay for Health Care [Internet]. OECD. 2016 [cited 2022 May 19]. Available from: http://dx.doi.org/10.1787/9789264258211-en
47. Blumenthal DM, Song Z, Jena AB, Ferris TG. Guidance for Structuring Team-Based Incentives in Health Care. Am J Manag Care [Internet]. 2013 Feb [cited 2022 Aug 11];19(2):e64. Available from: /pmc/articles/PMC3984877/
48. Shortell SM, Casalino LP, Fisher ES. How the center for Medicare and Medicaid innovation should test accountable care organizations. Health Aff (Millwood) [Internet]. 2010 Jul [cited 2022 Aug 11];29(7):1293–8. Available from: https://pubmed.ncbi.nlm.nih.gov/20606176/
49. Kim MM, Barnato AE, Angus DC, Fleisher LF, Kahn JM. The effect of multidisciplinary care teams on intensive care unit mortality. Arch Intern Med [Internet]. 2010 Feb 22 [cited 2022 Aug 17];170(4):369–76. Available from: https://pubmed.ncbi.nlm.nih.gov/20177041/

50. Paulus RA, Davis K, Steele GD. Continuous innovation in health care: implications of the Geisinger experience. Health Aff [Internet]. 2008 Oct [cited 2022 Aug 17];27(5):1235–45. Available from: https://pubmed.ncbi.nlm.nih.gov/18780906/
51. Frederick J. Bloom J, Graf T, Anderer T, Stewart WF. Redesign of a diabetes system of care using an all-or-none diabetes bundle to build teamwork and improve intermediate outcomes. Diabetes Spectr [Internet]. 2010 Jun 22 [cited 2022 Aug 17];23(3):165–70. Available from: https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=10409165&v=2.1&it=r&id=GALE%7CA241412065&sid=googleScholar&linkaccess=fulltext
52. Region G. The Breast Health and Cancer Detection Program. Perm J. 2000 Jun 1;
53. Goodson JD, Bierman AS, Fein O, Rask K, Rich EC, Selker HP. The Future of Capitation: The Physician Role in Managing Change in Practice. J Gen Intern Med [Internet]. 2001 [cited 2022 Aug 12];16(4):250. Available from: /pmc/articles/PMC1495203/
54. Rice N, Smith P. Approaches to Capitation and Risk Adjustment in Health Care: An International Survey. York: University of York; 1999.
55. Dolea C, Adams O. Motivation of health care workers-review of theories and empirical evidence. Cah Sociol Demogr Med [Internet]. 2005 [cited 2022 Aug 12];45(1):135–61. Available from: https://pubmed.ncbi.nlm.nih.gov/15938446/
56. Stilwell B. Health worker motivation in Zimbabwe [Internet]. Geneva: World Health Organization; 2001 [cited 2022 Aug 12]. Available from: https://scholar.google.com/scholar_lookup?title=Health worker motivation in Zimbabwe&publication_year=2001&author=Stilwell%2CB
57. Chauhan BF, Jeyaraman M, Mann AS, Lys J, Skidmore B, Sibley KM, et al. Behavior change interventions and policies influencing primary healthcare professionals' practice—an overview of reviews. Implement Sci 2017 121 [Internet]. 2017 Jan 5 [cited 2022 Aug 12];12(1):1–16. Available from: https://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0538-8
58. Mathauer I, Imhoff I. Health worker motivation in Africa: The role of non-financial incentives and human resource management tools. Hum Resour Health [Internet]. 2006 Aug 29 [cited 2022 Aug 3];4(1):1–17. Available from: https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-4-24
59. Lee TH. Financial versus Non-Financial Incentives for Improving Patient Experience. J patient Exp [Internet]. 2015 May 1 [cited 2022 Aug 12];2(1):4. Available from: /pmc/articles/PMC5513611/
60. Selm L van. The Secret of Martini Klinik Culture [Internet]. Value Based HealthCare. 2021 [cited 2022 Sep 9]. Available from: https://www.vbhc.nl/knowledgebank/interview-with-dr-hartwig-huland/
61. Noseworthy J, Madara J, Cosgrove D, Edgeworth M, Ellison E, Krevans S, et al. Physician Burnout Is A Public Health Crisis: A Message To Our Fellow Health Care CEOs | Health Affairs [Internet]. HealthAffairs. 2017 [cited 2022 Aug 12]. Available from: https://www.healthaffairs.org/do/10.1377/forefront.20170328.059397
62. Murphy K. Administrative Burden Remains Top Challenge for Physicians [Internet]. EHR Intelligence. 2017 [cited 2022 Aug 12]. Available from: https://ehrintelligence.com/news/administrative-burden-remains-top-challenge-for-physicians
63. Rao SK, Kimball AB, Lehrhoff SR, Hidrue MK, Colton DG, Ferris TG, et al. The impact of administrative burden on academic physicians: Results of a hospital-wide physician survey. Acad Med [Internet]. 2017 Feb 1 [cited 2022 Aug 17];92(2):237–43. Available from: https://journals.lww.com/academicmedicine/Fulltext/2017/02000/The_Impact_of_Administrative_Burden_on_Academic.30.aspx
64. Bovier PA, Perneger T V. Predictors of work satisfaction among physicians. Eur J Public Health [Internet]. 2003 Dec 1 [cited 2022 Aug 17];13(4):299–305. Available from: https://academic.oup.com/eurpub/article/13/4/299/603802