مجلس الضمان الصحي
Council of Health Insurance

VALUE-BASED HEALTH CARE

IN SAUDI HEALTH INSURANCE MARKET

White Paper
on Value-Based Payment

Council of Health Insurance (CHI)

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Preface

Dr. Shabab Alghamdi,
Secretary General

Achieving actionable and transparent system outcomes in the healthcare sector, requires time and perseverance, and other resources. As these resources are finite, we need to ensure that they are used as efficiently and as effectively as possible; and that they provide value for money. Most importantly so; for our beneficiaries.

These beneficiaries are a rapidly expanding group. By 2030, our estimates indicate that the Cooperative Health Insurance Scheme in Saudi Arabia will cover 22 million beneficiaries. In financial terms; this will equate to a Gross Written Premium (GWP) of around SAR60 billion; a full two per cent of the Kingdom's Gross Domestic Product (GDP).

While achieving this scale of coverage will be a proud moment for us; we also recognize the very significant responsibility to ensure that the growth provides real value as well. Here, we draw upon the clearly established strategic objective of the Kingdom's health care transformation agenda, to shift to Value-Based Health Care (VBHC). As a part of this transformation journey, we envisage a regulatory role that supports this objective and direction.

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This initiative requires a long-term and multi-disciplinary approach with all relevant organizations. It also entails a significant co-ordination with external stakeholders to avoid duplication and achieve synergies with other relevant initiatives in the Kingdom.

We foresee a holistic approach within the framework of the CHI's VBHC strategy, involving extensive advocacy and stakeholder engagement activities to foster the change. As always, the first step to this is the formulation of a clear vision and roadmap to achieving VBHC at CHI. We are confident that this whitepaper provides a strong foundation on introducing Value-Based Payment models as an integral part of this strategy.

This whitepaper will also provide a foundation to achieve alignment, secure strong clinical and payer support and co-ordination, to transform from the current siloed model of care, to a more integrated and multi-disciplinary provision of health care.

We at CHI look forward to the views and comments of all stakeholders of the Saudi Health Insurance scheme and wider Saudi health sector. Only through this constructive collaboration, can we improve the health of CHI beneficiaries – and support the shift to VBHC.

Sincerely yours in bringing more value in health,
Dr. Shabab Alghamdi, Secretary General

Executive Summary

Value-Based Health Care (VBHC) is an established strategic objective of the Kingdom of Saudi Arabia health care transformation agenda. As an integral part of this transformation, the Council of Health Insurance (CHI) envisions a regulatory role that supports this objective and direction. In this context, the CHI has begun a process of initiating a series of VBHC enabler initiatives.

A key enabler of VBHC are Value Based Payment (VBP) models. Within the fairly extensive spectrum of payment models for health care services, the Saudi Health Insurance market, currently uses the fee-for-service (FFS) model. The FFS is deeply entrenched in the system but is clearly not an appropriate or indeed, adequate model to address the demands of VBHC.

As part of its strategy, CHI considers the development of contemporary VBP models as a major objective in its plans. In order to achieve this, the scheme requires a series of pre-requisites through a well-planned journey. Over the next four years, a series of initiatives will enable the implementation of VBP models. CHI envisions that in the next four years a series of initiatives will enable VBP models implementation.

Thus far, CHI has progressed significantly in standardizing data and introducing Minimum Data Set (MDS); launching a contemporary health information exchange platform (i.e. NPHIES) and introduced patient classification systems (AR-DRG and SBS). It has also raised the requirements and standards around Health Information Management (clinical coding, training, accreditation, billing).

The following three-year period will witness a number of projects across four key enablers of a VBHC system in accordance with CHI roadmap:

1. Informatics, 2. Benchmarking, 3. Payments and 4. Care Delivery Organization.

These enabler projects will introduce standards of outcome measurements, patient experience tools, new delivery models of care, innovations, payment models supporting VBHC, and sophisticated benchmarking tools based on data collected through NPHIES and other sources. All of these should enable the first bundled payment model launch in 2025.

CHI's implementation roadmap for VBHC will require both; deep intra-departmental collaboration within the organization, and extensive stakeholder engagement externally, all aimed at achieving synergy in the overall VBHC agenda in the Kingdom.

In this context, it is critical that these changes are disseminated to the market in a timely and coherent manner, in order to enable setting the ground for a successful start to the initiatives. This white paper aims to disseminate CHI's vision and roadmap towards VBHC from the perspective of VBP models as one of the enablers of VBHC.

Introduction

This discussion paper aims to disseminate and explain the Council of Health Insurance (CHI) vision and plans for Value-Based Health Care (VBHC) as a concept within the remit and mandate of the scheme and the required key pre-requisites. The focus of this white paper is value based payment models.

Further to the other documents describing CHI's overall strategy and series of initiatives (e.g. Population Health Management 5x5; Health Information Management);this document looks at one of the initiatives as part of VBHC: Value-Based Payment (VBP).

This paper is articulated in the following sections:

- Introduction to VBHC
- VBHC at a system level
- Context of VBHC in KSA
- VBHC at CHI
- Brief overview of different payment mechanisms for healthcare services
- CCHI roadmap towards VBP models
- Next steps

This document is in a format of a white paper that aims to disseminate CHI's vision on VBP models. It also forms a foundation for further discussions with stakeholders, on how to achieve the CHI 2020-2024 vision in a collaborative and transparent process.

This document considers different payment models around the globe by summarizing the evidence from available literature on the effects of their implementation. The aim of this review is to give insights on different payment models and provide best evidence regarding the application of the most suitable payment model, aligned with CHI's VBHC agenda.

The Council has already taken the initial steps that will lay the foundation towards VBP models. These steps are mainly directed towards more standardization, patient classification systems and digitization in CHI scheme. These are 'no-regret' steps and do not constitute a path dependency for any potential introduction of value-based payment models.

Through this paper, CHI wishes to disseminate its vision and plans for the future of healthcare financing and payment models. Simultaneously, to also initiate discussions with stakeholders on the best way to achieve its strategic objective of VBP roll out.

It is expected that through collaborative work leading to informed decision making, we can together achieve our vision, for the best interests of our beneficiaries.

What is Value-Based Health Care?

VBHC initiatives have been on the rise, ever since Porter and Teisberg introduced the concept of Value-Based competition, in response to the increasing cost of healthcare in the United States and the failure of reforms to improve health outcomes and contain costs.

In their seminal book titled Redefining Healthcare (2006), Porter and Teisberg introduce seven principles of Value-Base competition - with value being the main objective, simply defined as "the quality of patient outcomes relative to the dollars expended" [1].

$$\text{Value} = \frac{\text{Health Outcomes that Matter to Patients}}{\text{Cost of Delivering Healthcare}}$$

This concept of value based competition was taken further and developed into value based heal thcare which according to New England Journal of Medicine (NEJM) "is a healthcare delivery model in which providers, including hospitals and physicians, are paid based on patient health outcomes" [2].

Under this health care delivery model, providers are "rewarded for helping patients improve their health, reduce the effects and incidence of chronic disease, and live healthier lives in an evidence-based way" [2].

What are enablers for a Value-Based Health System?

At a health system level, this concept requires alignment and coordination at all levels of health care delivery and significant collaboration efforts, with the patient and his wellbeing placed at the center of the system.

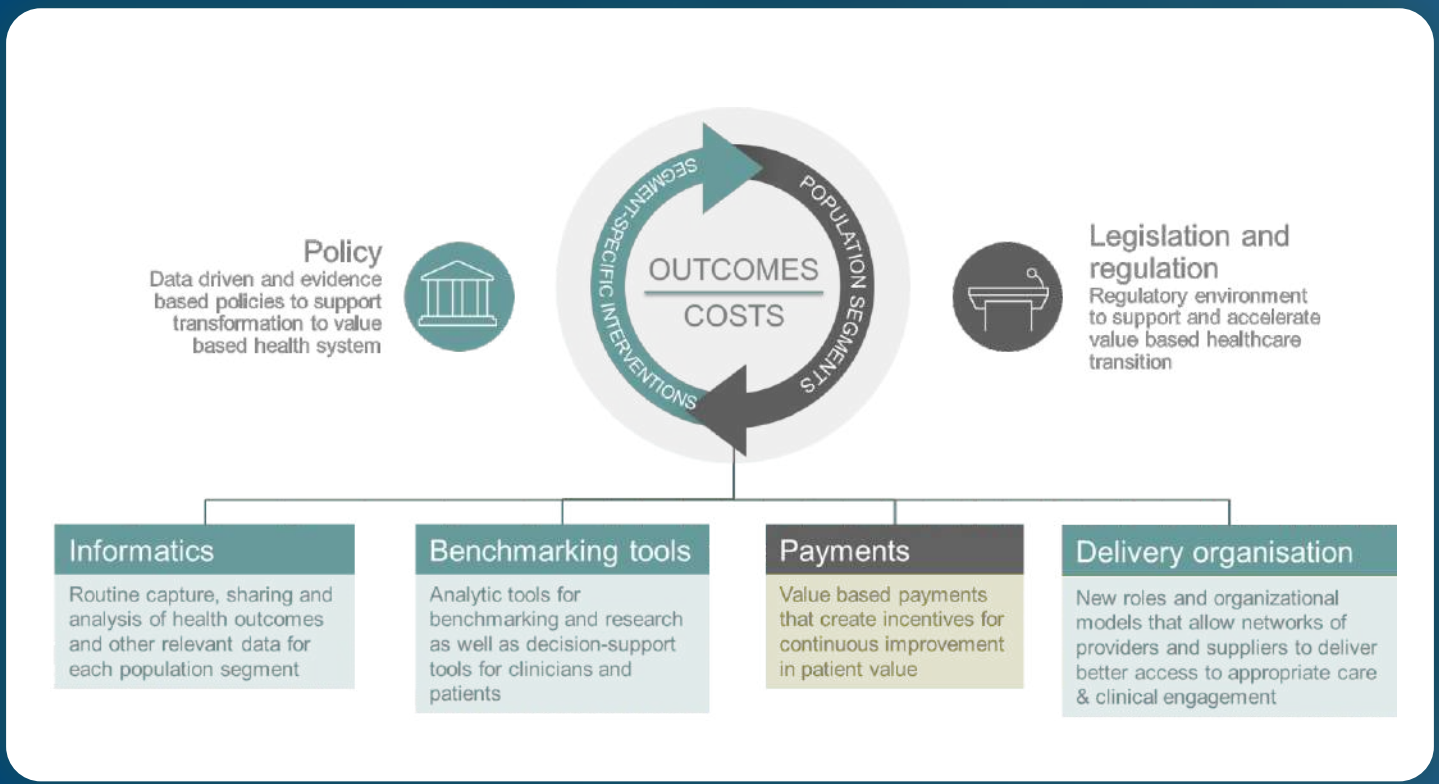
The World Economic Forum (WEF) has provided a comprehensive framework for a Value-Based Health System, where measurement of outcomes and costs incurred to deliver those outcomes are systematically collected and measured (see Figure 1) [3].

To support this model, WEF has identified four enablers:

1. An integrated informatics infrastructure to capture, share and analyze health outcomes
2. Analytic tools for benchmarking and research
3. New forms of Value-Based payments that introduce incentives for continuous improvement in patient value
4. New roles and organizational models that allow better access to appropriate care

This model requires that the system is supported by contemporary health policies and adequate legal and regulatory environment.

Figure 1. Value-Based Care Delivery key enablers and supports (WEF 2018)



Adopted from: Value in Healthcare Mobilizing cooperation for health system transformation WEF Jan 2018 [3]

Context: Brief overview of health system reforms in Saudi Arabia

The Kingdom of Saudi Arabia Vision 2030 calls for a vibrant society with fulfilling lives, where all can live healthy, be healthy and care for their health [4].

The Vision is committed to health care sector that promotes competition and transparency among providers" that inevitably will enhance the capability, efficiency and productivity of care and treatment, and increase the options available to our citizens" (Vision 2030 Commitment).

Among others, Vision 2030 is determined to optimize and better utilize the capacity of our hospitals and health care centres.

These clear vision statements represent strong foundations to achieve Vision 2030 health sector goal of increasing the average life expectancy from 74 to 80 years. At the same time, they represent a strong mandate for all regulators in the Kingdom to work towards these goals by utilising contemporary concepts of funding health care services.

As part of this vision, a recently issued Royal Decree (no. 35184) followed by Order no. 27997 established the Health Sector Transformation Program (HSTP). HSTP, is based on eight integrated pillars as part of a sector strategy formulation process, with clear aspirations along three dimensions: governance, funding and delivery [5].

HSTP as a Vision 2030 program will provide the blueprint for future Saudi health model.

In this blueprint, one of the pillars of the forthcoming health strategy in Saudi Arabia is the Value and Cost pillar that will aim to address a series of challenges health sector is facing:

1. Population coverage with gaps and overlaps
2. Limited incentives to drive value
3. Lack of transparency in financing
4. Lack of clearly defined benefit packages
5. Lack of national minimum quality standards

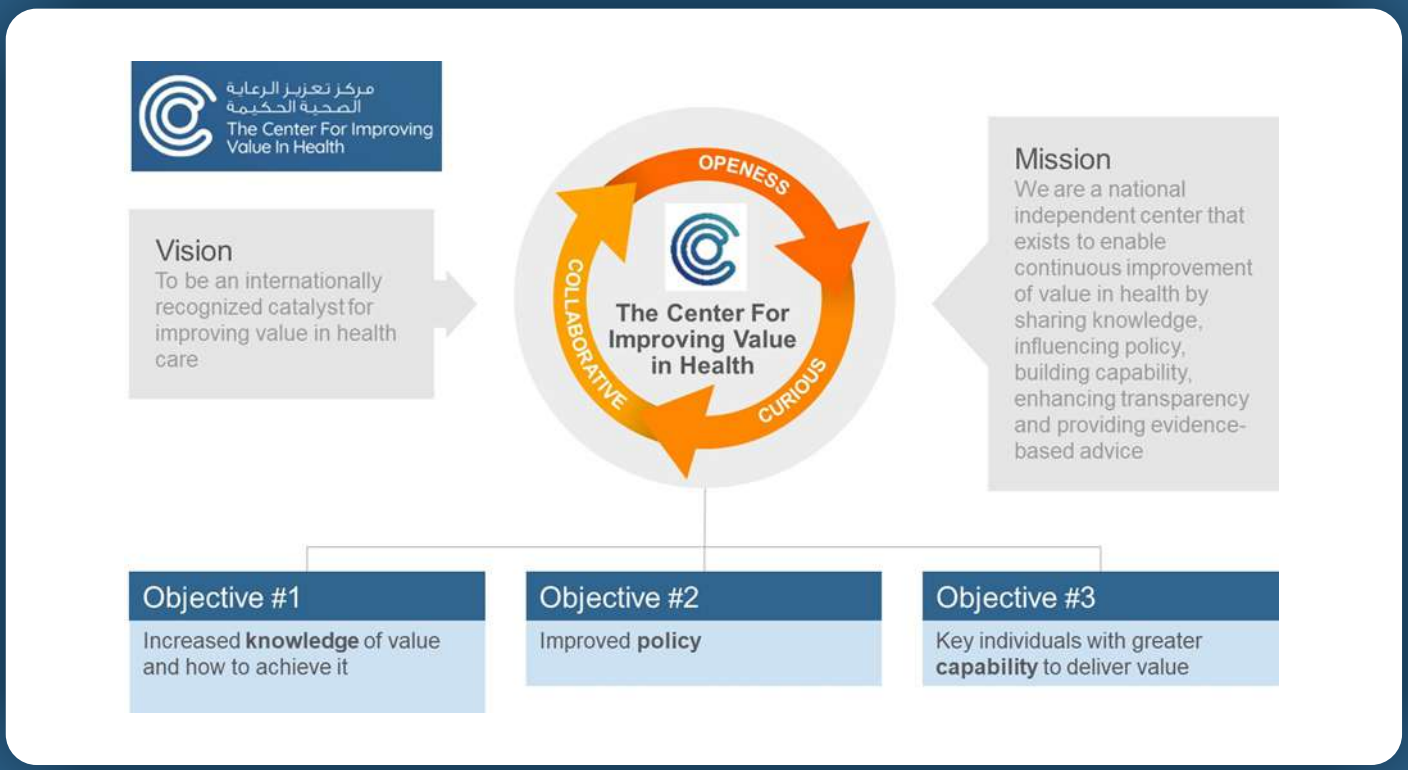
One of the key policy objectives of this pillar is the "effective use of payment models such as capitation or bundle payment to improve value and efficiency" [5].

In parallel to the HSTP initiative and in clear no regrets move, the Ministry of Health (MOH) has launched a 5-year strategic plan on how to deliver a better care in KSA as part of Vision 2030 health transformation. This is envisaged through an independent organization called The Center for Improving Value in Health (CiV) with the objective to promote improved value in health [6].

The CiV plan entails the establishment of series of activities and platforms that support knowledge, policy, capacity and advisory services for VBHC in KSA (see Figure 2).

There exists an opportunity for a high impact partnership with CiV where CHI strategic objectives with relevance to VBHC could leverage CiV's existing knowledge and infrastructure.

Figure 2. The Center for Improving Value in Health vision, mission and objectives



Value-Based Health Care in Council of Health Insurance

CHI recently conducted a strategy revamp and restructuring of its organization to align with Vision 2030 plans (see Figure 3).

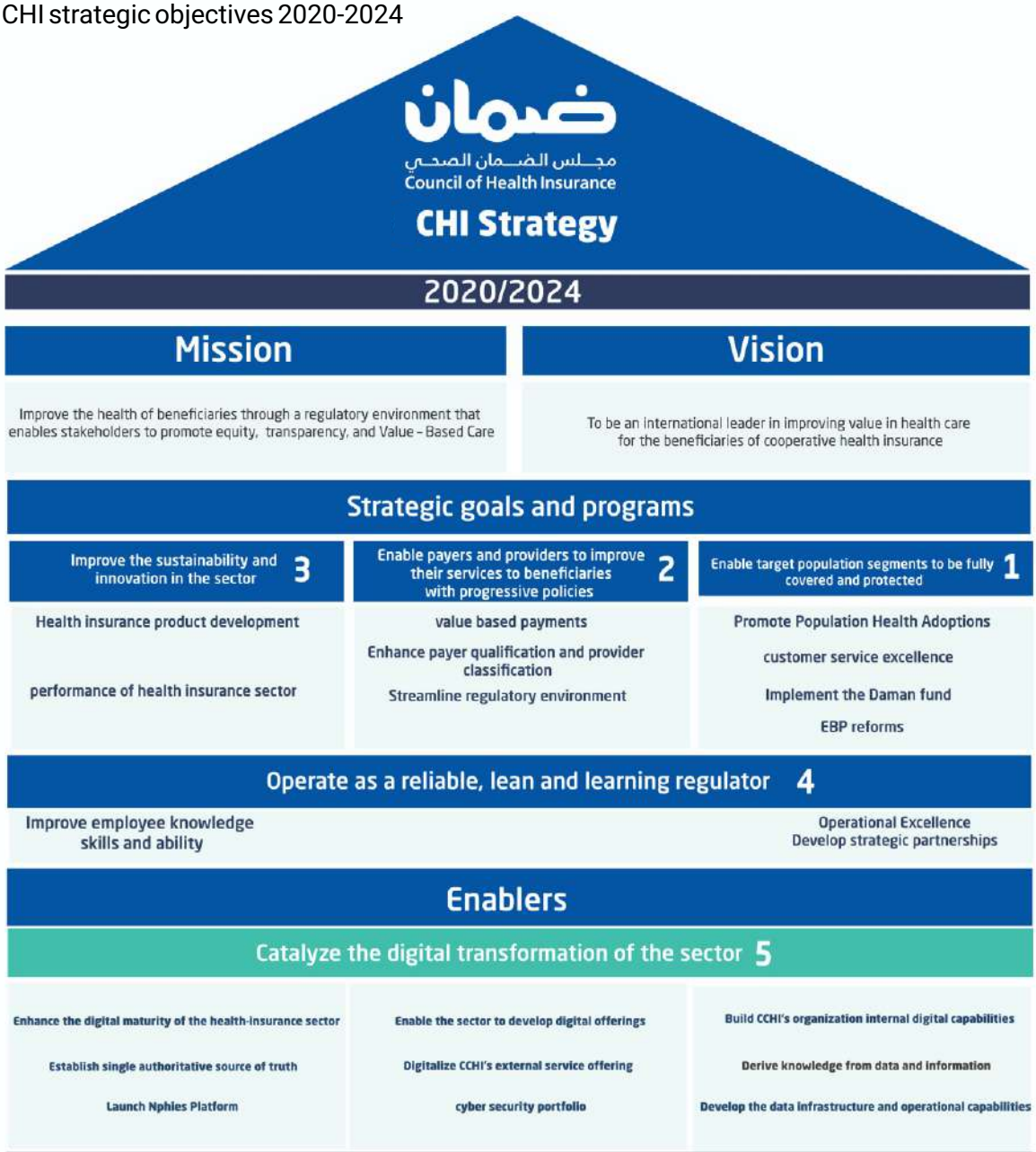
CHI vision is "To be an international leader in achieving best value in healthcare to the beneficiaries of cooperative health insurance" with a mission to "improve the health of beneficiaries through a regulatory environment that enables stakeholders to promote transparency, equity, and Value-Based care" [7].

As part of this strategy, CHI has devised the following strategic objectives:

1. Enable target population segments to be fully covered and protected
2. Enable payers and providers to improve their services to beneficiaries with progressive policies
3. Improve the sustainability and innovation of the sector
4. Operate as a reliable, lean and learning regulator
5. Catalyze the digital transformation of the sector

CHI has now chartered a clear plan for this transformation through 17 programmes and 74 initiatives overseen by Transformation Management Office.

Figure 3. CHI strategic objectives 2020-2024



Most of the programs that are part of CHI 2020-2024 strategy contribute to the VBHC agenda. For instance, value-based payment, implementation of NPHIES and data standards have direct contribution to achieving VBHC. Other initiatives such as payer and provider benchmarking, and classification will also contribute towards this agenda.

Why Value-Based Health Care?

Currently, CHI scheme is very transactional, with large volumes of itemized and packaged claims submissions, adjudication and payment for rendered services. Annually there are around 80 million claims (with a value of almost SAR 25 billion), adjudicated through payments entirely based on a fee-for-service (FFS) model and with none or limited outcome or performance related payments[1].

As such, CHI as a volume driven health system is prone to higher risks of supplier-induced demand and increased levels of fraud, waste and abuse. In addition, volumes of better care are not correlated with better outcomes and health and they could represent a waste to the system. The extent of fraud and abuse related to this payment model in CHI is not yet clear.

As part of its new vision and strategy, CHI plans a transformation journey from today's volume driven scheme with misaligned incentives, towards a value based health system with value at the center and aligned incentives.
Strategic objective number three aims to transform CHI scheme into a more innovative and sustainable healthcare-financing scheme, applying three major programs to achieve this:

1.Promote population health adoption
2.Roll out value based payments
3.Roll out payer and provider benchmarking

Thus far; CHI has issued two white papers – this current paper and one other on Population Health Management [8].
In order to achieve this strategic objective and transition to a VBHC system, the CHI must work on the following key enablers identified by WEF, combined with contemporary regulatory mechanisms and policy based on data and evidence:

- Informatics
- Benchmarking
- Payments
- Delivery organization

What are the benefits of Value-Based Health Care?

It is a well-documented fact that Value-Based Health Care benefits are manifold and relevant to all stakeholders involved as shown in Figure 4 [9].

First - and most important - patients not only report better experience but also have better outcomes. When coupled with lower financial impact, it becomes a powerful cost-effective provision of care.
Providers witness better efficiencies of care and higher patient satisfaction from their services, while improving their financial performance and patient loyalty

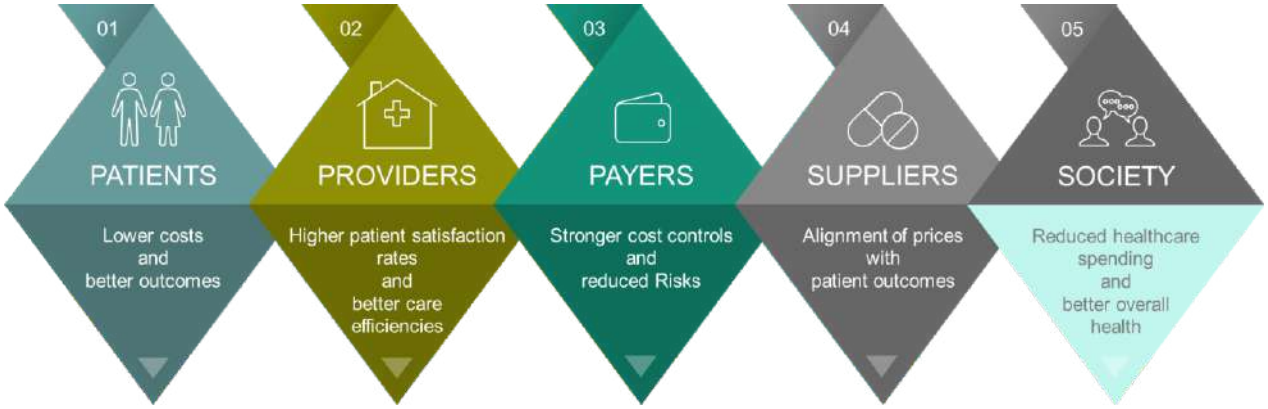
[1] CCHI database for 2020.

Payers on the other hand, contain cost escalation due to prevented unnecessary and inefficient care and with that, they improve risk of pools they manage. Even more significant is an opportunity to better manage the health of their beneficiaries.

Meanwhile; suppliers are more aligned with health system objectives and their prices follow outcomes that are more patient centric and with better experience.

Lastly, VBHC benefits society as a whole through better health improvements of population and optimal spending on healthcare (better health at a lower cost).

Figure 4. Benefits of Value-Based Health Care



How to transform to a Value-Based Health System?

In order to answer this question and move from concepts to action, CHI is keen to address the following challenges in pursuit of VBHC:

- INFORMATICS – how to better leverage digital technology (current and prospective) to collect standardized data, analyze, produce information and generate knowledge?
- BENCHMARKING – how to use this information and knowledge for evidence based comparison and improve transparency in the sector?
- PAYMENT MODELS – how to design payment models that promote value in healthcare delivery and not just volumes of care?
- DELIVERY ORGANIZATION – how to achieve better alignment and integration of care across the health care provision value chain?

Based on this approach, CHI has devised a clear plan with initiatives and projects for achieving this strategic objective and transforming to a value-based health system.

This plan is based on the WEF framework where main initiatives and projects have been identified to support core principles and enablers of VBHC. These initiatives are being launched and implemented in phases both concurrently and sequentially, based on the required pre-requisites to progress to the next phase and test and pilot with the market.

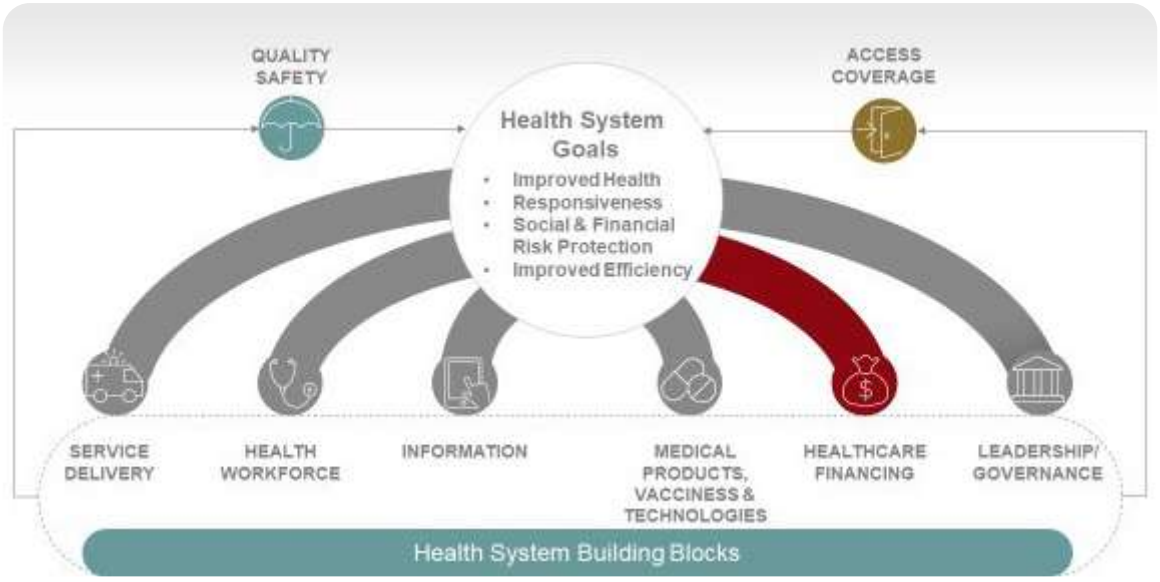
The Value-Based Payment agenda at CHI

For better understanding of the nature of different payment mechanisms and their implications when implemented, the following review of different payment models and their characteristics has been conducted. The literature review provides the latest evidence on different payment models.

Brief overview of different payment systems

The World Health Organization (WHO) health system framework has identified the main functions of every health system known as "the six building blocks", required for achieving overall health system goals: improving health and health equity, in ways that are responsive, financially fair, and make the best, or most efficient, use of available resources (see Figure 5) [10].

Figure 5. WHO Health System Framework



Source: Adopted from Strengthening Health Systems to Improve Health Outcomes. WHO's framework for Action [10]

The six building blocks of a health system and their aims and attributes required to carry basic objectives in order to attain health system goals as follows:

- **Service Delivery:** provide health services that deliver effective, safe, quality health interventions to those in need with minimum waste of resources
- **Health Workforce:** responsive, fair and efficient workforce that aims to achieve best health outcomes possible given available resources and circumstances
- **Information:** health information system that ensures production, analysis, dissemination and use of reliable and timely information
- **Medical Products, Vaccines and Technology:** equitable access to essential medical products, vaccines and technologies
- **Financing:** raising adequate funds for health by way of ensuring financial protection of individuals when using health care services
- **Governance:** ensuring strategic and policy frameworks for effective oversight, regulations and incentives for system design and accountability

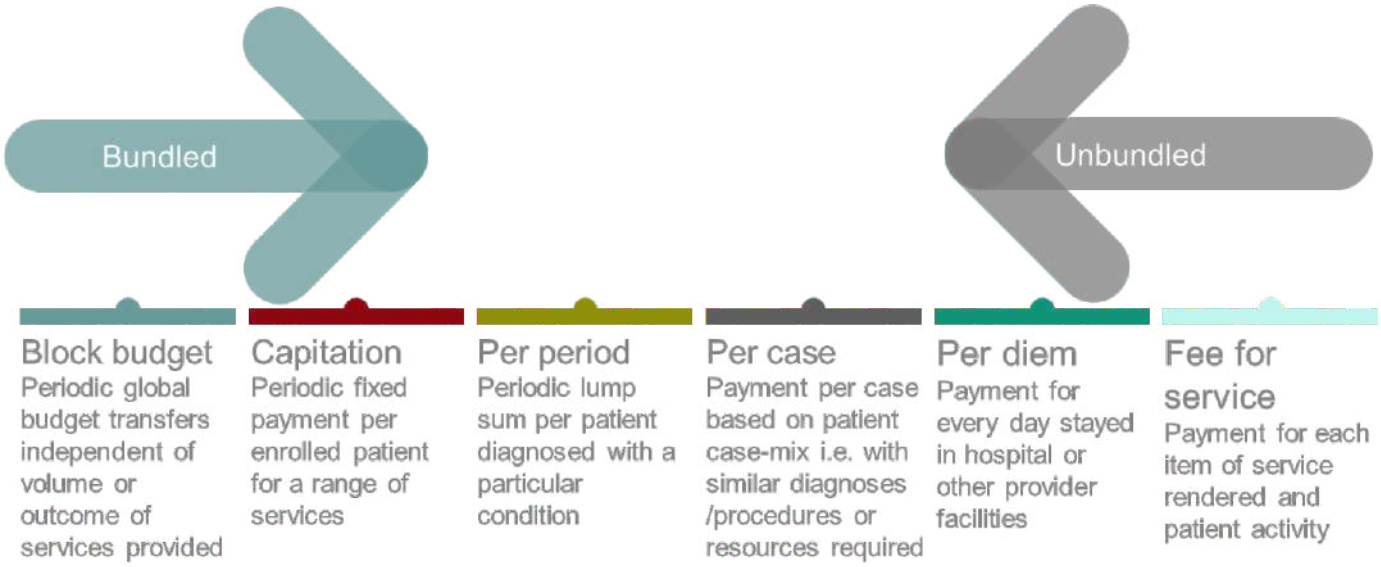
Delivering health care services in an effective and safe way at the highest quality with minimum waste, requires health system regulators to provide guidance on which organization to pay, what to pay them for and the extent of compensation for rendered services. Therefore, payment models are a key tool of policy reform in any health system.

These models and decisions around them create powerful incentives structures that may influence behavior in the market. The main task of regulators is to determine what behaviors they consider desirable, and which payment models are best suited to meet their strategic objectives.

A number of different payment models exist, some of which have been utilized for a long time, and some new and recent payment models that have emerged because of the need to address important issues. These include rising costs, demands for increased transparency and accountability and better outcomes and quality of care.

Payment models differ in terms of unit, type and size of payment, undbundilng and breadth of payment, as well as the financial risk borne by stakeholders (see Figure 6) [11].

Figure 6. Breadth of payment models



The literature identifies the following main payment models applied in different health systems and settings.

Global Budget

Global budgets are the most common payment model for National Health Service systems for hospitals or for legacy health systems where there is no clear purchaser provider split (Semashko systems). They are known for being a powerful cost-containment tool in health systems. This payment model entails a lump-sum payment for the provision of health services for a certain period, while the provider can allocate the budget across services as seen fit.

However, they are based entirely on provider characteristics, as payment is independent of the number of patients and quality of services provided based on historical and expected volumes and capital investments. Global budgets have been used mainly for hospital services, physician services, pharmaceuticals and other. This model is currently applied in the Saudi government funded health systems with plans to transform to more activity and outcome based funding as part of transformation efforts.

Fee for service

Fee-for-service (FFS) payment is another legacy provider payment model and the most ubiquitous. Here, health care providers are reimbursed based on specific items provided, such as a physician consultation, tests, medicines and other services rendered to patients. This provides some benefits as it potentially reflects the effort and amount of actual work done for the patient.

However, this may not always be the case as it could lead to encouraging overprovisioning of services and drive up health care costs. The FFS model may also lead to series of unintended consequences such as the provision of unnecessary treatment, incentives for cost-ineffective services, higher administrative costs and possibly lower quality of services. These behaviors have been well documented in a large body of empirical evidence showing the association between the increased utilization of services and FFS as a payment model [12,13,14].

Case payments

Case payment models pay a fixed amount per case unrelated directly to types and quantities of services provided, but to the condition of the patient determined by the main reason for admission, expected length of stay and resources utilized. Cases are defined by grouping patients with similar characteristics (diagnosis, procedures, resources used, gender) and as a result, the underlying cost of the same.

For this system to work, health systems must decide on the patient classification system they will apply to group patients into case groupings and attach a cost weight or a price to each of these groups. These case groupings known as Diagnosis Related Groups (DRGs) are most often constructed using principle diagnosis, additional diagnosis, procedural codes, and other patient characteristics and resource utilization, as well as some additional information on case-mix (e.g. newborn weight, hours of mechanical ventilation). The price setting process in most of the countries is derived or determined through different cost methodologies [15].

The underlying principle of the DRG payment system is to encourage competitive behavior by paying hospitals a fixed tariff that accounts for the heterogeneity of patient mix and encourages them to compete to provide the best care possible with the lowest relative resource, in order to make a profit. It is believed that this behavior will encourage efficiency and transparency within the system. International experience suggests that this payment model is successful in containing costs, decreasing length of stay, and increasing technical efficiency in many countries that have adopted it [16-21].

Pay for performance (P4P)

This model is relatively new and it has seen a growing interest in payment systems that specifically reward provider performance, also known as payment for performance systems. This type of payment model offers pay, usually in the forms of bonuses, to doctors or hospitals that meet special performance rates or reach target levels of cost or quality.

They may be considered as add-ons to the existing payment models whether FFS or case based payment models (e.g. DRG). For example, in the United States, Centers for Medicare and Medicaid Services (CMS) uses financial incentives linked to DRGs in order to further improve quality of service across several clinical conditions and clinical measures [22].

Process measures were the initial focus of P4P initiatives. With time and as data and information became more standardized and available, P4P models have incorporated outcome measures as well. In addition, patient experience is becoming more important and applied in P4P, as well as additional indicators such information systems, measures of efficiency and others [23].

The P4P policies are relatively new and with mixed evidence on the desired effects when it comes to clinical quality achievements. They are often deemed complex with sometimes unclear design and communication of incentives leading to lack of expected success [24, 25, 26]. Therefore, it is very important when designing P4P models to determine the effects of proposed funding mechanisms and proposed incentives on clinical practice and outcomes with the aim of achieving clinical quality.

Value-Based Bundled payment

The use of integrated care models is gaining more attention as an important mechanism through which the ongoing viability and sustainability of health care systems is promoted. In particular, funding mechanisms that promote cooperation between healthcare operators and in some cases social care organizations, patient engagement and participation, inter-professional teamwork and health promotion, quality of services, and efficient information systems across the care continuum, can contribute to the development of a successful integrated health care system.

Therefore, adoption of payment models that incorporate appropriate financial incentives is an important factor in the integration of care as a way to encourage the implementation of integrated care schemes, recruit and enroll patients into these schemes, implement better systems of data collection, mandate the use of clinical practice guidelines, ensure that they are followed, and meet process and outcome targets [27].

Several countries are in the process of introducing pilot implementations for bundled payment models, but the most advanced models are mainly found in the US and some Northern European countries (Sweden, Netherlands, Germany, UK) [28]. The success of their implementation depends on regulatory environment, provider readiness and data availability.

Capitation

The Capitation model is designed around the payment of a fixed amount per enrolled member or beneficiary to providers or physicians to cover some or all of the health care services required of a specified group of patients for a specified period of time. This payment model poses greater financial risk to providers as the payment is not linked to the volumes of specific services provided, disabling incentives for overprovision of care. This model can also be applied as partial capitation e.g. for coordination of preventative services.

At the same time, this model allows physicians more flexibility in deciding how best to spend their resources on patient care. This model is more commonly used for the payment of primary care doctors mainly in European countries, with some modifications in the form of performance supplements. However, this model could be used for inpatient and other outpatient services.

A capitation model transfers the financial risk from third party payers to health care providers. Through this, capitation removes the financial incentive of overprovision and also adds an incentive to provide the most cost-effective care including preventative services.

However, the main disadvantage of capitation is that, the incentive to keep costs down can also manifest itself in less desirable forms, such as patient selection or quality skimping. To mitigate the risk of these perverse incentives, regulators have introduced monitoring tools and performance indicators.

Accountable Care Organization (ACO) models are another model of capitation applied at a population or cluster level entailing services beyond primary care, where ACOs are accountable for both the funding and provision of care based on a pre-agreed capitation model with a third party payer. This model is seen as the ultimate goal for Saudi MOH transformation of healthcare financing and provision of care.

To conclude, various payment models have distinct characteristics and create different incentives (see Table 1). No single payment model dominates or is exclusive to health systems and the appropriate mix of payment models comes as a result of health system objectives and context of reforms.

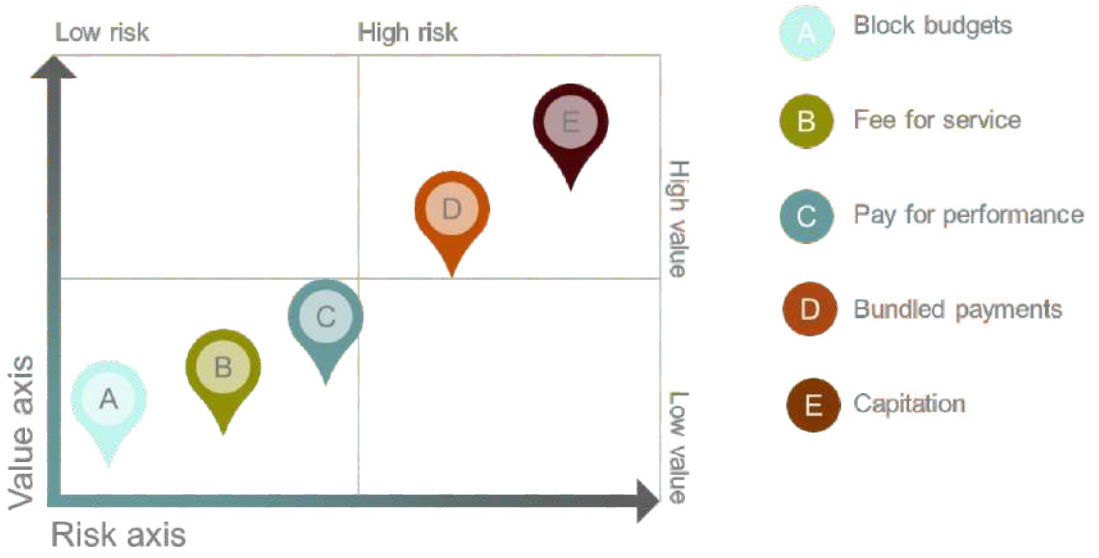
Table 1. Payment model characteristics and incentives

	Characteristics	Incentives
Global budget	▪ Retrospective payment system ▪ Fixed payment ▪ Based on provider characteristics	▪ Expenditure control ▪ Under provision of services ▪ Low productivity ▪ Technical inefficiency ▪ High-risk patient avoidance ▪ Cost-shifting ▪ Quality skimping
Fee-for-service	▪ Prices are set ex-ante ▪ Variable payment (based on activity) ▪ Based on service characteristics ▪ Each service paid separately	▪ Overprovision of services ▪ Supplier Induced Demand ▪ Increased cost ▪ Prone to fraud and abuse ▪ Technical inefficiency
Case-payments	▪ Prospective payment system ▪ Payment based on patient characteristics (diagnoses, procedures, others) ▪ Variable payment (depending on activity and case-mix)	▪ Cream-skimming ▪ Reduce length of stay ▪ Upcoding ▪ Prone to fraud and abuse ▪ Increased productivity ▪ Unit cost control ▪ Improved transparency
Payment for performance	▪ Variable payment ▪ Based on patient characteristics and provider characteristics (outcome and process measures) ▪ Based on narrow conditions and patient characteristics	▪ Preference for low cost patients ▪ Cream-skimming ▪ Limited conditions ▪ Limited to targets
Value based bundled payment	▪ Fixed payments for treatment episode ▪ Full or shared treatment risk ▪ Combination of medical care bundled under one price ▪ Integrates patient care across treatment pathway	▪ More holistic approach and coordinated care for patients ▪ Multidisciplinary team approach ▪ Better collaboration across providers ▪ Improve and maintain outcomes over time ▪ Reduce treatment cost ▪ Improve transparency
Capitation	▪ Fixed payment ▪ Independent of actual service provided ▪ Capitation value set ex-ante ▪ Based on number and population covered characteristics (age, gender)	▪ Preference for low cost patients ▪ Cream-skimming ▪ More preventative care ▪ Cost shifting ▪ Quality skimping ▪ Good expenditure control

In modifying payment models within a health system, it is important to ensure that the new models are in line with the key objectives of the different areas of the health system; and that they produce incentives that are well aligned with the organizational structure in place.

In addition to this, different of payment models not only create different incentives, but they also carry different risks. Figure 7 shows the relationship between risk and value. Namely, the higher the value the greater the risk. When deciding which system to implement, it is important to consider these features carefully, to assess what is most desirable given the health systems goals and capacity.

Figure 7. Financial risk and value of different payment models



In particular, following questions need to be considered when introducing a new payment model:

1. Is it in line with the health system objectives?
2. Is it based on evidence of effects on health, cost, and the mix of health care interventions?
3. Is it inclusive of all key service delivery aspects (inputs, service management and purchasing element)?

CHI view and roadmap for value-based purchasing

CHI's strategic objectives are a key element in recommending contemporary payment models in the Saudi private health insurance market. In doing so, the Council needs to ensure that the payment models that enable and support CHI's objectives, are based on evidence and cover all key service delivery areas of healthcare provision.

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While value-based purchasing is directly related to objective number three (Improve the sustainability and innovation in the sector), its introduction will also contribute to objective number two (Enable payers and providers to improve services to beneficiaries) and objective number four (Operate as a reliable, lean and learning regulator). As a whole, the direct and indirect contribution of this initiative will lead to a value-based health system in CHI.

In doing so, the Council has made the first step towards VBHC and now has a clear roadmap on how to introduce Value-Based payment models. The proposed approach will be implemented in four phases where certain pre-requisites are required in order to progress to next stage. All phases have prior dependencies on different pre-requisites and their delivery is conditional in achieving the final goal.

The following phases have been identified as shown in Figure 8.

Phase 1: Introduce patient classification systems, data standards, clinical coding systems, and National Platform for Health Information Exchange System (NPHIES) with bespoke Minimum Data Set (MDS) to collect data and information from the market

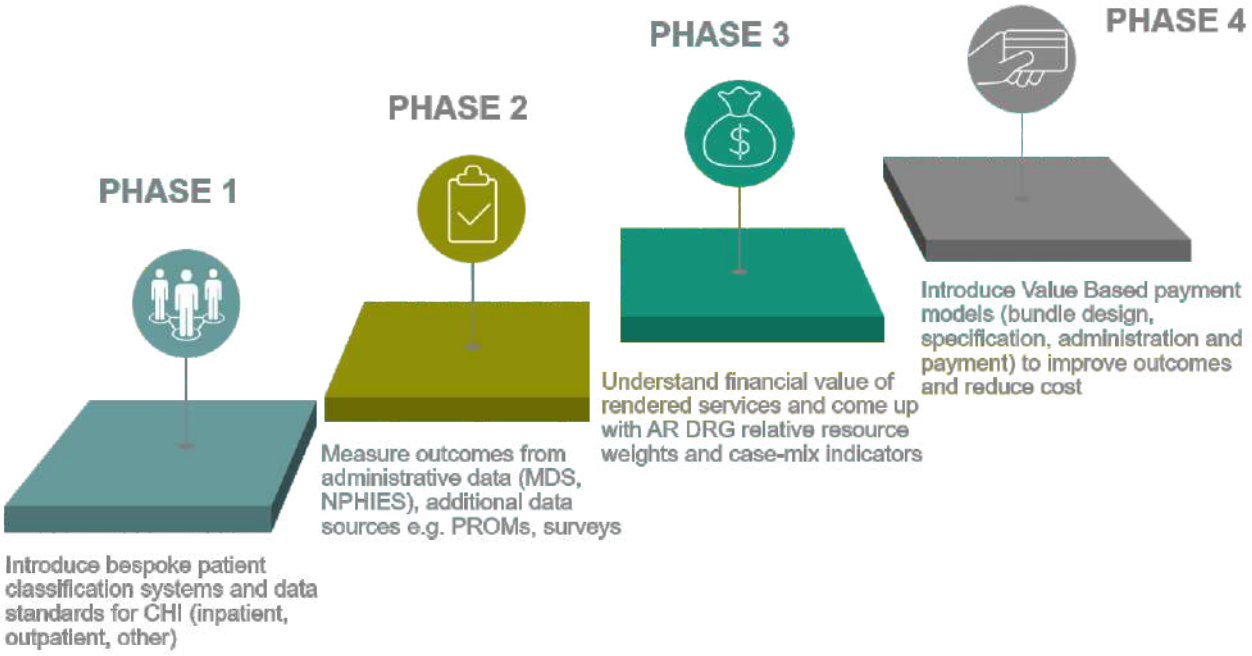
Phase 2: Identify and segment CHI population, measure clinical outcomes from NPHIES, other administrative systems data sources, and other additional sources already available or yet to be developed (surveys, registries, PROMs, PREMs)

Phase 3: Quantify as accurately as possible the financial value of rendered services in Saudi Health Insurance market and generate relative resource weights and other case-mix indicators for benchmarking purposes

Phase 4: Capitalize on previous phases and commence designing value-based payments for a select type of services to improve outcomes and reduce cost

Each of these phases will require the presence of a minimum of certain enablers across the spectrum of the value-based health care value chain.

Figure 8. CHI's envisaged phases towards Value-Based Payment



During each of these phases CHI will work on designing and developing value-based health care enablers in the areas of informatics, benchmarking, payment, and organization delivery as described in Table 2 below.

Table 2. CHI activities by phases towards Value-Based payment solutions

ENABLERS	PHASE 1	PHASE 2	PHASE 3	PHASE 4
Informatics	• Data standardisation • Minimum Data Set • NPHIES	• Population surveys • PROMs • PREMs	• Disease registries	• Electronic Health Records
Benchmarking, research & tools	• Provider classification • Data audit • Clinical coding training	• Initial benchmarking • Clinical coding audit • Define outcome standard sets (ICHOM)	• Comparison of outcomes and cost metrics • Identification of variations	• Data driven decision support tools • Patient engagement tools
Payments	• Bespoke patient classification systems • Bespoke billing systems	• Collect and audit data • Test and pilot	• Devise relative DRG relative resource weights • Devise case-mix indicators	• Value based payment • Devise bundles • Administer and pay bundles
Delivery organizations	• Clinical engagement	• Coordinated care • Primary healthcare enhancement	• Quality improvement • Population Health Management	• Integrated care • Multidisciplinary teams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Informatics

CHI has made great progress towards data standardization, introducing Minimum Data Set requirements based on Saudi Health Data Dictionary (SHDD) for industry data submission and launching the health information exchange platform combined with national health electronic records known as National Platform for Health Information Exchange System (NPHIES).

The seamless collection of routine and standardized data generated by the market will enrich and improve the information and knowledge required for Value-Based purchasing.

Although NPHIES represents a major milestone for collecting and analyzing routine administrative data from claims exchange, the next and most important step would be to:

- Collect population level data from population surveys;
- Design condition specific Patient Reported Outcome Measurement (PROM) tools to measure outcomes of interventions performed in CHI scheme;
- Design Patient Reported Experience Measures (PREM) tools to further enrich CHI information on patient experience that should be incorporated in future Value-Based payment models; and
- Identify and collect other sources of data (e.g. disease registries)

According to the Population Health Management initiative, CHI plans to collect data in a seamless way from different sources (e.g. MOH, Public Health Authority/Weqaya, disease registries, population health surveys) that could be used to further enrich existing administrative data collected as part of NPHIES. The Population Health Management initiative will further enrich the information and knowledge of CHI population covered for more targeted and prioritized conditions based on disease burden for Value-Based purchasing projects. These are two of the three foundations of VBHC system.

In terms of patient experience measurement, CHI has deployed a series of customer satisfaction surveys through Press Ganey (survey with a list of questions that ask patients for their experience). These surveys measure beneficiary experience through the health insurance value chain in three domains (payer, provider, and regulator). This ongoing activity could be utilized to design service specific PREMs deployment relevant for Value-Based payment models.

On the outcome front, designing and implementing PROMs will require significant efforts and work. CHI will have to design Saudi specific methodology and tools that will require testing prior to being deployed and used for payment purposes.

All of this data should be consolidated and aligned for better capture of information, and knowledge on outcome measurement in a systematic way.

Benchmarking, Research and Tools

Similar to the informatics dimension, the Council has made great progress and major first steps towards benchmarking and research on healthcare provision within CHI scheme. The next step is to determine the use of this information and select the most appropriate tools.

Firstly; CHI has adopted patient classification system mandated nationwide by the Saudi Health Council (ICD-10 AM/ACHI/ACS Ed.10 and AR-DRG v9.0).

Second; it has taken an additional step by developing a CHI classification system based on Australian Classification of Health Interventions (ACHI) to unify the coding and billing of inpatient of outpatient healthcare services in the CHI scheme called the Saudi Billing System (SBS).
Third; it is finalizing a system for provider classification based on a set of criteria to classify providers and potentially pay based on these criteria.

Next steps for CHI will be to enable benchmarking of providers based on case-mix indicators, process indicators and other outcome indicators to bring transparency in the provision of care in CHI scheme. With established standardized data and patient classification systems, the benchmarking could be further extended for comparisons within KSA's health economy, regional or even international health systems.

This will enable comparison of outcomes and financial implications of rendered services under CHI, identify potential clinical and cost variations in the provision of care, and introduce data driven decision tools for clinicians and patient's engagement to improve care. Finally, based on this information and knowledge, it will be possible to build modern Value-Based payment models.

Payments

This is the most important component expected to drive incentives for appropriate care and lead to better outcomes in CHI scheme.

Currently, the entire CHI scheme is based on a traditional fee-for-service reimbursement model that has the following characteristics: it is the least efficient payment model encouraging overprovision, fueling cost and leading to provision of unnecessary treatment.

This payment model is no longer compatible with the new Value-Based health care vision and strategic objectives of CHI and the Saudi health sector in general.

Therefore, the Council plans to introduce a combination of different models of payments for healthcare services. However, it is not expected that FFS will be completely replaced, especially since some services by their nature, can only be paid based on this model. Nevertheless, it could introduce performance-based modification of FFS where applicable and necessary (i.e. Pay for Performance models).

The first step that CHI has taken was to introduce a billing system known as Saudi Billing System (SBS) in order to standardize payments in the scheme. As a result, all CHI participants use the same set of codes. This initiative will provide a foundation to move into more Value-Based payment models once all prerequisites are met.

The next step is to shift to a case payment model for admitted care services. As Saudi Arabia has subscribed to ICD-10 AM/AR-DRG system, it is expected that in Phase 2 and 3, CHI will introduce this system as a main reimbursement model for inpatient services. However, there are certain per-requisites in order to achieve this shift to case payment.

Some of the main pre-requisites will be accurate clinical documentation and accurate and complete coding of inpatient episodes, estimation or actual calculation of AR-DRG relative resource weights for services rendered under CHI scheme.

Once the AR-DRG system is mature and estimates the actual case-mix and underlying cost of healthcare provision in the private sector, CHI can introduce pay for performance and/or Value-Based payment models by bringing the outcome measurement part into the equation.

In addition to inpatient Value-Based payment methods, CHI will look at different models of reimbursement for outpatient and other services provided under CHI scheme. This will primarily involve moving towards more bundled payment models reflecting more the newly proposed organization of care delivery as described in the "Delivery Organization" section below.

In order to achieve this stage, several prerequisites are required:

- Good outcomes data, information and knowledge e.g. better clinical documentation and accurate and complete clinical coding of patient activity to improve information and knowledge
- Good understanding of financial value of rendered services e.g. estimation of cost of services rendered
- Good data collection and analysis system e.g. standardized and seamless collection and analysis of claims data via NPHIES
- Services provision reconfiguration and integration e.g. integrated care

Delivery organization

Concurrently, CHI has been working on reviewing and redesigning outdated models of care provision through the introduction of new initiatives such as:

- Primary Healthcare Enhancement (strengthening the role of primary care in CHI)
- Revision of the Essential Benefits Package (more evidence based high value and preventative services)
- Introduction of an Insurance Drug Formulary (list of reimbursable medicines based on latest health technology assessment evidence)
- Clinical Practice Guidelines (utilizing latest evidence available to improve clinical practice)
- Other initiatives

The new way of organizing delivery promoted by CHI should follow a team-oriented approach to patient care, accompanied by patient data being shared among care teams for better care coordination and outcome measurement.

There are several examples of models that CHI could embrace and incentivize the market, but the focus should be on areas with the highest burden of disease, ease of transformation and good stakeholder coordination as described in CHI's Population Health 5x5 Program [8].

One example could be home healthcare services where a family physician lead team coordinates the care of patients supported by NPHIES sharing information among all providers to reduce redundant care and cost associated with it.

Another example is the one-stop-diabetes clinic initiative with a new care delivery model for high quality, patient centered and cost-effective treatment and prevention of diabetes. This model allows specializing in one disease, centralizing expertise and standardizing care, enabling effective provision of care, economies of scale, technology application and process innovation.

When can we expect Value-Based Health Care at CHI?

Transitioning from a FFS to a VBHC system requires time and a well prepared transformation plan. According to an article published in the New England Journal of Medicine (NEJM), although this journey is difficult and painstaking "the transition from fee-for-service to fee-for-value has been embraced as the best method for lowering healthcare costs while increasing quality care and helping people lead healthier lives" [29].

Several countries that are now practicing VBHC had to go through different phases over several years to be able to introduce their first VBHC initiatives. Even at this advanced stage, no country has achieved full transformation according to this recent review.

CHI plans a similar staged approach in phases until 2025, when the first value based bundled payment models could potentially be piloted in the market. To achieve this, there will be a requirement for developing minimum prerequisites for VBHC and scaling them up to the point that they could be implemented in CHI scheme as outlined in Figure 9 below.

- During 2020 and 2021, CHI achieved data standardization, MDS is fully functional, NPHIES was launched, SBS is operational and clinical coding was enhanced in the market.

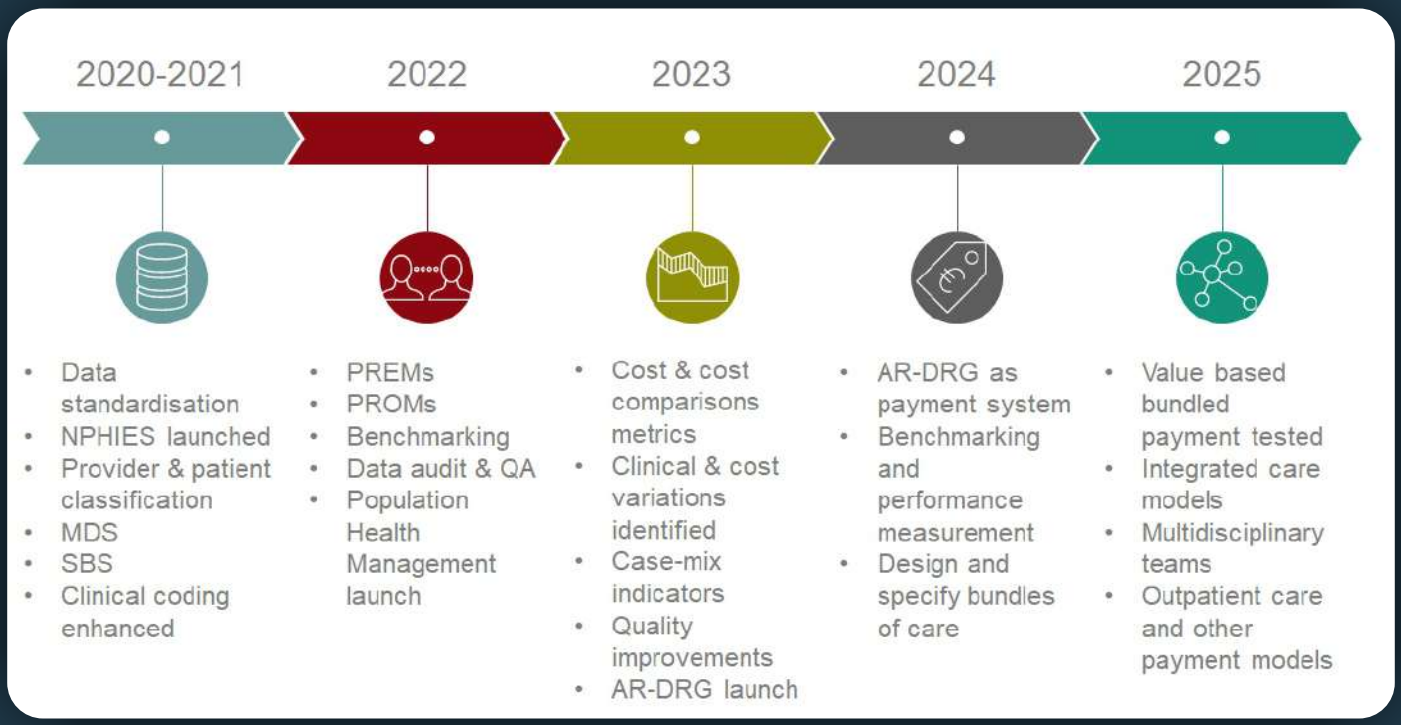
- In 2022, CHI will progress towards securing additional sources of data and information on patient outcomes and experience, population health status and administrative data collected through NPHIES. In parallel, more integrated care models will be introduced, quality of clinical data will be appraised through audits and providers can be benchmarked.

- In 2022 and 2023, CHI plans to complete the evaluation of the financial value of rendered services and propose the relative resource weights of service provision. This information will provide better understanding of clinical and financial variation in CHI's scheme. At this point, CHI could introduce pilot testing of the AR-DRG v9.0 as a reimbursement system for admitted care services in the market.

- 2024 will be the year when the majority of preparations for VBHC introduction will be made. By this time; clinical and financial data should be mature and of sufficient quality, NPHIES will operate in a seamless way and PROMs and PREMs data will be routinely collected for selected services rendered under CHI scheme. In addition, population health management will provide another powerful enabler for VBHC. Finally, the design and specification of bundles of care should be finalized and ready for implementation.

- The final phase should be in 2025, when CHI has managed to advocate and has successfully achieved a more integrated healthcare provision of care, through a holistic approach based on population health and multidisciplinary teams sharing patient data and information. During this phase, CHI is expected to have the first pilots of value-based bundled payment models tested on the ground. This will mark the biggest milestone for VBHC in CHI.

Figure 9. High level VBHC plan for CHI, 2022-2025



Timelines and major milestones of this journey reveal a number of dependencies and prerequisites to achieve value-based payment models. This is the reason why this initiative is considered and planned within CHI overall VBHC initiative and governance.

Value-based payment models cannot be considered and tackled in isolation from other enablers of Value-Based health system. This initiative requires much more than mere alignment of stakeholders – this initiative requires an almost real time coordination and synchronization of efforts between all parties and significant partnership support.

Lastly, as seen from the literature review, Value-Based payment models will not be the only payment model. CHI will bring forth the optimal mix of payment models that is suitable to scheme's objectives.

Next steps

Having a clear vision and roadmap for achieving VBHC will enable CHI to further progress with implementing the envisaged initiatives and projects as part of VBHC. As we achieve alignment and common understanding on this vision and roadmap, CHI has established governance and implementation teams to work on implementing this roadmap. This will require mobilization of resources to enable payers and providers in CHI for the implementation of these new initiatives.

Simultaneous to publishing this and other white papers; CHI strives towards continuous engagement with stakeholders, transparency and joint collaboration will all parties involved. The road to VBHC requires a collaborative approach of all actors involved. Clarity on this journey is the first and most critical step towards achieving better health and value in our system.

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