Quality measures and standards for transitioning to value-based healthcare in India

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Preface

Arnab Basu

Advisory Leader
PwC India

Value based healthcare(VBHC) is the cornerstone of modern healthcare and is integral for establishing an efficient and effective healthcare system.

There's been a recent shift in focus towards VBHC since earlier the focus was solely around providing better value and outcomes for healthcare services. VBHC prioritises patient outcomes and cost efficiency, shifting away from the traditional fee-for-service model which provides services based on the quantity of services provided. In recent times, the government has been making efforts to integrate the value-based healthcare concept into the core of healthcare delivery system. These efforts aim to establish enhanced quality of care, cost effective healthcare solutions and improved patient satisfaction.

VBHC's implementation in India can offer a transformative approach to address the challenges in Indian healthcare such as escalating health costs, poor health outcomes, inefficient allocation of resources and high levels of patient dissatisfaction. By prioritising patient outcomes over volume of services, VBHC can help organisations align their services with growing demand for cost effective, efficient and non-discriminatory care.

In a diverse and a largely populated country like India, where efficient healthcare access still remains challenging, particularly in rural areas, VBHC can offer a promising avenue for significant improvements. By focusing on initiatives around incentivising the providers to focus on chronic disease management and patient-centered care, VBHC can address many pressing challenges in Indian healthcare.

As the global healthcare landscape gears up for embracing the adoption of value-based healthcare, India's healthcare sector is also at the forefront of this transformation. This paper aims to provide a roadmap to facilitate the transition to VBHC to help the Indian healthcare system in adopting VBHC and improving the outcomes of the healthcare sector's endeavours.

Dr Rana Mehta

Healthcare Leader
PwC India

VBHC has tremendous potential to enhance the quality of care and generate value for healthcare organisations.

Some of these potential benefits include:

- improved patient health outcomes
- reduction in overall healthcare costs
- increased patient satisfaction
- enhanced resource management and efficiency.

VBHC has the capacity to transform the healthcare industry in India, enabling physicians to provide superior care and treatment to patients. With the implementation of VBHC in India, healthcare providers will be incentivised through the VBHC payment models to improve patient outcomes and efficiency, while payers will focus on aligning reimbursement models with quality care metrics, ultimately leading to cost savings and enhanced patient satisfaction. This, in turn, could provide better accessibility and affordability for patients and help in the goal of providing universal healthcare – an essential building block for the country's economic progress. This report highlights the various nuances of VBHC, the various quality standards and measures for an effective VBHC model and how technology will act as a driver for the entire transition.

Angana Guha Roy Chowdhury

Assistant Director General
BCC&I

Advanced healthcare has increased life expectancy and the probability to recover from critical health conditions. However, with advanced procedures and medicines along with factors like higher equipment cost, limited infrastructure and professionals with increased demand for healthcare services, healthcare has become expensive.

Since the United Nations Sustainable Development Goal (SDG) 3 was established to ensure healthy lives and well-being for all people at all ages, it is important to provide quality healthcare available to the last mile. While differential healthcare delivery, based on location and affordability creates barriers to standardised quality healthcare, delivering quality care is also dependent on reliable data based on which measures, solutions and innovations may be aligned.

Insurance provided both by the Government and the private sector could make healthcare more affordable/On the technological front, technologies like telemedicine, AI-driven diagnosis and data collected from wearables among others could also help in healthcare sector in delivering standardised healthcare to the last mile.

As announced in the Union Budget 2025, the government is also taking significant steps to build healthcare capacity in the country and establishing medical education institutions, providing broadband connectivity in rural health centres, enhancing digital infrastructure in primary healthcare centres and providing affordable medicines for critical cases. PLI scheme for pharmaceuticals is expected to boost domestic manufacturing keeping costs affordable. In an effort to make medicine affordable, a number of life-saving drugs and medicines have been exempted from basic customs duty. Startups in healthcare, especially HealthTech, are also coming up with innovative solutions at affordable cost. However, to achieve this, regulations need to be implemented, both at central and at the state level for assuring quality with affordability.[1]

[1] https://www.india.gov.in/spotlight/union-budget-2025-2026

01 Introduction

1.1. Introduction to value-based healthcare (VBHC) delivery

VBHC is a model which incentivises healthcare providers[2] based on the outcomes of the services they deliver to the patients. This approach emphasises improving patient health outcomes by linking the provider's payments directly to the quality and efficiency of the care provided. It is an alternative to the traditional FFS model, where providers are paid based on the quantity of services provided rather than the quality.

Figure 1: Different VBHC models

Bundled payment
A payment model where a predefined amount of fee is collected upfront from the patient based on the services related to their diagnosis..

Capitation model
Similar to the bundled payment model a set amount of fee will be received from the patient but over a certain period like per month or per year.

Pay for performance
The providers are incentivised based on their performance offering them a bonus when they perform exceeding threshold set based on specific metrics and benchmarks and charged with penalties when they don't meet the threshold.

Patient-centered medical home
Patient focused model where an entire team of healthcare professionals is formed to deliver personalised care plans.

Shared savings
In this model providers and payers agree on an expected medical cost and any savings achieved below this threshold will be shared between the payer and provider.

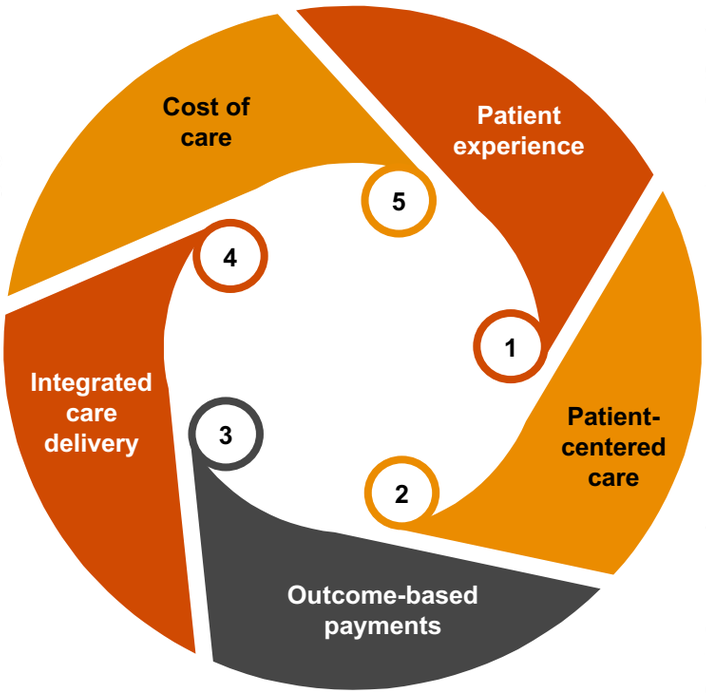
Shared risks
This model is similar to the shared savings model, in addition to sharing the savings, the financial burden of excess healthcare costs exceeding the threshold will also be distributed between both parties.

Source: PwC analysis

[2] Note: For this report, healthcare providers comprises – entities or individuals which deliver medical services, care and treatment to patients including hospitals, clinics, doctors and other medical professionals.

Figure 2: Key principles of value-based healthcare

Cost of care
Healthcare costs are notably high and making them affordable for everyone has been a priority for many. Value-based care could make great progress in this area, as it is expected to significantly reduce treatment costs compared to the traditional fee for service models.



Patient experience
Value-based care will place greater emphasis on patient experience, as healthcare providers will be incentivised based on the quality of care they deliver to the patients.

Integrated care delivery
Integrated care delivery supports value-based care by coordinating healthcare services across providers and settings, leading to improved patient health outcomes.

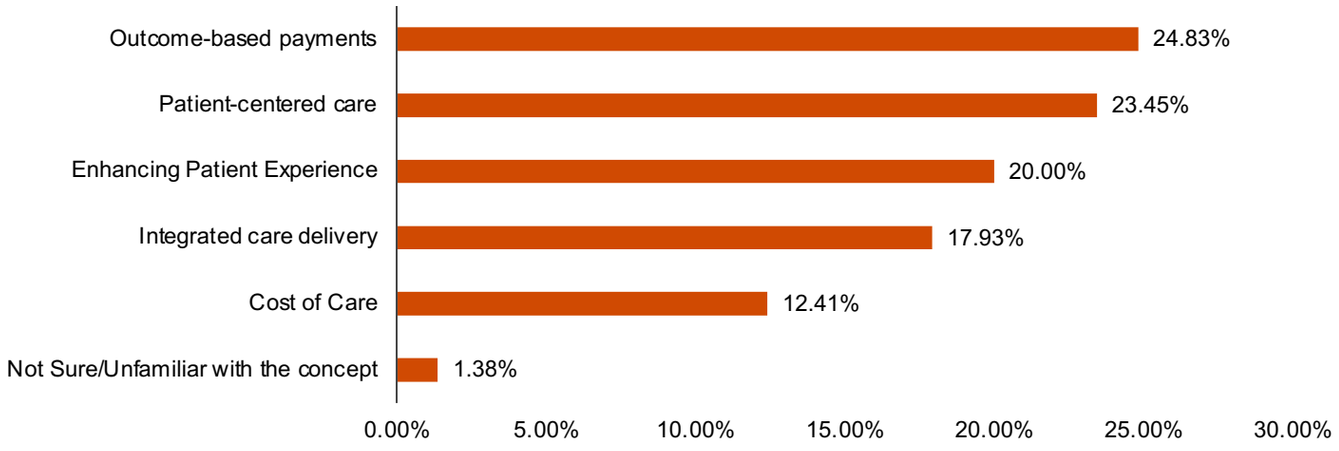
Patient-centered care
The focus is on prioritising patient's needs and preferences, creating customised treatment plans for patients. The primary goal is to place the patient at the heart of the healthcare system.

Outcome-based payments
Providers will be compensated based on the quality of the care they deliver and patient recovery outcomes rather than merely the volume of treatments or number of tests conducted.

Source: PwC analysis

PwC India conducted a survey in January 2025 among various stakeholders from the healthcare fraternity, to capture their understanding about VBHC. We reached out to more than 50 respondents across different categories – physicians, healthcare providers, consultants, professionals – to capture their point of view.

Figure 3: Which of the following do you consider as key principles of VBHC?



According to the survey, nearly 50% of the respondents perceived VBHC as a patient-centric, outcome based model.

Source: PwC analysis

1.2. State of healthcare delivery in India

India's healthcare delivery system is highly fragmented with a mix of public and private sectors for both providers and payers leading to several challenges related to inadequate infrastructure, rural-urban disparity and high out of pocket expenditure. From a global perspective, India's spending on healthcare is quite low (public funds, private funds, external flows) when compared to its neighbouring developing countries. However, the government has initiated various programmes to improve the access and quality of care for the citizens. This abatement reflects the impact of increased government investment in healthcare, evidenced by the 85% increase in budget allocated for the Department of Health and Family from 2017-18 to 2021-22.[3]

India's healthcare sector primarily focuses on three key areas – **digital transformation, preventive care and wellness, and overall healthcare infrastructure development**. Numerous healthcare policies and initiatives are also being launched by the government to support the sector.

To provide health coverage to the country's population, the Government of India has been focusing on preventive care and wellness, improving healthcare infrastructure and digital initiatives. A pivotal government initiative to help the government achieve this goal is the AB PM-JAY, an initiative that aims to achieve universal health coverage by aiding a family with up to INR 5,00,000 of insurance coverage[4] every year. The initiative is also directed towards the implementation of a value-based incentive system, focusing on patient outcomes and quality of care over the quantity of services provided.

Healthcare providers are also investing in modern hospitals, clinics and diagnostic centres equipped with advanced medical technology, embracing digital innovations such as electronic medical records, telemedicine, health apps and remote monitoring systems to improve patient care. These innovations have the capability to improve healthcare outcomes and reduce costs in the long term. India's healthcare regulatory system is also evolving to ensure patient safety, promote high-quality care and control costs.

While there are still significant challenges to overcome, the continued investment in healthcare and innovation in the sector highlight India's keenness to transform its healthcare landscape from volume-based care to value-based care model.

[3] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2094604

[4] https://nha.gov.in/PM-JAY

02 An overview of VBHC's adoption

Many countries across the globe are shifting towards the VBHC model due to changes in priorities towards patient-centred models, to improve cost efficiency and to enhance the accountability of the healthcare providers. Governments worldwide are shifting from traditional FFS models to capitation, bundled payments, etc. to incentivise the providers who supply coordinated and quality care for their patients. This transformation is being led by technological advancement for data-driven decision-making and the framing of global health standards, where countries can learn from each other's experience for adopting the best healthcare practices.

What were the context and challenges which led to the adoption of VBHC?	How did it work?	What are the monitoring mechanisms?
1 Legislations like ACA and programmes like QPP led the implementation of VBHC in the USA.		
The USA spends around 17% of its GDP on healthcare[5] and ~25% of it is considered redundant,[6] which can be attributed to factors like unnecessary medical procedures, inefficient services, missed prevention opportunities, etc. The US has been witnessing an increase in overall healthcare costs, which does not necessarily correlate with enhanced patient outcomes.	To combat these issues, the US government came up with the ACA, which shifted the focus from volume-based reimbursements to a model where providers will be paid based on the quality of outcomes. The ACA facilitated the formation of ACOs, where a group of healthcare providers collaborate to manage the health outcomes of the population. This cooperation motivates providers to enhance patient outcomes while simultaneously striving to reduce overall costs The ACA also laid the groundwork for the QPP, which was later established by MACRA. The QPP incentivises healthcare providers to prioritise both quality and cost-effectiveness.	To continue reaping the benefits of the VBHC model, CMS plays a pivotal role in monitoring value-based programmes. It tracks performance metrics, patient outcomes and cost savings through various programmes such as the hospital readmission reduction programme and hospital value-based purchasing. There has also been widespread adoption of EHRs, which enables the authorities to monitor the performance of the providers and patient outcomes in real time.

[5] https://www.pgpf.org/article/almost-25-percent-of-healthcare-spending-is-considered-wasteful-heres-why/

[6] https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/historical

What were the context and challenges which led to the adoption of VBHC?	How did it work?	What are the monitoring mechanisms?
1 Legislations like ACA and programmes like QPP led the implementation of VBHC in the USA.		
	By meeting established quality benchmarks, providers can earn bonus payments, while those who fail to meet performance standards may face penalties. This approach aims to reduce unnecessary healthcare spending. ACA has also laid the groundwork for introducing quality metrics and performance incentives by initiating programmes such as the Hospital Readmission Reduction Programme and Hospital Value-Based Purchasing, which penalised hospitals for high readmission rates and rewarded them for performing better on the quality standards.[7] To enhance value-based care in the USA, different payment models have also been developed to gradually shift from FFS to alternative payment models. The introduction of bundled payment is one such initiative under which a single payment is made based on a specific episode of care. Another prominent model is the capitation model where providers are paid a predetermined amount per patient for a specific period regardless of the services availed. The government has also introduced a model called the PCMH, with a focus on providing comprehensive primary care. [8] It leverages a team-based approach to provide coordinated care and has been associated with chronic disease management, increased preventive care and cost savings. The PCMH model follows the FFS plus the PMPM models. Providers receive a base PMPM payment for routine care, encouraging preventive health management and incentivising providers to keep patients healthy.	The country has also been leveraging research conducted by independent organisations to evaluate value-based programmes, along with patient satisfaction surveys.

[7] https://pmc.ncbi.nlm.nih.gov/articles/PMC6139911/

[8] https://www.cms.gov/medicare/payment/prospective-payment-systems/acute-inpatient-pps/hospital-readmissions-reduction-program hrrp#:~:text=The%20Hospital%20Readmissions%20Reduction%20Program,in%20turn%2C%20reduce%20avoidable%20readmissions.

What were the context and challenges which led to the adoption of VBHC?	How did it work?	What are the monitoring mechanisms?
	For specialised or acute services, additional FFS payments are made, ensuring compensation for complex care beyond routine management and balancing cost predictability with service-specific remuneration. Thus, providers are incentivised to maintain health and efficiency through PMPM but also have the flexibility to deliver necessary, additional services via FFS.	

2 Changing demographics and rising overall costs led to the implementation of VBHC at the NHS, UK.

The NHS in the UK is facing rising healthcare costs due to factors such as technological advancements, expensive treatments and increased demand for services. The UK has also experienced a significant enhancement in its ageing population, with ~18% of the population aged ≥65 years in 2023.[7] This demographic often suffers from multiple chronic diseases requiring ongoing management. In response, the UK adopted a multipronged approach in the implementation of VBHC. Significant steps in the VBHC by the UK (NHS) involve introducing integrated care systems, quality and outcomes framework, and the adoption of payment by results model.	Several initiatives have shaped the transition to VBHC in the UK: • **Integrated care systems:**[9] The system forges partnerships between the NHS, local councils and voluntary sectors to develop shared healthcare plans and joint services. The focus includes better outcomes for the patients, prevention of disease, reduction in health inequalities and enhanced productivity of the workforce. • **Quality and outcomes framework:**[10] It is an annual reward and incentive programme for general practitioners based on the quality of the healthcare provided while dealing with different disease burdens. The GPs are assessed on 76 indicators comprising domains such as clinical health, public health and quality improvement. • **Payment by results:** [11] It is a system where each treatment and procedure is given a specific price based on the national tariff system. The cost is determined using the average cost of providing that specific service at the NHS.	To monitor health initiatives, the NHS has established the NICE, which assesses the cost-effectiveness of new treatments and interventions and evaluates the costs against the outcomes.[12] The NHS also utilises a 5-step BRM framework to monitor the advantages gained from the healthcare transformation projects. In addition, the NHS incorporates assessment reports from organisations such as UKRI. These offer an outsider's perspective on the effectiveness of the NHS strategies, aiding in the refinement of approaches to achieve the desired health outcomes.

[9] https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf

[10] https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub/quality-outcomes-framework-qof

[11] https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/payment-by-results

[12] https:/www.ncbi.nlm.nih.gov/books/NBK310330/

What were the context and challenges which led to the adoption of VBHC?	How did it work?	What are the monitoring mechanisms?

3 Brazil is moving towards a VBHC model by leveraging international experiences.

Brazil's healthcare system is a mix of public and private players, relying mainly on the FFS model for payment. The increase in population, longer life expectancy and rising healthcare costs due to technological advancements are some of the reasons for a country like Brazil to move towards the VBHC model. Additionally, the country has also been leveraging international experiences, such as those of the US, which has already started implementing the VBHC models. This implementation has helped Brazil to transition smoothly to a VBHS.	Some of the steps taken by Brazil to move towards value-based healthcare include the formation of the ICHOM, which aligns Brazilian hospitals with global health standards. The consortium aims to implement standardised health outcomes measurement sets for heart failure, stroke and hip and knee osteoarthritis, across the hospitals in the country and improve overall patient care. Since the country has a mix of both public and private players, the private sector has formed the ANAHP, which is actively involved in embracing quality measures and adopting value-based payment models for its settings. Apart from these initiatives, the country regularly gathers insights from the pilot programmes to identify the best practices and areas of improvement.	Brazil has developed a standardised measurement tool to evaluate quality measures, pertaining to the process, outcomes and patient experience.

Given below are a few examples of VBHC's adoption.

Context	Challenges	What worked well?	What was the value generated?

1 Risk-sharing arrangements in Denmark for knee replacement surgery provided a solid foundation for supplying value-based healthcare to patients

A leading hospital in South Denmark Region was looking for a patient-centred improvement model with a focus on data-driven innovation, patient-experience outcomes and streamlining. They intended to improve the KPIs like hospitalisation time, patient readmission post-surgery, revision knee replacement due to implant failure and patient satisfaction post-treatment among others.	The decision regarding the KPIs that should be strategically targeted is usually a subject of deliberation among caregivers and clinicians, along with the adequate and accurate capture of data. These are especially susceptible to falling within the zone of apprehensions regarding the treating team's clinical competence as well as the hospital's reputation.	The cohesiveness of the clinical and administrative teams led to the result-oriented ownership of the initiative within a hospital. Especially, the involvement of clinical staff in such activities provides a huge impetus to the entire objective of providing value-based healthcare for the benefit of the patients.	In terms of patient outcomes, there was a reduction in the patient hospitalisation time, decline in readmission within 30 days post-surgery, as well as increase in-patient satisfaction index.

Context	Challenges	What worked well?	What was the value generated?
	Further, the method of processing the data and setting up the baseline parameters in a centralised database, against which the post-VBHC initiative implementation benefits could be understood and tracked seems to be a matter needing collective brainstorming.	Further, the support of MedTech vendors, e.g. a leading knee implant manufacturing organisation in this case, participated in open dialogue meetings with the clinical and administrative team at the hospital. These led to the development of risk-sharing agreements as a healthcare outcome-based payment mechanism.	In terms of finances and payment mechanism, the prices of knee implants were adjusted based on their actual performance Also, free revision implants were done to treat patients whose cases exceeded the maximum target value or the supplier promised a better revision percentage, leading to cost savings for the hospital.

2 Hospital cost optimisation project in Switzerland ensures transparency between patients, providers and payers, as well as highlights the missed benefits for providers.

A leading hospital in Geneva aimed to evaluate a multifaceted behavioural intervention that entailed the monitoring of the number of diagnostic tests done and medicine prescriptions made for the patients by internal medicine residents. The purpose was to create cost-related awareness among the clinical team, which could reduce the hospital costs.	One of the challenges was that the data extracted from the EMR inadequately captured the clinical circumstances that led to the ordering of a particular service, which may be essential for some patients. Additionally, the team was unable to accurately retrieve blood test costs from the global laboratory expenses database and had to employ certain proxy measures to arrive at realistic assumptions.	While the study helped create objectivity and cost awareness among the clinical team members who are the internal stakeholders, it also helped the hospital to demonstrate their intention towards adoption of VBHC to the insurers (payers) that the hospital should promote continuous improvement of outcomes by promoting transparency and cost effective care. In a capitation model of payment, where the hospital is paid a fixed amount for patient end-to-end interaction, initiatives like this can help ascertain the areas that entail additional costs associated with care provision and help curb them, resulting in savings to the hospital within the amount.	This study provided a starting point for a further assessment of the influence of the initiative in changing behaviour by analysing the changes in volume and cost efficiency of services. On a larger scale, this study enhanced the hospital's awareness regarding the cost of care principles, as well as the avenues of savings within the capitation model. This result could potentially be helpful for other hospitals having capitation model agreements with payers, to investigate the entire healthcare delivery chain and recognise such potential revenue leakage areas.

03 The need for transitioning to a VBHC model

India's healthcare system faces critical barriers from the facets of public health expenditure, fragmented insurance coverage and significant OOPEs. These issues culminate in deterring access to people from low-income categories to quality healthcare. Since the population is continuously increasing, there's a dire need to focus on providing affordable and quality healthcare.

Enhancing patient outcomes

The Indian healthcare system currently depends on the traditional FFS model. It incentivises service providers to focus more on the quantity than the quality of the services provided. Value-based healthcare helps shift the notion from the quantity to the quality of the care provided. Here, service providers are incentivised to deliver healthcare services with a focus on beneficial health outcomes rather than on the number of billable services.

Cost-effectiveness

The public health expenditure in India has steadily increased in the recent years. However, it does not correlate with the health outcomes, which can be attributed to the conventional FFS model in use. Healthcare providers are paid for the number of services without accounting for the corresponding outcomes. VBHC optimises health expenditure by aligning payment milestones with patient-reported outcomes instead of the volume of services rendered, paving the way for optimal resource utilisation. For example, during in-hip replacement surgeries, by emphasising more on the pre-surgical health assessments like managing weight, blood pressure and sugar levels at optimal levels, the probability of requiring invasive procedures can be reduced. This continuum-of-care approach leads to quicker discharge, faster recoveries and minimises readmission rates and post-surgical complications.

Insurance coverage

In India, poor health insurance coverage has steadily increased the financial strain on patients. In such a scenario, the government and private insurance schemes primarily focus on in-patient treatments, a hospital-based healthcare system for severe medical conditions. However, out-patient care is more vital as regular health checkups, diagnostic services and treatments for non-communicable diseases are often excluded from the insurance coverage. This disparity in provision demands patients to bear the costs of routine health care, enhancing their OOPE. Currently, OOPEs as a proportion of overall health expenses is 39.4%, higher than the global average.[13] VBHC models emphasise preventive healthcare strategies. By focusing on health outcomes rather than the quantum of services, the VBHC model improves overall health outcomes and drastically reduces the frequency and severity of the illness. For example, providing coordinated care for asthma patients, which includes health education and regular monitoring, can result in better disease management and lower emergency admission rates. This ultimately reduces the OOPEs and insurance claims.[14]

[13] https://pib.gov.in/PressReleseDetailm.aspx?PRID=2058791

[14] https://pmc.ncbi.nlm.nih.gov/articles/PMC4655362/

Chronic disease management

Chronic diseases are a major factor causing disability and premature death among the elderly population in India.[15] Currently, India has a triple disease burden which includes rising NCDs, difficulty in controlling them and those occurring due to climate change. In 2017, ~4.7 million deaths (49% of all-cause mortality) were reported due to NCDs.[16] The current FFS model does not incentivise preventive care techniques, which are essential for the management of chronic diseases. Incorporating the VBHC model in this ensures that the patient's needs and requirements, as well as the therapeutic goals, are covered in the treatment landscape. For example, applying the VBHC approach in diabetes management would aid in integrating an ecosystem of healthcare providers like endocrinologists, dietitians, diabetes educators and primary care physicians, into an overall care team. This team would work together in charting a comprehensive treatment plan tailored to individual patient's needs and necessities.

Data-based decision-making

Fragmented IT integration poses significant challenges in the seamless transfer of patient records across primary, secondary, and tertiary healthcare facilities. Slow-paced adoption of digital technologies in rural areas limits the unification of electronic medical records for resident patients. The absence of a central data repository and lack of data analytics capability impedes the effective capturing of healthcare outcomes for the corresponding interventions applied.

This paucity of integration restricts government officials from making policy decisions based on real-world evidence. VBHC helps in the development of uniform electronic medical records embedded with data analytics capabilities to enable the continuous monitoring of patient health outcomes, identify gaps and suggest improvement measures.

Achieving health equity

India strives to enhance healthcare access to people of different socio-economic strata. VBHC models play a crucial role in enabling healthcare access to people of the lower socio-economic strata, by phasing out incentives/payment models in line with health outcomes achieved for each intervention/procedure. The model also ensures that the population at the bottom of the economic ladder receive timely care and treatment, remarkably improving the overall healthcare landscape.

[15] https://pmc.ncbi.nlm.nih.gov/articles/PMC6567948/)

[16] https://pmc.ncbi.nlm.nih.gov/articles/PMC9104072/pdf/jcm-11-02435.pdf

04 Building a foundation for VBHC's adoption in India

Over the past few years, a few of the industry's leading stakeholders have begun to redefine their mission and redesign the operating model to improve healthcare value, emphasising patient-related health outcomes related to the resources required or costs. This transition is apparent in India's healthcare landscape, where the private and government sectors are working collectively towards adopting a VBHC model.

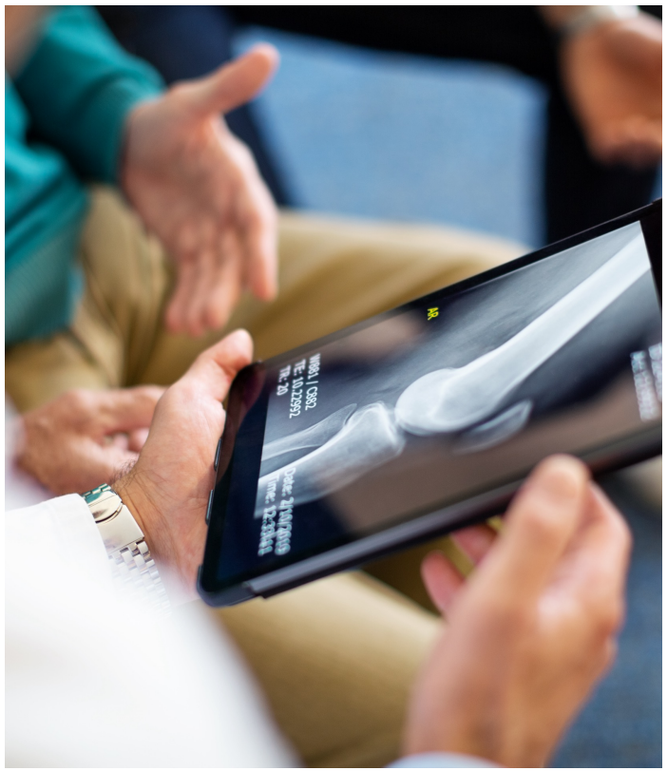
The government's efforts to promote value-based healthcare are further supported by initiatives such as the National Health Stack and the National Digital Health Blueprint. These strive to build a digital health ecosystem which facilitates the implementation of value-based care by generating data on the healthcare services provided and patient outcomes. Public awareness initiatives and educational training programmes are also being launched to enhance awareness regarding precautionary care and encourage patient engagement in their healthcare.

The AB PM-JAY is the one of the important developments of this transformation, as it aims to transition the country's healthcare sector from a volume-based to a value-based care system. This scheme is a part of a broader strategy to ensure improved health outcomes and quality-driven healthcare for the Indian population, particularly the economically vulnerable.

The framework of VBHC in PM-JAY is formulated to upgrade the quality of healthcare services by focusing on patient outcomes rather than the volume of services provided. As mentioned in the VBHC Policy Document, the NHA is entrusted with defining and boosting healthcare value, ensuring that the healthcare system contributes to national wellbeing by focusing on health gains rather than short-term outcomes. [17] This approach involves organising care around medical conditions, systematically measuring outcomes and costs, and incorporating healthcare delivery systems to provide comprehensive, patient-centric care.

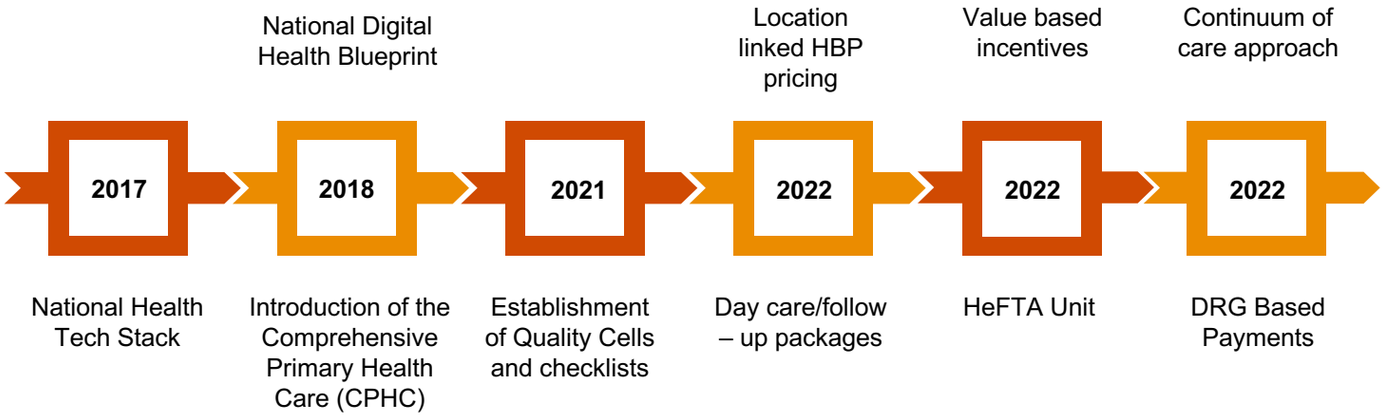
The need for enhancing VBHC within PM-JAY is driven by the challenges faced by the Indian healthcare system, including the triple burden of disease, high OOPEs and the necessity for financial protection against catastrophic health expenses. By concentrating on value, the PM-JAY aims to improve healthcare outcomes, reduce the associated expenditure and provide financial support to the population.

The timeline for the implementation of value-based care initiatives under PM-JAY includes several key milestones in the last decade.



[17] https://abdm.gov.in:8081/uploads/VBHC_Policy_Document_For_Upload_a20f871a55.pdf

Figure 4: Timeline of VBHC in India



Source: https://abdm.gov.in:8081/uploads/VBHC_Policy_Document_For_Upload_a20f871a55.pdf

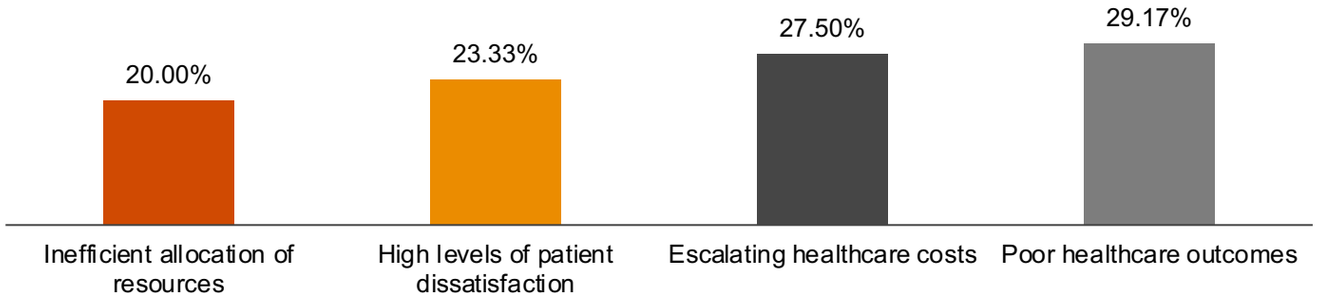
The introduction of the CPHC in 2018, covering both maternal and child health services as well as non-transmissible diseases, including free essential drugs and diagnostic services, the ABDM in 2021, the establishment of quality cells and checklists in 2021, day-care follow-up packages, location-linked HBPs and the proposed implementation of DRG-based payments, a continuum-of-care approach in 2022 are a part of this timeline. These programmes aspire to create a comprehensive digital infrastructure, enhance quality assurance and refine provider payment systems to support value-based care.[18] Monitoring the performance of healthcare providers is a critical component of the VBHC model. The use of VBIs to measure this focuses on patient outcomes and satisfaction. This approach aims to incentivise providers to deliver high-quality care and improve outcomes.

The incorporation of VBIs into PM-JAY involves incorporating these measures into the hospital empanelment module and transaction management system. This integration will enable the calculation of financial incentives based on provider performance, encouraging healthcare providers to focus on delivering value to the patients. A public dashboard will also be developed to display provider performance, promoting transparency and accountability.

In addition to government initiatives, the private sector is also contributing to the adoption of value-based care in India. PPPs have been established to provide mobile health clinics, telehealth services and health insurance schemes, enhancing access to care for deprived populations and improving health outcomes. Successful case studies, like a private multispecialty hospital's value-based model and a regional healthcare centre's Chronic Care Programme, demonstrate the potential of value-based care in enhancing patient outcomes and reducing healthcare costs.

In conclusion, India's journey towards embracing a VBHC model is supported by a comprehensive framework under the PM-JAY, emphasising the need for enhanced care quality, patient outcomes and financial protection. The integration of VBIs, benchmarking and public–private partnerships are crucial for this transition, guaranteeing an improved, efficient and patient-centred healthcare system.

Figure 5: What are all challenges which a VBHC model can effectively address in the Indian context?



Source: PwC analysis

As per the survey, 53% of the respondents believed that the VBHC model could address problems like poor healthcare outcomes and high levels of patient dissatisfaction which necessitates the need for an alternate model which focuses more on patient centricity and care delivery outcomes.

[18] Ibid

05 Defining quality measures and standards

Setting quality metrics and assessment criteria in a VBHC is vital for achieving better health outcomes and ensuring patient satisfaction and cost efficiency. The criteria can also help providers take responsibility for their actions and make informed decisions since the framework:

- provides a basis for assessing the performance of various healthcare providers and systems to make it possible to learn from the most successful ones
- ensures that health care professionals make appropriate and informed decisions that empower patients and improve the treatment results
- sets standards of patient care that providers must comply with to be considered excellent within the health system
- quality metrics provide essential data to patients and healthcare payers which aids in choosing alternatives.

Quality measures can be categorised into the following categories:

Clinical measures

Focus on the outcomes that patients should expect from their treatment, such as improved health, reduced symptoms and decreased re-admissions.

Cost measures

Estimate healthcare costs and explore ways to make it more affordable, including insurance options.

Process measures

Cover aspects such as safety, cleanliness and infection control.

Patient-experience measures

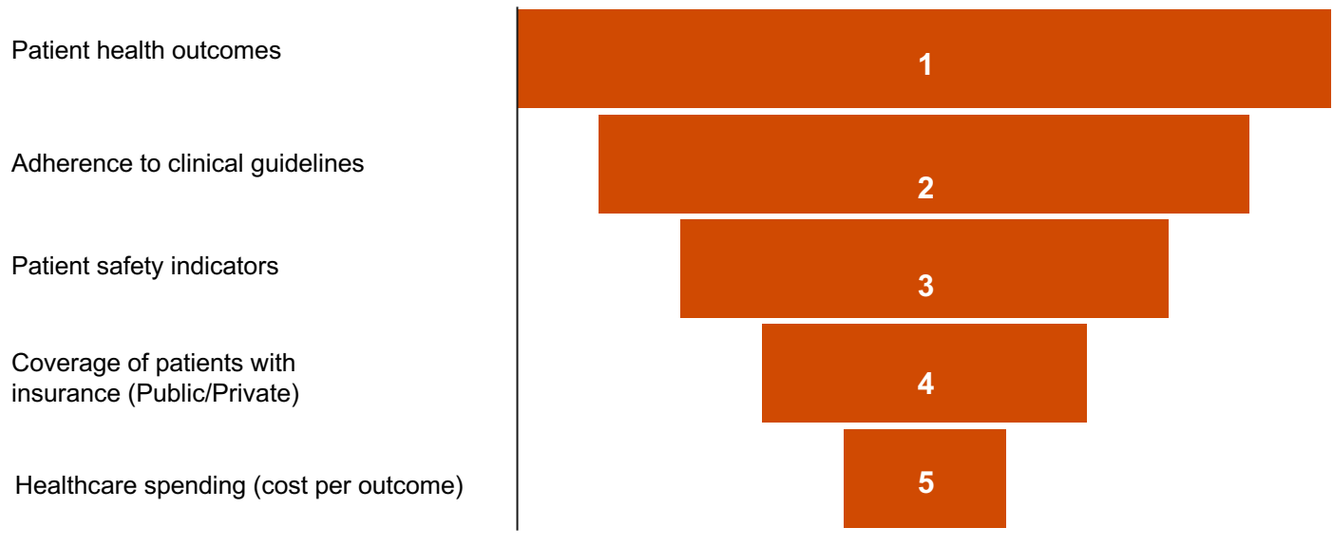
Consider the patient's perspective, these involve data directly reported by patients about their health status, multichannel experiences and satisfaction with care (e.g. patient satisfaction surveys).

Care efficiency measures

Monitor the utilisation of resources, minimise unnecessary tests and optimise care pathways.

These measures play a critical role in ensuring that healthcare delivery enhances outcomes while maintaining cost-effectiveness. Moreover, there are several incentive structures and outcome-based payment models linked to the implementation of quality measures. Financial incentives are provided to healthcare providers who meet or exceed specific quality benchmarks, thereby rewarding high-quality care. The alignment of incentives with quality measures further motivates healthcare organisations to prioritise and enhance the value of the care provided to patients.

Figure 6: Please rank the following quality measures in order of priority for a VBHC model in India, with 1 being the most important and 5 being the least important?



Source: PwC analysis

The survey highlights the need for quality measures where the primary quality measure should be linked to patient health outcomes, adherence to clinical guidelines while also including measures related to patient safety indicators and insurance coverage.

Clinical measures

Clinical measures in value-based healthcare focus on assessing the quality, efficiency and effectiveness of patient care to ensure better outcomes and reduce overall healthcare costs. Different ways to track clinical outcomes comprise:

1. **Patient-centred care:** Providing treatment plans which suits the individual patient's needs and considers their preferences and values. Some examples include incorporating shared decision-making for devising treatment plans and providing plans that embrace the patient's life circumstances, such as work-related limitations.
2. **Readmission rates:** Focus on the reduction in readmission rates by providing coordinated care and ensuring a properly planned hospital discharge. The following activities can attain this outcome, which include imparting proper education to patients during the discharge and implementing follow-up protocols for discharge such as planning a home visit or phone calls.
3. **Care transition:** Ensure a smooth transition between the various care settings, to support the speedy recovery of patients. Some of the ways to ensure this include providing clear instructions to the patients about medications, precautions and follow-up appointments during the discharge.
4. **Symptom management:** Ensuring that the providers manage the physical and psychological symptoms of the patients to improve the quality of care. Screening the patient for mental health conditions and implementing pain management protocols are some of the methods through which the providers can manage such symptoms.
5. **Chronic disease management:** Focus on consistent monitoring and treatment for the effective management of chronic diseases and the prevention of complications. Some examples include regular monitoring of blood pressure for patients suffering from hypertension, implementation of disease management programmes, etc.

Several organisations around the world have laid down different standards to ensure that the above clinical standards are consistently being followed. WHO has framed guidelines related to health promotion, infection control and patient safety for improving the overall quality of patient care. IHI, a global non-profit organisation has put forth frameworks focusing on cost reduction, community health and enhancing the patient care experience. NQF, another non-profit organisation has laid down quality benchmarks to achieve better clinical outcomes.

By integrating these KPIs, healthcare providers can identify the gaps in care, ensuring timely interventions which prevent complications and improve long-term health outcomes. Preventive care KPIs can help in early detection and disease prevention allowing healthcare providers to allocate resources more effectively. Clinical process measures can help enhance healthcare coordination ensuring seamless transitions between primary, secondary and post-acute care, which can reduce fragmentation in the healthcare delivery. Additionally, tracking these KPIs facilitates performance-based reimbursement models and aligning provider incentives with patient outcomes rather than service volume.

Cost measures

In the evolving healthcare landscape, a persistent challenge has been increasing healthcare costs which exerts tremendous financial burden on patients. Cost measures in the VBHC landscape address methods to curtail exorbitant treatment costs and improve healthcare accessibility to people of all economic classes.

The government plays a major role in regulating these expenses. In India, under initiatives like Ayushman Bharat, the NHA introduced the Health Financing and Technology Assessment (HeFTA) to ensure value for money in the PM-JAY initiatives. The HeFTA unit will inform decision points on the inclusion or exclusion of certain procedures and treatments within the health packages by utilising the evidence of cost-efficient health technologies. HeFTA also provides inputs for baselining the prices of new technologies proposed for the health benefit package (HBP), resulting in the regulation of these prices and ensuring that healthcare providers are not burdened with excess expenditure.

The PM-JAY initiative also prioritises transformation from a traditional health care payment model to a new diagnosis-related group model, where the physicians are incentivised and reimbursed based on the case severity. This approach disincentivises the recommendation of superficial treatment in severe cases by healthcare providers. The AB PM-JAY scheme will also incentivise the hospitals associated, based on the extent of the OOPE of patients, reducing the healthcare cost burden on the patients.[19]

The different cost measures being implemented in VBHC settings are:

1. **Healthcare bundles:** The release of healthcare bundles involves charging patients for a comprehensive treatment plan rather than for each service. This method usually helps curtail potential additional expenses due to unplanned complications, ensuring that the patients are not overcharged.

2. **Transparent pricing:** Providing transparent cost estimates for procedures and care episodes, through utilising available tools and resources.

3. **Value-based payment:** Value-based payment helps ensure that the payment is directly linked to quality and effectiveness rather than the volume of care. It aims to ensure that the money spent by the patients directly reflects the actual value of the care received.

4. **Insurance coverage:** Insurance plans in value-based care focus on improving patient outcomes by advocating cost-effective care plans and preventive treatments, ultimately aiming to control the overall healthcare costs.

A few KPIs that help track the cost measures of a VBHC model are:

- **Cost of care:** Total expenses incurred by a patient for receiving medical services.
- **OOPEs:** The proportion of healthcare expenditure which is not covered by insurance and has to be paid by the patients.
- **Insurance claim rates:** Prevalence and number of claims filed by policyholders to recover medical costs from insurers.

By setting the target values for these KPIs as well as monitoring the healthcare providers and insurers can corroborate that the financial incentives in the healthcare systems are aligned to reducing the patients' expenditure and emphasise more on the value delivered.

Process measures

Process quality standards in the value-based care setup ensure that efficient, equitable and effective healthcare is delivered while ensuring overall outcomes. The key aspects related to process quality include ensuring overall patient safety; maintaining a clean and hygienic environment for promoting patient wellbeing; implementing protocols to control the infection; respecting the individual needs of a patient; and maintaining staff competency to name a few.

Some of the OKRs related to patient safety that can be leveraged under value-based care include a **reduction in nosocomial infections and adverse drug events, continuous monitoring of preventable mortality, and collecting patient feedback related to safety**. Hospitals can be incentivised to maintain these outcomes for reimbursements. Certain standards that can be referred to define the quality measures within the organisation include the

NPSGs by the JCI. The standards cover aspects like improving medication safety, prevention of harm from falls and ensuring safe surgery, to name a few. Various strategies for monitoring patient safety include the establishment of an Incident Reporting System, where staff can report adverse events and near misses to ensure greater transparency. Tools like EHRs can also be leveraged for real-time monitoring of patient safety and flagging potential issues.

[19] https://pmc.ncbi.nlm.nih.gov/articles/PMC5116537/

Hospitals and clinical staff should also ensure that cleanliness is maintained to boost the overall patient care quality. Regular hospital assessments include ensuring that all the surfaces are cleaned and rooms are disinfected. For the clinical staff, hand hygiene compliance rates must be monitored to prevent infections. Providers can be penalised if the standards are not being adhered to. WHO, CDC and the MoHFW have laid down healthcare cleaning and disinfection guidelines which can be accessed by hospitals to maintain cleanliness per requirements. Some of the ways to monitor cleanliness include routine environmental audits that include scheduled and random ones. Additionally, technology such as UV lights can also be leveraged to check the sanitation levels of various surfaces.

Hospitals should also set up quality-related standards to control nosocomial infections by maintaining proper vaccination rates among the clinical and administrative staff for preventing flu and other preventable infections. Quality metrics such as monitoring of hospital-acquired infections by the continuous observation of surgical site infections, pneumonia, urinary tract infections, etc should also be in place. Providers will be incentivised to maintain these standards; the more accurately the standards are upheld, the more they are compensated. Healthcare providers can leverage the IPC guidelines, set by bodies such as WHO, CDC and the National Centre for Disease Control, India to prevent the spread of such infections. Additionally, isolation protocols must be applied to patients suffering from infectious diseases. Various monitoring approaches include the establishment of a surveillance system, which can be integrated with the EHR of the patients providing real-time alerts to the hospital administrator. There should also be Infection Control Committees within the hospital, which regularly conduct periodic infection audits, review the infection data and update the protocols to meet the evolving needs.

The above quality metrics related to safety, cleanliness and infection control can be directly tied to reimbursement and financial incentives for achieving the VBHC. An outcomes-based payment model can be developed where providers are reimbursed if they achieve the desired cleanliness standards or improve the patient safety scores. Patient satisfaction surveys can also be employed which can link cleanliness and safety perceptions to reimbursements. Defining these quality metrics is critical for improving the overall patient outcomes and financial implications, making them essential for the success of VBHC in India.

Patient-experience measure

Patient-experience measures are indicators which evaluate the performance of healthcare systems from the patient's perspective. These measures have become increasingly crucial as healthcare shifts towards value-based care, which prioritises patient outcomes and satisfaction rather than just the volume of services provided.

These measures evaluate areas such as ease of communication between healthcare providers with patients, effective care coordination, ease of access to services by patients and the condition of the healthcare environment. For example, good communication helps patients better understand their diagnoses and choose treatment options. Efficient coordination among healthcare providers ensures that the care provided is seamless. Access to healthcare, including the easy scheduling of appointments and receiving timely services, along with a clean and comfortable environment, significantly impacts the patient's perception of their care. Additionally, involving patients in their healthcare decisions and ensuring their overall satisfaction is vital, as those who actively participate in their care tend to report higher levels of satisfaction.

A few KPIs which can help track this measure are:

Increase in-patient satisfaction levels- Surveys and feedback tools assess patient experiences and satisfaction, focusing on the healthcare providers' care quality and communication skills.

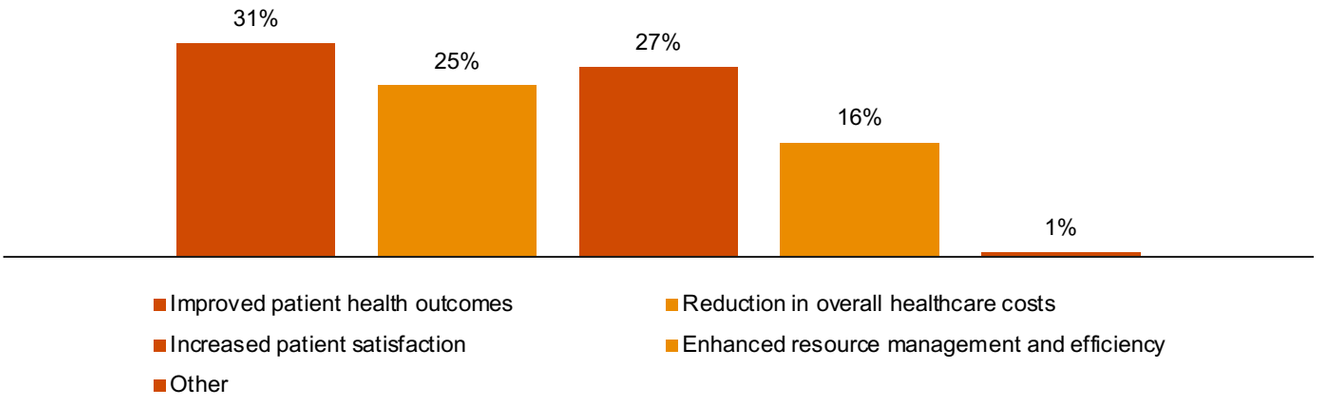
NPS: Measures the likelihood of a patient recommending the provider to others.

Patient wait time: Average time a patient spends waiting to see a provider.

PROMs: A standardised questionnaire is used, where patients answer questions about their symptoms, functional abilities and quality of life, providing a numerical score that reflects their subjective experience of their health condition.

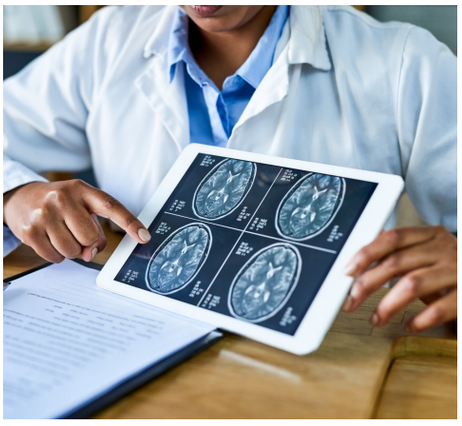
By measuring both clinical and patient-experience metrics, healthcare providers understand the quality of care delivered, identifying areas where improvements can be made beyond just clinical outcomes. Integrating these KPIs into provider performance evaluations incentivises clinicians to prioritise patient satisfaction. Financial incentives in models such as pay-for-performance and shared savings programmes directly link provider reimbursement to the patient-experience outcomes so that providers prioritise and improve patient interactions and satisfaction. High performance on these measures not only ensures financial rewards but also reputation and market share as positives that lead to enhanced patient loyalty and better quality ratings.

Figure 7: What benefits do you anticipate from the implementation of VBHC in India? (in percentage)



Source: PwC analysis

The survey highlights the potential benefits of a VBHC model which primarily focuses on Improved patient health outcomes, reduction in overall healthcare costs and increased patient satisfaction.



Care efficiency measures

The cornerstone of VBHC is a measurement of 'value', be it qualitative or quantitative. Such a measurement in terms of care efficiency should include objective metrics that are the most reasonable indicators of care efficiency among healthcare providers, ultimately reflecting in the patient outcomes. While it is clear that there could be a multiplicity of performance indicators for different aspects of care efficiency, the healthcare provider could customise the most relevant quality indicator based on the service provided.

Some examples of the care efficiency performance indicators are:

Definition and purpose	Example	Digital integration possibilities
1 LOS		
LOS refers to an umbrella of indicators measuring the time taken from admission to discharge, which is typically calculated as an average of all data collected over a month but can also be specific to the types of care provided e.g. ICU and non-ICU. While LOS has both clinical care efficiency and cost implications, as VBHC capitation models can be linked to the total cost of care incurred by the hospital.	For example, in the cardiac intervention PTCA, based on various studies, the usual LOS is one day in ICU, followed by two days in the non-critical ward, with discharge on the fourth day. Any deviation from these targets is to be documented, analysed and discussed in relevant quality-related forums across the hospital. Deviations from these set targets could be exacerbated by comorbidities or complexities. However, these should be documented before being classified as outliers.	LOS can be easily extracted from the HIS using easily downloadable and customisable reports having admission, shifting and discharge dates.

Definition and purpose	Example	Digital integration possibilities
2 Infection rates		
These refer to a plethora of indicators that measure the cases of infections occurring in the patient attributed to the care provided e.g. hospital-acquired infections, SSIs, CAUTIs, thrombophlebitis (particularly those caused by infections), etc. These not only have clinical care efficiency but also cost implications that affect the VBHC capitation model income efficiencies.	For example, the infection rates imply the potential of prolonged stay, diagnostic tests and medication load as cost factors, but also a return to the hospital for treatment of illnesses arising from the previous stay. A CAUTI would merit additional tests for the isolation of the causal organism, additional medications for symptomatic and targeted treatment, as well as prolonged stay.	CAUTIs can be tracked by adequate utilisation of relevant ICD codes fed into the HIS.
3 Percentage of cases with additional irrelevant diagnostic tests		
This is a self-explanatory but specialised indicator which represents the efficiency of clinical practice concerning the caregivers themselves. The intent is to document, analyse, discuss and revamp the number of avoidable pathology and radiology tests prescribed, as well as those that have a direct cost implication.	For example, a case study relevant to this aspect is presented in **Section 2 of this report** where, using specialised skill sets and technology support, the prescriptions handed out by junior healthcare providers were assessed to establish the merit of these diagnostic and therapeutic interventions. The results revealed common loopholes and unnecessary prescriptions, which have a cost implication, ultimately compromising revenues.	Targeted prescriptions audits can be performed through HIS requests/EMR entries for particular ICD codes.
4 Repetition of service		
These indicators measure the spectrum of care provision inefficiencies linked to re-do surgeries and procedures, re-intubations or even readmissions due to variations in care delivery outcomes. These also have clinical and cost implications.	For example, as seen in the case study in chapter 2 of the report, An overview of VBHC's adoptionin the case of implant-based surgeries, where deviations in planned outcomes occur primarily due to either structural or functional faults in the implant, these cases need to be captured and compared with baseline indicators of success which are historically assessed by the implant vendor. Due to confidence in implant performance, vendors have commonly entered into risk-sharing mechanisms with healthcare providers to ensure that the payer is not burdened with the expenditure of the re-done surgery.	Repetition of services can be tracked utilising targeted reports in HIS/EMR using the patient IDs and dates of admission/surgery.

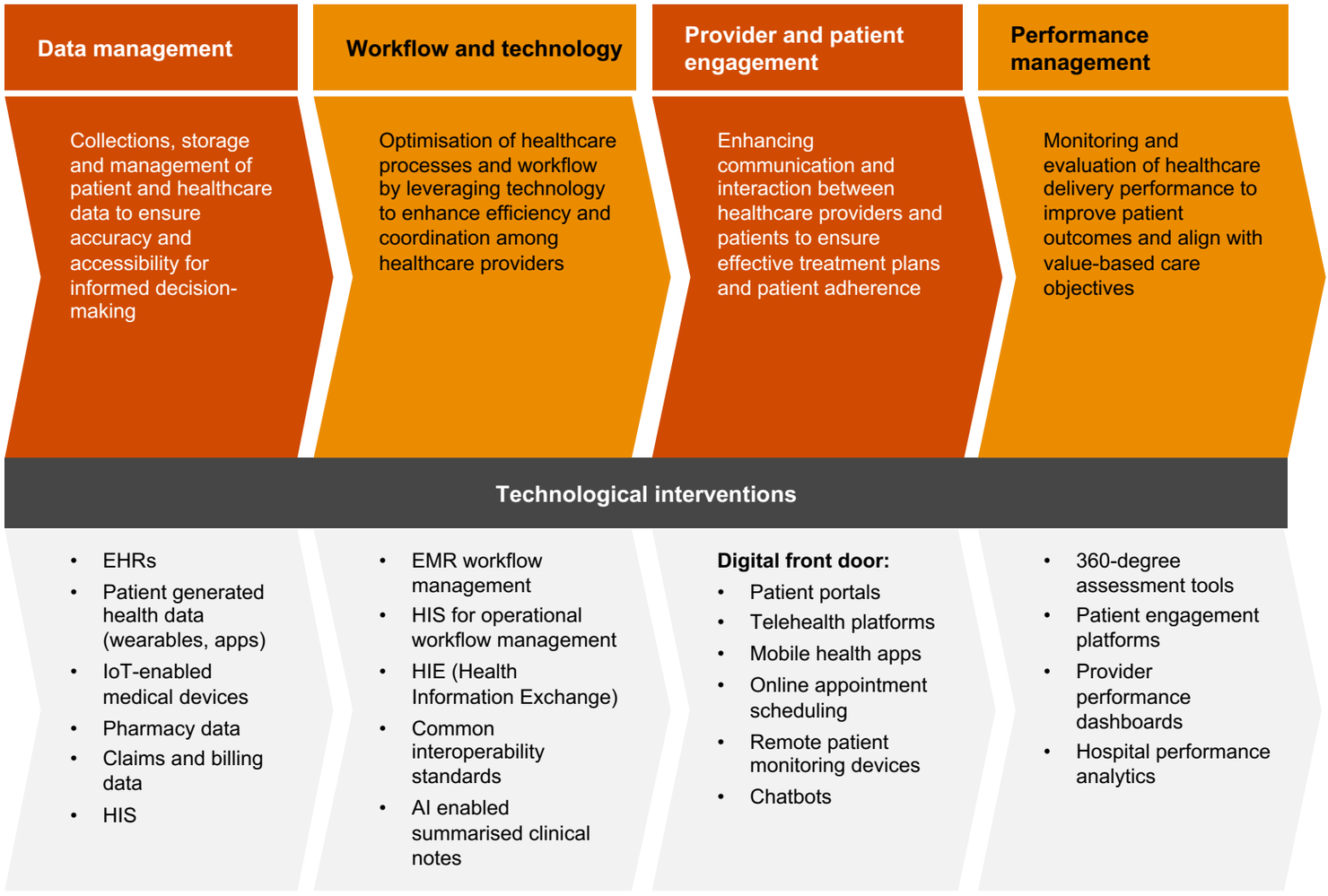
Definition and purpose	Example	Digital integration possibilities
5 Mortality rate		
This self-explanatory indicator ascertains the rate of patients who died after the planned treatment was provided. While this is an aspirational indicator when it comes to VBHC, the path to progress should ideally consider mortality as an encouragement for providers to focus and plan strategies for controlling mortality and thus improve patient care. There can be incentives planned by payers for the providers who have reduced the mortality rates as a part of care provision.		Mortality can be tracked by employing targeted reports consisting of ICD codes and death dates.

06 How technology can act as an enabler for VBHC

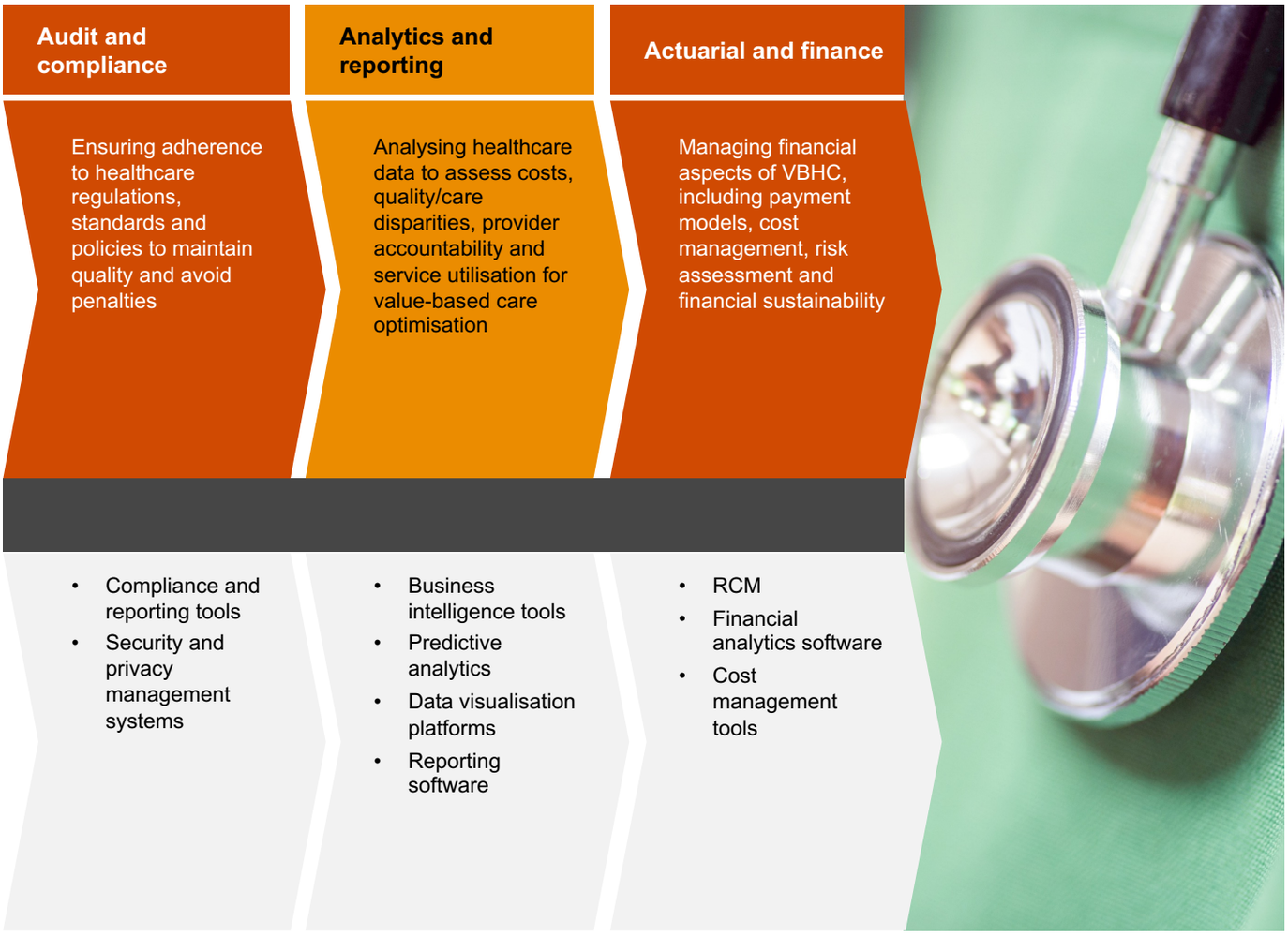
Technology plays a crucial role in the implementation of VBHC. Technology integration with healthcare systems has now become vital for the implementation of VBHC, where patient outcomes, satisfaction and cost efficiency take centre stage. Innovative tools like EMR and HIE have enabled care coordination by enabling seamless data sharing across different healthcare providers. AI/ML models and advanced analytics help predict patient risks and support prompt interventions, addressing complex health challenges. Telehealth platforms, wearables and IoT devices help providers monitor patients remotely, while cloud storage helps secure data sharing and storage in real time. These advancements not only streamline operations but also enable efficient, cost-effective and patient-centric care, which are the core principles of VBHC.

VBHC can be divided into multiple stages and each stage requires a separate technology as an enabler. The diagram below illustrates the various stages, highlighting key processes that are critical for the implementation of VBHC. Additionally, it outlines various technology interventions used at each stage such as EHR, telehealth platforms, AI-driven analytics and compliance tools.

Figure 8: Tech-enablement across VBHC's value chain



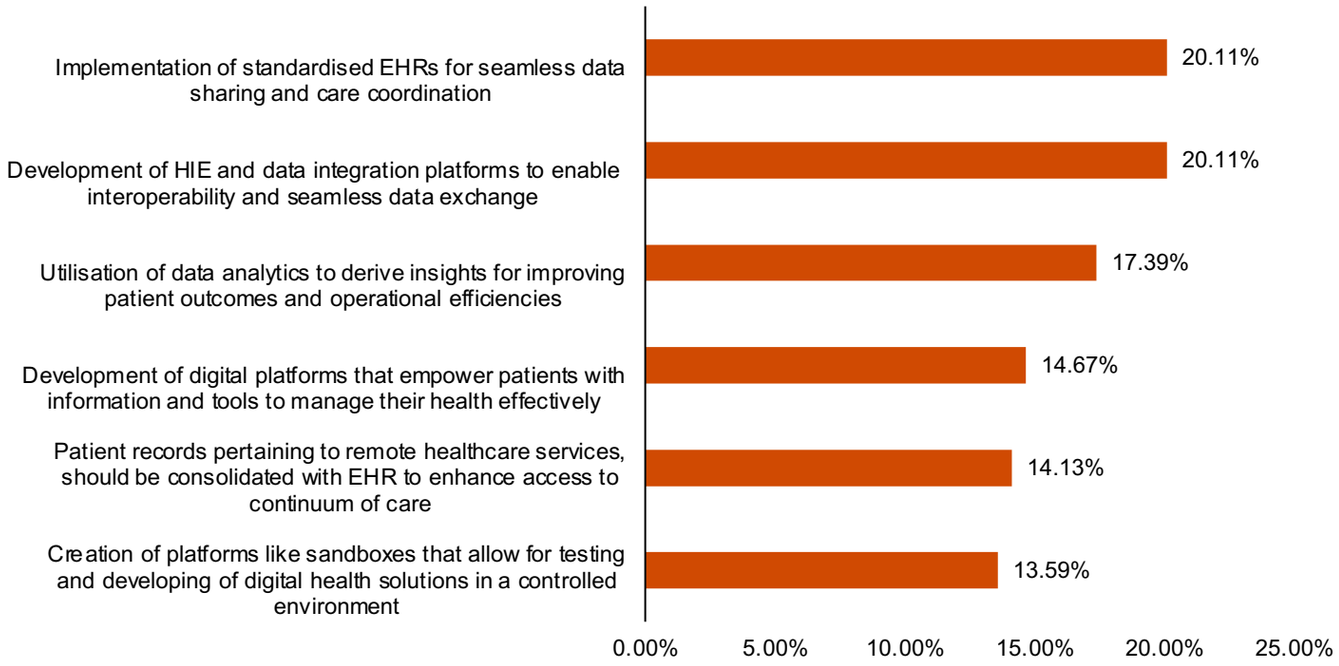
	Technology	Description
1	EHRs	EHR systems act as a digital repository containing important health-related patient data like medical history, medications, vitals, lab results, immunisations, etc.
2	HIE	HIE systems allow the secure exchange of sensitive patient information across healthcare providers and institutions, ensuring coordinated and patient-centric treatment.
3	Wearables and IoT devices	Wearables and IoT details can help patients track many vitals like health rate, physical activity, sleep patterns and even glucose levels. These real-time health data and patterns help patients take preventive measures and proper care of their health.
4	Patient portals	These portals allow patients to check their health records, access medication prescriptions, enable them to coordinate with healthcare providers, book appointments and actively engage in their healthcare journey by understanding their test results, diagnostic reports and treatment plans.
5	Clinical decision support systems	CDSS systems have a vast knowledge base, which is used by the providers to deliver patient-specific recommendations, thereby aiding in clinical decision-making.



Source: PwC analysis

	Technology	Description
6	Telemedicine	Telemedicine platforms enable patients to access healthcare remotely via video and voice calls. Telemedicine plays a vital role in providing healthcare access to all, especially to people who live in remote areas where there is a lack of healthcare infrastructure.
7	Advanced data analytics	These tools help analyse massive amounts of healthcare data to identify patterns, predict outcomes and inform clinical and operational decisions.
8	Dashboards	Dashboards provide a simplified view of all the KPIs and metrics in the form of bar charts and graphs. With their help, providers can track different patterns and trends to monitor performances, ascertain outcomes and make informed decisions.
9	RCM systems	RCM systems improve the financial performance of healthcare organisations by streamlining billing, claim processing and payment workflows/processes. RCM manages financial interaction among key stakeholders, including healthcare providers, patients, payers and regulatory bodies.

Figure 9: What are the necessary technological interventions required to advance value-based healthcare in India?



Source: PwC analysis

According to the survey, the implementation of VBHC will be a standardised EHR (HIE and data integration platforms) which will enable interoperability and seamless data exchange.

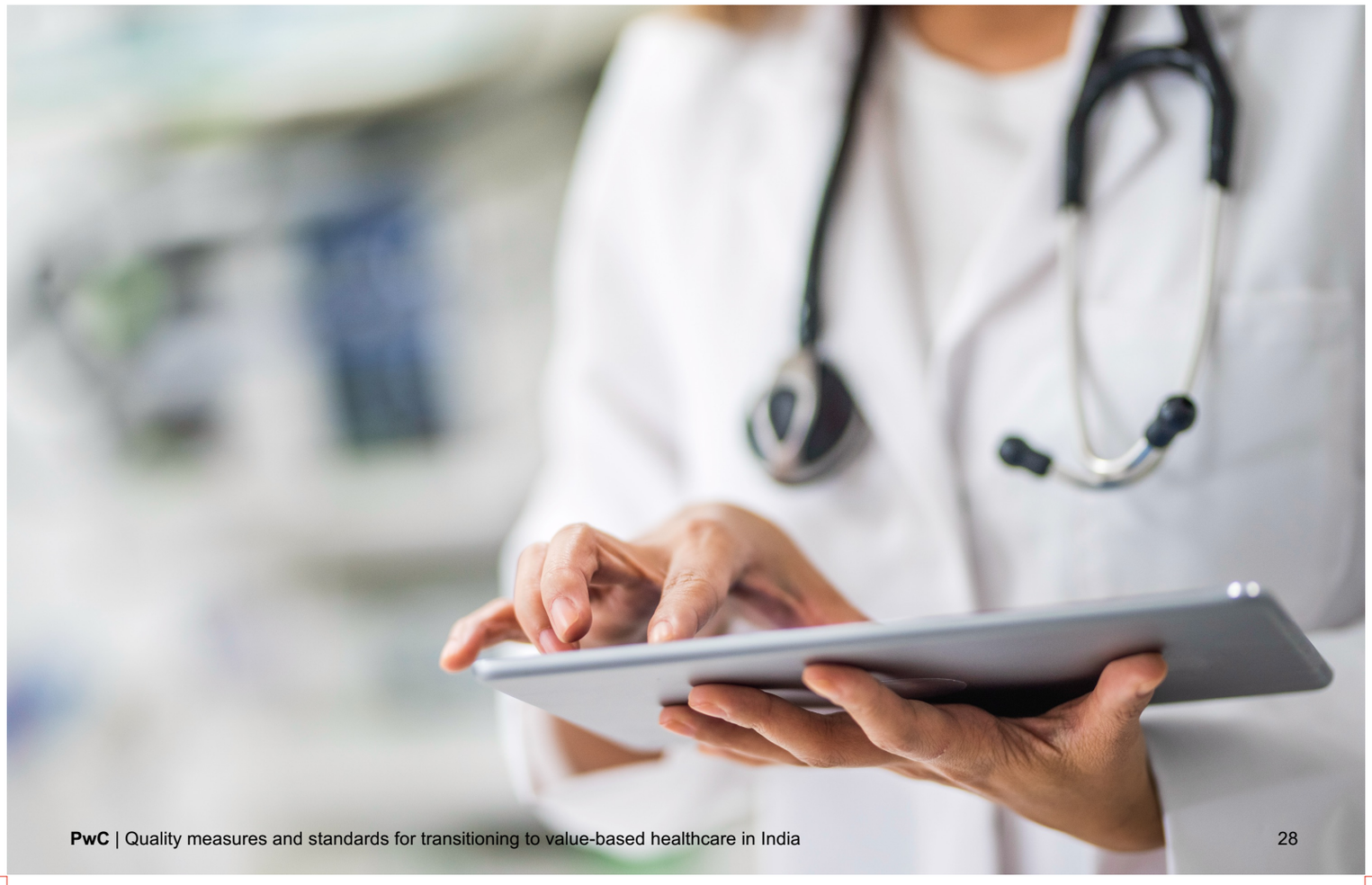
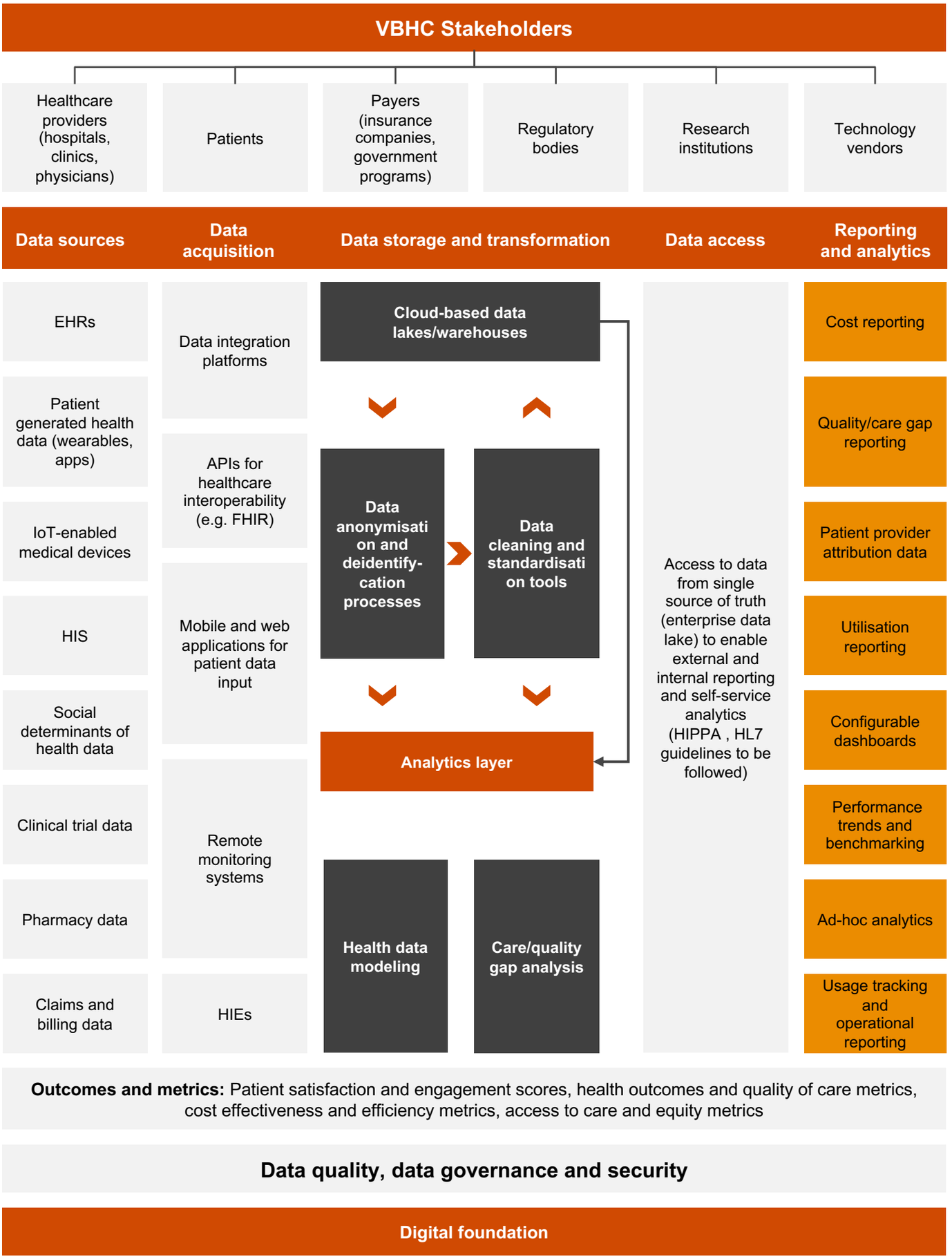


Figure 10: Suggested data architecture



Source: PwC analysis

A framework has been developed to effectively manage and utilise healthcare data, which will help optimise healthcare delivery and improve patient outcomes. It is based on five main pillars to ensure that the data is effectively collected, integrated, stored, accessed and analysed. These pillars are:

Data sources: This pillar focuses on identifying foundational sources of raw patient and healthcare data that can be applied for the calculation of different metrics such as patient health outcomes, healthcare cost, quality of care and others important for the successful implementation of VBHC. Various sources such as EHRs, patient-generated data from wearables and apps, IoT-enabled devices and HIS, can be considered for VBHC analytics and reporting purposes.

Data acquisition: During data acquisition, different processes and technologies are employed to collect and integrate data from various sources, which are identified in the first stage. Technologies and standards like data integration platforms, APIs, ETL, FHIR, and HL7 can be used to gather data from the identified sources into a cohesive and usable format. Once the data is gathered, it is stored in a single platform/server for further processing.

Data storage and transformation: All data after acquisition is securely stored in one place (Enterprise data lake, cloud storage or on-premise databases) for further processing. Techniques such as data anonymisation and deidentification are used to protect patient privacy, while data cleaning and standardisation ensure data quality. Once the data is clean and standardised, it goes through the analytics layer for health data modelling and care/quality gap analysis.

Data access: This stage ensures secure and standardised access to transformed data to all the relevant stakeholders including physicians, hospital administrators, insurers and policymakers. This involves a single source of truth, like an enterprise data lake, cloud storage or on-premise server, while maintaining compliance, security and privacy standards such as HIPAA and HL7.

Reporting and analytics: The final pillar focuses on fetching the data from a single source of truth to comprehensively analyse and provide reports on various metrics such as cost reporting, quality/care gap reporting, utilisation reporting and more. By leveraging advanced analytics, configurable dashboards can be created to provide real-time insights. Additionally, performance benchmarking can also help stakeholders monitor, compare and evaluate healthcare processes, driving improvements in care quality and efficiency.

07 Challenges in adopting VBHC in India

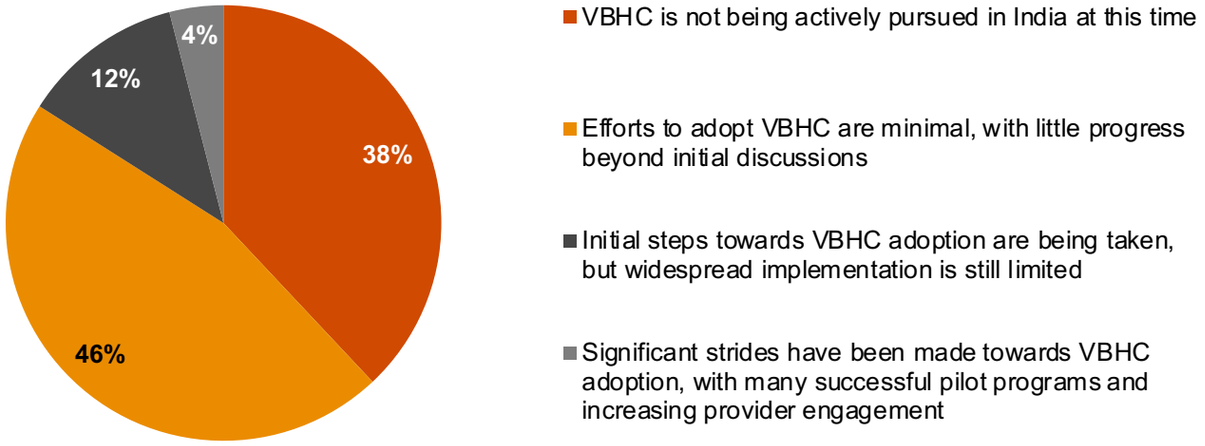
1. Low awareness regarding VBHC in India amongst policy makers and providers

While the concept of VBHC is gaining traction globally, with various examples of country-wide policy level as well as institution and programme-specific interventions as seen in the case studies presented, the same is not necessarily true in the Indian context.

Sectoral analysis and stakeholder interviews reveal that the government has only initiated strides towards the implementation of certain concepts of VBHC with the PM-JAY scheme and ABDM.[20]

The private sector, however, has seen far lower traction. The FFS model seems to be the primary healthcare cost reimbursement scheme along with volume-based payment in certain cases. There seems to be a negligible investment of thought into the quantification of the costs linked with various delivery aspects of the value chain, hence allowing easily concealed loopholes in care delivery practices to thrive for long periods.

Figure 11: Where do you think India currently stands in terms of adopting VBHC?



Source: PwC analysis

The survey highlights that there is limited awareness amongst the respondents regarding VBHC as a concept, therefore, minimum efforts are made towards its adoption.

[20] https://esanjeevani.mohfw.gov.in/assets/guidelines/ehr_guidlines.pdf

2. Varying degrees of maturity HIS and EMR systems among Indian providers

One of the key challenges in India's current private healthcare system is the varying degree of maturity in hospital HIS and EMR. The HIS an EMR systems of seasoned private hospitals are much more capable in the collection, classification, storage and retrieval of complex data. One of the reasons for this could be the keenness of these hospitals to ensure tech-supported quality healthcare, driven by specially appointed individuals who have a diverse analytical skill set to analyse data and visualise its benefits. The HIS/EMR procurement teams of smaller and standalone hospitals often cannot assess and quantify future benefits objectively, hence stunting or even jeopardising the spectrum of the HIS/EMR outputs of any hospital.

Additionally, the constant challenge of the perceived initial cost of a capable IT system is still prevalent. This perception is fuelled by a low view of the uses of the processable outcome-related information to the organisation, a rather suppressed intellectual block of purchasing solely based on a low initial cost as compared to its lifetime benefits, also known as L1 procurement. There seems to be a lack of comprehensiveness in the cost–benefit analysis hence causing a chasm between the existing practice and hospitals of the future.

The NABH Digital Health standards would also be an effective tool for ensuring the maturity of the HIS/EMR of the healthcare providers, as they are an eye opener to the myriad benefits that a capable HIS/EMR can provide.

3. Lack of reliable local baseline quality indicator data for policy makers and providers

There are various examples across the globe where countries are making conscious efforts to conduct research into capturing the performance data of the processes and products used, to establish a baseline. The baseline data encompasses relevant aspects of the current healthcare delivery value chain and is prepared with the key intention of benchmarking outcomes of all process and product improvements. Countries with national insurance schemes, have the data available on national platforms accessible to all enrolled providers. Instances of MedTech vendors preserving and providing data on the performance of their products are also available, thus assisting healthcare providers to quantitatively assess the performance of these products against the baseline data. This quantitative and objective analysis can ultimately translate into informed decisions in terms of investment in quality of care, as well as robust risk-sharing mechanisms with vendors who partner in care provision.

However, in this regard, the Indian scenario lacks the availability of a national quality indicator baseline database. There might be certain research papers published by a few organisations that are invested and interested; however, these are only available for specific new interventions and are in smaller cohorts in certain pockets of the country. It is a constant debate whether these research papers can be used to represent the whole of the Indian diaspora, thus only partially mitigating the conundrum.

4. Resistance from providers for capturing and publishing sensitive quality outcomes data

Due to the lack of available regional outcomes data, there is an underlying resistance among care givers as well as healthcare provider institutions to publish the quality-of-outcomes data accessible to other organisations. It could be due to an apprehension that this may affect the reputation of the institution, as well as the caregivers who work there. This perceived violation of privacy has been a consistent topic of debate as well as one of the major impeding factors towards VBHC implementation in the country. Healthcare providers generally advertise aspects of their services, including niche treatment modalities, infrastructural capabilities and the number of surgeries done across specialties. In contrast, there is far less display of success rates and outcomes data on the surgeries done.

Another relevant factor is the vast gap in the doctor–patient ratio, which further translates to on-ground perceptions of a lack of time available for capturing and publishing quality data. A majority of the caregivers and providers seem to perceive a choice between care provision and capture of quality outcomes which is not necessarily the actual option. There appear to be only a few caregivers who have a progressive, team practice mindset, where technology as well as human resources can be optimally utilised for consistent capture of outcomes. Next comes the progressive milestone where we believe that there should be an initiation of a framework for the assessment and publishing of data with reasonable confidentiality, which should in-turn translate into the VBHC concept of incentivisation of healthcare providers who have achieved quality outcomes.

5. Nascency of a defined framework for assessing and incentivising quality for payers and policy makers

The current framework for assessing and incentivising quality consists mainly of the fact that the healthcare provider has a NABH accreditation, including quality standards for hospitals and healthcare providers. Payers across the country have a certain percentage of incentivised reimbursement mechanisms for providers who have accreditation. The IRDAI has also mandated that hospitals offering cashless services have to meet at least the pre-accreditation entry-level standards laid down by the NABH.

Owing to this accreditation, the healthcare provider would have to capture a stipulated number of KPIs, which would encompass various areas across the hospital. However, the need of the hour is that such quality consciousness must progress towards capturing the quality-of-outcomes data, which would be a more objective way to measure quality. It seems like the foundations have been laid to progress towards capturing outcomes data.

The policy makers need to collaborate and brainstorm to define a comprehensive framework for assessing the quality of outcomes and link them to incentives given by payers.

08 The road ahead

India's healthcare landscape is changing its approach and adopting VBHC which prioritises health outcomes and delivers quality, cost-effective healthcare. Since the healthcare sector is adapting to this tectonic shift, there is a pressing need to address the diasporic healthcare access in rural areas and extending the concentrated healthcare infrastructure in metropolitan cities to tier 2/3 cities and rural areas. Leveraging digital health technologies, public–private partnerships and health regulatory frameworks are pivotal in ensuring a smooth transition to VBHC. Following a roadmap outlines strategic initiatives to enhance quality healthcare access across the country.

Willingness to adopt new payment models

Healthcare providers can capitalise on the growing momentum in VBHC by accelerating the adoption of new payment models like bundled payments, capitation models, shared risk models, etc. instead of lingering on conventional FFS models. Additionally, adopting newer VBHC models pushes providers with a legacy system to invest in modern technologies and solutions further accelerating this transition from the FFS model. However, complex payment models should enable risk sharing, transparency and accountability between providers and payers for sustainable adoption.

Encouraging public–private partnership models

According to the NITI Aayog, 60% of the country's health infrastructure is pocketed in metropolitan cities, leaving rural areas untouched and fragmented. Public–private models can be a potential alternative in enabling private players in tier 2 and 3 cities to access healthcare services that help serve the unmet needs of underserved populations.[21]

CSR budgets can be actively channelled to boost healthcare infrastructure investments. This can include procuring new medical equipment, modernising existing healthcare facilities or introducing healthcare solutions. The collaborative PPP approach helps in the advanced integration of healthcare technologies in the rural regions, which are diasporic and disparate between public and private hospitals. This integration of technologies enables the collection, storage and analysis of patient data seamlessly empowering providers to deliver a more patient-centric care environment.[22]

[21] https://www.niti.gov.in/sites/default/files/2023-02/InvestmentOpportunities_HealthcareSector.pdf

[22] https://pmc.ncbi.nlm.nih.gov/articles/PMC10890901/

Accelerating digital health adoption

India's digital healthcare market is projected to have a CAGR of 23.8% in the next five years where key areas like telemedicine, AI and EHRs gain importance in ensuring transition to VBHC.

During the COVID-19 pandemic, telemedicine was a common mode of healthcare delivery for primary care irrespective of geographical distribution. It encouraged patients and doctors to coordinate throughout the episode of care, which facilitated effective interventions, consequently reducing emergency room visits.

EHRs continuously document the patient's touch points with healthcare and administrative professionals throughout their treatment journey. Healthcare providers can leverage EHRs in identifying data patterns for characterising the health status, which helps them make informed decisions on optimising better outcomes at lower costs.

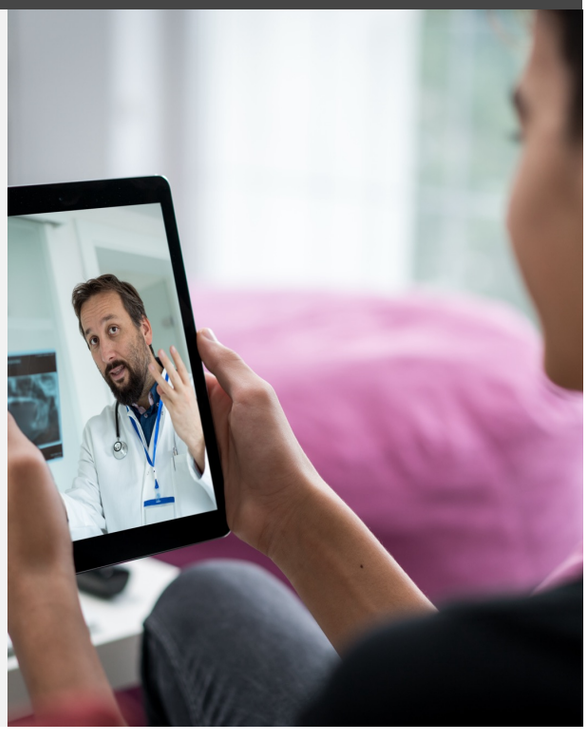
AI-enabled diagnostics can undoubtedly accelerate the adoption of VBHC in India. Advanced AI algorithms in the market have the inherent capability to assess extensive real-time datasets in forecasting disease outbreaks, rate of patient health deterioration, hospital readmission frequencies, etc. For this, a healthtech organisation collaborated with a leading healthcare provider in anticipating acute kidney injury. Such collaboration not only resulted in good prediction models but also excelled in recommending personalised treatment plans based on individual health indicators.

Legal and regulatory landscape

In India, the legal and regulatory landscape is gradually aligning with adopting VBHC through health outcome-focused payment models. Particularly, government bodies and healthcare organisations continuously strive towards benchmarking various VBHC models available across the globe and implementing the same. The introduction of new government policies, programmes and incentives related to healthcare are already signalling the healthcare providers and payers to capitalise on the opportunities to adopt VBHC models. As per the current scenario, the Indian government supports VBHC models through programmes like Ayushman Bharat and PM-Jay targeting the bottom 40% of the population in terms of socio-economic status.[23]

Policy development focusing on interoperability and data integrity

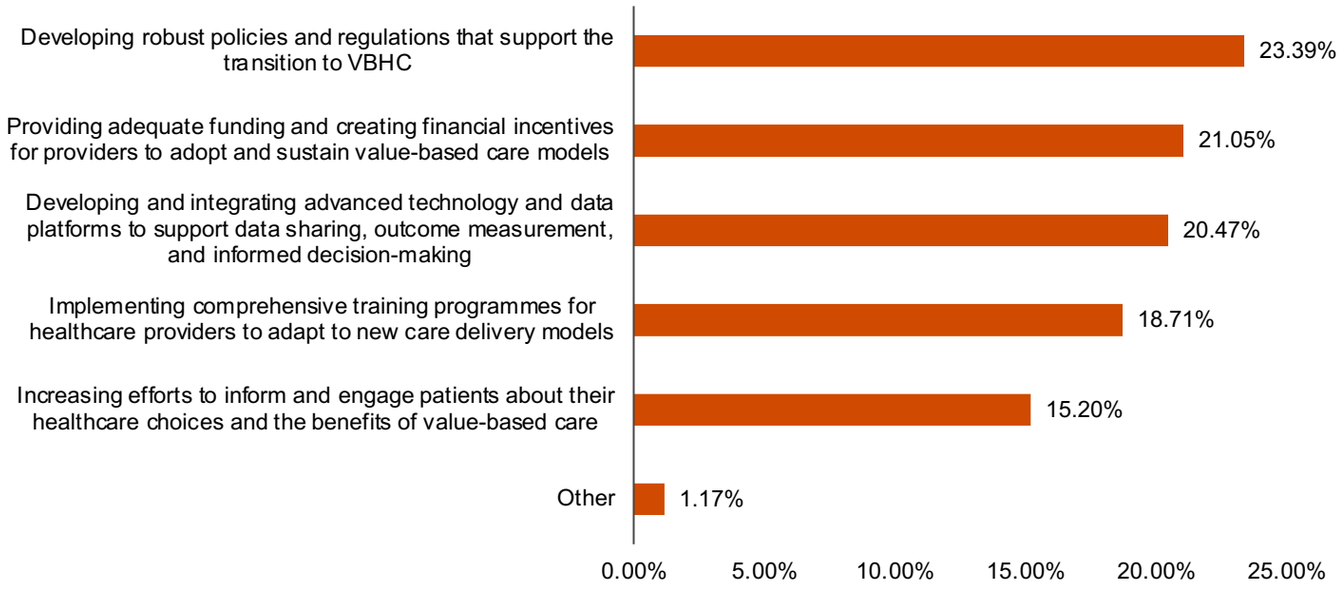
India can provide further impetus to the healthcare system by adopting health data frameworks aligning with best practices. For example, adopting frameworks like SNOMED CT and ICD provides guidelines for health data formatting, formal terminologies and coding system standards, which are now free for use in the country.[24] Nevertheless, it is necessary to designate an unbiased formal agency to validate the interoperability of available healthcare products and solutions as well as their data integrity. For example, despite several IT solutions asserting their compliance with HL7 standards, they failed in interoperability post-implementation. Hence, the government must make major efforts to standardise health data, nominating dedicated agencies to ensure robust interoperability. This set of agencies, regulations and implementing role-based access control systems provide a sense of confidence to the various healthcare providers that recorded/shared data between entities by remaining unaltered and uncompromised.



[23] https://abdm.gov.in:8081/uploads/VBHC_Policy_Document_For_Upload_a20f871a55.pdf

[24] https://pmc.ncbi.nlm.nih.gov/articles/PMC5116537/

Figure 12: What do you think are the critical success factors for a smooth transition to VBHC in India?



Source: PwC Survey 2025

According to the survey, the most critical factor for a successful and smooth transition to VBHC in India is developing robust policies and regulations (23.39%), followed by providing adequate funding and creating financial incentives for providers (21.05%), developing and integrating advanced technology data platforms(20.47%), implementing comprehensive training programmes (18.71%) and increasing efforts to inform and engage patients about their healthcare choices (15.20%).

Increasing public investments in healthcare technologies

Limited ICT infrastructure has always been a primary challenge to India's public hospitals and dispensaries, which is even more intense in remote areas. Only established institutions like AIIMS and PGIMER have better access and connectivity. However, many healthcare facilities with a higher footfall still lack basic connectivity and resources. The situation underscores the need for substantial investments in the latest health-related hardware and software technologies. Due to the large population of the country, adopting a free and open-source software strategy could help organisations in the implementation of quality technologies at hospitals, clinics and individual practitioners. Many nations have established communication networks which connect healthcare facilities to enable safe and trustworthy exchange of health-associated information. Building on current frameworks is necessary for which the government should fuel funding for the creation of such add-on networks.[25]

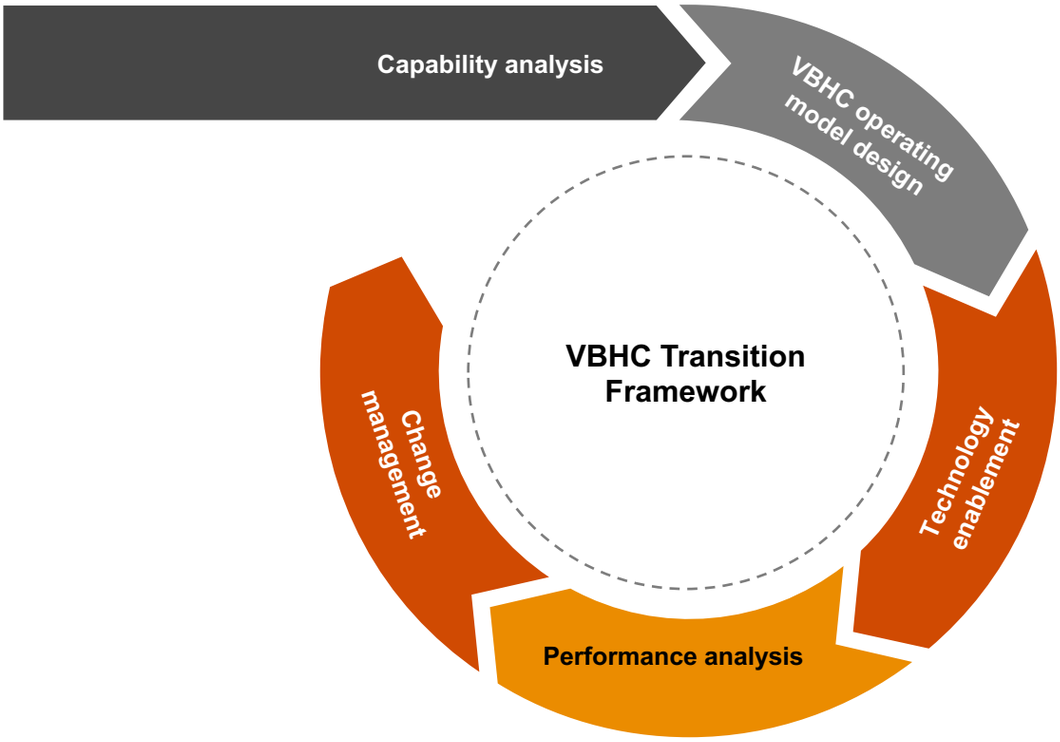
[25] https://esanjeevani.mohfw.gov.in/assets/guidelines/ehr_guidlines.pdf

09 Conclusion

In a highly competitive market where healthcare expenditures continue to grow, payers and healthcare providers need to balance affordable pricing and high-quality care. Payers can leverage partnerships with providers to improve the coordination of care, reduce costs and enhance outcomes for both healthcare providers and patients. Developing databases which can share information seamlessly and securely across the healthcare sector's network is the need of the hour to establish a VBHC model and provide value-based healthcare for the country.

PwC India's extensive experience in designing data-driven VBHC solutions that reduce medical expenditures and improve the quality of care could help navigate the challenges of adopting VBHC for both the providers as well as the payers.

Figure 13: How PwC can help in transition to VBHC model



Source: PwC analysis

10 Glossary

S no.	Abbreviation	Full form
1	AB PM-JAY	Ayushman Bharat Pradhan Mantri Jan Arogya Yojana
2	ACA	Accountable Care Act
3	ACO	Accountable Care Organization
4	ABDM	Ayushman Bharat Digital Mission
5	AI	Artificial intelligence
6	CAUTI	Catheter-associated urinary tract infections
7	CAGR	Compound annual growth rate
8	CDSS	Clinical decision support systems
9	CHIP	Children's Health Insurance Programme
10	CSR	Corporate social responsibility
11	DRG	Diagnosis-related group
12	EHR	Electronic health records
13	EMR	Electronic medical records
14	FFS	Fee-for-service
15	HeFTA	Health financing and technology assessment
16	HBP	Health benefit package

S no.	Abbreviation	Full form
17	HIE	Health information exchange
18	HIS	Hospital information system
19	HL7	Health Level Seven International
20	ICD	International classification of diseases
21	IHI	Institute for Healthcare Improvement
22	IPC	Infection prevention and control
23	IoT	Internet of things
24	JCI	Joint Commission International
25	KPI	Key performance indicator
26	LOS	Length of stay
27	MACRA	Medicare Access and CHIP Reauthorization Act
28	ML	Machine learning
29	MoHFW	Ministry of Health and Family Welfare
30	NABH	National Accreditation Board for Hospitals and Healthcare Providers
31	NCD	Non-communicable diseases
32	NITI Aayog	National Institution for Transforming India Aayog
33	NPS	Net promoter score
34	NQF	National Quality Forum
35	PCMH	Patient-centred medical home
36	PLI	Production Linked Incentive
37	PMPM	Per member per month
38	PPP	Public-private partnership
39	PROMs	Patient reported outcome measures
40	PTCA	Percutaneous Transluminal Coronary Angioplasty

S no.	Abbreviation	Full form
41	QOF	Quality outcomes framework
42	QPP	Quality payment programme
43	RCM	Revenue cycle management
44	SNOMED CT	Systematised nomenclature of medicine clinical terms
45	SSI	Surgical site infection
46	VBHC	Value-based healthcare
47	WHO	World Health Organization

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 151 countries with over 360,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

Contact us

Dr Rana Mehta
Healthcare Leader
PwC India
rana.mehta@pwc.com

Rajiv Sabharwal
HealthTech Leader
PwC India
rajiv.r.sabharwal@pwc.com

Sayantan Chatterjee
Executive Director Digital Strategy
PwC India
sayantan.chatterjee@pwc.com

Dr Preet Matani
Executive Director, Healthcare Industry
PwC India
preet.matani@pwc.com

Authors

Abhishek Singh Tejpal, Varun Karwa, Subhodeep Ganguly, Samuel Sunderarajan, Akshay Ramani, Rashika Nandwani, Pavlin Kaur Johar, Deepak Singh, Shivaharshan Saravanan, Chaturya Chinta

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Rubina Malhotra

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Kanagavathi Murugaiah

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