DVARA
Health Finance

Vital Signs

Newsletter | Volume III, August 2022

Dear Reader,

Dvara Health Finance's (DHF) mission is to ensure that spending on health translates into better financial and health outcomes for all Indians. We aim to offer at-scale, tailored financing and information services that will enable lower out-of-pocket expenditure for the individual at the point-of-care. Our first product, the Health Savings Account, combines automatic savings, top-up insurance and out-patient care coordination.

Our bi-monthly newsletter, 'Vital Signs', is an effort to build a community of practice for health sector innovators and practitioners in India. We aim to share learnings from new healthcare models and build a vibrant community that helps improve the value equation for household spending on health.

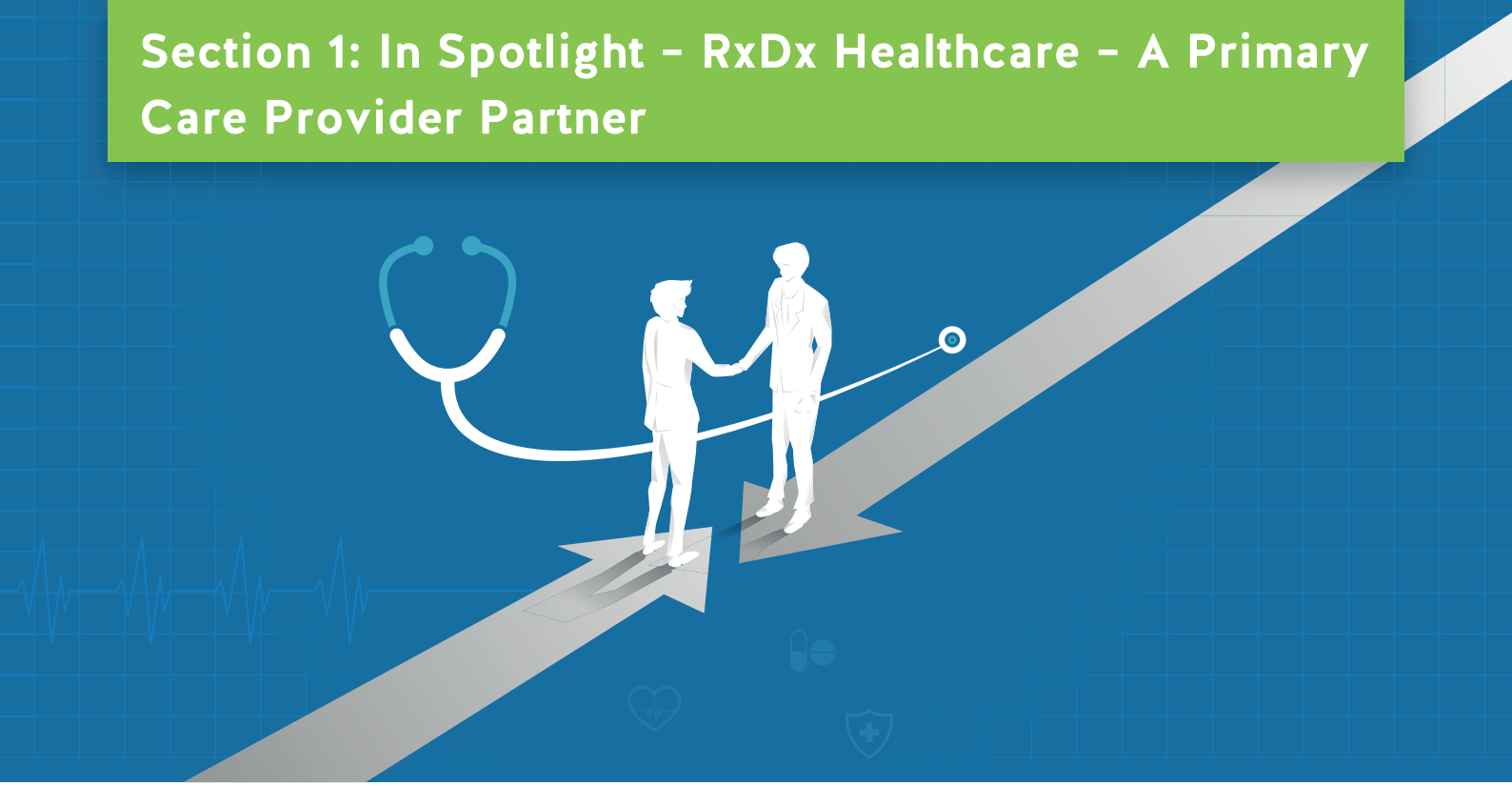
In our third issue, we introduce one of DHF's early primary healthcare partners, RxDX Healthcare – a network of outpatient diagnostic centres and clinics in Bangalore. RxDx stands out in its neighbourhood model of care – matching physical presence with teleconsultation services and offering in-home and onsite diagnostic services. In this issue, we also shine a spotlight on value-based healthcare and what may be some opportunities to adopt this in the Indian context. As a team, we are extremely interested to understand how to integrate cancer screening and care in a primary care context. We look at a recent study that evaluates the impact of periodic clinical breast examination by primary health workers. As always, we share learnings from the field through a customer case study to understand the importance of the physician-to-specialist referral pathway in driving appropriate resolution of complications ensuing from a fall injury.

We would love to get your thoughts on this issue. In future issues, we will share insights from our partners & advisors as well as learnings from ongoing programs. Please send your suggestions on what you would like to see in future issues or anything health financing-related at communications.health@dvara.com. You can also subscribe to the newsletter by signing up here.

Happy reading and wishing you good health!

Bindu Ananth
Founder & CEO - Dvara Health Finance

Section 1: In Spotlight – RxDx Healthcare – A Primary Care Provider Partner



DHF's partnership with RxDx Healthcare deploys a patient-centred approach to primary care focused on producing better health outcomes

Effective chronic disease management requires a standardized model of care with well-defined, evidence-based protocols for provider teams for diagnostic tests and treatments at clearly mapped out clinical entry points for patients. Dvara Health Finance has partnered with RxDx to test this protocol-based approach to drive better health outcomes for patients, using provider teams that include a physician, a nurse, a health coach, along with laboratory personnel.

Founded in 2007, RxDx Healthcare is a Bengaluru-based healthcare provider with 31 medical centres across the city, offering high-quality and affordable diagnostic, pharmacy, and primary health care services to the city's residents. Its services are quality-certified by the National Accreditation Board for Hospitals & Healthcare Providers (NABH) and the National Accreditation Board for Testing & Calibration Laboratories (NABL). In addition to the physical centres, RxDx has a digital presence through a network of teleconsultation services providers.

Dvara Health Finance (DHF) and RxDx Healthcare have partnered to test a protocol-based primary care approach deploying healthcare provider teams to drive improvements in health outcomes. The partnership is defined by a value-based, patient-centred approach to primary healthcare delivery. The service delivery model has a distinct preventive focus realised through patient risk stratification through comprehensive screening, wherein patients identified as high-risk for cardiovascular diseases and metabolic conditions such as type 2 diabetes mellitus, are provided intensive interventions, counselling, and protocol-based primary care to mitigate disease progression and improve clinical outcomes.

The model also intends to test a team-based approach to primary care in the Indian context. Evidence shows that this model significantly decreased health care costs in large part by reducing the number of emergency visits. It also greatly improved patient satisfaction. The DHF-RxDx primary care provider team comprises a general physician, a nurse, and a health coach. The team works in close coordination to anticipate patient needs, communicate their findings with each other and ensure that the 'whole patient' is treated with no aspect of the patient's health slipping through the cracks.

This novel approach is yielding promising results in terms of patient engagement, adherence to medications and interim outcomes. The first cohort enrolled between October 2021 and March 2022 have shown modest reductions in glycated haemoglobin (HbA1c) and blood pressure levels at three months from enrollment. The inaugural cohort also reported high patient satisfaction with their general physician on metrics like adequate explanation, time spent, respect, ease and privacy. We are channelling our findings and lessons to improve the protocols and processes continuously and deliver consistent care for our customers.

> *It has been a pleasure to collaborate with the RxDx team to serve our Bangalore customers. One of the aspects that really appealed to us is the fact that a Family Doctor is the fulcrum of the clinic.*
>
> *The team is deeply invested in providing high-quality primary care in the communities they serve and have been very receptive to working with protocols and a focus on patient outcomes. In addition to deepening our partnership with the RxDx chain, we hope to leverage this experience to build scalable templates and tools to collaborate with other Primary Care Providers (PCP) across the country*

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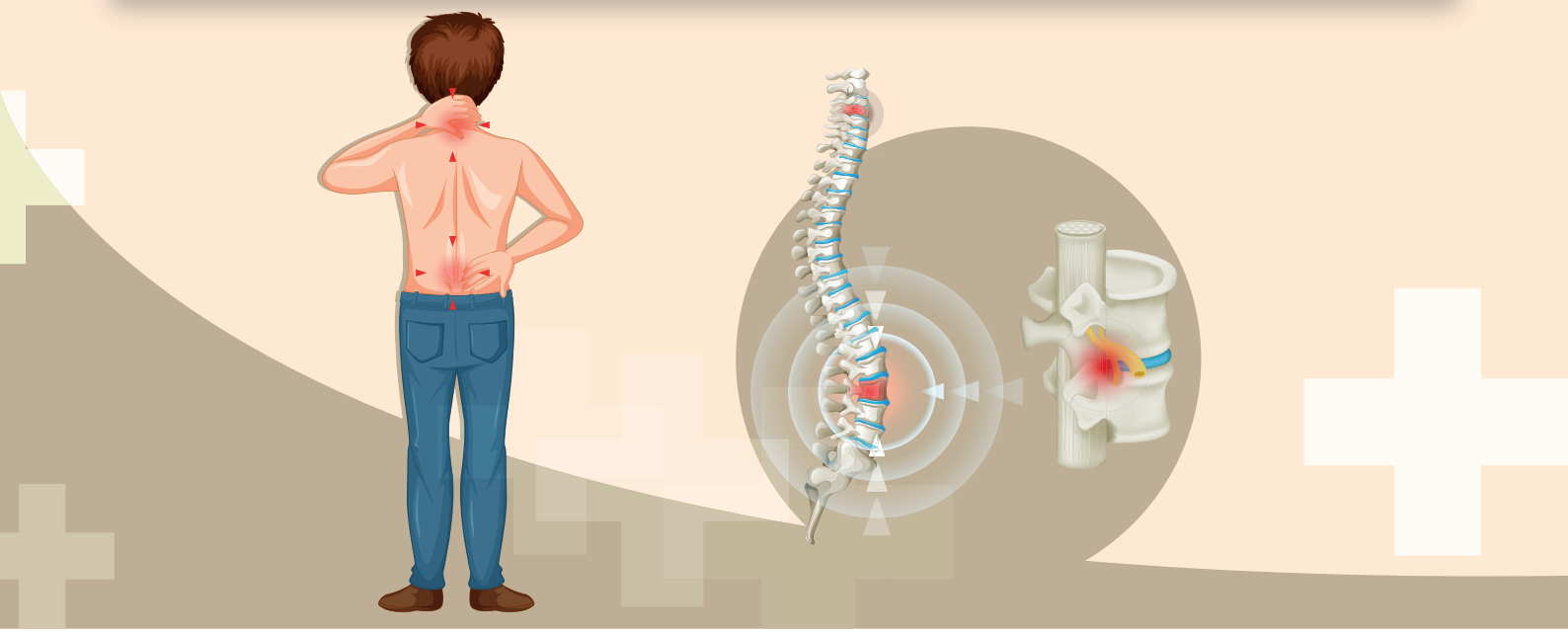
A good starting point for health provision and financing partnerships like this is to explore bundled health offerings/subscription models that cover the gamut of preventive and curative services that can be addressed in outpatient settings. This will enable these neighbourhood/community clinics to own an increasing proportion of their clients' healthcare journeys, whilst capturing value beyond the "touch-and-go" interface that the fee-for-service model offers. These integrated offerings may bring in additional customers as the word of patient-centred, high-quality, whole-of-person care spreads through the community. For health insurers, integrating financing for all outpatient and inpatient health events into a single payment for the customer and then partnering across a spectrum of care providers to provide a comprehensive solution for all health needs of their customers can be a compelling proposition to investigate.

Section 2: Case Study



Patient self-referrals and need for 'quick relief' can be detrimental to their own long-term wellbeing; integrity of general physician gatekeeping must be upheld

This case study tracks the journey of a patient who referred himself to a specialist after suffering from a fall in his home and was advised a conservative treatment for his back pain. However, he did not adhere to the specialist's advice to procure back support, citing that he did not get good advice and requested a referral to another specialist, hoping that he would be advised a 'quick-fix' surgery. The general physician at our clinic ratified the original treatment that was prescribed which included a back support. With intensive counselling from the health coach, the patient came to realise the appropriateness of the conservative treatment that his original provider had prescribed and the potential downsides of a more aggressive line of treatment. As a bonus, he also agreed to take anti-hypertensives for his newly diagnosed hypertension which he had originally refused.

Evidence bears out that quality of care, health outcomes, use and expenditure were better when patients first went to a primary care physician who then referred them to a specialist, compared to direct access to a specialist. The key takeaway here is the avoidable health risk that Sanjeev undertook by referring himself to a specialist, rather than visiting a general physician first, who could assess his condition and refer him as needed. This also highlights the importance of patient-provider trust in determining adherence to treatment recommendations, as Sanjeev failed to follow the advice of the specialist, thinking he was not treated correctly and was looking for a new specialist to consult with when he visited our partner clinic.

Patients' perception of effective resolution of their medical complaints can vary (and can often be off target) resulting in reticence in adhering to an appropriate (often less invasive) treatment. This calls for providers to handhold patients in their journey to explain their diagnosis clearly and eventually empower them to make an informed decision to initiate appropriate treatment. Furthermore, it underlines the need for providers to adopt differential patient engagement strategies for new diagnoses of metabolic conditions, as patients are more likely to resist treatment for newly discovered metabolic conditions/health risks.

Sanjeev (name changed to protect identity) is a 55-year-old married male and works in a garment manufacturing factory. He joined the inaugural Dvara Health Finance cohort as his wife enrolled their household in DHF's basic service offering, which includes a health savings account, unlimited outpatient visits and health insurance.

Sanjeev came into our partner clinic complaining of acute back pain resulting from a fall at his home earlier in the week and was seeking pain relief. Despite unlimited outpatient access to a general practitioner under the DHF's service offering, Sanjeev had already consulted an orthopaedic specialist directly, immediately after his fall. This is a clear case of patient self-referral bypassing the general practitioner-to-specialist referral pathway.

Even so, following an examination and x-ray imaging, the orthopaedic specialist diagnosed Sanjeev with a mild lumbar (L1-L2) dislocation. He was prescribed medication for pain management, a thoracic-lumbar sacral orthosis (TLSO) back support and advised rest. However, he did not procure the back support. At the time of visiting our clinic, he required stronger pain management medication than was initially prescribed. Further, even though Sanjeev believed that he was generally healthy, he was diagnosed with Stage II hypertension. Sanjeev left the clinic with a new prescription for pain medication but did not agree to initiate anti-hypertensives. Further, he requested to be referred to a second orthopaedic specialist for 'quick relief' via a surgical intervention as in his understanding, the specialist that he had originally consulted had not treated his condition correctly.

At this point in time, our health coach intervened and began talking to Sanjeev twice a week. This helped build patient-provider trust, and over the course of 3 weeks, Sanjeev recognised that the more conservative course of treatment was truly appropriate for his situation, whilst realising that surgical interventions have incumbent challenges, related to costs, post-surgical recovery, and potential complications. Had he done another self-referral or received a referral to an orthopaedist who would have been willing to do medically unnecessary surgery, this could potentially have resulted in adverse health and financial outcomes for Sanjeev.

With reminders from the health coach, Sanjeev eventually took the initial advice of purchasing and wearing the TLSO back support – because of which, his condition improved. Furthermore, by the end of 3 weeks, Sanjeev felt comfortable and well-guided by the health coach and agreed to initiate treatment for his hypertension diagnosis, which he had initially refused.

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Section 3: What we are reading

Clinical Breast Examination (CBE) by trained primary health workers results in early diagnosis of breast cancer and reduced mortality from the condition

Breast cancer incidence has been increasing around the world, and more so in low- and middle-income countries, including India. Between 2008 and 2012, India reported an 11.5% increase in the incidence and 13.8% increase in mortality due to breast cancer, making it the number one cancer in Indian women. The key reasons for these alarming increases are lack of inadequate breast cancer screening, diagnosis of disease at an advanced stage and lack of access to the needed healthcare.

A cluster randomised controlled trial conducted in over 150,000 women over 20 years in Mumbai, India, validates the efficacy of CBE as a modality in detecting breast cancer early in women aged 50 and older and in reducing mortality from it without overdiagnosis. Since the health workers who screened women with CBE in this trial had passed 10th grade education and could be trained to perform CBE in a minimal training period (about four weeks), it further establishes that results can be achieved in resource-constrained settings without dedicating expensive specialist resources.

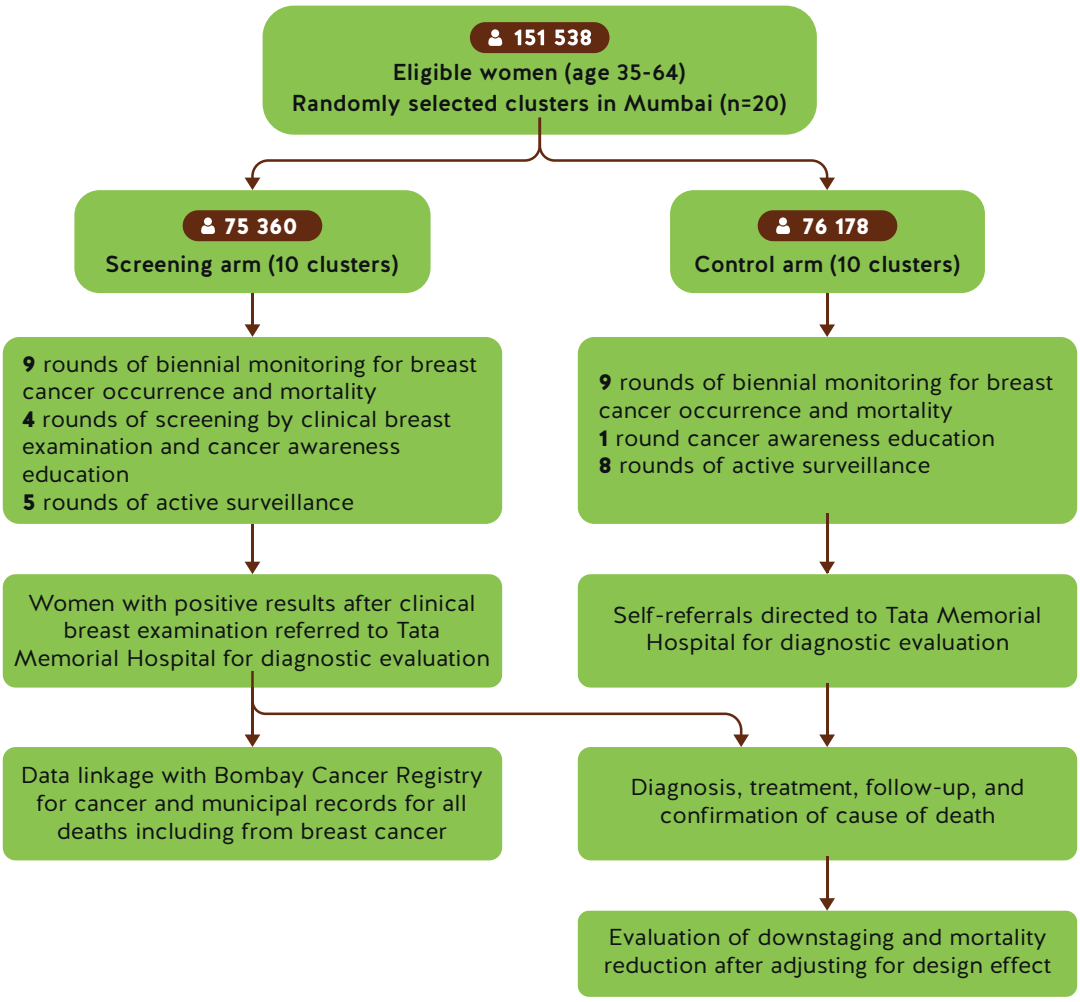
Breast cancer incidence has been increasing around the world, and more so in low- and middle-income countries, including India. According to the World Health Organisation, there were 2.3 million women diagnosed with breast cancer and 685,000 deaths globally in 2020. Further, 7.8 million women were living with breast cancer that was diagnosed in the past 5 years, making it the most prevalent cancer globally. There are more lost disability-adjusted life years (DALYs) by women to breast cancer worldwide than any other type of cancer. According to GLOBOCAN, India reported an 11.5% increase in the incidence and 13.8% increase in mortality due to breast cancer between 2008 and

2012, making it the number one cancer in Indian women. In 2016, breast cancer was the second most prevalent cancer in India accounting for 8.2% of the total cancer-related morbidity (measured as DALYs). The key reasons for these alarming increases are inadequate breast cancer screening, diagnosis of disease at an advanced stage and lack of access to the needed healthcare.

Given the salience of screening and early diagnosis in reducing breast cancer incidence and mortality from the disease in a cost-effective manner, gold standard evidence that corroborates the efficacy of screening and identifies what works in developing country contexts is important to advocate for integrating these interventions in community-based prevention programmes. A recently published paper by Mittra et al presents evidence from a large 20-year cluster randomised controlled trial in Mumbai on the efficacy of clinical breast examination (CBE) in downstaging breast cancer at diagnosis and in reducing mortality from the disease, when compared with no screening. This is instructive in designing preventive primary health systems that reduce the burden of disease from breast cancer, especially in resource-constrained settings.

The clinical trial was conducted in 20 geographically distinct clusters located in Mumbai, India, randomly allocated to 10 screening and 10 control clusters; total trial duration was 20 years, beginning recruitment in May 1998 to locking the database in March 2019. The trial enrolled and tracked 151,538 women aged 35-64 with no history of breast cancer. Women in the screening arm received four screening rounds of CBE conducted by trained female primary health workers and cancer awareness every two years, followed by five rounds of active surveillance every two years. Women in the control arm received one round of cancer awareness followed by eight rounds of active surveillance every two years. The trial design is depicted in the figure below:

Trial Flow Diagram



The authors concluded that breast cancer was detected at an earlier age in the screening group than in the control group (age 55.18 vs. age 56.50) with a significant reduction in the proportion of women with stage III or IV disease (37% vs. 47%). A non-significant ***15% reduction in breast cancer mortality was observed in the screening arm*** (20.82 deaths per 100,000 person years) versus the control arm (24.62 deaths per 100,000 person years) in the overall study population. Further, there was ***nearly 30% relative reduction in breast cancer mortality in women aged 50 and older who received CBE screening compared to the control arm*** (24.62 vs 34.68) but no significant reduction in women younger than 50 (19.53 vs 21.03).

The study validates the efficacy of CBE as a modality in detecting breast cancer early in women aged 50 and older and in reducing mortality from it without overdiagnosis, in low- and middle-income countries. Since the health workers who screened women with CBE in this trial had passed 10th grade education and could be trained to perform CBE in a minimal training period (about four weeks), it further establishes that results can be achieved in resource-constrained settings without dedicating expensive specialist resources. Therefore, the authors suggest that CBE screening by primary health workers is replicable at the community level, given adequate training of screening providers, careful monitoring, and quality of performance are assured.

Section 4: Paradigm Focus: What is Value-based healthcare (VBHC)?

Value-based healthcare has immense potential to address the needs of India's burgeoning middle class and its rising burden of chronic diseases

Value-based health care (VBHC) is conceived as a path to realising three important aspirational goals for health systems—improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care.

Providing value-based health financing to India's burgeoning middle class with a rising burden of chronic diseases requires insurers to move away from an indemnity-focused approach to hospital insurance. The need of the hour is to demonstrate bold thinking in attempting to solve for addressing comprehensive health needs of a household at all levels of care.

Value in health care is defined as the measured improvement in a patient's health outcomes for the cost of achieving that improvement. Conflation of value-based care with cost reduction, quality improvement or patient satisfaction is common, but does not capture the true ethos of value-based care, which is a paradigm focused on patient outcomes. Teisberg et al suggest a strategic framework for implementing value-based care based on a large and growing body of evidence in organisations that have successfully improved patient outcomes whilst lowering costs. It begins by identifying and understanding a set of patients whose health and circumstances create a consistent set of needs. A team then sets about designing a comprehensive solution to address those needs with a twin focus on measuring the health outcomes while continually tracking the costs of care, channelling this information to drive further improvements. By focusing on the outcomes that matter most to patients, value aligns delivery with how patients experience their health.

Strategic framework for value-based care implementation

Source: Teisberg et al 2020
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185050

Further, better health outcomes reduce spending and decrease the need for ongoing care. Essentially, ***value-based health care reduces the complexity and disease progression that drive the need for more care.*** A patient whose diabetes does not progress to kidney failure, blindness, and neuropathy is, over time, dramatically less expensive to care for than a patient whose condition continually worsens.

Value-based care versus volume-based care

The traditional payment model for healthcare service delivery has been fee-for-service (FFS), where payment is made based on the number of services provided. This model patently undermines patient interest due to the focus on quantity rather than quality. Increasingly, this model is being replaced by value-based care, where payment is outcome-based and providers are incentivised according to measurable improvements in patient health outcomes.

Comparison of fee for service (FFS) and value-based care

Parameters	Fee for service (FFS)	Value-based care
Relevance	Traditional healthcare model	New age healthcare model
Rewards	Quality-based system in which fees are paid for every service provided	Quality-based system in which fees are paid based on the outcome of the treatment
Patient centricity	Creates a conflict of interest as it provided incentives to caregivers based on a higher number of visits, procedures, tests, treatment, etc., which may not be in line with patient health and wellness.	Patients are at the centre of care; providers are incentivised to provide appropriate care and treatment designed to promote health and wellness rather than excessive treatment and profit.
Outcomes measurement	Not done defined on a regular basis. Also, there are no defined metrics.	Reimbursements are usually linked to meeting particular performance criteria.

Source: Fakkert, M, Eenennaam, F. V., & Wiersma, V. (2017). Five reasons why value-based healthcare is beneficial. HealthManagement.org, 17(1). Retrieved from https://healthmanagement.org/c/healthmanagement/issuearticle/five-reason-why-value-based-healthcare-is-beneficial ; PwC, 2019

What might VBHC in India look like?

With India's burgeoning middle-class and the rising burden of noncommunicable diseases, the pressure on out-of-pocket expenditures is likely to increase. Value-based care models that emphasise patient outcomes are fit for purpose to address this. In India, both the healthcare service provision and financing are highly fragmented. This means that there is an immense untapped potential to harness efficiencies from integration of health financing across levels of care. The country has a thriving innovation ecosystem which is testing some promising approaches by providing comprehensive answers to a household's health financing needs, moving away from a piecemeal, indemnity approach for hospital insurance that has been the mainstay of health insurance in India hitherto. These new models invest in high-value approaches such as providing annual, age-appropriate physical examinations for all family members and unlimited outpatient visits to diagnose and treat risk factors and conditions like hypertension and diabetes early, before they worsen and take a greater toll on patients' health and household finances. Private health insurers partnering with primary care providers that deliver evidence-based, high-quality care offer a potential pathway to achieving significant improvements in both patient health outcomes and impoverishment stemming from health-related expenses.

Dvara Health Finance in partnership with RxDx Healthcare (see Section 1 above), is implementing one such value-based primary care delivery model, aligning provider compensation with measurable improvements in patients' health outcomes, such as pre-agreed percent /unit reductions in systolic and diastolic blood pressure and HbA1C levels – key markers of cardio-vascular disease risk and diabetes progression. Reorienting physician compensation from

volume to value helps build clinician accountability and increases their ownership of patients' health. By embedding team-based care, risk stratification, care navigation and site-of-care optimisation in its primary care delivery, DHF is striving to develop one critical building block in the pursuit of value-based care. We look forward to partnering with insurers and hospital systems to further build this out.

DVARA Health Finance

Corporate Office:
IIT-M Research Park, Phase I, 10th Floor,
Taramani, Chennai 600 113.

E-mail: communications.health@dvara.com

Credits:

Nidhi Khurana (Content and Editing)

Sankeeth Kumar (Design)