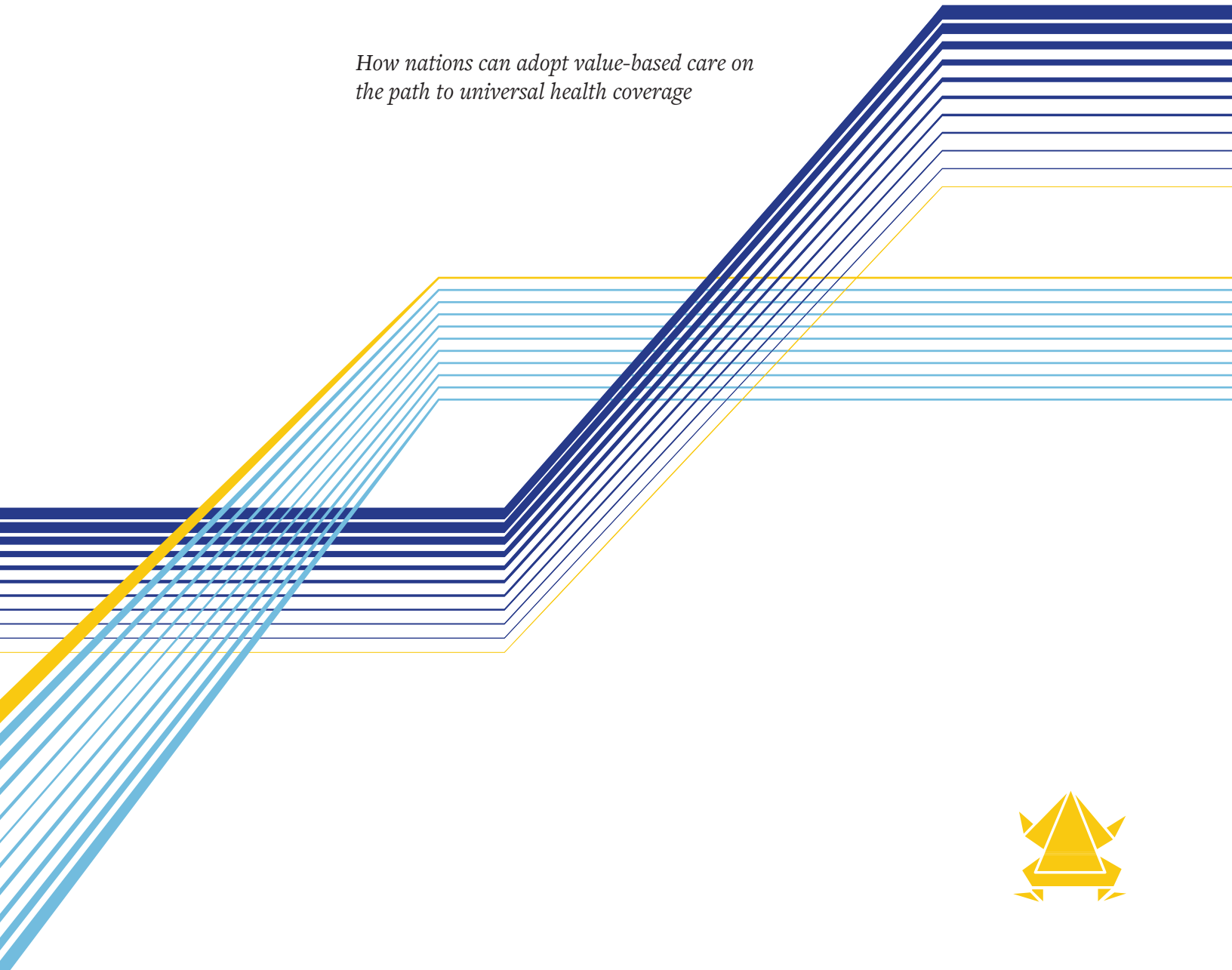
# Leapfrog *to* Value

*How nations can adopt value-based care on the path to universal health coverage*



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Jean Kagubare, Deputy Director, Integrated Delivery, Bill & Melinda Gates Foundation

Amy Pollack, Director, Maternal, Neonatal, and Child Health, Bill & Melinda Gates Foundation

Andrew Stern, Founder and CEO, Global Development Incubator

Naveen Rao, Managing Director, Health, Rockefeller Foundation

Jeff Walker, Co-Chair, Community Health Acceleration Partnership, Hosted by WHO Ambassador for Global Strategy


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David Milestone, Former Director, CII, USAID

Monisha Ashok, Market Access Advisor, CII, USAID

Danielle Dobos, Former Consultant, Dalberg

# Foreword

Underperfomance of health systems for people in low- and middle-income countries is a source of lost lives (nearly 9 million per year), lost trust, and lost investment. The Lancet Commission on High Quality Health Systems, 30 global experts and practitioners from 18 countries supported by eight national Commissions and citizen representatives, concluded that the transformation from the current low equilibrium to high quality health systems cannot be accomplished through incremental approaches. Instead structural reforms in how health care is governed, where and by whom services are provided, how providers are trained and supported, and, critically, how people's experiences, outcomes, and feedback are harnessed are key.

The Leapfrog to Value report provides useful ways forward for several of these structural changes. It notes that neither the volume- and profit-based approach pursued by private providers nor the access-first strategy embraced by the public sector responds to the health needs of patients nor maximizes population health. This is a huge waste of public and family funds. The alternative proposed is value-based care, defined here as using outcome and cost data to direct providers to improve delivery through performance-linked payment.

The report makes several important suggestions. Track outcomes that matter to people, ideally over time since cure is rarely accomplished in one visit, then organize care around the patient's preferred pathway and his or her needs. Make the data easy to understand and compare. Incorporate information about people's social environment in care plans. Revise service delivery so that all care is right-placed: provided in settings that can assure sufficient quality to actually improve health. Help providers do the right thing by sharing outcome and cost data and by arranging payment to incentivize actions in the best interest of the patient.

Value-based care requires local specificity and, once validated in the local setting, implementation at scale to truly transform systems. Some payment innovations, for example, results-based financing, have had modest impact on outcomes in high and low-income countries and consumed large shares of scarce policy attention to implement. Technology, while clearly an underused asset in 21st century health systems, cannot compensate for fundamental gaps in provider training and system competence—just as flight safety checklists cannot compensate for poorly trained pilots. The evidence for many innovative approaches remains weak or is too far removed from the ground realities of any one country. The report calls for local experimentation to fill this evidence gap.

While many questions remain, there is no question that departing from the status quo is needed to improve health and reduce waste of health care resources. And today, when governments seek to insure their populations, to meet ever expanding health needs, and to do it all without breaking the bank, the moment is ripe for a focus on value-based care. The report makes a strong case that compels innovation and action.

Margaret E. Kruk
Chair, Lancet Global Health Commission on High Quality Health Systems in the SDG Era
Associate Professor of Global Health, Harvard T.H. Chan School of Public Health

# Executive Summary

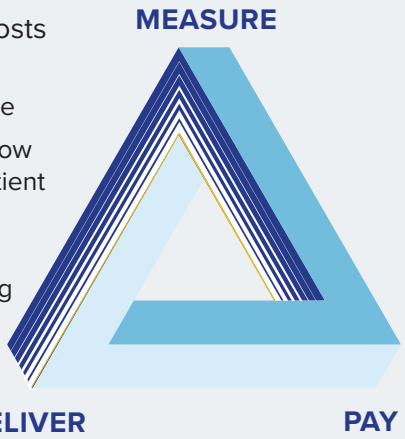
For decades, low- and middle-income countries (LMICs) viewed increasing access to healthcare as a top priority, and for good reason. Increasing access to evidence-based interventions like skilled birth attendance and immunizations saved millions of lives. Success was largely based on volume—delivering more services would lead to better outcomes. Given that priority, health systems have been designed to maximize the quantity of services delivered, to track and maximize coverage rates, and to finance inputs and outputs.

However, we are now at a turning point where these volume-based systems no longer address the greatest threats to public health. Last year, the Lancet Quality Commission[1] delivered a decisive reckoning: *quality* has eclipsed access as a driver of survival. Their analysis showed that of the mortality amenable to healthcare, 60% is due to poor quality of care, compared to 40% due to lack of access[2]. Quality of care is the key to addressing persistent mortality from maternal and child conditions and from infectious diseases. Growing health threats, including chronic conditions, also require high quality longitudinal care delivered by skilled healthcare workers. To meet the demands of this new era, health systems need to undergo structural reforms, redefining how they measure performance, deliver care, and pay providers.

Value-based care offers a compelling framework to advance the quality agenda. It puts forth best practices in measurement, delivery, and payment that maximize outcomes achieved for the resources invested. Measurement is the north star of value-based care. Instead of focusing on the volume of health services delivered, value-based measurement tracks outcomes that matter to patients and costs. Providers learn from that data and continuously improve delivery to maximize value, often shifting the focus to preventive care and incorporating social and behavioral interventions. Value-based payment reinforces this more efficient delivery by rewarding the providers who deliver the highest value care.

**MEASURE** value in terms of outcomes and costs

1. Track outcomes that matter to patients: clinical outcomes, quality of life, and patient experience
2. Aggregate data longitudinally, to understand how costs and outcomes accrue throughout the patient journey
3. Make data insightful and actionable by standardizing, benchmarking, and risk-adjusting
4. Integrate medical and non-biomedical data (social, environmental, behavioral) to understand the root causes of disease




**DELIVER** value by using data to learn and improve performance

1. Design care pathways around the patient journey
2. Establish iterative loops of learning and improvement that involve frontline providers and senior decision-makers
3. Emphasize preventive care in community and primary care settings when possible, providing access to hospital-based treatment when necessary

**PAY** for value to incentivize continued improvement

1. Provide transparency for providers into outcomes and cost data, and move away from volume-based payments that promote unnecessary care
2. Design payment models that reward the highest value care
3. Reward caring for the sickest and most remote to ensure all patients benefit from value-based care

High-income countries as diverse as the Netherlands, United States, and Japan have started to adopt value-based care over the last decade. In the United States, the Medicare Shared Savings Program has enrolled 11 million Americans through accountable care organizations (ACOs). ACOs are networks of provider and payer organizations that enter into a risk-sharing arrangement and jointly oversee the health of a population. If providers lower costs while improving outcomes and meeting quality standards, they share in the cost savings that accrue to payers. Value-based models such as ACOs align the interests of patients, providers, and payers. The Rio Grande Valley ACO, which serves a particularly vulnerable population, applied value-based care principles, and has reduced per capita costs of care by 14% while achieving best-in-class health outcomes.

Value-based care innovation is emerging in LMICs, too. Innovators featured in this report push the boundaries of what seems possible in settings with limited infrastructure and capabilities. In Kenya, for example, PharmAccess's MomCare offers a package of care for pregnant women in Nairobi. They track not only clinical outcomes like pregnancy complications, but also patient-reported outcomes such as birth experience and success with breastfeeding. These data are used to improve and incentivize provider behaviors. PharmAccess's mobile health platform, MTIBA, facilitates data capture and payments to providers. Examples like MomCare shine a light on the advantages of experimenting in systems unburdened by mature, legacy systems—the leapfrog potential of LMICs. With further experimentation and a paradigm shift toward value-based care, innovators such as these can achieve their full potential, in terms of effectiveness and scale.

Value-based care models can help address 9 of the 16 million avertable deaths per year in LMICs[3]. They can achieve this by bolstering quality initiatives, by making care more patient-centered and thereby improving demand, and by systematically steering more resources to address social, environmental, and behavioral determinants of health. Value-based care models can also optimize costs by rewarding providers for being stewards of resources. This increases utilization of appropriate preventive care and reduces the provision of unnecessary drugs and procedures. By doing so, value-based care models can help reduce the USD 250 billion per year of waste that exists in the health systems of LMICs.[4]

There are immediate opportunities for governments and donors to hasten a value-based care transformation.

**Cultivate experimentation.** Governments and donors can offer the financial and technical support to launch and scale value-based care pilots. These should focus on opportunities that are both feasible and salient. This means identifying providers who are prepared to be frontrunners of change and to tackle major public health challenges. Experiments should involve partners (e.g. a large insurance scheme) who are well-positioned to scale models that succeed, and academic partners who can create an evidence base.

**Apply a value lens.** Governments and donors should apply a value lens to near-term decisions that have long-term implications. Three categories are most important: 1) Digital health strategies should plan for data systems that can longitudinally track outcomes and costs at the patient level and can relay that data to payers and providers. 2) Investment in healthcare infrastructure

and capabilities should balance resources across care settings, recognizing that health systems with strong primary and preventive services achieve higher value than those that lean too heavily on hospital care. 3) Health sector leaders should communicate a long-term vision for value. This will help providers prepare for new payment models, build public support for policy changes, and encourage innovators to experiment with value-based care.

**Leapfrog to value.** In order to leapfrog to value, countries must scale successful pilots. Governments and donors can begin to invest now in the conditions that will enable scale: 1) Data standards on how to measure value can be established by governments or other impartial institutions. 2) Capabilities to digest and act on outcomes and cost data must be cultivated at each level of a health system, from the ministry to the frontline. 3) Evidence, generated by independent academics, is needed to inform decisions by policymakers, payers, providers, and investors

The time to seize this opportunity is now. If LMICs continue on a volume-based healthcare development path, they are at risk of establishing long-lasting structural flaws in their data systems, provider infrastructure, and payment policies. LMICs have an opportunity to embrace value-based care principles before their infrastructure becomes entrenched in volume-based approaches. Is initiating such an ambitious transformation feasible in countries early in their development journeys? Our answer is yes. This report points to a convergence of policy, technology, and social tailwinds that can be harnessed by LMICs to leapfrog their higher income peers.

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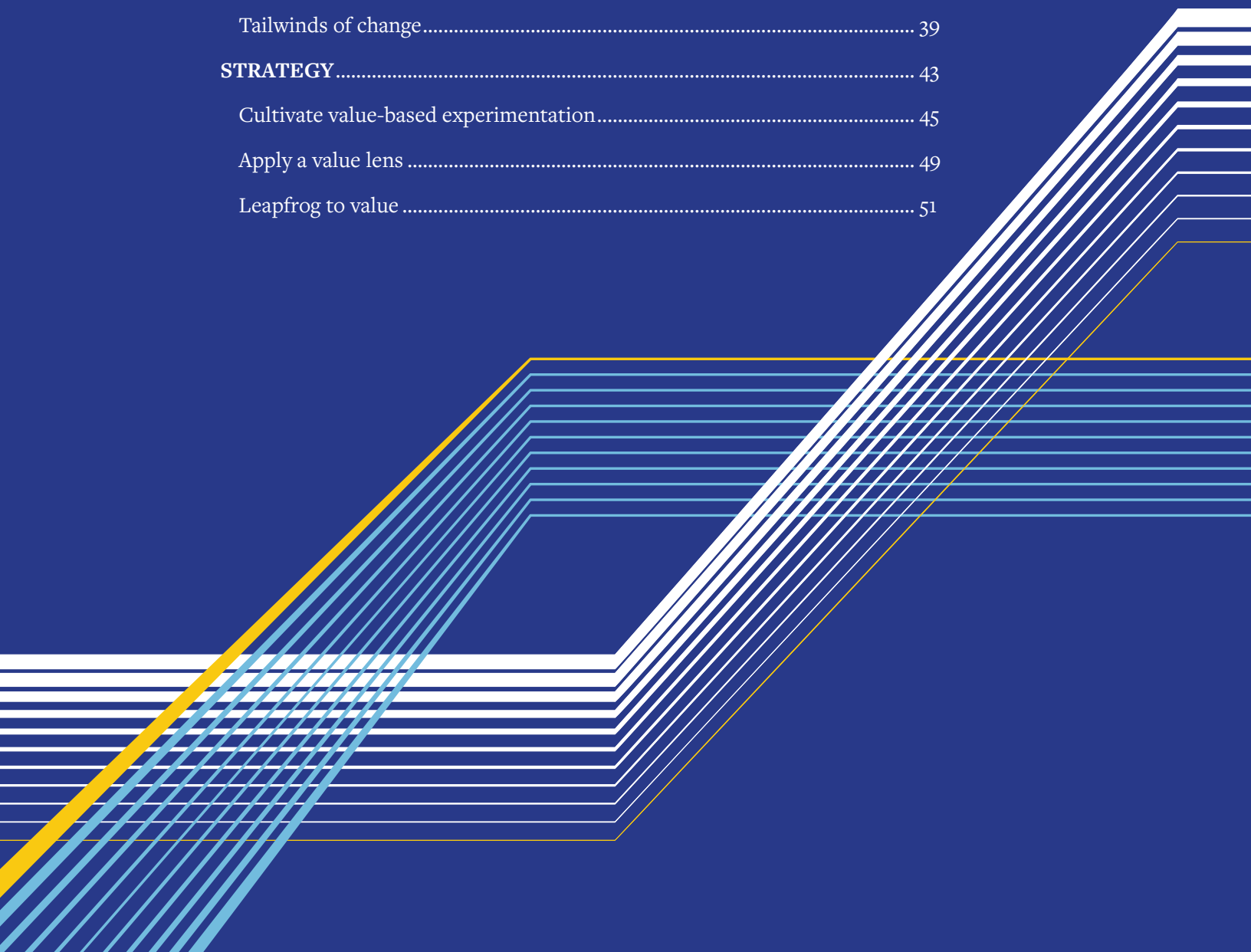


## Acronyms

| | |
|---|---|
| ACA | Affordable Care Act |
| ACO | Accountable care organization |
| AI | Artificial intelligence |
| ANC | Antenatal care |
| B2B | Business to business |
| BMI | Body mass index |
| CDA | Clinicas del Azucar |
| CHW | Community health worker |
| CMMI | Center for Medicare and Medicaid Innovation |
| DHIS | District Health Information Software |
| DRG | Diagnosis-related group |
| EHR | Electronic health record |
| ICHOM | International Consortium for Health Outcomes Measurement |
| IHME | Institute for Health Metrics and Evaluation |
| LMIC | Low- and middle-income country |
| MDG | Millennium Development Goal |
| MSSP | Medicare Shared Savings Program |
| NCD | Non-communicable disease |
| NGO | Non-governmental organization |
| NICU | Neonatal intensive care unit |
| PM-JAY | Pradhan Mantri Jan Arogya Yojana |
| PROM | Patient-reported outcome measure |
| RBF | Results-based financing |
| RGV | Rio Grande Valley |
| ROI | Return on investment |
| SDG | Sustainable Development Goal |
| TB | Tuberculosis |
| UHC | Universal Health Coverage |
| USAID | United States Agency for International Development |
| USD | United States Dollar |
| WHO | World Health Organization |

# CHALLENGE

Low- and middle-income countries are replicating structural flaws we see in high-income countries that increase health spending, without delivering proportional results

## Consequences of volume-based health systems

Health systems in low- and middle-income countries (LMICs) from India to Nigeria suffer from a crisis of distrust. Patients question the quality of government-run clinics. Newspapers expose private hospitals for peddling unnecessary procedures. These are symptoms of volume-based health systems that tend to focus on the quantity of care delivered and that have less capacity to track quality or outcomes.

### Private sector profits from volume

A volume orientation typifies the private sector which consumes half of the health spending in LMICs.[5] Households pay directly out-of-pocket for discrete clinical consultations, diagnostics, and medicines. Nearly all private providers—whether the informal drug-seller in a Lagos slum or a surgeon in a hospital in Delhi—profit when they can sell more healthcare products and services.

A volume-oriented, fee-for-service business model can be an advantage in supply-constrained health systems, increasing productivity and access. Indeed, many health system planners consider private providers an important ally in the aspiration to achieve universal health coverage. However, that same profit motive also has adverse implications by driving unnecessary, sometimes harmful care. In India, for example, the c-section rate in the private sector is three times higher than that in public facilities.[6] While consumers are not oblivious to the potential conflict of interest in the private sector business model, they are often unable to compare prices or to know whether a prescribed treatment is appropriate.

Private providers are not motivated by profit alone. Many are revered community members, provide charity care to those who can't pay, and operate in locales where the public sector has not reached. Further, patient often prefer private clinics providers over government-run ones. In many instances, even the poor opt to pay for private care when public facilities are free.[7] Yet it is evident in how the private sector measures performance that even the best intentions can be distorted. Hospital administrators, for example, seek to maximize the number of patients who present to the hospital, the percent of those patients they admit to an inpatient bed, their average length of stay as an inpatient, and the profitability per bed per night. Some hospitals set revenue targets for physicians, often putting the clinician's interests at odds with the patient's. By measuring and managing against volume-oriented performance metrics like these, private providers drive up costs without commensurate impact on health outcomes.

### Public sector has pursued an access-first strategy

A volume-orientation also characterizes public sector delivery, even in the absence of a profit motive. For most LMICs, public healthcare has been rooted in the control of infectious diseases and the provision of maternal and neonatal healthcare. In many countries, the government's role focused on extending coverage of immunizations and other critical public health interventions. While the mandate of these systems has grown with rising incomes, donor investments, and shifting epidemiological priorities, the historical health system paradigm prevails.

That access-first strategy is reflected in the metrics that public healthcare systems track. They have emphasized coverage rates: the number of children immunized; the number of deliveries conducted by a skilled birth attendant; the number of households with an insecticide treated bed-net. There's a strong basis to this strategy. Maximizing the reach of these evidence-based interventions is a practical approach

to lowering mortality and morbidity. Coupled with poverty reduction and progress in other sectors, that access-first strategy delivered reductions in child mortality in the Millennium Development Goal (MDG) era. In addition, in countries with poor data systems, tracking coverage rates is more achievable than measuring outcomes.

Yet that strategy won't fulfill the next era of global health objectives. Even if all of today's health interventions including medicines, vaccines, bed nets, and diagnostics were scaled up to 90-95% coverage globally, we would still fall short of Sustainable Development Goal (SDG) health targets.[8] Interventions don't generate projected impact, often due to low quality of care (figure 1).

FIGURE 1

**Low-value in critical care pathways**

### Primary care

Patients receive poor attention, communication, and respect from the primary care system

- Five minute visits are commonplace
- Half of all diagnoses are never communicated to patients
- Large gaps in measuring quality of primary care. Even when measured, large variation in quality across facilities

### Infectious disease: tuberculosis

Poor diagnosis and follow-up for TB has fueled growing multi-drug resistance

- Fewer than half of all TB cases are correctly diagnosed and managed
- In India, the country with the highest TB burden:
  - ~30% cases that presented to public health facilities were either not correctly diagnosed or were not given the right treatment
  - Less than one-third of providers knew the standard four-drug regimen for drug-sensitive TB

### Non-communicable disease: diabetes and hypertension

Limited attention and control worsens one of the fastest growing public health crises in LMICs

- Only ~40% of diabetes patients received lifestyle modification advice and/or medications
  - In Sub-Saharan Africa, only ~15% had been advised to exercise
- Over ~80% of all amenable cardiovascular disease deaths were due to poor quality health services

### Maternity care

Maternity care remains a leading cause of early, preventable death for women in LMICs

- Over half of all amenable maternal deaths were due to poor quality health services
- Only two in five women who delivered at a facility were examined within 1 hour after birth, a critical time period
- In Africa, health care providers performed only ~60% of the eight recommended antenatal care actions and only ~50% of nine sick-child care actions in observed visits

Access to antenatal care and skilled birth attendants has not delivered the expected impact on maternal mortality, for example, because of inadequate quality of care. More women than ever are accessing antenatal care (ANC) and delivering in facilities, yet women in LMICs receive only half of recommended actions during a typical clinic visit.[9] Increasing the quantity of services of inconsistent quality yields diminishing returns and sometimes even harm. Extending access to antibiotics has saved lives but has also led to overuse in the public and private sector. This has contributed to the rise of antibiotic resistance in infectious disease pathways such as tuberculosis (TB), where fewer than half of all cases are correctly diagnosed and managed.[10] Compounding this reality are demographic and epidemiologic trends. As populations age and are burdened with more non-communicable diseases, such as diabetes and hypertension, they require more complex services and care that are more susceptible to poor quality. The Lancet Quality Commission delivered a decisive reckoning last year: quality has eclipsed access as a driver of survival. Their analysis showed that of the mortality amenable to healthcare, 60% is due to poor quality of care, compared to 40% due to lack of access.[11]

The public sector's volume orientation has had another unintended consequence: indignity of care. One in three people report negative experiences with the public health system in terms of respect and attention from staff across LMICs.[12] Mistreatment and neglect during labor and delivery is a common story of women delivering in public facilities. While broken infrastructure and understaffing are significant obstacles to respectful and compassionate care, the indignity of care can also be explained by the reality that public providers don't systematically solicit feedback on satisfaction with care.

The common observation across public and private sector healthcare is that the current measurement, delivery, and payment systems optimize volume of care, with less systematic attention to patient-centered outcomes. This volume-orientation yields more healthcare, not necessarily better health.

**"The Lancet Quality Commission delivered a decisive reckoning last year: quality has eclipsed access as a driver of survival. Their analysis showed that of the mortality amenable to healthcare, 60% is due to poor quality of care, compared to 40% due to lack of access."**

## Risk of path dependency

Despite increasing global recognition of these challenges, the health systems of LMICs seem to be accelerating on a volume-based trajectory (figure 2). These danger signs are evident even in countries that have made impressive strides toward the goal of universal health coverage.

FIGURE 2

## Volume based challenges vary along the development journey

### Concern

**ACCESS**

**QUALITY**

**COSTS**

| LOW INCOME | LOWER MIDDLE INCOME | | UPPER MIDDLE INCOME |
|---|---|---|---|
| **Limited availability and access** to basic levels of providers, services, and infrastructure | Growing investments in public-sector health care delivery has expanded access, but **poor quality of care remains a challenge** | High-growth private sector has helped extend access, but has resulted in **low trust and inconsistent quality of care** | Progress on achieving universal health coverage (UHC) is hindered by **unsustainably high health costs** |

### Overarching challenge

### Country example

**Malawi, where infectious diseases like HIV, TB, and malaria are dominant drivers of mortality and morbidity**

- There is 1 surgeon per 100K, 1 physician per 50K, and 1 nurse per 3.5K people, well below WHO standards
- 40% of community health workers report limited supply of essential drugs
- Districts report 2-5 months of delay in transfer of funds from the central govt. for health
- Donors fund 74% of health services, often in disease specific verticals, rather than primary care

**Kenya, where the public UHC plan is aiming to reach 100% coverage by 2022:**

- 2 in 10 clinicians were not able to offer correct diagnosis of relatively common conditions such as acute diarrhea, pneumonia and diabetes
- Only ~20% of the mothers received minimally adequate quality of delivery care and only ~10% received effective ANC
- 60% of patients were not told the side effects of the drugs that they were prescribed

**India, where 60-70% access private sector providers:**

- Private providers in India perform nearly 4x the c-sections recommended by WHO guidelines or 900,000 unplanned or medically unjustified caesarean deliveries per year, driven mainly by financial incentives (a caesarean pays 55% more on average than a natural birth)
- Private providers prescribe an average of 50% additional medicines as compared to public providers, often due to financial incentives

**Indonesia, which has implemented robust UHC coverage since 2014:**

- In 2015, the claim ratio of average medical cost to average premium collection was 115%, and is projected to reach ~125% by 2019 in the absence of contribution adjustment and cost containment
- Without change, the budget will fall 25% short of costs annually by 2020




Take India, for example. In 2018 Indian Prime Minister Modi passed an ambitious agenda for health reform named Ayushman Bharat. The policy makes two commitments: universal access to free primary healthcare and, for 500 million low-income Indians, insurance for hospital care in public and private facilities. Ayushman Bharat represents a much-needed boost in government healthcare spending in a country that has underspent on healthcare for decades. However, the commitment also presents a risk. It will finance a private healthcare market that will thrive as the number of hospital admissions increases in an industry already struggling with price-gouging and over-utilization (figure 3). Commenting on this perverse incentive, former WHO Director General Brundtland said "in creating this surge in demand, India's Universal Health Coverage reforms will become unbalanced and favor expensive inpatient hospital care rather than more cost-effective primary care."[13]

> "In creating this surge in demand, India's Universal Health Coverage reforms will become unbalanced and favor expensive inpatient hospital care rather than more cost-effective primary care."
>
> *–Gro Brundtland, former WHO Director General*

While Ayushman Bharat includes provisions for both primary care and hospital coverage, it may tip an already hospital-dominant system further off balance. If Brundtland's prediction is correct and the imbalance persists, it will have an enduring impact on infrastructure (e.g. a high ratio of hospital beds to primary care capacity) and capabilities (e.g. a high ratio of specialists to generalists).

FIGURE 3

**Will the private sector in India be a threat or an ally of value?**

India's private healthcare providers have both detracted from and improved the value of the health system.

Profit-seeking private providers often inflate prices and prescribe unnecessary medicines and procedures. The Times of India and other top newspapers have reported on "price gouging" by private providers. The National Pharmaceutical Pricing Authority (NPPA) has documented profit margins of 300% - 1,500% for common medical devices. A recent study of maternal care in India reported that 40% of births in the private sector are delivered by c-section, while the WHO estimates 10% of births require the procedure.

Inappropriate care is not only costly, but also an additional health risk. Furthermore, it contributes to patients' distrust of the health system.

On the other hand, India's private healthcare providers also include a cadre of frugal innovators.

Organizations like Aravind Eye Care, Care Hospitals, LifeSpring, and Narayana are well known as value leaders. They deliver world class healthcare at low cost, and even offer free or subsidized services for the lowest income. They are early proof-points that delivering value to patients can be a winning business strategy.

Kenya has also made an ambitious commitment to expand access, with the aspiration to achieve Universal Health Coverage (UHC) by 2022. The country seeks to achieve this by expanding public delivery and by increasing the population covered by the National Hospital Insurance Fund. While pursuing this UHC agenda, government leaders recognize that coverage gains must be accompanied by improvements to quality to achieve real impact. With that in mind, the Health Ministry has launched quality initiatives including the Kenya Quality Model for Health and the National Health Inspections Checklist. This combined focus on access and quality has the potential to drive value. However, these initiatives evaluate quality based on structure and process indicators, and provide little visibility into outcomes. There is a risk that without feedback on outcomes, process adherence will drive quantity of procedures without leading to impact. Kenya has an opportunity to start taking a more outcomes-oriented approach, before it becomes too focused on volume and process.

Adhering to this development path can create long-lasting structural flaws. We have learned from the experience of high-income countries that volume-based healthcare development leads to systems that are self-perpetuating and difficult to re-purpose. Volume-based development leads to data systems that count inputs and outputs and process claims, rather than measure outcomes. It leads to facility and workforce investments that skew toward expensive hospital-based treatment. It establishes provider-oriented approach to delivery, rather than patient-centered care. This legacy infrastructure can beleaguer reform and create a risk of path dependency.

The implementation of the Affordable Care Act (ACA) in the United States sheds light on these challenges. The ACA included several initiatives designed to steer the system away from volume-based healthcare, including an agenda to strengthen primary care, which had suffered from underinvestment for decades. Previously, fee-for-service reimbursement had favored specialty procedures and hospital care. The ACA reforms sought to correct this imbalance by introducing incentives to establish accountable care organizations and medical home models which emphasize comprehensive primary care.

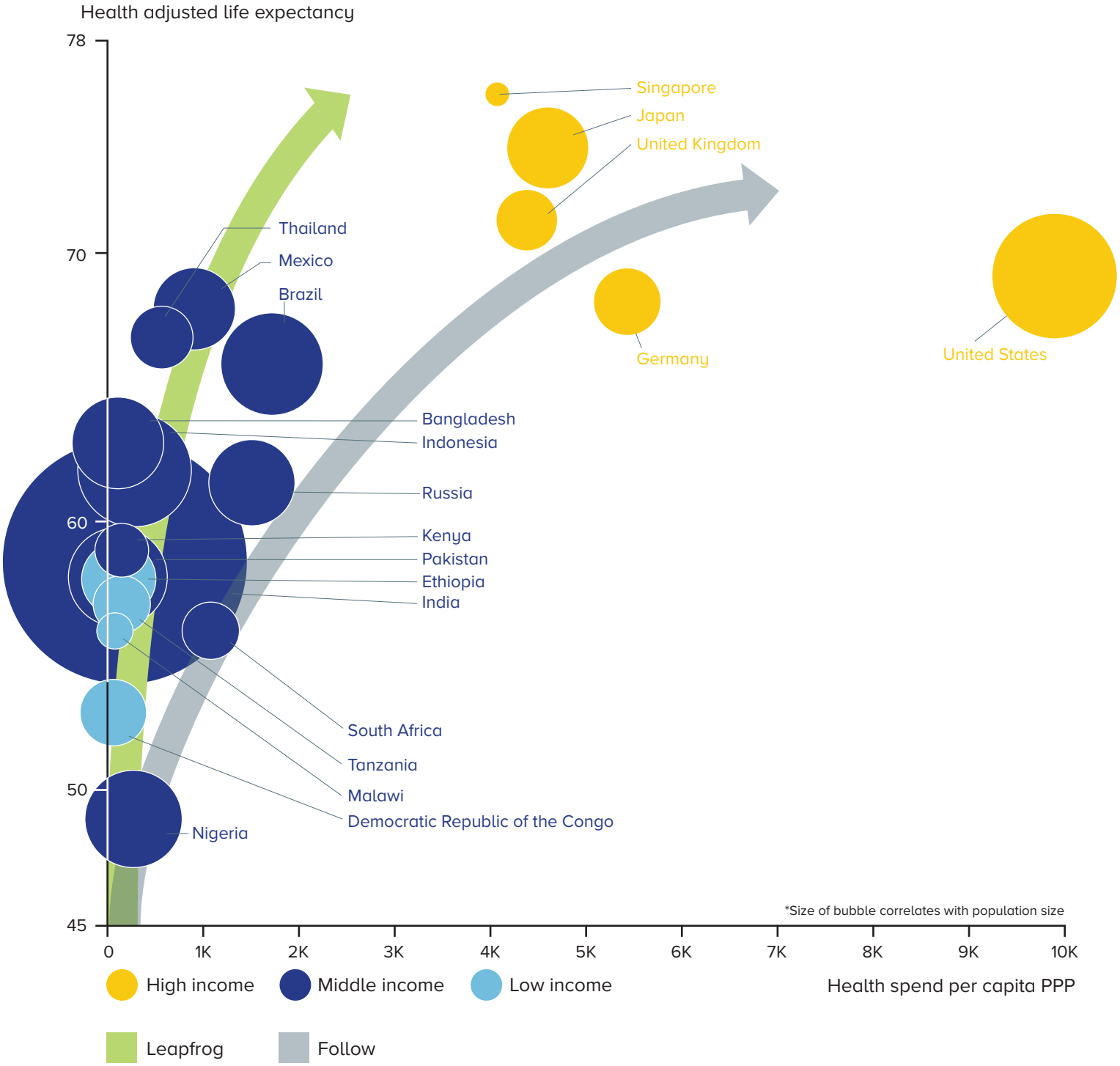
Despite increasing adoption of these new models, it has been difficult to shift entrenched provider systems toward primary care. The existing infrastructure and workforce emphasize hospital and specialty care. Surgical centers, MRI and CT equipment, and specialty hospitals all generate a supplier-induced demand, where provider capacity drives healthcare utilization, independent of actual need[14]. Legacy infrastructure has become a barrier to transforming the way care is delivered and to shifting the health system toward primary care.

America's effort to improve its health data systems presented a similar dilemma. In 2009, Congress passed the HITECH Act that allocated USD 36 billion to encourage providers to adopt electronic health record (EHR) systems and use those systems to deliver better care.[15] The complication is that the legacy EHR systems were designed with volume-based healthcare in mind, meant to smooth billing rather than to facilitate patient care. Retro-fitting these legacy data systems to meet the new value-based care paradigm has been costly—on the order of billions of dollars for large hospital systems—and has generated unprecedented resistance and burnout among clinicians. Physicians in the U.S. now spend about two hours doing computer work for every one hour spent with a patient.[16]

America's story is not unique. Mature health systems from the United Kingdom to Japan are taking steps to embrace value-based care principles but face the challenge of entrenched infrastructure. The experience of these countries poses a critical question for LMICs: Will they follow or leapfrog their high-income peers (figure 4)?

FIGURE 4

## Charting a higher-value trajectory



# OPPORTUNITY

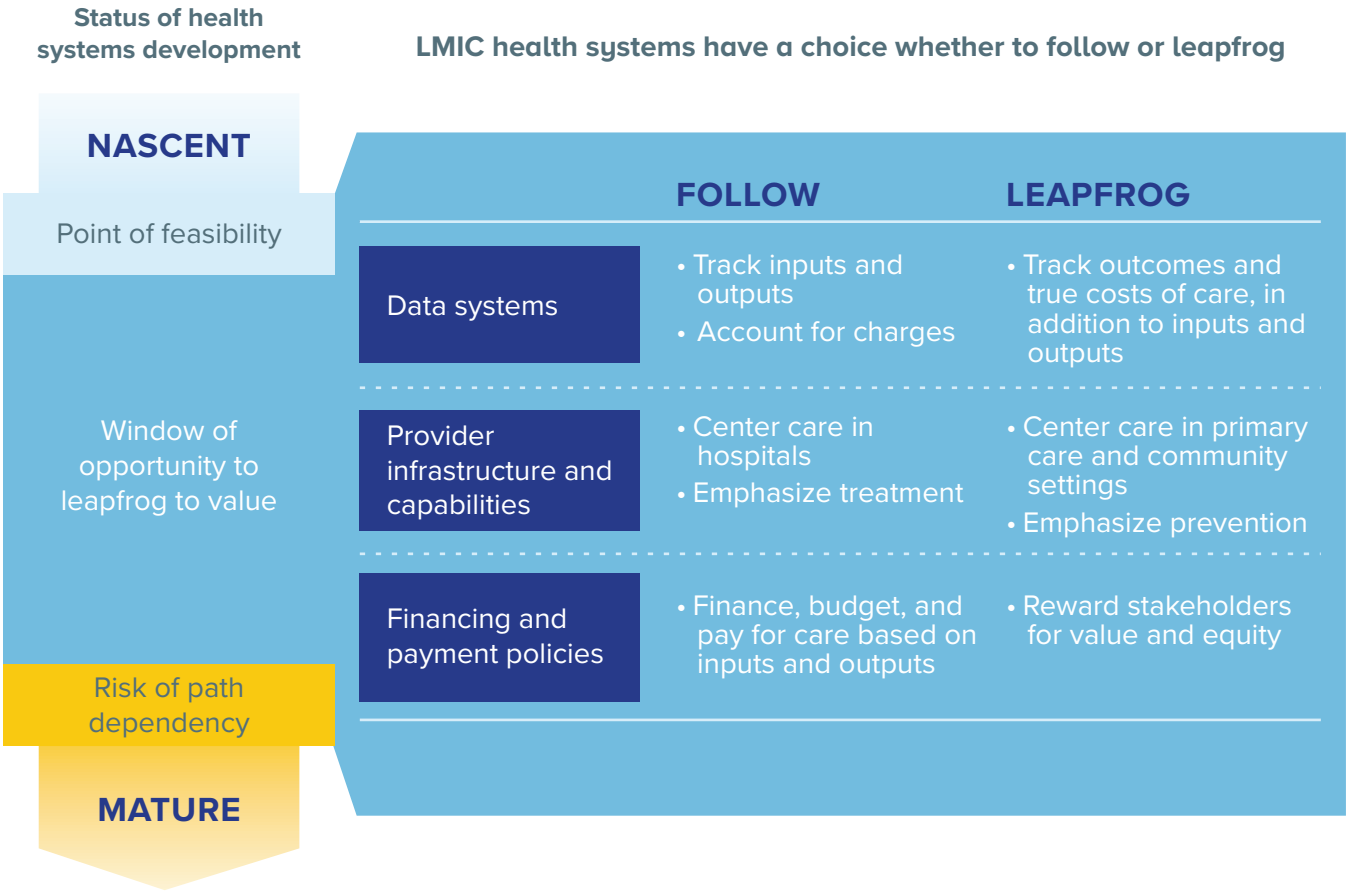
LMICs can leapfrog to
value-based care

Value-based care has emerged as a health systems framework that contrasts with the prevailing volume-based paradigm. It centers care around the patient and aligns patients, payers, and providers around the common goal of achieving the best health and wellbeing for the resources invested. Measuring outcomes and costs is the foundation of value-based care. This insight drives a cycle of continuous innovation that maximizes value.

Before LMICs become entrenched in a volume-based health infrastructure, they have a window of opportunity to chart a higher value trajectory (figure 5). This report does not put forth a detailed guidebook to achieve that aspiration. Instead it offers value as the core strategy that can guide a health system's journey. It's a path that requires continuous learning and experimentation at both macro and grassroots levels and that builds on many ongoing efforts to improve the value of health systems.

FIGURE 5

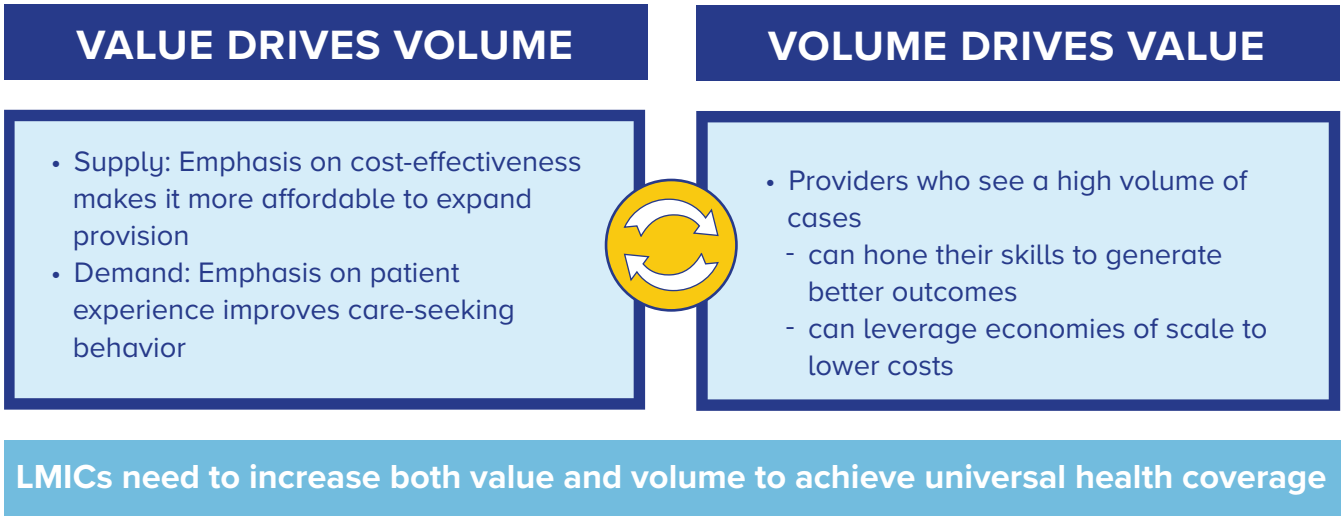
**A narrow window of opportunity**



While the principles underlying value-based care are universally applicable, what they look like in practice will vary according to a society's level of health spending, epidemiological trends, market structure, infrastructure, and capabilities available, as well as social and cultural realities. To date, much of the dialogue on value-based care has focused on high-income countries, where cost containment has been a major focus. LMICs, in contrast, must increase spending on healthcare to increase access and improve quality. To achieve their goals, LMICs will need to enhance both the volume and value of their health systems (figure 6).

FIGURE 6

**Volume and value**



This chapter first defines value-based care, outlining core principles for measuring, delivering, and paying for value, alongside examples. Second, it offers a case for transformation, quantifying the potential impact in human and economic dimensions. Third, it describes policy, technological, and societal tailwinds that, if harnessed, can support a journey toward a high value health system.

## Core principles of value-based care

A value-based health system organizes care around the patient and integrates best practices in measurement, delivery, and payment (figure 7). Data systems help providers track outcomes and costs. That insight helps providers continuously improve the value of patient-centered care pathways. And payer rewards stakeholders for generating value for the patients.

FIGURE 7

**Best practices in value-based care**

Glimmers of these best practices abound in LMICs. Value-spirited innovators push the boundaries of what seems possible in settings with limited infrastructure and capabilities. And they shine a light on the advantages of experimenting in systems unburdened by mature, legacy systems—the leapfrog potential of LMICs.

Along with this optimism, the examples also expose barriers to achieve full-fledged value-based health systems, where value-based measurement, delivery, and payment are linked. They illustrate how the current health system paradigm hinders these models from achieving their full potential, in terms of effectiveness and scale.

Dozens of experts contributed to our definition of the core principles in value-based care, and to an innovation scan across LMICs. We highlight innovators that span the public and private sector, emphasize LMICs, and grapple with the biggest public health priorities, including primary care, maternal and neonatal care, TB, and non-communicable diseases (NCDs). These innovations are transforming every aspect of measurement, delivery, and payment.

## MEASURE

1. Track outcomes that matter to patients: clinical outcomes, quality of life, and patient experience
2. Aggregate data longitudinally, to understand how costs and outcomes accrue throughout the patient journey
3. Make data insightful and actionable by standardizing, benchmarking, and risk-adjusting
4. Integrate medical and non-biomedical data (social, environmental, behavioral) to understand the root causes of disease

What a health system chooses to measure is its north star. It guides how it learns, improves, and innovates. It is the basis for how success is defined and how resources flow. If the goal is to maximize value—outcomes achieved for resources spent—measuring value is imperative.

## 1 Track outcomes that matter to patients: clinical outcomes, quality of life, and patient experience

When LMICs track outcomes, they typically focus on measures of mortality and morbidity (e.g., maternal and child survival, rates of preterm birth) at the population level. These are fundamental public health measures. However, they don't fully represent the outcomes that matter to patients. For providers to understand these, data systems must record information that goes beyond labs, radiologic imaging, and clinical findings. They must also ask patients directly about their health and wellbeing— sometimes called patient-reported outcome measures (PROMs). A patient's subjective sense of wellbeing, functionality, or quality of life are often what motivated them to seek care in the first place. For example, patients undergoing cataract surgery typically present to healthcare providers with trouble carrying out day-to-day tasks. They're not only interested in clinical outcomes (surgical complication rates and refractive error), they're also interested in their visual functionality.

In addition, there is an opportunity to routinely measure patient experience of care which is critical to building society's trust in healthcare providers. Numerous studies have shown that patients are more likely to return for follow-up treatment, form a lasting relationship with their providers, and achieve better health outcomes if they are treated with warmth and compassion.[17]

Organizations such as the International Consortium for Health Outcomes Measurement (ICHOM) are advocating for greater use of patient-centered outcomes and standardizing their measurement. For select care pathways, they have developed standard sets of metrics that include indicators of survival, morbidity, patient experience with care, and patient-reported health and wellbeing. ICHOM has focused its efforts on high-income countries, but a handful of providers are beginning to adapt their standard sets to LMICs.

### Innovator example:

PharmAccess FOUNDATION

PharmAccess operates a suite of technology-enabled solutions that improve access and quality of care across Africa. One of their initiatives is MomCare, an innovative approach to delivering quality care to pregnant women in Kenya. MomCare incorporates three dimensions of care: a) financing for a package of maternal care, b) quality standards for its network of providers, and c) actionable data to improve and incentivize patient and provider behaviors. Women register and pay for the program through the MTIBA platform (developed by PharmAccess in partnership with the Kenyan technology company CarePay). MTIBA can accept funds from the patient or directly through National Hospital Insurance Fund, the government's insurance program. The MomCare package is delivered by providers who are supported by PharmAccess's SafeCare quality program.

MomCare has adapted ICHOM's standard set for maternity care to the Kenyan context. The patients—primarily pregnant women in the informal settlements surrounding Nairobi—report measures such as birth experience, success with breastfeeding, and confidence in their new role as a mother. It is the first time many of these women have been asked about their subjective wellbeing in the health system before. Providers currently capture this data via SMS and patient surveys, but if successful, patient reporting could become an automated feature in the MTiba mobile platform. Patients would then contribute to their own health history by self-reporting outcomes. With over 4 million MTiba subscribers to date, it could become one of the first examples of PROMs being captured at scale in any country, high- or low-income.[18]

## 2 Aggregate data longitudinally, to understand how costs and outcomes accrue throughout the patient journey

Today's data is organized around the provider rather than the patient. We currently track costs by adding up budget categories: labor, equipment, facilities, drugs, and devices. We track delivery performance at the provider-level, too, such as number of visits completed, babies delivered, beds occupied. These data points are snapshots in time, most often aggregated in facility registers and health management information systems. They provide us operational insight into how to generate healthcare services but provide little insight into how resources deployed generate outcomes for patients.

Value-based care recognizes that a patient-centered approach to measurement must be longitudinal, tracking how value is generated for the patient across the care continuum. Aggregating outcome and cost data in this way enables providers to discover ways to optimize how and when care is provided along a care pathway. For example, it may reveal how allocating additional resources early in pregnancy to accurately assess risk factors may lead to better outcomes and lower costs for mothers and newborns.

### Innovator example:

watsi

Watsi, Y-Combinator's first nonprofit enterprise, is at the frontier of longitudinal cost capture in East Africa with its platform, Meso. Meso has a suite of mobile and web applications that facilitate end-to-end administration of health insurance enrollment, patient identification, claims submission, claims processing, and reporting.

Using Meso, a new member can enroll within minutes and receive a health insurance card that follows patients along every step in the healthcare journey. When the member visits a health facility, her card is scanned using Meso's mobile application, which brings up her medical record. The same application is used to document labs, drugs, and services that she receives, which can be submitted by the health facility and reviewed by the health insurance administrator in nearly real time.

Meso surfaces data to administrators at all levels of the health insurance system. At the facility and district levels, providers can use Meso to track expecting mothers from first visit to delivery, as well as referrals to other levels of the health system. By following patients across their patient journey, Meso is able to track cost data longitudinally.[19]

## 3 Make data insightful and actionable by standardizing, benchmarking, and risk-adjusting

Health systems that embrace value-based measurement principles will begin to track data they haven't tracked before. To draw insight from this new data and to use it to inform decision-making, they must standardize, benchmark, and risk-adjust it.

Standardization of value measurement is the first step to comparing performance across providers and payers. This should be done at the level of a care pathway, defining a set of patient-centered outcomes and a costing method for each pathway. ICHOM has defined "standard sets" of metrics for several care pathways, primarily with high-income countries in mind. There is an opportunity to build on that work and begin defining standard sets for the highest priority care pathways in LMICs. Once measurement standards have been set, health systems can begin to benchmark performance, comparing providers to their own historical baseline and to high-performing peers.

Provider performance can be heavily influenced by the makeup of their patients, making it difficult to fairly compare providers. Without accounting for this variation, providers may be inclined to cherry-pick patients who are more likely to have good outcomes and to avoid more vulnerable patients. Strong value-based health systems prevent that gamesmanship by risk-adjusting data according to common risk factors. For example, the expected outcomes and costs for pregnancies of women who have high blood pressure or HIV would be different for a woman without those risk factors. Risk adjustment can be achieved either by defining separate patient segments (e.g. separating high-risk pregnancies) or by developing algorithms to adjust provider performance based on the risk profile of their patient panels.

### Innovator example:

MEDIC MOBILE™

Medic Mobile is an m-health platform that offers the Community Health Toolkit, a set of tools that make data meaningful for health systems. Community health workers (CHWs) use the app to track patients they treat, and supervisors use it to analyze the aggregated data across a group of CHWs.

Medical Mobile configures the toolkit for each health system. It collaborates with stakeholders to standardize metrics that track coverage, speed, quality, and equity of services provided. Community health workers contribute to the approach using principles of human-centered design, strengthening the link between data collection and data use. CHWs report metrics through SMS or the app interface. Supervisors can review this data by individual health worker, or in aggregate. The dashboard compares this data against historical averages and high-performing peers, and can stratify the data by different risk groups. This enables supervisors to anticipate outbreaks, support overburdened health workers, and identify and resolve problems in the care model.

## 4 Integrate medical and non-biomedical data (social, environmental, behavioral) to understand the root causes of disease

A health system that prioritizes value can surface the highest value interventions, even if those interventions fall outside of the health system's traditional remit. Providers typically see social, environmental, and behavioral determinants of health as factors outside of their control. Yet they are responsible for 60% of health outcomes.[20] Weak social ties predict poor mental health and greater susceptibility to disease. Environmental concerns, such as exposure to secondhand smoke, can lead to asthma. Poor diet and exercise habits are early predictors of diabetes, hypertension, and many other conditions associated with metabolic syndrome. Data systems focused on value help providers identify the biggest drivers of outcomes. That insight is the first step in prompting healthcare providers to collaborate with other sectors to implement social, behavioral, and environmental interventions alongside biomedical care.

### Innovator example:

Clínicas del Azúcar (CDA) is a "one-stop shop" for diabetes care in Mexico that emphasizes the importance of lifestyle interventions to improve outcomes. CDA follows in the footsteps of other frugal innovators in healthcare to offer low-cost annual diabetes management plans for its primarily low-income client base.

When a CDA patient enters the clinic's doors, he passes through a series of stations designed to meet his holistic health needs. After capturing basic demographic data at the front desk, the nurse checks his blood sugar levels and examines his feet for signs of nerve damage. His A1c comes back at 6% – his blood sugar is controlled. He's been walking two times a day and cut out sugary drinks, in line with the personalized wellness plan he and a nutritionist wrote together. Instead of seeing the physician, he moves on to the nutritionist, who congratulates him on the progress and lets him know the discounts he has received on membership fees for the hard work. He walks across the room to the psychologist station next, where he describes how hard it is to change his habits amid the pressure from his wife and children. The counselor urges him to bring in his family next time for a group session. He ends his visit at the retail pharmacy on-site with a prescription for metformin.

The visit takes less than two hours, and along the way nurses have captured data that will inform improvements in future treatment. Over the course of the year, CDA captures more than 2,000 variables per patient that influence both treatment decisions and cost analyses. They estimate that each patient who joins the clinic lowers his or her chance of developing diabetes-related complications by 50%, demonstrating the value of looking beyond biomedical interventions, to address social and behavioral determinants of health.[21]

## DELIVER

1. Design care pathways around the patient journey
2. Establish iterative loops of learning and improvement that involve frontline providers and senior decision-makers
3. Emphasize preventive care in community and primary care settings when possible, providing access to hospital-based treatment when necessary

Value-based delivery is built from patient-centered care pathways. For each pathway, providers routinely review value-based data and use that insight to continuously improve care. The end result is a well-balanced provider system, one that is as capable of treating the sick as keeping the population healthy.

### 1 Design care pathways around the patient journey

Current management frameworks in health face two challenges. First, care is supply-driven, organized around provider activities rather than around patient needs. Second, there is a focus on productivity and process compliance that often compromises learning and innovation. Value-based delivery offers an alternate organizational strategy for delivery, organizing care around patient-centered clinical pathways and equipping providers with the data insight, capabilities, and flexibility to optimize the value of those pathways.

Why should care be organized into pathways around the patient? Today, providers are rarely responsible for accompanying a patient on their full care journey. One provider may offer antenatal care for an expecting mother, another may be responsible for delivery, and another may be involved if a complication occurs. Yet health outcomes are generated across that full patient journey. So, when providers don't participate in the full care pathway, they aren't able to see how their effort contributes to overall outcomes. For example, ANC nurses may not screen for maternal syphilis, because they don't see the impact their inaction has on stillbirth and congenital infection. Furthermore, patient experience suffers when they have to piece together components of healthcare for themselves.

In value-based delivery, care is organized around a patient's condition. Clinical and non-clinical personnel work together to generate outcomes for patients as efficiently as possible. By integrating care along the full patient journey, the provider can see and act on opportunities to intervene with prevention earlier or learn from complications that may happen after a procedure.

**Innovator Example:**

Jacaranda Maternity is a low-cost, private maternity hospital in Kenya that has designed patient-centered care pathways for expecting mothers. When an expecting mother completes her first ANC visit, she receives SMS messages that direct her to general maternal education and reminds her of follow-up appointments. She returns to the clinic for each ANC visit, picks up medications at the pharmacy on-site, and can call a support hotline with any questions. She delivers with the Jacaranda nursing team who maintain continuity of care with a team-based approach and medical records that track the mother's journey. She returns with her newborn for early childhood vaccinations and postpartum screening. By following patients through the full cycle of care, they are able to provide better continuity of care to individual patients. Furthermore, having that longitudinal involvement has encouraged the clinical team to strengthen preventive care early in the maternal care pathway that has a payoff later in pregnancy.

Jacaranda provides this type of patient-centered, integrated care at a price point below most private competitors and with a 60% lower complication rate than peer hospitals. Other private hospitals in the local market have lowered prices to remain competitive with Jacaranda's costs. It is an example of the ripple effects of high value providers. Now Jacaranda is working on a round of investment to expand to two more hospitals.

## 2 Establish iterative loops of learning and improvement that involve frontline providers and senior decision-makers

Today, care models are designed centrally and then pushed out to the frontline. Providers are meant to follow diagnostic and treatment guidelines. Facilities are meant to be staffed and equipped in a standardized way. Payment systems reinforce this, dictating requirements for specific billing codes, outside of which reimbursement wouldn't occur. The advantage of such consistency is that it has the potential to improve quality by reducing variation, especially where capabilities are weak.

Yet single-minded focus on consistency has some downside. Adherence to protocol creates rigidity. Centrally designed guidelines are blind to important variations in disease and wellness. Social, behavioral, and environmental factors vary dramatically from community to community, person to person, and can't be fully anticipated by high-level clinical experts.

Value-based delivery merges these approaches in a practice of adaptive management, establishing feedback loops of performance that engage frontline providers. Providers routinely review data on value to refine and adapt the standard of care to local contexts. In this approach, providers have the responsibility and autonomy to continuously learn and innovate. When providers evaluate the value of care pathways, they refine health interventions and deliver them at the right setting and the appropriate point in the care journey. This emphasis on learning and flexibility can unlock more delivery innovation, leading to better outcomes and lower costs.

### Innovator example:

Muso, a health systems design organization, has piloted a 360° Supervision model for Community Health Workers in Mali, in partnership with Medic Mobile. 360° Supervision deploys dedicated supervisors and uses dashboards to assess the coverage, quality, and speed of frontline health workers. Muso CHWs use a digital app to track patients they see in a catchment area. The dashboard calculates:

- Coverage rates (percentage of population reached in given catchment area)
- Quality of services provided (percentage of patient care visits without any protocol errors made according to the decision support tool)
- Speed of diagnosis and treatment (number and percentage of patients reached within 24 hours of symptom onset)

Supervisors triangulate the dashboard results by shadowing CHWs and conducting follow-up home visits to understand patient satisfaction with care. They then meet with health workers one-on-one to discuss the results and complete the feedback loop. Muso studied the results of the model via randomized-controlled trial and found that supervision with the dashboard significantly increased coverage without sacrificing either the quality or speed of care. The study also documented significant increases in quantity, speed, and quality of care by CHWs while they were receiving 360° Supervision with real-time feedback and personal action plans for improvement from a dedicated supervisor. The government of Mali plans to implement the 360° Supervision model for all CHWs nationwide. If successful, Mali's system could become a model for real-time feedback and improvement at scale.[22]

## 3 Emphasize preventive care in community and primary care settings when possible, providing access to hospital-based treatment when necessary

Today our health systems struggle from a self-perpetuating dilemma. Patients in many LMICs prefer to seek care in hospitals because they perceive these hospitals to be higher quality.[23] Healthcare workers prefer to work in hospitals because they are often centrally located and have higher pay. Primary care then suffers on both the supply and demand sides, and hospitals often end up overwhelmed by utilization. However, primary care is better distributed, so patients may seek care there when the problem is urgent, even when a hospital is better equipped to address an acute need. This mismatch in care-seeking behavior—low acuity in hospitals and high acuity in primary care clinics—leads to avertable mortality and morbidity and higher costs.

Value-based health systems center care where patients live—in their own homes and communities—but establish care pathways that also span primary, secondary, and tertiary settings. Data on value helps providers continually optimize the care setting of each step in a care pathway. Given 90% of a patient's health needs can be met in well-functioning primary care settings, providers can push some care from hospitals into the primary care setting.[24] Or it may inspire innovation that takes advantage of mobile technologies, enabling patients to better engage in prevention and self-management of diseases, and to seek care at the appropriate level facility.

### Innovator example:

SEVAMOB

Sevamob is transforming the clinical model by challenging the role of the brick and mortar clinic in India, South Africa, and the United States. It uses a combination of pop-up clinics, artificial intelligence (AI) enabled triage, point of care diagnostics, and specialist telehealth services to deliver a range of primary care services.

Sevamob's model is B2B. Its customers include employers, schools, NGOs, corporates, and local government that purchase care for a population. Care covers general health, vision, dental, nutrition, and infectious disease. Depending on the outcomes specified in the contract, the patients receive weekly, monthly, or quarterly pop-up clinic visits and access to telehealth between onsite visits.

On clinic day, a Sevamob team (including a general physician, nurse, and data collector) arrives on site with tablet computers, rapid diagnostic kits, microscopes, and other equipment on hand. The data collector onboards the patient and captures demographic information while the nurse uses Sevamob's AI-based point-of-care diagnostics. The physician performs the consultation and writes prescriptions or dispenses generic medicines for common diseases. Between the pop-up clinic visits, patients have access to phone-, web- or video-based telehealth. Sevamob and its payer clients use online dashboards to track performance.

Sevamob has committed to improving health outcomes via these interventions by reducing malnutrition, infectious disease, dental complications, and vision defects in high-risk groups. The success of its model lies in its ability to triage patients in the community setting, and to deliver early and ongoing preventative care. By reimagining the setting of care, Sevamob is improving access and quality to primary care services, while reducing costs.[25]

## PAY

1. Provide transparency for providers into outcomes and cost data, and move away from volume-based payments that promote unnecessary care
2. Design payment models that reward the highest value care
3. Reward caring for the sickest and most remote to ensure all patients benefit from value-based care

How resources flow in a system can act as the invisible hand that shapes how and where care is delivered, how the health sector recruits talent, and which facilities and infrastructure attract investment. Given these far-reaching implications, it is important payment design reflects a health system's priorities.

Value-based payments present an opportunity to shift away from prevailing resourcing models in the private and public sectors. Fee-for-service payments, which dominate the private sector and some new public insurance schemes, can be useful in generating productivity. However, they can also induce providers to deliver unnecessary care that drives costs and can even be harmful. Budgeting systems in the public sector, while simple to operationalize, typically don't encourage resource stewardship and performance accountability.

Health systems have begun to adopt a variety of strategic purchasing mechanisms to address those challenges.[26] These mechanisms can determine what services are purchased, from which providers. And they can use financial incentives to encourage providers to deliver high quality care and to prompt patients to seek care in a cost-effective way. Results-based financing and pay-for-performance models draw on these approaches. Value-based care has the potential to add to the arsenal of strategic purchasing models that more tightly align payments with the objectives of achieving outcomes and efficiency.

There is no single payment model to increase value. Like delivery models, payment models require ongoing experimentation and adaptation to fit local contexts. That experimentation can help systems understand how payment models influence productivity, quality of care, cost efficiency, and innovation. So instead of asserting a single payment framework, it is instead useful to heed a few principles that can guide experimentation.

## 1 Provide transparency for providers into outcomes and cost data, and move away from volume-based payments that promote unnecessary care

Providers have an intrinsic will to serve patients well. Transparency into outcomes and costs, and visibility into how performance varies among peers, can tap into providers' sense of duty and motivate them to optimize their behavior. Transparency into value is also a prerequisite to establishing value-based payment models. Before providers are willing to accept value-based payments for their services, they need to understand their baseline performance as well as understand how outcomes and costs are calculated.

The next step is to reduce perverse volume-based incentives by bundling care into packages. These include episode payments (e.g. before, during, and after a surgery), diagnosis-related group payments (i.e. a single charge for a hospital stay for a specific diagnosis), subscription models for primary care, service guarantees that cover the cost of any complications, and capitation. It's important to recognize that payment transformation doesn't need to start with payers. In many markets, private providers have already begun to bundle care and offer innovative payment options directly to consumers.

### Innovator example:

Swasth India Medical Centers, a nonprofit health system in Mumbai, strives to offer fair and transparent pricing across its 25 primary care centers. Committed to 'health and joy' for its primarily low-income customer base, Swasth takes several steps to ensure care remains cost-effective.

Providers who work for the health system agree to receive a set salary and forego kickback arrangements for referrals and prescriptions. This removes incentives to deliver unnecessary procedures and medications. Moreover, Swasth offers a clear pricing structure for procedures to patients. For some services, prices include service guarantees. If a patient experiences a complication following a dental procedure, for example, Swasth provides corrective care at no extra cost. This redistributes financial risk following a procedure from patient to Swasth and realigns incentive structures to focus on high-quality care.[27]

## 2 Design payment models that reward the highest value care

Paying for value aligns the provider's interests with the patient's and can drive competition and innovation. Value-based payments motivate providers to adopt the highest value interventions. This may involve delivering care in new settings, task-shifting from nurses to health assistants, or integrating ways to influence behavioral, social, and environmental factors which are often more cost-effective than biomedical interventions.

There are many ways to structure value-based payments. They may be bundled payments with bonuses for high quality. They may be capitation payments for primary care, with shared savings for reductions in hospital spending. Whatever the form, it's important that new payment models carefully account for care quality and intrinsic provider motivation. Psychologists and behavioral scientists point out that over-reliance on financial incentives can erode the intrinsic altruism of providers and compromise care quality. Therefore, it is important to couple payment transformation with a cultural movement that cultivates the compassion that drew providers to the profession.

### Innovator example:

Thailand was one of the first middle-income countries to expand health coverage to all citizens. Its experience with payment transformation illustrates the complexity that goes into designing appropriate incentive structures.

As early as 2001, the country adopted a capitated system to finance primary care and diagnosis related group (DRG) reimbursement for hospital care. The shift was a success from patients' and payers' perspectives. Health coverage improved greatly, with nearly 100% of the population receiving coverage for essential services. Costs for the average citizen also dropped, catastrophic health spending more than halved, alleviating poverty for an estimated one million citizens, and overall health expenditure remained relatively constant. By most measures, Thailand was well on its way to high-value care.

However, providers were increasingly dissatisfied, forcing the health system to reexamine its payment scheme regarding provider motivation, productivity, and cost efficiency. Private primary care providers were overburdened by the demand for health services at below-cost capitation, causing them to compromise on quality, or pass patients on to higher levels of care. The health ministry increased capitation rates and implemented a provider pay-for-performance program to reward quality to respond to these challenges. It is still experimenting with payment structures today. Thailand's experience shows how a commitment to learning and experimentation with payment models can lead to continuous improvement. [28]

## 3 Reward caring for the sickest and most remote to ensure all patients benefit from value-based care

Paying for outcomes presents risks that are important to monitor and mitigate. The primary risk is that outcomes-based payment can lead providers to cherry-pick healthier patient segments who are less likely to have complications and higher costs. Therefore, it's critical for value-based payment to reward providers for caring for sicker, more vulnerable populations. One way to do this is to adjust payments according to patients' risk profile. For example, a maternal provider who cares for many high-risk pregnancies should be rewarded at a higher rate. Another method for ensuring the most vulnerable patients are served is to exclude outlier patients from performance scores. For example, it may not be fair to count the full NICU costs of caring for an unusually sick newborn against the child's provider. Value-based payment models often have exclusion criteria that help address these outlier cases.

### Innovator example:

ALBERT EINSTEIN HOSPITAL ISRAELITA

Einstein Hospital in Brazil has designed a value-based care system that works to incentivize care for high-risk groups. Einstein is testing a risk-adjusted bundled payment model for several conditions, beginning with diabetes and coronary heart disease, that spans primary and secondary care.

These payments are the product of a three-year pilot which tracked patient health outcomes and costs longitudinally across different episodes of care. Patients were sorted into three risk groups based on demographic variables correlated with overall health status (e.g., income, education level, BMI, history of preexisting conditions). Costs were calculated by risk group, allowing the health system to calibrate its bundled payments based on patients' personal risk profiles and reimburse provides appropriately for sicker patients' more intensive healthcare needs.[29]

## Integrating measurement, delivery, and payment best practices

Value-based care is a health systems framework rather than a set of discrete interventions to improve measurement, delivery, and payment. The best practices are highly interdependent. Value-based measurement is a prerequisite to value-based delivery and payment, providing data insight that informs how we deliver and pay for care. When instituted alone, measurement reforms are rejected by frontline providers, because they have no clear application, leading to poor quality data that may go unused. Efforts to improve the quality and effectiveness of delivery are more likely to stick when they're reinforced by supporting payment systems. And payment systems are most likely to succeed when providers have the capabilities and culture to continually improve. In value-based health systems, all three core principles of measurement, delivery, and payment work in tandem to generate value for patients.

### Innovator Example:

The United States has experimented with accountable care organizations (ACOs) as one example of value-based care that integrates measurement, delivery, and payment best practices. ACOs are networks of provider and payer organizations that enter into a risk-sharing arrangement. Providers agree to oversee the health of a given population. If they lower costs while maintaining quality, they share in the cost savings that accrue to insurers. In this manner ACOs align provider and payer interests. Through the Medicare Shared Savings Program (MSSP), roughly 11 million Americans receive care through an ACO model.

Some ACOs have seen great success using the core principles of value-based care. The Rio Grande Valley (RGV) ACO is one such example that faces many of the same challenges common to patient populations in LMICs. Located on the border of Texas and Mexico, RGV oversees primarily low-income and rural enrollees with a high disease burden and high cost of care (~40% above national average).

RGV's approach to diabetes care illustrates how it employs value-based care best practices. On intake, RGV identifies patients who have diabetes—roughly 45% of their membership. Physicians proactively engage these patients to enroll them into a diabetes care management. Once enrolled, RGV tracks patient-centered outcomes in a diabetes registry and regularly solicits patient feedback. Each of the 13 practices in the ACO are able to visualize its performance on outcomes relative to peers. This data informs a monthly Quality Assessment Process Improvement meeting which provides an opportunity for interdisciplinary teams to contribute to delivery improvements. In addition, high-performing clinicians routinely coach new staff.

For ACOs that achieve a threshold performance on quality metrics, MSSP shares cost savings relative to a baseline performance. To motivate staff, RGV distributes some of its shared savings in the form of performance-based pay. This system of financial incentives reinforces RGV's value-based care approach.

RGV's performance has reduced per capita costs of care by 14% primarily through reductions in hospital utilization, all while achieving top-notch health outcomes for a particularly underserved population in the United States.[30]

## Case for transformation

The aspiration of value-based care is to optimize both sides of the value equation—outcomes and costs (figure 8). Health systems that embrace value-based care have the potential to prevent 60% of the 16 million avertable deaths each year—9 million lives. They can also reduce waste and inefficiencies in the health sector that amount to USD 250 billion per year. Further experimentation and research are required to determine how much of this opportunity can be realistically captured.

FIGURE 8

**The equation for value**

$$\text{VALUE} = \frac{\text{OUTCOMES}}{\text{COSTS}}$$

| IMPACT › | Health Outcomes | Economic Costs |
|---|---|---|
| LEVERS › | • Improve care quality<br>• Improve behavioral determinants of health<br>• Improve demand for high value care | • Right care, right place, right time<br>• Frugal innovation<br>• Operational efficiency |

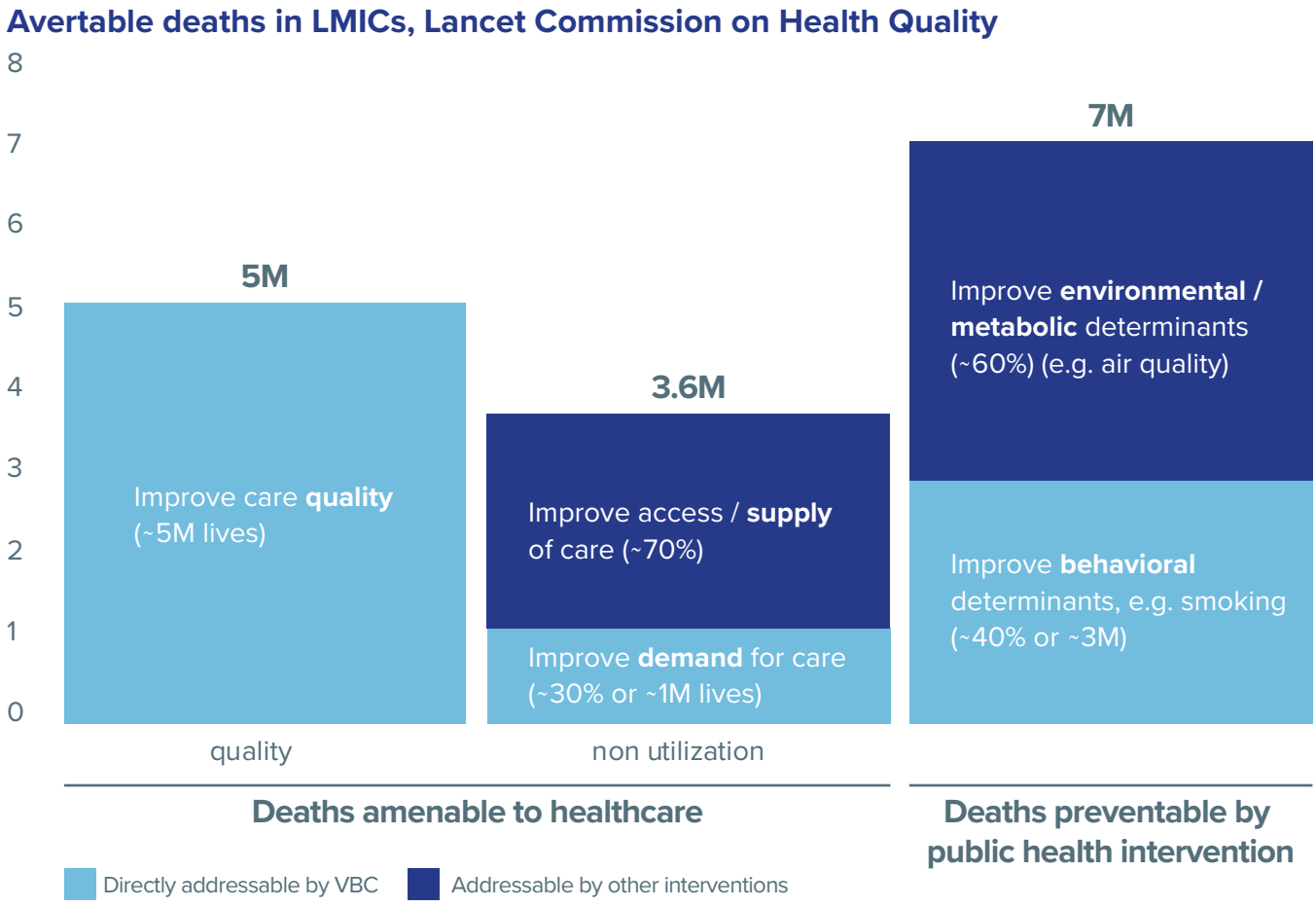
### Opportunity to improve outcomes

There are three principal levers through which value-based care improves outcomes. The most important is aligning the health system around delivering higher quality of care. Lancet Quality Commission's analysis shows that quality has eclipsed access as a driver of avertable mortality, amounting to 5 million deaths per year (figure 9).[31]

The second lever is addressing the behavioral determinants of health. The healthcare system has traditionally prioritized biomedical interventions. Value-based care emphasizes implementing whatever interventions yield the best outcomes at the lowest costs, and this often includes behavior change. In these instances, non-clinical personnel can play a larger role in driving health outcomes. According to IHME estimates, behavioral determinants account for 40% of the global burden of disease.[32] Layering on the Lancet Quality Commission's analysis, we estimate that this amounts to 3 million deaths per year.

FIGURE 9

**VBC's potential to impact health outcomes**




The third lever is improving the demand for care. In reorienting care around the patient and aligning the health system around outcomes that matter to the patients, value-based care can improve how patients seek care. Review of literature and expert interviews suggests that approximately 20 to 40% of non-utilization can be attributed to demand-side factors. We apply this fraction to the Lancet Quality Commission's assessment of mortality due to non-utilization and estimate demand-side factors account for 1 million deaths per year. Supply-side constraints (e.g. lack of facilities and healthcare providers in rural areas) remain important drivers of non-utilization of healthcare services. By incenting efficient use of resources, value-based care may improve the supply of care, too, but we do not include this potential in our estimate.

### Opportunity to optimize costs

Value-based care can also optimize the cost side of the value equation (figure 10). Out of pocket healthcare costs push 100 million people per year into poverty[33]. Mounting government health spending strains public budgets. For example, Indonesia has seen health spending increase rapidly since it implemented UHC in 2014, with medical costs projected to exceed budget by 25% in 2019.[34] The World Health Organization estimates that 20 to 40% of total health costs are due to waste and/or overutilization.[35] This translates to approximately USD 250 billion in LMICs per year. Failures in health delivery and care coordination, over-treatment, overpricing, complex overhead, and fraud are all contributing factors.[36] Value-based care can align stakeholders to address those challenges.

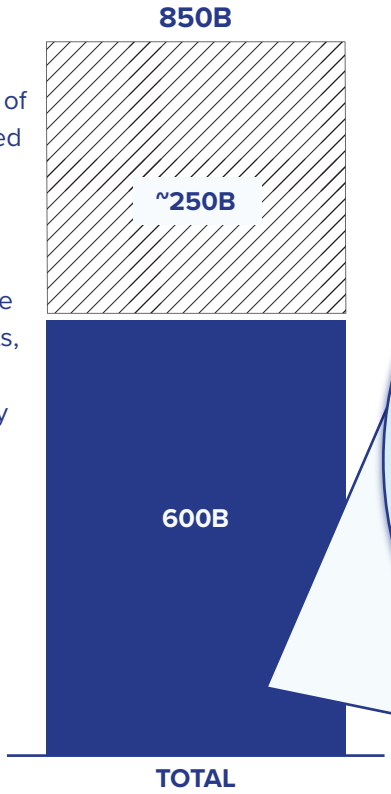
FIGURE 10

## VBC's potential to impact costs

**Total health expenditure in LMICs ($)** (2015)

WHO estimates 20-40% of health spending is wasted through inefficiency, representing ~$250B of waste in LMICs.

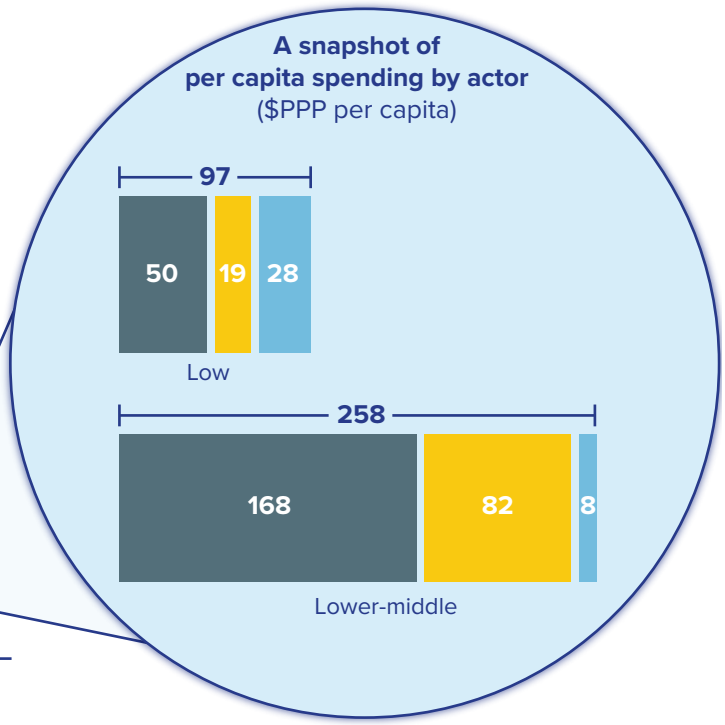
This places unsustainable pressure on governments, households, and donors already overburdened by healthcare costs.




**Governments** struggling with financial solvency of health coverage schemes

**Households** pushed into poverty due to health spending (~100M people per year globally)

**Donor** funds declining as portion of total health expenditures



Value-based care optimizes costs through three levers. The first is ensuring the right care, in the right place, at the right time. Providers reduce prescription of unnecessary drugs and procedures. They deliver care in the highest value place, shifting non-acute care from hospitals to primary care and community-based settings. Providers intervene at the highest value moment in a patient journey, reaching each patient before his or her condition worsens and leads to high-cost treatment later.

The second lever is driving frugal innovation. Today, research and development are oriented around volume-based business models. It encourages pharmaceutical, med-tech, and service delivery innovators to drive solutions that they can generate demand for, regardless of their value proposition. Value-based care shifts the business model and rewards innovation that improves outcomes and lowers costs.

The third lever is increasing operational efficiency. Current approaches to accounting for health spending overlook critical cost drivers. System planners and healthcare providers, for example, do not know how much of a physician's time or a diagnostic machine's capacity is required along a patient's care pathway. Value-based measurement shines a light on the full costs required to generate outcomes for patients and provides insight into how to manage these costs.

### Return on investment (ROI) of value-based care

What is the ROI of value-based care? In order to capture tremendous opportunities to improve outcomes and efficiency, health systems will need to invest significant resources in transformation. There is limited meta-data available to estimate the return on these value-based care investments and more research will help build the case for transformation. However, we can infer the potential scale of impact from case studies in high-income countries, like the Rio Grande Valley (RGV) accountable care organization (ACO) in the United States. RGV is one of over 500 ACOs in the Medicare Shared Saving Program (MSSP). MSSP covers 11 million individuals in the United States. In 2012 RGV invested USD 1.2 million on operations to set up its ACO. It managed to reduce the per capita costs of its Medicare patients by 14%.[37] Over the first four years of the program, this yielded approximately USD 28 million in savings, or a roughly twenty-to-one ROI.[38]

To be sure, achieving this level of savings at a country level would be a tremendous undertaking and the adoption of value-based care principles does not guarantee this impact. However, it provides a frame of reference for countries considering investing in innovative health systems models. Take India and Kenya as examples. By 2040 India's total health expenditure is projected to reach USD 860 billion PPP and Kenya's 18 billion[39]. If by 2040 they were able to achieve even half the efficiency gains seen in the Medicare ACO above, India would save USD 56 billion annually and Kenya USD 1.3 billion. If we believe countries like India and Kenya can bend their value performance curves—outcomes achieved per dollar invested—it is worth making significant investments in value-based measurement, delivery, and payment reforms.

## Tailwinds of change

Implementing value-based measurement, delivery, and payment best practices is challenging. It requires data systems, capabilities, infrastructure, and policies that many countries are still working to build. Yet development stories in telecommunications, banking, and energy suggest that nascent sectors can defy expectations, and leverage innovation and new technology to leapfrog their higher income peers (figure 11). The lack of fixed-line internet led to the mobile information explosion. The paucity of brick and mortar banks made it possible for mobile-banking platforms to capture market share through new SMS-based technology. The lack of traditional electrical transmission infrastructure made decentralized power generation from solar and wind possible. These sectors demonstrate how LMICs can harness emergent trends and take advantage of the absence of legacy infrastructure to establish more efficient systems.

FIGURE 11

## Leapfrogging telecom infrastructure

The telecommunications industry in LMICs is one of the most well-studied leapfrog stories. The lack of internet connectivity has led to the rapid uptake of mobile broadband. Today, most people in LMICs that connect to the internet aren't just mobile-first they're mobile only. This has led to a vibrant economy built around mobile services.

High-income countries progressed slowly through various stages of fixed-line internet connectivity. Today, most households in high-income countries still connect to the internet through telephone (DSL) or television cable wiring. It is far faster to deliver internet directly through fiber optic cable, but high-income countries continue to rely on the infrastructure of old services.

LMICs have leapfrogged this infrastructure. Not only are countries such as Rwanda building out extensive fiber optic cable to deliver quick internet, they are doubling down on mobile broadband delivery. Countries are jumping past 2G to build the infrastructure for 3G and 4G LTE networks and deliver access to a new generation of mobile data users. More impressively, a whole ecosystem has developed around mobile services. Mobile money, banking, and health are increasingly commonplace in LMICs, unlocking new leapfrog opportunities in these sectors as well.

There are trends in LMICs that support the core principles of value-based care. They include policy, technology, and societal tailwinds that, if harnessed, can help countries capture the leapfrog opportunity (figure 12).

### Policy

The movement to achieve UHC presents an opportunity to steer health systems toward value. Numerous countries and development partners have signed on to the Global Compact to expand UHC to all citizens by 2030. Regardless of the specific approach to coverage (e.g. insurance or direct public delivery), risk-pooling and shifting away from out-of-pocket payments create an opportunity to redesign measurement, delivery, and payment systems. Countries face a choice: they can expand coverage under the status quo or use the momentum of UHC to explore higher-value alternatives.

Three kindred movements will help countries achieve value on the path to UHC: primary and community care, quality of care, and strategic purchasing.

First, the movement for primary and community care has made an investment case for strengthening the highest value healthcare settings. While the public health community has recognized the value of primary and community care for years, donors and country governments have recently doubled down on their efforts. The Global Financing Facility, the Primary Health Care Performance Initiative, and the Community Health Impact Coalition, for example, partner directly with countries to improve these systems.

Second is the quality of care movement. The Lancet Quality Commission's landscape report in 2019 showed that healthcare quality has surpassed access as

a driver of avertable mortality. That seminal academic work will draw more resources to ongoing efforts to strengthen how we measure, deliver, and pay for quality. Much of this work to date has characterized quality as process compliance. Process compliance is an important step toward achieving high quality care, but it doesn't ensure impact. The quality of antenatal care, for example, is defined by the fraction of evidenced-based guidelines followed, rather than whether those guidelines actually delivered results. Nevertheless, the tools and capabilities of the quality of care movement can be adapted and deployed to power value-based health systems. These include data systems to track outcomes at the patient level, performance feedback loops to refine care models, and carrot and stick regulatory mechanisms to encourage quality of care.

Third is the movement to improve accountability for service delivery through a variety of strategic purchasing mechanisms. Results-based financing (RBF) is an early example. Led by organizations like the World Bank's Health Results Innovation Trust, the RBF movement has used financing and payment as leverage to ensure adequate delivery of health services. Like RBF, value-based payments require tracking and validating results, iterative learning and improvement through performance management cycles, and administering performance-based payments. While RBF has primarily employed volume-based reimbursement methods, the same infrastructure and capabilities established by RBF programs can be repurposed to enable value-based care models. New investments, like the Strategic Purchasing Africa Resource Center, are emerging to implement these approaches at scale. This movement can also be harnessed to support value-based care models.

### Technology

Technology can be a powerful enabler of value-based measurement, delivery, and payment.

New technology has the potential to establish health data systems that can track value creation. Countries recognize the long-term dangers of fragmented health data systems, and are adopting open-source and modular solutions that are becoming cheaper, better designed, more easily integrated, and more widely available. DHIS-2 is one popular platform built with such principles in mind. While initially designed to manage population-level health, DHIS-2 is being adapted to manage facilities and even individual patient care. OpenMRS is another example; it is an open-source EHR engineered specifically for low-resource settings. As countries continue to invest in the expansion of such platforms, they have an opportunity to design them to not only track the volume of inputs and outputs needed to deliver services, but also track outcomes. If they do so, they will surpass the health data systems of many high-income countries.

Technology is also transforming service delivery, extending delivery from facilities into communities and households and reinforcing clinical standards through decision-support. Light and durable medical technology specially designed for mobile application is expanding the diagnostic and treatment abilities of frontline health workers. CHWs can now administer rapid malaria diagnostics with a finger prick, for example. Telehealth platforms extend healthcare capabilities from facilities and urban centers to households and rural areas. This combination of new devices and communication platforms can contribute to value-based health systems in three ways. First, they represent opportunities to shift care into primary care and community settings that are cheaper and easier to access. Second, they place health information directly into patients' hands, increasing their engagement with care. Third, real time data can prompt providers to make the highest value decisions throughout a patient's care pathway.

Technological advances are also transforming the financing and payment landscape and will make it more efficient to administer value-based payments. Insure-tech in LMICs is already surpassing high-income countries in developing more efficient ways to enroll and validate members, process and authenticate claims, and administer payments. These tools will be critical in establishing networks from what

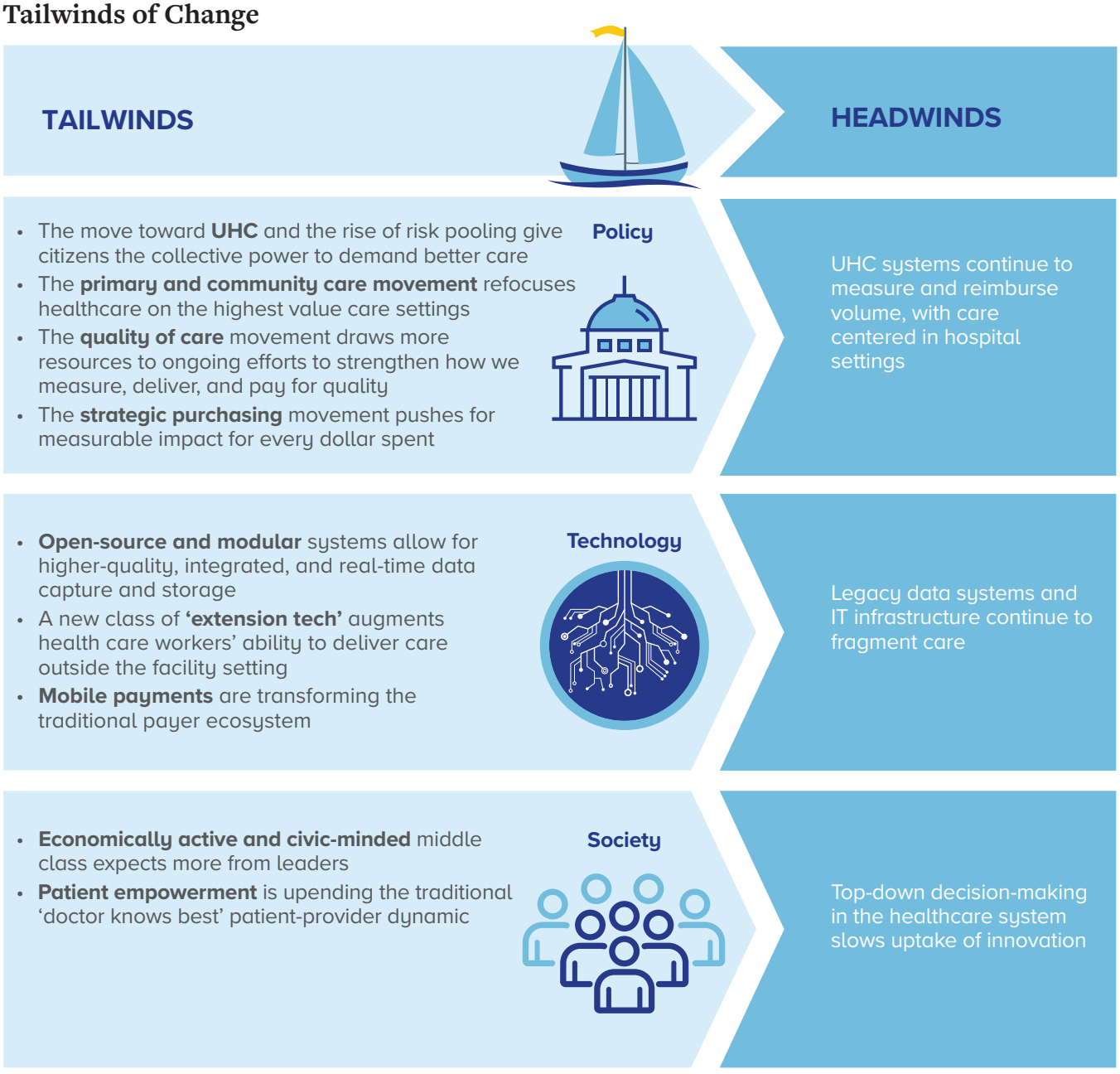
is currently a highly fragmented provider landscape. Establishing these networks of providers, with common data standards, is a prerequisite to administering value-based payments.

### Society

Public demand for better healthcare can help motivate the deep health systems reforms necessary to shift from volume to value. In a global 2018 Pew survey, people in 13 of the 14 countries surveyed rank poor healthcare as the first or second top issue they were mostly likely to take political action on.[40] Public interest in reform can generate political will to transform health policy. This interest is coupled with a growing middle class that will demand better healthcare. In India alone the middle class is projected to jump from 80 million to 580 million people by 2025.[41] Leaders can tap these societal trends to generate the momentum to challenge the status quo and undertake transformative changes to the health system.

FIGURE 12

## Tailwinds of Change



# STRATEGY:

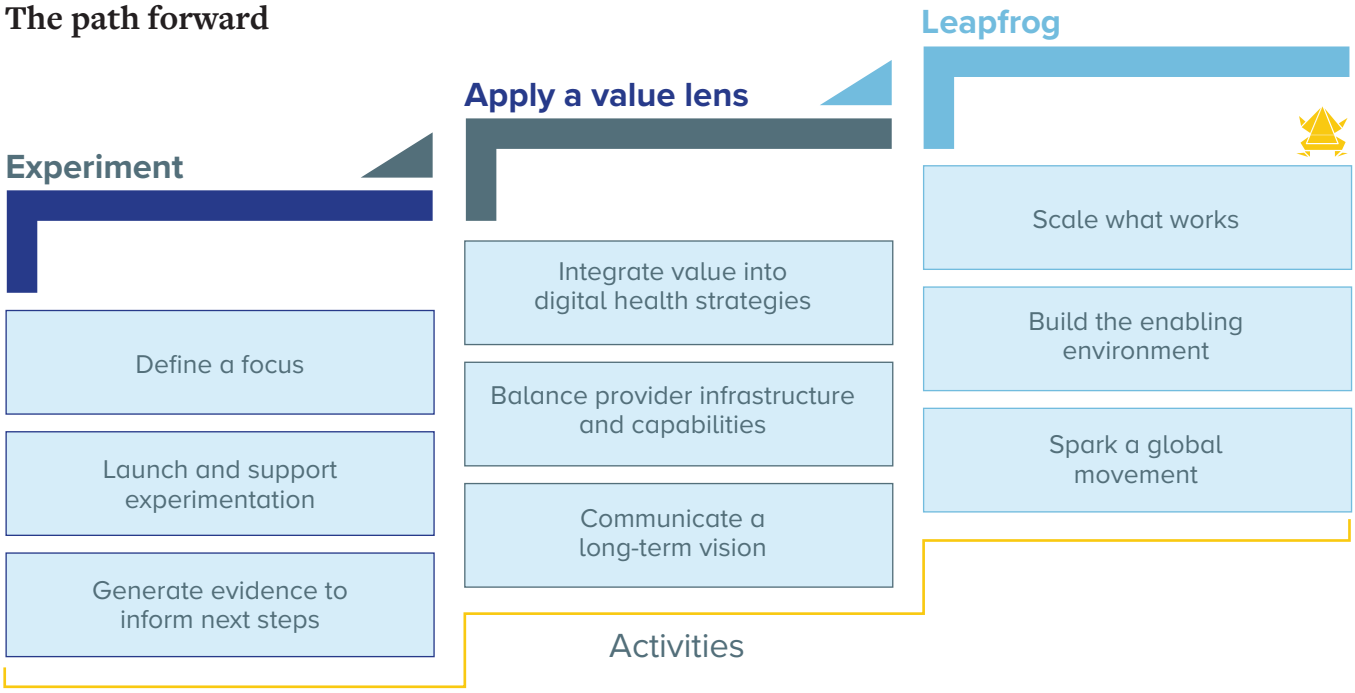
A leapfrog to value-based care will require a robust ecosystem for experimentation and a coalition of actors to scale

If LMICs are able to leapfrog to high value health systems, it will not be because they followed a step by step roadmap. It is a path that requires discovery and collaboration. Therefore, rather than detailed instructions, this reports offers a compass: a strategic perspective that decision-makers can heed on their journey to achieving a high value health system and that builds on compelling work that is already underway. That perspective is informed by an understanding of how legacy infrastructure has thwarted high-income countries aspiring to adopt value-based care; by the role that risk-taking, innovation, and experimentation have played in other leapfrog development stories; and by successes and failures in scaling other health system reforms.

Governments and donors—in partnership with patients, providers, and payers—can take three types of actions that will help leapfrog to high value health systems. First, they can cultivate experimentation with value-based care models. Second, they can apply a value-lens to near-term decisions that have long-term implications. Third, they can position countries to leapfrog to value, by establishing the enabling environment for value-based care models to scale.

FIGURE 13

**The path forward**



## Cultivate value-based experimentation

As a patient-centered approach, value-based care must be adapted to local realities. To develop homegrown models, health systems seeking to embrace value-based care will need to pursue experimentation. This involves launching pilots that integrate value-based measurement, delivery, and payment best practices. To cultivate a strong ecosystem for experimentation, health systems will need to define a strategic focus, launch and support experiments (figure 14), and spread lessons from both successes and failures.

### Define a focus

Scattered experimentation will not generate the evidence or momentum that is needed to achieve broad health system transformation. Countries should develop a strategic focus for experimentation by identifying the tip-of-the-spear opportunities that could lead to systems change. In setting priorities for experimentation, two factors matter most: salience and feasibility.

a. **Salience**. Value-based experimentation should focus on patient segments and care pathways with the most potential for impact on health outcomes and costs.

   i. **Outcomes**. Selecting experiments based on health ouctomes may (1) align with a country's progress toward SDG targets, such as reducing maternal and neonatal mortality; (2) address high growth care pathways, such as diabetes or other NCDs; (3) or respond to persistent threats to public health, such as TB.

   i. **Costs**. Countries may also direct experimentation to address cost saving opportunities. Hospital care has been a key driver of costs in many countries that have pursued UHC. To address these costs, countries may direct experimentation toward patient segments who contribute most to hospital costs. Innovative models like ChenMed[42] and CareMore[43] in the United States have specialized serving these high-risk patient segments. They reduce their dependency on hospital care by supporting patients well in the outpatient setting, addressing both biomedical and social determinants of health and generating cost savings for the system.

b. **Feasibility**. The second major consideration to defining a strategic focus for experimentation is feasibility. Within any health system, there is significant heterogeneity in the readiness of actors to implement value-based care models. There are three dimensions of preparedness to consider.

   i. **Data**. Value-based care requires data systems to track outcomes and costs. Early experimentation should locate geographic pockets and clinical areas where there is better data available, whether paper-based or digital. This may mean focusing initial pilots in urban areas or states with a better track record of data collection. Or it may direct countries to focusing on a clinical area like TB where significant resources are already dedicated to improving data systems.

   ii. **Providers**. Value-based care cannot make up for severe deficiencies in provider capacity. Having essential staff, medicine, and equipment is a prerequisite to value-based care. Experimentation should therefore target care settings that are challenged by quality and cost-effectiveness, rather than access.

   iii. **Provider and payer alignment**. Experimentation offers the most potential in contexts where providers are accountable to payers for delivering value. There are a few common archetypes of this situation: 1) A public delivery system where the government (as a payer) has the management capacity to motivate frontline

workers and managers, through financial and non-financial means. 2) A dominant insurance scheme (public or private) with enough scale to shape private providers' behavior. 3) A private, out-of-pocket healthcare market with enough providers that could compete with each other on value.

### Launch and support experimentation

The ecosystem for value-based care experimentation in LMICs is nascent. Governments, with backing from donors, can jumpstart this ecosystem by providing support to value-based pilots.

a. **Financial support**. Pilots require financial support to design a value-based care pathway, upgrade data systems to track patient-centered outcomes and costs, train staff to administer new care models, and develop reward systems for value. Pilots may be able to leverage existing service delivery or payment platforms funded by bilateral donors, development banks, and foundations to incorporate value-based innovation. USAID, for example, is exploring how to incorporate value-based care pilots into a large program that is supporting the roll out of Health and Wellness Centers in India. In addition, new funding mechanisms may be established: the National Health Authority of India is adopting the "grand challenges" model and could focus one challenge on value-based care.[44] In the private sector, traditional venture investors have not invested in value-based care models in LMICs. Impact investors have an opportunity to fill this gap, particularly in countries where the private sector will play a critical role in achieving UHC.

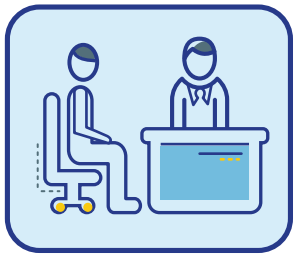
b. **Technical assistance**. The development of value-based care pilots requires capabilities that are in short supply in the health systems of LMICs. Design of these pilots requires fluency not only in public health and medicine, but also in business, data science, and technology. A team of local experts with these interdisciplinary skills can partner with external experts who have experience with value-based care models, to collaboratively design locally relevant pilots. Once designed, the success of pilots hinges on the operating team's ability to digest and act on data in performance management cycles—this is the lifeblood of value-based innovation. Therefore, it's critical to train and to directly support the workforce in evaluating data on outcomes and costs, identifying the most important drivers of performance, and refining the care pathway to optimize value.

c. **Partnerships**. The most important success factor for value-based care is the quality of collaboration between patients, providers, and payers. These stakeholders come together to share data, align on performance measures, and co-design delivery models and reward systems. Disagreements on these questions are bound to occur and require strong and impartial brokers to mediate. Governments and/or trusted civil society actors can play a leading role in building partnerships among these stakeholders, advocating for the shared value generated for patients and the overall health system. In addition, these partnerships should draw in scale partners who have the ability to extend the reach of successful value-based care pilots. The National Health Authority in India or the National Hospital Insurance Fund in Kenya are potential examples. These scale partners should be involved early on, to help inform the design of experiments, and to define conditions under which they would mainstream a new value-based care model.

FIGURE 14

## Example of care pathway re-engineering

### 1 Define success in a care pathway



- Identify highest-priority care pathways by analyzing a system's largest drivers of outcomes and costs
- Agree on outcomes that matter most to clinicians and patients

A health system finds that diabetes is its largest cost driver

After a town hall with patients, providers learn that controlling diabetes without medication is a key outcome for patients

### 2 Integrate care around the patient

- Design interventions that span relevant settings of care, i.e. home, primary care, hospital
- Include non-clinical interventions that address behavioral determinants of health

The health system offers a new, comprehensive diabetes management program that teaches self-management for diet, exercise, and blood sugar monitoring

### 3 Measure value in terms of outcomes and costs

- Use EMRs to track longitudinal, patient-level data
- Make this data readily available to patients, providers, and payers

Health system updates old EMR system to calculate reduction in complication rates and reduction in costs for all patients that took part in the diabetes management program

### 4 Establish visibility into performance and incentivize value creation

- Review individual provider performance data regularly
- Give providers financial and non-financial incentives for generating value for patients

Primary care physicians, nutritionists, and wellness counsellors review these patient outcomes on a monthly basis

Higher performers receive a professional award, earning both a small salary bonus and recognition from colleagues

### 5 Continuously optimize value of care

### Evaluate performance to inform next steps

A robust ecosystem for experimentation is one that carefully evaluates pilots and learns from both successes and failures. Value-based care pilots need to engage independent evaluators at all phases—from design to implementation. These evaluators will inform decisions to scale or shut down pilots and generate evidence that can enrich the overall field of value-based care.

Countries that seek to cultivate value-based experimentation can consider leveraging innovation hubs housed in the public sector. The Center for Medicare and Medicaid Services in the United States, for example, launched the Center for Medicare and Medicaid Innovation to test value-based care pilots (figure 15). The Center has supported over 40 pilots to date, with one of its pilots—the diabetes prevention program—becoming a required preventive benefit in insurance packages[45]. Other national insurance schemes, such as India's National Health Authority, have also established innovation units to pilot concepts related to value-based care. These platforms support experimentation and also provide a path to scale.

FIGURE 15

## Successful innovation platforms

**The Center for Medicare and Medicaid Innovation (CMMI) designs and tests new value-based care pilots in the United States. It is funded and managed by the country's national public insurance scheme, and a clear example of how value-based innovation can scale in the public sector**

**10B** in funding

**40+** pilots launched

**1 Define a strategic focus**

**2 Launch and support experimentation**

**3 Decide next steps**

**Invest in key focus areas**
- Value based payment models
- Primary care transformation
- Priority patient populations
- Accelerating best practices

*Focus areas informed by...*

**Congressional mandate** to test new payment models

Public **'listening sessions'** with thousands of innovators

**Call for applications** via a competitive tendering process for experiments in focus areas

**Grant period** of ~3 years for providers to test and refine model

Ongoing **monitoring and evaluation** from CMS to determine if pilot meets primary objective: decrease costs while maintaining or improving health outcomes

If pilot meets objective, secretary has power to **scale program nationally** via Medicare

If pilot is not successful, it can be discontinued or extended for further testing

**Spotlight:** Diabetes prevention program (DPP)

CMMI successfully scaled the DPP program nationally after early success in its pilot. Fitness provider YMCA and provider groups partnered to help Medicare beneficiaries at higher risk for type II diabetes make healthy lifestyle changes, saving USD 2,600+ per patient and improving quality outcomes. It is now a mainstream preventative benefit in Medicare.

## Apply a value lens

Many LMICs are currently making decisions with long-term implications. Countries as diverse as Ethiopia, Nigeria, and Thailand have developed and are now implementing national digital health strategies[46]. Countries like India, Ghana, and Kenya have launched publicly financed health insurance schemes that will structure their health systems for decades to come. Billions of dollars of private equity are being invested in infrastructure[47]. There is tremendous opportunity and risk in these decisions, because they can become grooves of path dependency, sending a health system down a high- or low-value trajectory. We recommend applying a value-lens to each of these decisions.

### Integrate value into digital health strategies

In May 2018, WHO Member States emphasized the importance of digital health and called for more resources to develop national digital health strategies[48]. The overarching goal is to corral diverse stakeholders around a common vision for how digital tools can advance a country's public health goals for years to come. Donors have committed to aligning their investments around country-level plans[49].

**Patient level data**. Value-based care relies on having insight into how health services generate outcomes at the patient level. Digital systems can make that data collection and interpretation easier, faster, and cheaper. For digital systems to track patient-level data, they must span full care pathways and operate across care settings. This requires either the adoption of a single EHR or interoperability of multiple systems. It also requires establishing an individual's unique digital identity, like India's Aadhaar.

d. **Patient-centered outcomes**. The health data systems of most countries—whether high- or low-income—do not track health outcomes. To change this, countries need to adopt data standards for health outcomes, integrating and digitizing diagnostic results, clinical findings, and patient-reported outcomes. Advances in digital financial services for health, especially for insurance and savings, could be leveraged to begin tracking health outcomes and costs.

e. **Non-health data**. Many high value health interventions are not exclusively biomedical; they address the social, behavioral, and environmental determinants of health. To better understand and address these factors, it is critical to merge non-health data systems with health data. Estonia is a source of inspiration for this kind of cross-sector data integration, connecting its public data sets, from health to housing, in its X-Road master database[50]. National digital health strategies can include an analogous approach to integration.

f. **Design**. As data systems mature and become more sophisticated, there is risk that they become more difficult to use, draining the productivity of front-line providers and distracting them from patient care.[51] Value-based care approaches are data intensive and can contribute to complexity. Digital health strategies should anticipate this risk and plan for investments in human-centered design in digital solutions to minimize the administrative data entry burden on providers.

Global players can help align country-level digital health strategies with a value agenda. For example, the Global Digital Health Index and the Digital Health Atlas each offer a rubric to assess the status of a country's digital health ecosystem. Platforms like these have an opportunity to incorporate value-based care principles in their frameworks and usher in their adoption.

### Balance provider infrastructure and capabilities

Infrastructure and workforce investments have important implications for the value of a health system. These decisions have long-lasting implications. Hospitals have a fifty-year lifespan. Medical doctors go through two decades of schooling. Once infrastructure is built and once a workforce is developed, it's difficult to re-balance or steer in a new direction. It is therefore critical to apply a value-lens on these long-term decisions. With this in mind, the list of strategies below

highlights how governments can influence major public and private sector allocation decisions.

a. **Balance resources across care settings**. The health systems of countries that have strong primary and preventive services have achieved higher value than those that have not.[52] Many LMICs make resource allocation decisions between different settings of care, often with separate budgets for primary care and community-based care. For example, to implement the Ayushman Bharat scheme, the Indian government established separate budgets for a hospital-insurance program PM-JAY and for its primary health care program Health and Wellness Centers. In making these allocation decisions, health ministries need a standard method of assessing their primary care spending and an ability to benchmark that spending against best practice and peers. The adoption of tools like the Primary Care Spend Model, which standardizes how to measure primary care spending, may facilitate these important allocation decisions that can have lasting impact.

b. **Determine what's in and what's out**. At a more granular level, countries choose what to include in health benefits packages and essential medicine lists. These choices, in turn, influence what infrastructure and capabilities are developed. Applying a value lens to this process requires a set of analytic and administrative capabilities that are often lacking in LMICs. Institutions like the International Decision Support Initiative are working to strengthen these decision-making functions locally, empowering countries to develop their own high value and equitable benefit packages[53].

c. **Shape private sector investments**. In order to balance a health system's provider infrastructure and capabilities, governments cannot ignore the private sector, which invests billions of dollars in LMIC health infrastructure. To align the private sector's investments with a primary care-focused strategy, governments can use a variety of policy levers. The for-profit private sector has generally underinvested in primary care, because traditional volume-based business models do not generate attractive margins for preventive services. Public financing for primary care provision can attract more private capital to the space. This approach has been pursued in countries like India and Brazil through public-private partnerships that mobilize private capital for primary care.[54] It is also an opportunity for countries to partner with donors to deploy blended finance tools that attract private capital to meet public health priorities around value-based care.[55]

   While the private sector underinvests in primary care, it can sometimes overinvest in hospital-based services. While this is not a real risk in many low-income countries (which are severely supply constrained), it is an emerging challenge in cities in middle-income countries. One regulatory tool, a certificate of need, requires hospitals to demonstrate unmet need for care before building more capacity in hospitals or specialty care.

### Communicate a long-term vision

There is also a softer side to a health system's path dependency: political and market expectation. Social protection programs, whether in the public or private sector, are notoriously sticky. Patients and providers develop an expectation of a certain model of delivery and payment. Once entrenched, these expectations are difficult to shift.

Communicating a long-term vision for design can help a health system prevent such path dependency. In the United States, adoption of value-based care started slowly, with discrete payment innovations introduced by public and private payers. The communication by the public sector of an alternate value-based vision prepared health care markets and voters for changes in payment and delivery.

While countries build systems to achieve UHC, feasibility considerations may lead them to first launch traditional delivery and payment models, based on volume. While this is a logical starting point, to avoid getting anchored to these models, it important for governments to communicate a long-term vision around value that will prepare markets and the broader public for coming change.

## Leapfrog to value

The leap from experimentation to broader systems transformation is formidable. It is not the work of a single champion, but one that requires an array of stakeholders. The ultimate owners of systems change are government leaders and the people they serve, but they must also bring along payers, providers, academics, and donors to realize the aspiration of a high value health system. In collaboration, these stakeholders can scale experimental pilots that work and build an enabling ecosystem for value-based care.

### Scale what works

Without a pathway to payer and provider adoption, even successful value-based care experiments may stay at the margins of a health system. Scale can be achieved through public sector reforms to payment and delivery systems or through market-driven means in the private sector. In either case, value-based care experiments must be able to address the needs of these scale actors.

a. **Public sector**. When public sector actors are partners in value-based care experimentation, they can scale new models through public delivery systems and through payment reforms. This transition from experimentation to scale is smoothest if decision-makers have the capabilities and regulatory freedom to spread new approaches. CMMI is an example of a public sector platform for value-based care experimentation that has a mechanism for scale.

b. **Private sector**. Value-based care can scale in the private sector, too.

   i. A single market-leading payer or provider can redefine market expectations, compelling other private actors to follow suit. This has been the case in other leapfrog development stories. For example, disruptive mobile banking companies have pushed conventional banks to integrate new financial mediums.

   ii. Standardizing and providing transparency into data on value can also lead to scale in private markets. When payers and patients have visibility into providers' performance on value, they choose the highest performers. In competitive markets, this transparency can push low-performing providers to leave the market or adopt higher-value interventions.

   iii. Governments can use regulatory tools to push the adoption of value-based care models among private sector payers and providers. In addition to the payment lever, governments can achieve this by enforcing new clinical guidelines that change the standard of care to prioritize value.

### Build the enabling environment

The success of value-based care models is dependent on having a supportive ecosystem. There are three enablers that can be established at local and global levels.

a. **Data standards.** The first prerequisite to scaling value-based care is having common data systems adopted by all stakeholders in a health system. This includes defining outcomes that matter to patients; a costing methodology; a way to benchmark performance across payers and providers; a methodology for risk-adjusting performance to ensure equitable access to care, and a way to continually update each of these elements.

Governments can play an important role in aligning stakeholders around these data standards.

b. **Capabilities.** To scale, health systems need a workforce capable of operating value-based care models. Each level of a high value health system, from senior ministry officials to operators at the frontline of service delivery, needs the capabilities of digesting and making decisions on outcomes and cost data. This requires a combination of business analytics, management and leadership, public health, and clinical medicine. To build these capabilities locally, governments can invest in relevant educational programs. Institutions like the University for Global Health Equity in Rwanda and the Aspen Management Partnership for Health are already training public health leaders in the range of skills needed to support value-based care[56]. Further investments like this can help establish the capabilities for a high value health system.

c. **Knowledge.** Evidence on value-based care—including both pilots and larger scale implementation—will be critical for growing the field. It will help policymakers make decisions. It will guide payers and providers on how to design and implement value-based care models. It will shape how the private sector invests in innovation. To build a knowledge base, it is helpful to have local academic capabilities to evaluate value-based care models. Governments and donors can help establish these capabilities.

## Conclusion

As the world advances toward its goal of achieving universal health coverage by 2030, it will commit tremendous resources to the health sector. If we begin to systematically measure and improve the value of our efforts, we have an opportunity to not only improve access to care and financial protection, but also improve wellbeing of generations to come. Success will depend on building coalitions that extend beyond the health sector, embracing the social and environmental movements that influence our health outcomes. Governments, with support from donors, can lead the way by cultivating and learning from value-based experimentation. Timely action will ready countries to leapfrog to value on their path to UHC.

## Endnotes

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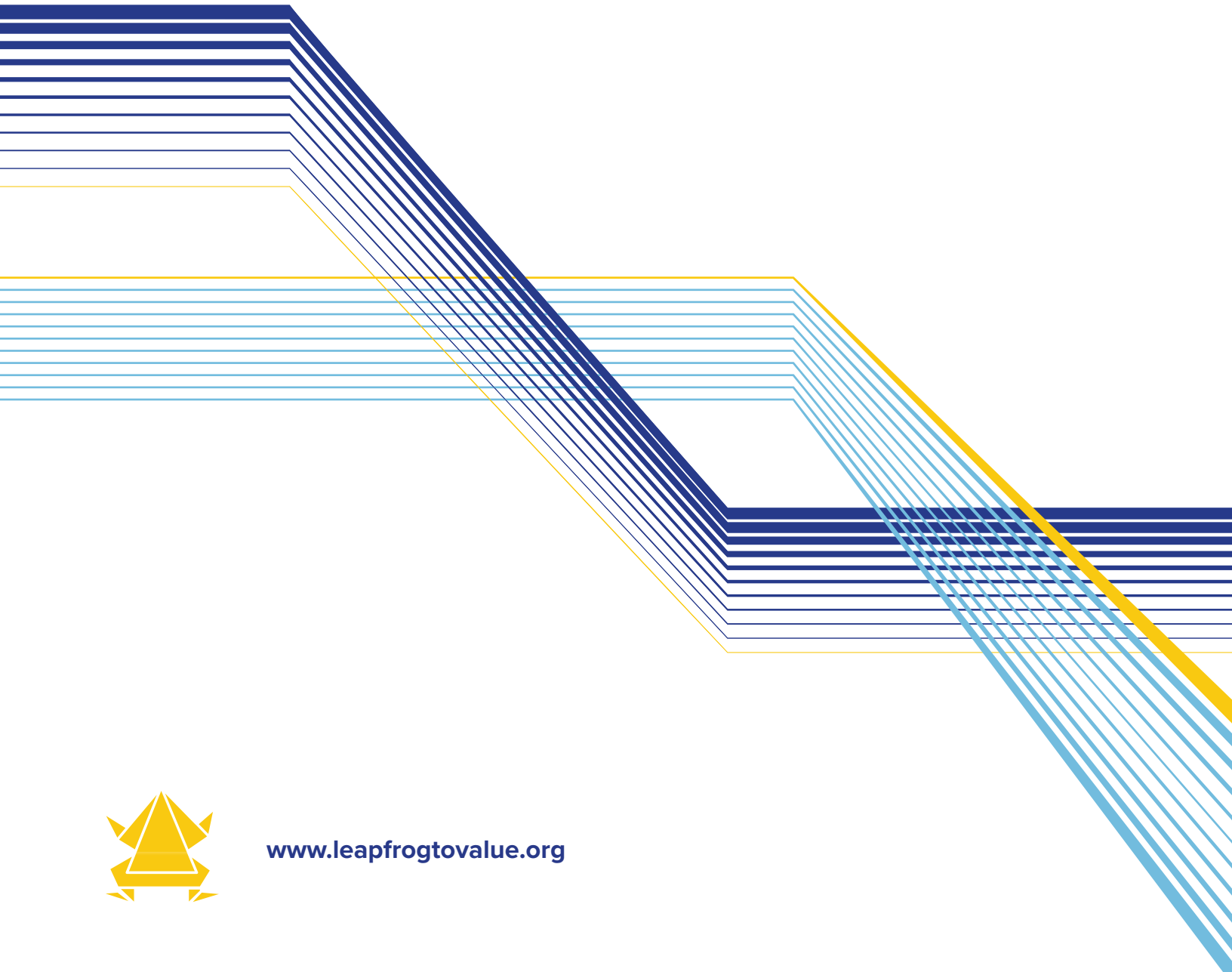

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