Aarogya Bharat

India Healthcare Roadmap for 2025

BAIN & COMPANY

NATHEALTH™
Healthcare Federation of India

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About this report

With this paper, NATHEALTH and Bain & Company seek to drive thought leadership with the aim of moving towards a healthier, aarogya (disease-free) India over the next decade. This paper aims to build a comprehensive view of India's current healthcare ecosystem and share perspectives on the future evolution patterns of India's healthcare.

For a large number of Indians today, access to quality healthcare is inadequate, and the health system's goals of access, affordability and quality remain elusive. An onslaught of non-communicable diseases (NCDs) has resulted in a dual disease burden even as the country continues to struggle to combat communicable diseases (CDs). Focus on prevention and wellness is limited, reflecting a highly unorganised primary-care system and a long-standing curative bias among patients and caregivers. Compounding the situation is an inadequate delivery infrastructure, talent shortage and limited funding from public and private sources.

This paper lays out an aspirational vision for Indian healthcare for the next decade (2015–2025); the overall objective is to ensure access to quality care at an affordable cost for every citizen of India. To achieve this objective, this paper defines the key imperatives for multiple stakeholders, while assessing the gaps and requirements in critical resources and the paradigm shifts that will lead to change.

Executive summary

Today, healthcare in India is at a crossroads. As a nation, we have made noteworthy progress across several dimensions, and India is healthier today than ever. We have successfully eradicated multiple diseases, including smallpox, polio and guinea worm disease. HIV infections and AIDS-related deaths have dropped significantly. India has emerged as a hub for generic-drug manufacturing and boasts a large public-health infrastructure.

Despite evolution on multiple fronts, however, India still struggles with substantial issues and gaps in its healthcare system *(see Figure 1)*. Healthcare is under-served and under-consumed. Insurance covers less than a quarter of the population, and out-of-pocket spending is considerably high. India faces a severe shortage of both hard infrastructure and talent, with regional imbalances and variations in healthcare delivery. The strong bias towards curative care reflects a culture in which prevention and wellness receive only limited focus and investments in primary care and public health have long been inadequate. Quality of care is questionable, hindered by limited accreditation and adoption of basic technologies.

Megatrends observed for India will combine with these underlying issues and gaps to make India's health system further unsustainable:

- Increasing urbanisation has led to an explosion of non-communicable diseases (NCDs), and India now carries a dual burden of communicable diseases (CDs) and NCDs.
- India's population is evolving and ageing, with the geriatric age group expected to constitute 11% share by 2025.

Figure 1: The current state of healthcare in India requires action across multiple dimensions

~$6T Economic loss impact from NCDs by 2030	**~75%** Population with no health insurance	**~2M** Gap in bed capacity
~315M Population affected by tropical diseases	**178** Maternal mortality rate vs. MDG target of 109	**~$3T** Cumulative healthcare spending requirement by 2025
1.3% Percentage of GDP as public spending on healthcare	**<1%** Percentage of delivery providers accredited	**~3M** Urban diabetes patients who receive adequate treatment, out of ~38M

Notes: WHO is the World Health Organization; MDG is Millennium Development Goal; NCDs is non-communicable diseases
Sources: Euromonitor; World Bank; Bain analysis

- Sustained cost pressures are limiting affordability in the largely uninsured environment, even as a rising mass market is demanding greater access to quality care.

- Particularly disturbing is the allocation of public healthcare spending, which is among the lowest in the world and has stagnated in the last few decades.

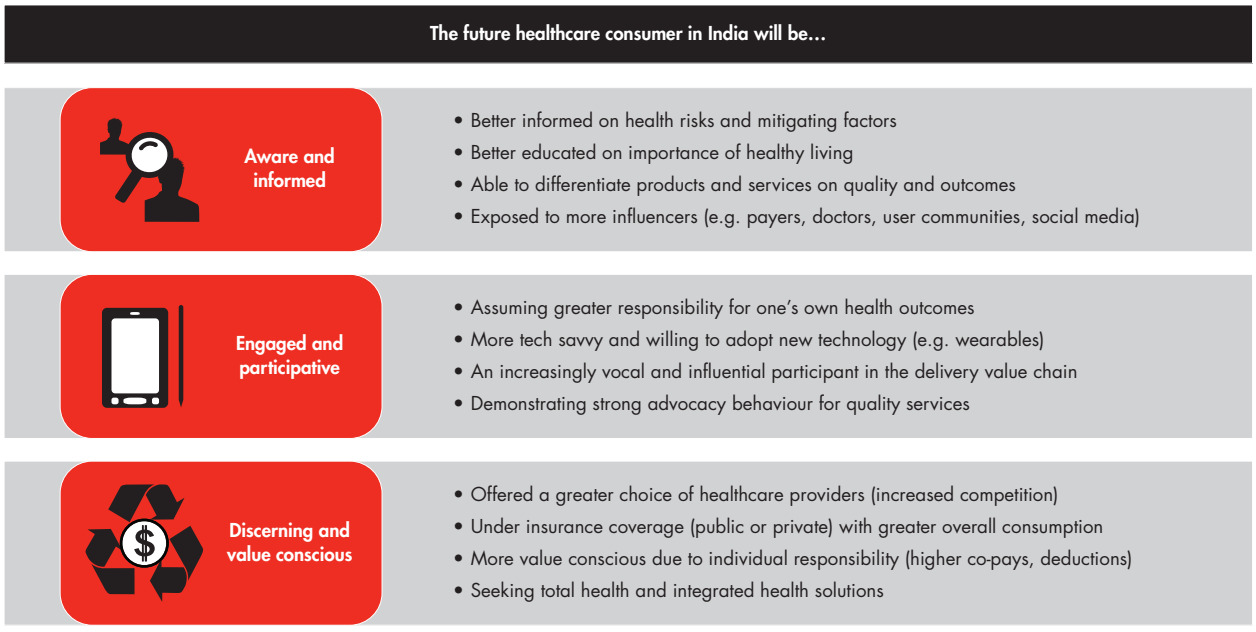
Now is an opportune time to define India's health system in order to power India's growth and development. Healthcare consumption is expected to increase progressively in the future, in line with economic growth. The emergence of disruptive technologies is likely to aid care delivery and lead to consumers who are more informed, engaged, discerning and value conscious *(see Figure 2)*. Significant growth and refinement of health infrastructure are anticipated: Investments by financial investors (PE/VCs) in healthcare have surged recently, the government has announced a sharp focus on transforming India's health system and an emerging paradigm emphasises access to quality healthcare as a basic human right. Investment in healthcare will create a virtuous cycle of productivity, employment and consumption, resulting in overall economic growth *(see Figure 3)*.

Today, all stakeholders have an exciting opportunity to transform India's health system in several ways:

- Creating a healthy India to power the country's development and growth and minimising disability-adjusted life years (DALYs) lost to preventable sickness.

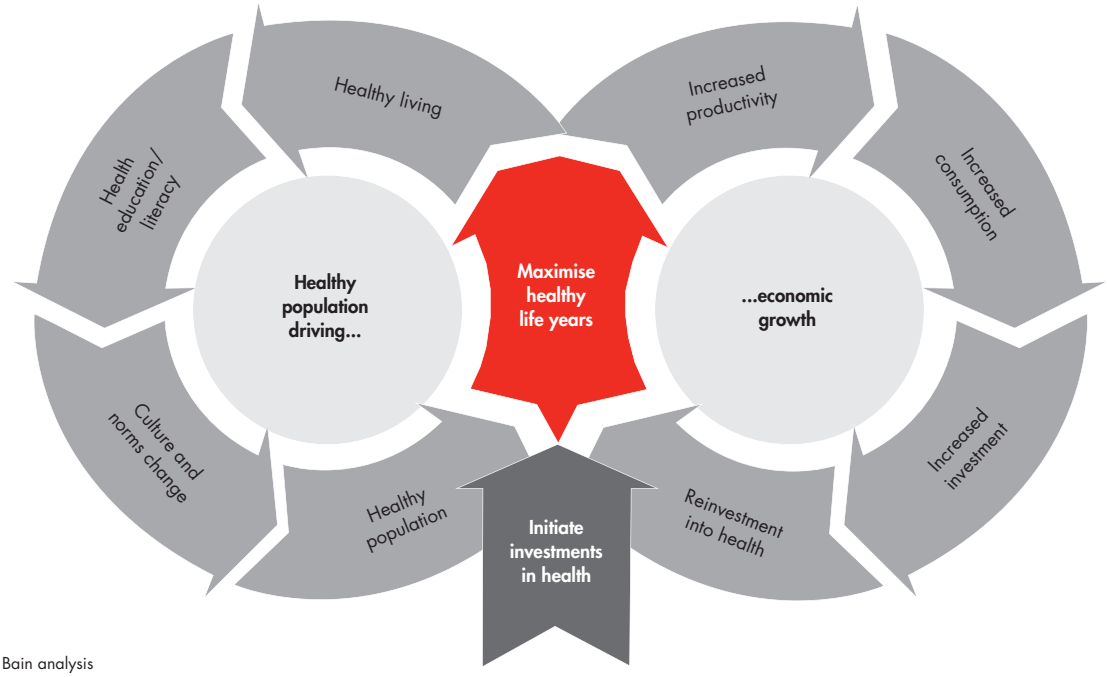
- Seizing the potential for significant job creation from healthcare services (15 million to 20 million additional jobs by 2025).

Figure 2: The consumer mindset is changing



Source: Bain analysis

Figure 3: The virtuous cycle of "healthy": Healthy life years as source for continuous economic growth



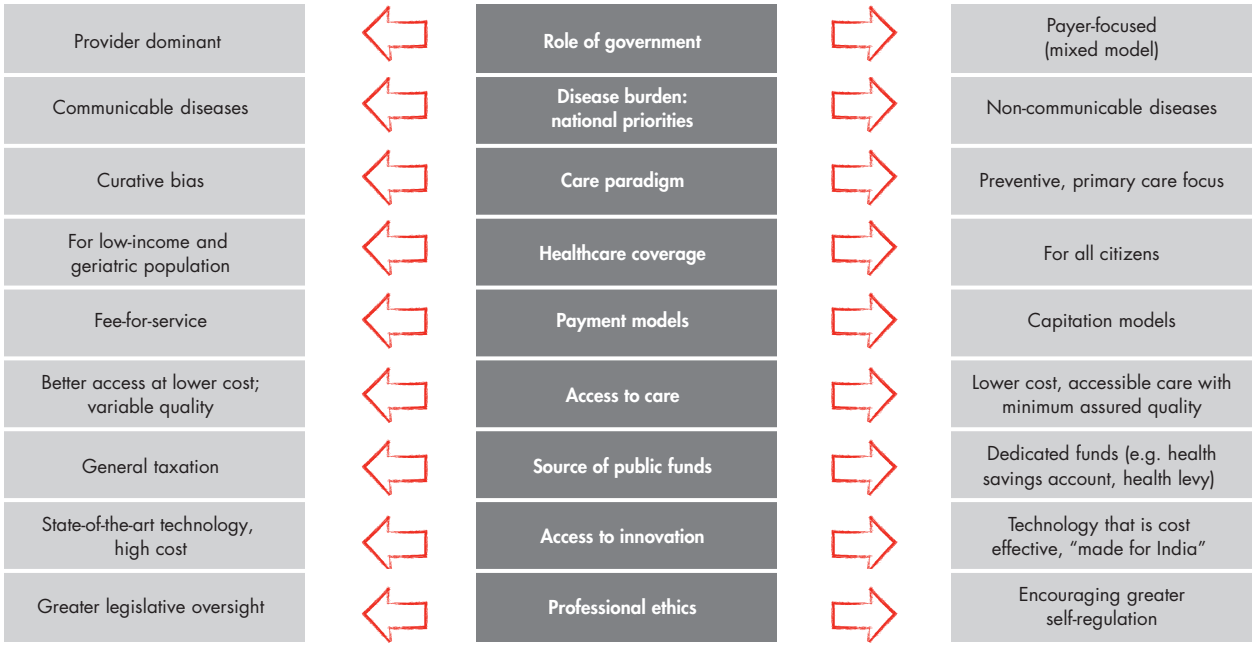
Source: Bain analysis

- Helping India move beyond the manufacture of generic drugs to emerge as an innovation hub in lower-cost health products and services and decrease dependence on costly imports.
- Providing health insurance to the masses, with a commensurate decline in out-of-pocket spending, thereby preventing people from falling into poverty due to healthcare spending.
- Reducing the urban-rural divide in the supply and consumption of healthcare.
- Adopting greater use of technology to create scalable and more sustainable made-for-India solutions and to increase health awareness and engagement.
- Turning India into an exporter of new paradigms in affordable quality care among emerging economies.

India must choose its evolutionary trajectory wisely. Clear choices must be made regarding the role that government will play and how it will prioritise and fund healthcare. We need to reshape the paradigm of care in India and create a culture of health and wellness. To undertake this journey, we will need to redefine the health system and clearly lay out the preferred path on three key dimensions of health delivery: Access, Cost and Quality. Making the right choices in areas such as role of government, regulations on essential healthcare goods and services, innovation in payment models, use of technology and sources of funding will be critical in defining the future trajectory of Indian healthcare *(see Figure 4)*.

India has a narrow window of opportunity in which it must act quickly. If we can succeed in capitalising on the immense opportunity, we can aspire to achieve a massive shift in healthcare within a decade *(see Figure 5)*.

Figure 4: Healthcare in India is at a crossroads



Source: Bain analysis

Figure 5: India's healthcare aspiration

A healthy India, where citizens are health aware and engaged, and have equitable access to affordable health coverage with a focus on prevention, early diagnosis and assured minimum quality of care, offered by a vibrant and sustainable ecosystem of public and private players.

Source: Bain analysis

We can aim for equitable access to affordable healthcare, along with minimum quality standards for highly aware and engaged consumers, by 2025. This sustainable healthcare ecosystem would be centred on a wellness-oriented culture focussing on prevention and early diagnosis.

Key recommendations

Several steps are necessary to ensure that the transformation of India's health system is a success, and multiple stakeholders need to collaborate to develop a holistic and sustainable healthcare system, with central and state governments playing pivotal roles.

Immediate priorities

- Ensure that the government assigns national priority to the healthcare agenda, commits to spending more on public health and defines a holistic framework for an India-centric health system. The government must also set clear health priorities, clarify roles and establish enabling incentives and regulations for stakeholders.

- Enable a paradigm shift to healthy living, with a focus on prevention and primary care through greater public spending on prevention, individual incentives for healthy living and broader engagement of multiple stakeholders (for example, technology and food and beverage companies, media, schools and others).

- Scale up and expand current programmes to control NCDs—such as mental illness, diabetes, cardiovascular disease and cancer—with care offerings that integrate screening, prevention, treatment and follow-up, enabled by partnerships—both private-private and public-private, and across the delivery, insurance, technology and pharmaceutical sectors of the healthcare industry.

- Drive insurance adoption and reduce out-of-pocket expenses by rolling out a universal healthcare-coverage scheme for essential care. Provide government support for disadvantaged populations, such as the elderly and low-income deciles.

- Institutionalise standards for the minimum quality of delivery across products and services, and initiate tracking of outcomes. Use health-technology-assessment (HTA) tools to determine access to innovation.

- Use technology and IT in healthcare to overcome access barriers in remote areas and engage patients. Focus investments on India-specific solutions.

- Expand the supply of healthcare talent in critical roles, rejuvenate AYUSH (ayurveda, yoga and naturopathy, unani, siddha and homeopathy) and encourage private investment in education. Improve the talent quality using a clear roadmap for governance and continuing medical education (CME) for professionals.

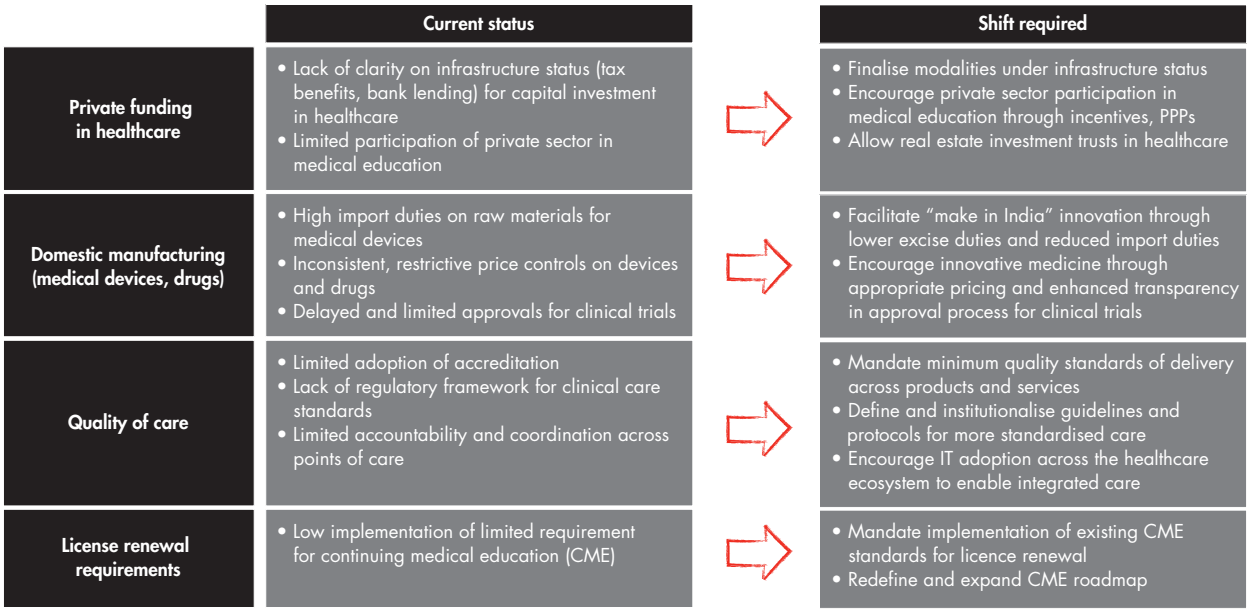
- Give an impetus to local manufacturing. Transform India into an export hub for medical products and equipment and into an R&D hub for tropical diseases.

Short-term priorities

- Create enabling regulations to foster private enterprise in healthcare, at sustainable returns *(see Figure 6)*.

- Inculcate a culture of personal responsibility for health through education, awareness, schooling, public mandates and incentives—for example, through health savings accounts and co-payments.

Figure 6: A shift in regulatory framework across several key dimensions is needed



Note: PPP is public-private partnership
Source: Bain analysis

- Encourage the build-out of healthcare infrastructure beyond the metropolitan areas and in under-served areas.
- Focus on preventive capabilities and public health measures to meet post-2015 Millennium Development Goals (or Sustainable Development Goals) for maternal and child health outcomes, with a special focus on reducing the dual burden of CDs and NCDs.

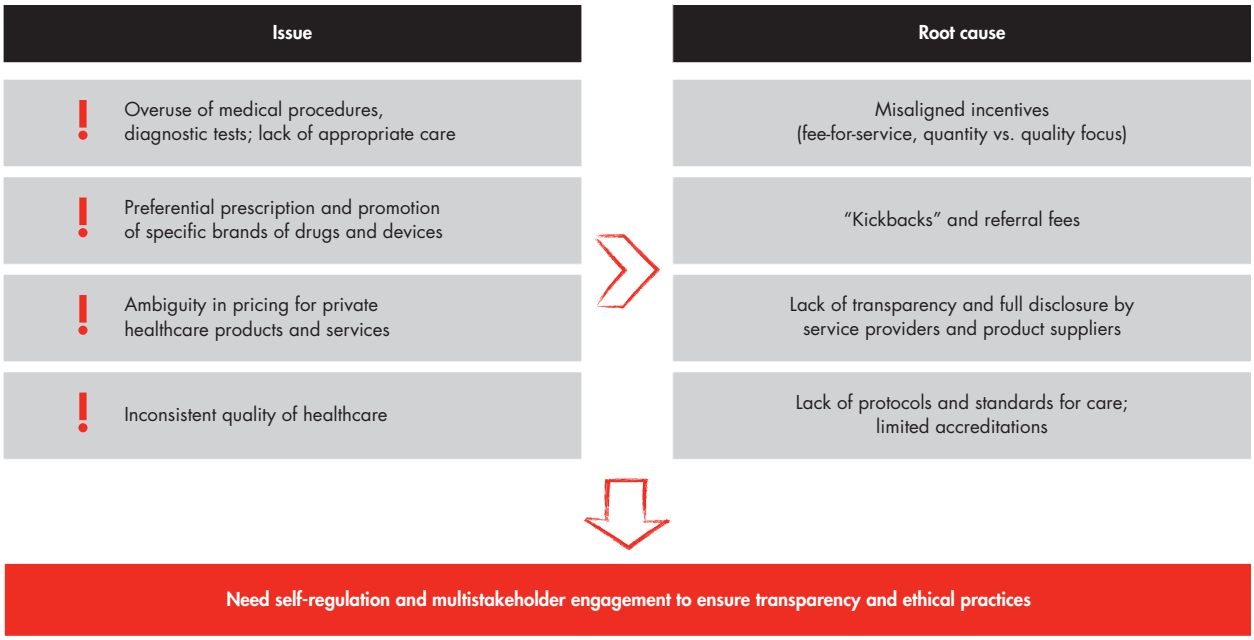
Medium-term priorities

- Build capacity in both the health system and the community to provide long-term care, especially for the indigent and elderly, and mental healthcare to those who need it.
- Encourage innovation in care models. Shift from hospital-centred delivery and procedure-centred, fee-for-service models towards low-cost delivery, capitation-based payments and population health models.
- Encourage greater self-regulation and ethical behaviour among medical professionals, enabled through oversight from professional councils *(see Figure 7)*.

What we ask of the government

The central government has shown encouraging signs that it intends to make healthcare a national priority and to take transformational steps in this sector. We ask the government to take the lead in bringing about key changes to enable the shift in India's healthcare system over the next decade:

Figure 7: It is critical to address ethical considerations in Indian healthcare



Source: Bain analysis

- Increase public spending on healthcare from 1.3% in 2012 to 3% of GDP by 2025.
- Apportion a greater share of public spending on prevention, including mass screenings, and on primary care coverage.
- Pilot and scale up universal-coverage models to guarantee essential care.
- Drive policy consensus among the central and state governments to ensure that high priority is given to health and uniformity in health regulations.
- Define a vision and roadmap for NCDs and healthy living, roll out high-impact public-health interventions and ensure multistakeholder engagement.
- Mandate that delivery and diagnostic providers and device manufacturers meet minimum quality standards.
- Invest in an IT backbone and interoperability standards in healthcare, and provide incentives for adoption.
- Build competency in HTAs, and implement them to manage access to innovation in publicly funded products and services.
- Create an enabling ecosystem that provides incentives for private investment in delivery infrastructure, medical education, R&D and domestic manufacturing.

- Establish systems to rationally determine the pricing of publicly funded products and services; for example, procedures through Rashtriya Swasthya Bima Yojana (RSBY), India's national health programme.
- Adopt a mission approach for India-focussed drug R&D, for example, for tropical diseases, and for public health initiatives such as vaccination coverage.

Commitment from NATHEALTH members

We recognise that there is a significant deficit of trust between the private and public sectors in healthcare today. Private players in the healthcare industry have a significant role to play in bridging that gap and enabling a healthier future. Members of NATHEALTH should aspire to the following:

- Invest in expanding the supply of affordable care, especially beyond metropolitan cities and in rural areas, with the right incentives.
- Continue innovation with new delivery models, including in government partnerships, to improve quality of care.
- Invest in frugal innovation in drugs and device manufacturing to transform India into an Asian hub for high-value products.
- Harness technology to expand the reach of existing services such as telemedicine.
- Prioritise investments in the right technology tools, such as electronic health records (EHRs), to enhance care quality and coordination.
- Encourage the adoption of minimum quality standards to improve delivery.
- Invest in enhancing the skills and capabilities of doctors, nurses and allied health personnel through training, career progression and CME.
- Engage with the government on health policy, and share expertise on, for example, procedure costs, pricing and new technology assessments.
- Commit to adopting and promoting ethical behaviours and norms.
- Focus on education and general awareness of healthy living and prevention; invest in worksite wellness programmes for employees.
- Invest a proportion of profits in corporate social responsibility activities, and support social enterprises and causes for a better India.

Must-haves in the health system to achieve the aspirations

As India's health system transitions towards the aspirational state, multiple underlying factors must be in place:

- Availability of public funds, across the central and state governments, with a greater share of Capex than exists now.

- Adequate investments in the private sector, especially incentives to invest in local manufacturing and healthcare delivery in under-served areas.
- Rational pricing for publicly funded services, ensuring fair returns for private providers.
- Supply-side infrastructure readiness to meet anticipated growth in demand, especially following universal coverage.
- Availability of trained talent across geography tiers and among doctors, nurses and allied health professionals.
- High levels of health awareness and individual ownership of health outcomes.
- Health IT and data serving as the backbone for effective implementation of initiatives, tracking outcomes and providing disease surveillance.
- Improved cooperation between the central and state governments for consistent implementation of public initiatives.

A few signposts need to be monitored periodically to measure success and judge whether the transformation of India's healthcare system is on course *(see Figure 8)*.

Figure 8: How do we measure success and on-track performance?

Input	Output	Activity
• Public spending as a percentage of health-care expenditure • Share of total healthcare (and public) spending on public health, prevention, screening and diagnostics, primary care • Percentage of population with health insurance (public/private/social) • Enrollment of citizens to national health register (Aadhaar)	• Life expectancy (at birth, at five years, overall) • Sustainable Development Goals* post–2015 • Bed density, distribution across rural and urban areas • Out-of-pocket spending as percent of total spending • Healthcare professionals per 1,000 people • Penetration of technology (e.g. x-ray equipment) • Basic health awareness	• Overall coverage of preventive measures – DTP3 immunisation – Percentage of population screened for NCDs • Utilisation of healthcare services in the past year – Primary visits and preventive health checkup – Utilisation by different income classes • Percentage of accredited delivery and diagnostic centres • Progress in India-focused R&D (e.g. drugs for tropical diseases)

*Sustainable Development Goals (SDGs) comprise 17 goals for United Nations development agenda beyond 2015; health-related goals include ensuring healthy lives and promoting well-being for all ages, and availability and management of water and sanitation for all
Notes: NCDs is non-communicable diseases; BPL is below poverty line; DTP3 immunisation coverage is the percentage of one-year-olds who have received three doses of combined DPT vaccine
Source: Bain analysis

2.

Point of departure

India has made progress across several healthcare dimensions

- Life expectancy and infant and maternal mortality rates have improved considerably.
- Multiple diseases, including smallpox, have been successfully eradicated, and the number of HIV infections has been reduced.

Significant gaps exist in the current system

- Healthcare continues to be limited by infrastructure shortcomings and lack of an organised delivery system.
- Low spending on healthcare coexists with disproportionately high out-of-pocket spending, given that less than 25% of the population is covered by health insurance.
- Regional distribution of infrastructure and human resources is imbalanced. Although rural India accounts for about 70% of the population, it has less than one-third of the nation's hospitals, doctors and beds, resulting in large disparities in health outcomes across states.
- Healthcare in India is biased towards curative care, with a significant drop-off in number of patients along the treatment cycle, due to under-diagnosis and inappropriate care.

Current megatrends will render the existing healthcare system unsustainable

- At 1.3% of GDP, public spending on healthcare in India is among the lowest in both developed and developing nations.
- The rapid rise in NCDs and the slow decline in the prevalence of CDs have resulted in a dual disease burden.
- Changing demographics that yield a higher proportion of geriatric individuals in the overall population—11% in 2025—will increase the burden on supply-side infrastructure.
- A growing mass market will lead to a corresponding increase in the demand for healthcare.

Several indicators hint at the strong growth of healthcare spending in the coming decade

- Healthcare consumption correlates strongly with economic growth and is expected to increase significantly over the next decade.
- Healthcare has attracted large private equity and venture capital investments in recent years and is expected to remain a priority sector for investment.
- Healthcare is a priority for the central government and for some state governments.
- Disruptive technologies have the potential to significantly increase access and affordability over the next decade.

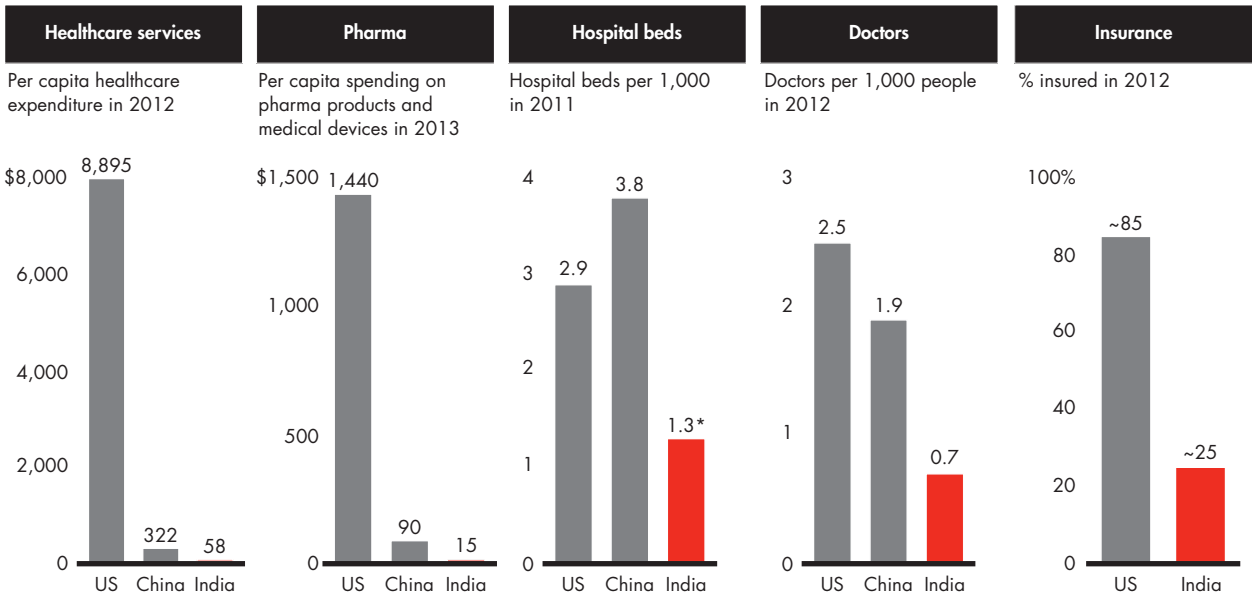
Figure 9: Scorecard: India's health is improving but much remains to be done

		Value	Change	MDG target	Comparators				Severity
					US	Brazil	China	Thailand	
Overall indicators	• Life expectancy (in years, 2012)	66	+13% (1990-2012)	-	79	74	75	74	• India in the 3rd quartile
	• Infant mortality rate (per 1,000 live births, 2012)	44	-50% (1990-2012)	27	6	13	12	11	• Not expected to meet MDGs in 2015
	• Maternal mortality rate (per 100,000 live births, 2012)	178	-68% (1990-2012)	109	27	68	36	28	• Not expected to meet MDGs in 2015
	• Neonatal mortality rate (per 1,000 live births, 2012)	31	-40% (1990-2012)	-	4.1	9.2	8.5	8.1	• 780K neonatal deaths in 2012
Public health indicators	• Penetration of sanitation (% population without access, 2012)	64%	-14% (2000-2012)	38%	0%	19%	35%	7%	• ~600M people defecate in the open in India
	• Malnutrition prevalence, weight for age (% of children under 5, 2006)	44%	-2% (1999-2006)	26%	1%	2%	3%	7%	• ~1.3M deaths due to malnutrition every year
	• DTP3 vaccination (% immunised, 2013)	72%	+20% (2000-2013)	100%	94%	95%	99%	99%	• Only 61% children fully immunised in India
	• Smoking prevalence (% of population, 2009)	14%	-30% (1993-2009)	-	18%	15%	28%	21%	• Additional 21% use smokeless tobacco in India
CD prevalence	• Tuberculosis (cases in millions, 2012)	2.8	-38% (2000-2012)	-	0.02	0.12	1.4	0.11	• Highest number of TB cases in the world
	• Malaria (cases in millions)	1.1	-48% (2001-2012)	-	0	0.24	0.003	0.03	• 273M people in India at high risk of malaria
NCDs prevalence	• Diabetes (cases in millions, 2012)	65	+103% (2000-2013)	-	24	12	98	3	• Additional ~80M people with prediabetes
	• Cancer (annual incidence in millions, 2012)	1	+25% (2004-2012)	-	1.6	0.4	3.1	0.1	• 500K+ deaths due to cancer every year in India

Positive trend Negative trend

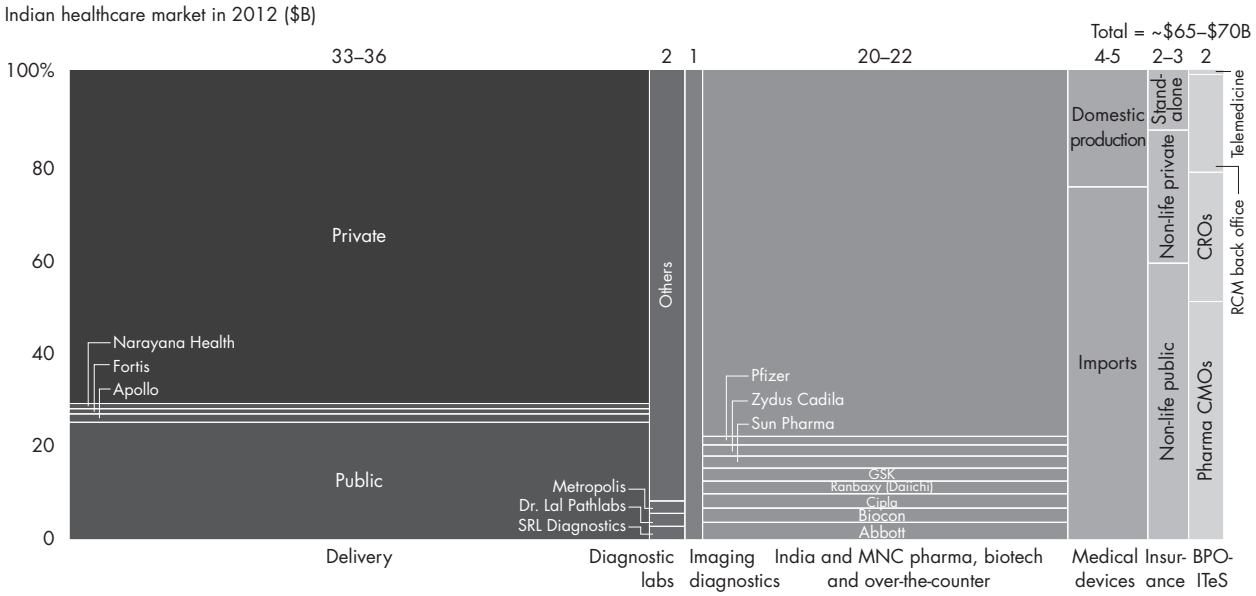
Notes: MDGs is Millennium Development Goals; NCDs is non-communicable diseases; CDs is communicable diseases; DTP3 is diphtheria-tetanus-pertussis immunisation
Sources: World Health Organization; World Bank; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 10: Healthcare continues to be under-served and under-consumed



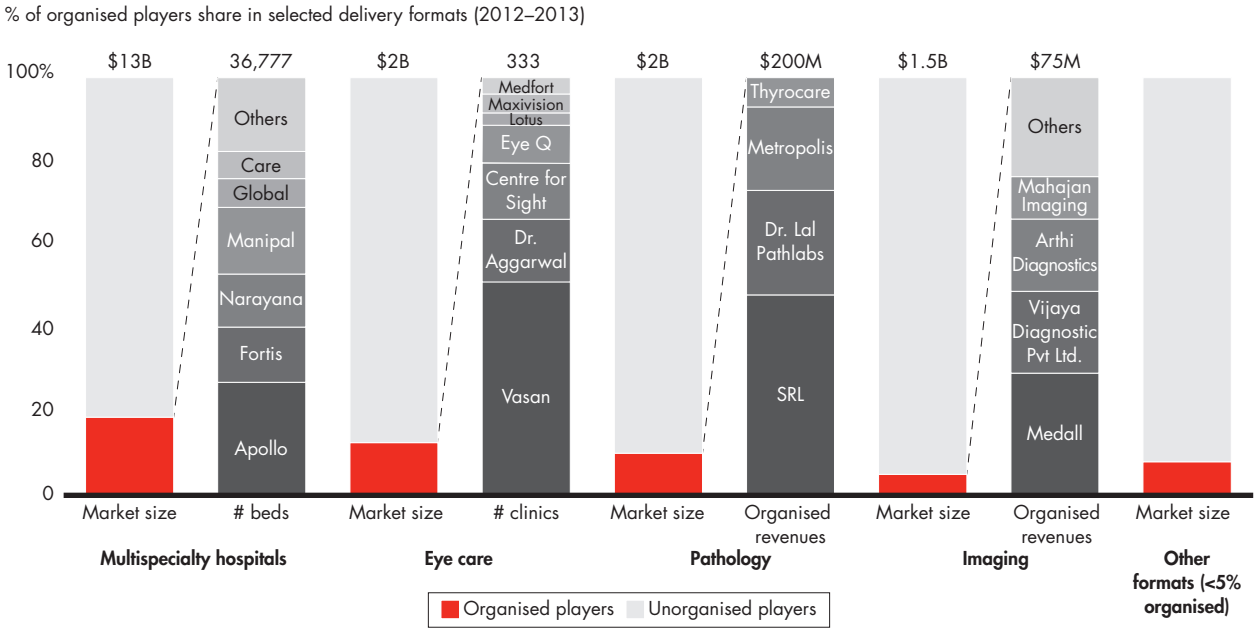
*Number of functional beds in India is 0.9 per 1,000
Notes: The number of doctors does not include AYUSH doctors; including AYUSH doctors would make the value 1.3 in India; the number of doctors data for US is for 2011
Sources: Euromonitor; World Health Organization; World Bank; Bain analysis

Figure 11: India's healthcare market is nascent and highly fragmented



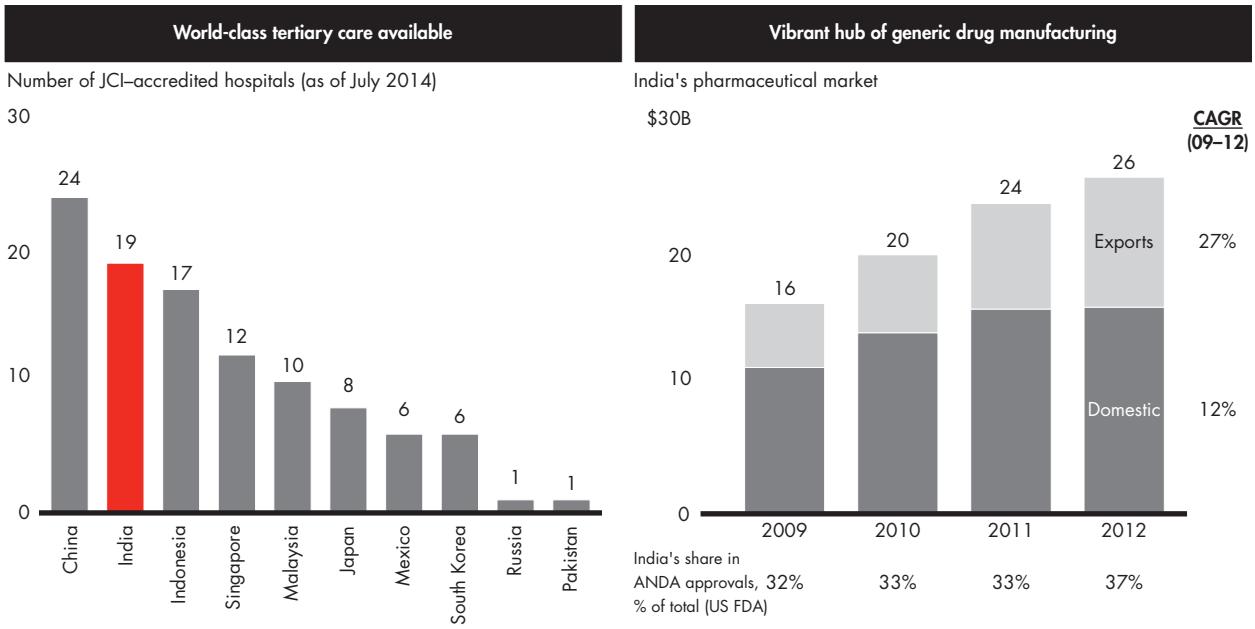
Notes: BPO is business process outsourcing; ITeS is IT-enabled service; CMO is contract manufacturing organisation; CRO is contract research organisation; RCM is revenue cycle management; GSK is GlaxoSmithKline
Sources: IBEF; IRDA; Frost & Sullivan; Firstcall; BMI India Pharmaceuticals and Healthcare Report 2011; S&P Capital IQ; Euromonitor; Bain analysis

Figure 12: Delivery is highly unorganised across different formats



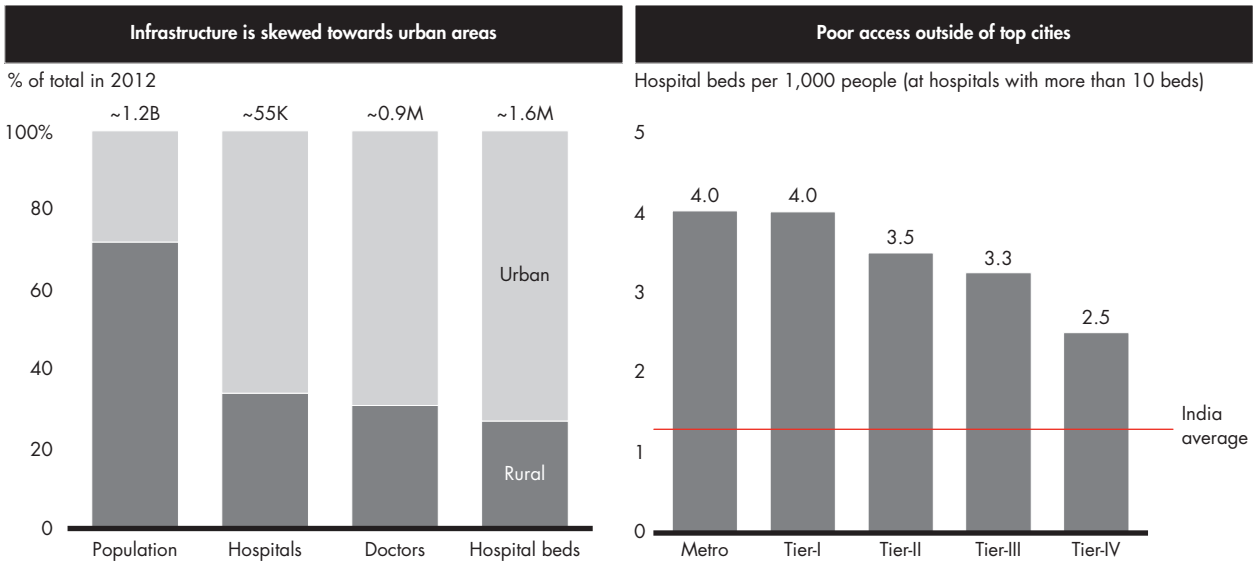
Note: Market size is the size of the underlying market in $B
Sources: Annual reports; VCCEdge; Bain analysis

Figure 13: India has emerged as a provider of quality tertiary care and a market leader in generic drugs



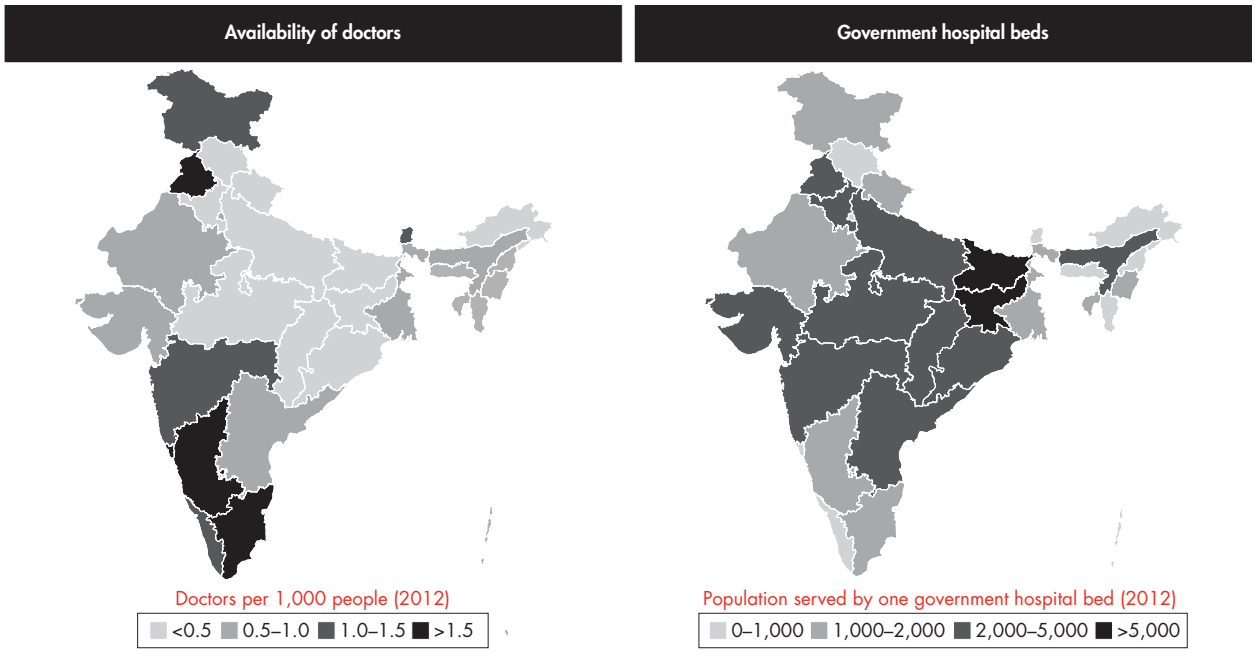
Notes: Includes hospitals accredited under the hospital care programme; ANDA is abbreviated new drug application; FDA is Food and Drug Administration
Sources: Joint Commission International (JCI); Bain analysis

Figure 14: Healthcare supply is skewed along rural and urban lines



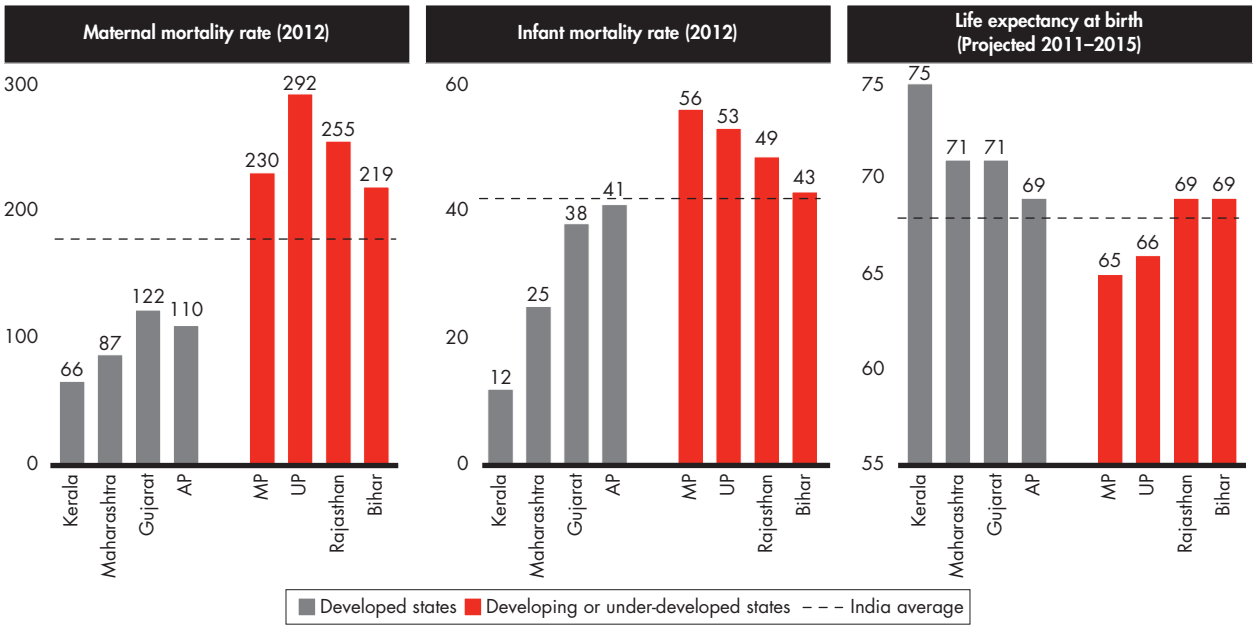
Notes: Number of hospitals does not include community health centres (CHCs) and primary health centres (PHCs); number of hospitals estimated based on bed-to-hospital ratio, assuming similar ratio as 2005; metro is cities with population greater than 1 million; Tier-I population lies between 100,000 and 1 million; Tier-II between 50,000 and 100,000; Tier-III between 20,000 and 50,000; Tier-IV between 10,000 and 20,000
Sources: IMS data; Census 2011 data; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 15: There are large variations in infrastructure across states…



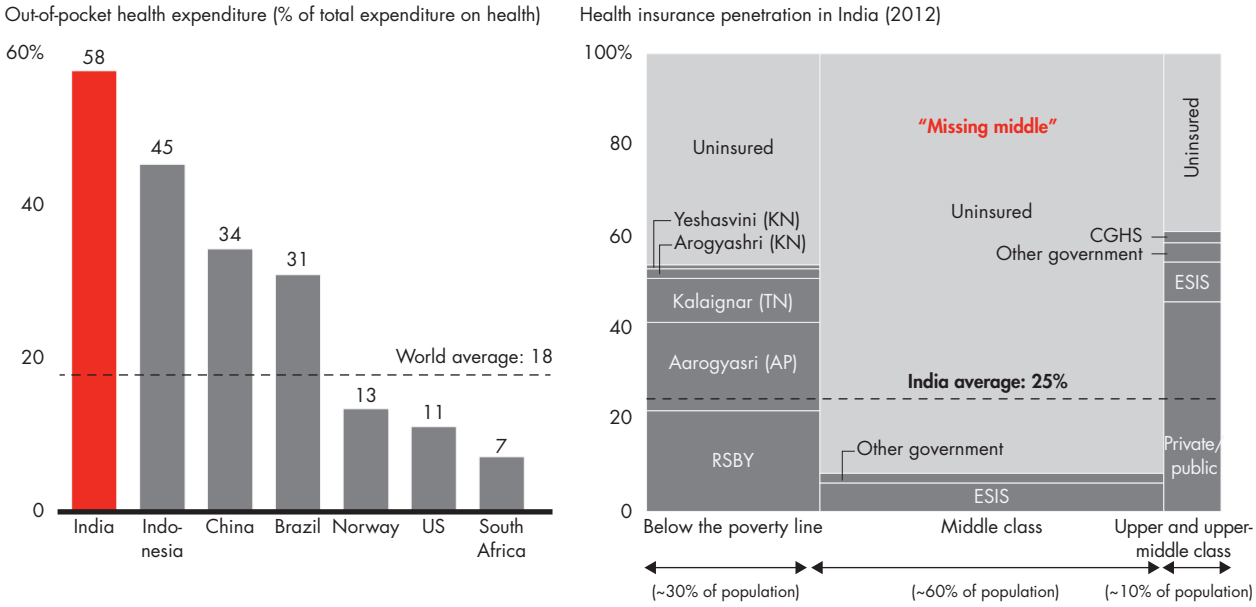
Sources: Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 16: …and significant disparity in health outcome parameters



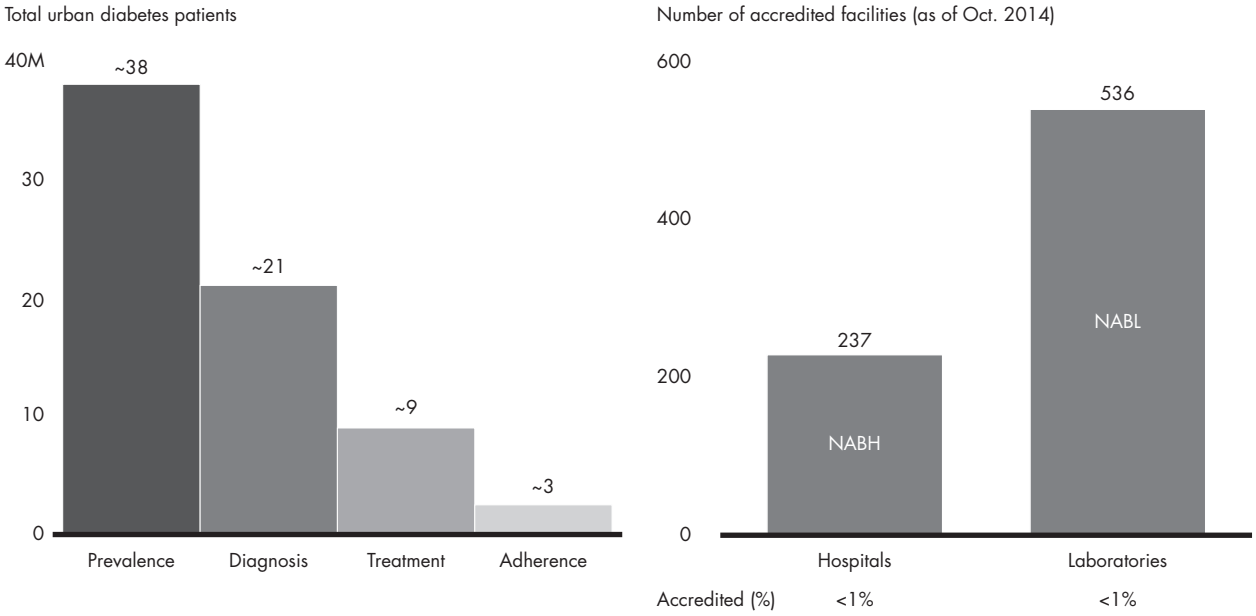
Notes: Infant mortality rate is per 1,000 live births; maternal mortality rate is per 100,000 live births; MP is Madhya Pradesh; UP is Uttar Pradesh; AP is Andhra Pradesh
Sources: United Nations Development Program; Inequality-adjusted Human Development Index (IHDI); RBI database; Census India; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 17: At an individual level, Indians are vulnerable due to low coverage; out-of-pocket spending is the primary source of funds



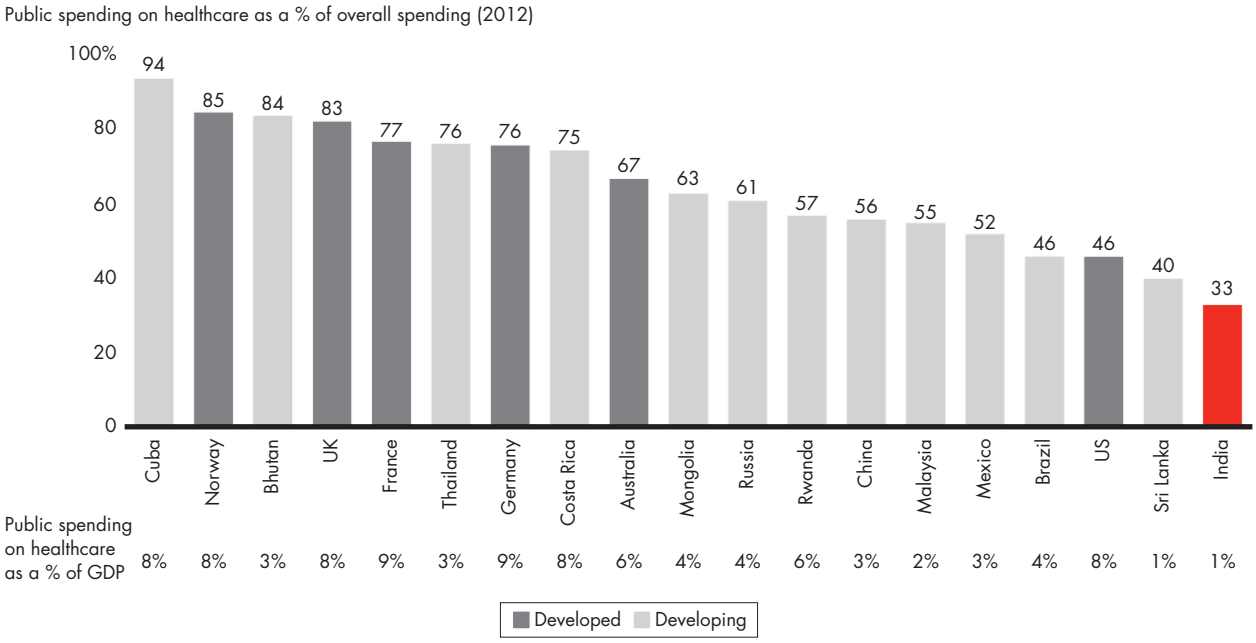
Notes: "Missing middle" refers to the significant proportion of the middle-income population which remains uninsured; ESIS is Employees' State Insurance Scheme of India; CGHS is Central Government Health Scheme; RSBY is Rashtriya Swasthya Bima Yojana
Sources: Public Health Foundation of India; Planning Commission; World Bank; World Health Organization; Bain analysis

Figure 18: Poor quality of care is demonstrated by large drop-off in diagnosis and treatment, and low accreditation of care centres



Notes: NABH is National Accreditation Board for Hospitals and Healthcare Providers; NABL is National Accreditation Board for Testing and Calibration Laboratories
Sources: NABH; NABL; Bain analysis

Figure 19: India's public spending on healthcare is among the lowest throughout emerging and developed countries

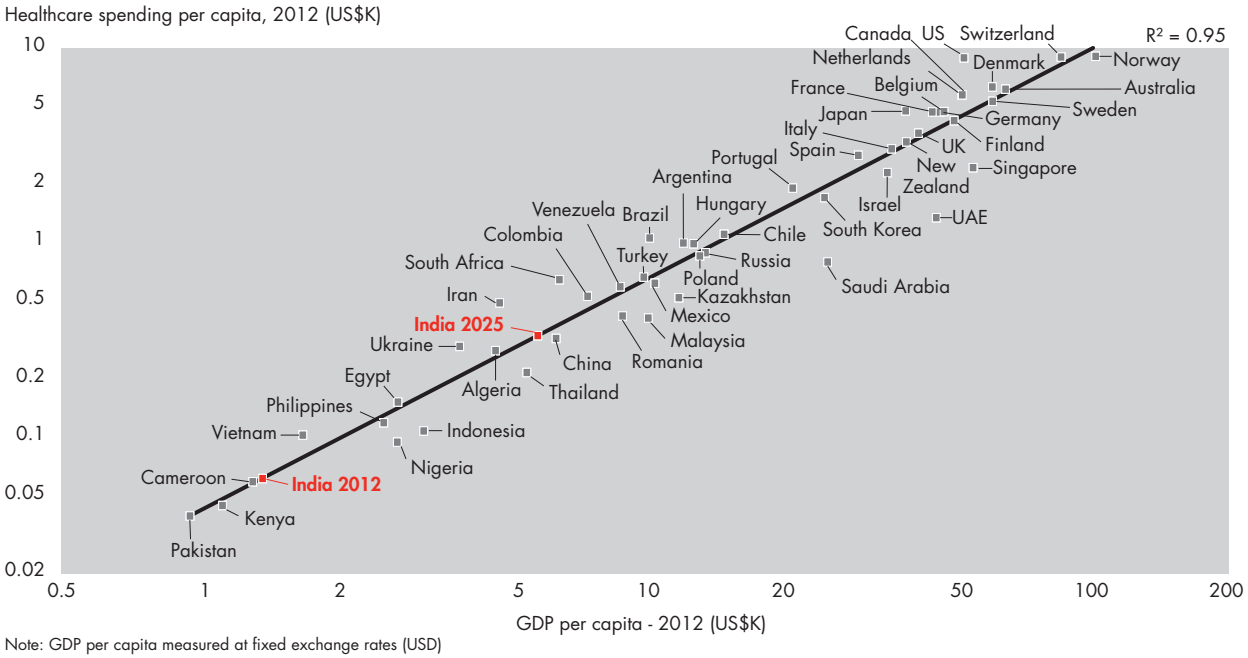


Sources: World Bank; Bain analysis

Figure 20: NDA government has highlighted several focus areas that include universal healthcare, public health and sanitation

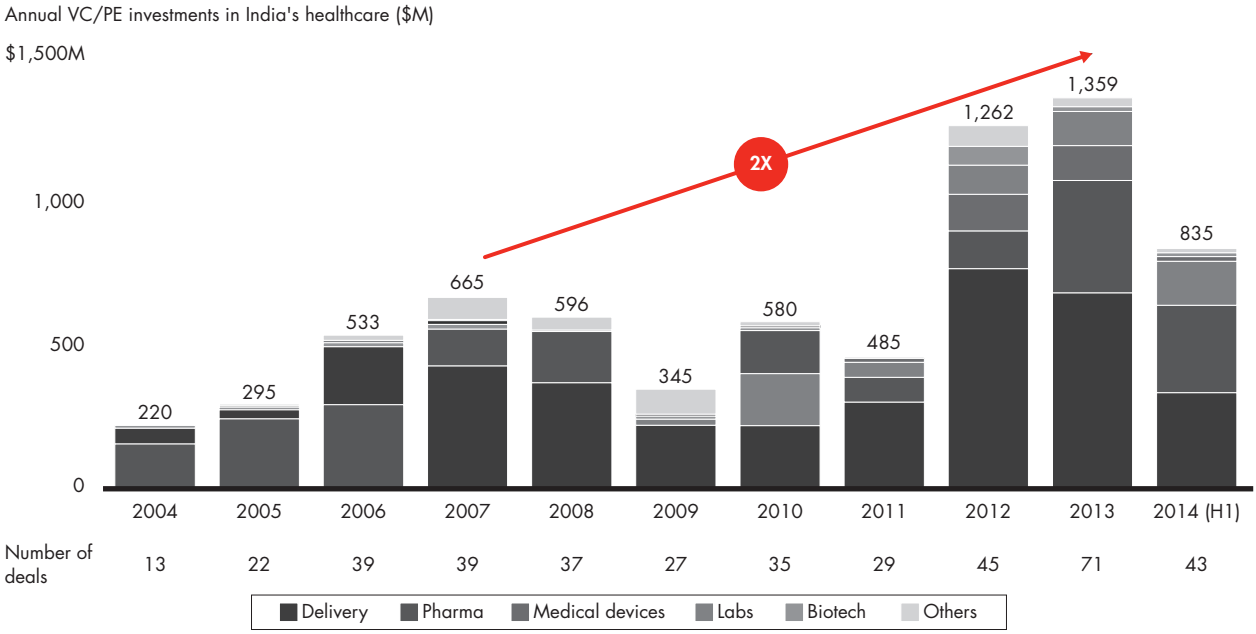
Note: Size of the word refers to the frequency of occurrence of words in BJP 2014 manifesto and articles related to government announcements on healthcare priorities published in leading Indian dailies (*Times of India; Financial Express; Business Line; Economic Times; Mint; The Hindu*) for three months from June to September 2014
Source: Bain analysis

Figure 21: Outlook and opportunity: Consumption will significantly increase with economic growth



Note: GDP per capita measured at fixed exchange rates (USD)
Sources: Euromonitor; Bain analysis

Figure 22: The surge of VC/PE investments in recent years has eased funding constraints on growth



Notes: VC/PE is venture capital/private equity; H1 is the first half of the year
Sources: Bain PE database; Bloomberg; Bain analysis

3.

Point of arrival

Aspiration for universal insurance with government primarily focussing on its role as payer

- India should aspire to universal insurance coverage for essential care with low out-of-pocket spending. The government should focus on its role as a payer and regulator and drive provision of healthcare in under-served areas, across the care continuum. In addition, the government should take the lead in facilitating public health through a focus on awareness, education, sanitation, immunisation and implementation of public health initiatives. The private sector should lead the provision of care and enable expansion of insurance coverage to urban India.

Improved access and affordability with higher public spending on healthcare

- Total spending on healthcare is anticipated to reach about 6% of GDP by 2025, with out-of-pocket spending at less than 30%. Public spending on healthcare should increase to 3% of GDP and account for ~50% of overall health expenditure, driven by greater government prioritisation of healthcare.

- Private insurance is expected to grow at a compound annual rate of about 25% to cover the top 25% (by income) of the population. Public insurance will provide essential care to 60% of the population.

- Capex spending is likely to grow from less than 10% of overall healthcare spending to 15%. Expanding infrastructure will lead to 1.8 million additional functional beds, improving the density of beds from 0.9 per thousand today to 2.0 per thousand in 2025.

Shifts in the market aligned with priorities for healthcare

- Outpatient spending is likely to increase, as we see a shift in focus towards primary and preventive care and increased prevalence of home care.

- The share of rural spending will rise with increased affordability and disproportionate public spending in rural areas.

- Share of spending on NCDs is expected to reach 60% of expenditures, an increase that reflects lifestyle changes that increase the burden of NCDs, a declining spend on CDs as the burden falls and a demographic shift towards an ageing population.

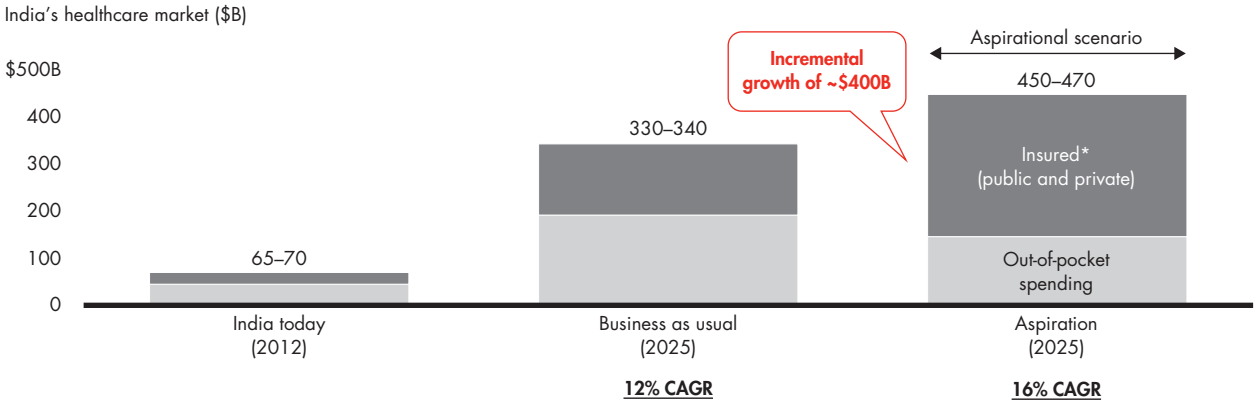
- As the government rolls out basic insurance for the lower-income deciles in population, access to healthcare will become more equitable and consumption of healthcare services will increase significantly, especially at the bottom of the pyramid.

Figure 23: India should aspire to universal insurance, with government focus on payer role and private sector-led provider services

Point of departure: India today	Point of arrival: 2025 Business as usual	Point of arrival: 2025 Aspirational scenario
• High out-of-pocket spending, low insurance penetration; public coverage only to lowest-income deciles for select inpatient services (RSBY)	• Universal "basic" insurance limited to lower-income deciles; high out-of-pocket spending	• Universal insurance (public, private) for essential care to all; low out-of-pocket spending
• Dual role of government with larger, but sub-optimally administered, public provider services	• Government continues to play major role in provision across primary and tertiary; sub-optimal public services	• Minimal public provision focused on under-served areas and tertiary care; major focus on payer role and public health
• Significant private role in provision with few public-private partnerships	• Significant private role in provision, limited success with public-private partnerships	• Private sector-led care provision and coverage for those who can afford it – Delivery enhanced by successful public-private partnerships
• Low public spending on healthcare	• Status quo in allocation of public spending	• Significant increase in public spending, in line with other global benchmarks

Note: RSBY is Rashtriya Swasthya Bima Yojana
Source: Bain analysis

Figure 24: The healthcare market in India is expected to grow to between $450 billion and $470 billion by 2025

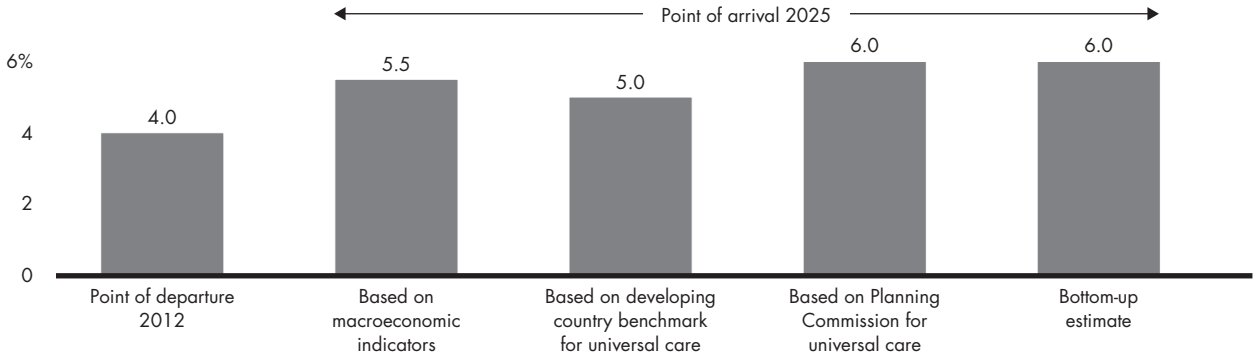


	Business as usual (2025)	Aspiration (2025)
	12% CAGR	**16% CAGR**
Key assumptions	• Public spending to remain ~1.3% of GDP • Capex continues to be ~10% of healthcare spending • Private insurance to grow at historic rates (~19%) • Public insurance for the population that is below the poverty line (~25%)	• Public spending increases to ~2.5% of GDP • Capex increases to ~15% of healthcare spending • Private insurance to grow at a CAGR of ~25% • Public insurance for ~60% of population

*Also includes services free at point of care, e.g. public delivery
Note: 1USD=INR 55
Source: Bain analysis

Figure 25: Healthcare spending and consumption are likely to reach 5% to 6% of GDP by 2025

Healthcare spending in India as a % of GDP

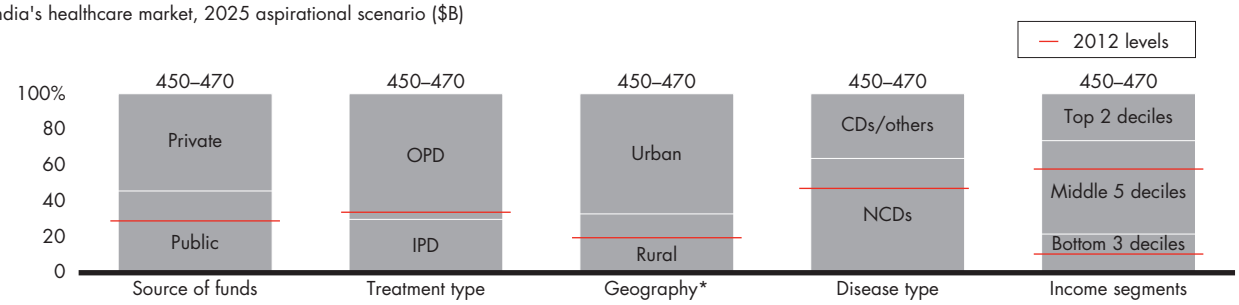


	Based on macroeconomic indicators	Based on developing country benchmark for universal care	Based on Planning Commission for universal care	Bottom-up estimate
Key assumptions	• Growth in per capita spending correlated with GDP per capita	• Growth in per capita spending based on Thailand's experience in first 10 years of UHC	• Public spending estimate of 3.3% for UHC in 2025 by Planning Commission • Private spending growth based on historical trends	• Public spending at 2.5%–3% of GDP • Payer coverage to 85% of population (public coverage for bottom six deciles) • Out-of-pocket expenditure falls to 30% of total expenditure

Notes: 1 USD=INR 55; UHC is universal health coverage
Sources: World Bank; MOSPI; IMF; Public Health Foundation of India; Planning Commission; Bain analysis

Figure 26: We expect a shift towards increased outpatient and non-communicable disease care, and towards equitable access for the rural and lower-income population

India's healthcare market, 2025 aspirational scenario ($B)



	Source of funds	Treatment type	Geography*	Disease type	Income segments
Increase	Share of public funds by ~13 percentage points:	Share of OPD by ~5 percentage points:	Share of rural by ~7 percentage points:	Share of NCDs by ~9 percentage points:	Share of bottom three deciles by ~8 percentage points:
Rationale	• Greater priority to healthcare in government budget • Move towards UHC, with government focus on payer role • Private sector to grow at 13% to 15%	• Shift towards preventive and primary care • Increased prevalence of home care • Increased consumption of OPD, as insurance covers OPD in future	• Increased access and affordability to rural population • Disproportionate increase in rural spending by government • Growth in urban areas primarily in Tier-II, Tier-III towns	• Reduced burden of major CDs • Shift in demographics towards elderly population • Lifestyle changes leading to an increase in NCDs	• Significant increase in consumption at the bottom of the pyramid • Move towards equitable access to healthcare, with government-provided insurance for bottom six deciles

*Urban and rural divide per the definition set by census of India; urban is defined as a town with minimum population of 5,000, minimum density of 400 per sq. km. and more than 75% of the working male population engaged in non-agricultural employment
Notes: 1 USD=INR 55; UHC is universal health coverage; OPD is outpatient delivery; IPD is inpatient delivery; NCDs is non-communicable diseases; CDs is communicable diseases
Source: Bain analysis

4.

Health systems

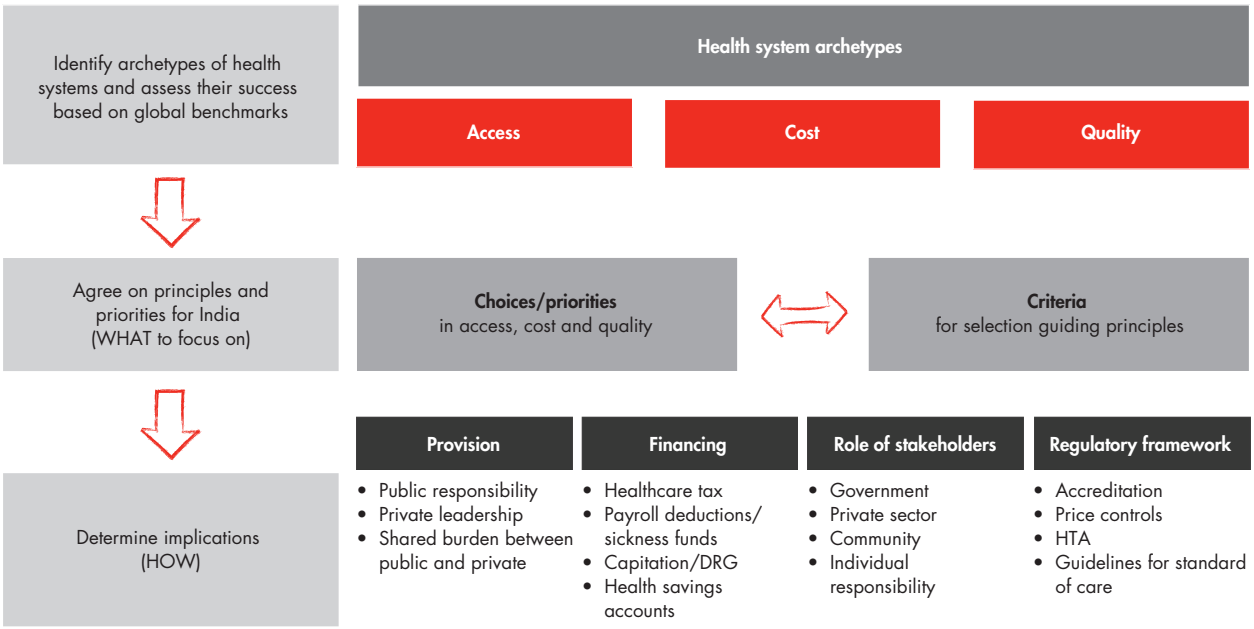
Indian health system is at the crossroads; time for review

- Healthcare in India currently faces the unique challenges of poor access, low affordability and high variation in quality.
- It's time to review the current health system, especially in light of the experiences of other health systems, in particular those in emerging markets such as Thailand, Indonesia, Mexico and China which recently made attempts to provide affordable access to large populations.
- Multiple health system archetypes exist, each with varying degrees of effectiveness. India must take lessons from these systems into account but adopt an India-centric health system that is capable of powering economic development in India.

Clear choices exist to optimise access, cost and quality

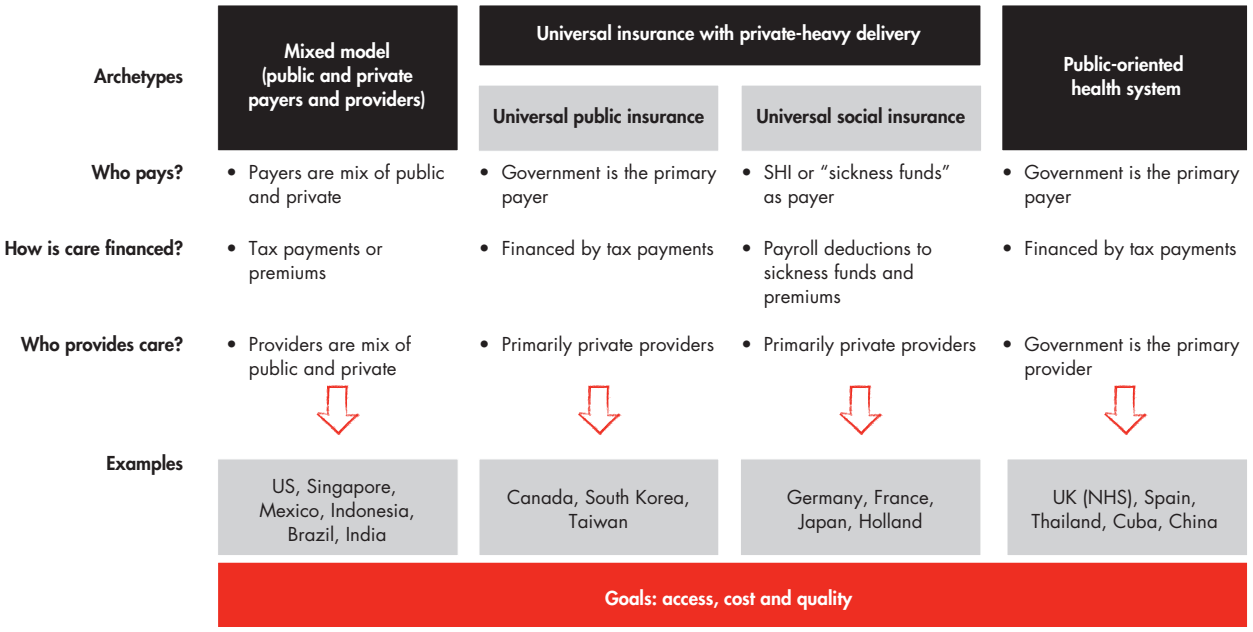
- India should adopt universal access to essential healthcare for all, with provision being led by the private sector, and the government shifting towards a payer and regulator role, with provision support focussed on under-served areas/segments.
- As access expands, India should proactively manage the risk of healthcare cost inflation and ensure affordability for a defined basket of essential services. To accomplish this, the health system should focus on: 1) encouraging healthy living practices; 2) shifting payment models away from the fee-for-service model; 3) instituting reasonable pricing norms on essential goods and services; 4) applying HTA tools to determine access to innovation; and 5) limiting costly imports through focus on frugal innovation and "Make in India."
- Minimum assured quality standards need to be defined and institutionalised, with the following priorities: 1) ensuring regular data capture at points of care, and tracking and measurement of outcomes; 2) achieving greater accreditation of facilities; 3) moving towards protocol-based care; and 4) instituting effective governance to ensure compliance in the fragmented Indian delivery landscape.

Figure 27: Approach to defining India's health system priorities



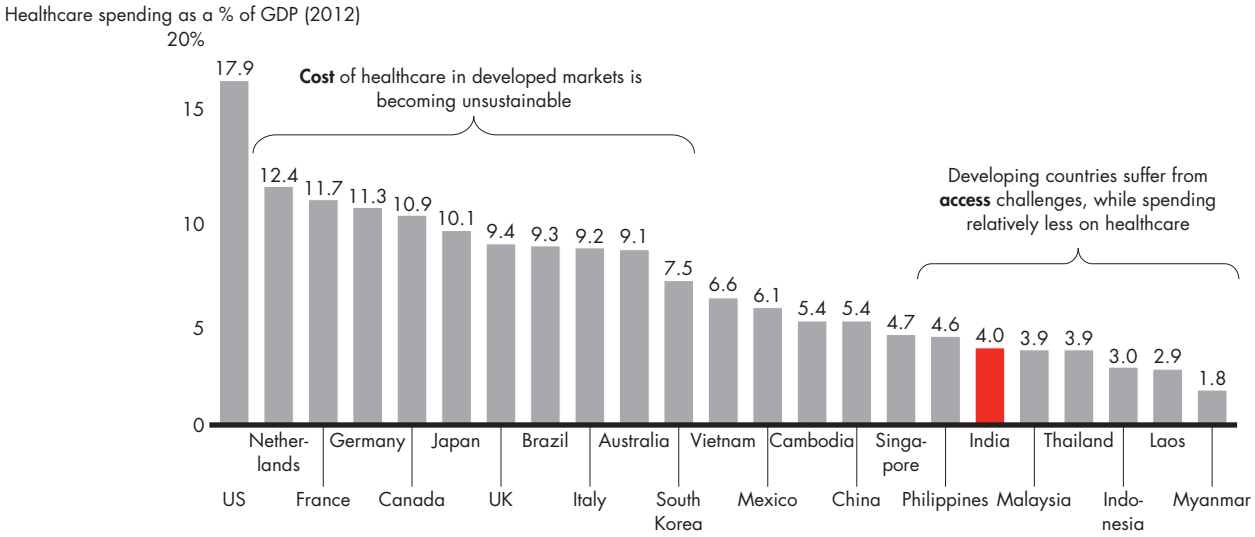
Notes: DRG is diagnosis-related group; HTA is health technology assessment
Source: Bain analysis

Figure 28: Three broad health system archetypes exist globally



Notes: SHI is social health insurance; NHS is National Health Service
Sources: The Commonwealth Fund; Bain analysis

Figure 29: Significant variations in healthcare spending by country



Sources: World Bank; Bain analysis

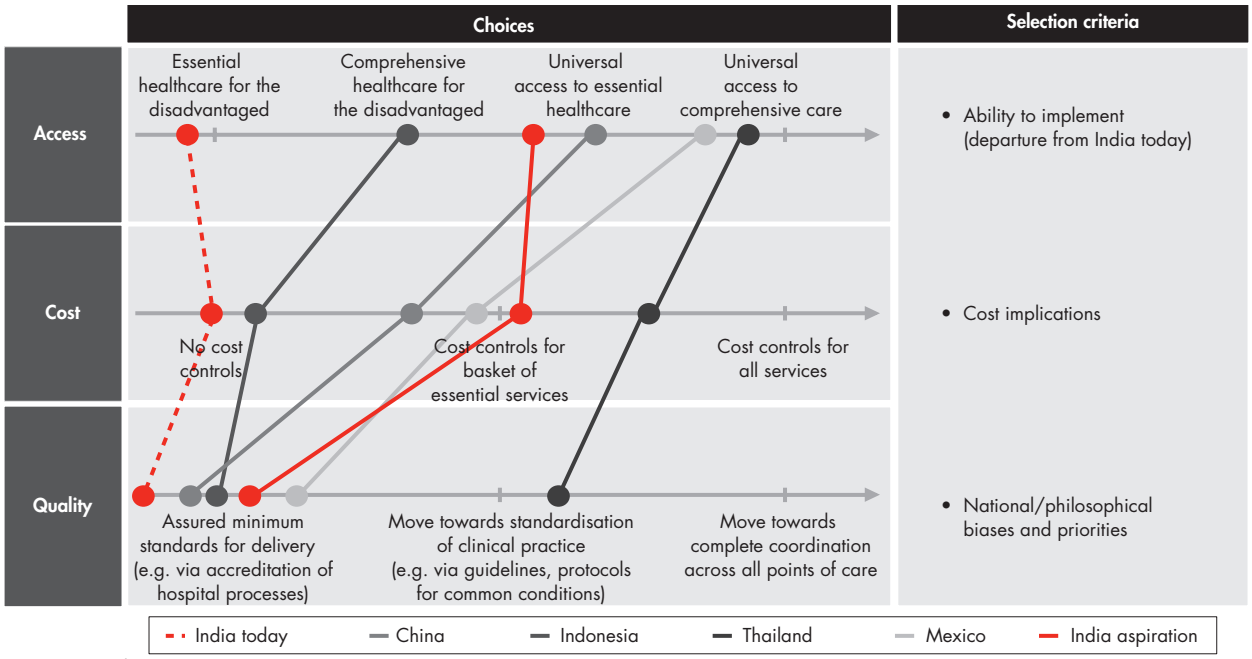
Figure 30: Performance of health systems in developed economies is mixed

Health system archetype	Mixed model	Universal public insurance and private delivery		Universal social insurance and private-heavy delivery				Public-oriented health system			
	US	AUS	CAN	FRA	GER	NETH	SWZ	NOR	SWE	NZ	UK
Overall	#11	#4	#10	#9	#5	#5	#2	#7	#3	#7	#1
Quality (overall)	#5	#2	#9	#8	#7	#5	#3	#11	#10	#4	#1
– Effective care	#3	#4	#7	#9	#6	#5	#8	#11	#10	#2	#1
– Safe care	#7	#3	#10	#2	#6	#7	#4	#11	#5	#9	#1
– Coordinated care	#6	#4	#8	#9	#10	#5	#3	#7	#11	#2	#1
– Patient-centred care	#4	#5	#8	#10	#7	#3	#2	#11	#9	#6	#1
Access (overall)	#9	#8	#9	#11	#2	#4	#2	#6	#4	#7	#1
– Timeliness of care	#5	#6	#11	#10	#4	#2	#1	#8	#9	#7	#3
Cost	#11	#9	#5	#10	#4	#8	#7	#3	#1	#6	#1
Efficiency	#11	#4	#10	#8	#9	#7	#6	#4	#2	#3	#1
Equity	#11	#5	#9	#7	#4	#8	#2	#6	#1	#10	#2
Healthy lives	#11	#4	#8	#1	#7	#5	#3	#6	#2	#9	#10

Top 3 | Middle 5 | Bottom 3

Note: Ratings based on patients' and physicians' survey results conducted by The Commonwealth Fund
Sources: The Commonwealth Fund, June 2014; Bain analysis

Figure 31: Multiple choices must be made on access, cost and quality



Source: Bain analysis

Figure 32: Different approaches used by health systems in emerging markets to increase access

	China	Mexico	Indonesia	Thailand
Goals	UHC for essential care	UHC for comprehensive care	UHC for comprehensive care (target by 2019)	UHC for comprehensive care
Coverage	• Essential coverage (inpatient, outpatient and catastrophic coverage) • Diagnosis-related group model of reimbursement via public schemes	• Comprehensive coverage (inpatient and outpatient) • 50% public (Seguro Popular) and 50% private, employment-linked insurance	• Comprehensive coverage (preventive, curative, rehab) • Integrated central and regional schemes; single healthcare fund	• Comprehensive coverage (inpatient, outpatient and prevention) • Universal public scheme (UCS)
Financing	• Contributions from central government, provincial government and individuals in a 2:2:1 ratio	• Annual fee in addition to taxes, payroll contribution • Public insurance free for bottom four income deciles	• Contributions from government, employers • Individual contribution for top five income deciles	• "Sin taxes" on alcohol, tobacco beyond general tax • Cap on provider payments
Result	• Coverage expanded from 23% to 96% (2003–2011) after successful pilots in provinces	• Coverage expanded from 50% to 100% (2004–2014) • However, limited access due to insufficient infrastructure	• Currently 63% coverage across multiple schemes • Inadequate budget for full-scale implementation	• Coverage increased from 70% to 99% (2001–2012)
Learning	• Target essential coverage as a UHC starting point • Pilot initiatives before scaling up • Move away from fee-for-service models	• Ensure supply side infrastructure readiness to meet expected demand following UHC • Public funding for coverage for bottom deciles, without ability to pay	• Unify schemes (central and regional) under single umbrella for effective UHC roll out • Ensure adequate financing to support plan	• Consider additional sources (e.g. "sin taxes") to finance public spending • Limit risk of supply side moral hazards using payment caps

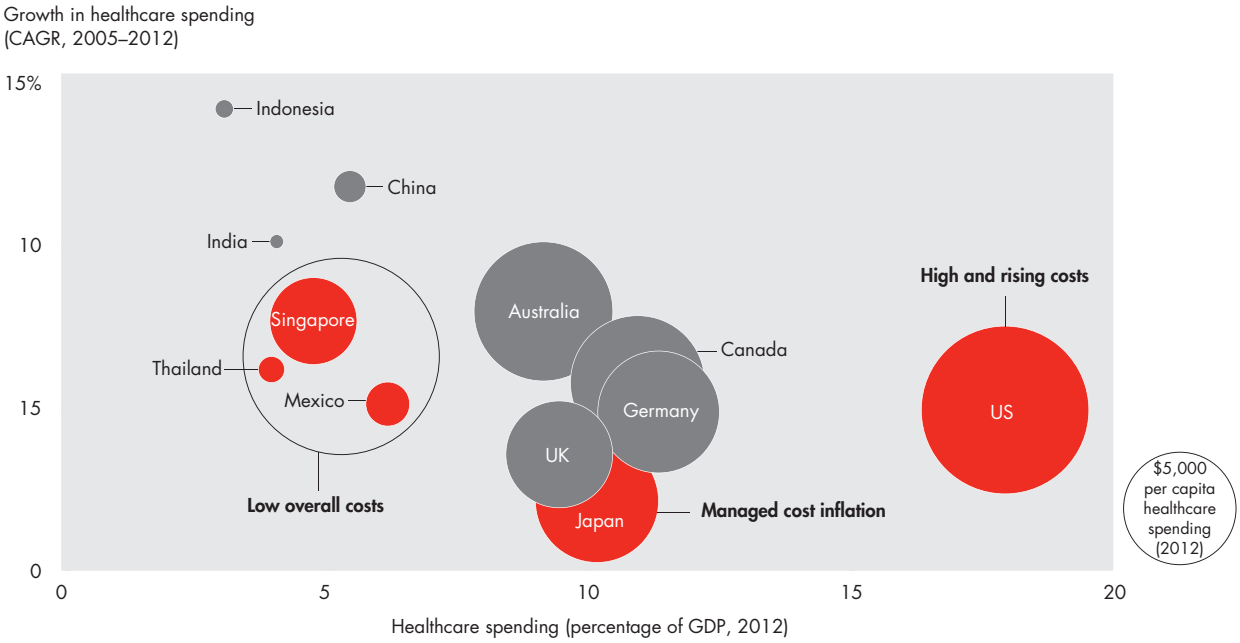
Note: UHC is universal health coverage
Source: Bain analysis

Figure 33: The first step to expanding access in India is providing coverage for essential care

What should be covered in essential healthcare in India?	Rationale
• List of services that have maximum population impact – Pregnancy-related care – Family planning and child health – Common illness and elderly care – Selected CDs: malaria, tuberculosis, leprosy – Selected NCDs: CVDs, diabetes – Preventive and primary care: selected services in outpatient, diagnostic care, preventive health checkups – Catastrophic care	• Universal coverage for comprehensive care is difficult to fund for countries with a large population (e.g. China, India)
• Proposed extension of RSBY with increase in benefits cap to INR 60,000 per year per family (~2x current maximum coverage)	• Successful implementation of UHC is heavily dependent on adequate supply-side infrastructure and delivery capacity
• Must define basket of essential services but ensure availability to everyone	• Consensus view of WHO and UNICEF on essential healthcare packages for developing countries based on feasibility and cost-effectiveness

Notes: CVDs is cardiovascular diseases; UHC is universal health coverage; RSBY is Rashtriya Swasthya Bima Yojana; NCDs is non-communicable diseases; CDs is communicable diseases; WHO is the World Health Organization; UNICEF is the United Nations Children's Fund
Source: Bain analysis

Figure 34: Healthcare costs and inflation: How have countries fared?



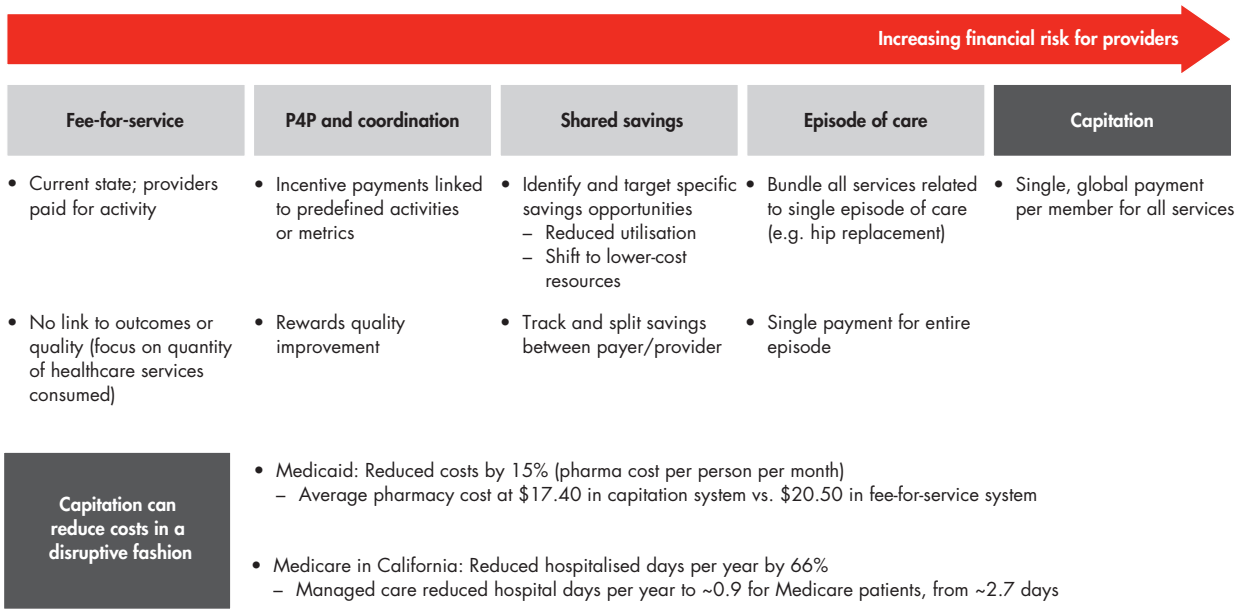
Sources: World Bank; Euromonitor; Bain analysis

Figure 35: Cost-saving methods employed by various national health systems

	Thailand	Mexico	Japan	Singapore
1 Focus on prevention and healthy living	✓✓ (Primary care as gatekeeper)		✓ (Free primary care to all)	✓ (>3% health budget for healthy living campaign)
2 Price regulations for drugs/procedures	✓ (Price of drugs under NLEM regulation)	✓ (Drug purchase price regulated)	✓✓ (Single fee schedule dictated by government)	✓ (Regulations for both private, public care)
3 Capitation/diagnosis-related group-based system for reimbursements	✓✓ (Capitation model for outpatient; diagnosis-related group for inpatient)	✓ (Capitation model)		✓ (Several general practitioners on capitation model)
4 Incentives to optimally consume care			✓✓ (Rationing of expensive drugs, procedures, e.g. MRI)	✓✓ (Rationing of supply-side: tech, care volumes, doctors)
5 Individual contribution and personal accountability	✓ (Co-payments were initially mandated; now discontinued)			✓✓ (Mandate own contribution, co-pays)
6 Health technology assessment (HTA) framework for evaluating cost-effectiveness of new technology	✓✓ (HTA by government to guide policy)	✓ (HTA tools in development stage)	✓ (HTA tools in development stage)	✓✓ (HTA by government council and public hospitals)

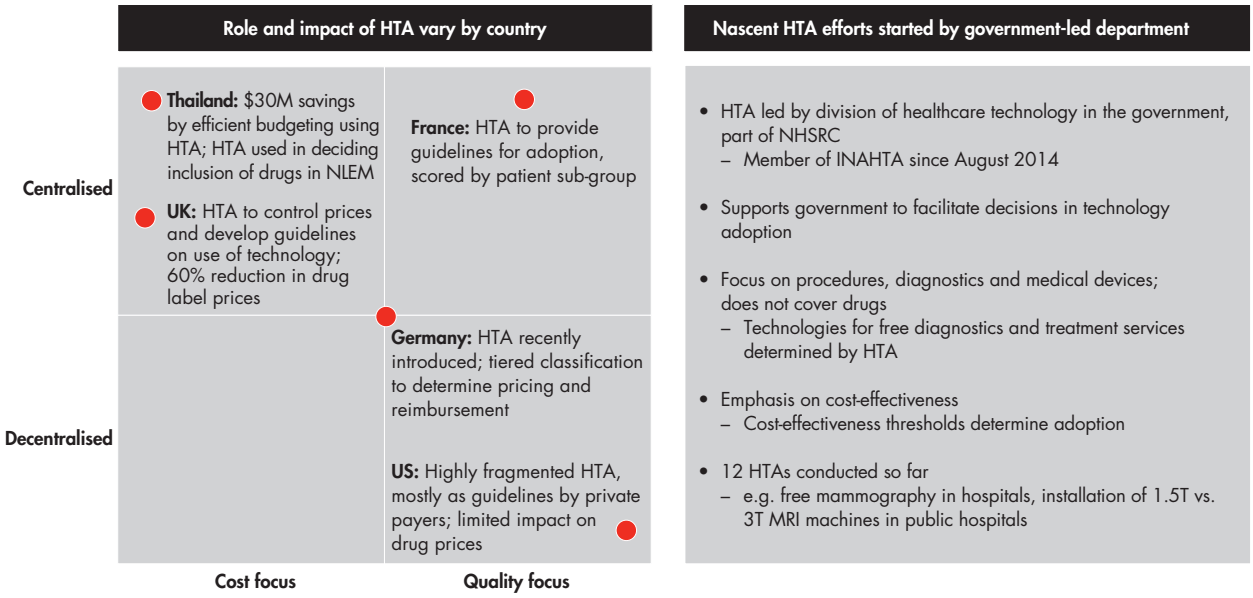
Notes: UHC is universal health coverage; NLEM is National List of Essential Medicines
Source: Bain analysis

Figure 36: Payment models need to move beyond fee-for-service; capitation models can limit costs while improving outcomes



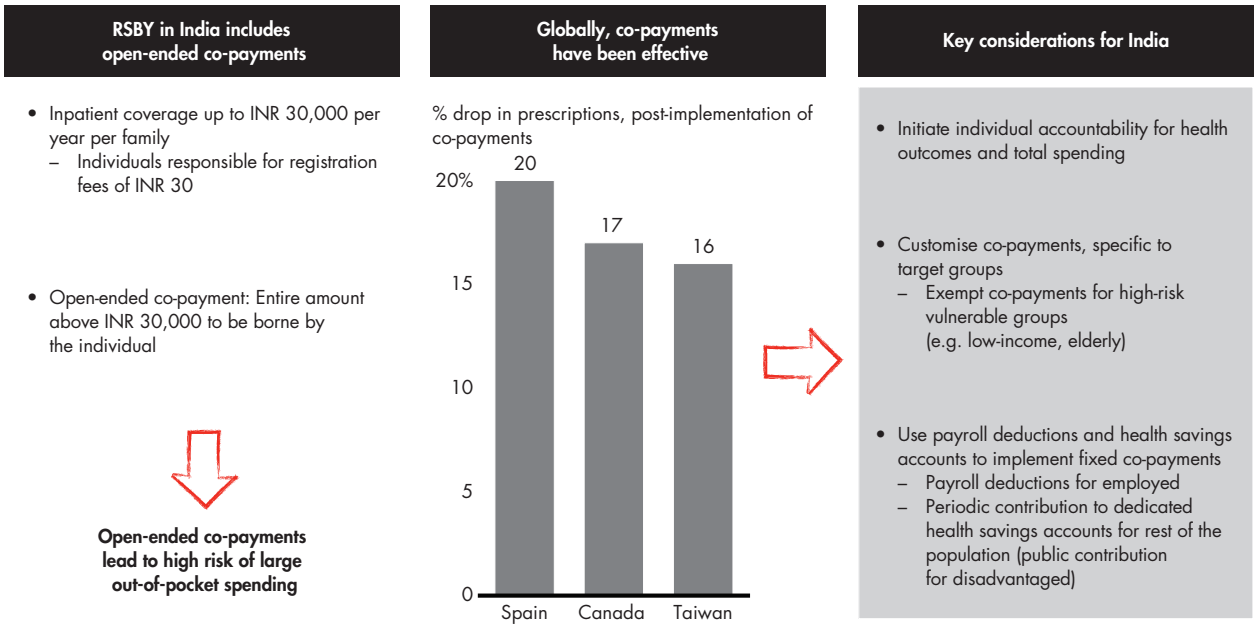
Note: P4P refers to pay-for-performance model
Sources: Center for Health Care Strategies; Health Care Incentives Improvement Institute; Bain analysis

Figure 37: India needs to improve existing health technology assessment capabilities while limiting costs



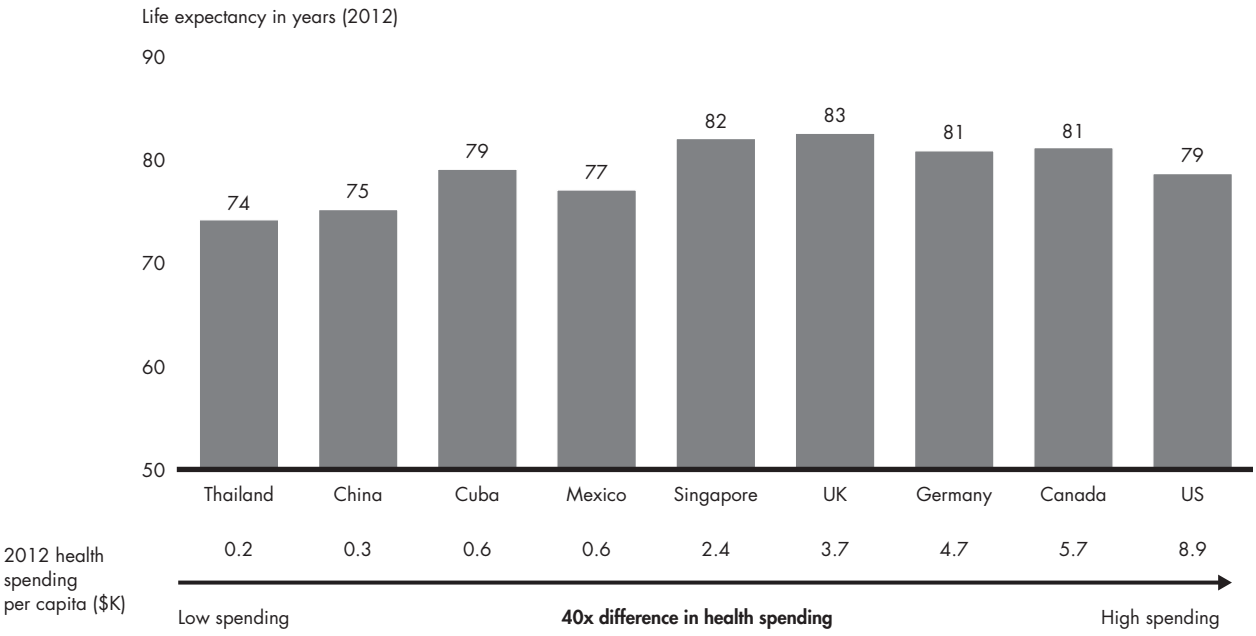
Notes: NHSRC is the National Health Systems Resource Centre; INAHTA is the International Network of Agencies for Health Technology Assessment; NLEM is the National List of Essential Medicines; HTA is health technology assessment; MRI is magnetic resonance imaging
Sources: National Health Systems Resource Centre; Bain analysis

Figure 38: Increased individual accountability is necessary to ensure rational use of services



Note: RSBY is Rashtriya Swasthya Bima Yojana
Sources: World Health Organization; report on global health systems by The Commonwealth Fund; RSBY India; Bain analysis

Figure 39: Across health systems, we see little difference in quality outcomes despite vastly varied spending levels



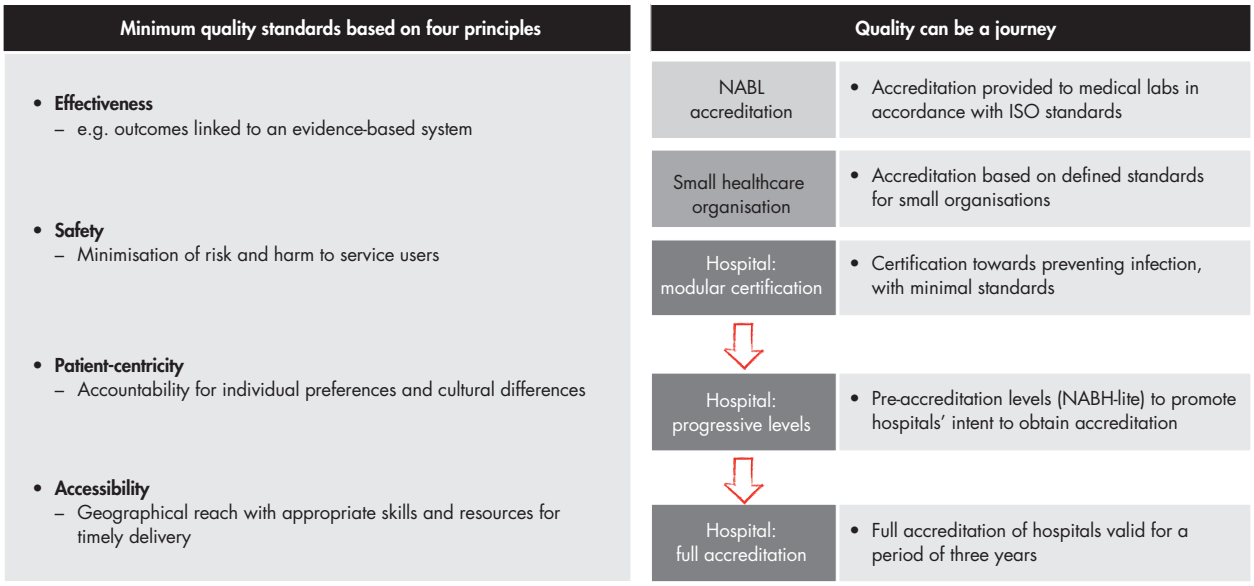
Sources: World Health Organization; government websites and reports; Bain analysis

Figure 40: Quality care approaches fall into three key areas: minimum standards, guidelines and integrated care delivery

	Thailand	Indonesia	UK (NHS)	Germany
1 Assure minimum quality standards	✓ Voluntary accreditation	✓ Mandatory accreditation	✓✓ Mandatory accreditation and inspection of hospitals	✓ Measures from Federal Joint Committee and AQUA; voluntary accreditation
2 Increase the use of protocols/ guidelines for treatment	✓ Established clinical guidelines but limited compliance		✓✓ SIGN and GAIN set clinical guidelines, priorities	✓ Non-binding clinical guidelines produced by doctors' societies
3 Integrate care delivery across points of care	✓ Primary care as gatekeeper to enable referrals to specialist care	✗ No integration	✓✓ Complete coordination; specialists provided access to medical history of patients	✓ Disease management programmes increasing incentives for SHI-funded patients

Notes: SIGN is the Scottish Intercollegiate Guidelines Network; GAIN is guidelines and audit; AQUA is the Institute for Applied Quality Improvement and Research; SHI is social health insurance; NHS is the National Health Service
Source: Bain analysis

Figure 41: Quality goals can be achieved in phases



Notes: NABH is the National Accreditation Board for Hospitals and Healthcare Providers; NABL is the National Accreditation Board for Testing and Calibration Laboratories; ISO is the International Organization for Standardization
Sources: World Health Organization; Bain analysis

Figure 42: Recommendations for India's health system

	Access	Cost	Quality
Priorities	**Universal access to essential healthcare**	**Affordable basket of essential services and managed cost inflation**	**Minimum assured standards of quality**

Implications	Provision	Financing	Role of stakeholders	Regulatory framework
	• Private sector leads in care provision – Government focus on under-served segments and primary care • Providers to operate within defined quality guidelines	• Additional taxation, co-pays to finance universal coverage • Move towards capitation-based model – Need for pilot testing in a few care areas (e.g. cardio)	• Increased public healthcare spending – Government primary role as payer, regulator – Government promotes prevention, primary care – Government-led care in under-served areas • Health savings accounts for individuals • Private sector-led provision, and impetus to private insurance	• Mandatory accreditation for minimum quality standards • Health technology assessment capabilities to determine access to innovation • Incentives to industry in manufacturing and R&D; promote healthy living

Source: Bain analysis

Figure 43: A few "must do's" for India

Increase spending on health and prevention	• Greater public spending on healthcare, by the central and state governments (priority in budget allocation) • Shift towards primary care and prevention (e.g. payers to offer incentives for healthy living, public health moves by government)
Revise healthcare financing model	• Move towards capitation-based payments to ensure focus on quality and total health, not on reimbursement for quantity of care • Catastrophic coverage plan (e.g. health saving accounts with grants for vulnerable groups such as child, mother, elderly, low-income) • Personal responsibility for health (e.g. co-pays with exemptions for certain segments)
Focus on quality improvements	• Health technology assessment framework and capability for evaluating new technology (especially for high-cost and unclear cost-benefit) and determining access under publicly-funded services • Defined minimum standards for delivery, with standardisation in clinical practice (e.g. guidelines, protocols for common conditions)

Source: Bain analysis

Diagnosis
Analysis
M

5.

Consumption focus

Shift the healthcare paradigm towards wellness to improve health outcomes and reduce overall costs

- Several issues plague the healthcare consumption pattern in India: low awareness of risk factors, inadequate public health services, low screening of high-risk groups, limited access, sub-optimal treatment and a curative rather than preventive focus.
- India needs to develop a culture of personal responsibility to stay healthy, aided by education and awareness starting with school curricula, individual incentives and feedback loops.
- Engaging multiple stakeholders (government, providers, payers, pharma and med-tech companies, consumer goods companies, IT and telecommunications companies and community organisations) with a common agenda is important to drive the shift in culture.

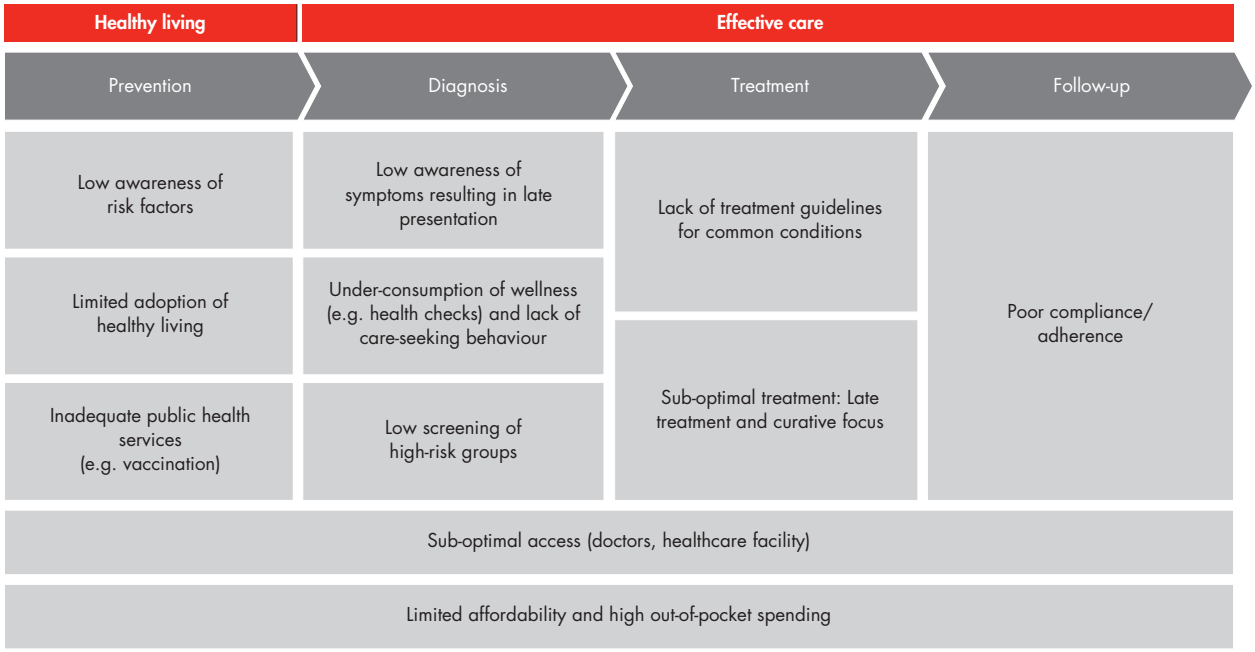
Declare war on NCDs!

- It is estimated that NCDs will cost India $6 trillion by 2030.
- Population-level NCD screening efforts are required among high-risk groups, followed by enrolment of diagnosed populations in holistic care plans, including education and counselling on healthy living.

Prioritise and perform key actions to facilitate the paradigm shift

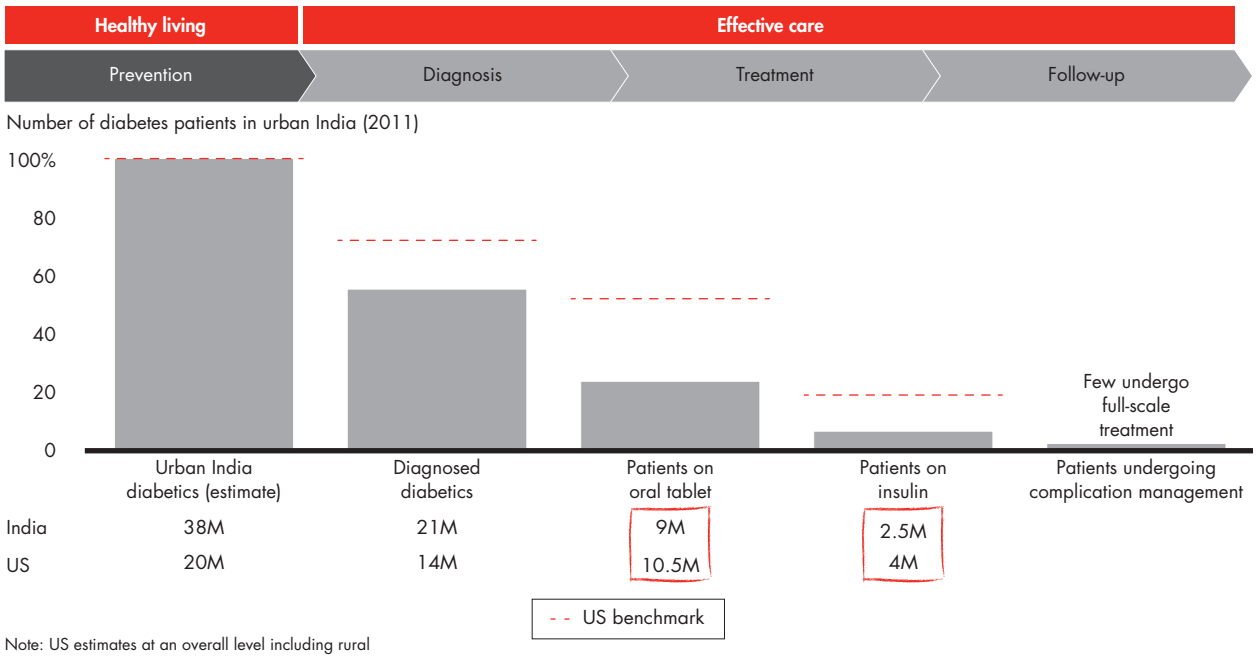
- A public health focus on clean water and sanitation, large-scale immunisation programmes for prevention and increased awareness on the part of individuals are needed to reduce risk factors.
- Making trained talent available at the grassroots level will enable multidisciplinary primary care.
- Creating a technology and health IT backbone that enables data integration and continuous customer engagement will also lead to coordinated care across different points of delivery.
- A payer shift towards prevention is needed, with outpatient services covered by insurance and with rewards for behaviours that prioritise prevention and wellness.

Figure 44: Several issues plague India's current healthcare consumption patterns



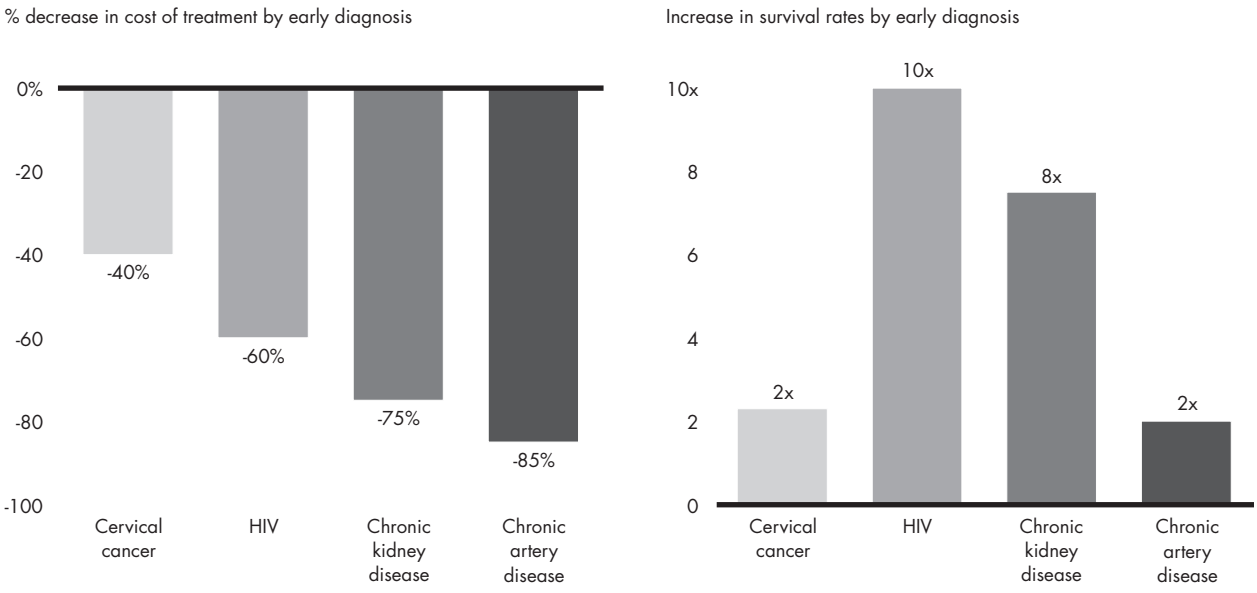
Source: Bain analysis

Figure 45: We found a significant drop-off as we moved down the treatment cycle, including undiagnosed issues, poor treatment and inappropriate care



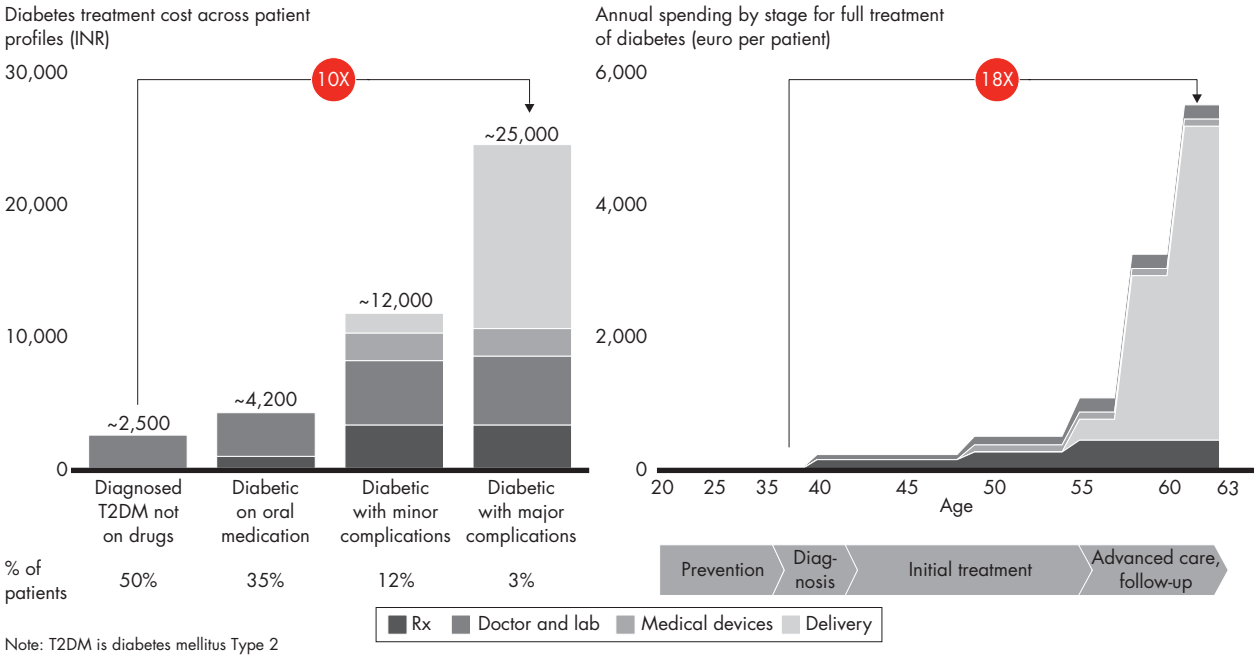
Note: US estimates at an overall level including rural
Sources: Diabetes International Foundation; World Health Organization; National Diabetes factsheet; Bain analysis

Figure 46: Treating diseases early improves survival rates and results in lower costs



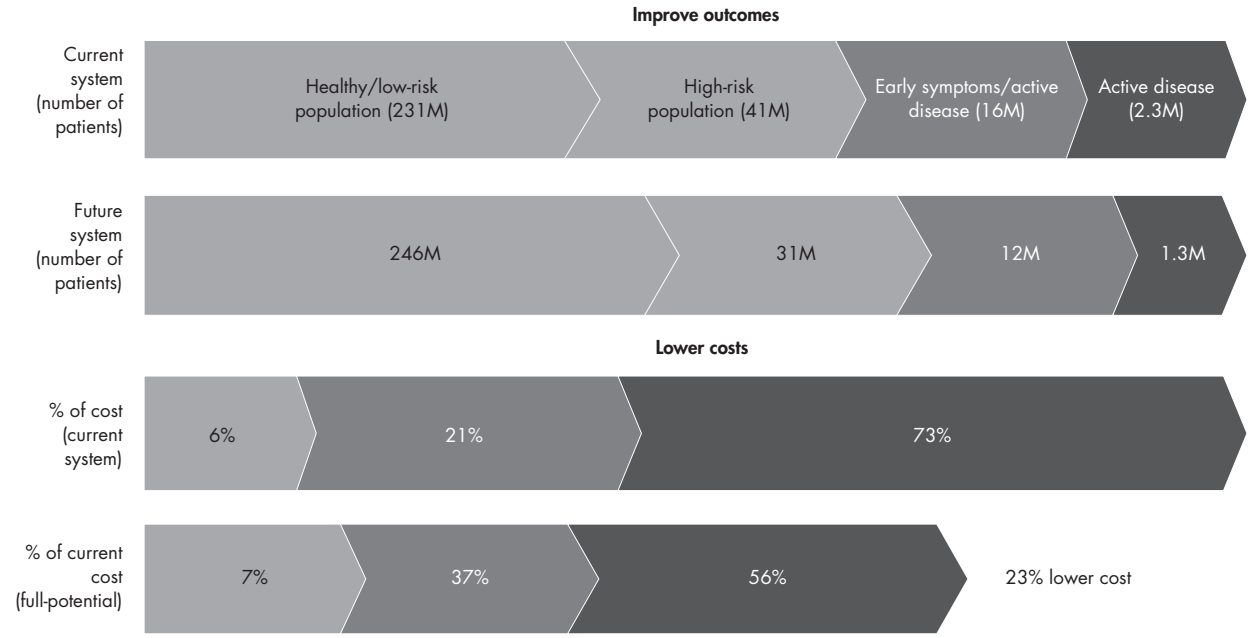
Notes: Cervical cancer, chronic kidney disease and chronic artery disease data is for US patients; HIV data is for UK and Canadian patients; late stage implies stage III/IV of cervical cancer, AIDS stage for HIV and ESRD stage for CKD; for CAD, the comparison is across stable angina (early stage) and acute myocardial infarction (late stage)
Sources: PubMed; US National Library of Medicine and National Institutes of Health; UK Department of Health; Litholink; Health Protection Agency, UK; Nature; Aidsmap; Bain analysis

Figure 47: Today, late diagnosis is the norm, and it imposes a high cost of treatment (e.g. 10x–20x for diabetes)



Note: T2DM is diabetes mellitus Type 2
Sources: Primary interviews with diabetes patients and experts; analyst reports; Bain analysis

Figure 48: Moving towards prevention and early diagnosis can lower costs for the entire system (US diabetes example)



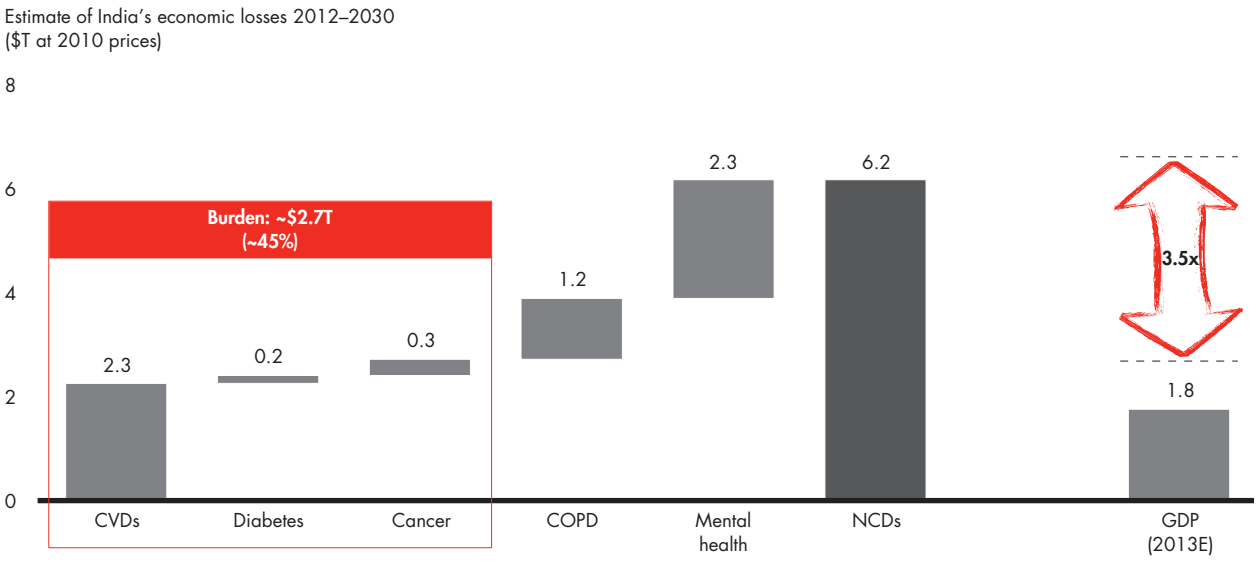
Source: Bain analysis

Figure 49: Clear imperatives for primary care emerge

- **Expand availability** of primary care
  - Increase private sector investment in primary care (e.g. HealthSpring)
  - Expand government services in under-served areas
- **Encourage group practices** in primary care delivery
  - Enable organised, referral-based system of primary care
- **Payer shift towards prevention**
  - Payer-led product innovation (for wellness) and reimbursement coverage for primary care (outpatient services)
  - Reward preventive behaviour in products (e.g. Discovery insurance products in South Africa using air miles)
- **Create awareness** among the target population, including students
  - Increase knowledge of preventable risk factors
  - Expose dangers associated with late diagnosis
  - Promote benefits of healthy living and early treatment
- **Expand availability of trained talent** to enable multidisciplinary primary care
  - Involve doctors, nursing staff, disease counselors, mental health workers, dietitians

Source: Bain analysis

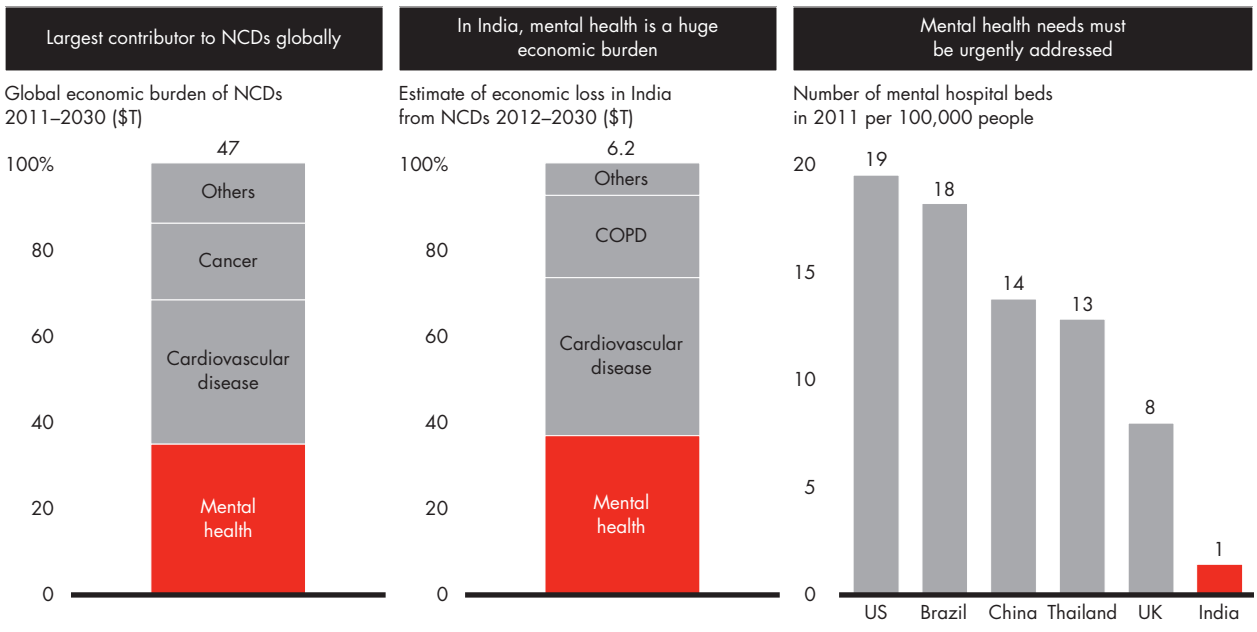
Figure 50: It is estimated that non-communicable diseases will cost India $6.2 trillion by 2030



"A 10% rise in chronic diseases will result in ~0.5% lower rates of annual economic growth"

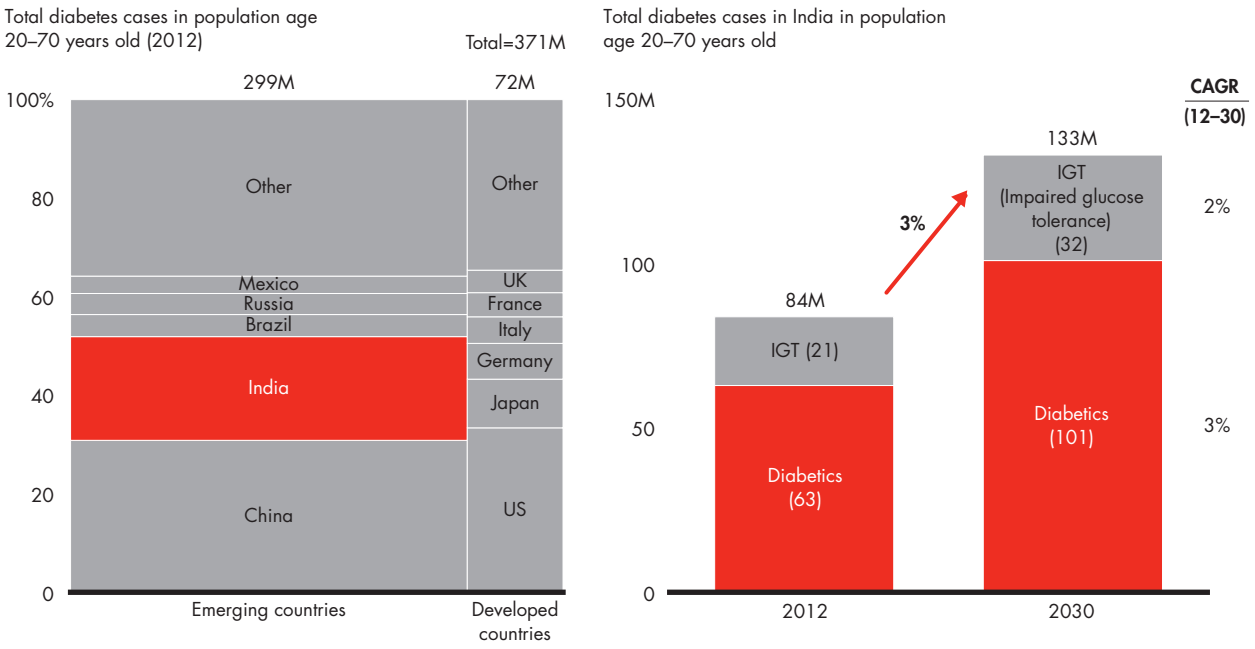
Notes: COPD is chronic obstructive pulmonary diseases; CVDs is cardiovascular diseases; NCD is non-communicable diseases
Sources: "The economic impact of non-communicable disease in China and India: Estimates, projections and comparisons," David E. Bloom et al., August 2013; "Population causes and consequences of leading chronic diseases: A comparative analysis of prevailing explanations," Stuckler D., *Milbank Quarterly*, June 2008; Bain analysis

Figure 51: Among non-communicable diseases, mental health is the largest contributor to economic loss



Notes: COPD is chronic obstructive pulmonary diseases; NCD is non-communicable diseases
Sources: World Health Organization; World Economic Forum; Bain analysis

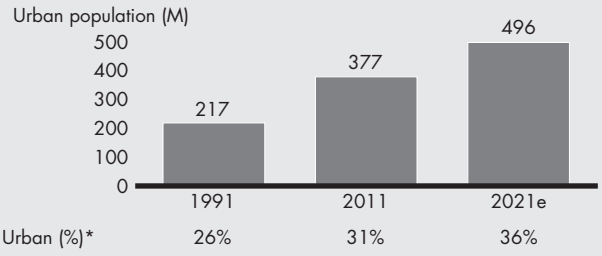
Figure 52: India has the second-largest diabetes burden in the world, and the number of patients is expected to reach 100M by 2030



Sources: International Diabetes Federation; Bain analysis

Figure 53: Rapid urbanisation in India is expected to add to the existing non-communicable disease burden

Growing urbanisation



High prevalence of risk factors

Prevalence	Rural	Urban
Central obesity	55% (Male)	72% (Male)
Work-related sedentariness	39%	64%

Unhealthy living

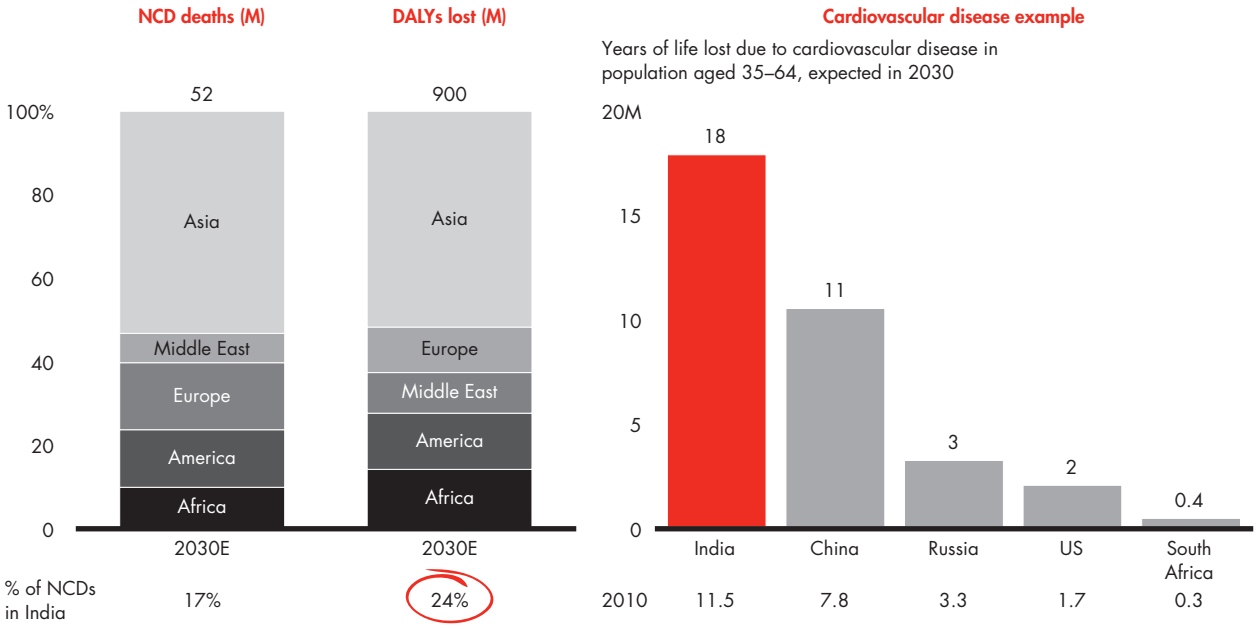
- Sedentary lifestyle
- Crowded spaces
- Polluted environment
- High stress levels

Resulting high NCD burden

Prevalence	Rural	Urban
Hypertension	10%	25%
Ischemic heart disease	2.5%	6.4%

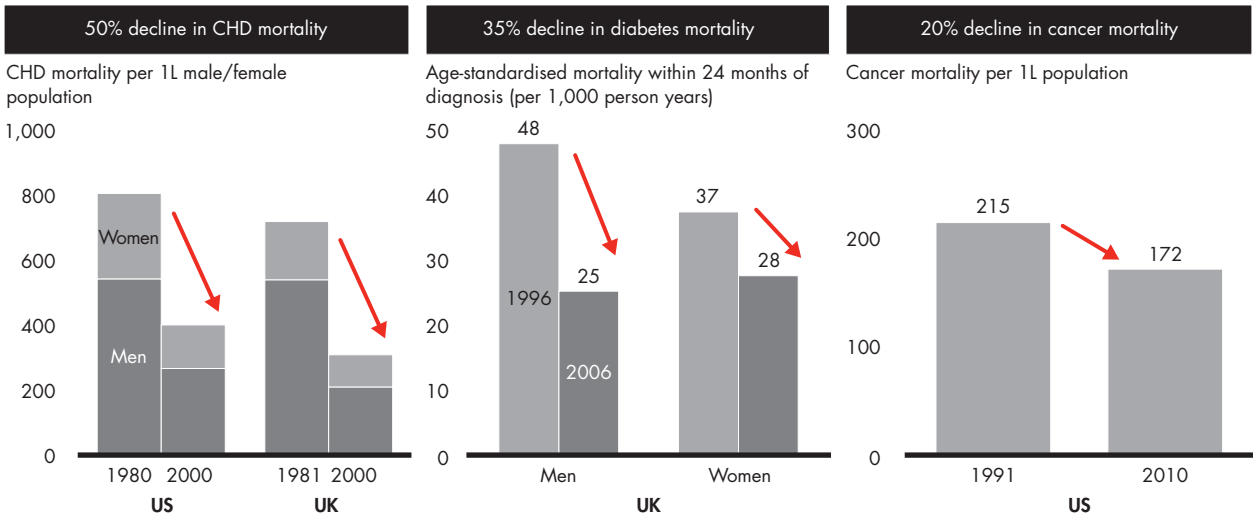
Notes: NCD is non-communicable diseases; * % of total population
Sources: Planning Commission; Bain analysis

Figure 54: By 2030, about 50% of non-communicable diseases deaths will occur in Asia, with a quarter of the associated global productivity loss coming from India



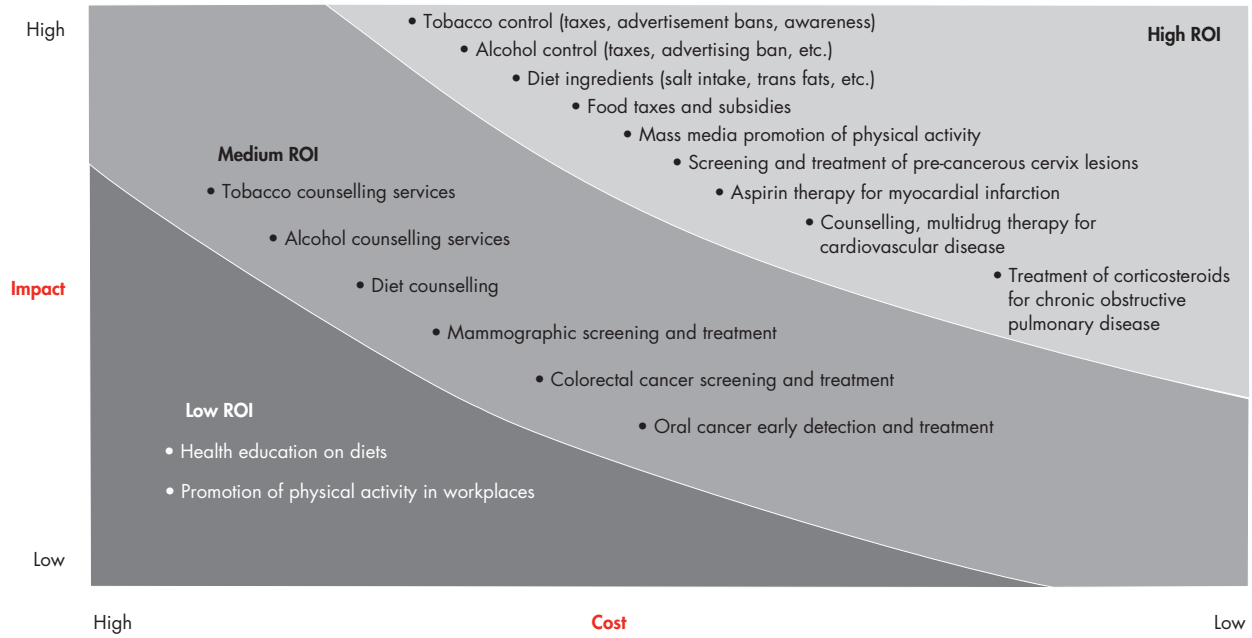
Notes: DALY is disability-adjusted life years; NCDs is non-communicable diseases
Sources: World Health Organization; Bain analysis

Figure 55: Developed countries like the US and UK saw a significant decline in NCD mortality rates in the past two decades due to their focus on primary care



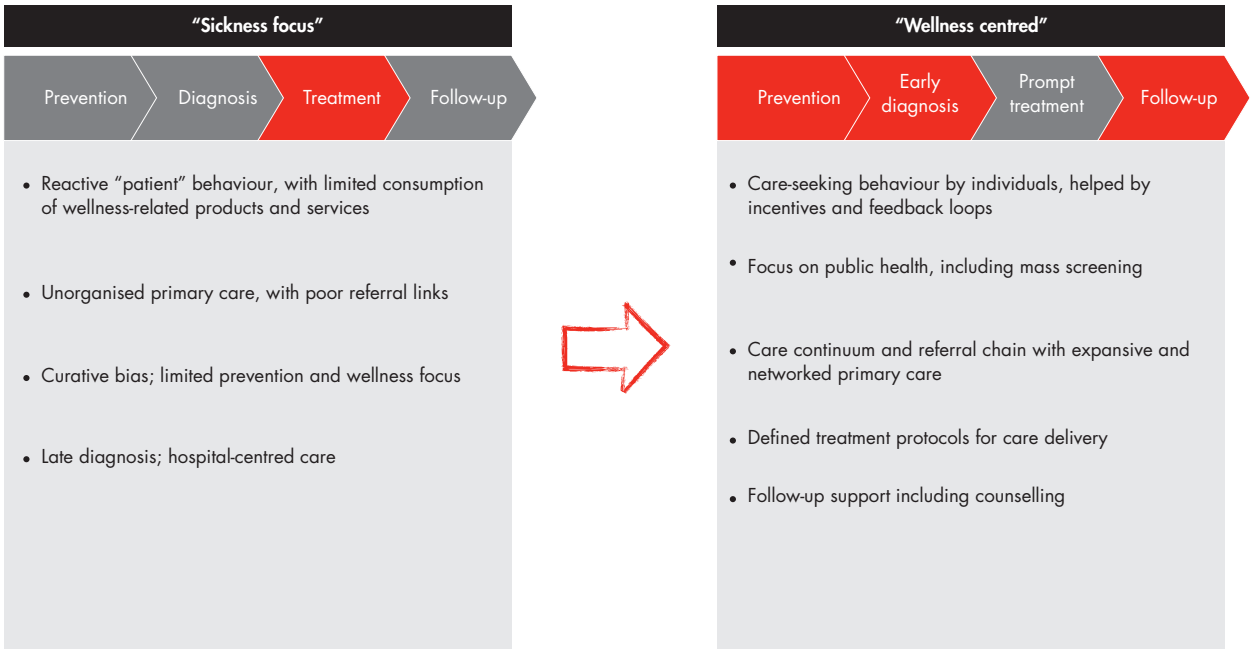
Notes: CVD data includes men and women 25 to 84 years old; diabetes data includes men and women older than 30 years old; CHD is coronary heart disease; NCDs is non-communicable diseases
Sources: "Explaining the decrease in US Deaths from Coronary Disease, 1980–2000," Ford et al., *New England Journal of Medicine*, 2007; "Explaining the Decline in Early Mortality in Men and Women With Type 2 Diabetes," Charlton et al., *New England Journal of Medicine*; "The Growth of Palliative Care Programs in US Hospitals," Morrison et al., *Journal of Palliative Medicines*, 2005; "Explaining the Decline in Coronary Heart Disease Mortality in England and Wales Between 1981 and 2000," Unal, Critchley et al., *Circulation*, 2004; British Heart Foundation; American Society of Nutritional Sciences; American Heart Association; National Institute for Health and Care Excellence (NICE); American Cancer Society; National Cancer Institute

Figure 56: Prevention and early diagnosis are the most cost-effective ways to control non-communicable diseases



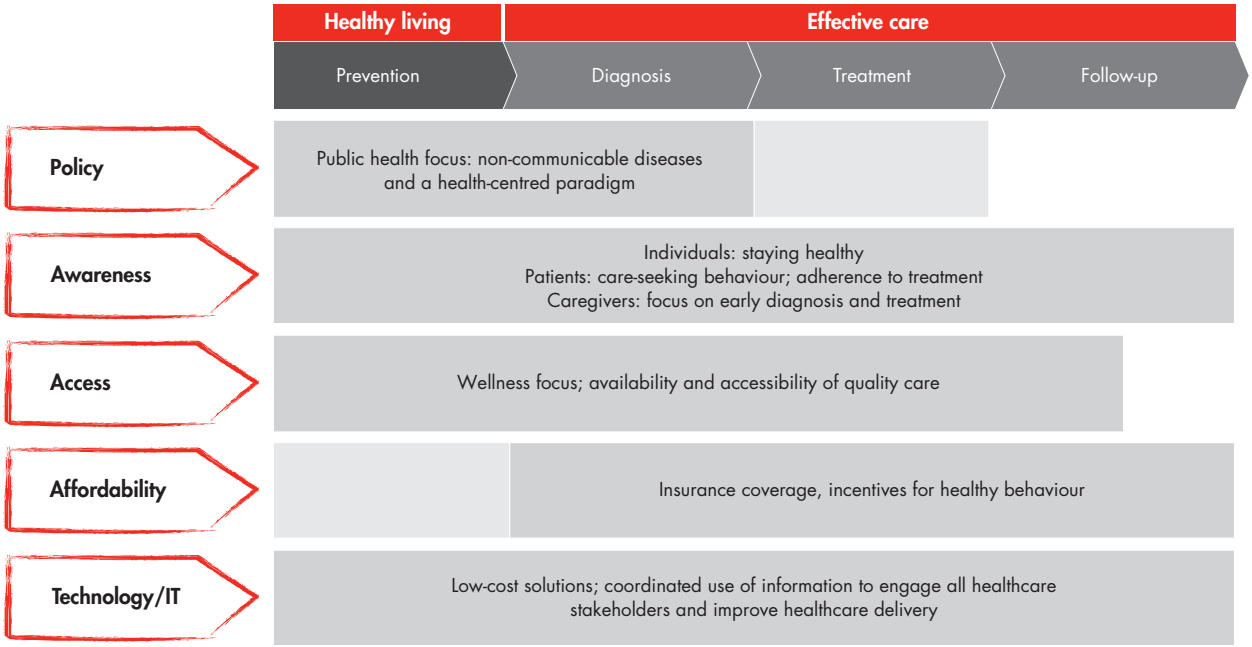
Sources: World Health Organization; Bain analysis

Figure 57: India needs to move to a "wellness-focused culture"



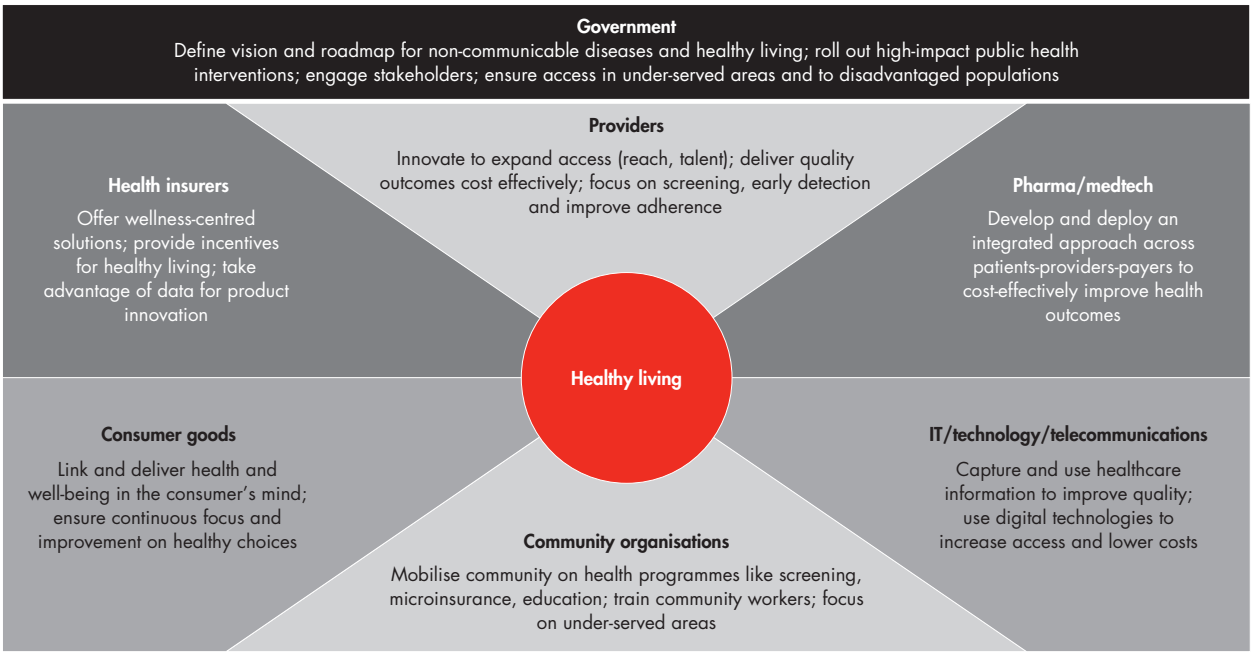
Source: Bain analysis

Figure 58: Five levers need to be pulled to change the paradigm to wellness



Source: Bain analysis

Figure 59: Priorities and recommendations for various stakeholders



Source: Bain analysis

6.

Delivery

Infrastructure needs to expand to ensure readiness for the growing disease burden

- Healthcare infrastructure needs to be better created and used across primary, secondary and tertiary care, with increased capacity to manage the health of high-risk population groups, such as the chronic care population with NCDs and the geriatric population, and to manage delivery in under-served areas.

Structural shifts towards specialised, protocol-based and integrated care are needed

- Continuing the trend towards specialisation will improve patient outcomes and lead to greater differentiation among service providers.
- Moving towards protocol-based care will improve the quality of care, and care integration will help manage costs and improve overall outcomes.

India needs to define and ensure minimum standards of care quality

- Capture and share hospital data to ensure tracking of relevant performance metrics (process, outcomes, safety).
- Define minimum quality standards and increase adoption by promoting accreditation of facilities.
- Offer differentiated value in services and demonstrate the same to payers and patient advocacy groups.

Innovation will enable low-cost solutions and improved outcomes

- Innovation in delivery formats is needed to ensure that affordable care can be delivered to the mass market and beyond major cities.
- In partnership-based business models, innovation should increase access and enable integrated patient care across episodes and with better outcomes.

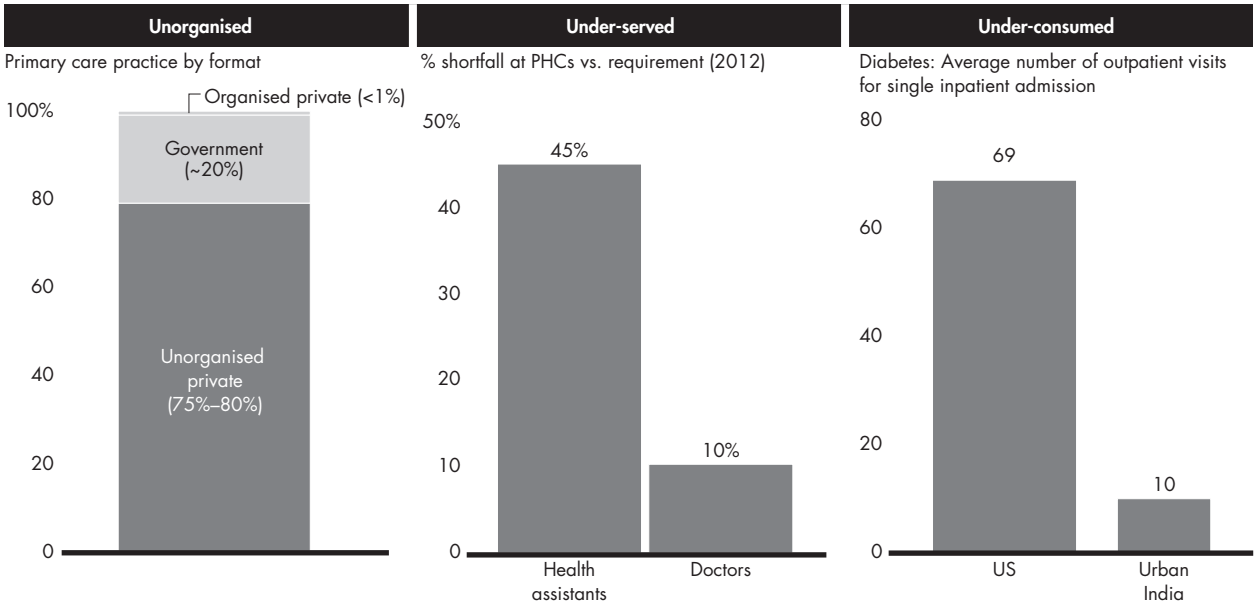
Value-based delivery is needed to address low affordability in India

- A new approach is required that leverages population health principles—such as primary care focus, care coordination, and aligned incentives for caregivers and individuals—and moves away from fee-for-service–based payment models.

Out-of-hospital care solutions are required to improve access and affordability

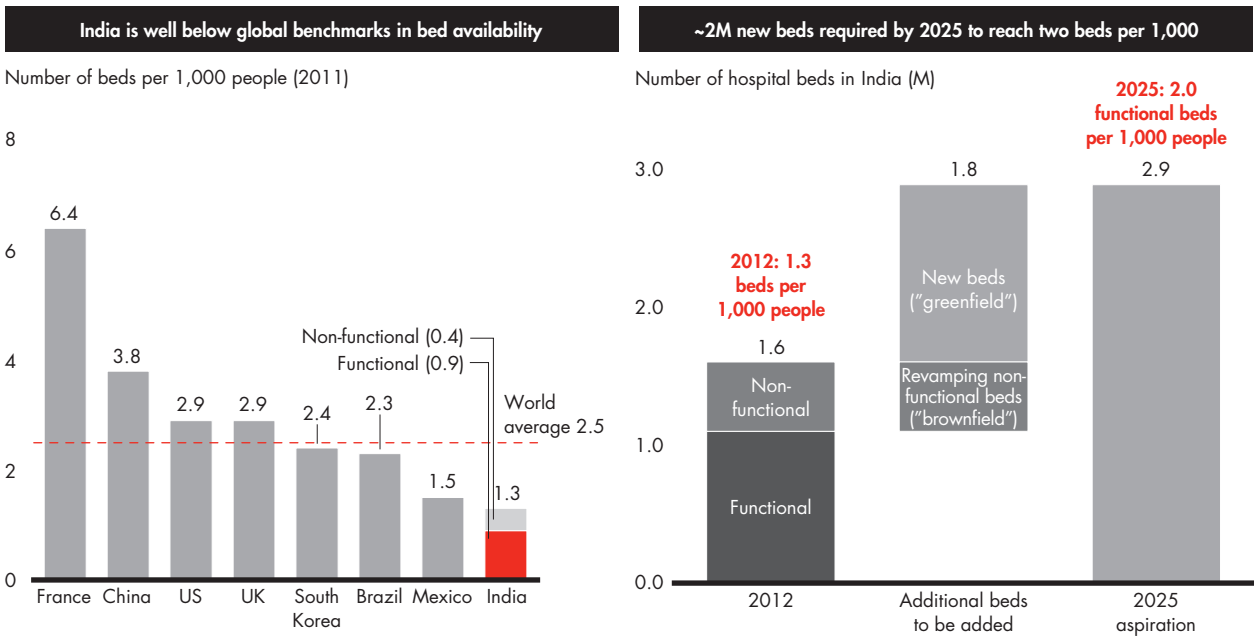
- Shifting delivery away from hospital-centred care to, for example, home care, rehab and ambulatory care would help reduce costs and improve access.

Figure 60: Supply-side expansion: Primary care delivery is less than optimal today



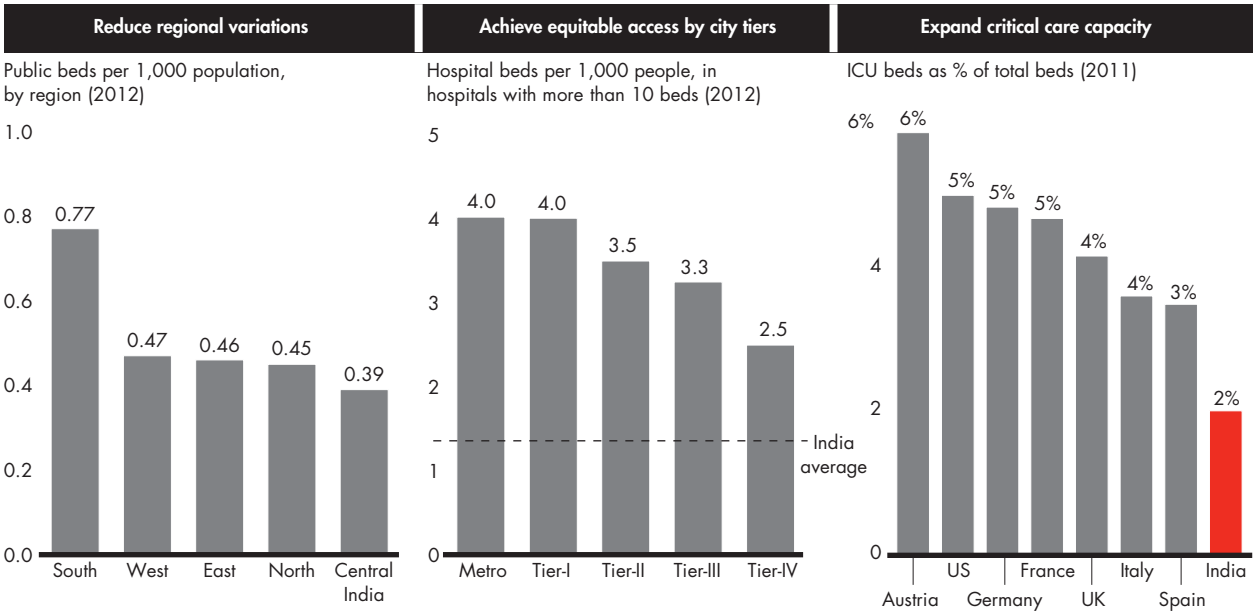
Notes: PHCs refers to primary health centres, which are state-owned facilities, primarily in rural India; principal diagnosis of diabetes for hospitalisation has been considered as inpatient visits; ambulatory case visits considered as total outpatient visits for US
Sources: Ministry of Health and Family Welfare; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 61: Supply-side expansion: India needs a significant build-out in secondary and tertiary care (~3x current bed capacity by 2025)



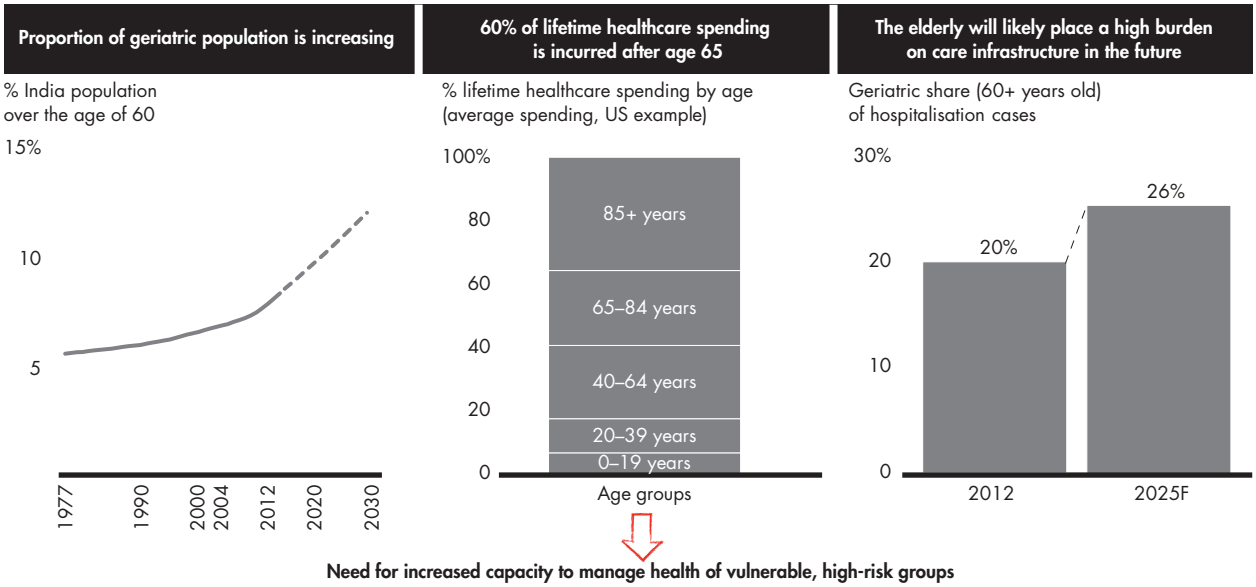
Sources: World Bank; World Health Organization; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 62: Supply-side expansion: Equally important to increasing the number of beds is achieving a balanced distribution of beds across India and expanding critical care infrastructure



Note: Intensive care units (ICUs) include all critical care beds including high-dependency units
Sources: A. Rhodes, P. Ferdinande, H. Flaatten, B. Guidet, P.G., Metnitz, R.P. Moreno, "The variability of critical care bed numbers in Europe," *Intensive Care Medicine*, October 2012; Central Bureau of Health Intelligence (CBHI); Bain analysis

Figure 63: Supply-side expansion: Changing demographics will place a higher burden on delivery infrastructure



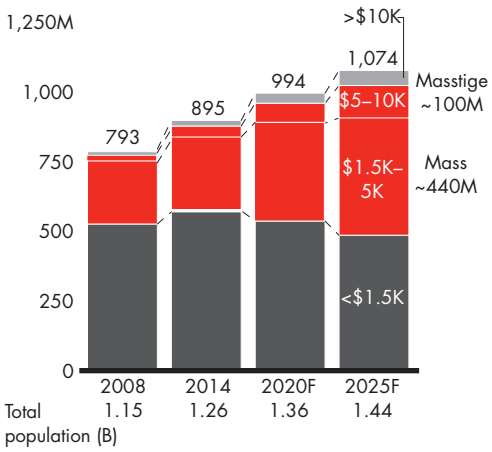
Need for increased capacity to manage health of vulnerable, high-risk groups

Notes: Average lifetime spending for a person calculated as average of total spending by population in different age groups, with maximum age capped at 95 years; lifetime spending analysis holds disease incidence, medical technology and healthcare prices constant, and is based on US 2000 prices; hospitalisation cases projected for 2025 assumes historical ratio of hospitalisation per 1,000 people, by age group
Sources: NSSO; Euromonitor; CMS; Dartmouth Atlas; IMF; National Center for Health Statistics (US); Espicom; NCBI (Alemayehu, Warner); Bain analysis

Figure 64: Supply-side expansion: India needs to cater to a growing mass market's significant demand for care delivery

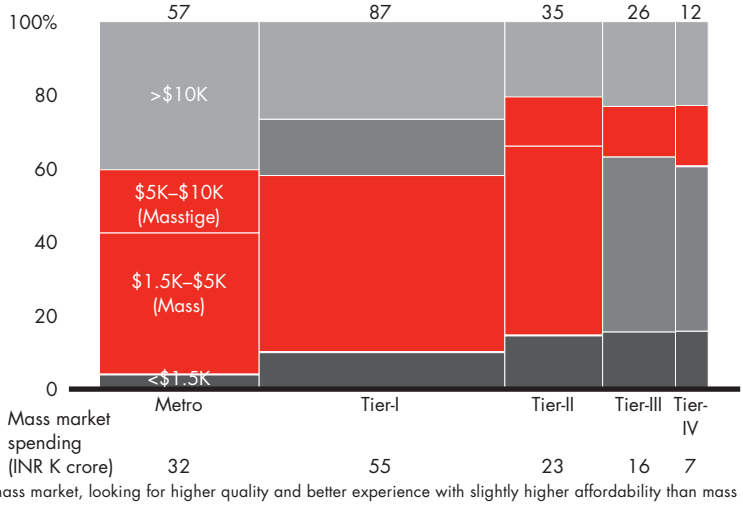
By 2025, mass market expected to include ~540M people

India population, age 15 and older, by per capita income segments



Mass market accounts for ~60% of urban spending; 80% of mass market spending across metro, Tier-I and Tier-II

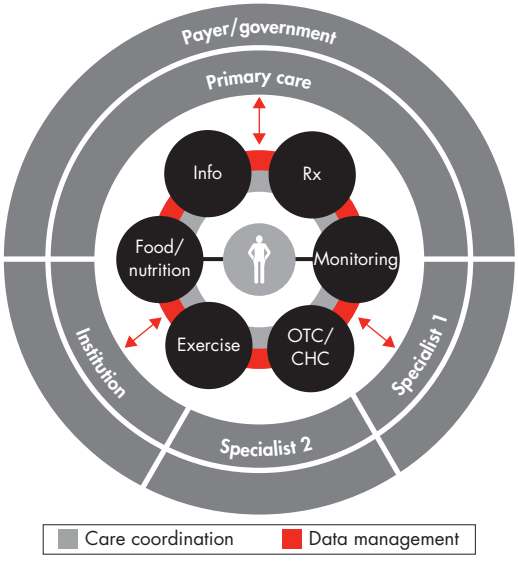
Out-of-pocket spending by urban India (INR K crore, 2012)



Notes: Income at constant 2012 prices; masstige refers to higher-end mass market, looking for higher quality and better experience with slightly higher affordability than mass market, but significantly less than high income
Sources: Euromonitor; NSSO; Bain analysis

Figure 65: Structural shifts: An integrated care approach can create significant value

Integrated care model



Value created

For patients:

- Improved experience and better outcomes
- More empowered role in own health

For payers and providers:

- Lower system costs through better compliance and more systematic application of protocols
- Improved patient information to guide treatment choices
- Higher patient satisfaction and commensurate growth in business

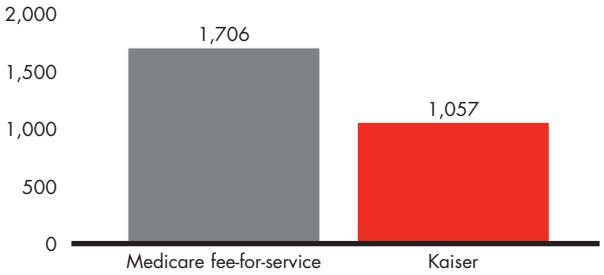
For integrators:

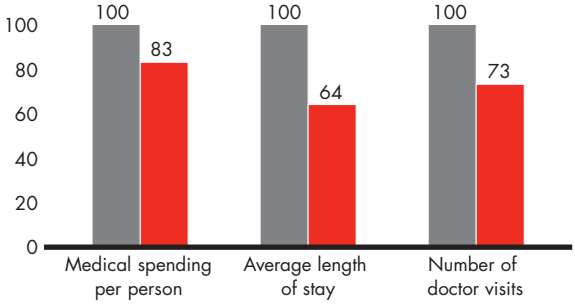
- Greater connection with patients
- Competitive advantage with other stakeholders
- Broad disease expertise beyond life of individual products

Notes: OTC is over the counter; CHC is consumer healthcare; Rx is prescription drugs
Sources: Kantar Worldpanel; Bain analysis

Figure 66: Structural shifts: Care integration has proven effective in managing costs

	Wellness services	Diagnostic	Delivery: doctors, hospitals*	Insurance	Education	IT/analytics
Kaiser Permanente	✓	✓	✓	✓		✓
Geisinger Health System	✓	✓	✓	✓	✓	✓

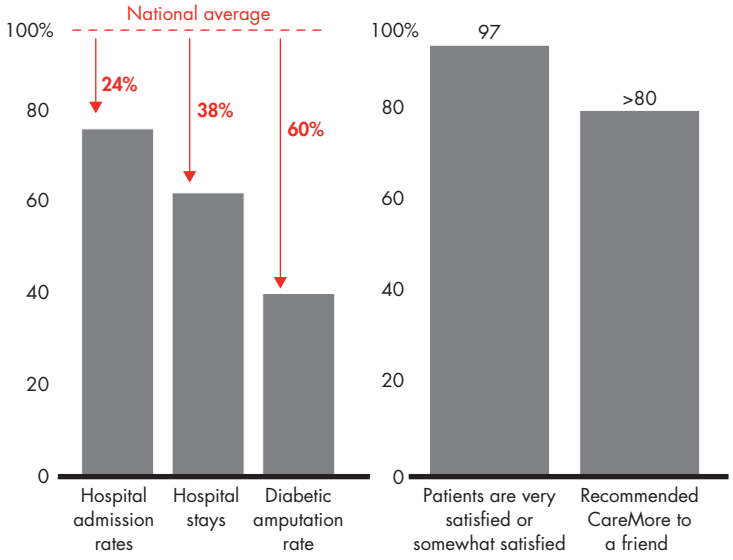




*Includes rehab hospitals
Source: Bain case studies

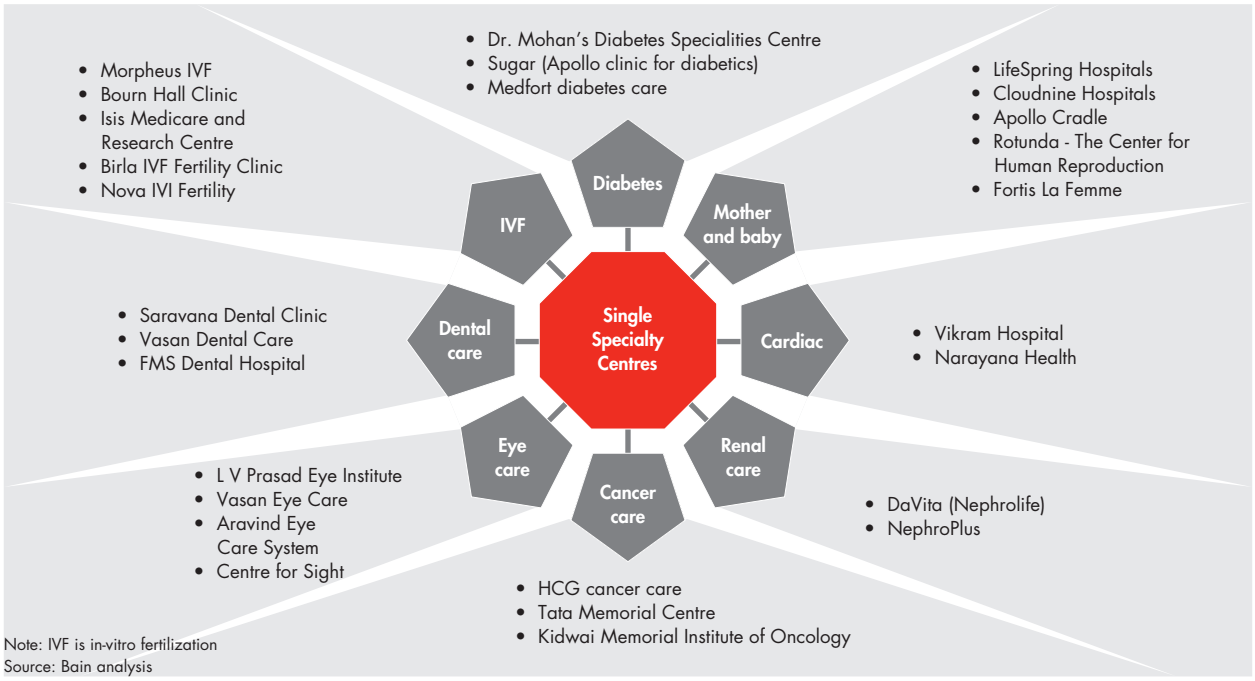
Figure 67: Structural shifts: Globally, integrated care models, such as CareMore, integrate prevention and remote monitoring successfully

CareMore offering	
Business components	• Provider of preventive services and managing of elderly people • Acquired by WellPoint in 2011 for $800M
Care model: Integrated patient-centric ecosystem	• Clinical care centres for onsite acute care programmes • Home visits for frail and chronically ill patients • Case manager to coordinate care and monitor non-frail patients • Ancillary services, e.g. free transportation to ensure patients visit clinics • Supported by integrated IT infrastructure



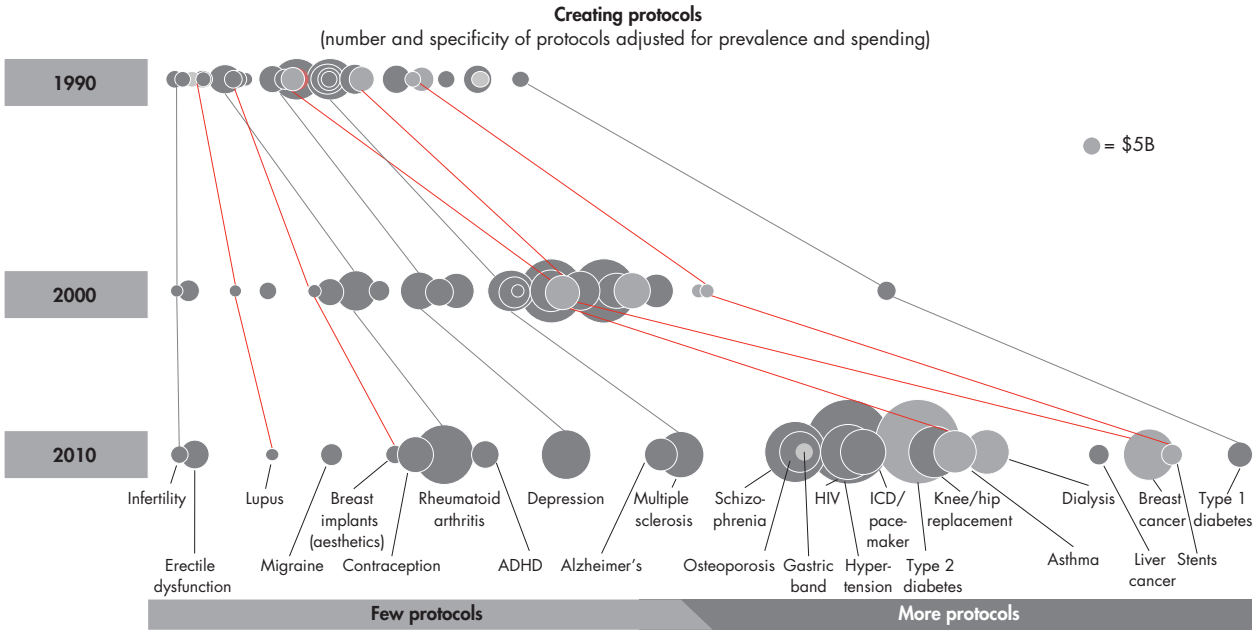
Source: Bain analysis

Figure 68: Structural shifts: The specialty care market is in the process of being created



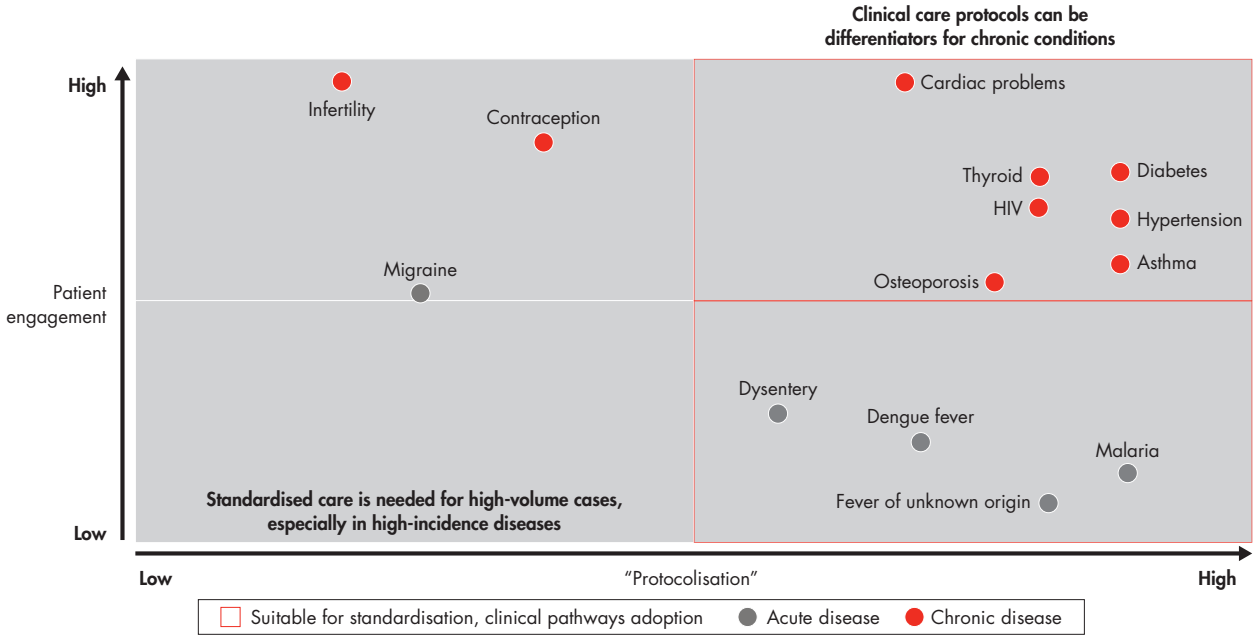
Note: IVF is in-vitro fertilization
Source: Bain analysis

Figure 69: Structural shifts: Significant gaps exist in standardisation of care, with limited protocols



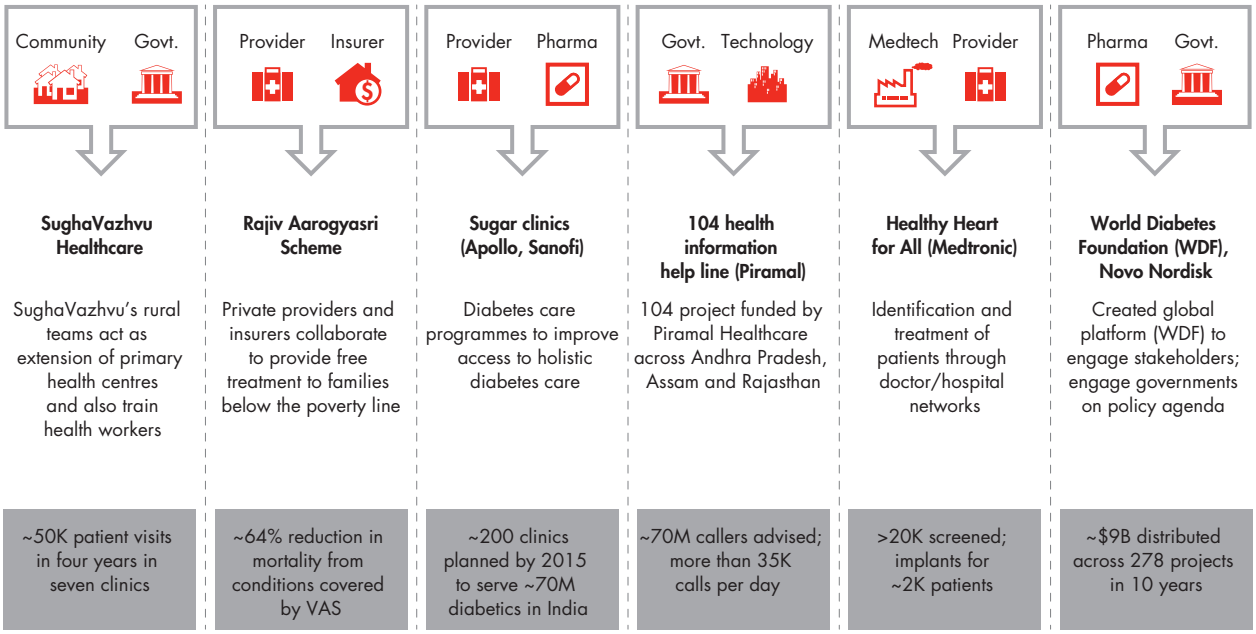
Notes: ICD is implantable cardioverter-defibrillator; ADHD is attention deficit hyperactivity disorder
Sources: International Guideline Network Library; National guideline clearinghouse data; NHS; MedTech Insight; Bain analysis

Figure 70: Structural shifts: Providers can improve quality of care delivered by setting protocols for select diseases



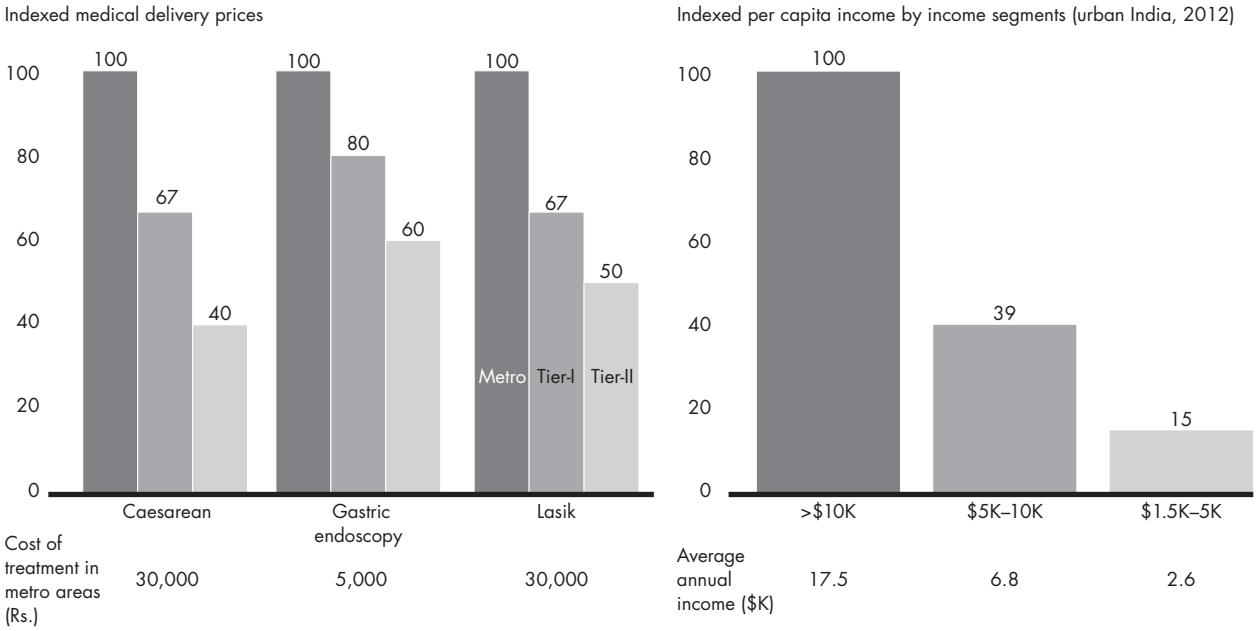
Sources: International Guideline Network Library; MedTech Insight; Bain analysis

Figure 71: Innovation: Innovative partnership models are emerging in India, cutting across traditional business models



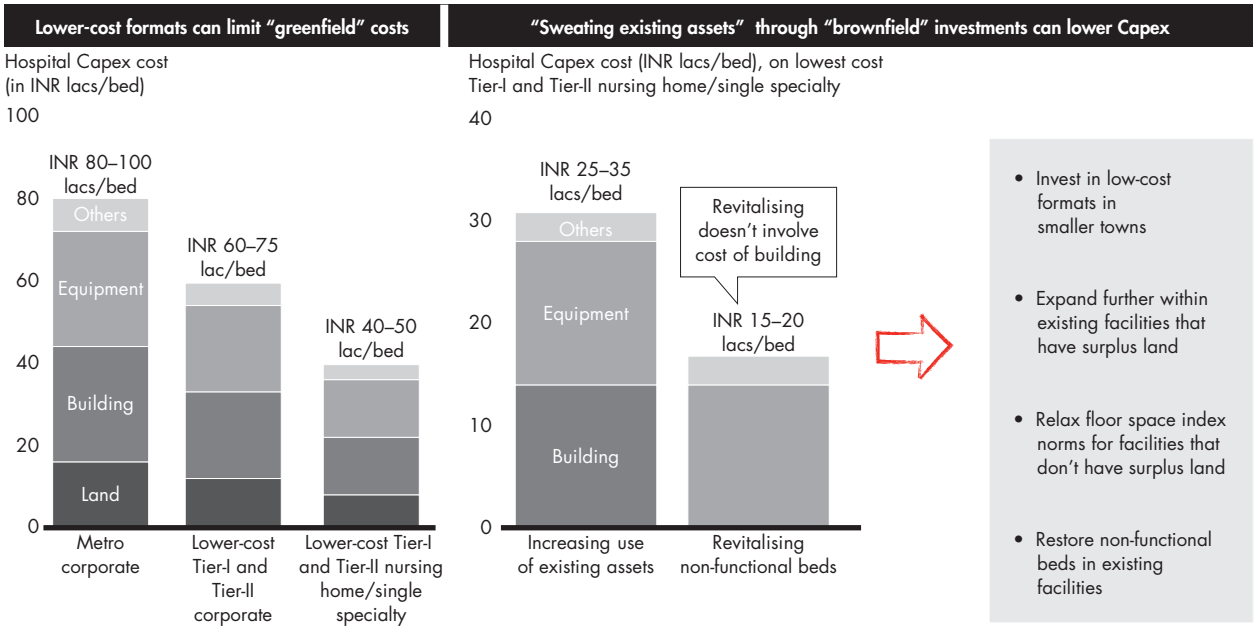
Notes: VAS is Vajpayee Aarogyasri Scheme; data for Healthy Heart for All is for 2012
Sources: International Guideline Network Library; MedTech Insight; Bain analysis

Figure 72: Innovation: The challenge is how to significantly reduce treatment prices while retaining high-quality care



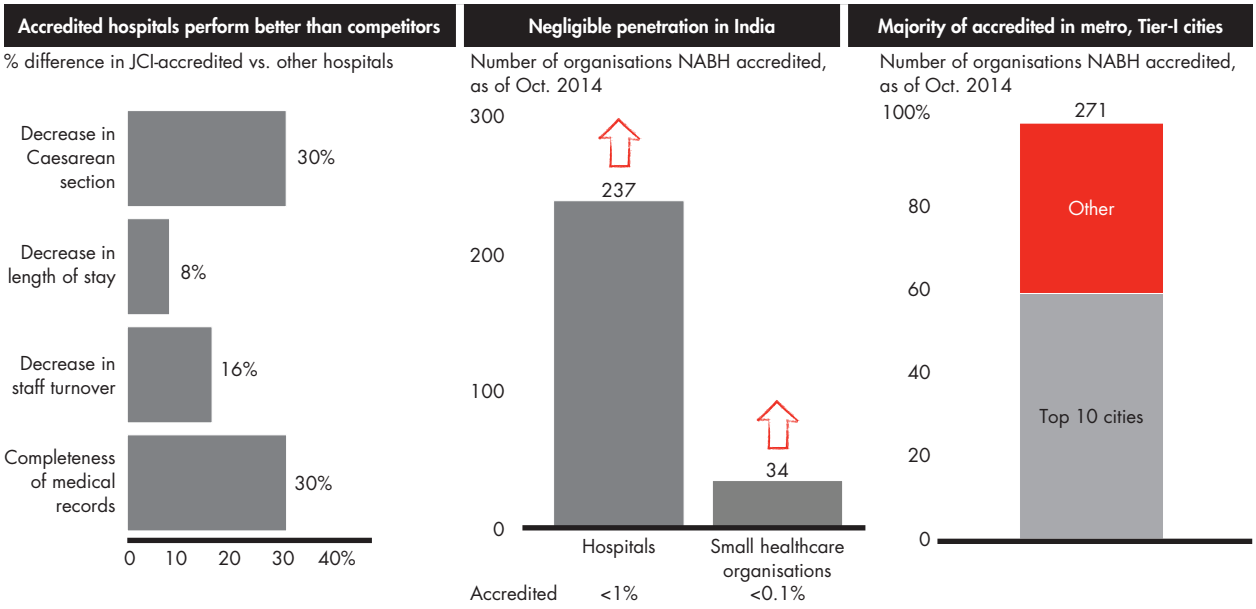
Note: Prices include nursing homes
Sources: NSSO; Demotrac; Euromonitor; Bain analysis

Figure 73: Innovation: Innovation is needed to lower Capex through low-cost formats and optimal use of existing assets



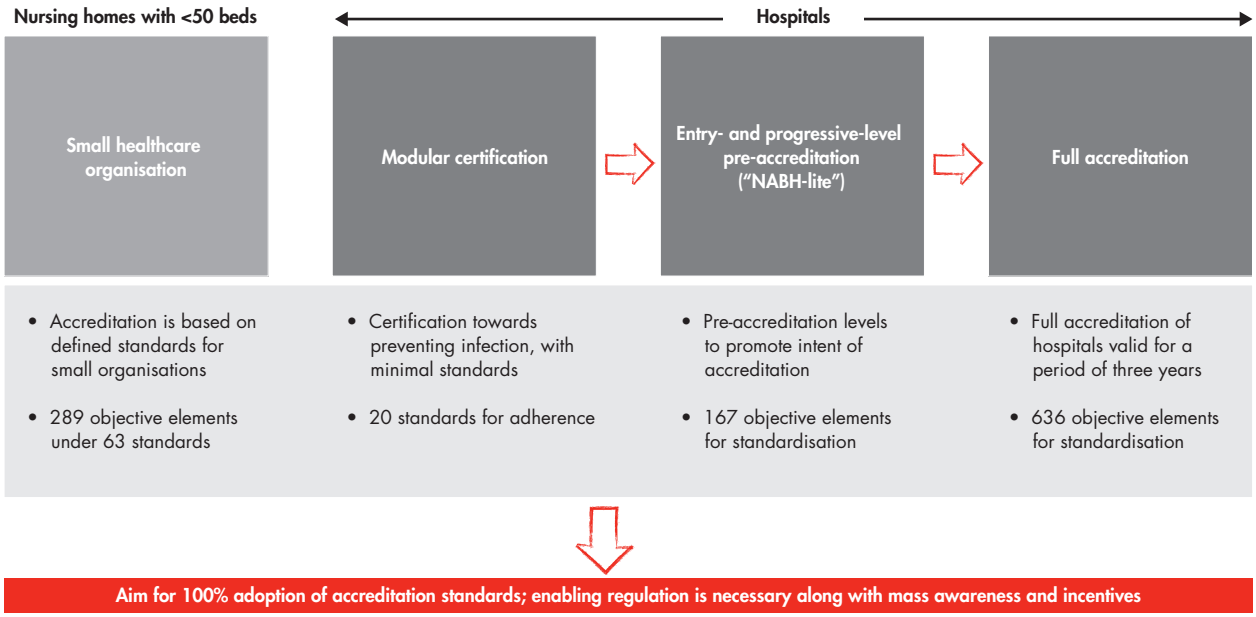
Note: Land cost varies by square foot per bed area and assumed 20% of overall in base case (metro corporate)
Source: Bain analysis

Figure 74: Minimum quality care: Quality is essential to managing patient expectations, but accreditation across India is limited



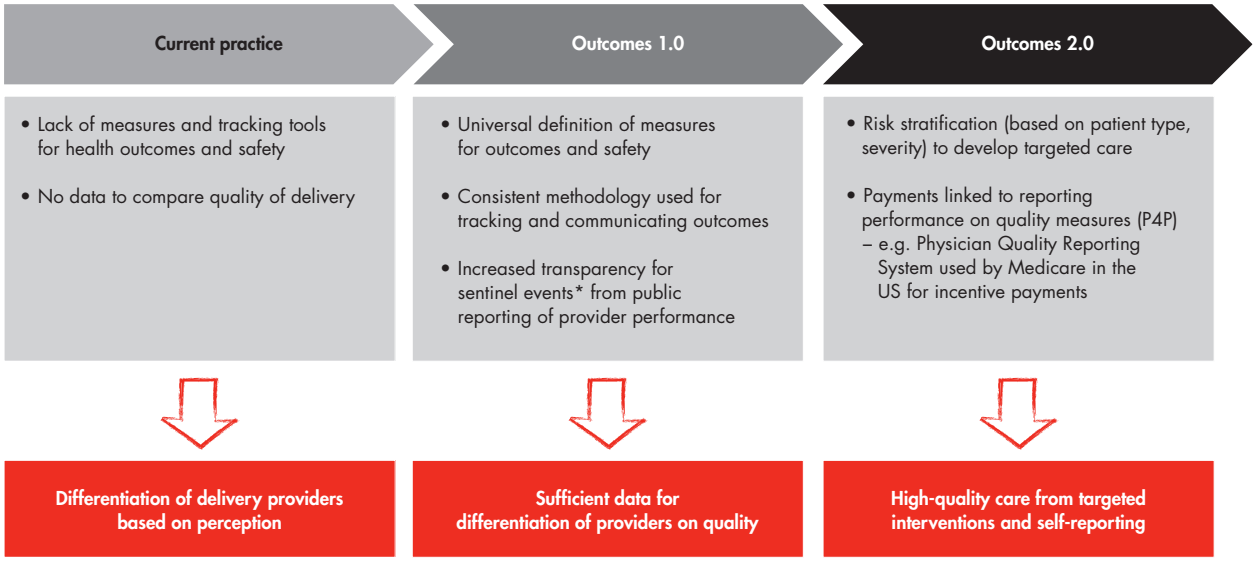
Notes: Performance of JCI (Joint Commission International) hospitals evaluated by comparing them with control hospitals; sample hospitals taken from Jordan and Spain; small healthcare organisations are those with fewer than 50 beds; NABH is the National Accreditation Board for Hospitals and Healthcare Providers
Sources: NABH; JCI; International Society for Quality in Healthcare (ISQua); Bain analysis

Figure 75: Minimum quality care: India needs to build consensus around accreditation requirement; NABH has offered a quality spectrum



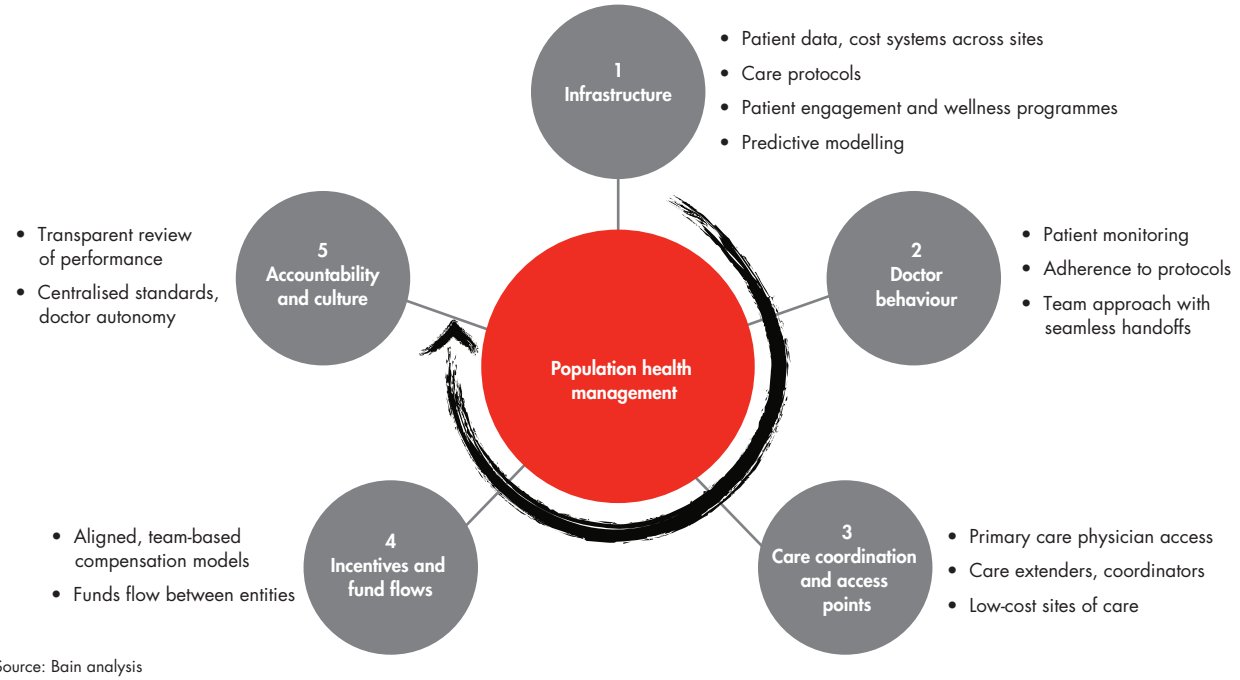
Note: NABH is acronym for National Accreditation Board for Hospitals and Healthcare Providers
Source: Bain analysis

Figure 76: India needs to measure and report outcomes to build a roadmap towards better quality



*A sentinel event is defined as any unanticipated event in a healthcare setting that results in death or serious physical or psychological injury to a patient or patients, not related to the natural course of the patient's illness
Note: P4P refers to pay-for-performance model
Source: Bain analysis

Figure 77: Value-based delivery: Population health management covers five critical elements



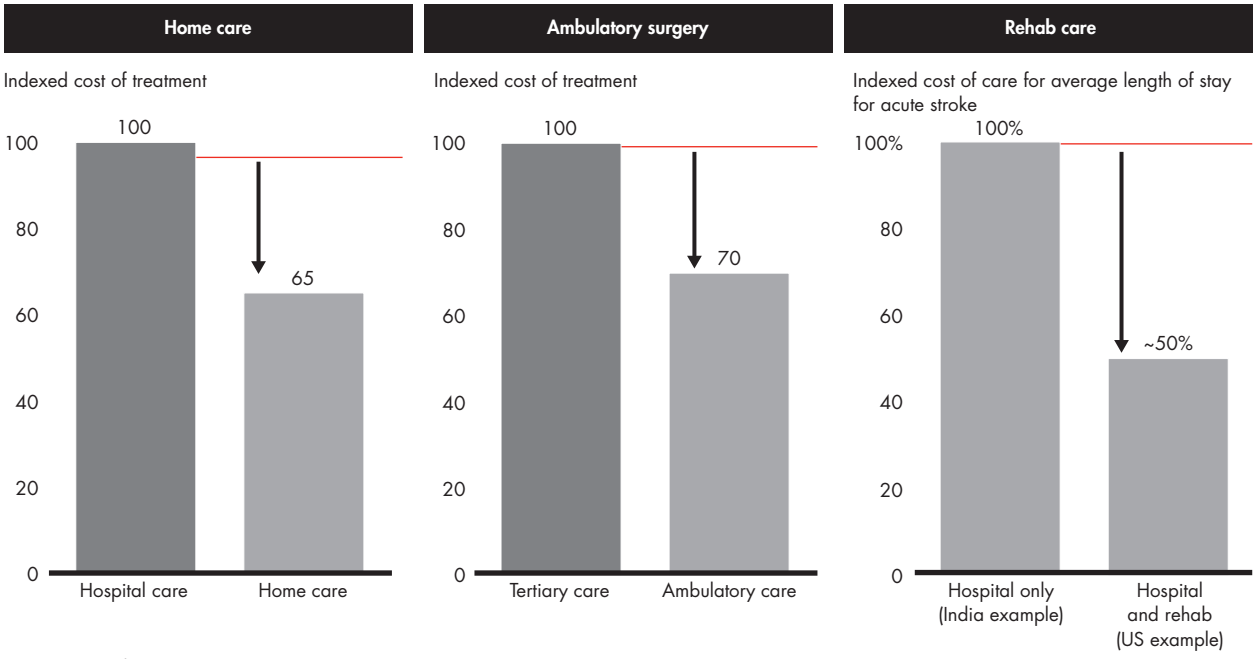
Source: Bain analysis

Figure 78: Value-based delivery: Pilots for population health in the US have been successful

Intermountain Healthcare	Kaiser Permanente	Geisinger Health Systems
• 22 hospitals • 185 clinics • 33K employees	• 38 hospitals • 608 medical offices • 17K doctors	• 78 medical facilities • 20K employees
• Provider and patient can access health records at point of care	• Patient portals expand engagement by giving patients access to facilities and records	• Primary care integrates population health by including case manager in care team
⇩	⇩	⇩
• Hospitalisations down 10% • Per patient costs reduced by $1,650	• Cardiac pilot saved $22,000 per patient annually • 89% reduction in mortality	• Reduction in admissions • Reduced growth in Medicare spending (1% vs. 6% national average)

Source: Bain analysis

Figure 79: Shift in care delivery: Innovative out-of-hospital care solutions can reduce costs and improve access to care



Source: Bain analysis

Figure 80: Key enablers required for effective delivery

Source: Bain analysis

7.

Talent and skills

Significant job creation is anticipated in the sector given the large current deficit

- Currently, there is a shortfall of nearly 2 million doctors and 4 million nurses; the talent that is available is highly skewed towards a few states and urban areas.
- Healthcare services are expected to generate demand for 15 million to 20 million new jobs for doctors, nurses and allied health professionals by 2025.

Increasing the supply of healthcare professionals is a priority

- Prioritising areas with critical shortages of healthcare professionals (doctors, nurses, allied health) and public health workers (ASHA, Anganwadi, trained birth attendants) will be important. Developing a plan to expand supply will address the skewed geographical distribution in medical education seats.
- Regulations that enable private participation in medical education need to be created. Exploring public-private partnership (PPP) models to enable a rapid increase in medical education seats is a priority.
- Rejuvenating AYUSH care should help supplement primary care. The shortage of doctors should further be addressed through streamlined integration of overseas MBBS graduates.
- Technology should be harnessed to scale and accelerate the development of skills at lower costs, for example, through online continuing medical education (CME), virtual training and distance learning.

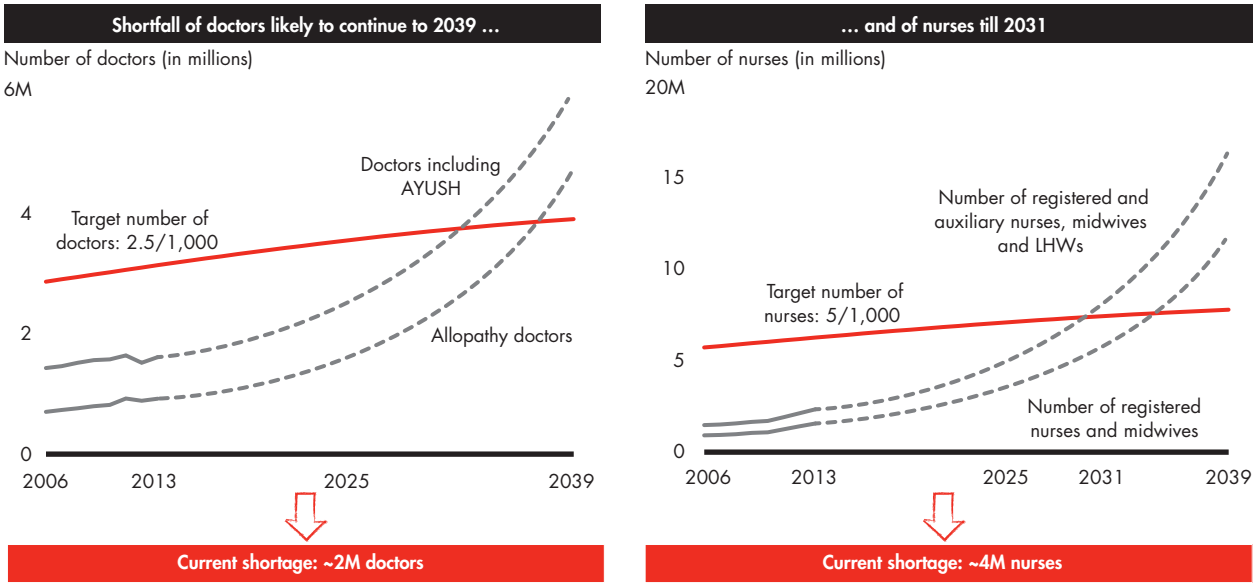
The existing doctor population can be scaled to an extent by reducing demand

- Focussing on primary care can help reduce hospitalisation rates. Augmenting specialist nurses and allied health roles can decrease the burden on doctors. And telemedicine and remote monitoring tools can be used to widen the reach of existing doctors and increase their productivity.

Better governance is required to improve the quality of healthcare personnel

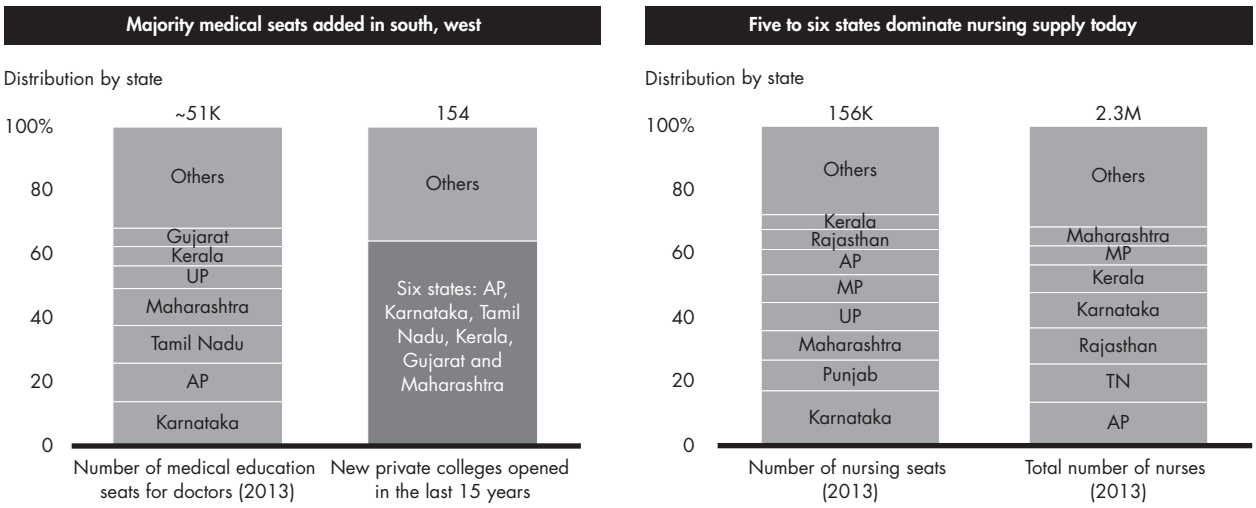
- Uniform governance standards in teaching, training and licensing of professionals must be applied. Mandatory accreditation of teaching institutes is necessary for better quality.
- Implementing existing licence renewal requirements and developing a roadmap for CME should be priorities.
- Developing and rolling out protocols in primary care and encouraging group practices will lead to more standardised care.

Figure 81: Insufficient number of new graduates to meet India's need for medical professionals



Notes: Number of doctors projected assumes the increase in number of seats to be same as in the past seven years; total nurses metric includes registered nurses and midwives, auxiliary nurses and midwives and lady health workers (LHWs); target numbers based on WHO benchmarks; AYUSH is Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
Sources: World Bank; Central Bureau of Health Intelligence (CBHI); World Health Organization; Bain analysis

Figure 82: Supply additions in past decade have worsened the regional imbalance for both doctors and nurses



Need to address skewed distribution of medical seats; correlated to imbalance in delivery infrastructure

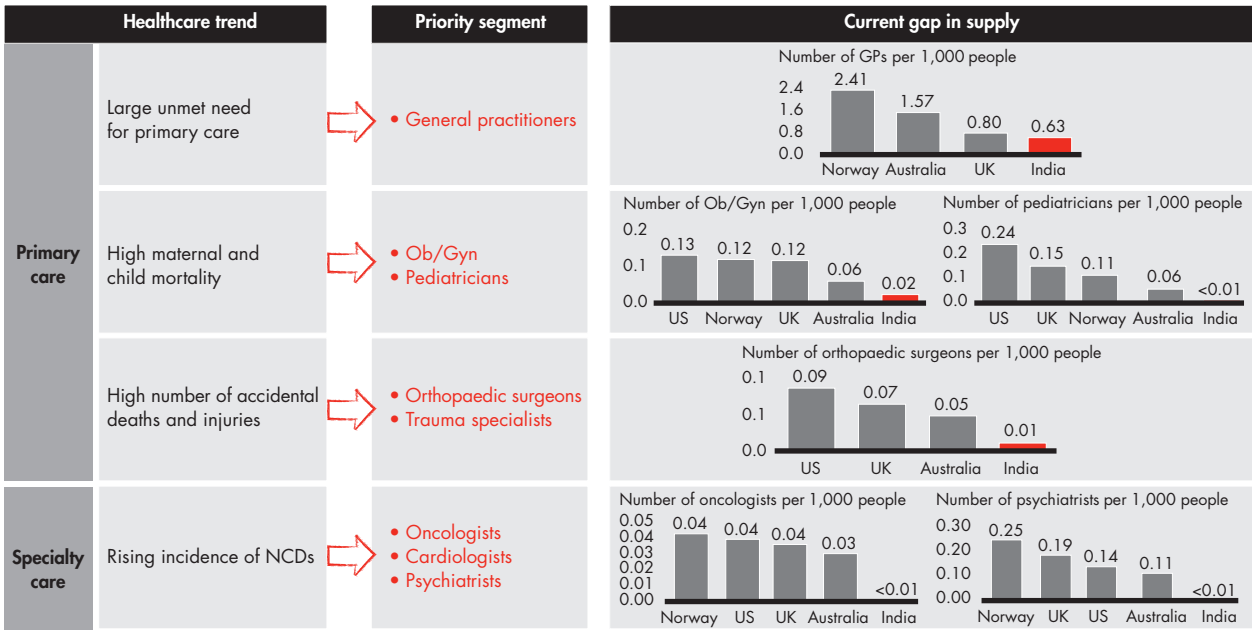
Notes: Total nurses metric includes registered nurses and midwives, auxiliary nurses and midwives and lady health workers; nursing seats include admission capacity in ANM and GNM (general nursing and midwifery) courses across India; AP is Andhra Pradesh; MP is Madhya Pradesh; UP is Uttar Pradesh; TN is Tamil Nadu; WB is West Bengal; Kar is Karnataka; Guj is Gujarat
Sources: Central Bureau of Health Intelligence (CBHI); India Nursing Council; Bain analysis

Figure 83: Emerging countries have attempted to bridge the healthcare skill gaps through targeted measures

	Thailand	Philippines	China
Issue	**Uneven distribution of healthcare professionals**	**Brain drain-caused shortages**	**Poor-quality medical education**
Actions taken	• Local recruitment and placement in home towns • Mandatory three-year rural service for all doctors • Mandatory service contracts for primary care workers and nurses • Financial incentives for working in remote areas	• Targeted measures to bring back emigrants – e.g. tax benefits, preferential loan rates • "Return service agreement" – Requirement to work in the Philippines after university • Encouraging temporary migration to gain enhanced remittances and skill levels	• Overhauled curriculum to improve quality of education (e.g. lifelong learning) • Stringent licensing regulations – Mandatory one-year internship for eligibility – Two-tier test which includes clinical skills and written test
Outcome	**~95% public health generalists and ~40% nurses are based in rural communities**	**Doctors per 1,000 increased from 0.5 in 1995 to 1.2 in 2002**	**~30K international medical students enrolled in China in 2009**

Sources: Ministry of Public Health, Thailand (2010 statistics); World Health Organization; World Bank; Ministry of Education, China; Medical Education Reforms in China, Q. Wang; Bain analysis

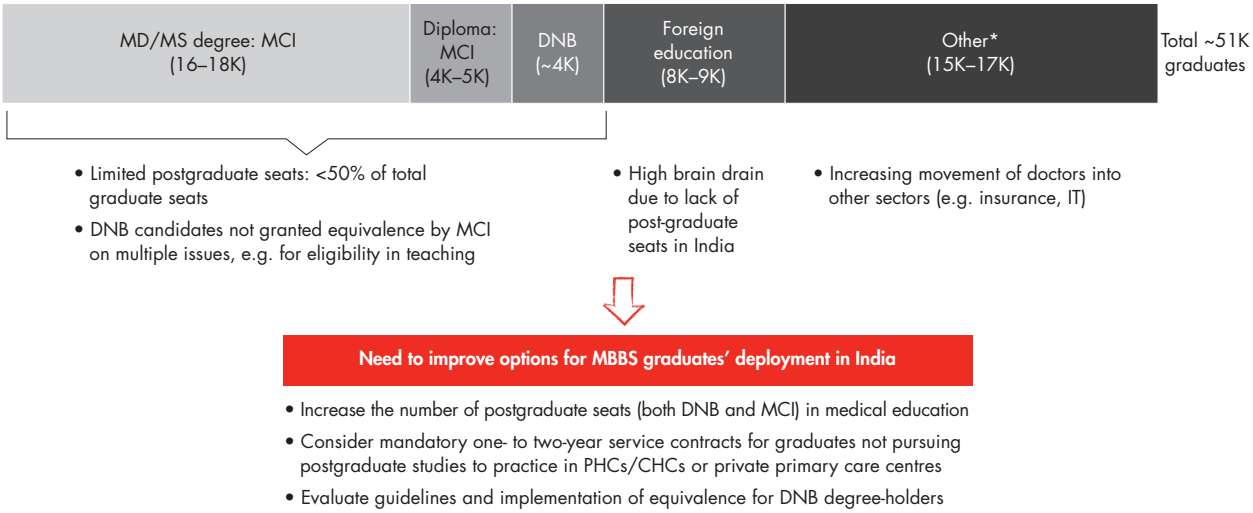
Figure 84: Increase supply: Expansion of doctor supply should address critical shortages



Notes: NCDs is non-communicable diseases; Ob/Gyn is obstetrics and gynecology; statistics in bar charts refer to the year 2012
Sources: Datamonitor; National Sample Survey Office (NSSO); Euromonitor; World Health Organization; Express Healthcare; Bain analysis

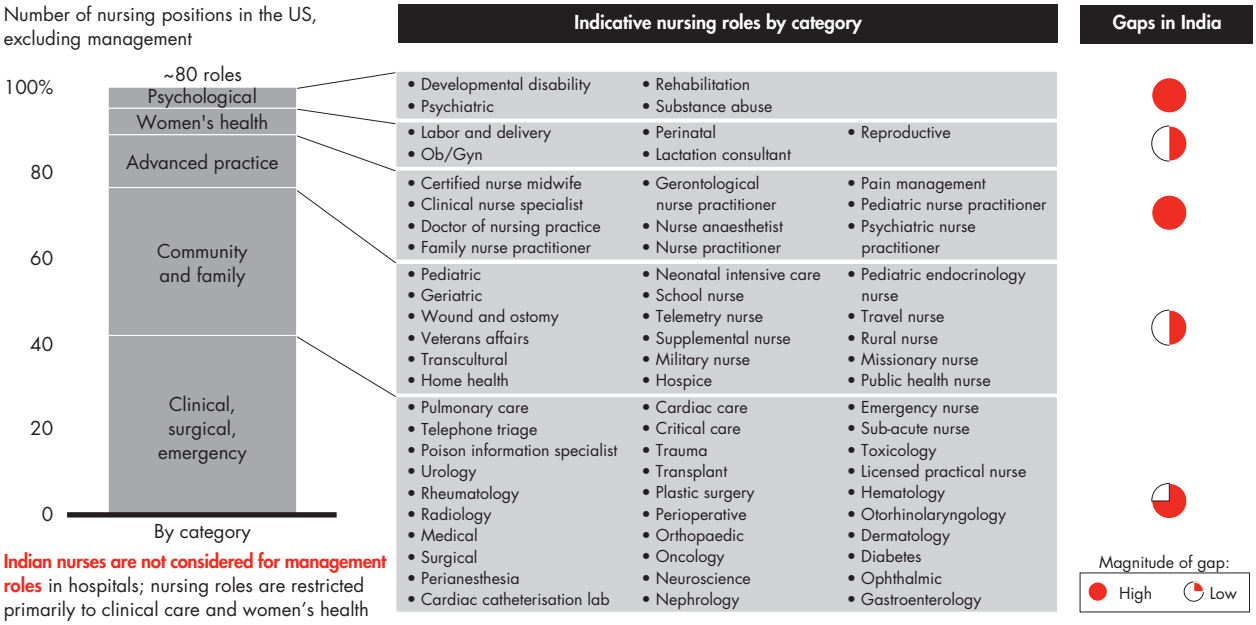
Figure 85: Increase supply: MBBS graduates have limited opportunities for specialisation in India

Options for MBBS graduates to pursue after graduation:



*Other includes practicing MBBS graduates and those who pursue opportunities outside medicine
Notes: Diplomate of National Board (DNB) is a postgraduate degree awarded by National Board of Examinations (NBE); MBBS is Bachelor of Medicine, Bachelor of Service; MD is a doctor of medicine; MS is Master of Surgery; PHC is primary health centre; CHC is community health centre; MCI is Medical Council of India
Sources: Medical Council of India; Bain analysis

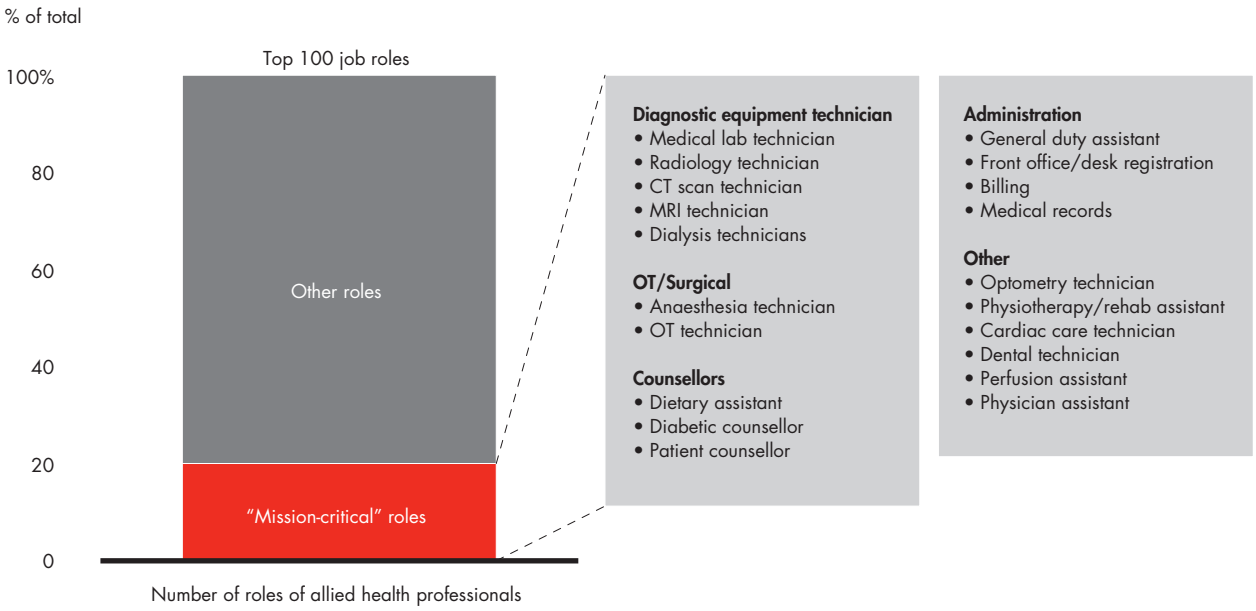
Figure 86: Increase supply: Coming decade should see industry addressing the current lack of specialisation in nursing



Indian nurses are not considered for management roles in hospitals; nursing roles are restricted primarily to clinical care and women's health

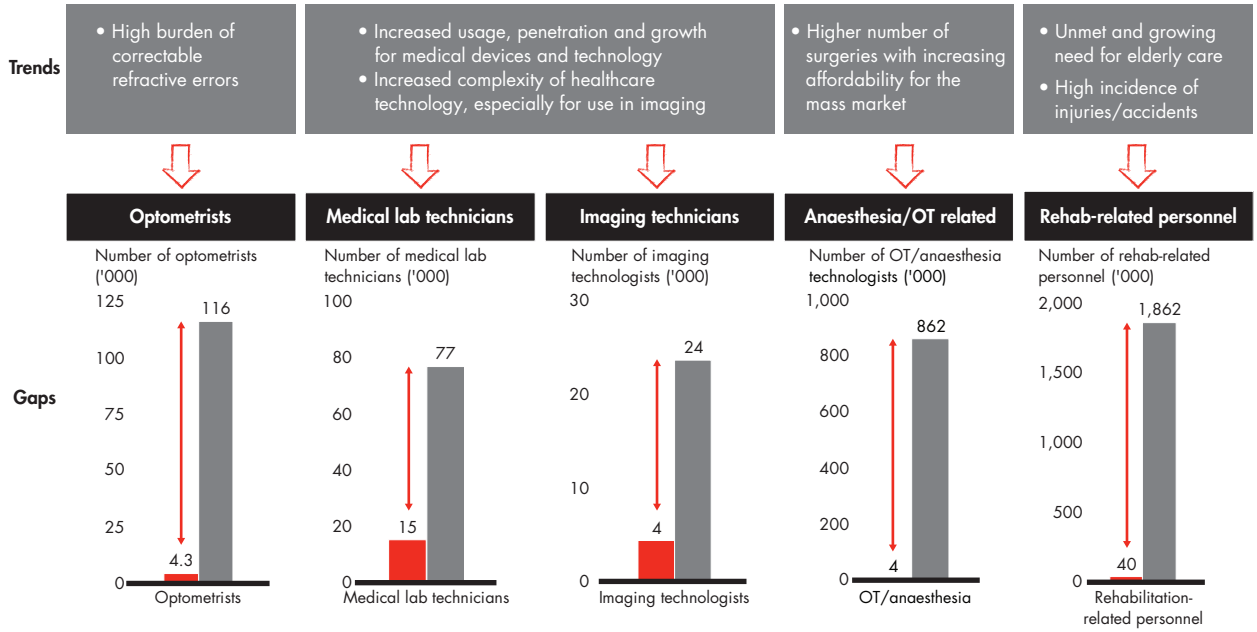
Note: Ob/Gyn is obstetrics and gynecology
Sources: Johnson & Johnson, "Discover Nursing," www.discovernursing.com; India Nursing Council; Bain analysis

Figure 87: Increase supply: There are a few "mission-critical" allied-health roles which need to be considered priorities



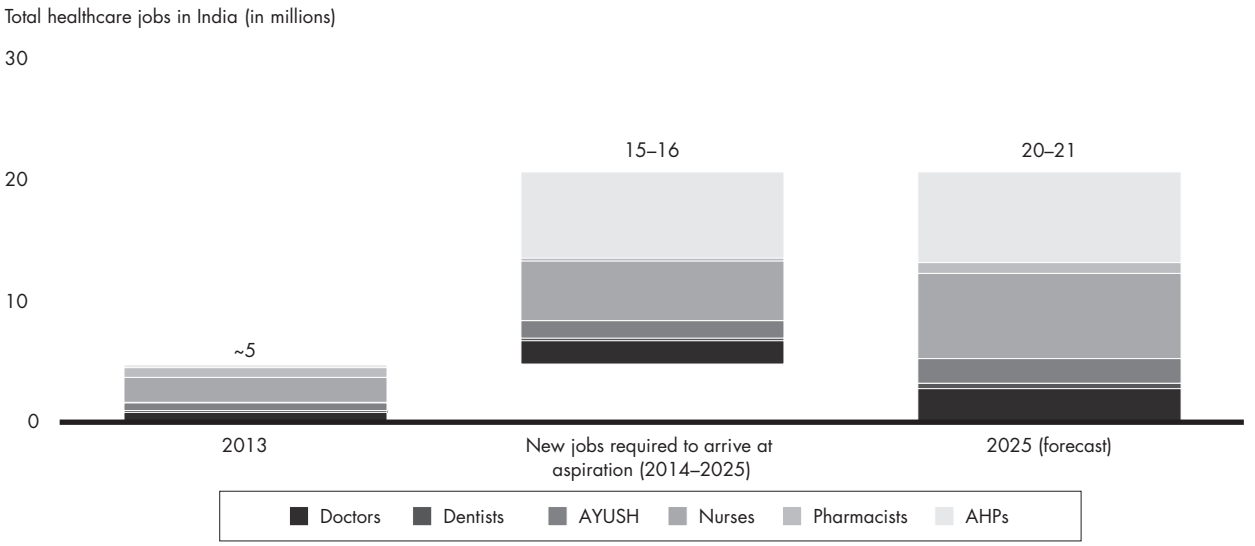
Notes: 300-bed tertiary hospital considered for 100 job roles; MRI is magnetic resonance imaging; OT is operation theatre; CT is computerised tomography
Sources: Bureau of Indian Standards; Bain analysis

Figure 88: Increase supply: Urgent need to fill gaps in these "mission-critical" roles



Notes: Demand of AHPs is based on US Bureau of Labor Statistics on per '000 population basis; OT is operation theatre; statistics in the charts refer to the year 2012
Sources: Public Health Foundation of India; National Initiative for Allied Health Sciences (NIAHS); Bain analysis

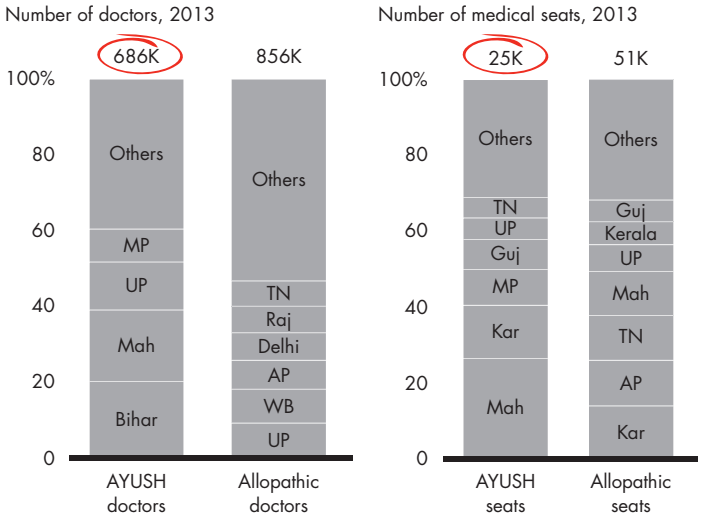
Figure 89: Healthcare services have the potential to contribute about 15 million new jobs over the next decade



Notes: AHP is Allied Health Professionals; number of doctors per '000 is expected to increase from 0.7 to 2; number of nurses per '000 population is expected to reach five by 2025 (WHO benchmarks); number of pharmacists is expected to grow according to NSDC projections; AHP demand in 2025 is expected to be fully fulfilled (according to per capita AHP numbers by MOHFW); number of dentists and AYUSH doctors are expected to grow at same rate as doctors; AYUSH is Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
Sources: Central Bureau of Health Intelligence (CBHI); Ministry of Health & Family Welfare; NSDC; World Health Organization database; Bain analysis

Figure 90: Increase supply: AYUSH practitioners can help improve care

Significant number of AYUSH doctors present a compelling opportunity



Unravel opportunity through rejuvenation of AYUSH practice

- Co-locate AYUSH practitioners in CHCs and PHCs, to offer holistic primary care
- Use AYUSH facilities and capabilities in rehabilitation, post treatment
- Build stronger rural network of AYUSH care
- Optimise funding for R&D in AYUSH medicine

Potential for focus on AYUSH to facilitate shift in consumption towards primary care

Notes: CHC is community health centre; PHC is primary health centre; AYUSH is Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy; MP is Madhya Pradesh; UP is Uttar Pradesh; Mah is Maharashtra; Raj is Rajasthan; TN is Tamil Nadu; AP is Andhra Pradesh; WB is West Bengal; Kar is Karnataka; Guj is Gujarat.
Sources: Central Bureau of Health Intelligence (CBHI); Planning Commission; Bain analysis

Figure 91: Increase supply: Initiatives taken to integrate AYUSH into primary care

Case example: ICTPH Centre of Excellence Bridge Programme for primary care

Integration of AYUSH into rural primary care delivery

- Three-month-long bridge training programme for AYUSH doctors
- Trainee physicians certified as primary care practitioners
- Partnership with SughaVazhvu for deployment
  - Network of seven rural clinics in Tamil Nadu, with ~2,500 patient visits a month

Key components of the bridge training programme

- Disease management protocols central to training
  - 82 conditions including NCDs, infectious diseases, eye exams, cervical screenings
- Global partnerships for evidence-based care delivery protocols
  - Partnered with University of Pennsylvania (School of Nursing) and Washington University in St. Louis

Central and state governments' stance

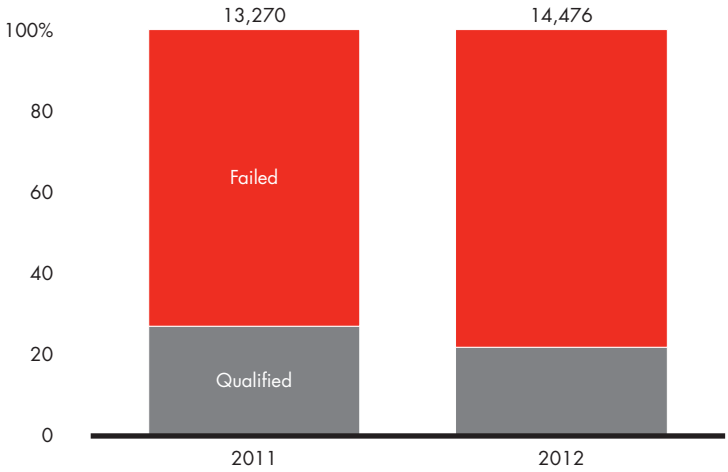
- National AYUSH Mission approved by central government
  - Increase in AYUSH educational institutions, hospitals, dispensaries
  - Availability of quality raw material for AYUSH drugs
- CCIM consulted by union health ministry to develop curriculum for bridge courses for AYUSH
  - Objective: primary care and emergency medicine training
- Tamil Nadu, Maharashtra permit homeopaths to use allopathic medicine, based on situation

Notes: NCD is non-communicable diseases; ICTPH is IKP Centre for Technologies in Public Health; AYUSH is Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy; CCIM is Central Council of Indian Medicine
Sources: ICTPH; Bain analysis

Figure 92: Increase supply: India requires measures to integrate about 15,000 underemployed overseas MBBS graduates

10K–15K unemployed or underemployed overseas MBBS graduates every year

Number of overseas MBBS graduates appearing for Foreign Medical Graduate Examination

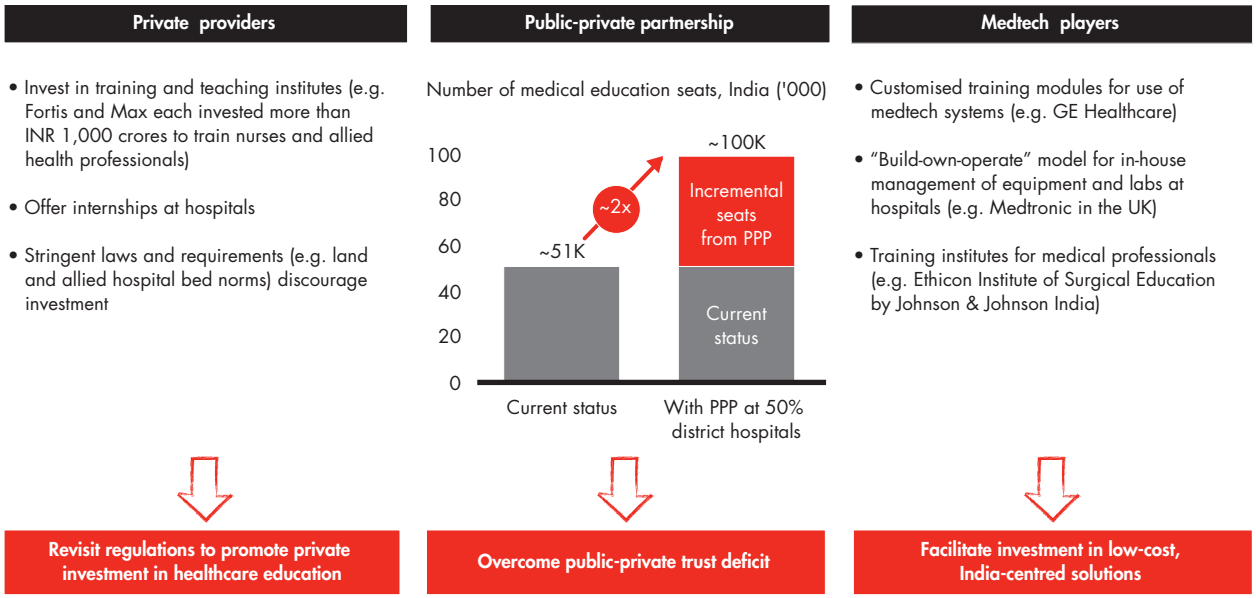


Potential to integrate these candidates into the system

- Introduce short-term bridge courses for overseas MBBS candidates
  - Licensing/registration for candidates under the purview of Medical Council of India
- Promote internship/residency at hospitals and PHCs for overseas MBBS students
- Revisit standards of FMGE screening to ensure parity
  - Supplement existing theoretical screening with practical clinical evaluations
  - Ensure more transparency and better communication to candidates

Notes: FMGE is Foreign Medical Graduate Examination; PHC is primary health centre; MBBS is Bachelor of Medicine, Bachelor of Surgery
Sources: CBHI NHP 2013; Planning Commission Report 2012; *Economic Times*; Bain analysis

Figure 93: Increase supply: Private investment and innovative public-private partnerships can help bridge the quantity gap in supply of talent



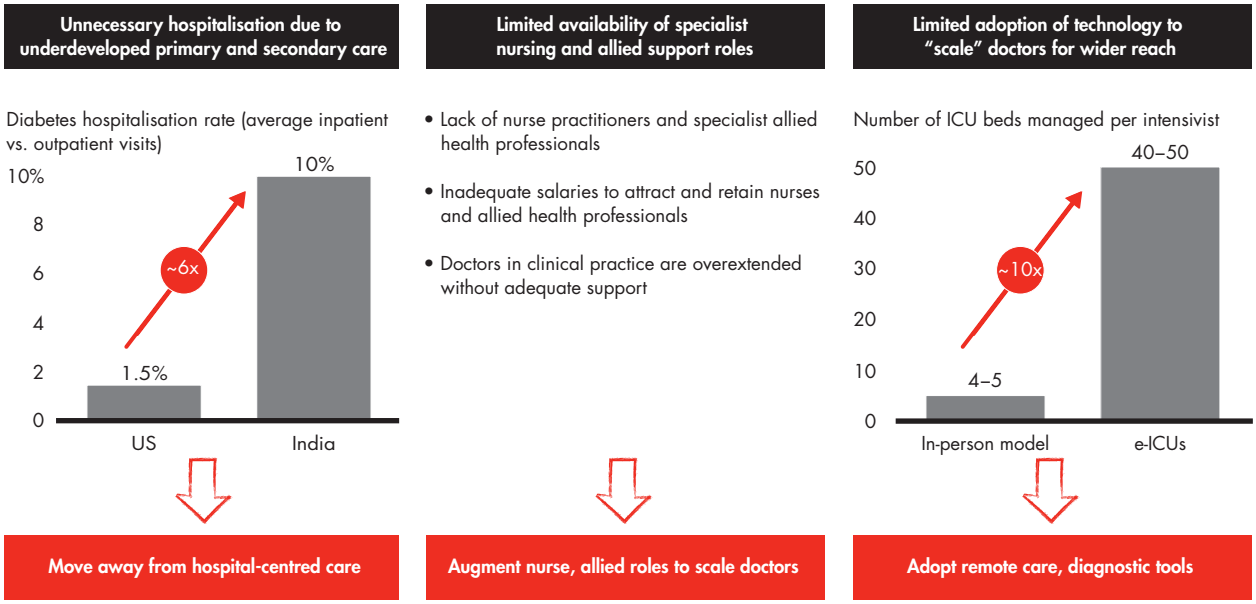
Notes: Calculations based on 100 medical seats per district hospital for a total of 486 government district hospitals; PPP is public-private partnership
Sources: "Tackling India's HR crunch through PPP in medical education," Padukone, Manipal; Bain analysis

Figure 94: Increase supply: Use technology to scale and accelerate teaching and training at lower costs and overcome access barriers

Emerging technology themes	Simulated labs for basic training	Online continuing medical education (CME)	Virtual training and distance learning courses
Possible benefit from application	• Enable low-cost training, assessment in simulated labs	• Increase CME compliance for doctors through online platforms	• Complement existing medical infrastructure with distance learning for medical education
Examples	• Des Moines University, US – Standardised performance assessment laboratory with simulated patients	• In India, Health Varsity is the first online portal • In the US, Medscape provides online CME across 35 specialty areas	• Apollo initiated virtual education in India, through Medvarsity – 25 courses and 2,500 registered medical students and doctors – 5,000 hours of content available

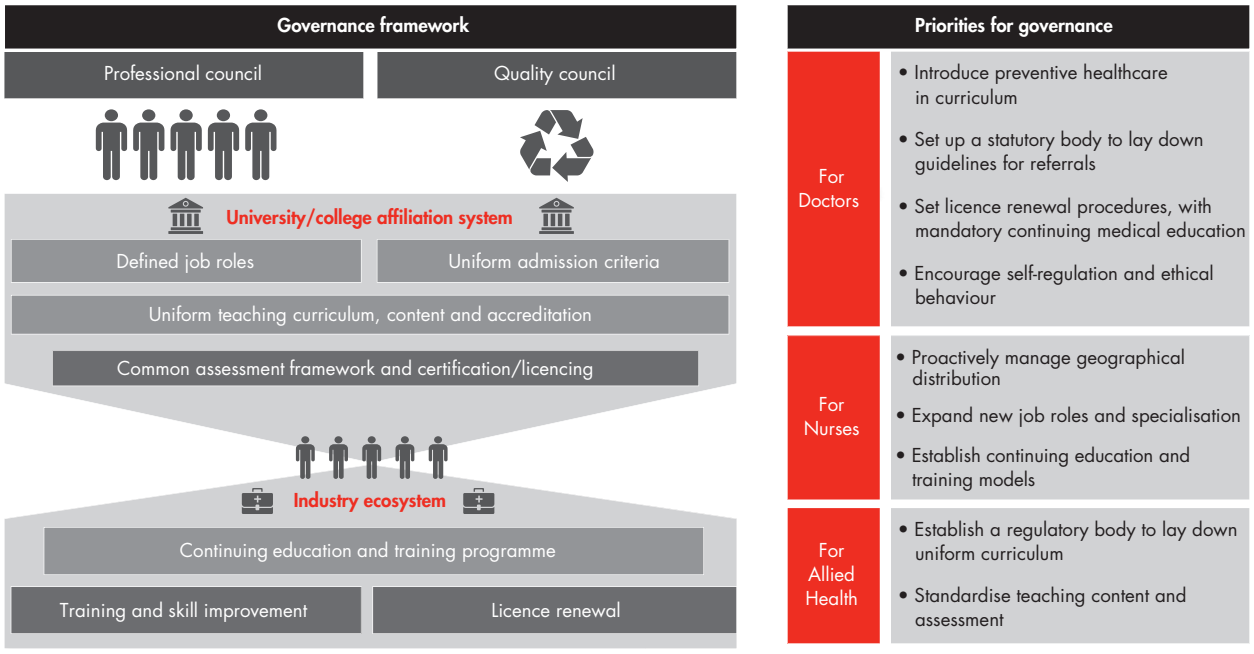
Sources: Medical Council of India; Bain analysis

Figure 95: Reduce demand: Doctors are underused and overextended; need to reduce demand and "scale" doctors



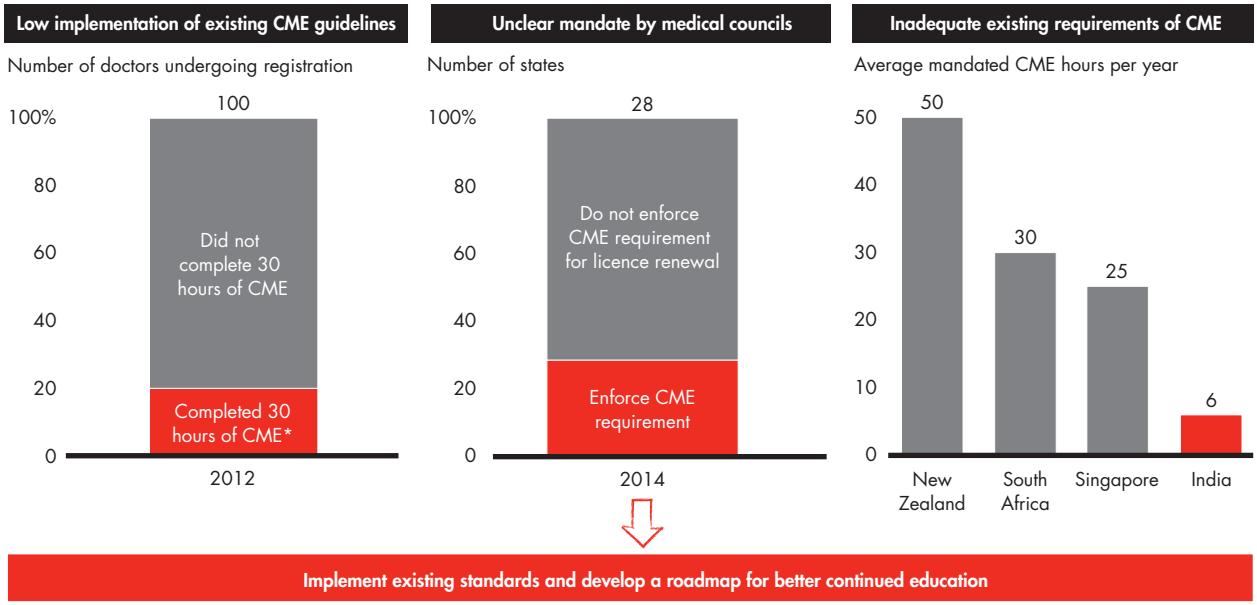
Sources: National Sample Survey Organization (NSSO); Bain analysis

Figure 96: Improve quality: Strong governance in teaching, training and licensing will ensure higher quality personnel



Source: Bain analysis

Figure 97: Improve quality: A clearly defined continuing medical education roadmap will lead to more proactive self-regulation among doctors



*30 hours of CME over a 5-year period
Note: CME is continuing medical education
Sources: World Health Organization; Medical Council of India; Bain analysis

8.

Technology

Priorities in health technology need to be identified for India

- India's unique needs should drive priorities for healthcare technologies: increasing affordability through low-cost products and services, overcoming access barriers and engaging patients through digital health, improving care coordination through IT and addressing tropical diseases through India-focussed R&D.
- Prioritised technologies should be piloted in select care areas, such as mother and child health, NCDs and CDs, before they are rolled out on a full scale.

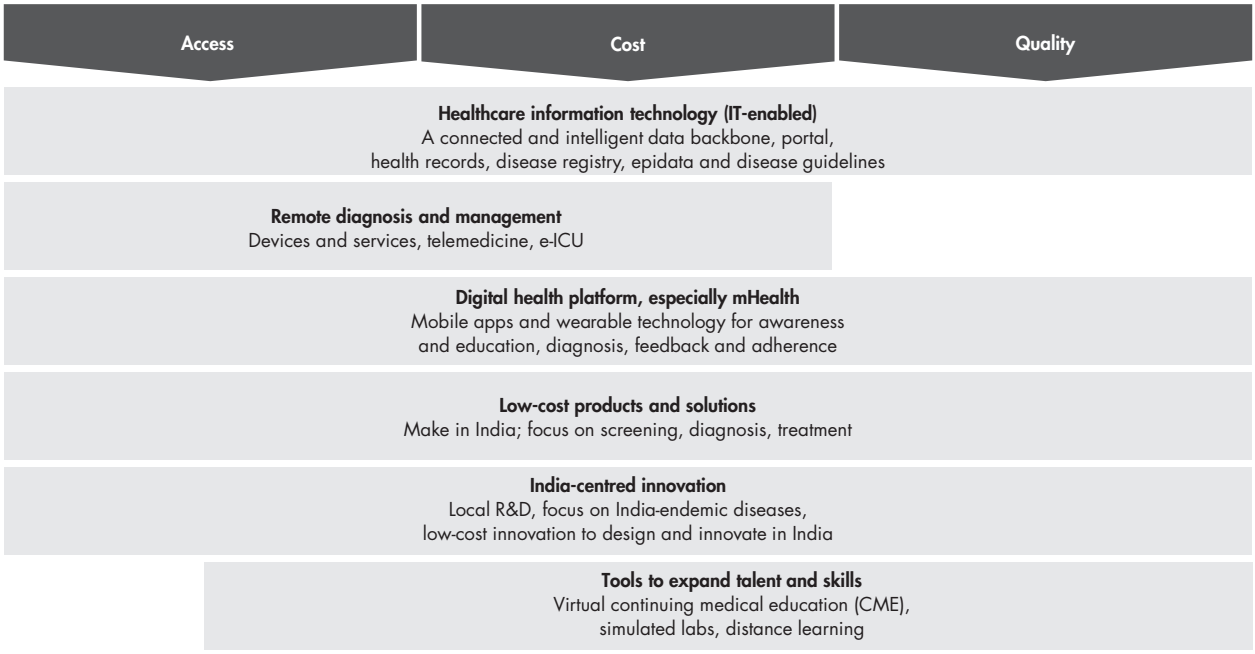
Government has a key role to play in the judicious adoption of new technology

- Creating a supportive ecosystem for medical device innovation can help promote domestic manufacturing in India. Key gaps to address include high import duties on raw materials for medical devices, complex tax restrictions on setting up manufacturing centres and a limited talent pool with medical device expertise.
- Implementing HTAs can help determine access to cost-effective solutions.
- Investments and incentives are needed to set up an IT backbone and help define interoperability standards.
- Encouraging PPPs for medical education can help augment the workforce skills needed to more quickly adopt technology.

The private sector shares the responsibility to optimise technology in healthcare

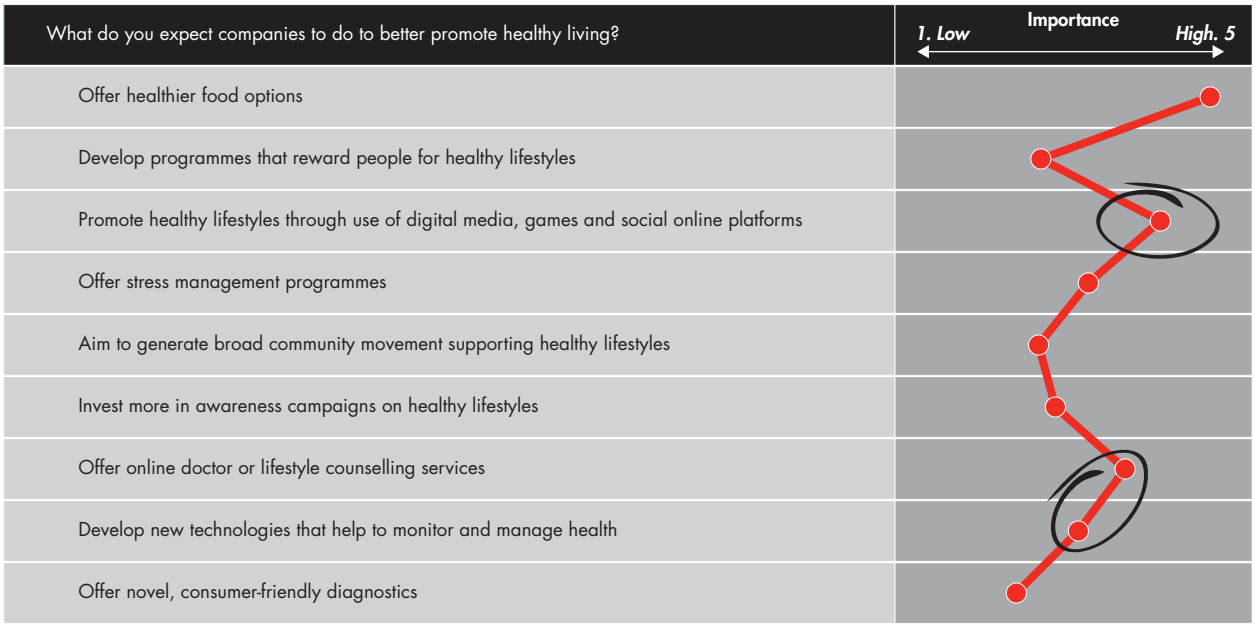
- Investing in R&D for prioritised technologies (e.g. telemedicine) should enable equitable access to healthcare.
- Collaborating to build IT-enabled EHRs and patient databases should improve integrated care and population health.
- Concentrating on regional initiatives using mobile and Internet strategies—such as telemedicine, doctors on call and remote patient monitoring—can help improve access to healthcare.
- Using wearable and mobile technology can help educate and engage consumers on healthy living and prevention.

Figure 98: Multiple technology trends will shape healthcare in India



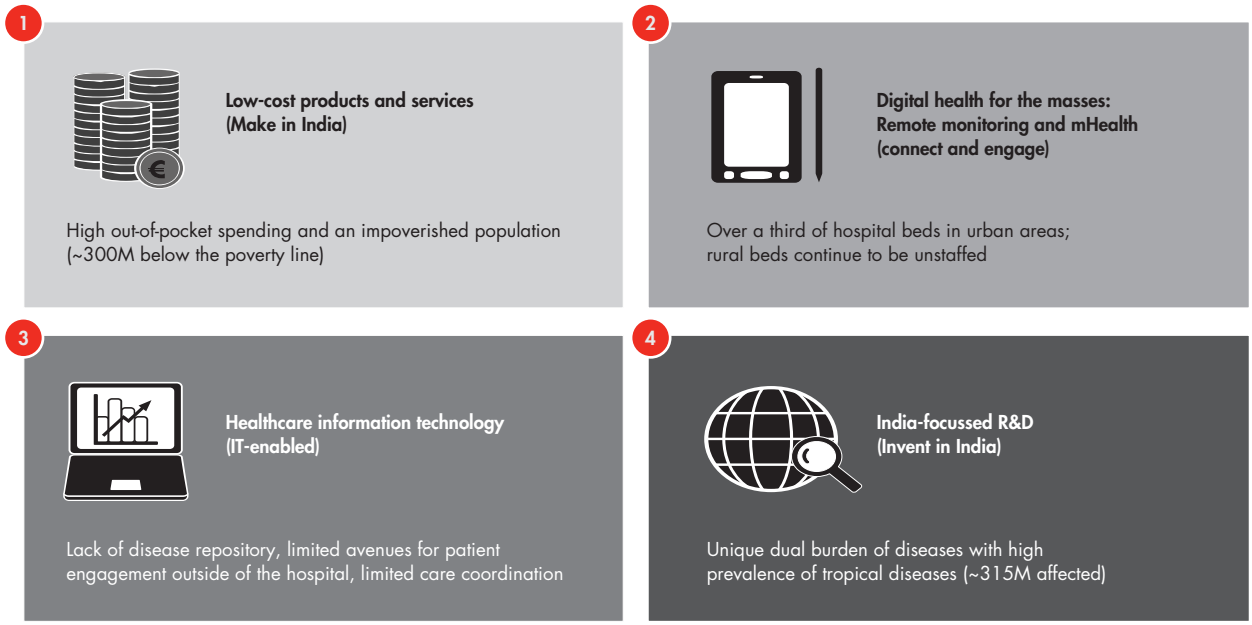
Source: Bain analysis

Figure 99: Indians see consumer-focused technology as a means to achieving healthy living goals



Notes: Importance rating indicates % of respondents who selected a certain option as one of their top 5 choices; "none of the above" chosen by 1% of the respondents
Source: Healthy Living Survey, Bain & Company, 2013 (New Delhi, n=400)

Figure 100: Priority technology needs for India healthcare



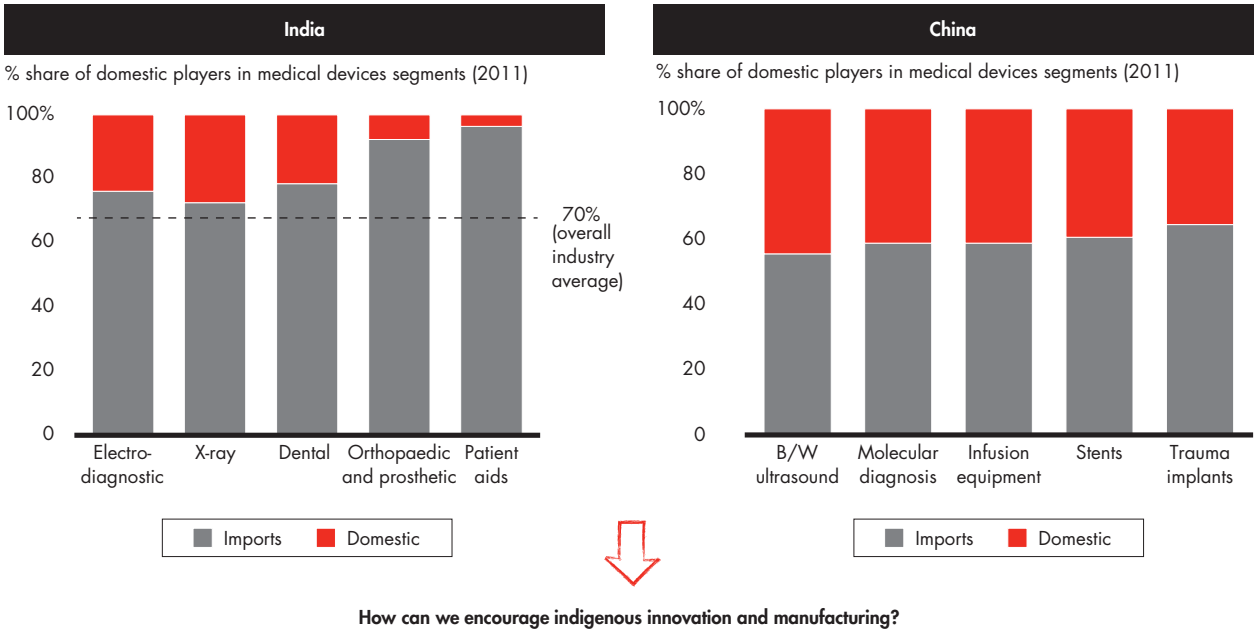
Note: Tropical diseases include tuberculosis, malaria, diarrhoea and neglected tropical diseases which have received limited attention until recently
Sources: Telecom Regulatory Authority of India (TRAI); Bain analysis

Figure 101: Pilot prioritised technologies in three critical areas

	Mother and child health	Non-communicable diseases	Communicable diseases
1 Low-cost products and services (Make in India)	✓ Affordable devices (e.g. infant warmer)	✓ Mass screening tools to identify early risk factors	✓ Tools for early diagnosis of diseases/epidemics
2 Digital health for the masses (connect and engage)	✓ Tools to enable remote, mobile MNCH care (e.g. portable ultrasound)	✓ Wearable devices for lifestyle management and adherence	✓ Disease/epidemic alerts and advisories
3 Healthcare information technology (IT-enabled)	✓ Tracking and reporting antenatal care (e.g. PCTS in Rajasthan)	✓ Electronic patient records for care coordination	✓ Disease surveillance systems for epidemic hotspots
4 India-focussed R&D (Invent in India)	✓ Technologies that are relevant to India (e.g. heat stable vaccines)	✓ Population genetic studies; India-focussed treatment protocols	✓ Tropical disease R&D

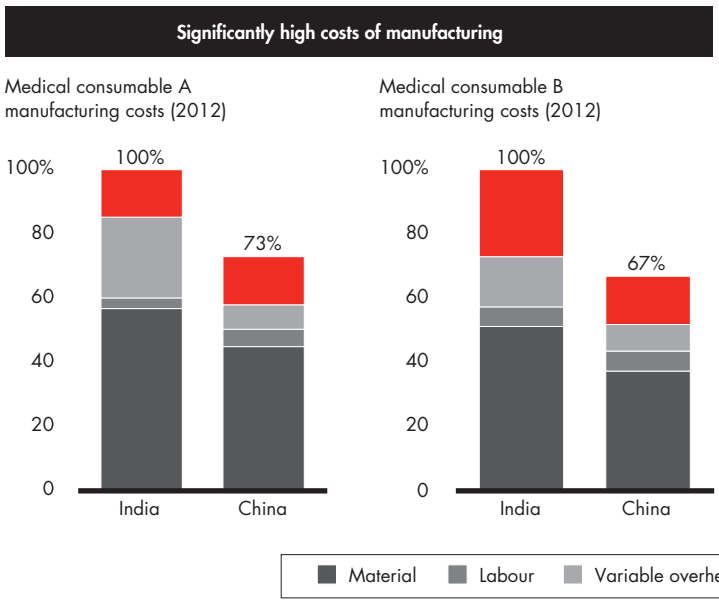
Notes: PCTS is pregnancy, child tracking and health services management system; MNCH is mother and child health
Source: Bain analysis

Figure 102: Low cost: India imports a significantly high majority of medical devices



Sources: Espicom Medical Devices report; Bain analysis

Figure 103: Low cost: India needs to improve its manufacturing competitiveness



Key gaps in India

- Lack of comprehensive regulatory framework for medical devices
  - Certain devices are classified as drugs and regulated accordingly by Drug Controller General of India, Food and Drug Administration, etc.
- High import duties on raw materials, parts and sub-assemblies for medical device manufacturing
- Complex legal, tax restrictions on setting up of manufacturing centres
- Limited talent (specialist engineers) with medical device expertise
- Overall ecosystem is not fully developed (e.g. ancillary industries)

Notes: Minimal scale benefit in China for material, labour and variable overheads; fixed overhead is adjusted for scale; fixed overhead includes indirect manpower, IT, admin, repair and maintenance, depreciation, etc.; variable overhead includes power and utility, consumables, quality testing, excise duty, etc.
Source: Bain analysis

Figure 104: Low cost: Key imperatives to transform India into a low-cost innovation hub

Create a supportive ecosystem for innovation in India

- Conducive policy structure, similar to Ireland (exports devices worth ~€7B)
  - Clearly defined regulatory framework and roadmap for medical devices
  - Lower import duties on device raw materials, parts and sub-assemblies
- Creation of medical technology parks to promote clusters of device manufacturers
  - Incentives on land, cost of raising funds, duties and taxes, and exemption on R&D expenditures
- Investment in scientific talent in basic and applied sciences
- Shift from cost-centred (L1) tenders to balanced health technology assessment-enabled purchasing

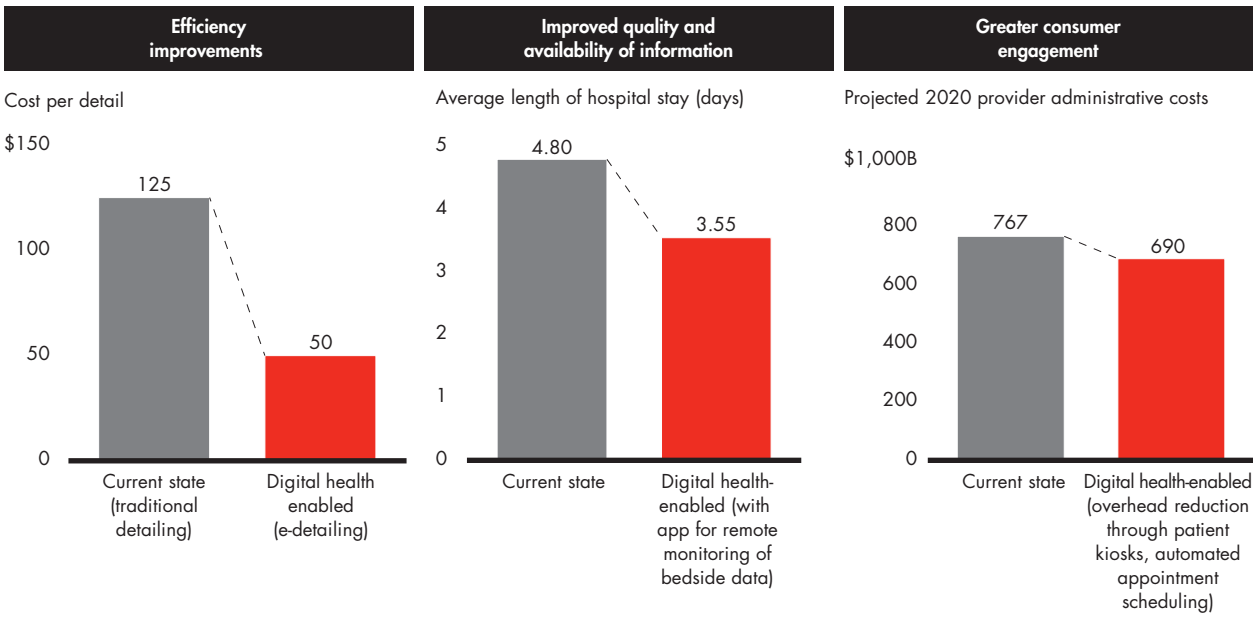
Master the formula for the "right" product for India's needs

- Bottom-up innovation for minimal cost solutions needed (selectively eliminating features from global solutions is not enough)
- Local sourcing and manufacturing: Focus on "design for" and "make in" India
  - R&D grants and subsidies for domestic innovation initiatives in medical technology
- Zero-based costing relative to existing solutions and traditional remedies
- Minimum quality standards for domestic manufacturing of medical devices

Low-cost innovation

Note: L1 tender refers to process where lowest bidder wins
Source: Bain analysis

Figure 105: Digital health can lower costs and improve health outcomes in a disruptive fashion (US example)

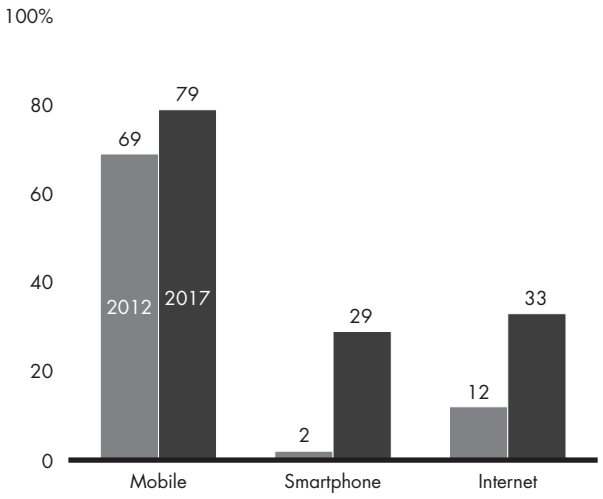


Note: Data is based on a US example
Sources: Centers for Medicare and Medicaid Services (CMS); Centers for Disease Control and Prevention (CDC); *Telemedicine and e-Health* (2011); *New England Journal of Medicine* (2003 and 2011); Bain analysis

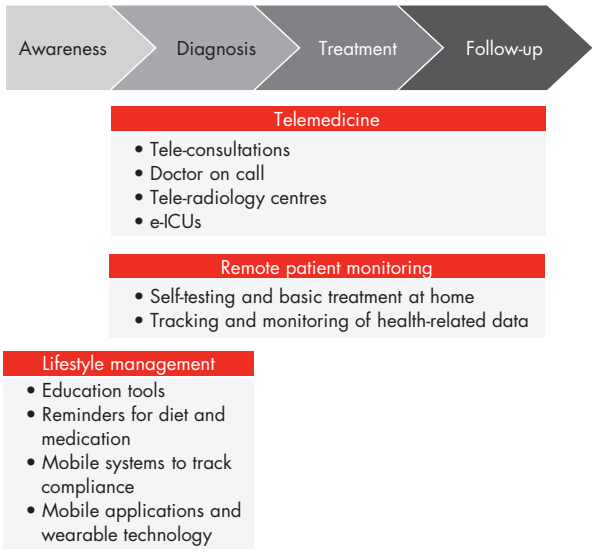
Figure 106: India has the backbone to support digital health growth

Mobile penetration increasing at 3%; smartphones at 70%; Internet at 22%

Penetration of digital resources in India

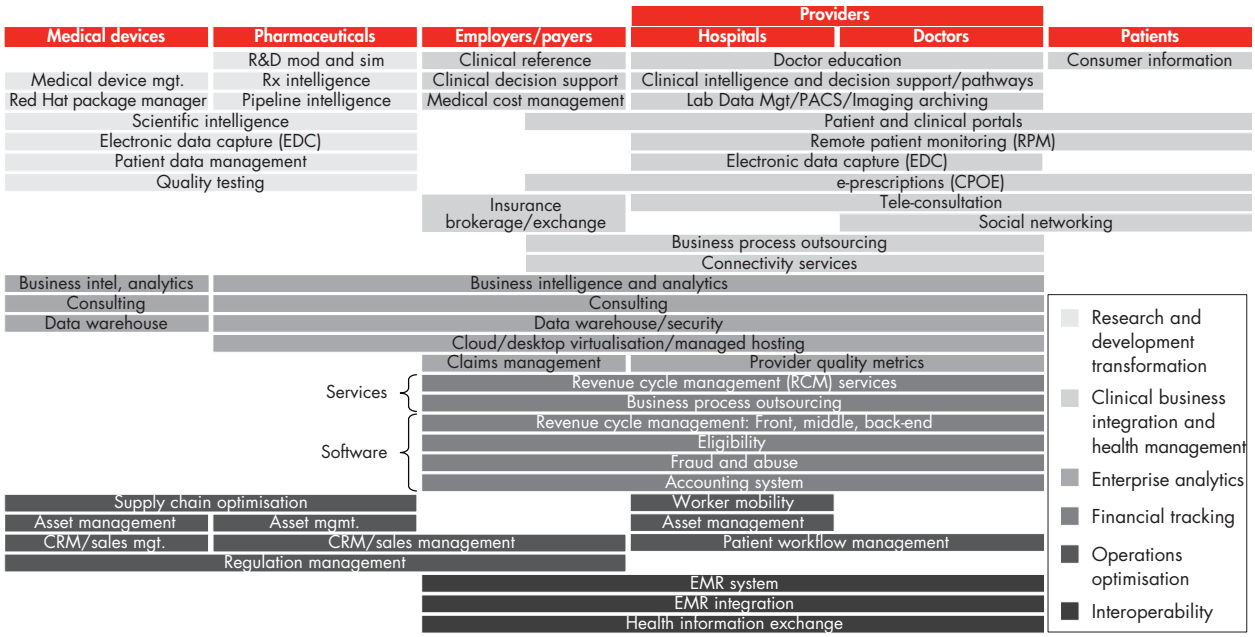


Digital health enables solutions across the healthcare value chain



Note: Penetration is defined as the number of users divided by population
Sources: Telecom Regulatory Authority of India (TRAI); World Bank; Bain analysis

Figure 107: Healthcare IT offers solutions across a broad range of the healthcare ecosystem



Notes: CRM is customer relationship management; PACS is picture archiving and communication system; EMR is electronic medical records
Source: Bain analysis

Figure 108: Key lessons on the rollout of healthcare IT

Learning for India	Global examples
• Ensure interoperability between internal and external EMR systems, other IT applications	• Canada Health Infoway (Pan-Canada EMR): Clear guidance on interoperability standards, with all provinces participating
• Establish reliable "IT backbone," i.e. network infrastructure for nationwide information exchange	• Massachusetts Health Information Highway: Secure portal for information exchange by healthcare players
• Use cloud for electronic medical records and mobile-based services	• Imaging data storage by AT&T: Use of cloud storage to back up and store
• Invest in Big Data storage and analytics	• Obamacare using Big Data analytics in the Affordable Care Act roll-out
• Create multilingual, accessible database for healthcare workers	• Portals connect workers with hospitals for talent and workflow management, at Jackson Healthcare in the US

Source: Bain analysis

Figure 109: IT can be a powerful tool for real-time disease surveillance, which is needed to fight the risk of epidemics

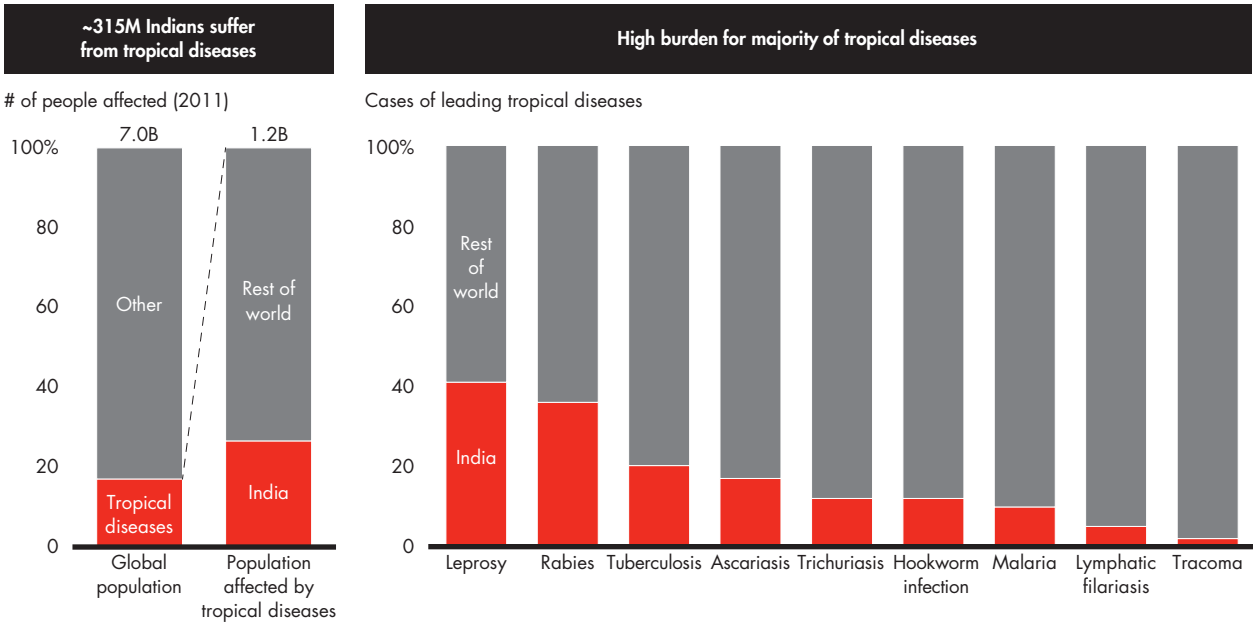
India created a National Surveillance System for polio eradication effort	China's Information System for Disease Surveillance covers 37 CDs
• Surveillance for AFP cases done at local, district, state and national level • Cases reported, investigated and lab-tested at all major health centres	• SMS-based alert system informs local CDC of confirmed and suspected cases • CDC investigates, identifies from a list of 37 infectious diseases

Scale up India's IT-enabled surveillance capabilities

- Nationwide IT platform for reporting and monitoring of diseases
- Data warehousing and advanced analytics for surveillance system and database
- Mandatory participation of healthcare personnel at all levels for disease reporting
- Kick off pilot programmes for surveillance of one or two major epidemics (malaria, HIV/AIDS)

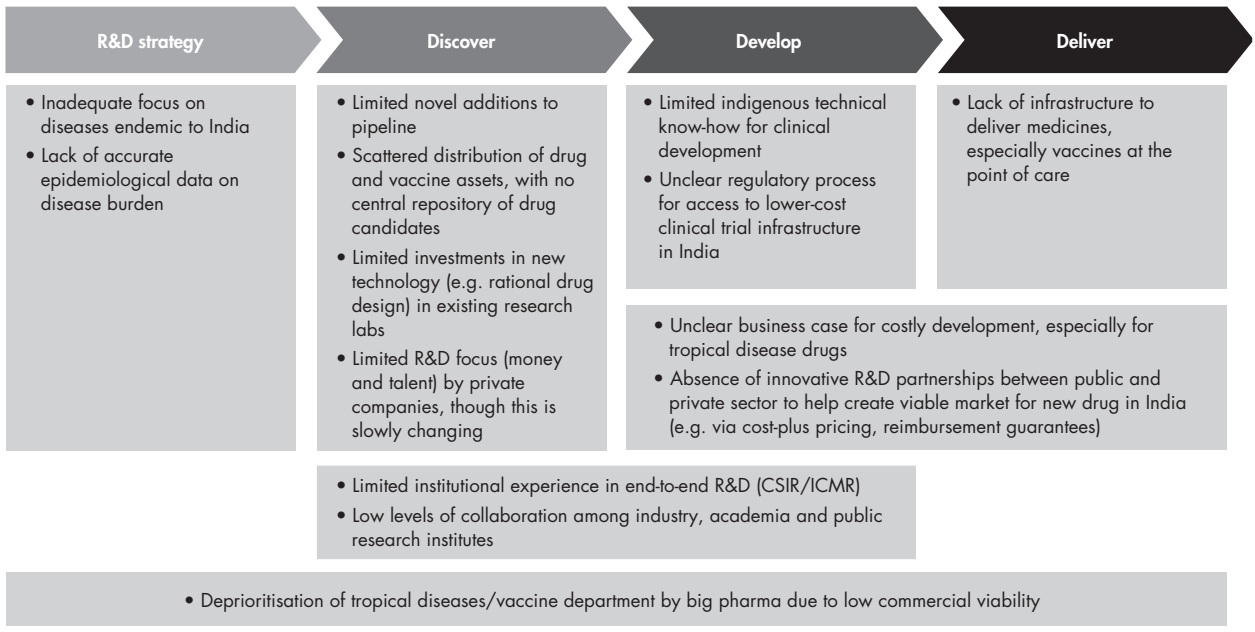
Notes: AFP is acute flaccid paralysis, a condition of paralysis most commonly associated with onset of polio; CDs are communicable diseases; CDC is the Center for Disease Control and Prevention
Sources: Center for Health and Aging; Bain analysis

Figure 110: India R&D: India has a disproportionately high burden of tropical diseases



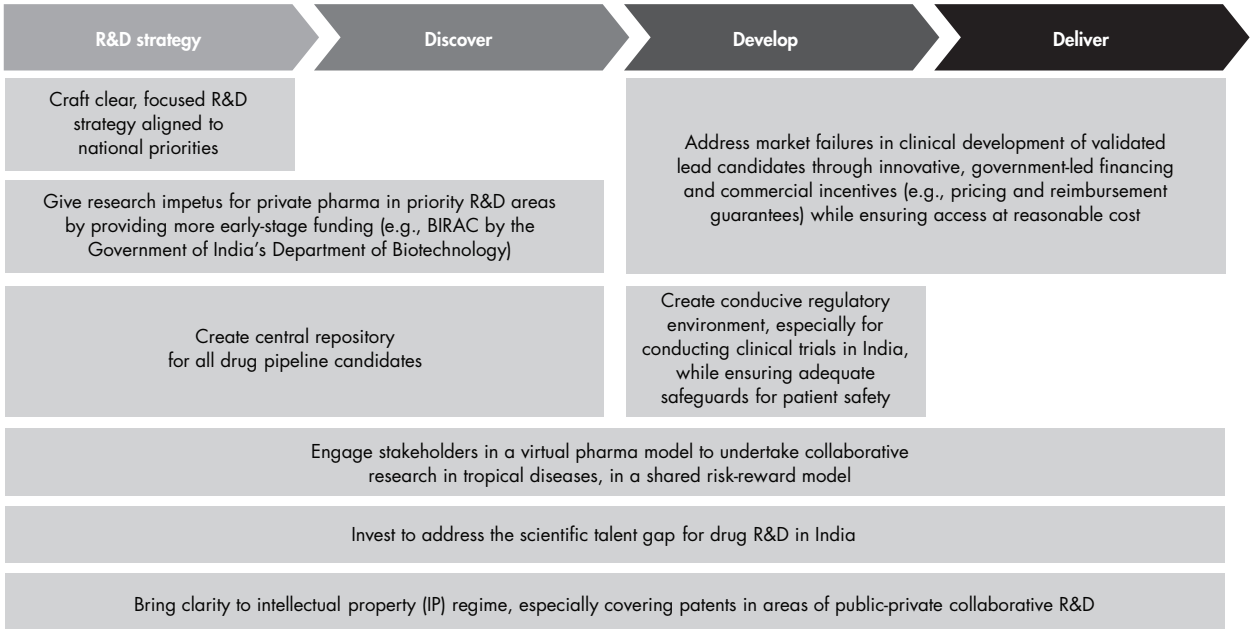
Note: Tropical diseases include tuberculosis, malaria, diarrhoea and neglected tropical diseases which have received limited attention until recently
Sources: Drugs for Neglected Diseases Initiative; World Health Organization; Public Library of Science; Bain analysis

Figure 111: Novel drug discovery in India is hampered by systemic gaps across the value chain



Notes: CSIR is Council of Scientific and Industrial Research; ICMR is Indian Council of Medical Research
Source: Bain analysis

Figure 112: Proposed priorities to ignite indigenous drug innovation



Note: BIRAC (Biotechnology Industry Research Assistance Council) is a programme under which early-stage funding is provided to emerging biotech companies by the Department of Biotechnology, Ministry of Science and Technology, Government of IndiaSource: Bain analysis

9.

Funding

A significant increase in healthcare spending ($3 trillion cumulatively) is needed to bridge the gaps in Indian healthcare

- Healthcare has historically been a low priority for central and state governments. In addition, public Capex has been less than 10% of overall spending.

- Key priorities that need to be funded over the next decade include expanding infrastructure in delivery and medical education, moving towards universal health insurance and augmenting public health services.

Government has to play a key role in enabling greater funding from all sources

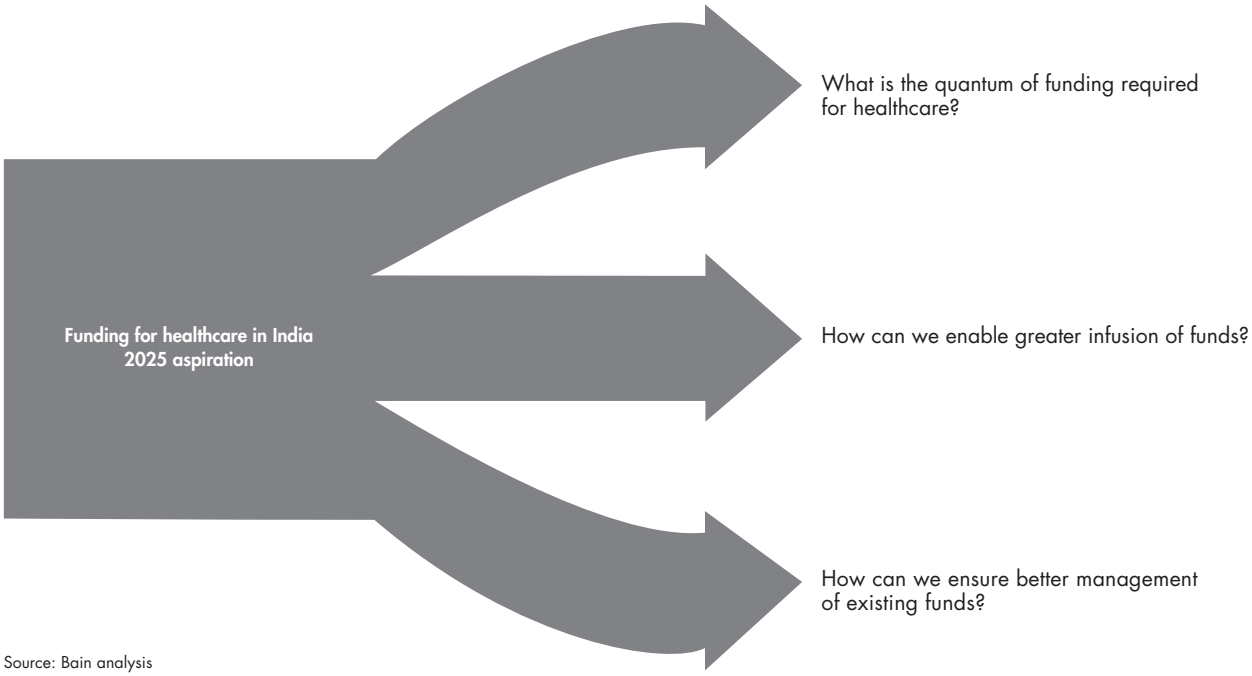
- Public spending: The government must assign higher priority to healthcare in budgetary allocations and explore new avenues for fundraising, such as health levies and "sin taxes." In addition, the government should establish an independent and empowered body to ensure greater coordination of healthcare spending for interstate and interministerial implementation.

- Private spending: Enable greater private investment by extending tax benefits on Capex for all hospitals, facilitating bank loans beyond seven years, reducing import duties on raw materials for medical devices, allowing real estate investment trusts (REITs) in healthcare and ensuring transparent pricing formulas and clinical trial approvals. PPPs will play a key role in encouraging private investment in delivery, medical education and R&D.

- Private insurance: Provide incentives for payers by facilitating financing options—for example, provide clarity on foreign direct investment ruling and tax exemptions, and permit debt financing. Increasing tax exemptions on premiums and creating mass awareness can be incentives for consumers to adopt insurance. Beyond this, shifting away from fee-for-service reimbursement models will facilitate faster adoption of health insurance.

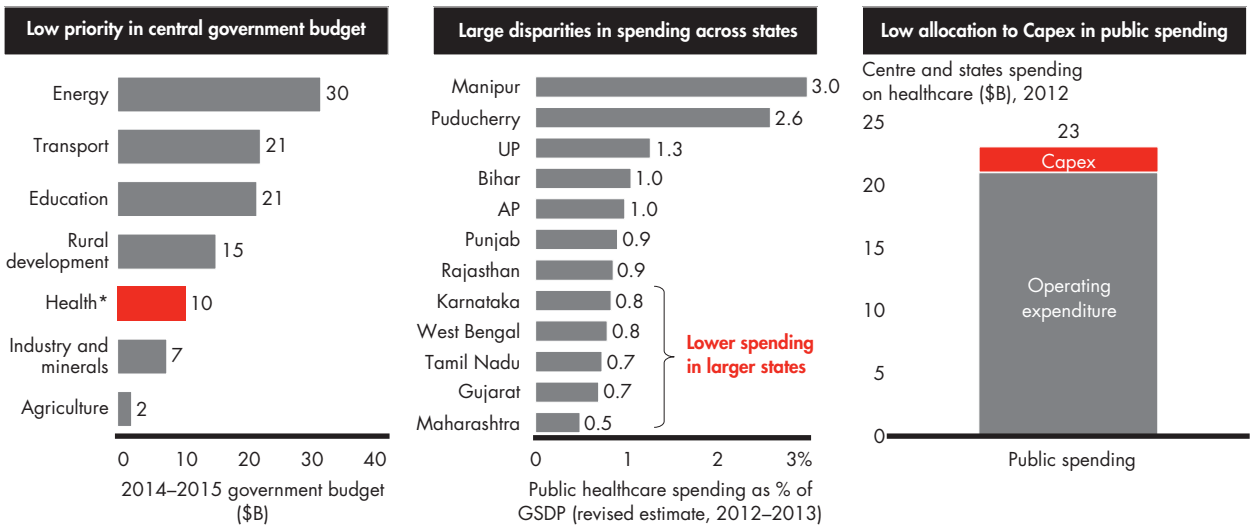
- Individual contribution: Optimise significantly high out-of-pocket spending through co-payments and dedicated deductions, resulting in individual accountability for healthcare.

Figure 113: Three key questions to arrive at an aspiration for funding



Source: Bain analysis

Figure 114: Historically, centre and states have allocated low priority to healthcare and negligible focus on infrastructure development



Higher public spending on healthcare required, with potential to drive increased workforce productivity, employment and overall economic growth

*Out of $10B central government budget for healthcare, $5B allocated for medical and public health, including the national rural health mission and vaccination programmes, $2B for water and sanitation, $1B for Nirmal Bharat Abhiyaan and the rest for other healthcare spending
Notes: Central government budget includes central plan outlay and central assistance for state and UT plans; UP is Uttar Pradesh; AP is Andhra Pradesh
Sources: Government of India budget; Planning Commission; IDFC; MOHFW; Bain analysis

Figure 115: Key priorities emerge which require funding

Key priorities		Aspiration for 2025
Infrastructure build-out	• Expand infrastructure for supply-side readiness of healthcare provision • Invest in medical education to address the talent gap	• ~1.1M–1.3M new beds to be added; private sector to account for ~90% • ~450K non-functional beds to be revitalised • ~80K–100K new seats to be added in new and existing medical colleges
Greater insurance coverage	• Expand public insurance to move towards universal health coverage • Increase coverage for high-income population through private insurance	• Public insurance to reach ~60% of population by 2025 • Private insurance is expected to reach ~25% population by 2025
Expand public health services	• Maintain and expand public health services for the masses • Provide access for those with a limited ability to pay	• Improved outcomes of public health (e.g. increased immunisation, IMR, MMR) • Government to lead provision in under-served areas (e.g. rural, semi-urban)
Ensure individual accountability	• Maintain personal contribution to health spending among the insured • Optimise out-of-pocket spending	• Out-of-pocket spending limited to less than 30% of overall healthcare spending • Limited co-payment for catastrophic coverage

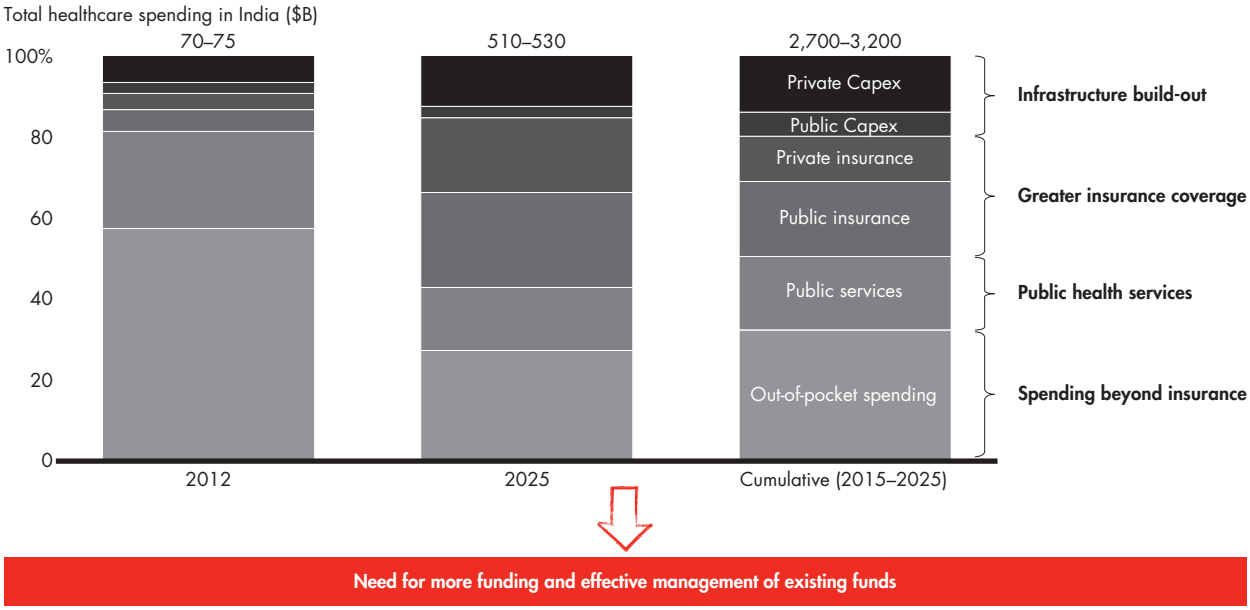
Notes: IMR refers to infant mortality rate; MMR refers to maternal mortality rate
Source: Bain analysis

Figure 116: We estimate funding requirements from private and public sources to meet the aspiration for 2025

Funding	Key assumptions for extrapolation to 2025
Private Capex	• ~1.1M new beds to be added – ~40% of new beds assumed to be low-cost beds – Weighted average cost for a new bed ~INR 5M in 2012 (grown at rate of inflation: 7%) • ~230K non-functional beds to be operationalised – Average cost for one bed is ~INR 3.2M in 2012 • ~50K–55K private medical seats to be added in new and existing medical colleges • ~50% of private Capex on non-beds related infrastructure (outpatient, pharma and medtech)
Public Capex	• ~100K new beds to be added • ~220K non-functional beds to be operationalised • ~30K–50K public medical seats to be added in new and existing medical colleges • ~80% of public Capex on non-beds related infrastructure (e.g. medical colleges, primary care, public health)
Private insurance	• Volume of coverage (# people) to grow at ~13% year on year, reaching top 25% of population by income • Premium rates to grow at ~15% year on year, with more depth in cover to include comprehensive care
Public insurance	• Essential healthcare coverage for 60% of the population • Cost for outpatient coverage is assumed to be 50% of inpatient coverage – Current premium for basic coverage (inpatient only) is ~INR 1,500 • Premium rates to grow at 10% year on year, and will cover essential care
Public services	• Opex costs per functional bed grown at the rate of inflation (7%) – Opex costs incurred by government ~INR 180K per bed in 2012 • Government spending on other public health activities to grow at ~15% year on year
Out-of-pocket	• Remaining balance of overall spending on healthcare at 6% of GDP

Source: Bain analysis

Figure 117: Realising 2025 aspirations will require a cumulative $3 trillion in spending, including about $600 billion in Capex



Notes: 1 USD=INR 55; cumulative funding needed from 2015 to 2025 without any discounting factor
Sources: World Health Organization; IMF; Public Health Foundation of India; Planning Commission; Central Bureau of Health Intelligence (CBHI); IRDA; Bain analysis

Figure 118: We see multiple approaches for greater infusion of funds across public and private sources

1	2	3	4
Public spending	**Private Capex**	**Private insurance**	**Individual contribution**
• Reinforcement of public funding sources • Improved coordination and facilitation of public spending	• Enabling regulations to promote investment • Incentives for public-private partnership in delivery, education, insurance and R&D • Appropriate rate of return on investments (e.g. for delivery expansion beyond major cities and drug development for neglected diseases)	• Incentives for payers and consumers • Adoption of innovative payment models	• Co-payments for individual accountability • Health savings accounts to optimise out-of-pocket spending

Source: Bain analysis

Figure 119: 1: Government needs to prioritise healthcare to drive the exponential increase in spending required

1 Approach	Recommendations for raising and managing funds
Reinforce public funding sources	• Increase budgetary allocation for healthcare – Most developed (US, UK) and developing countries (Brazil, China, Thailand) spending 15% to 20% of budget on health, compared with ~7% for India • Implement targeted taxation for healthcare from specific health levies and additional "sin taxes" on tobacco, alcohol – Funds from "sin taxes" should be earmarked for healthcare (e.g. Thailand's tax on tobacco, alcohol used to fund preventive health measures) – Customised health levies or employer contributions should be introduced to aid public funds (e.g. levies in Canada for treatment for crash victims) • Encourage bilateral funding and external grants to run targeted programmes designed to meet MDGs and SDGs (post-2015 goals)
Improve coordination and facilitation of public spending	• Establish an independent agency for coordinating public spending on healthcare – Coordinate inter-ministerial deliberations and inter-state implementation – Facilitate and expedite public investment across states and schemes • Streamline centre spending to reduce disparities across states – Offer incentives for states to spend on healthcare by linking funds from centre to percentage of state GDP spent on healthcare

Notes: MDGs is Millennium Development Goals; SDGs refers to Sustainable Development Goals
Sources: World Health Organization; "Enabling access to long-term finance for healthcare in India," NATHEALTH; Bain analysis

Figure 120: 2: India needs an ecosystem that better supports private investment in healthcare

2 Approach	Recommendations for raising and managing funds
Enabling regulations	• Extend tax benefits for Capex to hospitals with fewer than 100 beds • Facilitate bank lending beyond current restriction of seven-year loans • Reduce import duties on medical device components and parts to encourage domestic manufacturing • Allow real estate investment trusts in healthcare to enable investment and better monetisation of healthcare assets • Facilitate conducive, transparent and viable ecosystem for pricing and approvals for clinical trials to encourage innovative medicine
Promote public-private partnership (PPP)	• Offer incentives for PPP in delivery, education, insurance and R&D – PPPs to expand infrastructure, manage government delivery, enable financing for purchasing, R&D, technology and quality adherence • Design a health sector-specific PPP framework and standardize concession agreements with clauses on collateral and exit • Create a healthcare infrastructure fund (similar to IIFCL for core infrastructure sector) to provide viability gap funding • Establish an independent agency that can be responsible for managing PPPs, designing contracts and monitoring execution

Notes: IIFCL refers to India Infrastructure Finance Company Ltd
Sources: "Enabling access to long-term finance for healthcare in India," NATHEALTH; Bain analysis

Figure 121: 3: Private insurance growth will come from clear incentives for payers and consumers, and from innovative payments

3 Approach	Recommendations for raising and managing funds
Incentives for payers and consumers	• Ensure clarity on guidelines for approval from FIPB, for FDI beyond 26% (up to 49%), after proposed Insurance Bill is passed in Parliament • Exempt health insurance companies from minimum alternate tax (similar to life insurance companies) • Evaluate options for alternative capital structures and debt financing for health insurance companies • Offer incentives for consumer adoption of health insurance – Increase tax exemption on premiums for buyers of health insurance – Create mass awareness on benefits of health insurance and engage consumers with wellness solutions (e.g. Discovery in South Africa)
Adopt innovative payment models	• Move away from fee-for-service and towards capitation-based payment models in a phased-out manner – Facilitate faster adoption of health insurance through improved outcomes and lower costs for patients – Ensure complete transparency and encourage efficiency among care providers

Notes: FIPB is Foreign Investment Promotion Board; FDI is foreign direct investment
Source: Bain analysis

Figure 122: 4: To better manage funding, high out-of-pocket spending must be effectively channeled

4 Approach	Recommendations for raising and managing funds
Co-payments	• Customise co-payments to ensure individual accountability while lowering overall out-of-pocket spending – Exemptions are required for select groups (e.g. elderly, low-income groups, mother and child) – Common method in many established health systems: Facilitated 16%–20% reduction in prescriptions in Spain, Canada and Taiwan • Introduce caps on cost sharing to minimise risk of high out-of-pocket expenses
Health savings accounts	• Create health savings accounts for dedicated individual deductions and collection for healthcare spending – Customise contribution levels for employed and self-employed and introduce a culture of personal accountability – In Singapore, for example, individuals contribute to MediSave accounts with different contributions for employed (~20% income) and self-employed (3%–10%) • Use health savings to increase coverage depth beyond public insurance, especially for the lower-income population

Sources: Inland Revenue Authority of Singapore; World Health Organization; The Commonwealth Fund; Bain analysis

Afterword

A clear design framework from the government is required to execute and implement all the recommendations discussed in this paper in a transparent manner.

Current governance mechanisms will be inadequate to manage the rapidly growing operations in healthcare and structural shifts needed to oversee public spending. Central government needs to appoint dedicated bodies to coordinate healthcare across centres and states and to better synchronise different ministries with health-related roles.

Universal health coverage is a long-term objective, but the urgent need is to create a roadmap for implementation, establish checkpoints and assign responsibilities among stakeholders. Also, the government needs to clarify its position on unifying existing public and social insurance schemes as India moves towards universal health coverage.

Regulatory ambiguity will significantly impede the ability to achieve some of the aspirations laid out in this report. The government will need to take the lead in clarifying healthcare regulations for contracts among public and private players, for the management of health technology assessments (HTAs), for price controls on essential healthcare services and so on.

Through NATHEALTH, private-sector participants will seek ways to collaborate with the government to provide expertise and support, and thereby start moving towards a desirable future for Indian healthcare.

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NATHEALTH has been created with the vision to "be the credible and unified voice in improving access and quality of healthcare." Leading healthcare service providers, medical technology providers (devices and equipment), diagnostic service providers, health insurance companies, health education institutions, healthcare publishers and other stakeholders have come together to build NATHEALTH as a common platform to power the next wave of progress in Indian healthcare. NATHEALTH is an inclusive institution that represents small and medium-size hospitals and nursing homes. NATHEALTH is committed to working on its mission to encourage innovation, help bridge the skill and capacity gap, help shape policy and regulations, and enable the environment to fund long-term growth. NATHEALTH aims to help build a better and healthier future for both rural and urban India.

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