

Essential Innovations in Indian Health systems

by

Amrita Agarwal, Diva Dhar, Nachiket Mor and Saurabh Sharma¹

India has made considerable progress in improving the health of its population in the last few decades. Today, a child is almost three times less likely to die before completing five years of life, and a mother is half as likely to die while giving birth, compared to 1990². India has eradicated polio and maternal tetanus and established itself as a credible, and cost-effective manufacturer for medicines, supplying over 20% of the world's generics and about half the vaccines sold globally³. These are significant achievements but the challenges that remain are formidable. Nearly a million children still die before their first birthday⁴ and infectious diseases, such as malaria and tuberculosis, have still not been eliminated. Nearly 40% of children grow up undernourished and around 7% of households fall below the poverty line each year⁵ due to health shocks and high out-of-pocket (OOP) expenses, estimated to be around 62% of national total health expenditures⁶.

While at around 4% of GDP, the country as a whole spends enough money on healthcare⁷, unlike many other countries such as China or South Africa, India has kept tax-based funding for healthcare essentially static at around 1% of GDP⁸. Using its limited tax-resources, India has built a modest-sized health delivery system owned by the government which is, in large part, focused on reproductive health and the control of infectious diseases. In recent years, instead of focusing only on supply-side improvements, the government has also been using its modest tax resources to allocate small amounts, ranging from 0.01% of GDP (for the Rashtriya Swasthya Bima Yojana)⁹ to 0.08% of GDP (for the National Health Protection Mission), towards tax-funded demand-side schemes¹⁰ which allow low-income consumers to have greater choice in the secondary and tertiary care facilities they wish to access. The bulk of healthcare, however, continues to be provided by the private sector and by informal providers, and is paid for by patients themselves on an out-of-pocket basis at the time of seeking care.

It is clear that the much-needed improvements in health outcomes and health-related impoverishment in India will not come now from increasing total health expenditures significantly beyond the recent 4-5%¹¹ level. Other Asian countries, such as Sri Lanka, Bangladesh, and Thailand, with comparable or lower levels of health spending, have achieved better health outcomes than India¹², albeit in different situations. Even within India, it is not always the case that the states with the highest per-capita health expenditures necessarily have the best outcomes¹³. Altering the structure and dynamics of the entire healthcare system (and not just the portion owned and operated by the government) with the deployment of carefully designed tools and mechanisms to address healthcare market failures, will be key to achieving better health outcomes in India. Changes will be needed broadly in two broad areas of Indian health systems: (a) financing and (b) provisioning.

¹Amrita Agarwal, Diva Dhar, Nachiket Mor, and Saurabh Sharma are all employees of the Bill & Melinda Gates Foundation. Views are strictly personal. Diva Dhar (diva.dhar@gatesfoundation.org) is the corresponding author.

² Mor, Dhar & Venkateswaran, 2017

³ Gupta & Chowdhury, 2015

⁴ The World Bank, 2014

⁵ Ravi, Ahluwalia & Bergkvist, 2016

⁶ Ibid. There is considerable variation in this number between states, from 54% in Assam to as high as 84% for Kerala

⁷ Ibid

⁸ Ibid

⁹ National Health Systems Resource Centre, 2015

¹⁰ Mor, Dhar & Venkateswaran, 2017

¹¹ National Health Systems Resource Centre, 2015

¹² Bhalla & Mor, 2017

¹³ Mor, Dhar & Venkateswaran, 2017

Financing

Public financial management is an important area where reform is required in order to ensure stronger expenditure tracking, better planning, and timely and flexible flows of government funds. This will help improve the current low levels of utilization by the government-owned healthcare delivery system. These levels vary widely across the country, and in states such as Uttar Pradesh and Bihar, the utilization of National Health Mission (NHM) funds from the central government have consistently remained below 45%¹⁴. There are several factors which explain these low levels of utilization. For example, in 2017-18, states had received only 50% of approved budgets by the third quarter of the financial year¹⁵. Such delays affect utilization and are further compounded by additional lags. For example, after receiving funds from the central government, the state treasury can take an additional three months to eventually disburse money to the state health society.

To address this issue, certain steps can be taken:

- a. Identifying and addressing the root causes of these delays can facilitate the timely disbursement of these funds and ensure both greater levels of utilization and better health outcomes.
- b. Additionally, the proactive use of the Ways and Means Advances¹⁶ facility made available to the state governments by the Reserve Bank of India can help smoothen the flow of funds to the state health societies particularly if there are cyclical delays in the receipt of funds from multiple sources.
- c. The large number of line-items in the state health budgets also introduces a considerably degree of rigidity in the manner in which these funds can be used, thus affecting both utilization levels and health outcomes. A reduction in the number of line items, as a first step, followed by a gradual move to a block grant focusing on outputs and outcomes rather than detailed supply side controls, would represent a fundamental reform of the system which would be consistent with global best practice in this regard.

A related area of financing reform is linked to how state governments allocate and disburse funds to district, block, and village level health facilities. Research indicates that much of the allocation happens on a historical basis¹⁷, without clear links to the actual requirements at these facilities and regions, leading to the build-up of surplus cash-balances in some places and persistent shortages in others. There is need for considerable improvement in this process as well, including, potentially, the introduction of annual zero-based budgeting¹⁸.

The Reserve Bank of India, by allowing existing banks to appoint business correspondents, and, more recently, giving licenses to a number of Payments Banks and Small Finance Banks, has facilitated the opening of bank accounts and withdrawal of cash. To take full advantage of this development, state governments would need to complete the automation of their payment-system back-ends and move entirely over to a process of timely bank-account based disbursements for all their payments. This move would improve both the tracking and utilization of all available government funds.

Another area of financing reforms is related to the reduction in the total quantum of funds being spent on an out-of-pocket basis by individuals at the time when they need health care. Fortunately, while the total quantum of pooled funds is low, health financing design in India already has all the components necessary to address this concern. The principal ingredients include taxation, which is currently at a little over 1% of GDP, Employee State Insurance Scheme (ESIS) (0.06% of GDP)¹⁹, voluntary insurance (0.14% of GDP)²⁰, and Out-of-Pocket expenditure at point-of-service (~2.5-3% of

¹⁴ Kapur & Baisnab, 2018

¹⁵ *ibid*

¹⁶ Bose et al., 2015

¹⁷ Berman, 2017

¹⁸ Timmermans & Shuda, 2018

¹⁹ National Health Systems Resource Centre, 2015

²⁰ National Health Systems Resource Centre, 2015

GDP)²¹. To increase the total quantum of pooled funds, the following measures could be implemented:

- a. Increasing tax-financing to 2.5% of GDP by 2025, as already articulated in the National Health Policy²², with 0.20% of GDP being added each year from now would be an important first step.
- b. Building ESIS through better collections and an expansion of its mandate to include all formal-sector employees and not just blue-collar workers, could easily mean its value rises up to 0.50% of GDP over the next several years²³.
- c. Additionally, allowing families and groups such as the numerous, well-diversified self-help-groups of women, to buy-into the recently announced National Health Protection Mission²⁴, so that they can benefit from all of the high-quality purchasing apparatus being set up by the government, could lead to a sizable increase in voluntary insurance, which could rise as high as 1% of GDP.

With these three changes, aggregate pooled financing could then rise to 4% of GDP thus ensuring that point-of-service expenditures by Indians falls to 1% of GDP and well below a third of total health expenditures, considerably reducing the health-expenditure related impoverishment of Indian families²⁵ and helping improve health outcomes.

Provisioning

Healthcare in India is provided both by the government and the private sector. However, as discussed earlier, despite an adequate amount of money being spent on health by the country as a whole, access to healthcare remains poor, as do health outcomes. This relates both to the poor design of the healthcare provision architecture and the low levels of efficiency at which healthcare facilities function, both within the private and public sectors. Reforming the provision of healthcare can bring about considerable change in health outcomes even at the current low levels of pooled expenditure. It could even facilitate an increased level of prepayment and pooling by consumers as their confidence grows in the ability of the health system to deliver.

The government's tax-financed expenditure on healthcare, at around 1% of GDP, is spent mostly on the government-owned health system focusing on the control of infectious diseases and reproductive health. This modest sum should still be adequate to demonstrate quality outcomes in these two focal areas, even in poor states. However, as a recent study on basic intrapartum care finds, public primary facilities are weak in both rural and urban areas, especially in the poorest states such as UP and Bihar with the worst health outcomes, and suffer from insufficient facility readiness, low provider skill and clinical management capacity.²⁶ The study also finds underutilization and inefficiency in many government-owned facilities, which suffer from low monthly delivery volumes despite the high investment at this level.²⁷

Making improvements in government-owned health systems even for just these two sets of conditions, would require a number of steps to be taken both at the fundamental design as well as implementation levels. A couple of recommendations are noted below.

²¹ National Health Systems Resource Centre, 2015

²² Ministry of Health & Family Welfare, Government of India, 2017

²³ Kalita & Mor, 2015

²⁴ Ayushman Bharat, National Portal of India

²⁵ Even in the absence of pre-payment, improvements in the level of access to financial services, including in particular, easy access to interest-bearing savings accounts and rapid-disbursement emergency loans, could facilitate the access to primary care without the associated impoverishment which is not derived from the catastrophic nature of the expense but the need to enter into emergency high cost borrowings or asset sales to pay for even small sums. This approach towards paying for primary care still does not address the problems of 'hyperbolicity' (for a more detailed discussion on this issue, see https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2649347) and the low-demand / willingness-to-pay for preventive care.

²⁶ Sharma et al, 2018

²⁷ Ibid

- a. One suggestion, for example, would be to regionalize obstetric care²⁸ and quality improvement in high-volume facilities with strong referral linkages from lower facilities²⁹ instead of attempting to improve the performance of all the lower-level facilities in these areas of healthcare³⁰.
- b. A deeper reform direction would be to move away from departmental approaches towards delivering healthcare by creating high capacity Public Sector Units (PSUs) at the state level which would receive all the health-related finances (from the state as well as under the National Health Mission) and be responsible for all the government-owned health facilities and personnel. These PSUs would be free to then rationalize the system of provision as they see fit, but would be held accountable for outcomes in their regions. These PSUs would operate under the oversight of the state health ministries, much as Bharat Heavy Electricals Limited and the National Thermal Power Corporation operate under the broad oversight of their respective central ministries. Most countries with large government ownership of healthcare, have created similar government owned entities that function independently from the health department on a day-to-day basis and operate under, what is referred to as, a 'purchaser-provider split' arrangement^{31,32}.

Just as there are challenges being faced by government-owned healthcare systems there are equally severe challenges for the privately-owned ones. Where there are clearly outstanding healthcare providers in the private sector such as Narayana Health and Aravind Eye Hospital, the private provider landscape in India is extremely fragmented, with the bulk of care being provided by small, individual care providers, hospitals, and often directly by pharmacies. Till date, there has been no architecture or planning to enable aggregation and oversight of the private sector in India. A strong set of regulatory and purchasing interventions to ensure a floor for quality and a ceiling for price (and cost) is needed, which can be enforced in this fragmented setting in a practical manner. Some of these interventions would include:

- a. Positioning a strong National Health Protection Mission as a bench-mark price-setter³³ and as a design partner of the Insurance Regulatory and Development Authority (IRDA), to exert a strong disciplining effect on the market both on the quality of care and its costs.
- b. Introduction of a strong hospital licensing process based on a Certificate of Need³⁴ to prevent over-supply in certain areas and to direct provision to areas which are under-served.
- c. Developing a comprehensive price-control mechanism would be another strongly beneficial and practical intervention. In healthcare pricing, it is indeed the case that all high-quality health systems exert control on all healthcare prices and put limits on markets using multiple mechanisms³⁵ to restrict the manner in which market forces are allowed to operate in an unfettered manner^{36,37}.

Most of the reform ideas discussed thus far are likely to have a beneficial impact on the price, accessibility, and quality of hospital based care. However, primary care is an equally important aspect of healthcare, which also needs urgent attention. Within primary care, the existing government-

²⁸ The challenge of the availability of surgeons, radiologists, sonologists, and anesthetists can be rapidly addressed using the approach Maharashtra and several states have adopted for a number of years, offering specialized practice and exam based diplomas to MBBS doctors with specialized training at DNB or CPS accredited hospitals.

²⁹ Sharma et al, 2018

³⁰ Ibid

³¹ Ferranti, 2014

³² Ferranti, 2015

³³ Clemens & Gottlieb, 2017.

³⁴ Cauchey & Noble, 2016

³⁵ In Japan for example, the government enters into direct negotiations with healthcare providers and arrives at a highly detailed price schedule, even for minor items like the charge to be levied for bandaging a small wound, which is made widely available to consumers, that all healthcare providers are required to adhere to (<https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2011.1037>). In other countries the insurers act as the instruments of price control and since almost all of the care is paid for in these countries via some form of insurance, the prices and procedures they are willing to allow ultimately have the force of law.

³⁶ Mor, 2015

³⁷ Bhalla & Mor, 2017

owned health system already has a well-established field force, comprising full-time auxiliary nurse-midwives and part-time community health workers, to offer door-step care and counselling related to reproductive health and infectious disease control. Despite the narrow remit, the range of tasks to be performed by this field force is already stretched to the limit and there is an urgent need for technology-driven initiatives and other reforms to improve their efficiency and effectiveness. There are many such tools and techniques already available, such as CAS, Kilkari and Mobile Academy, but their adoption has been slow and variable.

However, outside of reproductive health and infectious disease control, particularly in the field of chronic disease and cancer, there is a virtual absence of high quality primary care in most parts of the country. Given the paucity of pooled funds and the very large quantum of funds required for comprehensive primary care, unfortunately offering free (or negatively priced) primary care does not seem like a feasible option to pursue over the next decade, although it is the only sustainable way to address the challenges of hyperbolicity. The risk of attempting to do so prematurely is that it will compete with urgent reproductive health and infectious disease priorities. It could delay the achievement of critical mortality and morbidity goals on those fronts, potentially without even making a small dent in the large and growing chronic disease burden.

At this stage, the only real possibility appears to be to enable the fragmented, but qualified, existing private healthcare providers, including formally qualified practitioners of the Indian Systems of Medicine (ISM)³⁸. They could be allowed to offer a wider range and better quality of primary care services than they currently do, and charge 'reasonable' fees so that their prices reflect only their marginal costs and not their full costs. In the case of Tuberculosis, the government has built a successful model that can become the basis of a wider primary care engagement with the private sector³⁹. This will include, software support⁴⁰, access to advanced training⁴¹, free access to advanced diagnoses such as the Xpert MTB/RIF test⁴² for patients, free medicines for infectious diseases such as TB, free vaccines which are already a part of the UIP⁴³. This can include the development and active promotion of an 'accredited physician' brand similar to the work done by Janani some years ago when they trained, built and promoted their network of Titli/Surya branded practitioners, centres and clinics⁴⁴ with a strong underlying audit and quality control effort.

Conclusion

Financing and Provisioning are both key aspects of any health system, and their careful design and implementation are imperative for any high performing health system. The reforms discussed in this note could go a long way towards shifting the trajectory of the Indian health system so that over time it delivers on the health, financial protection and equity goals that are so necessary for India.

³⁸ These include those with a minimum qualification of Bachelor of Ayurvedic Medicine and Surgery, Bachelor of Unani Medicine and Surgery, and Bachelor of Siddha Medicine and Surgery. The famous October 8th, 1998 Supreme Court Judgement on the [Dr. Mukhtiar Chand versus the State of Punjab case](#) on the issue of right of these doctors to prescribe allopathic medicines and recommend modern diagnostics test opined that there is no legal bar on this and that state governments are free to make suitable decisions in this regard. Also see this [notification](#) on the approved bridge-course for ISM doctors that is being offered by IGNOU.

³⁹ Sulis&Pai, 2017

⁴⁰ Using existing software platforms such as WCDs CAS, Ministry of Women and Child Development, 2018

⁴¹ Project ECHO, Echo India

⁴² Frequently asked questions on Xpert MTB/RIF assay, World Health Organization

⁴³ Universal Immunization Programme, Ministry of Health and Family Welfare

⁴⁴ Surya Clinics, Centre for Health Market Innovations

Bibliography

Ayushman Bharat, National Portal of India. Available at <https://www.india.gov.in/spotlight/ayushman-bharat-national-health-protection-mission>

Berman, P. et al. (2017). Why government in India may not be spending its primary health care resources effectively.

Bhalla, S., & Mor, N. (2017, March 21). Framing the right prescription for health expenditure. Retrieved from <https://www.thehindu.com/opinion/op-ed/framing-the-right-prescription-for-health-expenditure/article17545892.ece>

Bhalla, S., & Mor, N. (2017). Framing the right prescription. The Hindu. Retrieved from <https://www.thehindu.com/todays-paper/tp-opinion/framing-the-right-prescription/article17547852.ece>

Bose, S., Roy, R., Shrivastava, S., Shanmugam, K., Reddy, D., & Toy, T. et al. (2015). Report of the Advisory Committee on Ways and Means Advances to State Governments, Reserve Bank of India. Retrieved from <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/ADWMA537FDD34BA1C4A7480230866CCD3C07F.PDF>

Cauchi, R., Noble, A. (2016, August 25). *Con Certificate of Need State Laws*. Retrieved from <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx>

Clemens, J., & Gottlieb, J. D. (2017). In the shadow of a giant: Medicare's influence on private physician payments. *Journal of Political Economy*, 125(1), 1-39.

Ferranti, D. (2014, November 17). India's quest for Universal Health Coverage: The importance of choosing a purchaser-provider split part 1 (Blog Post). Retrieved from https://www.huffingtonpost.com/david-de-ferranti/indias-quest-for-universa_b_6102122.html

Ferranti, D. (2015, January 17). India's quest for Universal Health Coverage: The importance of choosing a purchaser-provider split part 1 (Blog Post). Retrieved from https://www.huffingtonpost.com/david-de-ferranti/indias-quest-for-universa_1_b_6107220.html

Frequently Asked Questions on Xpert MTB/RIF assay, World Health Organization http://www.who.int/tb/laboratory/xpert_faqs.pdf accessed on July 31, 2018

Gupta, I., & Chowdhury, S. (2015). Finances for Health in India: Are New Sources the Way to Go. IEG Working Paper No. 356. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2858720
<http://pib.nic.in/newsite/PrintRelease.aspx?relid=177959>

Kalita, A., & Mor, N. (2015). Social Health Insurance as a Complementary Financing Mechanism for Universal Health Coverage in India. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2607180

Kapur, A., & Baisnab, P. (2018). National Health Mission (NHM) GoI, 2018-19. Accountability Initiative, India, 10(6). Retrieved from http://accountabilityindia.in/sites/default/files/pdf_files/National%20Health%20Mission_0.pdf

Ministry of Health & Family Welfare, Government of India. (2017). National Health Policy 2017.

Ministry of Women and Child Development (2018). Retrieved from (https://icds-wcd.nic.in/nnm/NNM-Web-Contents/LEFT-MENU/ICT-RTM/DO_to_Chief_Secy_Single_Software.pdf), accessed on July 31, 2018

Mor, N. (2015). The Need for Design in Health Systems. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2649347

Mor, N. (2015, December 11). Do Governments have a role to play in Healthcare?.(Blog Post) Retrieved from <https://www.livemint.com/Opinion/6uljJ03zC2Xz9AW32CBYtK/Do-governments-have-a-role-to-play-in-healthcare.html>

Mor, N., Dhar, D., & Venkateswaran, S. (2017). Healthcare in India: A Fork in the Road. In R. Mohan, India Transformed: 25 Years of Economic Reforms. Penguin India & Brookings India.

National Health Systems Resource Center (2015). National Health Accounts Estimates for India 2014-2015. Available at <https://mohfw.gov.in/sites/default/files/National%20Health%20Accounts%20Estimates%20Report%202014-15.pdf>

Project Echo, <https://www.echoindia.in/> , accessed on July 31, 2018

Quadri, J. (1998). Retrieved from <https://indiankanoon.org/doc/484509/>. accessed on July 31, 2018

Ravi, S., Ahluwalia, R., & Bergkvist, S. (2016). Health and Morbidity In India (2004-2014). Brookings India Research Paper No. 092016.

Sharma, J., Leslie, H. H., Regan, M., Nambiar, D., & Kruk, M. E. (2018). Can India's primary care facilities deliver? A cross-sectional assessment of the Indian public health system's capacity for basic delivery and newborn services. *BMJ Open*, 8(6). doi:10.1136/bmjopen-2017-020532

Sulis, G., & Pai, M. (2017). Missing tuberculosis patients in the private sector: Business as usual will not deliver results. *Public Health Action*, 7(2), 80-81. doi:10.5588/pha.17.0039 Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5493106/>

Surya Clinics, Centre for Health Market Innovations. <https://healthmarketinnovations.org/program/surya-clinics>, accessed on July 31, 2018

The World Bank. (2014). World Development Indicators. Washington DC. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/18237/9781464801631.pdf>

Timmermans, K., & Shuda, S. (2018). Getting ahead by cutting back. Accenture Strategy. Retrieved from https://www.accenture.com/t20180621T023412Z_w/bd-en/acnmedia/PDF-80/Accenture-Strategy-Getting-Ahead-By-Cutting-Back-POV.pdf#zoom=50

Universal Immunization Programme, Ministry of Health and Family Welfare. Available at <https://mohfw.gov.in/sites/default/files/41016395871489662752.pdf>