



## HEALTH CARE IN DEVELOPING COUNTRIES: CHANGE AND CHALLENGE

## Medical Science

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## ABSTRACT

Standards of health profoundly influence economic performance and quality of life. The past six decades have witnessed enormous gains in medical science in developing countries. However, the epidemiological statistics present a mixed picture. Many infectious diseases are on the retreat because of improved sanitation, nutrition, drugs, and vaccines and life expectancies are rising. Urbanization could decrease the incidence of water born and parasitic diseases if it improves access to clean water and better sewerage. Major progress has been made in improving the health of millions of people, increasing life expectancy, reducing maternal and child mortality, and the fight against the most dangerous communicable diseases. Transformation of Primary Health Care is a top priority that has to be vibrant. To see real progress in health for all Indians including those who need it most, lot more needs to be done. The public must come to trust the public health system if it is to serve them. Indians continues to have out-of-pocket expenses for health services, driving many struggling households back into poverty and debt. People are demanding better public services, and they expect that health services are going to improve in the coming years. There is a need to strengthen the link between health insurance, private health care providers, and the public, whether they live in cities or far beyond them.

## KEYWORDS

Health care. Developing countries, health insurance, technological innovation, universal health coverage, quadruple aim, health transformation, health policy

Standards of health profoundly influence economic performance and quality of life. The past six decades have witnessed enormous gains in medical science in developing countries. However, the epidemiological statistics present a mixed picture. Many infectious diseases are on the retreat because of improved sanitation, nutrition, drugs, and vaccines and life expectancies are rising. Urbanization could decrease the incidence of water born and parasitic diseases if it improves access to clean water and better sewerage. Moreover, the urban environment remains reliably inhospitable to certain insect vectors. But the virulence of old infectious scourges such as tuberculosis and malaria has resisted modern science, and in recent years aids has emerged as a sizable cause of death and disability among adults in the 15-59 age group. Moreover, the toll exacted by infectious diseases is increasingly overshadowed by that of non-communicable diseases such as cancer, injuries, and neuro-psychiatric conditions. The future contribution of health to sustainable development will depend on successful action on these fronts.<sup>1,2</sup>

Major progress has been made in improving the health of millions of people, increasing life expectancy, reducing maternal and child mortality, and the fight against the most dangerous communicable diseases. Despite those improvements, an estimated 303,000 women around the world died due to complications of pregnancy and childbirth in 2015, the majority in sub-Saharan Africa. Progress has stalled or is not happening fast enough in addressing major diseases, such as malaria and tuberculosis, while at least half of the global population, that is some 3.5 billion people, do not have access to essential health services. As per the UN Secretary General "concerted efforts are required to achieve universal health coverage, sustainable financing for health and to address the growing burden of non-communicable diseases including mental health."<sup>1,2</sup>

Using the concept of disability adjusted life years (DALYs) - which expresses years of life lost to premature death and years lived with a disability - injuries account for 16% of all DALYs, followed by psychiatric conditions (10%), non communicable diseases (10%), and HIV / AIDS, TB, and maternal conditions (7%). Major childhood conditions caused by diarrheal and respiratory infections and by malaria comprise another major component of DALYs.<sup>1,2</sup>

The risks from injury are likely to increase - road traffic accidents are already the ninth leading cause of DALYs worldwide, and the fifth highest in developed economies. With longer life expectancies and older populations, many middle-income and some low-income countries will see an increase in the incidence of chronic diseases and mental ill health. This will lead to rising expenses on diagnosis and curative treatment.

In many developing countries, Injuries, HIV, and Tuberculosis could shave several points off the GDP growth rate by winnowing the number of prime age adults. Together with increased outlays on those

suffering from chronic and psychiatric ailments, these diseases could also substantially raise expenditures on health care. Estimates of the effect of aids on the African countries, suggest that potential GDP could be reduced by 10-15% over the course of a decade by this one disease alone.

Moreover, in some areas ground is being lost because of the emergence of multi-drug because of the emergence of multi-drug resistant (MDR) strains of the tuberculin bacillus and of plague, and strains of Streptococcus and Staphylococcus bacteria that are beginning to defy even the most powerful antibiotics. The speed with which new stains of influenza and cholera have spread throughout the world testifies to this aspect of globalization.

Countries will need to pursue a multi-track strategy, with the priorities dictated by levels of income, financing, age profile, social circumstances, and organizational capacity. Preventive measures propagated by educational campaigns are likely to be the most cost effective against HIV, smoking, maternal complications, and conditions affecting children. Simple but highly effective technologies could be the most effective measures.

Confronting infectious diseases such as Tuberculosis will require a broader effort that embraces housing and the infrastructure of health services. In a decentralized milieu, this will require coordination between sub-national entities, with some centralized over site and funding.

The answer to many old and new diseases, including possibly heart disease, could lie in new DNA-based vaccines, better drugs that draw on advances in genetic engineering, and ingenious new ways of targeting and destroying pathogens inside the body. Nevertheless, chronic conditions, injury, and poor mental health, which will be responsible for a growing share of DALYs, will be best held in check by sustained educational efforts to influence living and eating habits and by controlling environmental hazards.

Greater effort must be reinforced by well-orchestrated action at the international level, with a coordinated division of labour among international agencies. This will ensure the requisite provision of public goods, and the management of health-related externalities, whose likelihood has been greatly magnified by globalization.

## Driving Forces

During the 21st. Century (century of knowledge), the driving forces that will influence healthcare delivery include epidemiological, demographic, technological, and quality pressures besides emergent infection and consumerism.

There will be increasing need for the Ambulatory care/Daycare as it costs less (30-60% as compared to inpatient care). Other emerging

trends include growth of smaller hospitals (mostly in private sector), single-specialty and stand-alone centres. Hospitals will place more emphasis on Outsourcing services like housekeeping, security, dietary services, chronic services, better facility and quality, increased spectrum of services and downsizing.

Similarly Hospital administration will pay more attention towards technology - diagnostic, therapeutic, laboratory, equipment cost (1/3rd. to ½ of the project cost), capital intensive, equipment planning, procurement and maintenance, standardization, variety reduction, training of users, environment and control. Hospital planning must be scientific with strong emphasis on energy conservation. Ethical & legal issues will have to be properly addressed.

### Universal Health Coverage

Transformation of Primary Health Care is a top priority that has to be vibrant.

Nearly 72 percent of Out of pocket expenditures on health is on account of primary care.

Ayushman Bharat (National Health Protection Scheme) will cover over 10 crore poor and vulnerable families (approximately 50 crore beneficiaries) providing coverage up to 5,00,000 rupees per family per year for secondary and tertiary care hospitalization. National Health Protection Mission with its twin pillars of Health and Wellness Centres is for provision of comprehensive Primary Health Care with increased focus on disease prevention and health promotion. This is a step towards achieving universal coverage and access. One of the policy shifts is the strong advocacy for movement from selective primary care to assured comprehensive care with linkages to referral hospitals. This scheme is expected to be a game changer to increase health system responsiveness to people by bringing service closer to communities and meet the needs of poor and disadvantaged, are envisaged to deliver an expanded range of primary health care which addresses the basic health care needs of the entire population, thus expanding access, universality and equity in service delivery. The expenditure will depend on actual market determined premium paid in States where the scheme will be implemented through insurance companies. In States where the scheme will be implemented in Trust/ Society mode, the central share of funds will be provided based on actual expenditure or premium ceiling (whichever is lower) in the pre-determined ratio. Success of the scheme will depend upon focusing on health and not merely sickness. Reducing disease burden through robust primary care, focus on allied determinants of health, quality outdoor and indoor services in public hospitals and technological innovations will all help in checking farcical and wasteful expenditure. There is an urgent need for professional management, introducing work culture, accountability, supervision and monitoring (China and Cuba experience). Corporate governance will be of immense help.<sup>4-6</sup>

### Health Spending

The public sector in India offers heavily subsidized medical care to its citizens through a large network of government-operated facilities, to which access is ostensibly free. However, it is also clear that it is unable to cater to the needs of large sections of the population, since the overwhelming share of total health spending – 75 percent of the total – is accounted for by out-of-pocket expenses of households.

The extremely large burden of spending on households is problematic since it raises the possibility of a disproportionate welfare burden on the poor sections of society. Out-of-pocket payments for health are the most inequitable among the class of resources that could be used to finance health services – other examples being, social insurance taxes, direct taxes, and the like.

Given that the ratio of out-of-pocket spending as a proportion of mean expenditure is higher in the richer quintiles, the financial burden of health care is not grossly inequitable. There are some rural-urban differences, but these occur mainly in the richer groups – with health spending by the upper quintiles in rural areas much higher, as a proportion of total consumption spending, than their counterparts in urban areas.

At the all India level, the share of the richest 20 percent of the population in total public sector subsidies is nearly 31 percent (nearly three times the share of the poorest 20 percent of the population). The inequality is even greater among the rural residents, where the share of

the top 20 percent in public subsidies is nearly four times that of the poorest 20 percent. Urban areas have a more equitable distribution, in addition to enjoying a somewhat greater share in total subsidies (rural plus urban combined). Nearly 31 percent of public subsidies on health accrue to urban residents, somewhat higher than their share in the total population of about 25 percent.

If promoting equity is a key objective of the state, there is no doubt that substantial scope for improvement remains, whether in terms of inter-state equity or within-state distribution.

As a country, India allocates only 1.15 percent of our gross domestic product (GDP) to health care—one of the world's lowest rates considering the size of our population. Much of the funding that is allocated to health care is not being used, and a major lack of staff further leads to the underutilization of budgets. Indian health care organizations often have trouble recruiting, as we don't have enough trained professionals who want to work in rural villages or health centers. Without reliable health services, people living outside of major cities suffer from a growing economic disadvantage. The Indian government has committed to dedicate 2.5 percent of GDP to health care by 2025. More and more programs are using 100 percent of their health care budgets. New programs like Ayushman Bharat (NHPM) are bringing medical insurance to the poor, allowing access to both government facilities and private facilities.<sup>1,4-6</sup>

### Health Insurance

Good health can have quite significant implications for economic development – it is also a means for economic advancement. Good health depends on individual preferences, the socioeconomic circumstances that help shape those preferences (such as marital status, cultural and religion, education and the like), incomes, and the prices of different items consumed by an individual, including health inputs. It also depends on the quality of health care that is consumed. There are four channels through which improvements in health can translate into increased economic growth - the productivity enhancing effects of health; the fact that healthier people live longer and hence have a higher incentive to invest in education and other skills; that healthier people live longer and, therefore, save more, apart from attracting foreign investment and; the “demographic dividend” that could potentially result from large declines in mortality at the beginning of the demographic transition.

The government may play a quite substantial role in improving health. Many of the decisions that individuals take about health depend on the information that they possess about potential health impacts. To the extent that information is a public good, it is not readily obvious, for example, that all the information relevant to healthy life-style choices will be made available to the individual by the market. Thus, a poorly informed or uneducated public may take socially sub-optimal decisions about their own and their dependents' health. A second, related, example has to do with infectious diseases such as tuberculosis and HIV/AIDS where the decisions of an individual with regard to precautions or other behaviour is unlikely to fully reflect the cost that they can potentially impose on others by infecting them. In these cases, the government may have to intervene, either by providing enhanced information, subsidizing immunization, or by penalizing such behaviour. Illnesses are often very expensive to treat, relative to income. This has two implications. For those who fall sick, in the absence of insurance, there is the consequence of significant financial costs of treatment, with possible catastrophic effects on living standards if they are already poor. Moreover, given that catastrophic illness likely to be an uncertain event, it creates a demand for insurance, which may not be satisfactorily addressed. Protecting children and adults against infectious diseases, promoting better quality of care, and ensuring that families and individuals do not face inordinate financial risks related to catastrophic illnesses, typically form key objectives of public health policy. In addition, it is proper to be concerned, not just with the average family or individual, but also with the way, these benefits are distributed across various groups in society. Inequalities in reported health status are strongly associated with inequalities in income, (some of which may be caused by inequalities in access to health care because of income differences). Similarly, immunization rates are positively associated with income.

Cost-containment and cost-effectiveness of health care are a natural addition to these goals, since resources are scarce and these objectives highlight the need to control the financial burden for the spending

parties, be it households, or the government, to ensure sustainability of achievements.

A key policy challenge is the provision of a support system with respect to health expenses for the bulk of the poor, especially people living in rural areas.

### **Private Health Insurance**

Managed care institutions such as health maintenance organizations (HMOs) that have emerged in the private sector in different countries combine the roles of the provider and the insurer and can therefore serve to cut costs. The cost-cutting mechanisms could include stricter referral processes, payments based on diagnostically related groups, capitation payments, and other methods of managing utilization of health care services. There is some evidence to suggest that the emergence of HMOs has led to cost-containment in the USA. To the extent that private insurance in the form of managed care can yield low cost outcomes in comparison to a fee-for-service system the relevant issue for policy makers and regulators is to devise methods to promote its emergence.

Individuals are likely to know much more about their health status and future needs than insurers. Thus, people expecting to incur significant health expenditures in the near future will figure disproportionately among those who choose to get insured. This causes profit-oriented private insurance companies to adopt procedures that are often expensive to weed out bad risks via a process called risk selection.

Health care costs would be higher than under a comparable public insurance system where membership into the insurance scheme may be compulsory for designated groups, unless outweighed by the inefficiencies of a public sector bureaucracy. Regulatory methods to prevent risk selection must, per force, face up to the problem of adverse selection that may have implications for the financial viability of an insurance company. In this sense, market outcomes that lead to insuring large groups are desirable so that there is little to suspect a preponderance of poor risks in the applicant pool. Regulations that cap total overhead expenditure of insurance companies would likely promote group insurance business than the administratively more costly individual-based insurance. Employment based group insurance can also be promoted by insurance contribution-linked tax benefits given to employers without corresponding tax liabilities for the employees.

Globally, governments have sought to address these concerns by setting a minimum set of conditions relating to management and personnel, actuarial analyses, solvency, working capital and investment profile; and a system for dealing with liquidations/takeovers.

The health spending per capita is positively associated with the proportion of population covered by private insurance. Indeed, a one-percentage point increase in the proportion of population covered by private insurance is associated with a 7.8 percent increase in the costs of health care per capita.

Health spending depends on many factors including income. Increased income may also lead to increased demand for insurance, both public and private. Increased incomes may also lead to greater out-of-pocket health spending.

In a free market one might expect higher quality treatment to be undertaken as fully informed consumers choose the most effective doctors and medical facilities ignoring the rest. The contribution of an insurance scheme, whether public or private, to improving the quality of health care depends on whether the scheme is able to influence the process of labeling or licensure of medical personnel and facilities or the entry of highly skilled individuals in the health sector.

The increased provision of private insurance may increase the demand for health care and so push up its price. While this would improve opportunities for high-quality individuals who might have otherwise sought employment in other sectors, it would also increase the supply of low skilled individuals into the health sector, unless appropriate screening takes place.

Patient choice among providers and insurers is emerging as one of the single most valuable elements of health policy internationally.

### **Reorientation in Policy imperative**

India spends only 17.3% on public health services as compared to UK that spends 95.6%, the US 44.1% and China 25%. An authoritative appraisal of health sector firmly blames the government for treating this sector shabbily.<sup>1,2</sup>

The government will have to promote the growth of private, social and community insurances to improve healthcare affordability for the people at large. Lessons can be learnt from Korea and Brazil where insurance has become quite popular and helped the cause of healthcare.

Indian pharmaceutical industry though quite big has not helped the poor people in getting adequate healthcare in rural areas. Government has an essential role to provide basic healthcare to underserved and deprived sections of society.

There is an urgent need to strengthen District Health System and simultaneously, make health care professionals accountable. Quality of care needs special attention. Professionalization of management in hospitals is highly desirable.

Basic generic drugs for common ailments like infectious diseases need to be under strict price control to make them affordable to poor. Alternatively, these drugs may be made available to economically deprived sections of society at subsidized rates.

Government should enhance spending on health both GDP and per capita expenditure. Radical reforms are required to improve infrastructure including surveillance mechanisms. Health development must be a top priority with the government. There is a need to evolve a well-defined strategy to ensure health for all by 2020. The expenditure on health needs proper monitoring to ensure that the benefits reach the common person. Existing health infrastructure should be optimally utilized to the advantage of community. This needs good governance, accountability, emphasis on performance and merit and professionalism. The concept of Health for All reflects the quest for social justice and health equity. The people should be put at the centre of health and development. The Health for All ideal is alive and will always be central to any healthcare initiative.

### **Health Transformation**

There have been several significant changes in the public health in India. A national strategy focused on digital health, nutrition, and other high-impact interventions has dramatically improved health outcomes across India. Average life expectancy has risen steadily from 64 to 69 years between 2005 and 2018. Neonatal mortality rates have improved markedly, dropping from 57 deaths per 1,000 live births to 37 between 2005 and 2015. In the past decade, India has saved a huge number of infants through multiple interventions—including an increase in institutional birthing, immunization coverage, and improved sanitation. The efforts made so far have yielded good results in the following areas:

1. A downtrend in communicable diseases
2. A focus on prevention
3. Reduced neonatal mortality rates
4. Tackling antimicrobial resistance
5. Improved nutrition
6. Using digital health and artificial intelligence for social impact
7. Stronger government accountability

According to a study, Life expectancy in India down by 2.6 years due to air pollution. Air pollution is now the third highest cause of death among all health risks ranking in India. Life expectancy in India has gone down by 2.6 years due to deadly diseases caused by air pollution, a recent report by an environment think tank has found. The report by the environment organization, Centre for Science and Environment (CSE) revealed that outdoor and household air pollution together are causing deadly diseases. Air pollution is now the third highest cause of death among all health risks ranking just above smoking in India. This is a combined effect of outdoor particulate matter (PM) 2.5, ozone and household air pollution. Due to this combined exposure, South Asians, including Indians, are dying early — their life expectancy has reduced by over 2.6 years. This is much higher than the global tally of reduced life expectancy by an average of 20 months. While globally a child born today will die 20 months sooner on an average than would be expected without air pollution in India, they would die 2.6 years earlier. While exposure to outdoor particulate matter (PM) accounted for a loss

of nearly one year and six months in life expectancy, exposure to household air pollution accounted for a loss of nearly one year and two months, according to the CSE. Together Indians lose 2.6 years. The report said household air pollution contributes about a quarter of the outdoor air pollution in the country. The deadly tally broken up by diseases shows that chronic obstructive pulmonary disease (COPD) due to air pollution at 49 per cent is responsible for close to half of deaths, followed by lung cancer deaths at 33 per cent, diabetes and ischaemic heart disease at 22 per cent each and stroke at 15 per cent.<sup>3</sup>

### Challenges

India is one of the fastest growing economies in the world. Consider that in India, two children younger than five die every minute. There is one government doctor for every 10,189 people, one hospital bed for every 2,046 people, and one government-run hospital for every 90,343 people.<sup>7</sup>

According to the Global Burden of Disease study, published in The Lancet, India ranked 154 out of 195 countries regarding healthcare access, far behind nations like Bangladesh, Nepal, Ghana and Liberia.<sup>1</sup> Its infant mortality rate improved over the past decade, declining from 57 per 1,000 live births in 2005-06 to 41 per 1,000 live births in 2015-16, according to Organization for Economic Cooperation and Development. But it is still higher than 150 middle- and low-income countries, many poorer than India, including Colombia, Costa Rica and Slovenia. India has IMR 41.1 as compared to 2 of Japan and 10.9 of China (OECD).<sup>17</sup>

There are inequalities in social class and health. While financial inclusion and social security measures are being implemented by the Government to bridge economic inequalities, health sector too must ensure that health disparities are addressed adequately.

India at present suffers from the triple burden of disease - infectious diseases coupled with emerging and re-emerging infection; the challenge of lifestyle (noncommunicable) diseases, injury (trauma). Emerging and re-emerging infections are posing a significant challenge to the public health delivery system.

There are growing disparities between the rich and the poor. The income inequality or disparity between the different socioeconomic classes is associated with worse health outcomes. Widening the gap between the rich and the poor has damaging health and social consequences. Moreover, the health infrastructure is already overstretched and needs to be strengthened to enable it confront these challenges in the twenty-first century.

Lifestyle (Non-Communicable) Diseases are now the leading cause of death in the country, contributing to 60% of deaths. Four diseases namely heart disease, cancer, diabetes, and chronic pulmonary diseases contribute nearly 80% of all deaths due to NCDs and they share four common risk factors namely tobacco use, harmful use of alcohol, unhealthy diet, and lack of physical activities.<sup>8</sup>

Moreover, of significant concern is the maternal mortality ratio and infant mortality rate (IMR) remain unacceptably high. According to the sample registration system (SRS) report of Oct 2015, the IMR is now 40 per 1,000 live births. However, it still is much higher than the global average for the same period of 33.6 per 1,000 live births (World Health Statistics 2015).<sup>8</sup>

### Need for Change

Presently, India has one of the lowest allocations to health among all countries of the world as percentage of GDP. As a result of such a low investment in health and due to high out-of-pocket expenditure (85.6% which according to the World Bank is among the highest in the world), nearly 60 million people are pushed further into poverty and into the poverty trap from that they are unable to escape.<sup>8</sup>

Of the total health budget allocation for health, at least 80% of the fund should be earmarked for disease prevention, health promotion, and improving the quality of health services at the primary care level. Health in India is a State subject. Each State is required to devise and develop Health Policy. National Health Policy should continue to be the guiding principle in matters of health. Health system should be strengthened to improve the process of service delivery. To make the health services effective, responsive and accountable to the need of the community, it is critical to improve the functioning of the existing

government health infrastructure. Health institutions should be managed by professionally qualified health administrators. Moreover, the assessment of existing public health system and facilities, bringing improvements based on the findings of the assessment including augmented human and material resources, and monitoring their performance are essential components of the strategy to improve the functioning of health system. Improved access to government health services, which are used primarily by the poor and the disadvantaged sections of the society is an absolute necessity.

Human Resources in health sector is critical to the success of the system. As per World Health Statistics 2015, India has one of the lowest densities of health workforce: physicians (7 per 10 000 population) and nurses (17.1 per 10 000 population) as against the global average of 13.9 and 28.6 respectively. The nurses-to-physicians ratio in India is about 0.6:1, as against the nurses-to-physicians ratio of 3:1 in some of the developed countries. Most of the hospitals and health professionals are concentrated in urban areas, depriving the rural population that constitutes over 70 percent of the population.<sup>8</sup>

Evidence, excellence, and equity are key to success. Focusing on excellence is crucial to ensure quality in service provision and in program planning and implementation, especially to ensure that health services are responsive to the needs of the community and are provided efficiently and effectively. Addressing equity is fundamental because the purpose of public health should be the welfare of the weakest and most vulnerable section of the society.

Private sector can also support the health promotion and disease prevention activities under public-private partnership and through the corporate social responsibility initiatives. Engaging them in a creative and positive manner as partners for health action coordinated by the government can go a long way in addressing health challenges in the next decade and beyond.<sup>8</sup>

### Life Expectancy

According to The World Bank data, Life Expectancy in India is 69.<sup>9</sup> An important measure of national well-being depends on survival in the first year of birth. Despite consistent improvements in life expectancy at birth, India's life expectancy at birth is still lower than the global average. Countries with robust interventions aimed at IMR reduction have better life expectancy at birth. Furthermore, within the 0-1 age cohort, the neonatal mortality rate (NNMR), or rate of deaths occurring in the first 28 days, is the primary factor impacting IMR. Studies show that risk of such a death is almost 30 times higher than in the post-neonatal period. No wonder the median NNMR and IMR for India stood at 24 and 32, respectively, in 2017-18. Loosely, this means that of every 1,000 births in India, around 24 deaths occur in the first month and the other 8 between 28 days to 1 year.

The government has accelerated progress through programmes like Ayushman Bharat-National Health Protection Mission launched during October 2018.

The impact that interventions focused on the first year of birth can have on the survival of individuals is profound. Any strategy to raise life expectancy at birth should be aimed at tackling causal factors of IMR and NNMR by designing an appropriate microstructure of interventions.

Over the past two decades, the concentration of fine particulates increased by 69 percent on average across India. As a result, sustained exposure to particulate pollution now reduces the life expectancy of the typical Indian citizen by 4.3 years compared to 2.2 years in 1998.

In 2016, the added life-years from compliance with the WHO guideline would raise the average life expectancy at birth from 69 to 73 years—a larger gain than from eliminating unsafe water and poor sanitation, perhaps the second greatest environmental health risk in the country.

Particulate pollution is so severe that it shortens the average Indian's life expectancy by more than four years relative to what it would be if World Health Organization air quality guidelines were met. This is up from about two years in the late 1990s due to a 69 percent increase in particulate pollution. As India navigates the dual challenges of sustaining economic growth and protecting environmental quality, the Air Quality Life Index provides a tool to make the benefits of policies

to reduce air pollution concrete.

### Quality of care

There is poor quality of health care currently available to seekers of health care in India. Consider first the care provided by the public sector. Patients, both rich and poor, tend to favor the private sector over the “free” services provided by the public sector, when it comes to ambulatory care. This suggests the generally poor perception of the state of medical consultation available in the public sector, a fact confirmed by large shortfalls in personnel, equipment, and medicines in public facilities reported in primary health centers and sub-centers. The situation is no better for workers with access to facilities under the ESIC (Employees State Insurance Corporation) which oversees care for workers under the ESI Act.

The problems with quality have to do with a lack of well defined laws, and when such laws exist, their poor enforcement, whether on account of judicial delays or because of low levels of self-regulation by the medical community.

The legislation with respect to medical personnel involves the setting up of bodies (or councils) that oversee the maintenance of quality in new entrants to the profession, maintenance of membership records of the profession and, through codes of conduct and sanctions, maintenance of standards among existing members. Although quite widespread and covering all the Indian states, the record of these councils in ensuring continued good behavior is quite poor. Moreover, there is other evidence of problems in that many practitioners of traditional systems practice modern (allopathic medicine) without any sanctions.

Quality can be maintained if there exist a suitable set of laws on consumer protection, provided at least these are reasonably well implemented. The challenge is to find ways to improve upon the existing situation in the health sector. A potential for improvement exists in areas including the overall costs of care, financial equity, and the quality of care. A sustained improvement in these areas would play a significant role in advancing the primary goal of health policy.

### Quality Management

Quality Management in health care is critical - meeting or exceeding the needs of consumers, professional care excellence, optimal utilization of resources, safety of customers, trust, transparency, communication (transactions), benchmarking, ISO certification 9001, 9002, 2000 with legal compliance. The ISO 9000 series of international quality management standards lays down detailed procedures for ensuring quality at all stages of production / service and requires strict documentation of adherence for organizations/institutions seeking certification. The International Standards Organization (ISO) 9000 certification signals quality in international markets). People and organizations use technical knowledge to improve their efficiency in the production of goods and services.

Accreditation & Regulating Healthcare is essential and includes feasibility, orientation, review planning, review documents, audit, continuous quality improvement, user focus in terms of access and cost.

### Cost-effectiveness

There are three basic approaches to examining the issue of costs and cost-effectiveness at the national level. The first is to look at aggregate achievements in health and to compare these to the actual amounts spent on health, relative to those in other countries, while controlling for potential confounders. Thus, one could analyse the relationship between life expectancy, for example, and health expenditures per capita, and compare the relative expenditures across countries in terms of gains in life expectancy achieved per dollar/rupee spent. A second approach is to examine health expenditures in each country and assess whether these are too “high” or too “low”, relative to the numbers in other countries, or to some predicted value. The third approach would be to check if the existing level and composition of health spending could be modified to yield a higher return in terms of outcome measures, such as disability adjusted life years (DALYs), or to increased consumption of other non-health goods, all else the same. In this introduction, we adopt the latter two approaches, leaving the first for future work. itself.

### Mental health

Threats to maternal health and child health demand intensified action. More than 500,000 women die each year during pregnancy and

childbirth; millions more become ill or disabled. This year, more than ten million children in low-and middle-income countries will die before reaching their fifth birthday. Seven out of ten of these deaths are due to five preventable and treatable conditions: pneumonia, diarrhoea, malaria, measles and malnutrition. We can reduce this toll substantially to ensure that health delivery systems incorporate strategies such as Making Pregnancy Safer and Integrated Management of Childhood Illnesses.

Non communicable diseases and injuries account for a growing share – now about 60% - of the burden of disease worldwide. We will develop and implement a comprehensive plan for fighting noncommunicable diseases.

### The Quadruple Aim

Care of the patient requires care of the providers is an emerging and essential concept. Widespread health professional dissatisfaction can be taken as an early warning sign of dysfunction within the healthcare system. At present many frontline doctors experience a toxic environment, with near-constant multi-tasking, heavy documentation burdens, frequently shifting performance measures, high cognitive workloads and what is often perceived to be oppressive regulatory micromanagement. Addressing this issue will require empathy, sympathy and compassion for those on the front lines of care, and directing efforts to the intrinsic motivation and professionalism of the workforce.<sup>10</sup>

There is a need for regularly measuring and improving workforce well-being, making this a vital measure on an institution's data dashboard. Well-being of the healthcare workforce is a shared responsibility.

### Transforming Healthcare

It is only after a revolution happens that one can clearly look back and see what triggered the revolution. Generational discontinuities and external factors such as technology shifts can create the conditions for a revolution where it may not have been possible before. Consequently, I think we may be seeing a revolution's first phase happen before our eyes.

The only way there will be a true revolution in healthcare is if there is a partnership between individuals and clinicians. **Happy healthy providers can produce happy patients.** When the doctors and staff are happy, patient satisfaction comes naturally. **In the age of patient centered care, the most important determinant of Patient satisfaction, Quality of care, Probability of a medical error, is the level of physician burnout in your doctor at the moment they close the exam room door to begin your visit.**

In this age of employee physicians, it is time for the employing organizations to take responsibility for the conditions of the workplace and begin to proactively address the stress their systems put on the frontline providers.

Delivery of healthcare assessments, treatments and re-assessments is difficult enough to do by itself and requires full focused attention of the provider to do it safely and with rigor. Working to improve is something that happens by processing the information gathered at the time of delivery in the context of the delivery and then refining it after the fact for the individual.

The successful achievement of the Triple Aim requires highly effective healthcare institutions. The backbone of any effective healthcare system is an engaged and productive workforce.<sup>10</sup>

It is argued that a modification of the Triple Aim to acknowledge the importance of physicians, nurses and all employees finding joy and meaning in their work. This 'Quadruple Aim' would add a fourth aim: improving the experience of providing care. The core of workforce engagement is the experience of joy and meaning in the work of healthcare.<sup>10</sup>

### Team Approach

An emerging trend is the team approach keeping in view the complexities in procedures, increased technology, critical care and sophisticated noninvasive procedures.

Hospital Managers will be busy reviewing the organization of hospital - focus on outpatient Services (focal point, epicenter), screening

clinics, paradigm shift from patient care to customer care and cost containment.

### Technological Innovations

Health information is the glue that holds a health system together. In most countries stronger, more integrated information systems are required. One example is vital registration systems - the ability to count births and deaths. These systems are still missing for most of the countries' population, especially in countries with high disease burdens. To make people count, we first need to be able to count people. To address this problem, there is a need to put in place (by WHO) a health metrics network to support countries in fulfilling critical health information gaps.

Nations should build the health work force using innovative methods of training, deployment and supervision of allied and community health workers. Community mobilization is a key to success. Government should foster efficiency by making better use of information technology. IT is an important catalyst for reaching health goals.

India is taking the lead on using Artificial Intelligence (AI) to drive social impact. Harnessing the power of digital technologies is essential for achieving Universal health coverage. They are vital tools to promote health, keep world safe, and serve the vulnerable (WHO). The use of technologies offers new opportunities to improve people's health. Health professionals need adequate training to boost their motivation to transition to this new way of working and use the technology easily. Sending reminders to pregnant women to attend antenatal care appointments and having children return for vaccination have yielded positive effects. By using AI to improve diagnostics and ensure higher treatment adherence rates, we can accelerate the elimination of TB.

### Tackling Climate Change and poverty

#### Climate change

Climate change is an "existential threat" to humanity, the outlook for meeting targets to reduce climate change is grim. With rising greenhouse gas emissions, climate change is occurring at rates much faster than anticipated and its effects are clearly felt world-wide. Appropriate and timely plans and accelerated action is needed on climate mitigation and adaptation.

#### Poverty

Extreme poverty refers to a condition characterized by severe deprivation of basic human needs, continues to decline but the decline has slowed to the extent that the world is not on track to achieve the target of less than three per cent of the world living in extreme poverty, by 2030. It is more likely on current estimates to be around six per cent; that's around 420 million people, a situation of "grave concern" according to the United Nations.

#### Hunger

Globally, hunger is on the rise, with an estimated 821 million people undernourished in 2017, up from 784 million in 2015. So, one in nine people across the world are not getting enough to eat. Public investment in agriculture is declining globally, a situation that needs to be reversed according to the Secretary-General. Small-scale food producers and family farmers require much greater support and increased investment in infrastructure and technology for sustainable agriculture, is urgently needed.

### Research & Development

Research & Development must get adequate attention:

- Putting knowledge at the centre of development efforts  
Knowledge is like light, it cannot be static. It must flow constantly back and forth across an ever-changing web
- Developing countries, with fewer resources at their disposal, invest less in R & D; instead, they typically expand their knowledge created elsewhere and adapting it to their needs.
- The challenge for developing countries is to reinforce their capabilities – both institutional and human – so that all sectors, firms, individuals can acquire, adapt, and use knowledge effectively
- The information revolution makes understanding knowledge and development more urgent than ever before. New communications technologies and plummeting computing costs are shrinking distance and eroding borders and time. The remotest village has the possibility of tapping a global store of knowledge beyond the

dreams of anyone living a century ago.

- Technical knowledge and knowledge about attributes must make part of the development agenda. Developing countries must institute policies that will enable them to narrow the knowledge gaps and information problems.

### Looking Ahead

To see real progress in health for all Indians including those who need it most, lot more needs to be done. The public must come to trust the public health system if it is to serve them. Indians continues to have out-of-pocket expenses for health services, driving many struggling households back into poverty and debt. People are demanding better public services, and they expect that health services are going to improve in the coming years. There is a need to strengthen the link between health insurance, private health care providers, and the public, whether they live in cities or far beyond them. India is marching towards a healthier, happier world, where people can live up to their full potential.

### REFERENCES:

1. Tabish SA & Nabil S. Future of Healthcare Delivery: Strategies that will Reshape the Healthcare Industry Landscape. International Journal of Science and Research (IJSR). Volume 4 Issue 2, February 2015:727-758
2. Tabish SA and Nabil S. The Future of Humanity and Microbes: Impact of Emerging Infectious Diseases on Global Health Economics International Journal of Science and Research (IJSR). Volume 4 Issue 4, April 2015: 2427-2442
3. <https://www.thehindubusinessline.com/news/science/life-expectancy-in-india-down-by-26-yrs-due-to-air-pollution-study/article27812942.ece>
4. Tabish SA (2019) Health Reform as Political Instrument: Achieving Universal Health Coverage. Health Care Current Reviews 7: 239. doi: 10.4172/2375-4273.1000239
5. Tabish SA. Transforming Health Care in India: Ayushman Bharat-National Health Protection Mission. IJSR.2018;7(12):390-93
6. Tabish SA. Emerging Health Care Model in India: Roadmap for Universal Healthcare. International Journal of Science & Research. December 2018;7(12):496-502
7. <https://www.forbes.com/sites/suparnadutt/2017/09/12/despite-a-booming-economy-indias-public-health-system-is-still-failing-its-poor/#5a94014f78e0>
8. Narain JP. Public Health Challenges in India: Seizing the Opportunities. Indian J Community Med. 2016 Apr-Jun; 41(2): 85-88.
9. <https://data.worldbank.org/indicator/sp.dyn.le00.in>
10. From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider Ann Fam Med November/December 2014 12:573-576