

Health Security and Health Care Markets In the Broader Context of Accessibility and Availability

Economics of health is broadly divided in two segments: ‘Health and Development’ and Medical Care Market. The first is a multidimensional concept considering the valuation of health, its status according to several indices, provision of public good in health and the big issue of political economy in health. The issue of health becomes important in development process as well, as it has been theoretically and empirically proved that a healthy nation has higher labour productivity and hence moves along the development ladder faster than a relatively unhealthy nation, which is otherwise comparable. However, there has been a big debate on how one values the health.

There is no completely objective and invariant ordering across the population with respect to health. The way I value the importance of being healthy may be totally different to another person’s view of health. This element of subjectivity makes the task of valuation difficult. There are problems in measuring the health status as well. Will we be using morbidity index or mortality index? Will we be using demographic indicators like Life Expectancy, Infant Mortality Rates, Maternal Mortality Rates, HALE or epidemiologic indicators like DALY, QALY or Disease Burden? We are to use one of these indices and with development process they might move in different directions and hence we need to be extra cautious. In the area of Medical Care Market the issues are moving around several service providers: hospitals, doctors, nurses, ancillary services, insurance, drugs, etc. From the supply side the importance of profit motives and the market conditions where they operate make substantial differences in methods, targets and results in the market.

In this paper, I organize the issue in three sections. In the first section I deal with the health status in India and recent changes. In the next I discuss the health care

market, dealing with several providers, like doctors, hospitals and nurses. In the last section I focus on health finance.

I Health Status

India historically has never been strong in health status, particularly in comparison to its southern neighbour Sri Lanka. However, several measures taken in India in post independence era have been able to improve the picture. The improvements have continued in the post globalization era, but not in tune as we had all expected. Table 1 shows that all the demographic figures improved for India during the last decade.

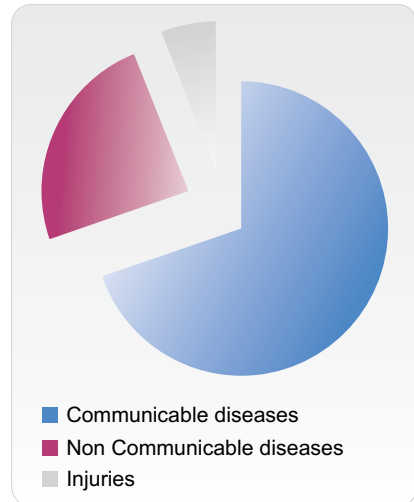
Table 1 : Health status in India		
Indices	1990	2004
Life Expectancy	59.1	63
Infant Mortality	94	67
Maternal Mortality	570	407

Source: WHO (several years)

According to the Epidemiologic Transition Theory, the pattern of diseases change with the development process. Though in India, a huge proportion of deaths is due to several communicable and parasitic diseases (CDS), the emergence of non communicable diseases (NCD) has already started

to make an impact. Diagram 1 shows the burden of diseases as measured by Disability Adjusted Life Years (DALY). The CDS are more preventive in nature and simple improvements in the environment (like safe drinking water, proper sanitation, etc) and immunisation can reduce the burden quite effectively. On the other hand the NCD are lifestyle diseases and not exactly sensitive to the facilities of medical care. The treatments of NCD are long term, costly and curative in nature. These diseases are rising particularly among the rich and affluent class of people due to their habits and stressful lives, and environment pollution in the urban areas. However, of late these diseases have been spreading among the poorer section of the population too due to bad living conditions and addiction to tobacco and smoking.

Diagram 1: Burden of diseases in DALY losses in India 2002



Source: Calculated from WHO (2004).

Both these types of indices vary widely across the Indian states. While Kerala has performed significantly better among the states, Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan (so called BIMRU states) have performed badly compared to Sub Saharan African countries. There have been differences in terms of rural urban locations as well.

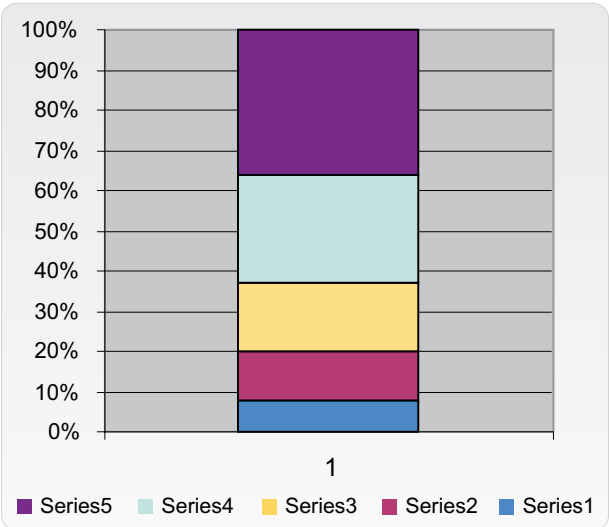
II Medical Care Market

In this section I talk about the several service providers: Hospitals, doctors, pharmaceutical industry, etc. For in hospital industry, there are three types of in-patient care facilities: public sector hospitals; private corporate hospitals and nursing homes; and non-profit or voluntary hospitals. The first group is essentially expected to serve the poor of the country, and that too mainly in primary health care. However, what exactly we mean by primary care is a matter of debate. Normally, basic clinical facilities, immunization, awareness creation, etc come in the purview of this sector. But often the public facilities are not adequate and there are severe shortages of doctors, nurses, medicines etc under these hospitals. This actually results in partial market failure in the health sector.

The next segment consists of the private in patient care. At one end are the super specialty tertiary care hospitals and at the other the small sized nursing homes (often unregistered) serving the top end and the middle class people, respectively. The third category of hospitals is made up of non profit hospitals and voluntary clinics. All these three categories are concentrated in urban areas, thus creating a heavy bias against the rural sector in terms of availability of in patient care.

The utilisation of in-patient care facilities is heavily tilted in favour of public hospitals. This is true across the income class throughout the country. Diagram 2 suggests this. The figures are even more biased in states like West Bengal, compared to Rajasthan.

Diagram 2: Utilisation of Public In patient health care by income quartile



Source: CII Mac Kinsey (2002).

of service providers are the doctors. The total availability of doctors is low in India even today. According to a WHO Report in 2005, there are only 5.9 doctors per 10,000 population in India, while the corresponding figures for Malaysia is 16.4, and 33.1 for the European Union. What is more troublesome for India is that out of the total practitioners in operation, almost one-third are non-registered and lack formal training. The continuous brain drain in the form of outward migration of doctors to western countries and to West Asia has made the shortage more severe. The coming of private tertiary care hospitals has increased the demand for the specialists, which still now is stagnating at 10-15 per 1 lakh population. However, the sectoral composition of these specialized doctors has been shifting more towards the private sector, owing to fabulous compensation packages. Top doctors from the public hospitals are moving to these corporate hospitals and resulting in 'internal brain drain'. At the other extreme there is monumental shortage in the availability of specialized doctors in rural government establishments (Table 2). The rural population, thus depends more and more on faith healers, quacks, and traditional practitioners.

Table 2: Shortage of specialized doctors in 2001

State/Country	Vacancy as per cent of total post sanctioned	Shortfall as per cent of total requirement
India	37.67	61.28
Andhra Pradesh	95.45	99.08
Gujarat	55.19	85.74
Maharashtra	10.42	26.49
Karnataka	31.65	75.50
West Bengal	57.09	66.41

Source: Calculated from GOI (2004)

The third set consists of pharmaceutical producers. Globally, the Indian pharmaceutical industry is ranked fourth in terms of volume and 13th in terms of value. In 2001, there were 260 firms in the organized sector and 6,000-8,000 firms existed in the small-scale sector. The Indian indigenous sector contributes to nearly 73 per cent of the total market, while the MNCs command about 27 per cent share (the only two countries in the world where western MNCs do not dominate are Japan and India). By 2005, 9 of the top 10 manufacturing firms became of Indian origin. The MNCs dominate segments like nutrients, cold and cough remedies, vaccines etc. The share of the top 10 firms in India increased to 40 per cent of market share [Greene 2007]. The share though does not represent very high concentration ratios: the segments are often dominated by top firms and with the plethora of products the over all concentration rates fall. The share of the top four firms in cephalosporins is 61.1 per cent, in streptomycins is 98.6 per cent and

in chloramphenicols is 93.1 per cent in 2004.

Of the total productions, 80 per cent are formulations and 85 per cent of these are marketed in India. India is self sufficient in almost all formulations and nearly 70 per cent of its bulk drug requirements.

The Indian pharma sector is putting more and more thrust on export orientation. The growth rates of exports are phenomenal, around 15 per cent per annum throughout the 1990s [Dhar and Rao 2002]. The growth of export of formulations increased in the first half of the decade, while that of bulk drugs increased rapidly in the latter half. Bulk drugs are being exported as generic world wide. The relaxation of the clinical trial norms worldwide has boosted this increase. The share of production being exported increased from 17.2 per cent in 1990-91 to 33.6 in 1999-2. The share of formulations in export is now roughly 55 per cent, and they are mainly exported to developing countries, CIS countries, South East Asia, etc.

Like the global firms, big Indian pharmaceutical companies are acquiring lots of foreign firms to facilitate their overseas operations. The big companies are trying to make nearshore partners in the countries where they are operating. They are also buying out research-oriented foreign companies in Europe and America to boost up their R & D portfolio. In 2005-06, the sector spent \$1.6 billions to acquisitions. Till date the largest such buying out is of DRL's acquisition of Betapharm Arzneimittel of Germany at a cost of \$572 m. With this, DRL became Germany's fourth largest generic company. Other significant acquisitions have been of Terapia, Romania and RPG (Aventis), France by Ranbaxy and of API, Belgium by Matrix. This trend has been true for the national scenario as well. The major deals were acquisitions of Merind and Tata Pharma by Wockhardt, the purchase of Crosland by Ranbaxy, Nicholas Piramal's acquisitions of Roche, Sumitra Pharma and Boehringer, etc. This trend is putting further pressure on smaller firms and huge numbers of them are closing down, thus increasing the overall concentration ratios.

Profitability rates in the pharmaceutical industry have been quite impressive for India. Table 3 shows that the pharma sector has been identified as one of the highest profit earners across all the manufacturing sectors and this has not been changed much.

Table 3: Profitability measured by net profit after tax per cent

Sector	1990-95	1995-2000
Pharmaceutical	17.9	10.9
Chemicals	6.9	6.7
Electrical Equipments	13.5	0.1
Textiles	1.7	-13.2

Source: CMIE Prowess Database (2000).

Another important aspect of the pharmaceutical industry has been its research and development activities. The issue particularly gains importance in the backdrop of the TRIPS agreement implemented in India since January 1, 1995. It was expected that with the changes in the existing patent laws, the MNCs would invest in R & D in India. The advantages India has as a target area for attracting basic research is the availability of a population of English-speaking research scholars and their low cost. A Ph.D scholar in India gets only 20 per cent of the salary of his counterpart in the US. Thus the physical costs of research are 40-60 per cent that in the developed countries. But evidence suggests that none of the MNCs have shown any interest in locating basic research in India and in fact by 2000, with the reckoning of the new patent laws, the four companies with research centers in India (Boots, Rhone Poulenc, Pfizer and Ciba) closed their centres. They have shifted the lead molecules away from these countries to their parent country. Historically the MNCs have a tendency to locate their R & D bases in their parent country and in other OECD countries. The foreign share in R&D of American MNCs has been less than 20 per cent throughout. The highest figure given by PhRMA is 19.5 per cent in 1990, after which it fell to 18.7 in 2000.

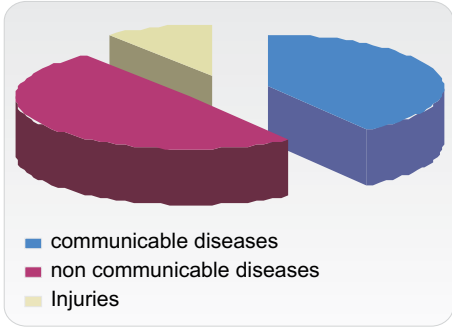
Here it might be noted that the greatest cost advantage has been observed in clinical trials, which actually accounts for more than 30 per cent share of total research cost. This particular fact has created great demand for contract research in India since the late 1990s. However, to me it is something like exporting the polluted industry to India where the adverse reactions of the large scale clinical tests has been borne by the hapless, poor people who offer themselves as volunteers without proper compensation and actual information.

The R & D effort of big domestic firms has increased significantly, however., the companies like Dr Reddy's Laboratories, Ranbaxy, Torrent, Cipla etc particularly are investing 6-8 per cent of their turnover in research. They are, however, eying the global market of lifestyle diseases, like cancer, diabetes, cardiovascular diseases, diseases related to the central nervous systems, etc. The main reasons behind this trend are threefold. First, they are into research partnership with the MNCs and the latter group identifies the research area. The Indian firms are engaged in contract research. Automatically, the MNCs choose the areas which are relevant for the western countries. Secondly, domestic firms are outsourcing some of their products to the MNCs for marketing in the European and North American countries. By the same reason, they are getting interested in chronic and non communicable diseases, which are prevalent in the developed countries. Thirdly, those big firms, which are directly targeting the export markets are interested in the development of cheaper alternatives for those diseases and in exporting as generic drugs.

The issue of the link between the technology and disease burden is important in this context. Compared to the disease burden of communicable diseases in DALY, which is 69.64 per cent (Diagram 1), the same for mortality is just 40.64 (Diagram 2). This shows that the weaker patent protection during the 1970s to 1990s, has

allowed the second and third generations antibiotics and anti bacterials to enter India easily and thus the fatal cases of communicable diseases have been on the decline. The technological progress and availability of patented drugs at cheap prices in India has created this situation. In public health the doctors could easily use the second generation antibiotics and anti TB drugs as they were quite cheap in India.

Diagram 3: Disease Burden in Mortality



Source: Calculated from WHO (2004)

The impact of insurance on technology has been quite substantial for the pharmaceutical industry all over the world [Weisbrod 1991]. There are three types of technologies: Non technology, Half Way technology and High Technology. While the first refers to the technology which is used for poorly understood diseases and depends mainly on home care, the second one helps to adjust with the disease and postpones death (for example organ

transplantations, chemotherapy). The third one improves the quality of life (for example, immunization). Treatment with the second type of technology is the costliest, often requiring hospitalization and needs to be covered up by insurance companies. As we know private health insurance has the impact of artificially increasing the demand for health services. There is then an expanded demand for new technologies in the second group. Automatically, the firms respond to this by increasing their efforts in new technology in the half way group.

Finally, on the issue of availability and prices of drugs, cross sectional studies indicate that the nature of patent may not emerge as one of the major determinants of the prices [Dutta 2006]. Yet, time series studies show that the countries that have introduced product patents have shown a severe increase in prices, not only of the on-patent drugs, but also on off-patent drugs. Historically, the prices of drugs have been lower in India than in other developing countries. The credit goes to the Drug Price Control Order and also the soft patent regime through out the 1970s and 1980s.

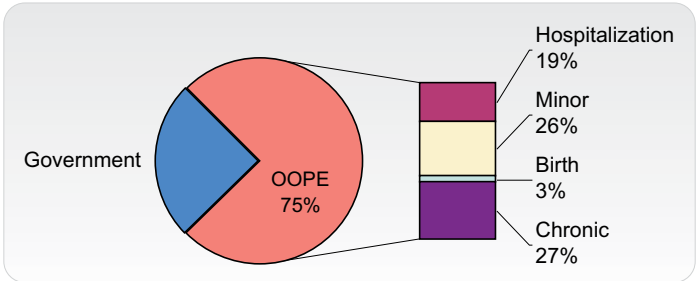
However, the affordability measured in terms of daily minimum wages is not much lower than even OECD countries. The cost of TB treatment in terms of this is considerably higher in India, owing to extremely low wages. On the other hand, it is argued that the market share of patented drugs is around 5-10 per cent of the total market and hence the impact of strong patents would not be significant in India. But within therapeutic groups, like anti ulcerants anti diabetic drugs, etc, the market share of patented medicine is quite high. We find that the drug price

rise has been higher than that of general commodities in recent years. According to the Government of India website data, the drug price index increased to 267.0 in 2004-05 from the base level of 100 in 1993-94, while the corresponding figure for all commodities increased to only 187.3. However, the MNCs have not been able to raise the prices of their products, as there is a drug price control net in India. The recent defeat of Novartis on the issue of price rise of one of their patented drug in a legal battle in Chennai High Court illustrates this point.

III Health Care Finance

In this last section, we deal with the issue of health finance. The first possible way of financing has been the public expenditure. Internationally, there are only seven countries in the world that spend less on health in terms of their total public expenditure than India in 2002. They are Angola, Azerbaijan, Burundi, Iraq, Myanmar, Nigeria and Pakistan. Due to the very limited coverage of insurance system (both social and private), along with low government expenditure, the out of pocket expenditure, supposed to be the most regressive method of financing health care, covers more than three-fourths of the total health spending in India. Most of the out of pocket expenditure has been used for chronic ailment (Diagram 4). Additionally, public health expenditure mainly covers secondary and tertiary health care [CII Mac Kinsey, 2002], though in recent years we find a change in this trend.

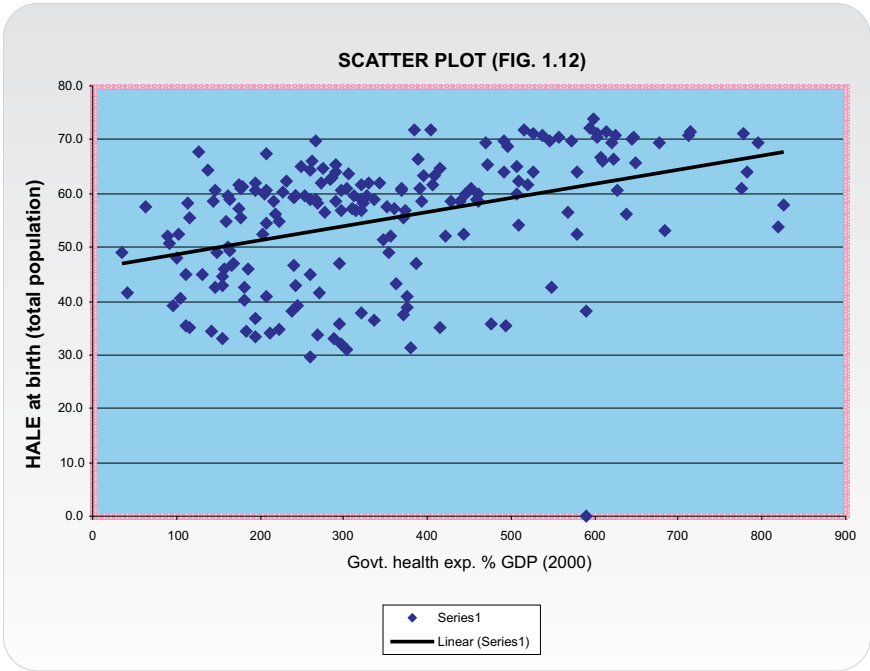
Diagram 4: High out of pocket payments in health care finance



Source: Kanjilal (2007).

As part of the globalization strategy, health care has been increasingly commercialized all over the world. However, cross country data show that this trend is not only seen in better off countries, and socialized medicine happens to be a luxury good [Mackintosh and Meri Koivusalo 2005]. Also the impact of globalization has not been impressive at all. HALE has recorded an inverse relationship with the share of health care financed privately in total health expenditure and a significant positive relationship with government expenditure in

Diagram 5: Relationship between HALE and government health expenditure as per cent of



Source: Sen S 2007

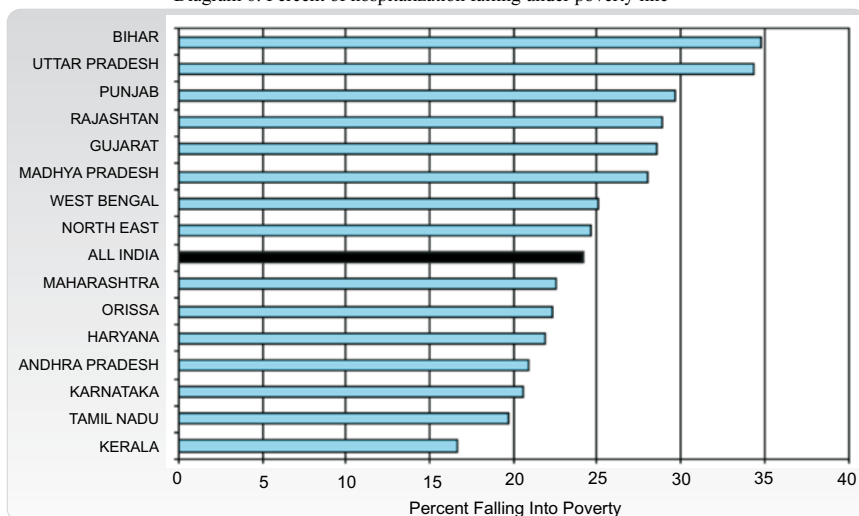
health as a per cent of GDP (Diagram 5).

Private insurance system has become increasingly important in India. However, the private system depends on the purchasing power of the people, which on the average, is quite low. Thus the spread of private health insurance has been limited among middle and upper middle income class, mainly from the urban sector. As a consequence of this type of financing, about one quarter of the hospitalized Indians slip into poverty every year (Diagram 6).

Conclusions

In terms of health care status, it seems that neither inward looking policies, nor globalization has performed well in India. Technology is available in India, both in terms of medicines and equipment, as are trained doctors. However, the problem is that these technologies are not in tune with our need. The choice of technology is in the hands of the multinational corporations, which dominate both the corporate hospitals and the pharmaceutical market, and it does not represent either the factor endowment of the country or the dominant needs of the consumers. Thus the issue primarily boils down to political economy, which can be solved only by serious government actions and initiatives, as well as a concerted attempt from the non profit organizations.

Diagram 6: Percent of hospitalization falling under poverty line



Source: Peters Detal (2002)

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