HEALTH AND HEALTHCARE IN MAHARASHTRA: AN UPDATE

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Abstract:

Maharashtra has a legacy of social reform, and it has been historically at the forefront of healthcare development in India. Reportedly, it was one of the first states to achieve the norms mandated for primary health centres, sub-centres and Rural Hospitals, under the Minimum Needs Programme. The state also has a large private health sector in India whose reach is quite extensive. Although Maharashtra is one of the most affluent states in India in terms of economic growth, its economic power does not necessarily translate into human development achievements partly because of the high level of intra-state inequities. In addition to such inequities, unacceptable levels of malnourishment and decline in public expenditure on health as a percentage of NSDP which has contributed to staff unavailability and the decline in quality of public health care have had adverse impacts on the health status of the citizens of the state. This report takes forward the analysis offered in the 2005 report titled "Health and Healthcare in Maharashtra: A Status Report "and will discuss the health and healthcare situation in Maharashtra based on latest data available with a focus on inequities. Various health indicators, physical infrastructure, access, utilization, health care expenditure, and various government initiatives in the health sector will be discussed in detail.

CHAPTER INDEX

INTRODUCTION

Maharashtra is one of the richest states of india in terms of per capita net state domestic product (NSDP). It is also the second largest state both in terms of population (11.24 crore according to Census 2011) and geographical area (3.08 lakh sq. km.). Maharashtra is a highly urbanised state with 45.2 per cent people in urban areas. The gross state domestic product (GSDP) at current prices for 2011-12 is estimated at Rs 11,99,548 crore and contributes about 14.4 per cent of the national GDP- Maharashtra's contribution was 12 percent in 2004-05. The GSDP has been growing at a rapid pace in the last decade. Industry and the services sector together contribute about 87.1 per cent of the State's income while agriculture & allied activities contributes the rest. The tax revenue of the State has increased with an annual average of 15.6 per cent during last seven years. As per India Human Development Report, 2011 Human Development Index of India is 0.467 and State ranks 5th in the country with Human Development Index of 0.572.[2]

The case of Maharashtra presents us with very interesting and contrasting statistics when it comes to translating economics growth to human development. Maharashtra's poverty ratio at 30.7%, is 3.2 percentage points worse than the all-India figure. Maharashtra had in 2004-05, around 32 million people under poverty line, and along with Bihar and Uttar Pradesh, it brings up the rear of the high BPL population states (The Hindu, 2010).[3] In spite of being an economic powerhouse with enviable growth of state GDP over the last decade, according to Human Development Report 2011, Maharashtra along with MP, UP and Bihar, still accounted for 58 per cent of poor in the country. Interestingly, these four had accounted for only 49 per cent of the poor of the country in 1993–4. The central and north regions of Maharashtra remain semi-arid, and the economy therein largely depends on subsistence agriculture, seasonal out-migration, and state sponsored employment programmes. The tribal population are among the more deprived groups in the state; their lands have been encroached upon for timber and minerals for a long time, and they have stayed largely excluded from the mainstream. Of greater concern according to the latest HDR report (2011)is that in Maharashtra, the number of poor increased between 1993–4 and 2004–5, and it is only one of the four areas in the country where this happened.[4]

Maharashtra government have admitted through its own publications that closing of industries is becoming a severe problem in the state. The number of industries closed and workers affected have been going up starkly over the recent past reflecting a global trend. As the following table illustrates, industrial employment is facing a crisis. When coupled with the crisis in agriculture in the countryside, it

[2] Government of Maharashtra (2013), Economic Survey of Maharashtra 2012-13, Directorate of Economics and Statistics, Planning Department, Mumbai.
[3] The Hindu (2010), Maharashtra ranks 3rd among BPL States, PTI, Mumbai, March 24, accessed at http://www .thehindu.com/news/ states/other-states/article298391.ece
[4] Government of India (2011), India Human Development Report 2011: Towards Social Inclusion, Planning Commission Oxford University Press, New Delhi

means that the poor population is likely to be much more than the 2004-05 estimate, and growing. However, To compound the effect of immiserisation as a result of economic growth along with growing inequalities on human development, the expenditure on health in Maharashtra as a proportion to total government expenditure is less than that in the poorer northern states.[5]

Table 1 status of the industries in Maharashtra

Year	Small Scale Industries		Medium & Large Scale Industries	
	Closed down	Workers affected	Closed down	Workers affected
2007-08	26,220	1,43,381	474	67,355
2008-09	33,359	1,94,629	808	1,45,110
2009-10 (upto September, 2009)	44,997	1,97,798	845	1,53,786

Source: Directorate of Industries, Government of Maharashtra.

Source: Economic Survey 2009-10

In the given context, this report will discuss the health and healthcare situation in Maharashtra and will be an update on the earlier publication by CEHAT (2005) titled "Health and Healthcare in Maharashtra: A Status Report" which looked comprehensively at the status of healthcare delivery in Maharashtra, healthcare spending in Maharashtra and also at district level indicators of health status. . While accepting the fact that in a situation marked by high levels of poverty and income inequalities like in Maharashtra, any health care intervention which is not complemented by efforts to address the social determinants of health and disease would be akin to "ambulance waiting at the bottom of the cliff" as Norman Daniels put it, [6] this report will explore briefly the health and healthcare situation in Maharashtra. At the onset, the situation vis-a-vis nutrition in Maharashtra, which is a major determinant of health and disease in any society is briefly outlined in the following section[7]. Chapters on Healthcare infrastructure, health care expenditure , health care access ,utilization, and various government health programmes will follow.

Hunger, Nutrition and the Farming Crisis in Maharashtra

As the latest HDR (2011) notes, the hunger status measured by the Hunger Index for some industrial states and states with high per capita income, namely, Tamil Nadu, Maharashtra, Karnataka, and Gujarat is worse than some of the much poorer states. This suggests that economic prosperity alone cannot reduce hunger. Assam, which is believed to be a poor state, is doing much better than Maharashtra and the other three developed states mentioned before. States like Uttar Pradesh, West Bengal,

[5] Government of India (2011), India Human Development Report 2011: Towards Social Inclusion, Planning Commission Oxford University Press, New Delhi

[6] http://www.hsph.harvard.edu/benchmark/ndaniels/pdf/justice_health.pdf

[7] Unless otherwise noted, material for this section is sourced from SATHI (2009), particularly, Mahesh Kamble (2009), Implementation of TPDS and Antyodaya in Maharashtra, in SATHI , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.

and Rajasthan are faring better than states like Maharashtra, Gujarat and Karnataka. Orissa, which has the highest incidence of poverty according to the latest NSSO report, is doing better than Gujarat, one of the most advanced industrial states of India[8]

Looking closely at the situation in Maharashtra, it was observed that in the 1994 Nutrition Index, Maharashtra was ranked among the lowest at 13th out of the 15 states for which the index was calculated. After 14 years, in 2008, Maharashtra was still only 10th out of the 17 states for which the Indian State Hunger Index Rank (2008) was calculated, despite its 'enviable' position in terms of pure economic growth. Maharashtra's 2008 Hunger Index Score is 22.8, which places it in the category of "alarming hunger," on par with an economically less developed state like Orissa.[9] The faulty implementation of the narrow Targeted PDS programme exacerbates the already fragile situation of food insecurity of the poor masses. It was observed in a research study published by SATHI that on one hand there is a huge quota allocated to state which is not picked up at the district level. Approximately 20% of food allocated to the state for BPL (i.e. AAY and yellow card) public distribution and 98% of food for APL does not end up reaching the beneficiaries. Most of the food that goes unutilized is simply never picked up from government godowns for distribution to Fair Price Shops. According to estimates , since state allocations are based on the previous year's utilization level, this underutilization has led to a 40% reduction of Maharashtra's grain allocation since 2004.[10]

Kamble's (2009) work shows that the state is also not using the financial resources to the fullest possible extent. On the other hand Maharashtra has virtually crores of people whose food rights are violated by not giving them ration cards and excluding them from the ration system. Complaints about inadequacy of the amounts of grain given, entitlements not being met, service delivery being weak remain even for the ones who have been able to get cards. According to Kamble's study, fair price shopkeepers do not care to comply with the guidelines issued by the state, making the system extremely ineffective, and thus again violating citizens' food rights. The beneficiaries of TPDS are the most vulnerable people in Maharashtra and are at extreme risk of hunger if the state does not take proactive and efficient steps for effective implementation of the food schemes. Unfortunately, the monitoring mechanism is almost absent and the lack of transparency in the system makes whatever monitoring in place extremely difficult. There is great need to revamp the system to be more effective.[11]

[8] Government of India (2011), India Human Development Report 2011: Towards Social Inclusion, Planning Commission Oxford University Press, New Delhi

[9] Mahesh Kamble (2009), Implementation of TPDS and Antyodaya in Maharashtra, in SATHI , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.

[10] SATHI (2009) , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.

[11] Mahesh Kamble (2009), Implementation of TPDS and Antyodaya in Maharashtra, in SATHI , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.

In addition to problems of implementation of the scheme, the faulty definition of poverty line excludes various needy and marginalized people. There is an urgent need to devise a mechanism to ensure that marginalized groups like primitive tribes, female headed households, rag-pickers, physically handicapped, and commercial sex workers are immediately given the benefits of the Antyodaya scheme. Implementing the criteria with a 'target' is contradictory and causes stark exclusion errors. The target system practically means a quota system and calls for an urgent reconsideration to ensure inclusion of marginalized groups.[12] The sample survey conducted by the NSSO 61st round on the 'Public Distribution System and Other Sources of Household Consumption' in 2004-05 revealed that almost one-fifth of households in rural and one-fourth of households in urban areas do not have any ration cards. Overall, about one in every four or five households in Maharashtra do not get benefits of the public distribution system. Amongst the poorest of poor families in urban areas, (i.e. those with a monthly per capita expenditure of less than Rs.335) one in every three households does not have a ration card and only 2% have an Antyodaya card. The situation in worse in rural areas where amongst the poorest of poor families (i.e. with monthly per capita expenditure of less than Rs.235), one-fourth do not possess a ration card. The percentage of households having an Antyodaya card in urban areas is only 0.3%.[13]

NFHS-3 found out that more than sixty per cent children in Maharashtra are anaemic, with over 40% having moderate or severe anaemia. A recent report on nutrition observed that if we look at actual calorie intake, then according to recent NSSO 61st round data, 68% of households in rural areas and 74% households in urban areas of Maharashtra have calorie intake below the norm of below 2700 calories per day (SATHI 2009)[14]. Another area of concern has been the starvation deaths and farmer's suicides that were reported from various regions of the state. According to figures provided to Parliament by the Food and Agriculture Minister , 1,720 farmers committed suicide in Maharashtra during 2007-09. [15] According to newspaper reports quoting government sources, 18,486 children in the age group of 0-6 years have died of malnutrition between January and August 2011. In 2010, 12,792 children had died of hunger and malnutrition during the same period. In 2011, 5,694 more babies than last year have starved to death and most of the dead babies happen to be *adivasi* children. The maximum deaths have occurred in the five districts with large *adivasi* populations.[16] Two boxes below reproduce what the Asian Centre for Human Rights had noted in their report[17]. The state needs to plan proactive measures so that such alarming situation is brought under control. State interventions to tackle such issues are very feasible in a state like Maharashtra which is economically prosperous.

[12] Mahesh Kamble (2009), Implementation of TPDS and Antyodaya in Maharashtra, in SATHI , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.
[13] Mahesh Kamble (2009), Implementation of TPDS and Antyodaya in Maharashtra, in SATHI , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.
[14] SATHI (2009) , Nutritional Crisis in Maharashtra, SATHI CEHAT, Pune.
[15] http://news.outlookindia.com/item.aspx?681268
[16] http://www.dnaindia.com/mumbai/report_77-babies-die-of-hunger-every-day -in-maharashtra_1591215
[17] http://www.achrweb.org/reports/india/AR07/maharastra.htm#_Toc167006971

Starvation deaths
On 3 March 2006, Minister of State for Agriculture, Food & Civil Supplies, Consumer Affairs & Public Distribution, Dr. Akhilesh Prasad Singh in a written reply to Bharatiya Janata Party (BJP) Members of Parliament, Ms Hema Malini and Ms Maya Singh stated in Rajya Sabha that as many as 2,994 children in the age group of 0-6 years died due to various reasons including malnutrition up to July 2005 in Vidarbha. The figures in the districts of Nagpur Division were Nagpur (335), Gondia (187), Bhandara (333), Wardha (130), Gadchiroli (225) and Chandrapur (351), and the figures for districts in Amravati Division were Amravati (408), Akola (170), Yavatmal (513), Buldana (240) and Washim (102).
In March 2006, the workers of Integrated Child Development Scheme detected 700 cases of malnutrition, including 50 cases of Grade-IV malnutrition among children in the city of Nagpur.
Over 1,700 children reportedly died of malnutrition in Thane district in the last one year as of 7 April 2006. During April 2005-March 2006, a total of 27 children reportedly died, including 15 children at the primary health centres (PHCs) at Vashala, Koma and Morada during April 2005-February 2006 and 12 children in March 2006 at Koma and Vasha PHCs. Nine children reportedly died of malnutrition in the Mokhada tehsil of Thane in April 2006 alone.

Source: AHRC (2007)

Farmers' suicides
The Vidarbha region of Maharashtra had virtually turned into a killing field for farmers. On 29 December 2006, Vidarbha Jan Andolan Samiti (VJAS) stated that a total of 1,060 farmers committed suicide in Vidarbha region in 2006. This included 105 deaths in December 2006, 107 in November 2006, 112 in October 2006, 124 in September 2006, 111 in August 2006 and 90 in July 2006. In Yavatmal district, more than 344 cotton farmers committed suicides in 2006 of which 70% were tribals, Dalits and Banjaras. According to VJAS, 412 farmers had committed suicide in 2005, 324 in 2004, 156 in 2003, 102 in 2002, 54 in 2001, 46 in 2000, and 36 in 1999. The cotton farmers of West Vidarbha were worst affected. Out of 3 million farmers in West Vidarbha, more than 75% lived under extreme distress.
Earlier in December 2006, Mr Narayan Rane, Revenue Minister had reportedly admitted before the winter session of State Legislature that 1,843 farmers committed suicide in Maharashtra between January and October 2006. Of these, 1,316 died in Vidarbha region including 1,156 in the six districts of Amaravati, Akola, Washim, Buldhana, Yavatmal and Wardha. According to Mr Narayan Rane, Amravati Division reported the highest number of farmers' suicide of 1,024 followed by Nagpur Division (292), Aurangabad Division (281), Nashik (157), Pune (87) and Konkan Division (2). Yavatmal district reported the highest number of farmers' suicides which was 282 followed by Buldana district (248).

Source: AHRC (2007)

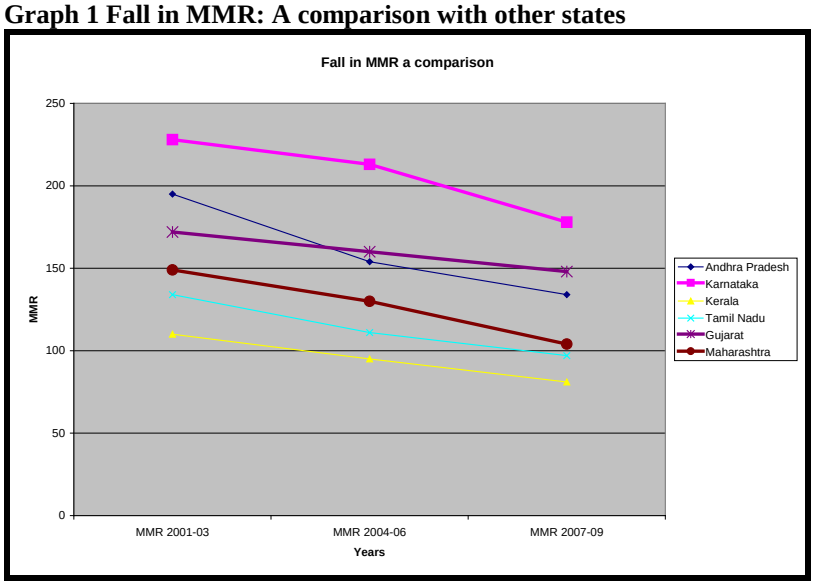
CHAPTER 1
HOW DOES MAHARASHTRA FARE IN TERMS OF INDICATORS?

A comparison of Maharashtra with other states on some basic indicators of human development is given below which allows for some broad comparisons. Although Maharashtra fares reasonably well with regards to some indicators like life expectancy and Maternal Mortality as shown in Table 2, its performance has not been similar on other fronts. Even in the case of Infant Mortality Rates, where there has been overall improvement, the rural deceleration as evidenced in the previous graph is a major area of concern. The following figures show the fall in Maternal Mortality Rate as well as Infant Mortality Rate.

Table 2 Basic indicators of Human development: Maharasthra & Other states

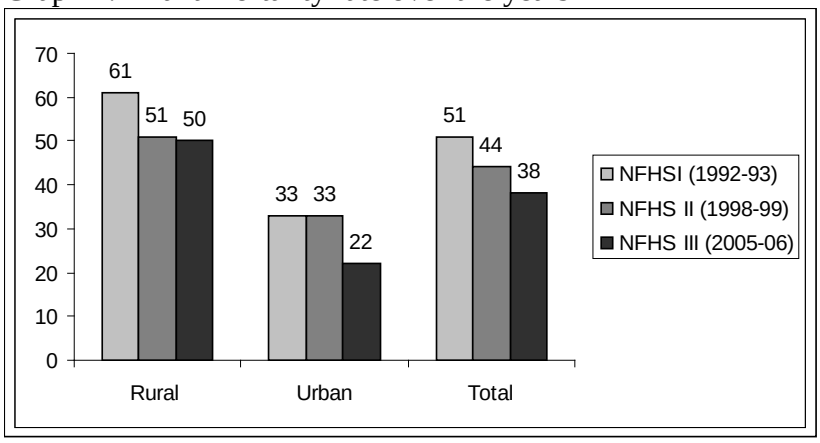
	Basic Indicators of Human Development								
State	Life expectancy at birth (years) 2011-15		Birth rate 2009	Death rate 2009	Infant mortality rate 2009	Per capita income at current prices* (2008-2009) (Base year 1999-2000)	Human Development Index 2001	Mean age at effective marriage (females) 2008	Per cent of children fully immunised 2007-2008
	Male	Female							
Andhra Pradesh	66.9	70.9	18.3	7.6	49	40,902	0.416	19.6	67.1
Assam	63.6	64.8	23.6	8.4	61	23,993	0.386	20.7	50.9
Bihar	68.6	68.7	28.5	7	52	13,663	0.367	19.5	41.4
Gujarat	69.2	72.5	22.3	6.9	48	49,251	0.479	21	54.9
Haryana	68.9	71.3	22.7	6.6	51	68,914	0.509	20.1	59.6
Karnataka	68	72.3	19.5	7.2	41	41,513	0.478	20.3	76.7
Kerala	73.2	77.6	14.7	6.8	12	49,316	0.638	22.8	79.5
Madhya Pradesh	64.5	65.3	27.7	8.5	67	21,648	0.394	21.4	36.2
Chhatisgarh	63	66	25.7	8.1	54	34,483	N.A.	20.2	59.3
Maharashtra	68.9	72.5	17.6	6.7	31	54,867	0.523	20.9	69.1
Orissa	64.3	67.3	21	8.8	65	29,464	0.404	20.5	62.4
Punjab	69.7	72.8	17	7	38	52,879	0.537	22.2	79.9
Rajasthan	67.6	70.7	27.2	6.6	59	27,001	0.424	19.8	48.8
Tamil Nadu	68.6	71.8	16.3	7.6	28	45,058	0.531	21.9	81.8
Uttar Pradesh	66	66.9	28.7	8.2	63	18,710	0.388	20.2	30.3
West Bengal	69.2	72.1	17.2	6.2	33	36,322	0.472	20.2	75.8
India	67.3	69.6	22.5	7.3	50	37,490	0.472	20.6	54.1
Source: Economic Survey 2010-11									

Graph 1 Fall in MMR: A comparison with other states



Source: SRS Various Years

Graph 2: Infant mortality rate over the years



Source: NFHS various years

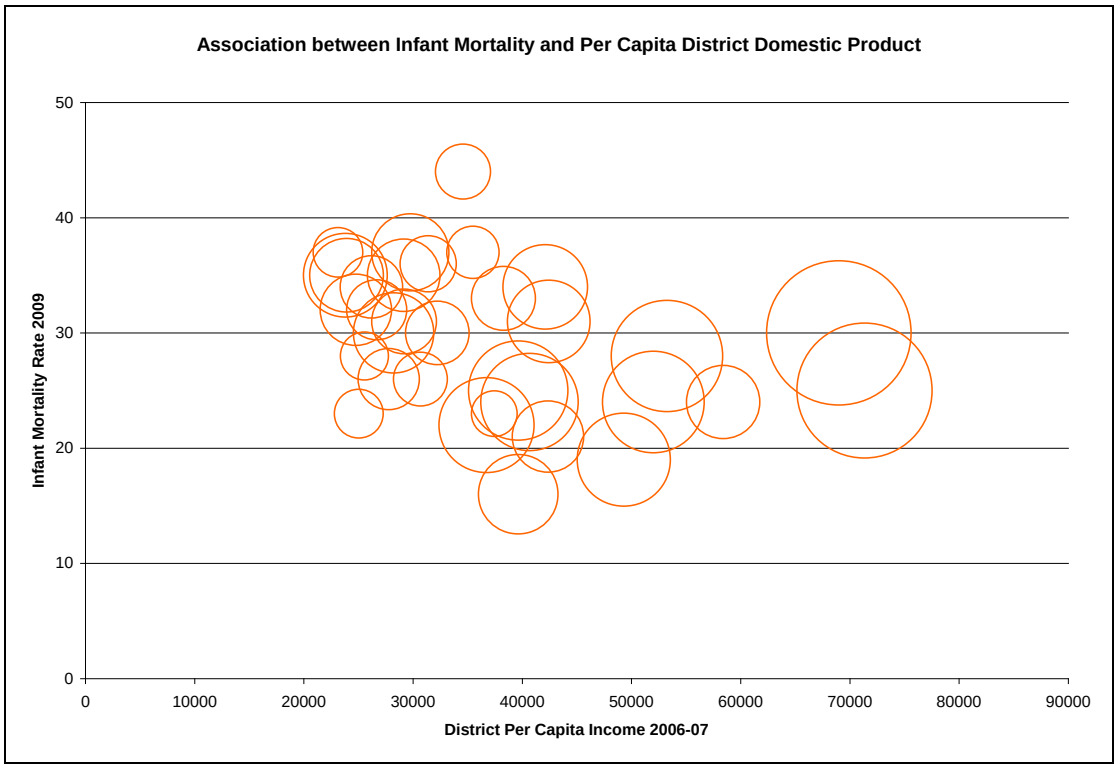
The level of inequalities persistent in Maharashtra remains very high. The affluent Mumbai is a case in point; where NFHS-III found that 40.1% of children less than 3 years age are malnourished, the proportion being higher than the state average. Maharashtra government also happens to be one of the lowest public health spenders in the country at 0.5% of its SDP, and the low level of public spending of health has an effect on amplifying existing inequalities. As an author from a report brought out in 2008 on health inequities in Maharashtra succinctly put it;

> *There are major economic disparities between different regions of Maharashtra. On one hand, Konkan (including Mumbai) had poverty level of 12.9% and Western Maharashtra had poverty level of 15.6%. On the other hand, Marathwada region had higher poverty level of 31 % and Vidarbha region had a much higher poverty level of about 39%. Thus poverty is three times higher in Vidarbha region compared to Konkan*

region. As a further example of this contrast, per capita income in Gadchiroli district (Rs. 7577) is only around one-fifth of the per capita income in Mumbai (Rs. 35483)! District wise Human development index for Mumbai was calculated at 0.96, compared to 0.21 for Nandurbar and 0.18 for Gadchiroli (SATHI , 2008, P 116)

As the following graph suggests, the variation in infant mortality between districts seem to be associated with the districts economic development (The size of the circle denotes district population). In other words, if a district is economically well off as evidenced by a high per capita income, it is highly likely that the district has a low Infant Mortality Rate. Such high levels of economic inequalities coupled with traditionally low public health spending of Maharashtra government contributes to stark health inequalities.

Graph 3: IMR and the per capital district domestic product



Source: SHSRC Maharashtra Health Status (2009) for IMR and Planning Commission for PCDDP 2006-07

The following table gives Maharashtra's rank among all states and union territories for some important human development parameters. In many of these areas Maharashtra's ranking does not justify its perceived status of an economic powerhouse. In a situation of high human insecurity as evidenced above, a study of social sector inputs to human welfare gains significance.

Table 3 Rank of Maharashtra across All states and Union Territories for some Indicators		
Doctor : Population Ratio		9
Nurse: Population Ratio		7

Govt. bed: Population Ratio		15
PHC: Population Ratio		18
Rural	With Govt. Facility in Village	25
	With Private Doctor in Village	5
	With Anganwadi Worker in Village	3
Per Capita Public Health Expenditure		20
Health Expenditure as % of Govt. Expenditure		25
TB Prevalence		7
Malaria Prevalence		27
Safe Drinking Water		26
Toilet Facility		26
% Low Standard of Living		21
Source: Various Government Sources cited in SATHI (2008)		

It was observed in a study of 2009 that three major factors are at work in a majority of cases of decline of village households into poverty- namely, health expenses, high-interest private debt, and social and customary expenses. Health care expenses were a significant contributor in more than half of all cases of decline into poverty. It was also shown that Maharashtra has very high levels of out of pocket healthcare spending. It is one state where there is significant increase in poverty due to such spending. It thus indicates that the burden of high spending is probably mostly in the lower quintiles of the expenditure distribution (Gupta 2009). [18]

Maharashtra has shown some progress with regards institutional delivery, although it left much to be desired. The percentage of safe deliveries[19] has increased from 62.6 percent in DLHS-2 (2002-04) to 69.5 percent in DLHS-3 (2007-08). However there is wide variation within Maharashtra, as some districts still have disturbingly low percentages. TDLHS-3 results show that the percentage of institutional delivery ranges from 23.5 percent in Gadchiroli to 93.5 percent in Mumbai (Suburban). Percentage of safe delivery is highest in 95.3 percent in Mumbai (Suburban) and it is as lowest as 34.0 percent in Nandurbar districts in the latest round . In DLHS-2, Nandurbar had fared better with 28.5 percentage of institutional deliveries, but in DLHS-3 institutional deliveries in Nandurbar worsened to 25.4 percentage. At the same time, Gadchiroli improved its institutional deliveries by three percentile points. In the latest DLHS Survey , apart from Mumbai, Kolhapur, Sindhudurg and Satara show more than 90% of safe deliveries. The proportion of safe delivery is found to be less than the state average (69.5 percent) in twelve districts out of thirty-five districts in Maharashtra.

A recent study conducted in 30 villages in the Nanded district showed that the proportion of institutional deliveries increased from 42% in 2004 to 69% in 2009. While the proportion of deliveries in the government institutions increased from 24% to 39%, those in the private institutions increased from 18% in 2004 to 30% in 2009. The proportion of deliveries assisted by health personnel increased from 50% in 2004 to 70% in 2009. Women were 1.8 times more likely to deliver in an

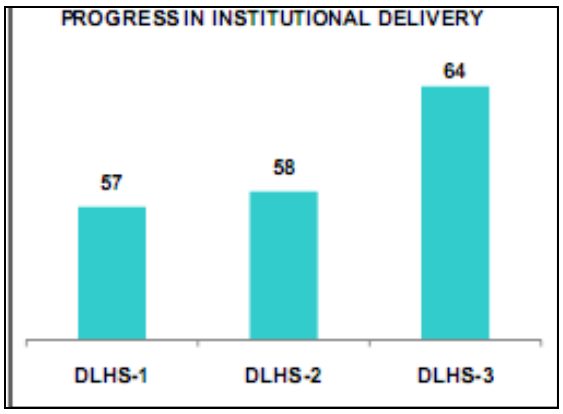
[18] Indrani Gupta (2009) , Out-of-pocket Expenditures and Poverty: Estimates From NSS 61st Round, accessed at http://planningcommission.nic.in/reports/genrep/indrani.pdf

[19] Either institutional delivery or home delivery attended by skilled health personnel.

institution in the NRHM period compared to the pre-NRHM period. Women were 1.46 times more likely to deliver in a government institution and 1.47 times more likely to deliver in a private institution in the NRHM period compared to the pre-NRHM period. There was a significant increase in the proportion of deliveries assisted by the health personnel, with 1.73 times more chances of such assistance in the NRHM period.[20]

Between DLHS-2 and DLHS-3, districts like Parbhani, Jalna and Wardha have seen substantial increases in the percentage of women who had institutional delivery. In districts like Yavatmal there is stagnation, and between DLHS2 and DLHS 3, there is a gain of only 0.3 percentage points despite the state average of a gain of almost 6 per cent. Interestingly, it is seen that family size is a major determinant. The proportion of institutional deliveries for the first childbirth is 88.8% while for mothers who already had 3 children it is just 52%. For women who had four or more children, the percentage of institutional deliveries drops further to 40.4%. Rural-urban difference is a matter of major concern. DLHS-3 shows that percentage of institutional deliveries for the rural mothers is just 54.1% while for urban mothers it is a high 87.2%. The highest percentage of institutional deliveries is among Muslims at 78.6% while the state average is 63.5%. There are stark caste inequalities and the percentage of institutional deliveries for STs is just 34% while for General it is 74%. Most importantly, it is seen that economic inequalities result in the starkest variations in institutional delivery. The difference between the lowest quintile and the highest quintile is more than three times, 26.3% and 91.5% respectively! The necessity of free healthcare services cannot be overstated.

Although there has been overall progress, it has been very slow and fragmented. The overall level of institutional deliveries is far from satisfactory, as only two-thirds of all deliveries are rendered as safe deliveries, as per DLHS 3 findings. Immediate steps are needed to remedy the situation which includes provision of free, accessible health care services.



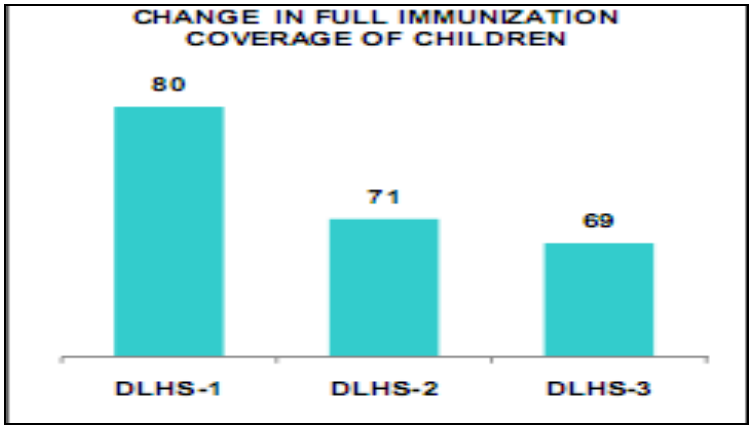
Source: DLHS Fact Sheet

[20] Geeta S. Pardeshi et al (2011), Trends in Choosing Place of Delivery and Assistance during Delivery in Nanded District, Maharashtra, India, Journal of Health, Population, and Nutrition, 29(1), pp 71–76.

Immunization

Alarmingly, coverage of full immunization decreased from DLHS-1 to DLHS-2 (around 80 to 71 percent) and has decreased further by two percentage points in DLHS-3. It is a matter of great concern that coverage of full immunization of children is well below 50 percent in three districts of Maharashtra, Nandurbar (17.0 percent), Dhule (35.0 percent) and Gadchiroli (46.4 percent) and at the same time, it is more than 85 percent in districts Satara (92 percent), Nagpur (90.5 percent), Sangli (87.5 percent), Gondiya (87.8 percent), Pune (86.1 percent) and Ahmadnagar (85.3 percent). With regard to the place of vaccination, children received it from a Sub-Centre (10.6 percent) and Primary Health Centre (13.1 percent), 71.4 percent from other government health facilities and 13.1 percent from private health facility. The government must act to improve the immunization coverage and act fast. Otherwise, this could potentially wipe off the health gains that the state has achieved over time. It is shocking to note that between DLHS-2 and DLHS-3 there have been stark declines in the percentage immunized in districts like Nandurbar (from 69.9% to 17.0%!) Dhule (67.3% to 35%) Hingoli (60% to 52%) and Jalgaon (75% to 52.1%). In fact, ALL the districts that had more than ninety percentage full vaccination coverage (Kolhapur, Mumbai (sub), Mumbai, Raigarh, ratnagiri and Sindhudurg) have shown a worsening of the situation.

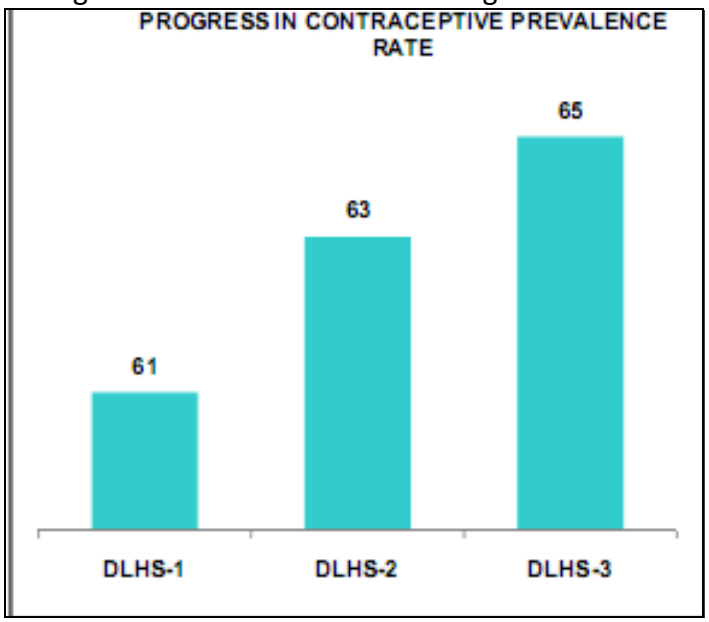
At the same time districts like Gadchiroli (from 27.5% to 46.4%) Pune (from 46.8% to 86.1%) and Ahmednagar (from 54.1 % to 85.3%) have shown impressive improvements. But the fall across a large number of districts has been to such an extent that the state average has worsened. During DLHS-2 the caste based differences in vaccination coverage have not been stark. But the situation has worsened now with STs having only 52.2% coverage while General has 75%. Full vaccination coverage too shows a very high degree of class based inequity. For the lowest wealth quintile the coverage is just 43.2% while for the highest wealth quintile it is 80.7%. Alarmingly, the percentage of children between 12-23 months of age with no polio vaccination in the state is 32.1% in the lowest wealth quintile while for the highest, it is 7.8%.These issues need to be remedied fast, and the districts where there was a fall as well as the districts with a low coverage need to be the focus of such interventions.



Source: DLHS Fact Sheet

Contraceptive prevalence

The contraceptive prevalence rate had increased by two percentage of points from around 61 to 63 percent in DLHS-1 to DLHS-2 and then to 65 percent in DLHS-3. The rates however are more evenly distributed among districts as contraceptive prevalence rate (CPR) for any method is below 60 percent in eight districts of Maharashtra and it is the lowest in district Jalna (55.6 percent). The prevalence of female sterilization is more than 60 percent in districts of Wardha, Osmanabad, Solapur, Satara, Kolhapur and Sangli. In district Gadchiroli female sterilization is lowest (32.6 percent) followed by district Mumbai (37.2 percent). The use of condom is least (1.5 percent) in district Gadchiroli and highest in districts Mumbai (Suburban) (9.6 percent) followed by Mumbai (9.3 percent). The Unmet need for contraception during DLHS-2 to DLHS-3 is continuing almost the same level of 13-14 percent.



Source: DLHS Fact Sheet

Post-Delivery Complications

According to the latest DLHS results, more than three-fifths (65 percent) of women in Maharashtra had faced at least one delivery complication. The main cause of delivery complications were obstructed labour (71.4 percent), premature labour (46 percent), prolonged labour (33.7 percent) experienced by women who had still or live births since January 1, 2004. Delivery complications were lowest in Ratnagiri (44.2 percent) and highest in Ahmadnagar (79.6 percent).

More than one-third (38.7 percent) of women in Maharashtra had post-delivery complications. The major problems during post-delivery period were lower abdominal pain (54.5 percent), followed by high fever (47.1 percent) (Table 4.12). Post-delivery complications were lowest in district Mumbai (Suburban) (15.6 percent) and highest in district Buldana (69.4 percent). Among the women who had post-delivery complications, 87.7 percent had sought treatment in district Latur and 46 percent in district Nandurbar. Only in seven out of 35 districts women who had post-delivery complications more than 80 percent of them sought treatment. (DLHS-3 Maharashtra report) Improved accessibility to free care should be a very high priority in the coming years. Detailed tables on available and relevant indicators between DLHS 2 and DLHS 3 are given in the annexure.

CHAPTER 2
HEALTHCARE DELIVERY SYSTEM IN MAHARASHTRA

In the context that is discussed already in the chapter on health indicators, an analysis of the health sector of Maharashtra becomes very relevant. Maharashtra has a three tier public health system, comprising of Primary Health Centres (PHCs), sub-centres (SCs), Rural hospitals/ Cottage hospitals, Sub District hospitals spread across rural & semi-urban areas, District hospitals, multi-speciality hospitals and medical colleges located in urban areas. A broad overview of the public healthcare delivery system is given in the following section with a focus on time trends as well as regional inequities.

a. Distribution physical infrastructure in health: Rural/urban, Regional , and inter district disparities

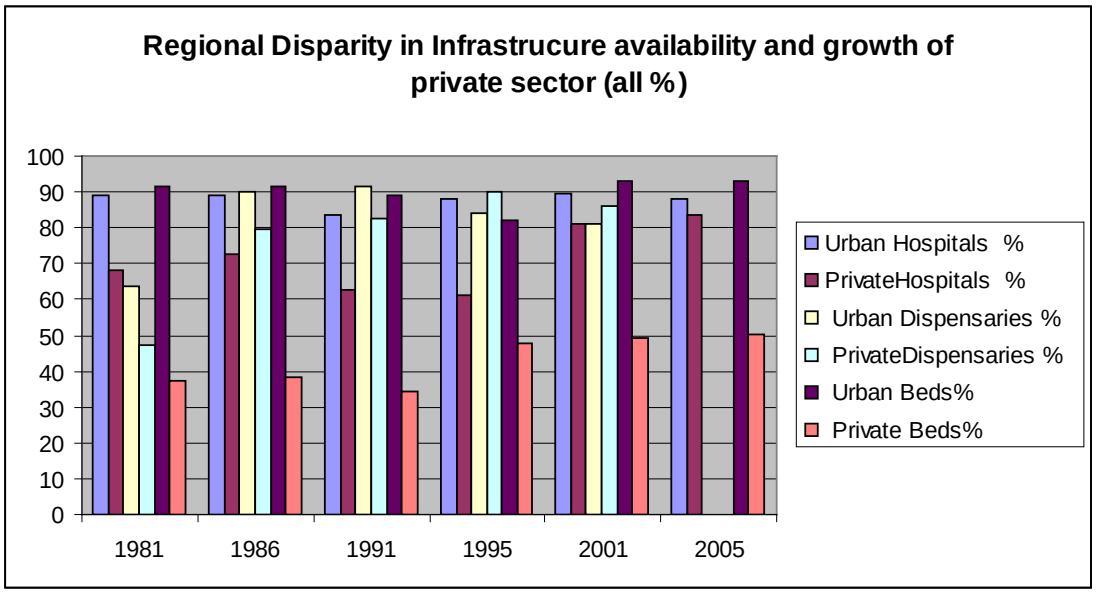
Despite its impressive overall health infrastructure as shown in the next table, rural – urban disparities as shown in Figure 2 impacts access to healthcare. Most public as well as private hospitals are in the cities and while the urban hospitals are also used in significant numbers by those living in villages, various adversities that they face in accessing these healthcare facilities cannot be ignored. The graph shows that in 1991 urban areas had 8 times more hospitals and 13 times more beds than rural areas but in 2005 this disparity worsened to 13 and 19 times, respectively. (SATHI 2008)

Table 4 Public health services provided by the State Government (2010)

Type of institution	No. from ESM
State level Hospitals	498
District Hospitals	23
Sub District Hospitals with capacity of	
a) 50 beds	56
b)100 beds	23
c)200 beds	3
Community Health Centres	458
Rural Hospitals /Cottage Hospitals	386
Primary Health Centres	1,816
Sub Centres	10,580
Primary Health Units	172
Mobile Health Units	61
Women Hospitals	8
Mental Hospitals	4

Dental Hospitals	3
TB Hospitals	5
* *Category Used is Rural Hospitals(CHC)/ Cottage Hospital-*	
Source: Directorate of Health Services cited in ESM 2010-11	

Graph 4: Availability of Health Infrastructure Across Urban/Rural Areas



Source: Health Information of India, CBHI, Govt. of India, various years cited in SATHI (2008)
Note: Rural and Public % are not included since Total = Rural +Urban / Public +Private

The situation of rural-urban disparities is clear in some of the survey findings presented in the district level tables given in annexure as table 1 . Across districts, most of the villages have no government health facility. Most do not have access to health workers too. Overall, it is seen that only 43% of Maharashtra villages have a government health facility. At the same time, a noticeable feature of villages in Maharashtra is that 30.2 percent of them have private clinics within the villages. Regional disparities exist with Marathwada and Vidharbha region having much less percentage of villages with public health facilities than the Maharashtra average. Jalna has the lowest percentage of villages with public health facilities at 25%. Similarly, the state average is 38.9% for availability of doctors in the village and here again, 19 districts, constituting 58% of all the districts score much lower than the state average. Anganwadi workers appear to be available all across the state.

With regards to accessibility of health facilities to the sampled villages, the latest DLHS survey found that 37.5 percent of villages have Sub-Centres within the village itself and as many as 77.7 percent of the villages have it within 5 km. Only 2.7 percent of the villages have a government dispensary within the village and 11.4 percent have Primary Health Centres (PHC). However in some districts it is shown

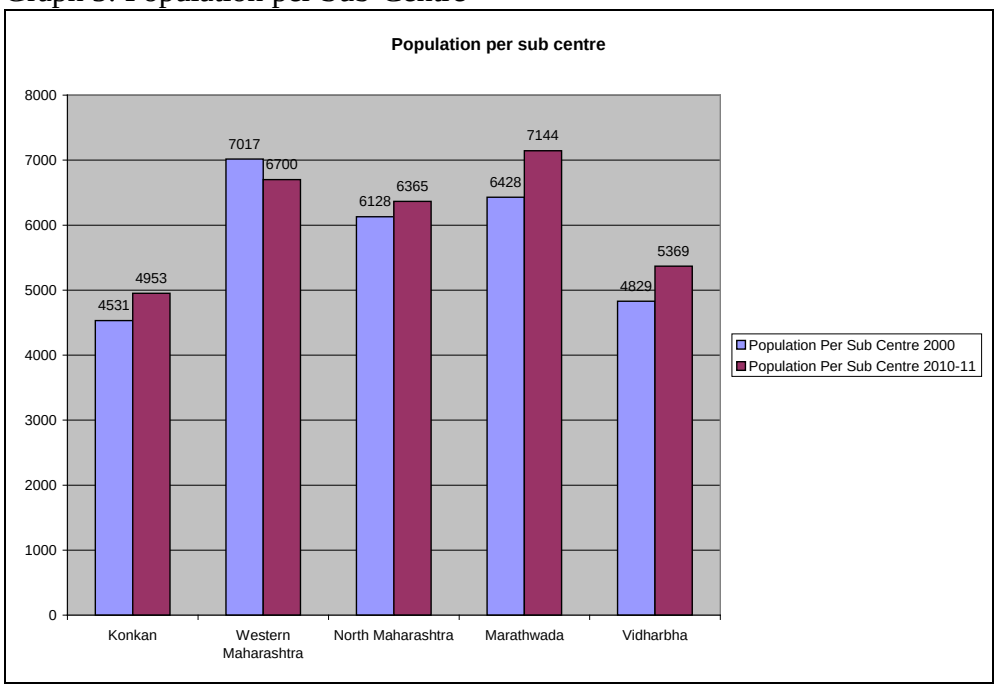
that the percentage of villages with doctors are higher than the percentage of villages with any health facility. Although it is an impossibility given the definitions used, it is possible that private/Ayush doctors may have been included in the latter. The DLHS village questionnaire asks about the 'Availability of health provider in the Village (staying and/or visiting)'. Some difference may be due to the visiting doctors. (DLHS III Report).

Average for ASHA availability has been abysmally low at 9.7%, with 22 districts reporting less than the state average. However, this data is from 2007-08 and the availability of ASHAs seem to have improved considerably over time. According to the latest Project Implementation Plan of NRHM, 58954 ASHAs have been appointed in the state as of December 2010. Since the number of villages in Maharashtra according to Census 2001 is 43722, this implies that the coverage has become much better lately. However, as recent studies show, major concerns remain. A study conducted at Palghar Taluka in the Thane district in as late as 2011 showed that despite training being given to ASHAs, many lacunae exist. 45.9% of ASHAs part of the study had received less than a secondary level education. A total of 67.1% of ASHA workers were not aware of the appropriate preventive measures for vitamin A deficiency. A significant 19.9% of the ASHAs did not feel the need for referral even for a child with diarrhoea , unable to drink or breast feed. Similarly, in acute respiratory tract infections, 23.9% of ASHAs did not know to refer a child with fast breathing. 50.4% of ASHAs considered a baby crying for more than 3 hours following immunization not worth referring to a first referral unit. [21]

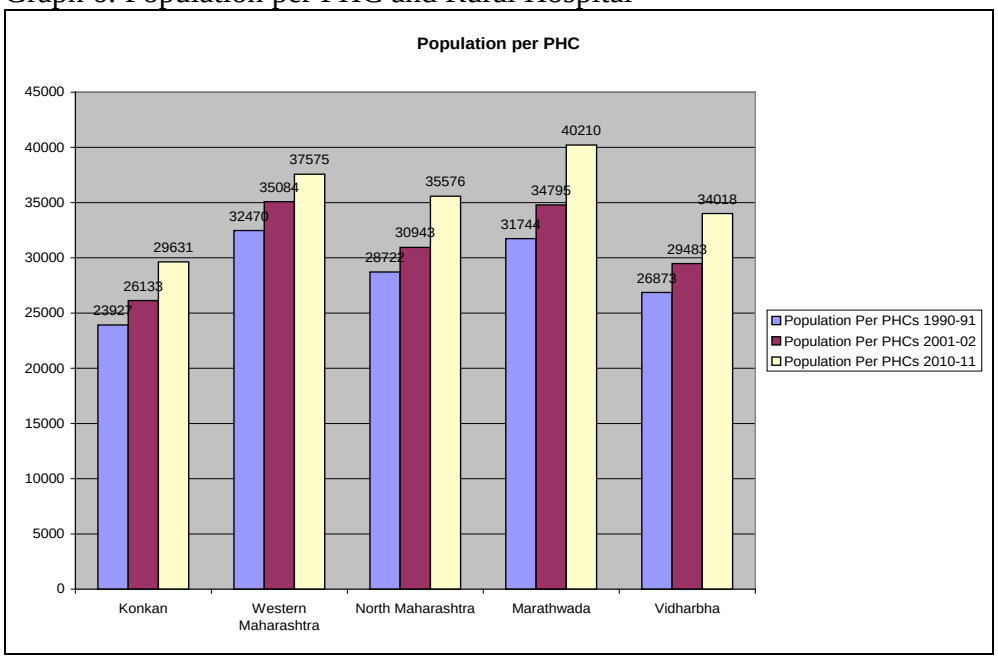
In the following section, some effort is made with the data acquired from the Department of Health to analyse the trend in terms of population per Sub Centre, population per Primary Health Centre, and Population per Rural Hospital to see the availability of health care facilities in the rural areas, and how it has changed over time, for regions as well as districts. The inter regional as well as inter district inequities in such population ratios will be looked at. The following set of graphs present the region-wise spread of facility population ratios and how they have changed over the last decades:

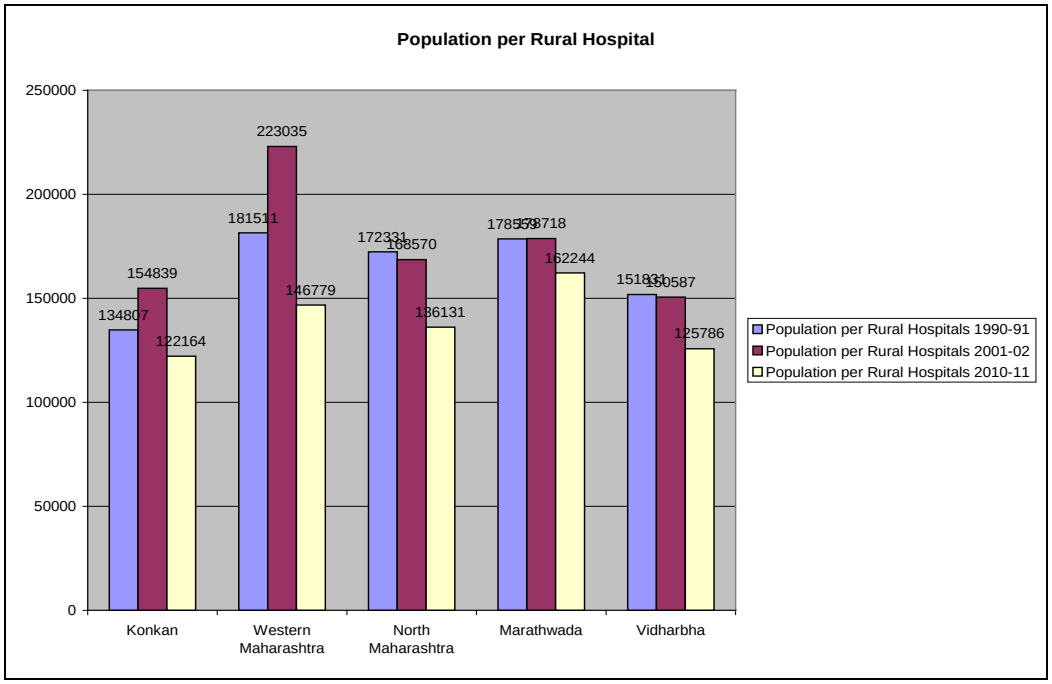
[21] Shrivastava SR, Shrivastava PS. (2012), Evaluation of trained Accredited Social Health Activist (ASHA) workers regarding their knowledge, attitude and practices about child health., Rural Remote Health, 12(4)

Graph 5: Population per Sub-Centre



Graph 6: Population per PHC and Rural Hospital





Source: Government of Maharashtra, Directorate of Health Services

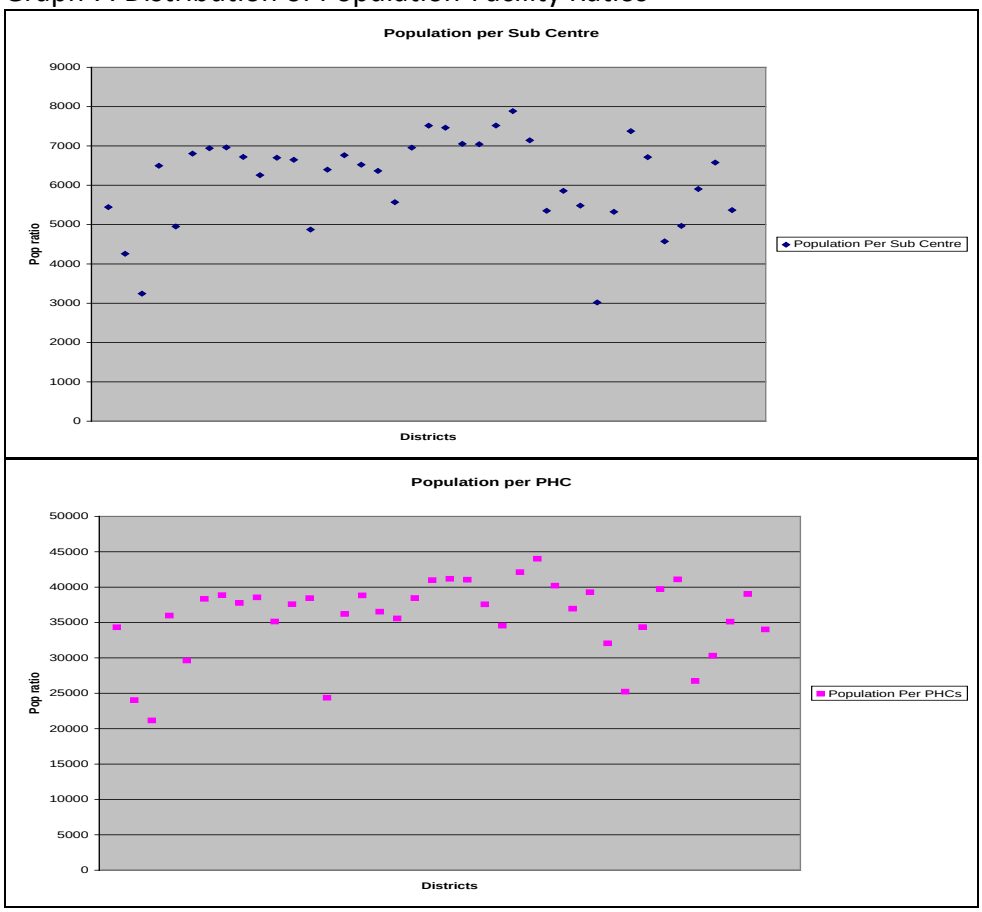
As can be seen clearly from the trends presented above, it is clear that while population ratios for the facilities that are the backbone of the primary healthcare approach have worsened across the board, population ratios for Rural Hospitals have somewhat improved, particularly during the last decade. However, the national norm for population coverage per sub-centre as laid down in the year 1987 was 3000 for tribal and 5000 for plain areas. Similarly, it was fixed at 20,000 to 30,000 per PHC and 80,000 to 1.20 lakh per Rural Hospital. While policy documents proudly proclaim that Maharashtra was the first to fulfill these norms in India, the current state of affairs (as of 2010-11)paints a sorry picture. While all the regions were near or better than the norm in 1991, even if we ignore the norms for the tribal areas, the latest data[22] indicates that among the five regions, only Konkan fulfills the norm for PHCs. Scientifically, even this would be an erroneous assumption to make, since we are ignoring the large tribal areas in the four districts under Konkan region. If tribal area norms are applied for these areas, then Konkan ratio too will be far from the ideal norm.

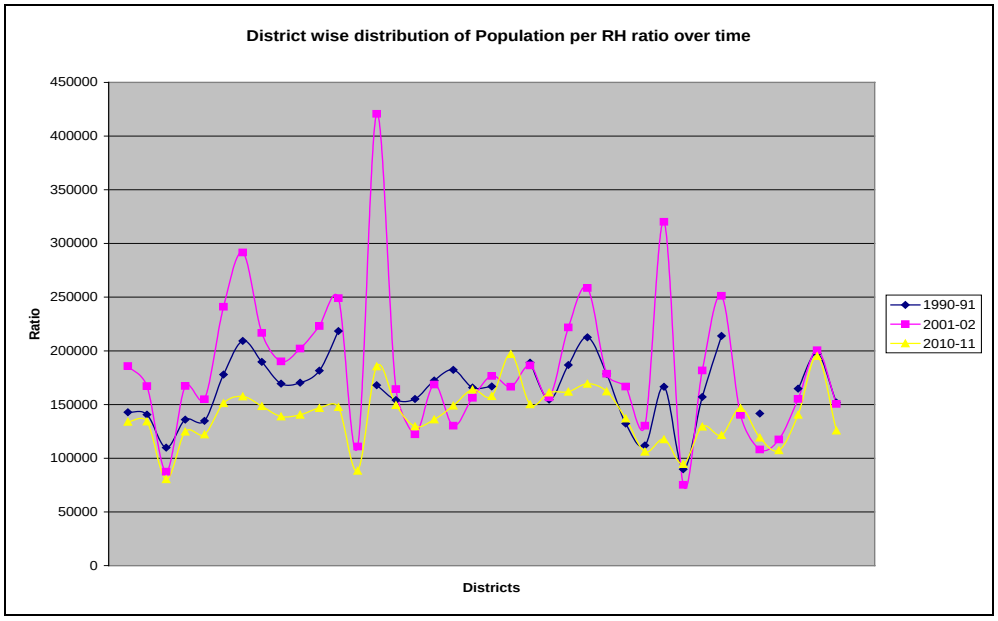
Likewise, in the case of population ratios for Sub Centres, four regions namely Western/North Maharashtra, Vidharbha and Marathwada fare poorly vis-à-vis the norm, and only Konkan has a Population per Sub Centre ratio that is better. Here again, we ignore the tribal areas in the region, and if they were taken into consideration, the ratio would worsen substantially and Konkan would also join the other four regions. While the population ratios for the Rural Hospitals have improved in the last decade, it remains a matter of concern that still there is no region that has a ratio that is equal to or better than the ideal population norm of 1,20,000 for normal areas (The tribal area norm is 80,000).

[22] Pertaining to 2010-11.

A look at the district level disaggregated graphs reveal that in the case of sub centres as well as PHCs , there are very clear inter-district inequities of availability. Even in a relatively better off region like Konkan, the districts show a wide variation, from Sindhudurg with a population to Sub Centre ratio of 3244 to Raigad with a ratio of 6496. Of all the districts only 6 have a population ratio which is under the normal norm of 5,000. Likewise only five districts have a population per PHC ratio which is better than the norm. Interestingly, the Sub Centre data indicates that the district with the best population ratio is Gadhchiroli. However, DLHS survey results reveal that this relatively better coverage however does not translate into access to better care. However, with Rural Hospital, it is seen that along with an improvement in the population ratios, the inequities between districts are also coming down as indicated by the graph below. This is in part as a result of the recent upgradation of various Rural Hospitals across the state. Detailed district level tables are attached in the annexure.

Graph 7: Distribution of Population-Facility Ratios





Source: **Government of Maharashtra, Directorate of Health Services**

Note: For the year 2011 we have also taken into account the Sub District Hospitals that were actually RHs before so that comparability is maintained. Many RHs were upgraded in the last decade into SDhs of 50 as well as 100 beds.

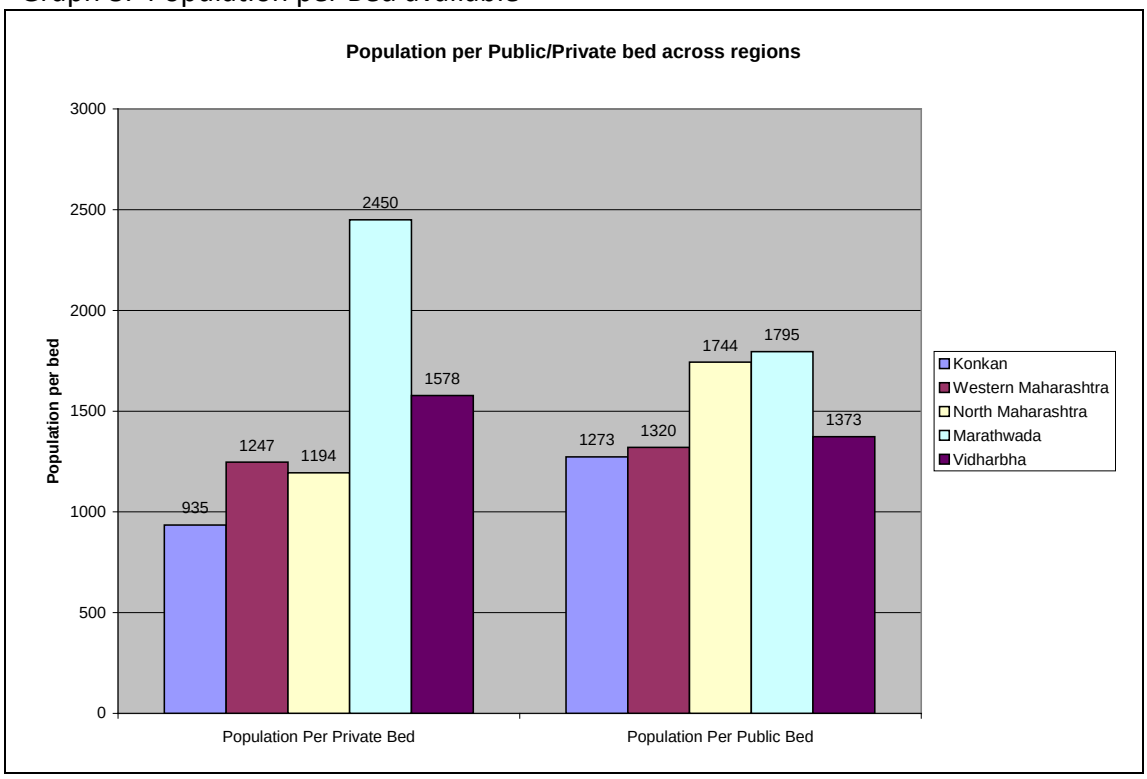
If Maharashtra's health system needs to be successful in fulfilling the public health goals, it needs to focus on the referral mechanism and make sure that it is working well. If the lower rung hospitals are serving larger populations than some reasonable norm or if staffs are missing in lower rung hospitals, it will invariably cause unnecessary crowding in the hospitals higher on the hierarchy, and affect general quality of care. There is a need to have a health care strategy with an increased focus on PHCs. An analysis of public expenditure across primary, secondary and tertiary sector revealed that the state spends 26 per cent towards tertiary health care services (against a suggested share of 10 per cent as per the NHP, 2002). At the same time the state spends 35% on primary care against the norm of 55%. This funding priority of the state has an inherent urban bias as most tertiary care is concentrated in urban centres and Mumbai. (NIPFP, 2010)

As discussed earlier, mere availability of health facility as indicated in an improved population ratio does not necessarily mean better access. A survey conducted in 2010 found that only 82% of the total facilities surveyed were accessible as against 93% as reported by the government. (NHSRC, 2010) .

b. Public/private distribution of beds and regulation of the private sector

Since lack of data on the private sector is a main problem, a comparison between public and private sector may not be possible. However, the comparison of region as well as district wise population per beds ratio between public and private sector does throw up some interesting results. In the following section, we have tried to use the data available with the DES, accessed from district authorities to estimate the district level public-private distribution of hospital beds. One thing that is clear in the data for public and private sector based on DES figures is that the inter-region/district differences in the population –bed ratios are markedly low in the public sector. The low concentration of private sector in less developed regions is also borne out, when one looks at the district level data given in the annexure as Table 3.

Graph 8: Population per Bed available



It is in the context of such wide variations in the availability of health care facilities as shown in the population per bed ratios in the private sector that regulation of the private sector by the government becomes significant. There seems to be some welcome movement towards a consensus that health care is a rightrecognising this right implies that governments have obligations and regulation of the non-state actors like the private health sector falls within this domain. The large private sector operates without any standards of care or regulation of cost. It runs parallel to the public sector with no obligation to fulfill public health goals and . It is therefore necessary that this sector be regulated and made accountable. In doing so the plurality that exists in the sector needs to be kept in mind.

The Bombay Nursing Home Registration Act is the Act for the registration of private hospitals in Maharashtra. The Act was made in 1949 and was applicable only to the Mumbai city. Later it was amended and made applicable to four districts of the state namely Mumbai, Nagpur, Pune and Solapur. Further through an amendment in 2005, it was made applicable to entire state of Maharashtra. A recent study by CEHAT (2011) of 261 nursing homes (less than 30 beds) from 11 districts of the state found that 25% of hospital owners in Maharashtra were not aware about the law which reflects the apathetic attitude of the medical profession. This was borne out in the workshops that CEHAT organised where several doctors said that the BNHRA was not implemented in their districts and that they were still registered only under Shops and Establishment Act. The fact that hospitals can actually function and flourish without even registering them as hospitals, as mandated by law is a cause of concern. This is rather serious and also indicative of the poor implementation of the law by the state health department.

In spite of the presence of the BNHRA 2005, even registration of facilities is poorly implemented in the state. The SHSRC 2009 gives the total number of private facilities registered under BNHRA as approximately 7648. Even in districts where studies have established that the private sector is dominant, the numbers on the BNHRA register do not reflect reality. For example, a study in 2009 had listed 368 private hospitals with 30 or less beds within the limits of Nashik city itself. However, the BNHRA list has only 56 private hospitals in Nashik district as a whole. The same study had listed under-30 bedded private hospitals in Amaravati City and Aurangabad city too, and came up with estimates of 232 and 174 respectively.[23] For the respective *districts*, where logically the numbers should be higher, BNHRA list has a much lesser number.

A study conducted by CEHAT[24] on the growth of health care facilities in four cities of Maharashtra found that the geographical distribution of the facilities in four cities in Maharashtra was highly lopsided. While the private sector grew rapidly in part responding to the increasing population rate and high economic development in certain pockets, the growth rate of the public health facilities remained abysmally low with an overburdened system affecting people's access. It was observed that geographical placing of the public facilities is very important, as an undue concentration of public facilities were found on certain pockets, thus defeating the logic of a hierarchical referral system. The study also points at the non availability of both public as well as private health facilities for the urban poor living on the periphery of the city as observed in Aurangabad and Nashik. A recent study conducted in Nashik puts the figures at one private hospital bed for 643 people, and one public hospital bed for 1693, and in total, one bed for 470 population (Ashtekar 2010). In situations like this, there is an urgent need to consider geographical norms for private hospitals within the cities to facilitate a more equitable distribution of health services.

[23] CEHAT (2011) , Private Health Sector in Maharashtra: A study of private hospitals, CEHAT, Mumbai

[24] Anandi Dantas (2011) Mapping of Urban Health Facilities in Maharashtra, unpublished , Cehat Mumbai.

The study by CEHAT (2011) found that most hospitals did not fulfil the minimum requirements as laid down in the law. The study found that 56% of the hospitals under study did not have a single qualified nurse, more than 50% hospitals did not have a resident doctor (24*7), and only 14 of 114 maternity homes had a midwife.[25] An important and related issue is that of unregulated proliferation of medical technology that have public health implications. According to the latest (2010-11) Economic Survey, Maharashtra is the second largest state in India both in terms of population and geographical area[26]. The 2011 Census (provisional) estimates show that the state has a population of 11.24 Crores, with a sex ratio of 925. It is also interesting to note the historic decline of sex ratio in Maharashtra – from 978 in 2001 to 922 in 2001 and 925 in 2011, which is only marginally better for the overall population.

It is also observed that the proportion of child population in the age-group 0-6 within the total population has come down considerably – from 14.11% in 2001 to 11.43% to 2011. It is a matter of major concern that the child sex ratio has in fact declined between 2001 and 2011 –to 883 from 913 in 2001. Child sex ratio has been falling from 1991. [27] The unregulated access to high end technology has contributed considerably to sex-selection. Lakshmi Lingam & Amita Pitre (2008) note regarding the situation in Maharashtra:

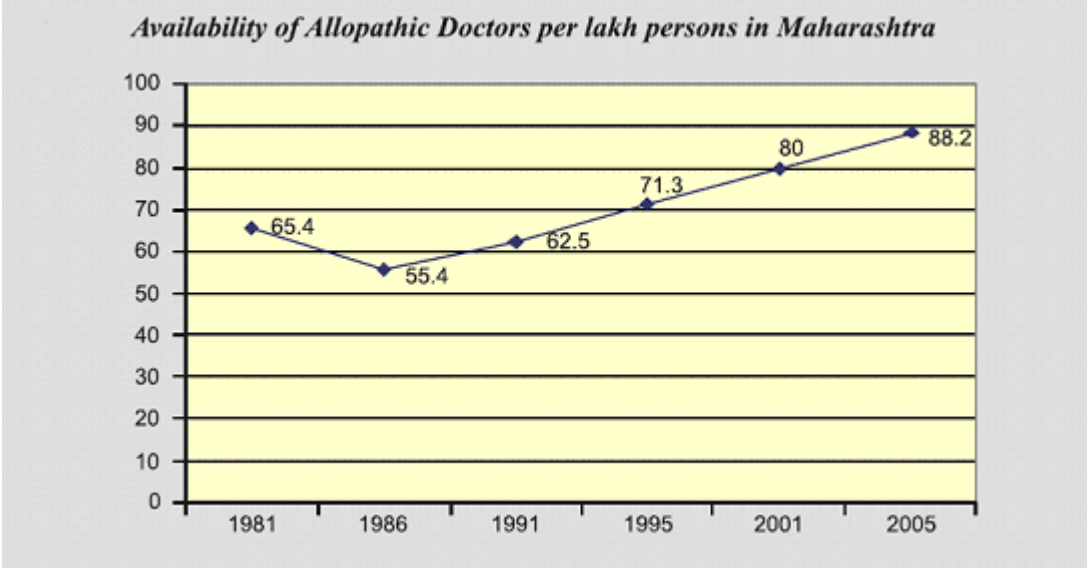
> Attaining the objective of a small family and simultaneously also fulfill the desire to have at least one son becomes a compulsive reason for utilising sex determination tests (like ultrasonography). The growing private sector and the ease with which ultrasound can be administered has made facilitating sex detection a lucrative business proposition. As a result, the districts that are most developed on several indicators also have masculine juvenile sex ratios. Despite the existence of the PNDT Act the implementation in Maharashtra is abysmal.[28]

The government's focus on population control also contributes as couple who would want only one child on the average prefers a male child rather than a female child given the nature of the patriarchal society. The lack of regulatory mechanisms for private sector is one the main factors for this decline as sex determination is possible only with the connivance of the medical profession.

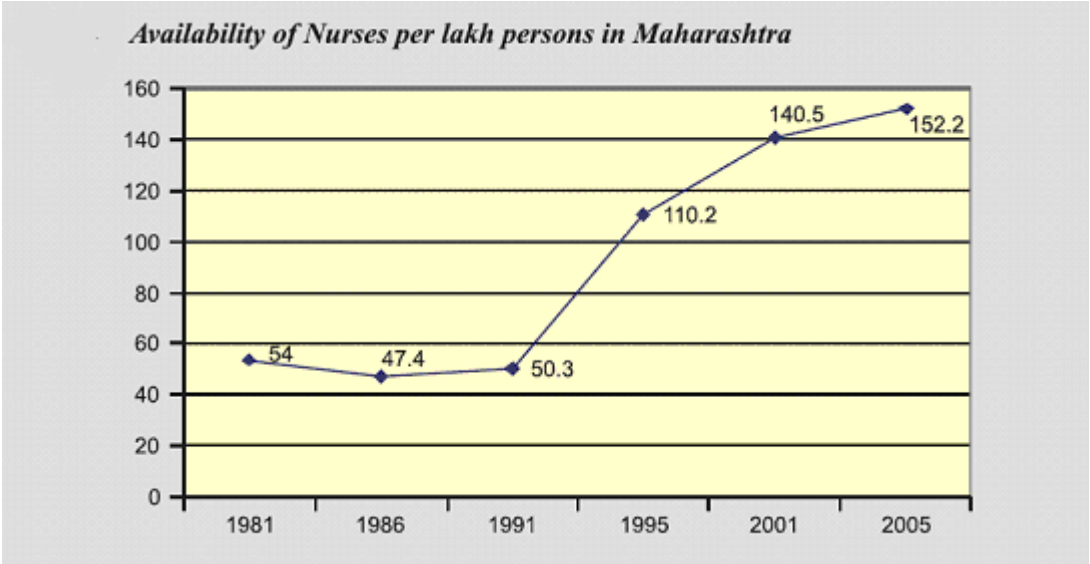
[25] CEHAT (2011) , Private Health Sector in Maharashtra: A study of private hospitals, CEHAT, Mumbai
[26] Economic Survey 2010-11, Maharashtra
[27] http://censusindia.gov.in/2011-prov-results/data_files/maharastra/maha_at_aglance.pdf
[28] Lakshmi Lingam, Amita Pitre (2008), Gender Inequities in Health Access and Outcomes, in SATHI (2008), Pune.

c. Availability of Health Personnel:

In Maharashtra, when public and private sector taken together, availability of allopathic doctors per lakh persons as well as availability of nurses per lakh persons have been going up as shown in the following figures. The enrolment for MBBS was about 5000 across 41 Medical Institutions across the state for 2010-11. Added to this there were 1618 Post Graduate students admitted in 28 institutions across the state. A majority of these students study in government and government aided facilities. Enrolment for BSc Nursing has been 1944 and that for Dental Graduation and Post Graduation was 2091 (Economic Survey 2010-11). There is a marked difference in the rates however, in that the rate of nurses has been going up at a much higher rate.

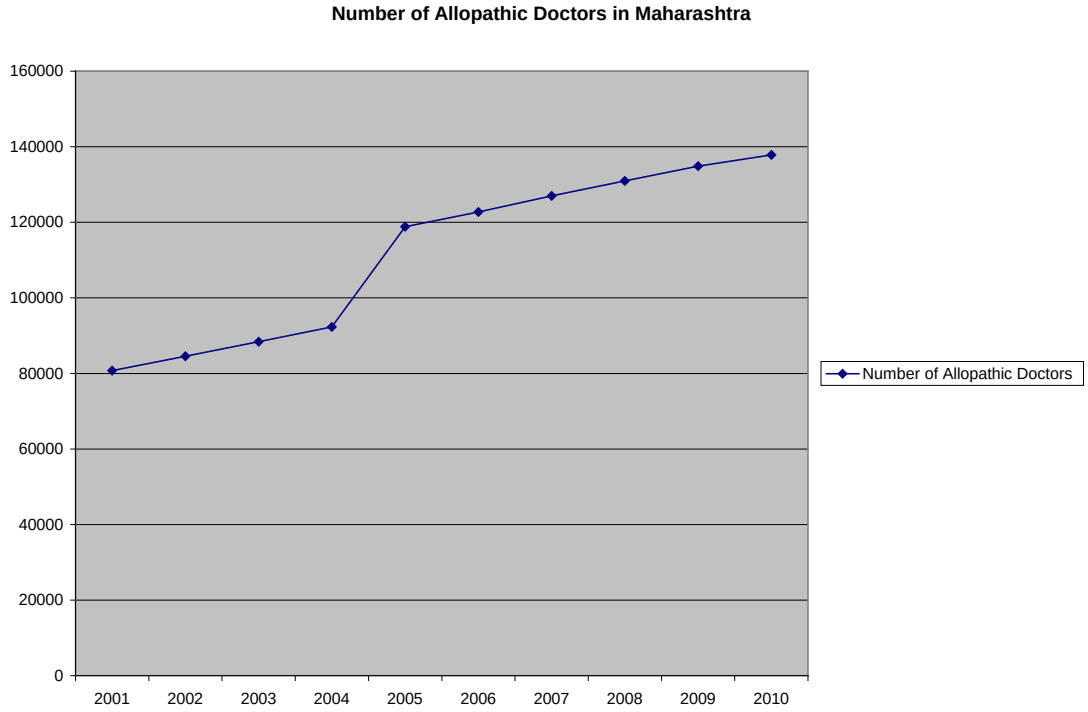


Source: Health Status Maharashtra (2009), Public Health Department, Maharashtra



Source: Health Status Maharashtra (2009), Public Health Department, Maharashtra

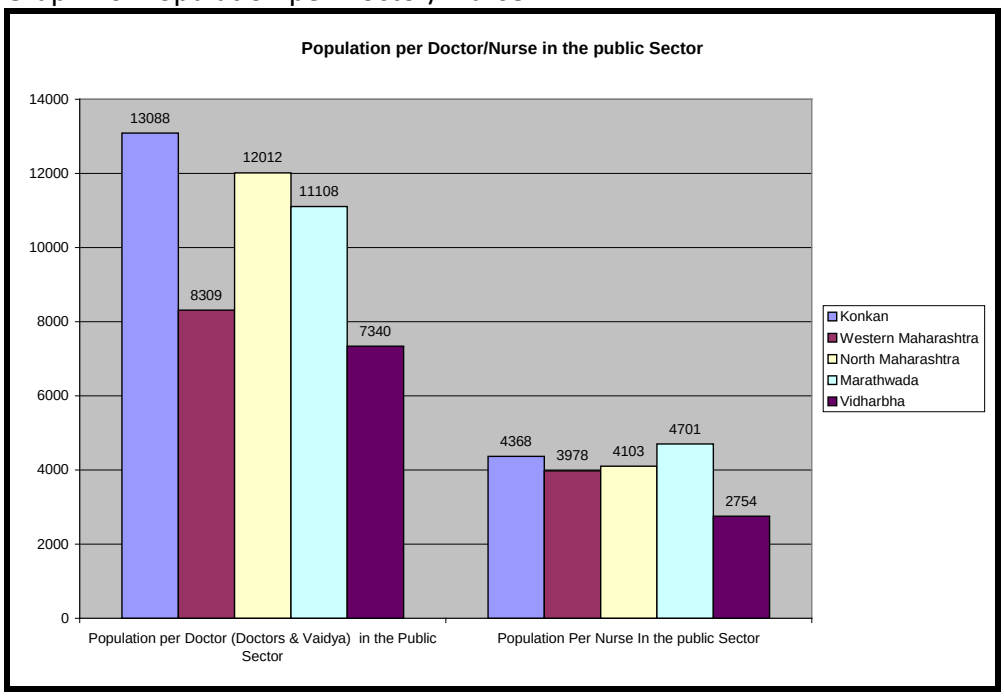
Graph 9 Allopathic doctors over the years



Source: CBHI, Government of India, Various Years

Anecdotal evidence suggests that a majority of the doctors thus produced join the private sector or choose to work outside the state. They also tend to settle in urban areas where it makes better economic sense to practice and this results in a lower availability in rural areas. This is supported by the data from public sector that we will discuss later, which shows a large number of posts lying vacant. While the overall situation may be improving in terms of doctor and nurse availability, there are apparent inter-regional variations in the population per Doctor and Nurse ratio in the public sector, as shown in Graph 8 based on data on the staff in government facilities. As per data from the latest District Socio-Economic Surveys, Vidharbha has the best population per doctor as well as population per nurse ratio in the public sector, while Konkan has the worse population per doctor ratio, and Marathwada has the worse population per nurse ratio. These stark inequities in the population per human resources need to be addressed at the earliest.

Graph 10: Population per Doctor/ Nurse



Source: Various District Socio-Economic Surveys, DES, Govt of Maharashtra

It was observed that inter-regional comparison of staff-population ratios hide a high degree of inter-district inequalities. For example, as the detailed table given in the annexure as Table 4shows, doctor availability within Vidarbha districts show sharp differences. While the average ratio for Vidarbha is 7340, the same region has districts like Buldhana, Washim and Yawatmal, with much worse ratios at 14458, 13915 and 12790 respectively. Paradoxically, Gadchiroli, the district in Vidarbha region with the best Population per doctor ratio, has also a very low *actual* coverage of health care. This is reflected in the very low percentage of institutional deliveries (23.5%) and also the coverage of full immunization of children (46.4%), as shown by the DLHS III survey results. In the first case, Gadchiroli is the worse performer, and in the latter, it is the third from last in terms of performance. Gadchiroli's case suggests that mere availability may not be sufficient although it is a necessary factor for outcome improvement.

15 districts have a population per doctor ratio that is more than 10000 and 23 districts have a population per nurse ratio that is more than 3000, depicting a poor availability of trained health personnel. Exacerbating the existing shortages in many districts is the tendency of government staff positions lying vacant as mentioned already. As evidenced in the following table, as substantial proportion of sanctioned posts in the public health sector in the state lie vacant. More than 50% posts of doctors and nurses lie vacant. With regard to doctors it is important to note that GoM recruited doctors from AYUSH for the PHCs and that is probably the reason for the low vacancies at the level of Junior doctors. For any facility to work at an optimum level, doctors as well as ANMs are essential. However there is a huge

shortage of ANMs which affects the kind of services being provided at the PHCs. Maternity services including abortion care is largely not available.

Table 5 Human resources in Maharashtra

Category	Sanctioned	Filled	Vacant	**Vacancy % as against sanctioned posts**
Maharashtra Medical Health Services Grade A - Senior	1436	600	836	**58.22**
Maharashtra Medical Health Services Grade A - Junior	7281	6566	715	**9.82**
General State Services Grade A & B	513	237	276	**53.80**
Health Assistants (Male)				
Local Sector	2878	2035	843	**29.29**
State Sector	1722	1498	224	**13.01**
Multipurpose Health Workers (Male)				
Local sector	6850	6011	839	**12.25**
State Sector	5360	3883	1477	**27.56**
Health Assistants (Female) / Lady Health Visitors	2266	2023	243	**10.72**
Multipurpose Health Workers (Female) / Auxiliary	12395	11904	491	**3.96**
Nurse Midwife				
Contractual Staff				
Total Pada Swayamsevak	11482	10853	629	**5.48**
Female Pada Swayamsevak		9946		
NRHM (Contractual Based)				
Additional 2nd ANM At Sub Centre	8936	4168	4768	**53.36**
Staff Nurse at PHC	1294	654	640	**49.46**
LHV at PHC	1799	1161	638	**35.46**
Posts under RCH II In Urban Areas				
ANM	1015	855	160	**15.76**

Source: Health Status Maharashtra (2009), Public Health Department, Maharashtra

Table 6 Availability of specialists in IPHS hospitals in state

Sr	Specialty	Regular	On contract (IPHS)	Total available	Not available	% available
1	Surgeon	109	64	173	160	52.0
2	Physician	76	49	125	208	37.5
3	Gynecologist	177	55	232	101	69.7
4	Pediatrician	154	55	209	124	62.8
5	Anesthetist	118	65	183	150	55.0
6	Total	634	288	922	743	55.4

Source: PIP 2011-12, NRHM, Maharashtra

According to the fourth Common Review Mission Report of NRHM, Maharashtra government has taken a number of initiatives to guarantee availability of health personnel in its hospitals. The package of measures includes a hardship allowance given to MOs and specialists. The selection of MO has been brought out of the public service commission and given to Regional Deputy Directors, resulting in drastic reduction of vacancies. Seats for Post Graduation have also been reserved for MOs in service which will work as a strong incentive for young doctors to join. AYUSH doctors as PHC MOs have been used extensively. While regular posts are being filled in the state, there are a large number of vacant contractual posts: posts of 53% contractual staff nurses and 46% contractual urban ANMs are not filled by the state. It was also mentioned that irrational deployment of available resources has been observed in many instances in the state[29].

The non availability of specialists in IPHS hospitals in particular is proving to be a major problem for the public health sector. According to the 2011-12 Annual Programme Implementation Plan (PIP) of NRHM, the unavailability of specialists can be disaggregated as given in the Table 6. When considering the costs of specialist services in the unregulated private sector, unavailability of specialists in the public health care delivery system will have large negative implications on the poor's well being. This will happen directly as more and more patients will be forced to forgo care for financial reasons, and indirectly when high health care out of pocket expenditure will either directly affect other necessary expenditure or result in indebtedness or sale of assets as will be discussed in the next chapter.

[29] Fourth Common Review Mission National Report (2011)

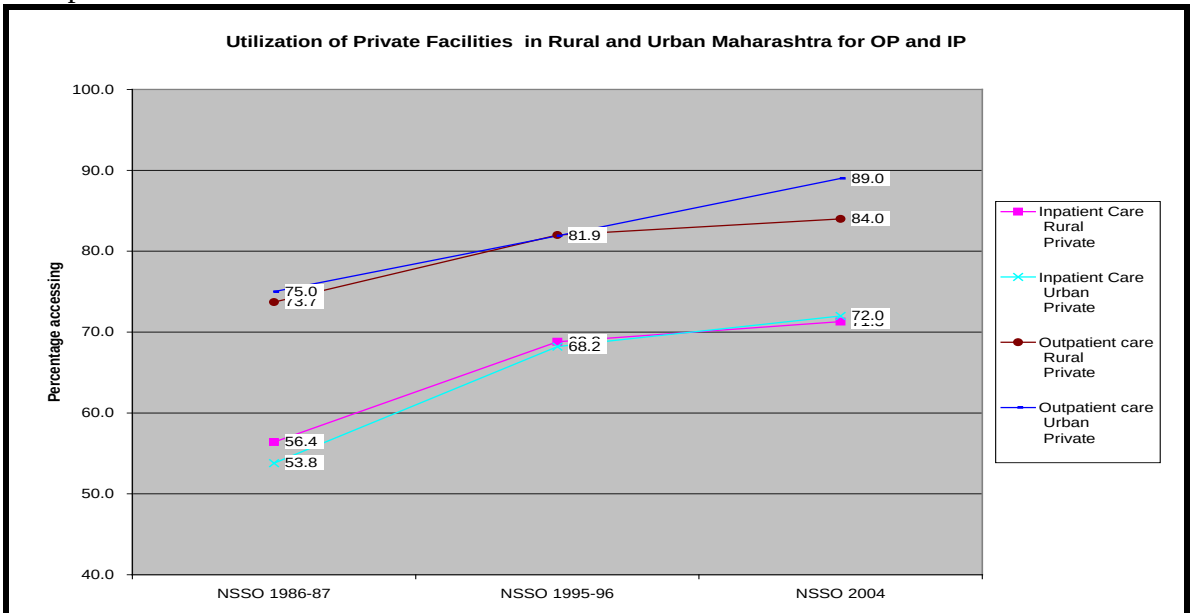
CHAPTER 3

UTILISATION , ACCESS, AND HEALTH CARE EXPENDITURE ACROSS CATEGORIES

As one would expect, the utilization data from NSSO rounds reflects the picture of highly inadequate public health facilities. The following figure reveals that for both inpatient and outpatient care, use of the public sector facilities has been on the decline in Maharashtra as not many efforts at increasing numbers or ensuring availability of trained health personnel have been bearing fruit over the years. Various national survey results that offer us a time trend of the utilization of private facilities presents a situation where most of the patients depend on the private sector healthcare providers in case of out patient care. The same situation prevails, although to a lesser extent, in terms of hospitalisation. According to the latest NSSO estimates, only 11 per cent of urban outpatient care, 16 per cent of rural outpatient care, and about 28 per cent of rural and urban inpatient care each are being handled by the public health facilities in Maharashtra.

It needs to be emphasised here that private health sector in Maharashtra is a very diverse entity, with unaffordable corporate hospitals at one end and unqualified street corner 'quacks' on the other. In a policy environment of low or no regulation,. it opens up the possibility that while a large number of patients seem to access the private sector for care, what is being received by a large majority of them would be care of a questionable quality, causing indebtedness. While there are no systematic studies available that compare quality of care given in public as well as public sectors in Maharashtra, accessing private sector, in short, is no guarantee for accessing quality care in the current situation. However, as the following chart suggests, over two decades or so for which we have data, private sector inpatient utilization as well as outpatient utilisation jumped on the average by about fifteen percentage points .

Graph 11: Utilization of Private facilities for OP and IP in Maharashtra



Source: Various NSSO Rounds

At the same time, as NSSO morbidity survey findings for Maharashtra indicate, a substantial proportion of patients from the lower socio-economic strata choose to access public sector[30]. To cite just one example, as the district level table attached in the annexure as Table 5 will show, a substantial number of women from many districts still choose to access government facilities for pregnancy and childbirth related services. In a state where overall 70% of the outpatient care is handled by the private sector, it is interesting that there are many districts like Sindhudurg, Gadchiroli, Nagpur, Chandrapur, Gondiya, Sangli, Thane and Ratnagiri, where a substantially high number of women choose to go to public facilities for their ante-natal checkups. While some of these are districts where there is a low private sector presence –because of lack of any financial incentive in operating there- the primary reason seems to be the high costs prevalent in the private sector vis-à-vis the public sector. The NSS morbidity round found that a significant percentage of patients cite financial Reason for not seeking health care treatment .

Nevertheless, it would be incorrect to conclude from this data that public sector's relevance has come down, as the prevalent policy wisdom seems to be. Policymakers seem to prefer demand-side financing across the board, whereby focus is being shifted from providing health access through state facilities to financing visits to the private facilities. This may push down the proportion of the patients who opt for public sector facilities even further, as in the case of *Rashtriya Swasthya Bima Yojana*, where of the 1015 hospitals enrolled for the scheme from Maharashtra, only 8 are public hospitals. This would mean that for the 1817255 BPL families across the state in terms of hospitalised care, private sector becomes the only option. In the next national survey, this is bound to have a further negative impact on public sector access.

Inequities in Reported Morbidity and Utilisation[31]

Illness is the immediate indicator of health status which comes to ones mind when we think of health status. Logically one would believe that illness incidence or prevalence would be higher amongst the poor and the underprivileged sections of society. Data does not always support this hypothesis because illness is not only a physical phenomenon. Illness is also socially determined, that is perception of illness is based on myriad factors, and not only by medical diagnosis. Thus it is not surprising that Kerala, which has the best health outcomes, like lowest mortality rates and highest life expectancy, actually reports the highest morbidity rate or prevalence of illness amongst states in India. This is largely because illness perception has a very close association with access to ameliorate that perceived condition. Thus if a population has access to a good public health system that does not have any access barriers like user fees then irrespective of which population

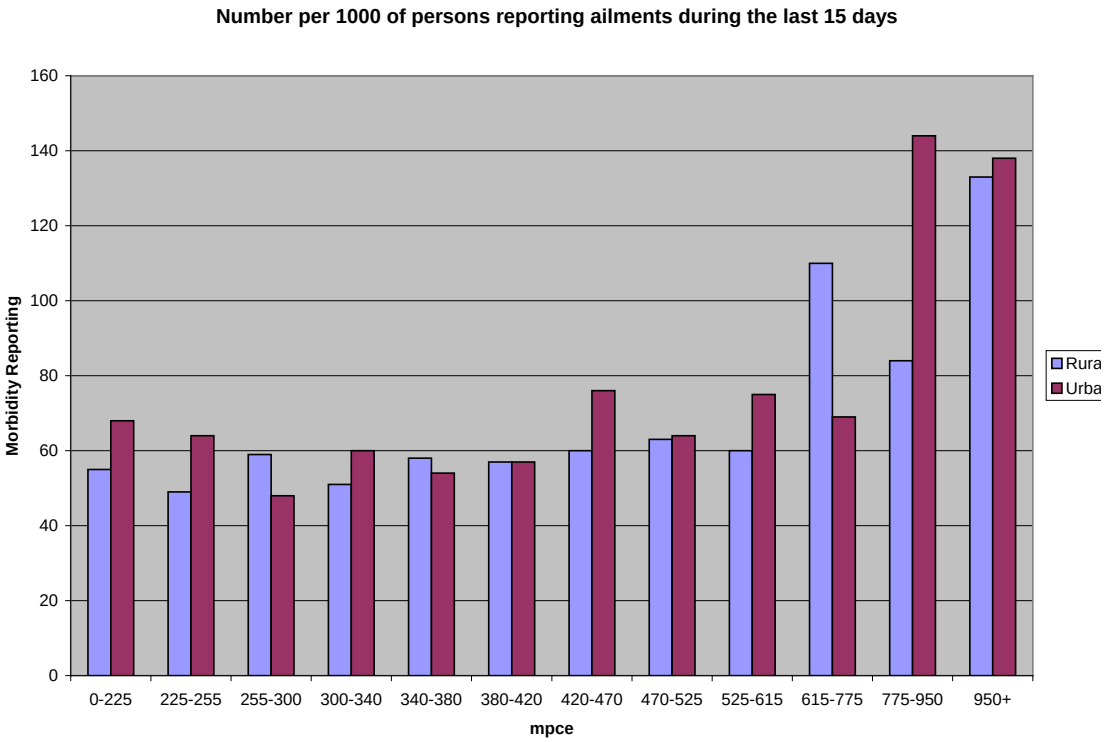
[30] SATHI (2008) *'A Report on Health Inequities in Maharashtra'* published by SATHI in collaboration with CEHAT and TISS. , Pune.

[31] This part depends largely on the earlier work from *'A Report on Health Inequities in Maharashtra'* (2008) published by SATHI in collaboration with CEHAT and TISS.

sub-group you belong to the variance in reported morbidity would be very low. In contrast if one has a situation where the public health system is weak and the private health sector dominant, like in Maharashtra, then it is very likely that morbidity reporting or perception will be a function of purchasing power, and we are likely to see strong variations in reporting of morbidity in that population, and that variation will mostly be that the more better off you are (economically or socially) the higher will be the perceived or reported morbidity (SATHI 2008).

According to the latest NSSO estimates, as presented in the following graph, reporting of ailments was found to be higher in high MPCE categories. Overall the reported morbidity profile shows health of vulnerable sections to be "better" than the privileged ones. This is a common scenario we see in areas having inadequate public health care facilities, and also validates the purchasing power hypothesis that we discussed above. Thus the poor and underprivileged, who often cannot afford private healthcare, ignore treatment of illnesses unless absolutely warranted. (SATHI 2008)

Graph 12: Morbidity Reporting across MPCE Categories

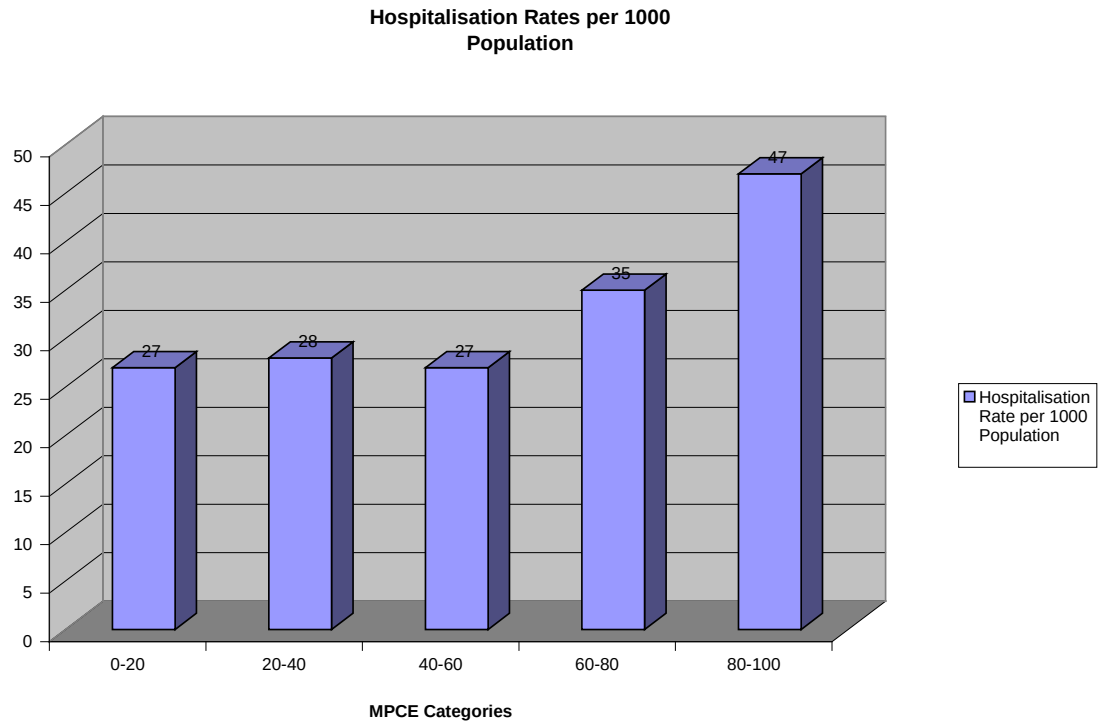


Source: NSSO 2006 cited in SATHI 2008

That the health system is highly iniquitous is also borne out by the fact that access to health care facilities is highly differentiated according to various categories. This is evident from utilisation data presented in national surveys like NSSO. In the following section we will try to explore the marked differences in healthcare access and related variables. As the next table shows, in line with the reported morbidity estimates, the hospitalisation rates too show an interesting socio-economic gradient. The lowest 20% MPCE category has a hospitalisation rate that is almost half of what

the upper 20% has. This seems to give further evidence to the purchasing power hypothesis, whereby only the ones that can afford medical care are getting hospitalised.

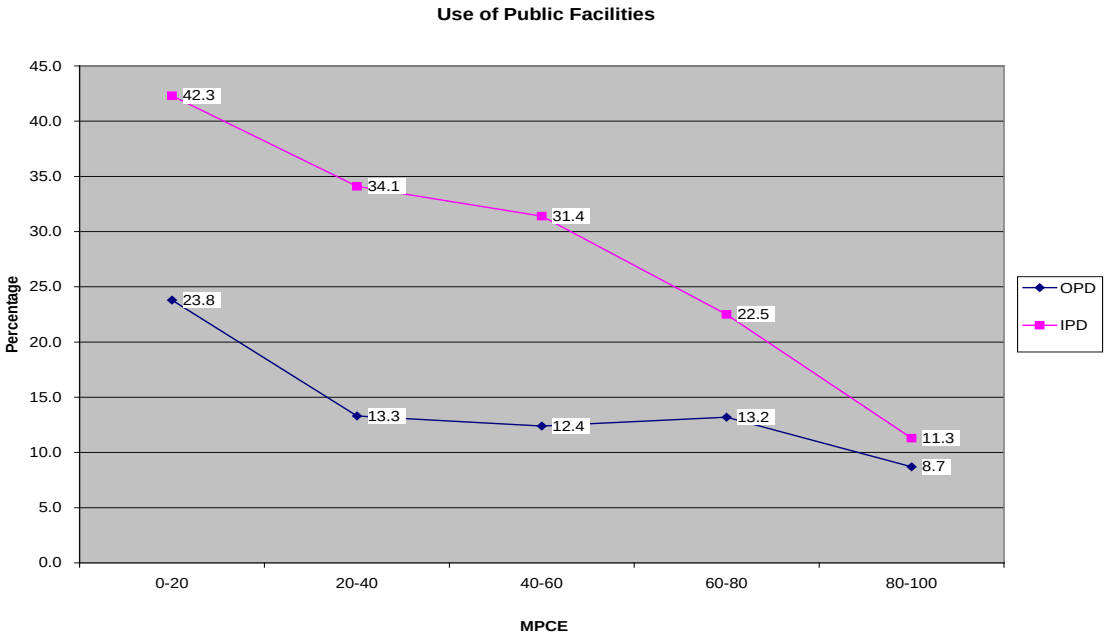
Graph 13: Hospitalisation Rates across MPCE Categories



Source: NSSO 2006 cited in SATHI 2008

Data on use of public hospitals across inpatient care and outpatient care when looked at across income categories, throws up a very interesting pattern of utilisation that substantiates the purchasing power hypothesis. As the following table based on NSSO data demonstrates, for inpatient care, the use of public hospitals by the lowest MPCE class is about four times that of the highest MPCE class. This clearly shows that low income categories of patients access government facilities than the high income categories. But since the overall dependence on the private sector is high, even at a proportionally higher rate of public health facility usage, the overall figures indicate very low level of hospitalisation rates for low economic classes.

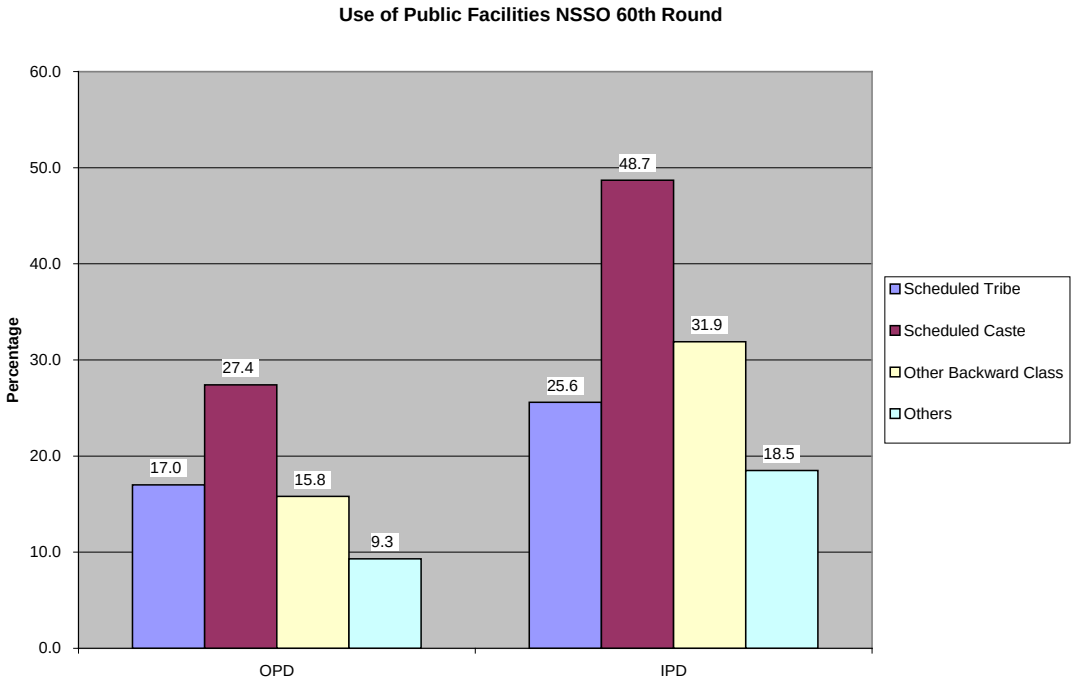
Graph 14: Use of Public Facilities across MPCE Categories



Source: NSSO 2006 cited in SATHI 2008

With regards usage of public sector facilities, a similar pattern is perceptible with regards different caste groups, as evidenced in the following diagram based on latest NSSO figures. It also points to the fact that there is a large caste-class overlap in Maharashtra. The diagram clearly establish that as a proportion of total care accessed, lower castes depend more on the public sector health facilities much higher than the upper castes. A cause of major concern is the very low percentage of public sector utilization by the Scheduled Tribe population. Since tribal districts are also districts of very low level of private health sector development, a dilapidated public health system in those areas would mean that the population receives substandard care. This evidence invariably points to the potential role that an effective public health system can play as an equalizer of socio-economic disparities.

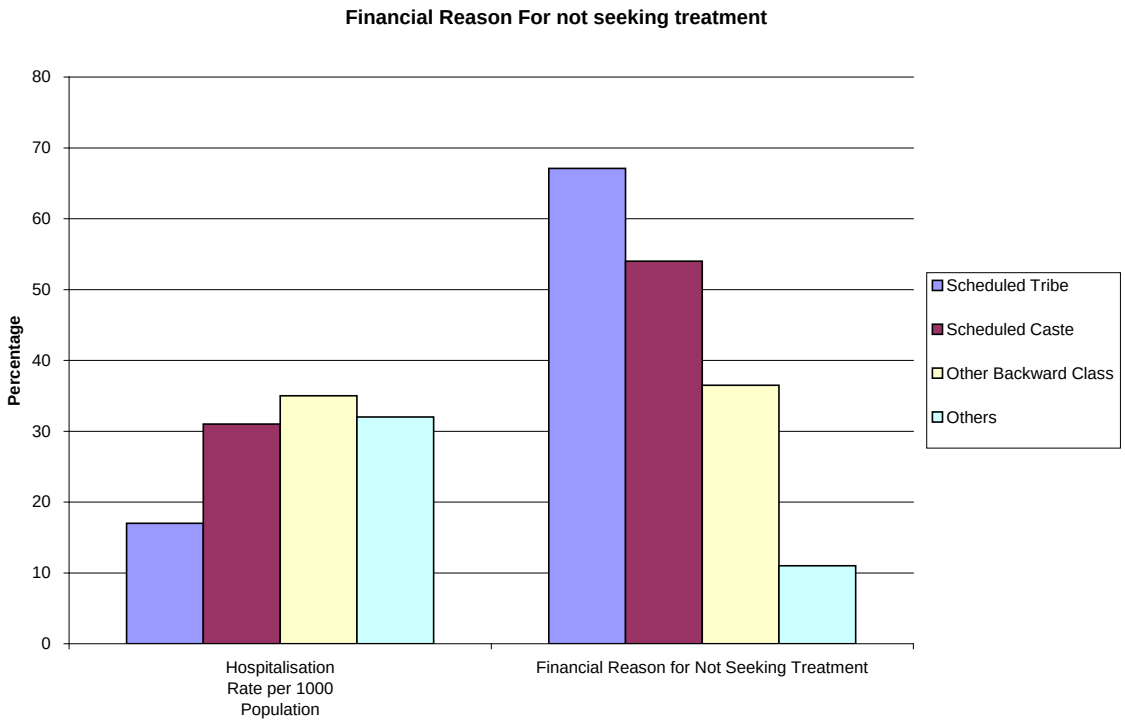
Graph 15: Use of Public Facilities by caste



Source: NSSO 2006 cited in SATHI 2008

Another related and very important issue is with respect to the patients who forgo treatment even when they are seriously unwell for a variety of reasons. Data from the latest NSSO survey that is presented in the next diagram clearly indicates that those who report financial reason for not accessing care are predominantly from the backward castes. And they also have a very low hospitalisation rate. This data conclusively proves that for underprivileged populations, financial cost seem to be the main barrier to health care. The extreme degree of inequity is evident when one considers the fact that for Others or Non Backward Classes, the same proportion – of patients choosing not to seek care for financial reasons- is just 11%!

Graph 16: Financial Reason for not seeking treatment: Caste-wise

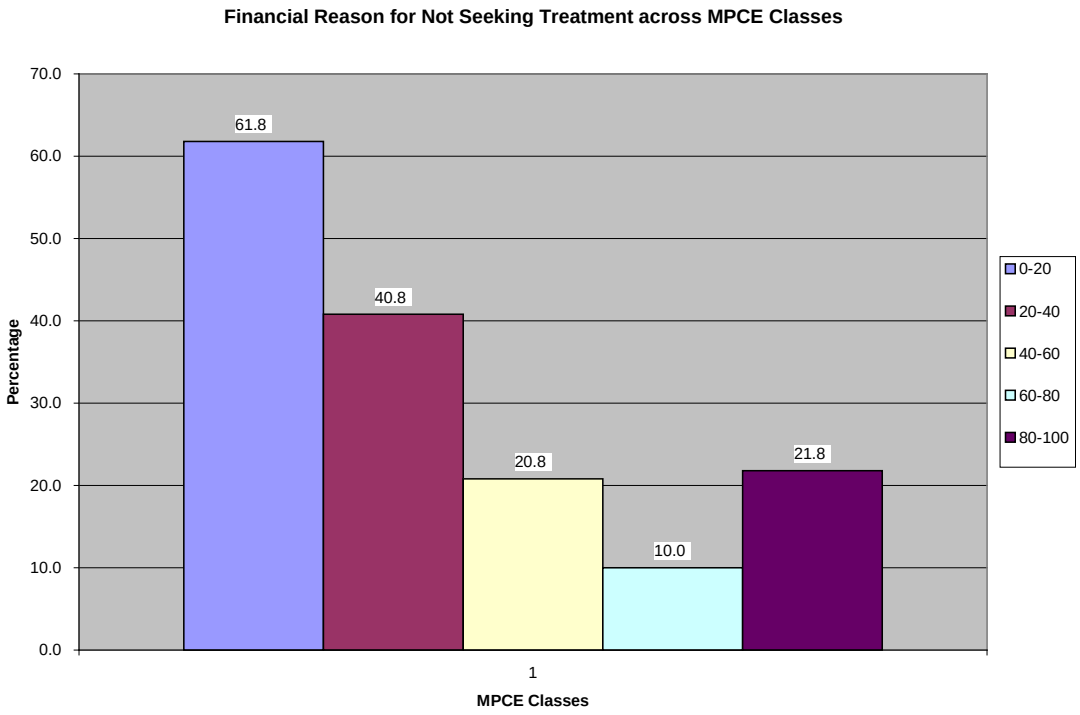


Source: NSSO 2006 cited in SATHI 2008

This is supported by the data on financial reason as an impediment to care arranged according to MPCE classes as shown in the next diagram. Between the richest and the poorest MPCE class, the difference seem to be about three times. It is amply clear that people from the underprivileged groups are denied health care to a large extent in Maharashtra. With a working public health care delivery system this trend can be very effectively reversed. However, the efforts of the government are in the direction of demand-side financing rather than strengthening of the existing referral system, as evidenced by the recent launch of RGJAY scheme[32].

[32] http://www.jeevandayee.gov.in/

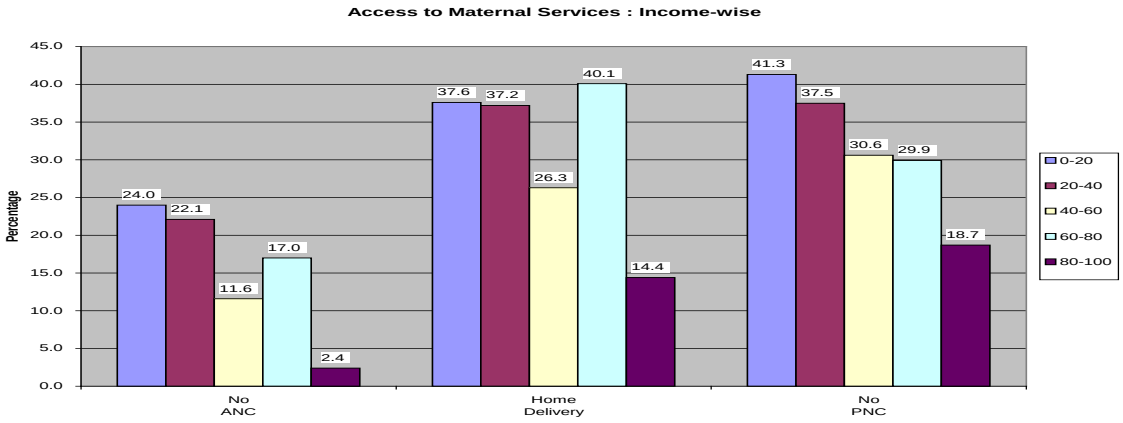
Graph 17: Financial Reason: MPCE Classes



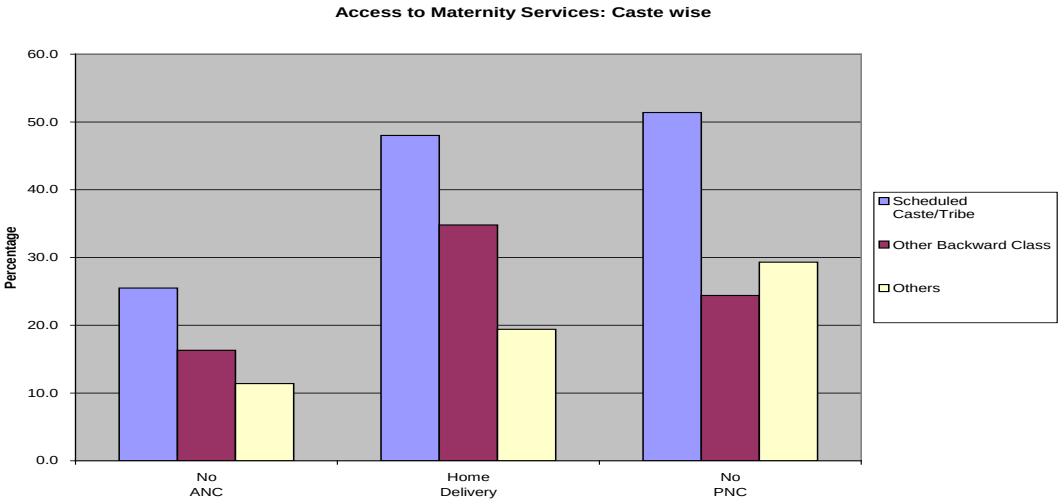
Source: NSSO 2006 cited in SATHI 2008

In earlier tables we have seen that patients from socially and economically deprived sections tend to depend on the public health care delivery system to access care. At the very same time, indicators like 'home delivery', and 'no PNC' in the following tables which are based on latest NSSO data show very clearly that it is members of the same underprivileged communities that are being denied even public care. This is evidenced in the following table where we can see a very strong socio-economic gradient in the way people are able to access PNC as well as ANC. While 25.5 per cent from SC/STs are unable to access ANC, within the other forward castes, the percentage is much lower at 11.4.

Graph 18: Access to maternity services across caste and class



Source: NSSO 2006 cited in SATHI 2008

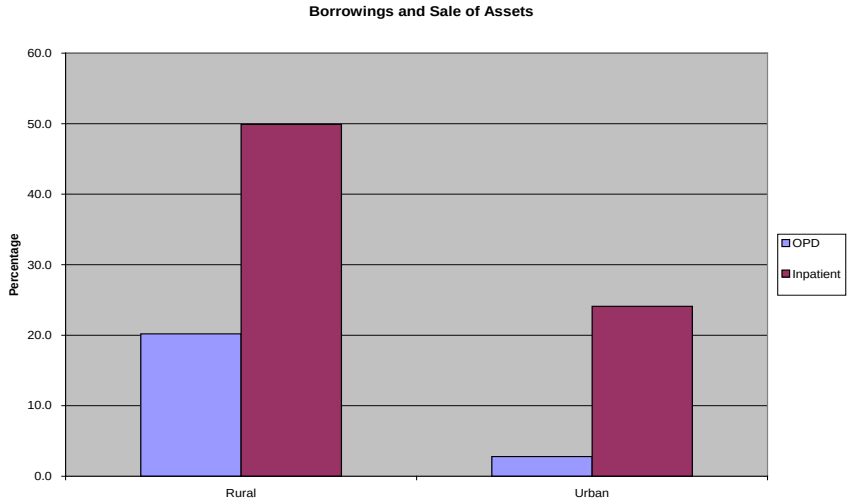


Source: NSSO 2006 cited in SATHI 2008

Cost of healthcare:

In the proportion of households who were forced to borrow or sell assets to seek health care, we can see a substantial division vis-à-vis socio economic categories. There are very strong rural urban divisions too within the group of households that had to sell assets or borrow to access care as shown in the next table where against 24.1% of urban households, 49.9% rural households reported sale of assets or borrowing to fund inpatient care. There is a very strong case for substantial investments in the public health sector.

Graph 19: Borrowings and Sale of Assets

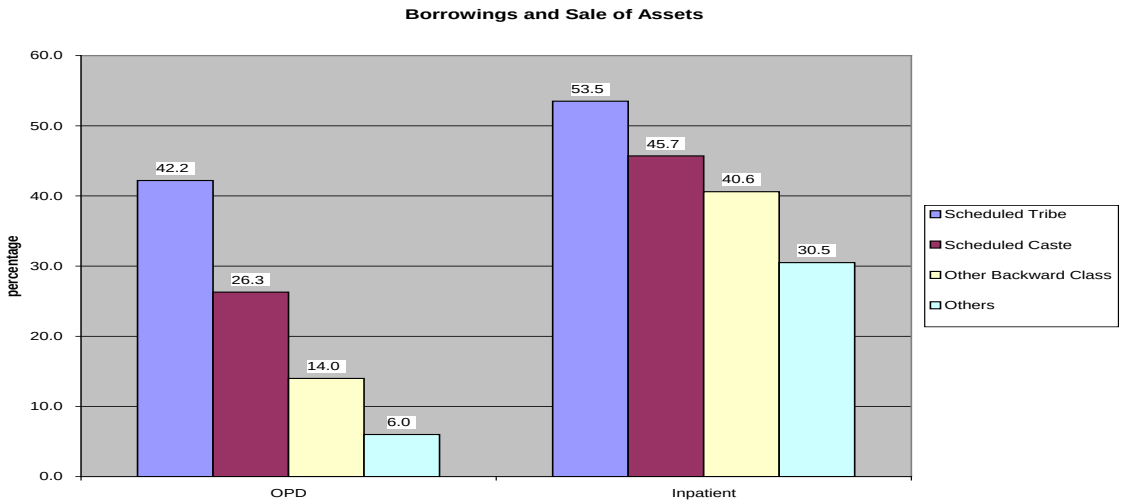


Source: NSSO 2006 cited in SATHI 2008

The next set of graphs show the distribution of households that had to borrow or sell assets to seek health care, according to caste as well as class categories. In the case of caste categories, it is very evident that the so-called backward castes and classes bear the brunt of high medical care expenditure that is forced on them by an inadequate public health care delivery system. For both inpatient as well as outpatient care, a significantly higher percentage of households had to resort to sale of assets or borrowings. In other words, medical indebtedness among these socio economic categories will be considerably higher, possibly pushing them into a downward spiral of ill-health and poverty. This is a distinct possibility as the data that is presented conclusively demonstrates that the lives of the underprivileged who are unlucky enough to be unwell are marked by medical care expenditure induced indebtedness, or, much worse, forgone care. A look at comparative figures from various NSSO morbidity rounds show that in 1986-87 , Maharashtra had one of the lowest proportion of patients whose ailments were untreated due to financial reason, in both urban and rural areas. By 2004, however, Maharashtra's proportion of ailments that were untreated due to financial reason crossed the national average for rural areas and increased almost six times for the urban areas.[33]

[33] Government of India (2007), Select health parameters : a comparative analysis across the National Sample Survey Organization (NSSO) 42nd, 52nd, and 60th rounds., New Delhi

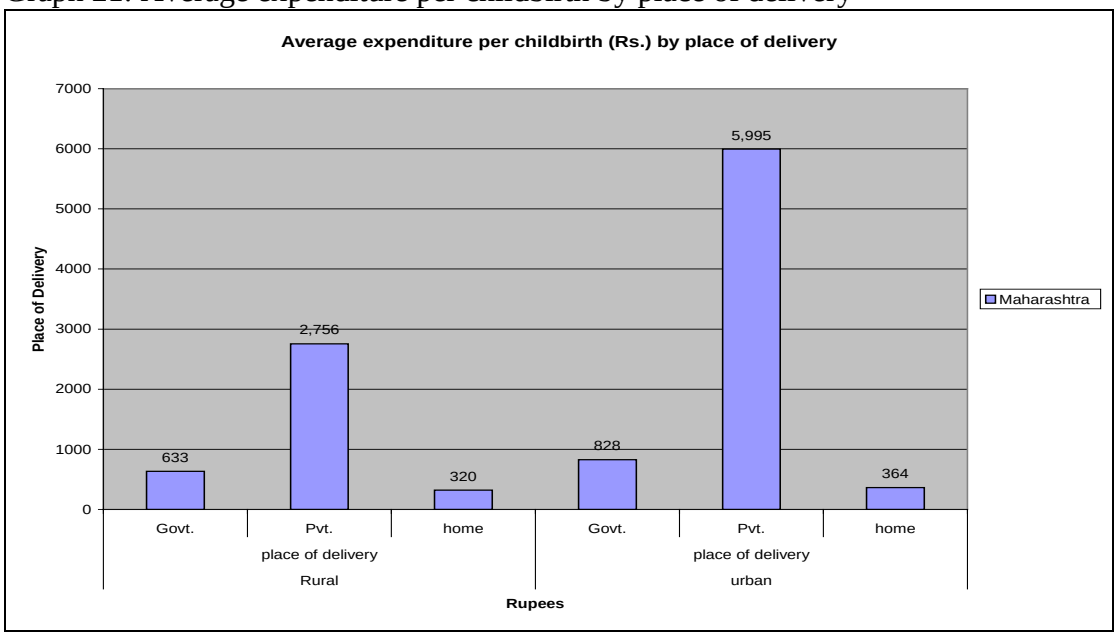
Graph 20: Borrowings and Sale of Assets



Source: NSSO 2006 cited in SATHI 2008

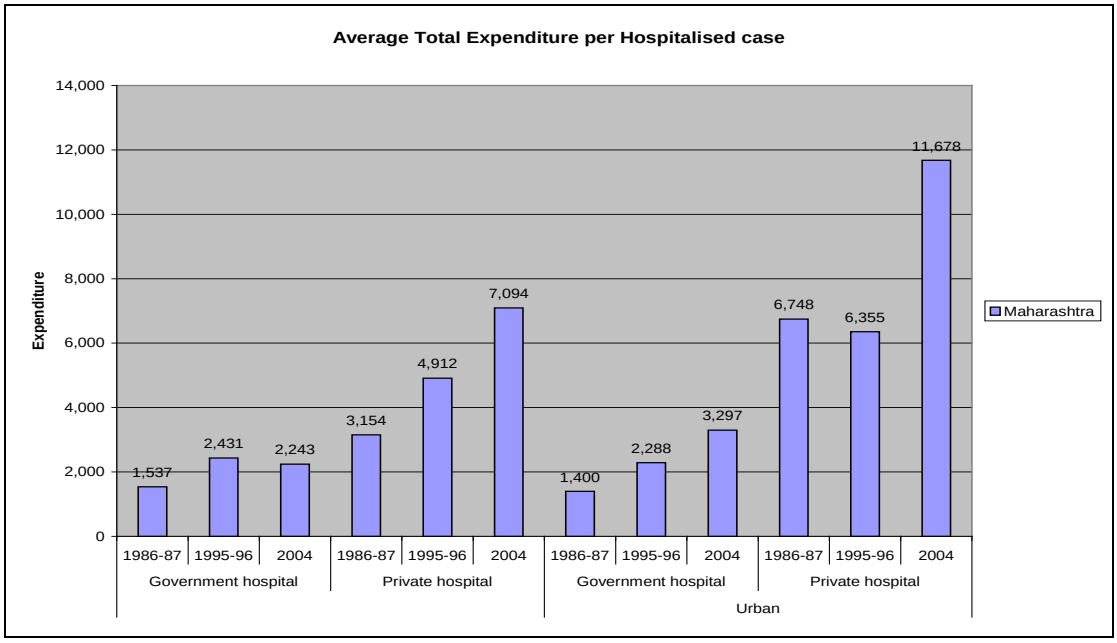
As the following figures demonstrate very clearly, at government facilities poor patients are able to access care and the overall expenditure is often just a fraction of what it would be at the private sector. For the same reason, the government facilities are visited more by the economically worse off. Detailed tables comparing Maharashtra expenditure to that of other states is attached in the annexure.

Graph 21: Average expenditure per childbirth by place of delivery



Source: WHO 2007

Graph 22: Average total expenditure per hospitalisation



Expenditure related data shows that health expenditure in the private sector has risen much faster than expenditure in the public sector. This follows that the shift from public to private sector has financial implications for the household, and it may affect equity. However, despite the low levels of utilization of public facilities in urban areas, there is also a potential demand for it. A study done by CEHAT in Mumbai to assess demand for public health services revealed that if well provided public health services are available then over 85% of households across classes would utilize them, including for even outpatient care. (Ravi Duggal and Dilip TR 2003, Demand for Public Health Services in Mumbai, CEHAT, cited in SATHI 2008)

The hike in average total expenditure per case that we observe within the last two decades in the expenditure in public hospitals in Maharashtra as presented in the previous graphs has a lot to do with the introduction of user fees in government hospitals in Maharashtra as part of the structural adjustment programme. Maharashtra state government introduced user fees in hospitals way back in the eighties, and the scope and scale have been steadily increasing with no visible effort of any roll back. By 2000, user fees were extended to all rural, women, cottage, district and non-project hospitals, while clear guidelines on exemptions have been largely absent (Thakur et al, 2005).[34] In 2001, the average user fee paid per patient at government facilities in Maharashtra was hiked steeply (Mahal and Veerabhradraiah 2005).[35] Recently, there have even been fresh proposals to start

[34] Thakur, H P et al(2005), Final Report on the External evaluation of User Fee Scheme , DHSS, Tata Institute of Social Sciences.

[35]Mahal Ajay and Veerabhadraiah N (2005), Financing and Delivery of Health Care Services in India, Commission on Macroeconomics and Health. New Delhi.

charging substantially for medical services at Civic hospitals in Mumbai and also a decision to hike user fees across the state (Asher 2010 and Shelar 2011)[36]. Though the officials maintain that the raises are very "nominal", in most of the cases it has been raised substantially or even doubled. The rate of a case paper, which is Rs 5 at present, has been increased to Rs 10. The rate of an MRI has been increased to Rs 2,500 from Rs 1,600; blood tests to Rs 25 from Rs 20; X-ray to Rs 40 from Rs 20. This is being done by a state whose capital itself has 1.2 million people who earn less that Rs 20 per day (Mumbai HDR, 2009)[37].

Rules that target the poor from the non poor were incorporated in the user fee mechanism to achieve the objective of equity (Thakur et al, 2005).[38] However, as a broader study observed, 'the implementation of this rule has been the most serious area of neglect in the administration of the entire user fee structure." (Shariff and Mondal, 2006)[39] Evidence from a study conducted by CEHAT had shown that the increased user fees introduced in 2000 has impacted utilization at a public hospital in Maharashtra. In 1998-99, that is before user fees, this hospital had an annual OPD attendance of 170617 or 467 per day and after user fees in 2001-02 it came down to 158811 or 435 per day and in 2005-06 dropped further to 144804 or 402 per day(Duggal and Raymus 2007)[40].

Maternal health care coverage – caste, class differentials

As a preventive service of the government, ANC as well as PNC should be looked carefully from the point of its coverage in the state. Though the ANC coverage is seen to be improved from DLHS II to the latest round to 34%, it is still lower than other states such as Kerala, Tamilnadu and Karnataka. Even though the DLHS III data talks about 90% of the women being aware of the ANC program it is not getting reflected in the utilization of the service provided. In spite of the inter regional disparities, western Maharashtra shows a larger ANC coverage compared to the rest of the regions in the state (Annex. Table). The highest coverage being in Satara (56%), followed by Pune (53%), and Sangli (50%). Aurangabad and Beed were observed to be the least covered districts. A recent study conducted in Nashik found that the main reasons for inadequate utilization of ANC services were financial, unawareness

[36] Asher, Sandeep (2010), "Civic hospitals in Mumbai may soon charge user fees", *Daily News and Analysis,* Feb 3, Mumbai. And Jyoti Shelar (2011) http://www.mumbaimirror.com/article/2/20110124201 10124030542650b1292a05/State-hospitals-to-hike-rates-soon.html

[37] MCGM (2010), Mumbai Human Development Report 2009, Oxford University Press, New Delhi..

[38] Thakur, H P et al (2005), op cit.

[39] Shariff, Abusaleh and Mondal, Subrata (2006) User Fees in healthcare institutions, in *Securing Health for all: Dimensions and Challenges*, (Eds.) Sujata Prasad and Sathyamala, IHD.

[40] Duggal, Ravi and Raymus, Prashant (2007), Understanding Unit Costs: An exploratory study of selected health care facilities in Maharashtra, Unpublished Report, CEHAT Mumbai.

about ANC services, unavailability of suitable accompanying person and unavailability of transport facilities[41]While talking about the utilization of various sources of health facilities for ANC, educational status and the residence were the major influencers. The DLHS data showed that about 60% of the women in urban areas accessed ANC care from a private health facility which is to do with the huge private sector availability in urban areas. While 66% of the women educated for more than 10 yrs availed care from private health facility as shown in Table 7, majority of the women from SC and ST category accessed the care from a government facility. Two reasons could be the cost factor and also, non-availability of private care in the less developed areas.

Table 7 : Percentage of women (aged 15-49)4 who received any antenatal check-up (ANC) during pregnancy

	Place of antenatal check-up			
	Any ANC check up	Government health facility	Private health facility	Community based services
Age group				
15-19	91.7	38.6	47.8	2.6
20-24	92.4	44.8	44.8	2.8
25-29	91.6	43.9	47	3.5
30-34	91.2	43.3	47.7	3.4
35 +	87.7	47	43.1	2.7
No. of living children				
o	97.3	57	42.9	0
1	95.7	38.9	56.6	2.5
2	92.9	45.8	45.9	2.7
3	89.5	45.5	37.7	3.9
4+	81.8	48.5	28.3	4.6
Residence				
Rural	90	43.7	40.2	3.6
Urban	96.1	44	59.8	1.8
Education				
Non-literate	78.1	47.6	24.7	5.1
Less than five years	90.1	49.4	32.4	2.7
5-9 years	95.2	47.7	44.1	2.7
10 or more years	97.9	34.1	66	2.4
Castes/tribes				
Scheduled castes	93.5	54.4	34.4	2.1
Scheduled tribes	81.5	49.8	24.7	6.6
Other backward classes	94.9	44.2	50.5	2.8
Others	94.5	36.4	57.8	1.9
Wealth index				
Lowest	77.2	48.3	19	7.1
Second	88.2	51.3	27.6	3.6
Middle	91.9	47.4	38.3	3.2

[41] Sachin S Mumbare and Rekha Rege (2011), Ante Natal Care Services Utilization, Delivery Practices and Factors Affecting Them in Tribal Area of North Maharashtra, Indian Journal of Community Medicine, 36(4), pp 287–290.

Fourth	95.4	47.8	48.3	2.1
Highest	98.3	29.5	74	1.8

Source: DLHS III, Maharashtra State Report

Ante natal care incorporates various components including the measurements of weight and height, various examinations such as blood, urine and USG etc. While certain level of inequities could be seen by the residence in terms of the examinations done, a significant disparity could be seen between rural and urban women in terms of receiving the USG facility. This again holds true for the ST women where mere 24% of them have received the USG facility. Various other components such as the BP checking, and blood urine examinations seem to be influenced by the wealth index and the educational status of the women as the following table based on latest DLHS data illustrates.

Table 8 : COMPONENTS OF ANTENATAL CHECK-UP: Percentage of women (aged 15-49) 4 who received specific components of antenatal care 2007-08

	Weight measured	Height Measured	Blood Pressure Checked	Blood Tested	Urine Tested	Abdomen Examined	Breast Examined	Sonography
Residence								
Rural	78.5	48.1	68.4	69	70.6	66.3	46.2	42.2
Urban	90	58.2	87.9	88.2	88.8	82.7	65.5	70.9
Education								
Non- literate	60.6	36.7	48.7	50	51.3	47.6	30.9	22.6
Less than five years	77.2	45	65.7	68.1	67.6	64.1	43.5	33.9
5-9 years	85.5	53	78	78.3	79.9	75.5	54.3	52.9
10 or more years	94.2	61.1	90.3	89.9	91.5	84.9	66.6	73.4
Castes/tribes								
Scheduled Castes	83.9	55.8	74.8	75.1	77.7	72.2	51.4	45.2
Scheduled Tribes	67.2	40.9	56.3	58.3	57.9	53.9	34.8	24
Backward Classes	86.8	54.1	79.3	80.2	82.3	76.6	55	56.4
Others	85.5	52.5	79.8	79.2	80.5	76.2	58.8	62.8
Wealth index								
Lowest	60.1	37.4	46.1	49.5	48.6	45.3	27.8	16.2
Second	74.9	42.8	61.6	62.2	63.3	60.5	39.8	29.1
Middle	79.9	49.6	71.1	71.3	73.7	67.9	46.5	40.5
Fourth	87.2	54.8	81.2	81.5	83.6	78.1	58.1	60.3
Highest	94.6	61.3	92.9	92.2	93.1	87.8	71.1	82.5

Source: DLHS III, Maharashtra State Report 2007-08

Table 9 shows that the percentage of women receiving full ANC coverage is mainly influenced by the education and wealth index of women. The percentage of women who have not received any TT injections show a clear rural urban disparity. The data also indicates that the percentage is much higher amongst the non literate women

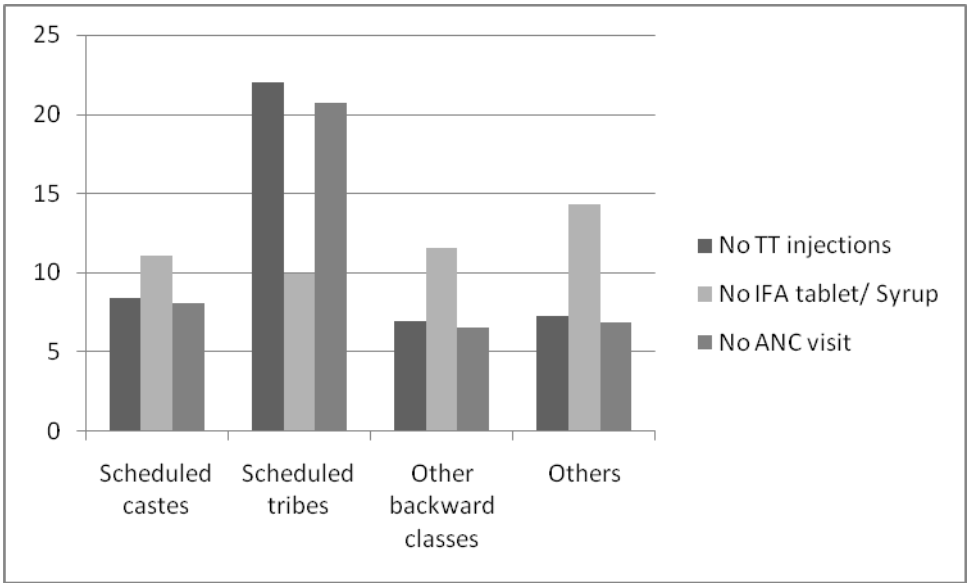
and those in the lowest wealth index category. About 22% of the women from Scheduled Tribe category did not have access to TT injections and about 21% did not even have a single ANC visit. Not having any ANC visit can also be linked to the lower educational and economic status of the women. This has further implication on women's health since More than three-fifths (65 percent) of women in Maharashtra had faced at least one delivery complication like obstructed labour, premature labour or prolonged labour. (DLHS III).

Table 9 : Percent distribution of women (aged 15-49) * by the number of tetanus toxoid injections & iron folic acid (IFA) tablets/syrup received during pregnancy by selected background characteristics, Maharashtra, 2007-08

	No TT Injection	No IFA /Syrup	No ANC visits	Full ANC
Residence				
Rural	12.4	10.2	11.6	32.6
Urban	5.4	17	5.4	37.1
Education				
Non literate'	26.5	11.6	24.2	22.2
Less than 5 years	13.1	12.4	11.4	25.0
5-9 years	6.4	12.3	6.2	33.8
10 or more years	2.9	12.3	3.5	45.9
Castes/tribes				
Scheduled castes	8.4	11	8.0	30.2
Scheduled tribes	22	9.9	20.7	32.0
Other backward classes	6.9	11.5	6.5	37.2
Others	7.2	14.3	6.8	34.2
Wealth index				
Lowest	27.4	10.4	26.0	24.1
Second	15.2	10.3	13.5	27.1
Middle	10	11.5	8.9	31.0
Fourth	6.2	12.9	6.1	34.4
Highest	2.6	14.2	3.0	46.3

Source: DLHS III, Maharashtra State Report

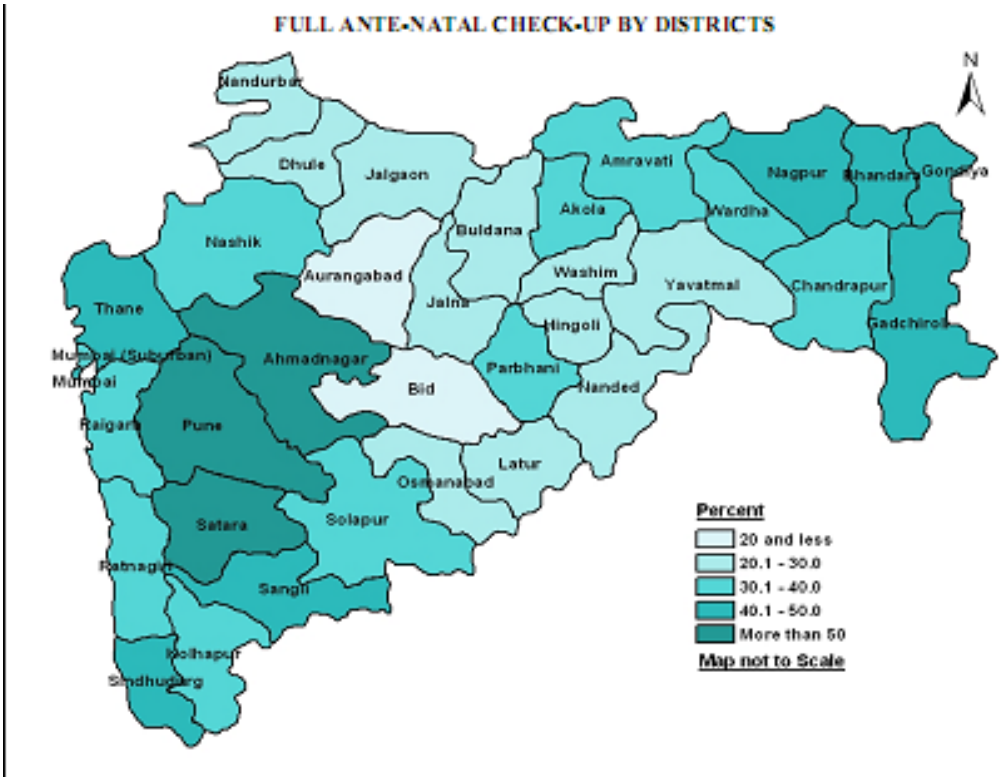
Graph 23: ANC coverage across castes



Source: DLHS III, Maharashtra State Report

A map that gives the stark district-wise variations in full ANC coverage based on the latest DLHS survey data is given below.

Graph 24: ANC Check-up: Districts



Source: DLHS III, Maharashtra State Report

Institutional deliveries

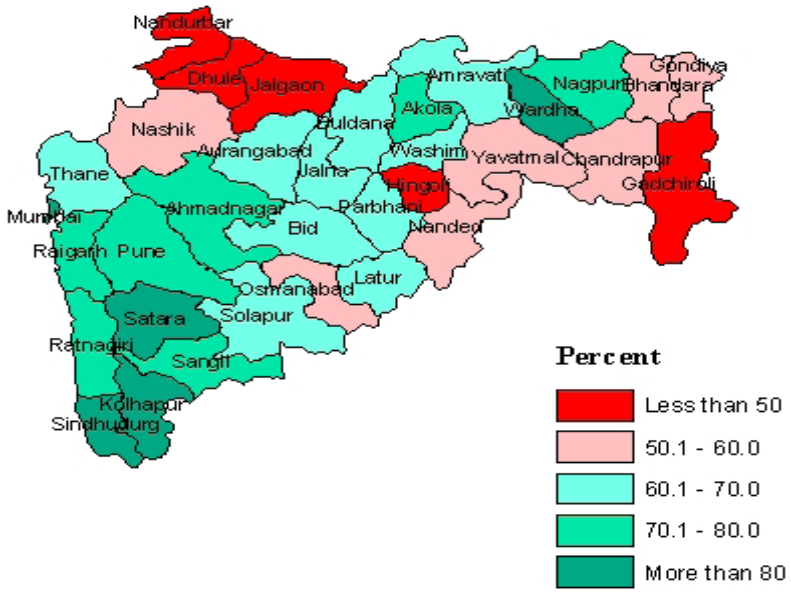
Percentage of institutional deliveries showed an increase from 58% to 64% with a clear improvement in Rural area from 44% to 54 % of deliveries taking place in an institution (Table 11). The regional data showed that Western Maharashtra was the best performer followed by Konkan in comparison with the rest of the regions. A district wise look at the institutional deliveries illustrates that Sindhudurg had the highest number of institutional deliveries (93%), followed by Mumbai (92%), and Kolhapur (89%). Gadchiroli (24%) and Nandurbar (25%) were the districts where least number of deliveries was conducted in an institution (Annexure table). As per DLHS -3 results, post delivery complications are the highest for home deliveries where 42% of the women can develop a post delivery complication if the delivery is conducted at home. For government facilities the percentage is 39.4 and for private, 34.5.

Table 10 : Institutional births across various indicators	
Residence	**Percentage**
Rural	50.5
Urban	84.8
Education	
No education	37.7
< 5 years complete	49.6
5-9 years complete	66.9
10 years complete & above	89.6

Source: NFHS III

The NFHS data too clearly shows an improvement in the institutional births over year's from 45% in 1992-93 to 66% in 2005-06. The above table clearly shows a rural urban distinction in terms of institutional births and also a difference of higher incidences of institutional births with higher educational status. In Maharashtra's case, percentages of women who completed ten or more years of education for each wealth quintile are 4.1, 3.3, 11.5, 21.7 and 58.7 respectively, quite similar to the India averages. This shows that educational attainment and wealth status are two closely related variables, and this needs to be kept in mind when associations between health and educational status are discussed. While the importance that education as a component must have in any health or development programme cannot be overstated, it needs to be reiterated that education is often a pathway through which poverty exerts an influence on the health status of the population. Innovative educational initiatives need to be part of any comprehensive effort to improve the health situation of the people of Maharashtra, the poorest in particular. However, it may be fallacious to claim a direct one-to-one relationship between the educational status of mother/woman and her/child's health status. As can be seen from the following map based on DLHS results, the district wide variations in institutional delivery are stark.

Graph 25: Institutional deliveries across districts



Source: DLHS III, Maharashtra State Report

The number of safe deliveries showed an increased from 63 to 70 percent (DLHS III). The percentage of institutional deliveries was also seen to be dependent on the educational status and the wealth index of the women.[42] As seen in the table below, on all indicators the performance is below the policy target.

Table 11: Maternal and child health indicators as per the targets

Indicators	**National population policy target (By 2010)**	**DLHS III (2007-08)**			**DLHSII (2002-04)**		
		Total	**Rural**	**Urban**	**Total**	**Rural**	**Urban**
Full ANC coverage	--	33.9	32.7	37.1	22.5	21.3	24.8
Mother's who had atleast 3 ANC	100%	74.5	70.6	84.3	69.2	65.4	82.5
Mother's who had atleast 1 TT injection	100% (atleast 2 doses of TT)	89.6	87.6	94.6	87.6	84.7	93.4
Institutional deliveries	80%	63.6	54.1	87.3	57.9	44.2	84.9

[42] Safe delivery is defined as institutional deliveries plus deliveries conducted at home but by skilled staff and do not include deliveries by trained birth attendant (dais). (Garg et al (2010))

Safe deliveries	--	69.5	61.2	90.1	62.6	50.1	87.2
Contraceptive use (Any method)	--	63.8	63.8	63.8	63.3	62.1	65.2
Fully immunized children (12-23 months)	100 %	69.1	67.8	72.7	70.9	71.2	70.3

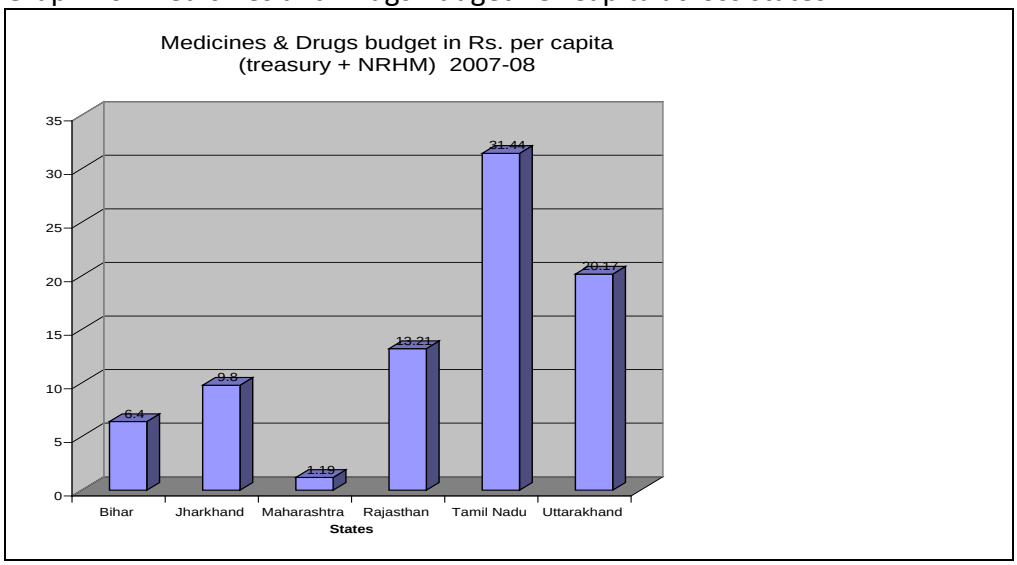
Source: DLHS various years, NIPFP

Involvement of ASHA's in the entire MCH program can be seen as an important component towards increasing the coverage of the program. But the data points out inadequacies in this association where merely 0.2% of the women are found to be facilitated for ANC check up by the ASHA's at the state level, and the same percentage exists for motivation of institutional deliveries. (DLHS key indicators 2009) Detailed district level tables regarding ANC and institutional deliveries are attached in the annexure as Table 6 and 7.

Availability of essential medicines

The availability of the essential drugs within the public health system is an important prerequisite to ensuring accessibility of healthcare to the people. Expenditure on medicines constitute 50% to 80% of the total cost of treatment and this amounts to a substantial burden. In addition, patients end up paying for a variety of tests.(Srinivasan, 2011). The NSSO 60th round data shows that about 62% of the IPD expenditure for medical treatment was on purchase of the medicines. A survey conducted by the JAA (Jana Aarogya Abhiyan) in five districts of Maharashtra found that about 70% of the essential medicines were not available at the PHCs & rural hospitals. (TOI, Pune March 2011) A similar situation can be seen in urban areas as well, a recent study done by CEHAT in one of the peripheral hospitals in Mumbai also points out the scarcity of essential medicines, putting additional economic burden on the patients. (User fees study, CEHAT 2011). Allocation for medicines does not get the priority it deserves in respective budgets , and for Maharashtra, it is lower than much poorer states like West Bengal, Assam and Bihar (Chakraborty G. 2011). This is clear in the following graph which shows the per capita medicines and drugs budget across the states. Maharashtra, compared to other states fares poorly with a shocking Rs 1.19 per capita, while states like Tamil Nadu spend much higher.

Graph 26: Medicines and Drugs Budget Per Capita across states



Source: Resource Allocation to States on Equalization Principle of Public Health Expenditure , NHSRC 2010

The 2010 Common Review Mission report talks about non availability of medicines at the district hospital as well as rural hospitals in some districts in Maharashtra. Moreover, the per bed allocation of the amount for medicine remains extremely inadequate, as decisions for such financial allocations were taken 7-8 years back which apparently needs to be revised. (Fourth Common Review Mission, Maharashtra 2010). The financial allocation for medicine per PHC is mere Rs. 1,20,000 per year which is Rs. 4 per person which calls for immediate revision.

Lessons could be learnt from TNMSC or KMSCL which has been significantly successful models in terms of drug procurement in the public health system. The warehouse approach in both these models emerges as a positive step towards making drugs available in government hospitals (SHSRC, 2011).[43] Highly efficient distribution system, quality control and complete transparency in the system were some of the contributing factors of success of such models.(T. Sundararaman,2011) Such newer approaches should be considered and introduced in the system to tackle with the problem of high Out of Pocket Expenditure on drugs.

Medicine availability is mainly linked with the stocking and procurement of these medicines. There is a need to identity the problems with the current procurement mechanism which is responsible for the delayed and inaccurate distribution.

Drug Pricing

Another major issue is regarding the regulation of drug prices. The available literature suggests that not even one fourth of the medicines from the list of

[43] Report titled *Proposal for Strengthening Karnataka State Drug Logistics and Warehousing Society based on the TNMSC Model*

National essential drugs are under price control.[44] The standing committee report on the availability and price management of drugs and pharmaceuticals shows that under the DPCO (Drug Price Control Order) there were about 347 which were under price control in 1979, which were reduced to 79 in 1995 and further reduced to 74.[45] . As of now, The National List of Essential Medicines (NLEM) has 348 drugs, of which the prices of only 37 medicines are controlled by National Pharmaceutical Pricing Authority. It is a very important issue of concern which needs attention, as it is directly related to the government spending for these essential drugs.

[44] Anant Phadke and Anurag Bhargava (2011). Towards universal health coverage in India , Lancet, 377(9770) , pp 976-7.
[45] Seventh report, standing committee on chemicals & fertilizers (2005-06)

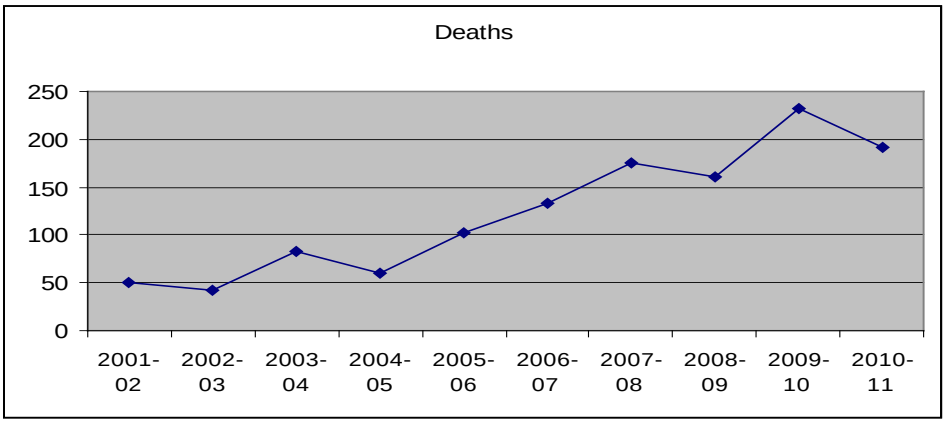
CHAPTER 4
PERFORMANCE OF PROGRAMMES AND NEW GOVERNMENT INITIATIVES IN THE HEALTH SECTOR

The Public Health Department of the Government of Maharashtra, endeavors to formulate and execute schemes that provide health care services to the people in line with the National Health Policy. The state claims that while implementing these schemes, steps are being taken to make improvements in the health care system in the State to cater to the health needs of the people in the rural areas, particularly in the tribal and backward regions of the State.[46] As the previous chapters have shown, such efforts leave a lot to be desired.

Malaria

There were several national programs for malaria control being launched post 1953 NMCP, the latest being National Vector Borne Disease Control Programme (NVBDCP) launched in 2004 which covers all the vector borne disease including dengue and chicken guinea. Despite this, the situation has worsened from 2000-01 with more than double the number of malaria cases along with a increase in mortality in 2010-11. Gadchiroli marks the district with highest number of malaria cases with more than 13,000 positives during 2010-11 followed by thane with about 12,185. Vidharbha shows high incidence of Malaria cases specifically in the districts such as Gondia, Gadchiroli & Chandrapur.

Graph 27: Malarial Deaths in Maharashtra

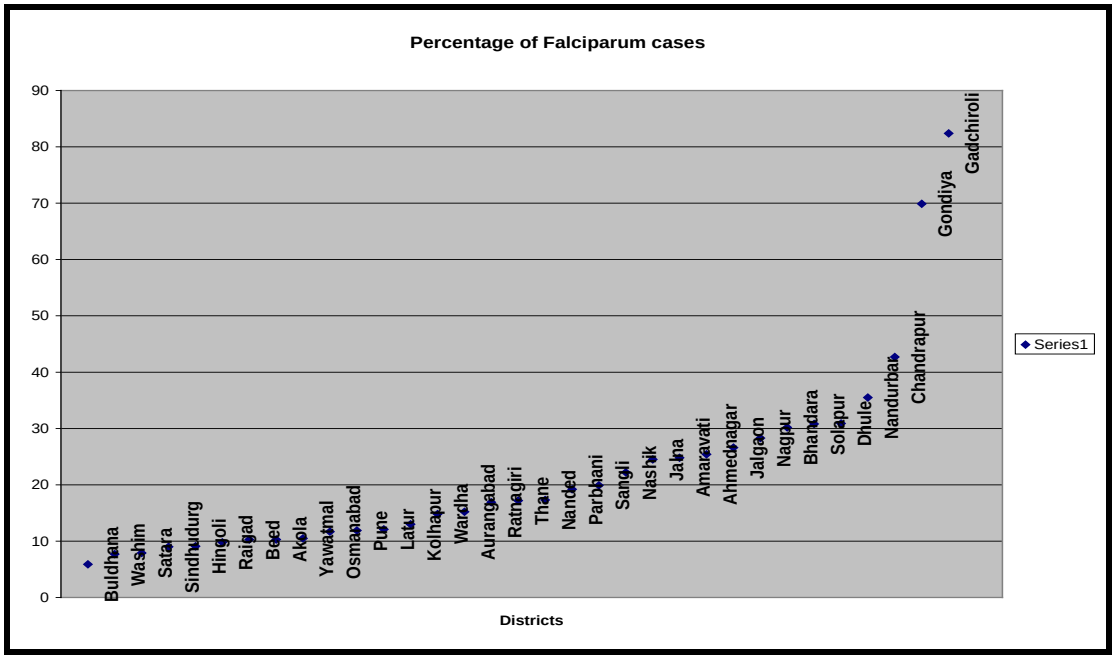


Source: Directorate of health services various years

Along with this, a high proportion of falciparum cases in many districts is a matter of major concern. The following graph presents a distribution of districts of Maharashtra according to the proportion falciparum cases in the total cases of malaria. It is clear that in districts like Gondiya and Gadchiroli, the proportion of falciparum cases have reached alarming proportions. These districts have traditionally had high falciparum incidence, but the persistence of this high proportion and a spike in the deaths due to malaria mean that Maharashtra is losing its battle with malaria, at least in some districts. Focused government action is necessary to tackle the menace of Malaria, which is a major burden so far as poor households in high-incidence districts are concerned.

[46] http://www.maha-arogya.gov.in/about/default.htm

Graph 28: Falciparum Cases across Districts



Source: Directorate of Health Services, Maharashtra

Dengue & Chikun guinea

The same situation persists with other vector borne diseases like Dengue and Chikunguinea. The mortality for Dengue kept increasing till 2005-06 and came down to 9 deaths during 2010-11. Though the mortality rate has come down over the years data shows a increase in the incidence of dengue during 2010-11. The number of cases for chicken guinea has increased upto 1325 in 2010-11, which also saw the highest number of outbreaks during that year.

Leprosy Eradication program

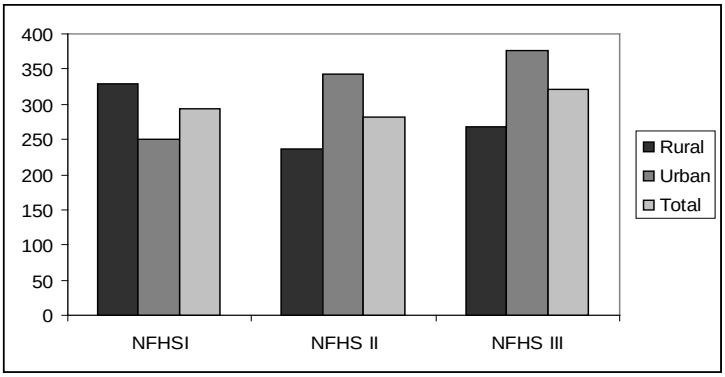
Over all prevalence rate of Leprosy has gone down from 2.95 in 2002-03 to 0.95 in 2011-12. The district level data indicates that as of 2011-12, Thane is the district with highest prevalence of Leprosy with a prevalence rate of 4.13. (table given in the annexure).the Western region show a low prevalence rate with Sangli having the lowest rate of 0.27. The very fact that there are still active cases being detected with Leprosy, necessitates that steps must be taken towards the effective case detection and treatment of the positive cases. A study conducted in the in rural areas of Panvel tehsil in Maharashtra found that most of the leprosy patients belonged to the poor socioeconomic strata. It also found that despite approaching the private or public sector for help in the first instance, many patients and children remained undiagnosed and untreated for leprosy.[47]

[47] SR Atre et al (2011), Perceptions, health seeking behaviour and access to diagnosis and treatment initiation among previously undetected leprosy cases in rural Maharashtra, India, Leprosy Review, 82(3), pp 222-34..

Tuberculosis

The data from different rounds of NFHS indicate an increase in TB prevalence in rural as well as in the urban area, in fact the prevalence in the urban area is more than that of the state total.

Graph 29: TB prevalence per 100,000 population



Source: NFHS various Years

Since 2007 government has launched the RNTCP DOTS plus program for the treatment of MDR TB. The 2010 RNTCP India report mentions that, by the 4th quarter of 2008 there were 13 districts wherein this program has started.

The Maharashtra state report 2009 states that the RNTCP program is showing a downwards trend in terms of achievements, which can also be related to a vacant posts of key personnel in the program eg; Posts of 7 DTOs, 8 MO-DTCs, 5 MO-TCs, 5 STSs and 12 STLSs are vacant at District/sub district level.

Involvement of the private sector

- The reporting of the vector borne diseases is very important and keeping in mind the huge private health sector in Maharashtra which is also accountable for reporting of these diseases to the public health department in a timely manner would prove to be beneficial for improved surveillance and monitoring.
- It can also be noted that the reporting of the public health data is limited to only those cases which are reported in the public facilities (Duggal R, 2003 The Notifiable Disease Syndrome).
- For the RNTCP program Maharashtra has the second highest number of PPs (private practitioners) across states under the PPM project, while if we look at their contribution in terms of referrals of the TB suspects, it is merely 3% (TB India 2010, RNTCP status report).

HIV/AIDS

Maharashtra ranks 4th highest amongst the highly prevalent states for AIDS (NFHS III). The incidence data for the year 2010 & 2011 shows an increase in number of positive

cases (table). although there has been an increase in the infrastructure in terms of establishing centres, recruiting human resources or supply of medications
Maharashtra has 1,90,083 PLHA registered and 1,07,886 patients ever started On ART of which 73,605 patients alive on ART upto 2010 Dec end excluding Mumbai. In addition to this 773 patients are receiving Second line ART as per Dec 2010 data.

The data from the Directorate of economic survey for the year 2009-10 gives a total of 15, 57,548 ANC being registered in the state, but when compared with the MSACS data of registration of mere 9, 85,241 women shows that about 37% of the pregnant women are missed out for being tested for HIV.

Water supply and sanitation

The data from DLHS shows a good amount of progress in the availability of drinking water in rural as well as urban areas of Maharashtra. Toilet accessibility still remains a matter of concern as the condition has not improved over the years, except for the improvement in the rural area. In the urban areas, the access to a toilet facility in fact worsened between DLHS II and DLHS III.

Table 12: Water and sanitation

Indicator	DLHS III			DLHSII		
	Total	Rural	Urban	Total	Rural	Urban
Improved source of drinking water	81.7	74.8	97.7	62.6	45.2	92.7
Access to a toilet facility	47.4	32.5	82.1	41.7	16.0	86.4

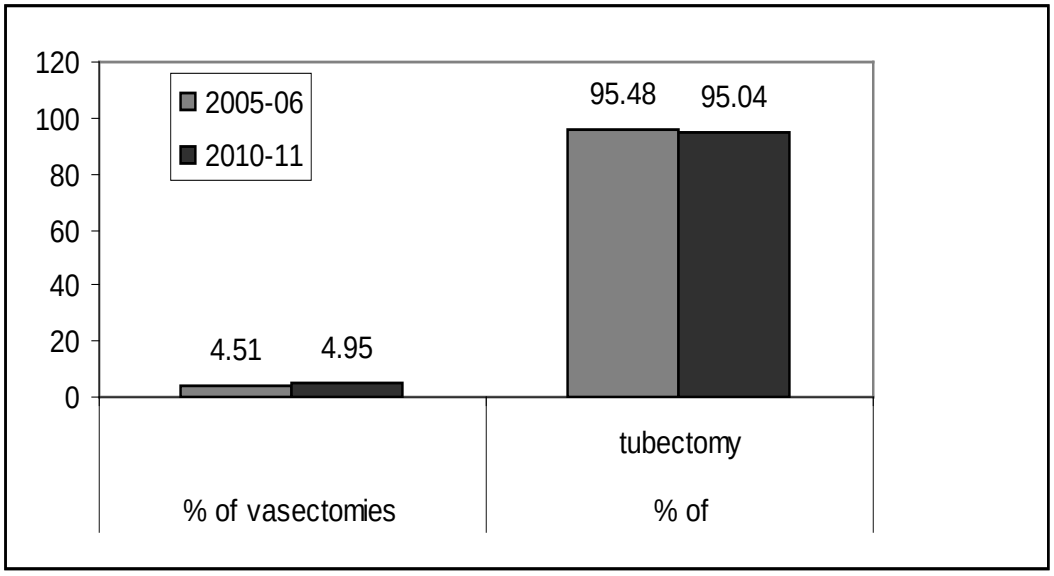
Availability of drinking water is of absolute necessity for everybody. The district level available data shows a satisfactory level of water availability across the districts. It was observed that North Maharashtra was the best performing region across the state with 100% of the villages in Ahmednagar receiving 12 months water supply followed by Dhule. Vidharbha showed a mixed performance with most of the villages in Yawatmal, Gadchiroli and Akola receiving 12 months water supply while villages in Buldhana did not receive water supply to a satisfactory level. Marathwada suffered with water availability with only 17% of the villages in Latur and Jalna receiving 12 months water supply.

Availability of sanitation facilities was determined in terms of the BPL or APL status of the families. Surprisingly, the percentage availability of latrines for BPL families were more than that of APL families across many of the districts. The data showed that about 83% of the APL families in Ahmednagar were without a toilet facility, followed by APL families in Nandurbar and Buldhana. Most of the families in Konkan region were found to be having sanitation facility. Detailed tables are available in the annexure.

Family Welfare Programme

The 2011 census indicates that Maharashtra continues to holds its second position for highest population with 11,23,72,972 (9.29%) people. The state government has introduced a state population policy since 2000. The past five years data shows steady trend of about 90% coverage rate for sterilisation as well as IUD. At the same time, it should also be noted that the percentage difference in sterilization of male and females is huge and the gap has been consistent over five years, with about 95% of the women undergoing a tubectomy compared to a 5% of males undergoing a vasectomy in the year 2010-11. It is very clear that it is the women who are being forced to bear the responsibility of a 'successful' family planning programme in the state. The figures shown in the following graph are yet another example of the systematic bias against women.

Graph 30 : Last five years performance of the state in Family Welfare



Source: Maha-aarogya

The DLHS reports also show a consistent percentage of use of contraceptive method. An increase in the percentage of sterilization in both males & females could be seen.

Table 13: Use of contraception

Current use of family planning methods	DLHS III				DLHS-II		
	Total	Rural	Urban		Total	Rural	Urban
Any method (%)	63.8	63.8	63.8		63.3	62.1	65.2
Any modern method (%)	62.6	62.9	62.1		60.8	60.9	60.5
Female sterilization (%)	51.5	54.6	44.1		48.3	52.8	40.5
Male sterilization (%)	2.6	3.2	0.9		2.0	2.7	0.6
Pill (%)	2.3	1.4	4.3		2.9	1.8	4.9
IUD (%)	2.3	1.4	4.3		2.5	1.0	5.1
Condom (%)	4.7	2.8	9.2		4.9	2.4	9.2

Any traditional method (%)	1.1	0.9	1.7		2.4	1.2	4.6
Rhythm/Safe period (%)	0.8	0.6	1.1		1.7	0.8	3.1
Couple using spacing method for more than 6 months (%)	6.3	3.2	13.9		NA	NA	NA
Ever used Emergency Contraceptive Pills (ECP) (%)	0.7	0.5	1.2		NA	NA	NA

Source: DLHS3

New Government Initiatives in Maharashtra's Health Sector

Public-Private-Partnerships were introduced as part of health sector reforms to alleviate an already overburdened public health system. In the decade of the 1990s, the central government devised ways to involve the private sector in various health initiatives forging partnerships in various national health programs such as polio eradication, RCH and RNTCP. Through the various Five Year Plans, PPPs in health have evolved to a great extent and are not just limited to the national level but also involve international NGOs through various programs (Baru R., Nundy M 2008).[48] The result has been a complex mix of various types of PPPs operating at different levels in the Indian context. Ideally, in such partnerships, both partners need to work together in implementing programmes with complete clarity about their roles and methods of implementation (Blagescu and Young 2005, WHO 1999)[49].This section explores some new initiatives in the state. While some efforts within the framework of public private partnerships are discussed initially, a section on NRHM and Community Based Monitoring follows. The last section explores the status of demand side financing in the state through a case study of RSBY.

A. Public Private Partnerships in Maharashtra

The existing literature for India points towards the nature of contract between the public and private sectors in health to be asymmetric and skewed towards the latter (Datta A.2009)[50]. In a detailed review of various PPP contracts Dhawan et al (2009)[51] report that services are contracted without any clear deliverables, with no clear provisioning or planning for the management of contracts. Lack of personnel with requisite skills, contracts having no clauses for exit or penalty, no standard treatment protocols, no provision for grievance redressal etc are cited as the main shortfalls. They also find that there is no transparency in processes with no detailed criteria spelt out.

[48]Blurring of Boundaries: Public-Private Partnershipsin Health Services in India, Jan 2008, Economic & political Weekly

[49]Partnerships and Accountability: Current thinking and approaches among agencies supporting Civil Society Organisations. Working paper series, August 2005, overseas development institute, London

[50] Public-Private partnerships in India: A case for reform? Economic & political weekly, August 2009

[51]DhawanRiya et al (2009) "Contract Management" in Emerging health care models: Engaging the private health sector" National Conference held during 25th – 26th September 2009, Mumbai. The conference report provides a very useful review of various PPP schemes. It can be accessed at http://www.cehat.org/go/uploads/PPP/reportfinal.pdf

A rapid assessment study in Ahmednagar district on public-private partnerships by Chaturvedi and Randive (2011)[52] cites several problems in such partnerships in the area of Emergency Obstetric Care facilities which have an important bearing on maternal health and mortality. The dysfunctional nature of PPPs is brought out by the lack of stability, unorganized referrals, fund flows and strategy issues. PPPs for EmOC under the JSY scheme were perceived as an answer to the severe shortage of specialists in rural areas where services were limited to cesarean deliveries. Using the rapid assessment of health programmes (RAHP) approach, the respondents for this study included implementers (BMO's, ANM's, etc), the providers- public and private (obstetricians who provided EmOC services in private facilities), the beneficiaries (eligible and received services) and non beneficiaries (eligible and not received services) of the scheme. They report a clear lack of ownership amongst the "implementers" of various maternal health related schemes coupled with low motivation amongst district officials towards contracting private specialists for EmOC services. The study concluded that institutionalisingPPPs to provide EmOC and reduce maternal deaths was only a possible interim solution, which in turn had not been able to address the root cause of the problem viz., the shortage of specialists in the public sector.

The case of Seven Hills Hospital in Mumbai, which has been promoted as a PPP by the BMC[53] reveals another set of problems with such partnerships, nature of contracts, shared goals and so on**.** This is being promoted as a PPP by the BMC. It was earlier reported that one floor of the hospital would be dedicated to the BMC for treatment of its patients. However, later it came to light that a separate building is being constructed for the BMC. As part of the PPP, the BMC has given 17 acres of land to the Seven Hills for construction of a hospital where its patients will also be provided care[54]. The contract does not include details of how these services will be administered and managed. So at present, the private hospital is already functional on government land that it has received 'free' and the so called public ward is not yet functional. In fact the management has raised concerns over 'high' cost of running these services for the BMC now as cost of drugs and other expenses are not clearly stated[55]. It is apparent that this is hardly a partnership as the government has actually given land for setting up of a private hospital and there are no clear returns to the public sector or the public at large. Recently there have been news about the hospital refusing to provide free medicines to the poor and also charging hefty fees[56].

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[52] Public Private Partnerships for Emergency Obstetric Care: Lessons from Maharashtra, Indian Journal of Community medicine, Jan-March 2011 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3104703/

[53]PratibhaMasand&MalathyIyer, (2011) Seven Hills logjam sparks audit of pvt hospitals by civic body, Times of India. Jan 5.

[54]LinahBaliga (2011) Hospital gets time till July 3 to toe BMC line, Times of India , May 31

[55] P.T. JyothiDatta and Rahul Wadke (2011) Seven Hills Hospital, BMC stand-off: Will public-private collaborations work?, The Hindu Businessline.

[56]http://daily.bhaskar.com/article/seven-hills-refuses-free-medicines-to-poor-1618941.html and also see http://www.mumbaimirror.com/index.aspx?page=article&sectid=2&contentid=20100816201008160 32725338e95ce607

The case of charitable trust hospitals

Ravi Duggal (2012) observes that in the pre-independence era, charitable hospitals were set up to serve the poor. Post independence private capital entered the fray misusing the Public Trust Act to set up hospitals, instead of the Companies Act, so that tax waiver benefits could be availed of. While a number of these hospitals began with being genuinely charitable, over time most of them have become hospitals for the use of the elite . The classic examples are the Jaslok, Breach Candy, Bombay Hospital, Leelavati, Hinduja, Nanavati, and Ambani Hospitals apart from others that no longer engage in any form of charity or follow the minimal provisions of the law for providing free services in lieu of the tax breaks provided to them. It follows that in such a scenario, their charitable status needs to be challenged by the state. Further, the issue is not only the tax waivers but also a host of other benefits they may have received like concessional land or a cheap lease rent, extra floor space -index (FSI), concessional electricity, water or property tax, waivers or concessions for other taxes like octroi, customs duty, etc. While these benefits were meant to contribute towards the poor availing of free care, in practice, they add substantially to the surpluses of these hospitals.[57]

In a survey undertaken in Mumbai by CEHAT[58](2007) it was found that there are no transparent monitoring mechanisms that guarantee the accountability of private hospitals. Many hospitals refuse to even share data under the veil of confidentiality. It was observed that many hospitals used BPL card to identify poor patients which could impede access to the poor since exclusion errors in access to BPL cards for the poor are a known fact. It was also observed that prominent notices about such schemes were often absent in hospitals and poor people remained unaware. There needs to be more awareness about the availability of beds in these hospitals and a referral mechanism from public health services needs to be put in place so that patients are able to access services from such hospitals. In the light of the prevailing situation, the Maharashtra assembly has rightly raised the issue of having the Economic Offences Wing (EOW) investigate the finances of such private hospitals[59].

Although the JeevandayiYojana scheme of the government is proposed to be linked with the free bed scheme for the poor in charitable hospitals, the fact that Trust Act benefits are in lieu of income tax waivers to these hospitals is being ignored. Duggal (2012) suggests that if private hospitals want to be a part of the JeevandayiYojana then they should engage with the scheme *independent* of the Act. This scheme should not be confused with the 20% free and concessional beds entitled to poor citizens as a right under the Trust Act[60].

Baru and Nundy (2008) analyze various existing PPP models across the country and find a persistent ambiguity about the MoUs between the two parties as responsible for many of the existing problems with such PPP mechanisms. here is also hardly

[57] Duggal Ravi (2012) The Uncharitable Trust Hospitals, Economic and Political Weekly, Vol - XLVII No. 25, June 23

[58] Paul Fernandes&RadhaPai (2007) Report on implementation status of the high court order on PIL on the scheme for indigent patients by charitable hospitals. , CEHAT , Mumbai.

[59]Duggal, Ravi (2012) op cit

[60]Duggal, Ravi (2012) op cit

any evidence indicating whether or how these partnerships are increasing access to services, affecting out-of-pocket payments by patients, reducing or increasing equity or improving quality of care.[61] Most of the proposed partnerships transfer public funds to private providers, with the aim of ensuring access for poorer patients. The private sector doctors who are part of the PPP which offers free service to poor mothers only take "safe" cases of normal delivery and divert complicated cases to the public hospitals. There have been also cases reported of doctors demanding extra money from BPL patients. It is quite possible that eventually such schemes may only end up shifting the problem – the management of complications requiring EmOC – to public providers. [62]

Since July 2008, under the second phase of Aarogyasri, the Andhra Pradesh government has reported receiving claims of more than 11,000 hysterectomy cases from hospitals and nursing homes[63]. A 2009 study by the AP MahilaSamatha Society, found hysterectomy cases in women between 25 and 40 to have increased by 20 per cent since the time Aarogyasri was launched. Their study covering 1,097 women in five districts, also found that doctors advised 30 per cent of the women that they would die if they did not get operated.[64] Following public outrage, many hospitals have been removed from the empanelled list of Arogyasri Health Care Trust forthwith[65].

The PPP experience brings forth strongly the need for the state to play a stronger role in regulation of not just the quality of health care but also its role in setting, monitoring and enforcing minimum standards and determining the scope of the private sector. Information needs to be collected on health outcomes and quality of care before the state involves private hospitals further in the provision of speciallymaternity care. Until this is done, including the private sector in partnerships with the state for providing services such as maternity care, and particularly emergency obstetric care, may be putting patients at risk and could even end up regularising the poor functioning of this sector. Lastly, the state's own managerial capacity for monitoring public–private partnerships needs to be improved[66].

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[61]National Conference Report. Emerging health care models: engaging the private sector. Mumbai, 25–26 September 2009. At: <www.cehat.org/go/ uploads/PPP/reportfinal.pdf>.

[62]AkashAcharya and Paul McNamee, (2009) Can Public Private Partnership reduce Maternal Mortality? Assessing efforts made by the 'Chiranjeevi' scheme in Gujarat , PPP Conference, CEHAT Mumbai.

[63] Moyna (2010) Menopaused 20-somethings , Down to Earth, at http://old.downtoearth.org.in/full.asp?foldername=20100615&filename=news&sid=5

[64]Moyna (2010) Menopaused 20-somethings , Down to Earth, at http://old.downtoearth.org.in/full.asp?foldername=20100615&filename=news&sid=5 also see , http://timesofindia.indiatimes.com/india/The-uterus-snatchers-of-Andhra-/articleshow/6239344.cms

[65]http://www.hindu.com/2010/01/26/stories/2010012653230400.htm

[66]Deosthali et al (2011)Poor standards of care in small, private hospitals inMaharashtra, India: implications for public–privatepartnerships for maternity care, Reproductive Health Matters, Volume 19, Issue 37 , Pages 32-41,

B.National Rural Health Mission (NRHM)

The Fourth Common Review Mission report states that Maharashtra is close to achieving the goals as regards infrastructure gaps and the progress in infrastructure development has been good[67]. This shows rapid progress since NRHM state report (2009-10) suggested that only 22% of the goals set for turning normal PHCs into 24*7 PHCs could be achieved[68]. According to the report, of the total 10,579 Sub Centres in the state, 8100 Sub-centres were functional with an ANM. Of these, 4318 Sub Centres have been strengthened with a second ANM. This means, 2479 Sub Centres did not have a single ANM. State has appointed 272 Contractual AYUSH Doctors in an effort to deal with the manpower crisis. As far as manpower augmentation is concerned, 407 specialists, 50 SN, and 5045 ANMs were recruited on contractual basis.

According to the state report of NRHM published in 2009, during the course of NRHM until 2009, no new District Hospital, Community Health Centre, or Primary Health centre were constructed in Maharashtra. 105 new Sub Centres were constructed, 1591 Sub centres, 1302 PHCs, 315 CHCs and 37 DHs were either upgraded or renovated. Lack of new infrastructure is not because Maharashtra has sufficient public health facilities. According to RHS Bulletin , in 2010 Maharashtra has a shortfall of 1573 Sub Centres, 168 PHCs and 131 CHCs. In this context, underutilization of resources allocated under NRHM seem puzzling.[69]

Table 14: Financial management under NRHM

Financial Management under NRHM (Rs. in crore)					
Years	**Allocation**	**Release**	**Expenditure**	**% Release against Allocation**	**% Expenditure against Release**
2005-06	310.72	338.58	194.43	108.97	57.43
2006-07	512.95	366.11	160.70	71.37	43.89
2007-08	671.14	706.34	523.99	105.24	74.18
2008-09	701.67	622.42	420.78	88.71	67.60
2009-10	712.32			0.00	
Total	**2908.79**	**2033.45**	**1299.91**	**69.91**	**63.93**

Source: State report on NRHM, 2009

[67] 4th Common review Mission National Report, NRHM, Government of India
[68] Accessed at http://mohfw.nic.in/NRHM/Documents/Non_High_Focus_Reports/Maharashtra_Report.pdf
[69] Ibid

Table 15: Expenditure on NRHM components

Budget Allocations (2005-09) (Amount in Crores)			
	Allocation	Releases	Expenditure
RCH Flexipool			
2005-06	115.09	52.81	13.76
2006-07	156.54	119.25	40.53
2007-08	111.92	186.21	74.74
2008-09	191.51	82.95	80.03
2009-10	196.01		
Total (A)	**771.07**	**441.22**	**209.06**
NRHM Flexipool			
2005-06		65.33	0.00
2006-07	131.31	113.94	8.89
2007-08	229.55	177.88	132.68
2008-09	166.83	193.63	65.29
2009-10	172.96		
Total (B)	**700.65**	**550.78**	**206.86**
National Disease Control Programme			
2005-06	35.70	33.75	38.44
2006-07	43.41	38.16	37.43
2007-08	52.26	39.05	37.53
2008-09	61.64	50.62	17.49
2009-10	63.18	3.92	0.00
Total (C)	**256.19**	**165.51**	**130.90**
Grand Total (A + B + C)	**1727.91**	**1157.51**	**546.82**

Source: State report on NRHM, 2009

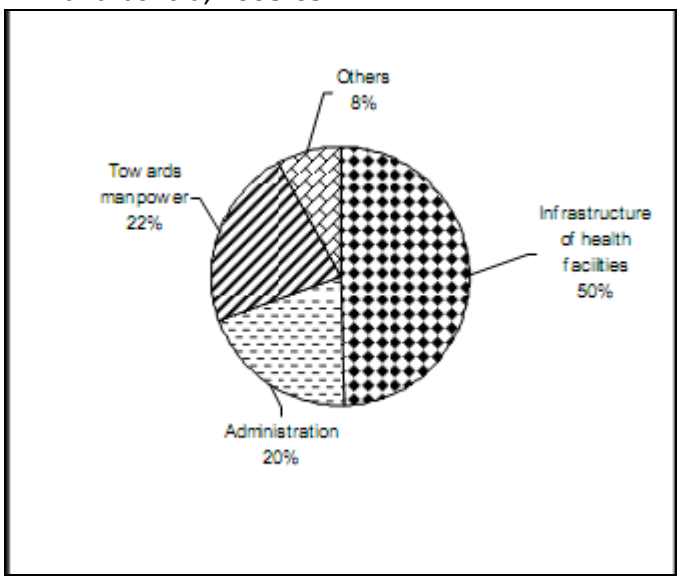
As can be seen from the above tables, while the release of funds against allocation have often been even more than 100%, percentage of expenditure against release, has been consistently low. Between 2005-06 and 2009-10, allocation has been going up. The amount released, however, went down by almost ninety crores between 2007-08 and 2008-09. The expenditure figures showed discontinuity despite overall upward trend, where there was a fall between 2005-06 and 2006-07 and a more substantial fall of more than 100 crore rupees between 2007-08 and 2008-09. When one looks at the Component wise expenditure & Utilization under RCH against the approved Project Implementation Plan, one is struck with sharp imbalances in the utilization rates. While the heading listing the activities by the grouping "Innovations/PPP/ NGO" reports 96.66% of utilization of its approved PIP funds, the heading under "Vulnerable Groups" reports only 3.24% of utilization. This functions as an indicator of the priorities of the government where addressing equity does not get the focus it deserves.

The latest data however suggest some improvement as the state CRM report published in 2011 demonstrates. According to this report, three new PHCs were completed of the 34 PHCs that are under construction. Five out of 12 Rural hospitals as well as six out of 16 new district hospitals have been completed. Of the 476 Sub Centres that were to be established, 277 have have been completed. While the progress has been slow, it is reported that substantial renovation and repairing of the existing infrastructure is also underway. While physical gaps as well as human resource gaps remain major issues, these developments have reportedly improved IPD as well as OPD attendance in the state[70].

[70] 4th CRM Maharashtra State Report, NRHM, Government of India.

While NRHM funds as a part of overall resources available for health in Maharashtra is small, it remained a very important component. Allocation under the Mission Flexible Pool in particular remained a key component as about 50 per cent of the funds under this pool were towards improving infrastructure of health facilities including medicines, equipments and untied funds[71]. A figure explaining the distribution of Mission Flexible Pool funds is given below.

Graph 31 : Distribution of funds allocated under the Mission Flexible pool (NRHM), in Maharashtra, 2008-09



Source: NIPFP (2010) Financing Human Development – VIII.
Note: Infrastructure includes equipments and medicines. Administration includes implementation, monitoring and evaluation.

According to the Maharashtra CRM report, considering the importance of infrastructure development, Maharashtra has established an Infrastructure Development Wing which is headed by Superintending Engineer who is regular government employee on deputation from Public Works Department, Government of Maharashtra. Four Executive Engineers have also been appointed at Mumbai, Pune, Aurangabad and Nagpur to supervise ongoing efforts.[72]

Along with such very positive developments, Initiatives like Community Based Monitoring which will be discussed next, will have a major role in improving the public health care delivery of the state.

C. Community based monitoring of health services[73]

One of the mechanisms under the NRHM that has shown good results for monitoring the right to health in the state is Community Based Monitoring (CBM[74]). Launched in

[71] NIPFP (2010)
[72] ibid
[73] Fourth Common review mission report 2010 Maharashtra

Maharashtra in mid-2007 and implemented in five districts covering 23 blocks and 510 villages the CBM initiative this has proven to be an effective method in involving the community in monitoring health rights. This initiative is expected to be further extended to cover an additional eight districts during 2010 – 11 (PIP). From ensuring availability and attendance of health professionals, questioning corruption, raising issues of non-availability of drugs, the CBM initiative has resulted in increased utilization of public health services.

According to the Fourth CRM report, Maharashtra is one of the only two states in the country that has successfully implemented community monitoring and which has had a demonstrable positive impact on health services. According to the Report, data collected during the three CBM rounds in the five districts covered show that *first*, there has been a positive impact of CBM on health services. In the first round of data collected around 48% of the villages rated their health facilities as 'good' and this proportion increased to 66% by the third round of the CBM with improvements in specific indicators such as immunization, anganwadi facilities, use of untied funds and PHC facilities.

Second, there has been an additional increase in PHC utilisation in CBM areas. The impact in terms of higher utilization was marked in both outpatient and inpatient services from the years 2007-08 to 2009-10. *Third*, stoppage of informal charges in PHCs, stopping of external prescriptions and increased availability of medicines in PHCs, increased visits of the staff to remote villages and habitations, reopening of previously closed sub-centreshave been some of the qualitative improvements.*Fourth*, while there have been many positive developments in health services at the village level, what still needs attention is local disease surveillance and village level curative services. The participation of panchayat members to the CBM processes also needs to be strengthened. There is also the need to have higher involvement of district level officials in the CBM processes without which the CBM would remain restricted to PHC and outreach services.There finally is also a need to replicate the CBM experience to other districts and also include it in the NUHM to facilitate the involvement of communities in urban areas (small towns and cities) in monitoring their health rights.

D. Demand side financing in Maharashtra [75]

The Rashtriya Swasthya Bima Yojana (RSBY) was introduced in 2008 whereby hospitals were empanelled in large numbers across Maharashtra to offer inpatient

[74] The process of CBM consists of recording of the status of the health services as experienced by the community members. The information about various services including the PHCs, CHCsare collected through group discussions. A pictorial village report card is used to indicate a service as good, partly satisfactory or bad reflecting the availability, quality, and regularity of health services. Such findings are presented in 'Jan Sunwais' (public hearings) along with suggestions for improvement.

[75]For want of published material on the same, this part is based mostly on Rathi, Prateek (2011), 'Evaluation of ´Rashtriya Swasthya Bima Yojana, a Health Insurance Scheme for below poverty line people in Amravati' , Project Report, Postgraduate Program in Public Policy & Management, IIM Bangalore.

health care benefits to the BPL poor. While it was visualised to be a scheme where both public and private providers participated, in Maharashtra's case more than 99% of hospitals empanelled belonged to the private sector. Various problems have inflicted the scheme. Earlier this year, poor coverage of economically weaker citizens had forced the Union government to take away the responsibility of the implementation of this scheme from the labour department and entrust the task to the state health department. Quoting SHSRC, it was reported by the press that Nagpur, Jalgaon and Thane districts had only 1%, 13.6% and 18.6% coverage of potential beneficiaries under the scheme, respectively [76].

Reinforcing this, a review (conducted in 2011 based on data from July-October 2010) reported that the tribal blocks having the maximum number of poor households saw the least enrolment and beneficiaries from this scheme[77]. The main reason cited was that the enrolment process was not followed and the empanelment of hospitals was done after the start of the scheme leading to inadequate information dissemination. The study further observes that the maximum benefit from the scheme was availed of by people situated close to the district headquarters with beneficiaries found to be concentrated in certain pockets and villages. Thus, the ability of RSBY to address stark health care inequities prevalent in the state needs to be further delved into. The same evaluation study conducted in the district of Amaravati [78] - observed that the majority of the benefits availed under the scheme were low-end secondary care and the benefits were availed in a few selected hospitals at the District head quarters. The business model under which the scheme is designed was found to have certain weaknesses with some stakeholders taking advantage of the same. The scheme was found to have no mechanism to address patient grievances.

The main lacunae of this scheme as highlighted by this report include: instead of complementing the existing public health care delivery system the RSBYhas had an adverse impact on ongoing governmental healthcare programs. Duplication of efforts and wastage of scarce governmental resources was observed in Amaravati with no public healthcare facility empanelled for treatment under the RSBY. Private Hospitals providing treatment were seen to be making profits by skimming patients and manipulating diagnosis, with more than one diagnosis seen in many claims. There was lack of synergy between various government departments during implementation of the scheme with the administrative cost in terms of design and management of the scheme reported as quite high.

While it has been reported in many states where the RSBY is being implemented, overutilization is a problem. However, Maharashtra has reported the worst performing districts in terms of access to care in RSBY. According to a recent PIB release[79], districts like Satara and Chandrapur reported a burn-out-ratio of only around 30%. In simple words, it means that hospitalization services were hardly utilized by the beneficiaries and it is imperative that the reasons for these barriers be

[76] http://articles.timesofindia.indiatimes.com/2011-05-24/pune/29577397_1_bpl-families-rsby-rashtriya-swasthya-bima-yojana

[77] Rathi, Prateek (2011), 'Evaluation of ´Rashtriya Swasthya Bima Yojana, a Health Insurance Scheme for below poverty line people in Amravati' , Project Report, Postgraduate Program in Public Policy & Management, IIM Bangalore.

[78] ibid

[79] http://www.pib.nic.in/archieve/others/2011/jan/d2011012101.pdf

explored and addressed. There is an urgent need to empanel public facilities into the scheme in large numbers, as RSBY is seen to have a major role in the state's universalisation plans, and an expansion of the scheme is underway, bringing non-BPL workers under its purview.

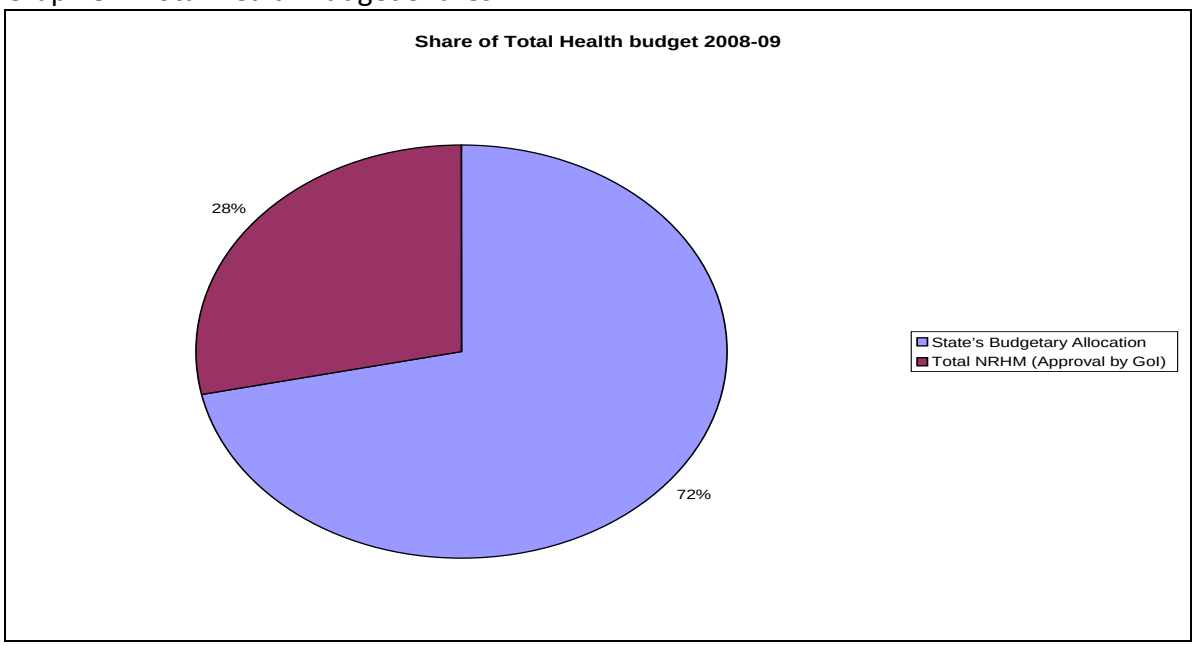
The Maharashtra government is also concurrently planning to revive its Rajiv Gandhi Jeevandai Arogya Yojana (RGJAY) and has invited insurance companies to submit proposals. Although the scheme has been in existence since 1997, it has failed to benefit its target group. The first phase of the revamped scheme will include eight districts, including Mumbai and the suburbs. RGJAY, a cashless scheme like RSBY wherein the premium will be paid by the government, will sanction up to Rs1.5 lakh to orange and yellow ration cardholders in case of major illnesses. Expenses of kidney patients of up to Rs2.5 lakh will also be covered.[80] However, learning from the experience of RSBY as well as from the private charitable hospitals' recent efforts to scuttle the free beds scheme using Jeevandayi Scheme as an excuse, it will be prudent for the government to tread a more cautious path, rather than scaling up insurance based schemes hoping that the poor will be able to access private health care.

[80] http://www.dnaindia.com/mumbai/report_maharashtra-revives-cashless-medical-scheme-for-the-poor_1552805

CHAPTER 5:
PUBLIC HEALTH CARE FINANCING IN MAHARASHTRA

While National Rural Health Mission is indeed important, the problems associated with the state's budgetary expenditure are at least as important. This is because Maharashtra's budgetary allocation constituted more than 70 per cent of the total resources available for health and family welfare in the state in 2008-09 . The NRHM contribution (in terms of approval was relatively small and constituted only about 28 per cent of the total available funds as shown in the next diagram.

Graph 32: Total Health Budget Shares



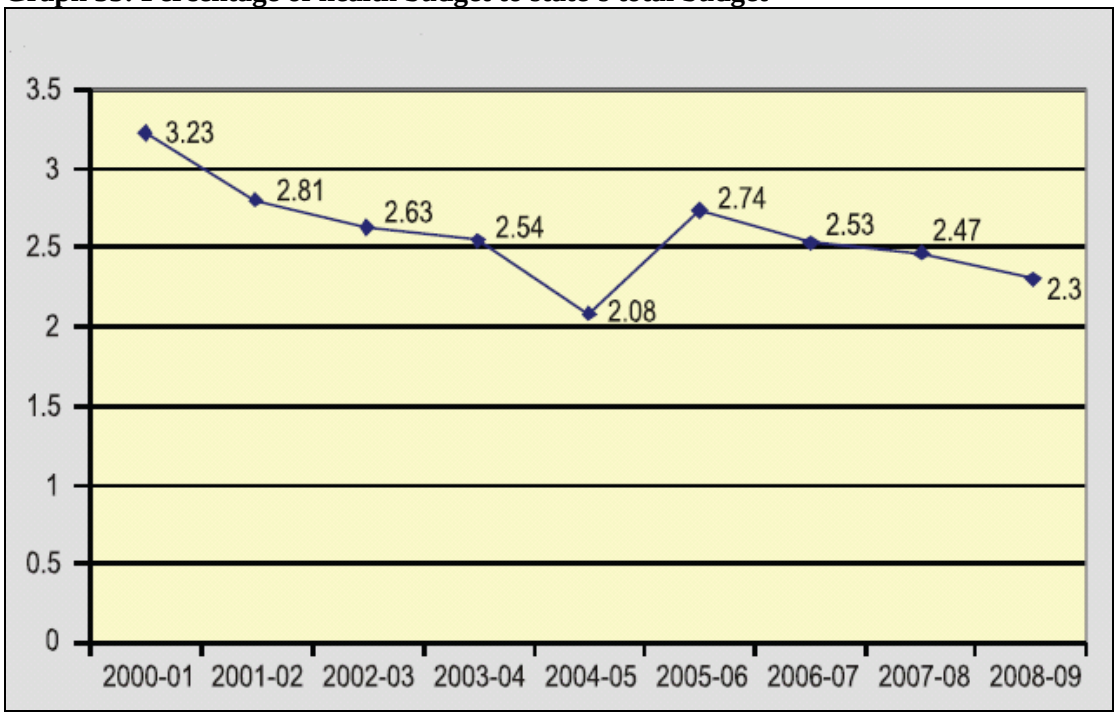
Source: NIPFP (2010) Financing Human Development – VIII.

Health expenditure, for the following analysis includes expenditure by ministries of health and family welfare and therefore, excludes water supply and sanitation. It thus includes curative care i.e., hospitals and dispensaries, primary health care, preventive and promotive programmes such as control of diseases, family planning, and immunisation, medical education and teaching hospitals, Employee State Insurance Scheme (ESIS), Food and Drug Administration etc.

Public provision of health care in India is a responsibility shared by state, central, and local governments. However, since health is a 'state' subject this means that the primary responsibility of financing and provision of public health services rests with the state governments. The central government plays the role of an overseer by providing directives and guidance through the formulation of national policies and by the transfer of funds via its plan expenditure largely for centrally sponsored schemes (CSS) and other central schemes which are either wholly subsidized by the central government or are co-financed by the central and the state governments. States, as seen earlier, account for nearly 80 per cent of all public expenditure on health, the rest being central government expenditure and tied grants to the state.

While the health outlay has gone up in absolute terms, the percentage of state health budget in Maharashtra as a percentage of total budget has been going down continuously. This downward trend is presented in the next figure. Added to this, yet another matter of major concern has been the low level of utilization of funds, which brings down the effective amount of money spent on public's health even further. Between 2004-05 and 2008-09, utilization as a percentage to approved outlay has never been more than 56%. In 2006-07, it was as low as 34%. [81]

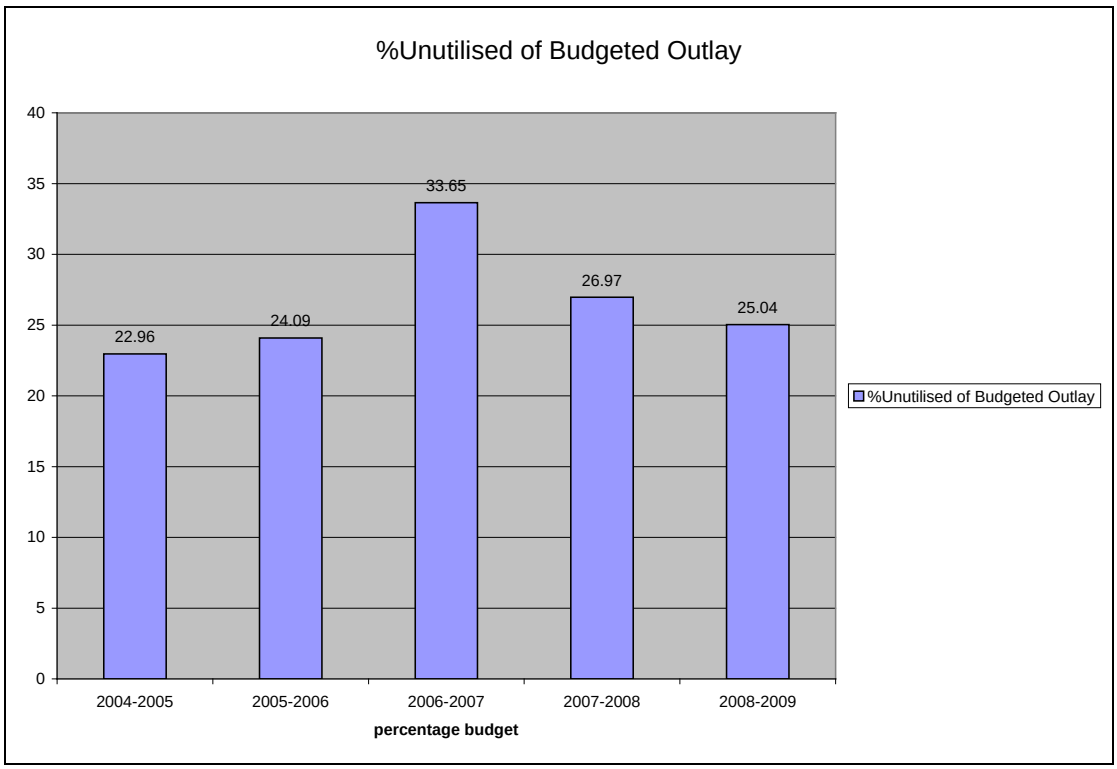
Graph 33: Percentage of health budget to state's total budget



Source SHSRC (2009)

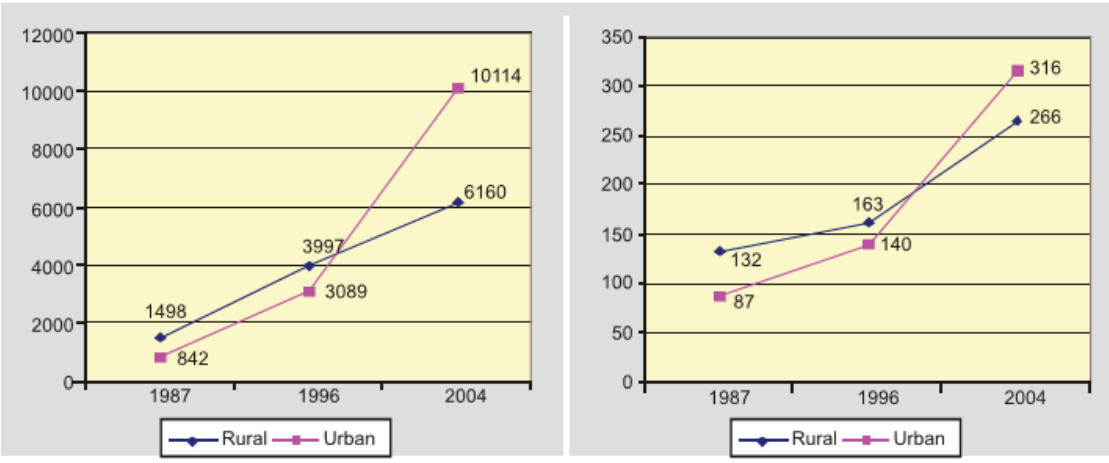
Graph 34: Percentage of budgeted outplay

[81] SHSRC (2009)



As a result of the low government spending as a proportion of state income which is exacerbated by low utilization even the budgeted outlay, private out of pocket spending in Maharashtra has risen substantially. This happens because healthcare is a grave necessity despite its high costs in the private sector. When the government care is absent, the patients are forced to spend large amounts even if that means sale of assets and borrowing as discussed earlier. The average out of pocket expenditure in Maharashtra on IPD and OPD has shot up over the last couple of decades as shown in the next diagram.

Graph 35: Expenditure across years



Source: SHSRC (2009)

Total expenditure on public sector health care

Total government health care expenditure increased from Rs 1,775 crore in 2001-02 to Rs. 4,961 crore in 2009-10 (Actual). For 2010-11 (RE) is Rs. 4,961 crores and 2011-12 (BE) is Rs.5, 344 crore . In real terms Rs 1,090 crore in 2001-02 to Rs. 3,036 crore in 2009-10 (using 2004-05 as the base year). This shows a 9 % per year real increase but the overall government spending also increased at the that rate 10.45 % in real terms. The growth rate of per capita expenditure on health and family welfare has been significantly lower than the growth rate of NSDP in the state, resulting in a declining ratio of health expenditure to NSDP in the recent past.

The share of centrally sponsored schemes/Central plan schemes contribution in the total health expenditure increased from 10.8 per cent in 2003-04 to 13 percent in 2008-09. In year 207-08, 2008-09 and 2009-10 the underutilization of the schemes under 50% contributed schemes was in the rage of 65.47, 73, 22 % respectively. Health expenditure, as a proportion of Social Services expenditure, has started declining since 2007-2008. Between 2002-03 and 2006-07 per capita expenditure on Public health and family welfare in the state has increased from Rs. 191 to Rs. Rs. 238 in actual terms.

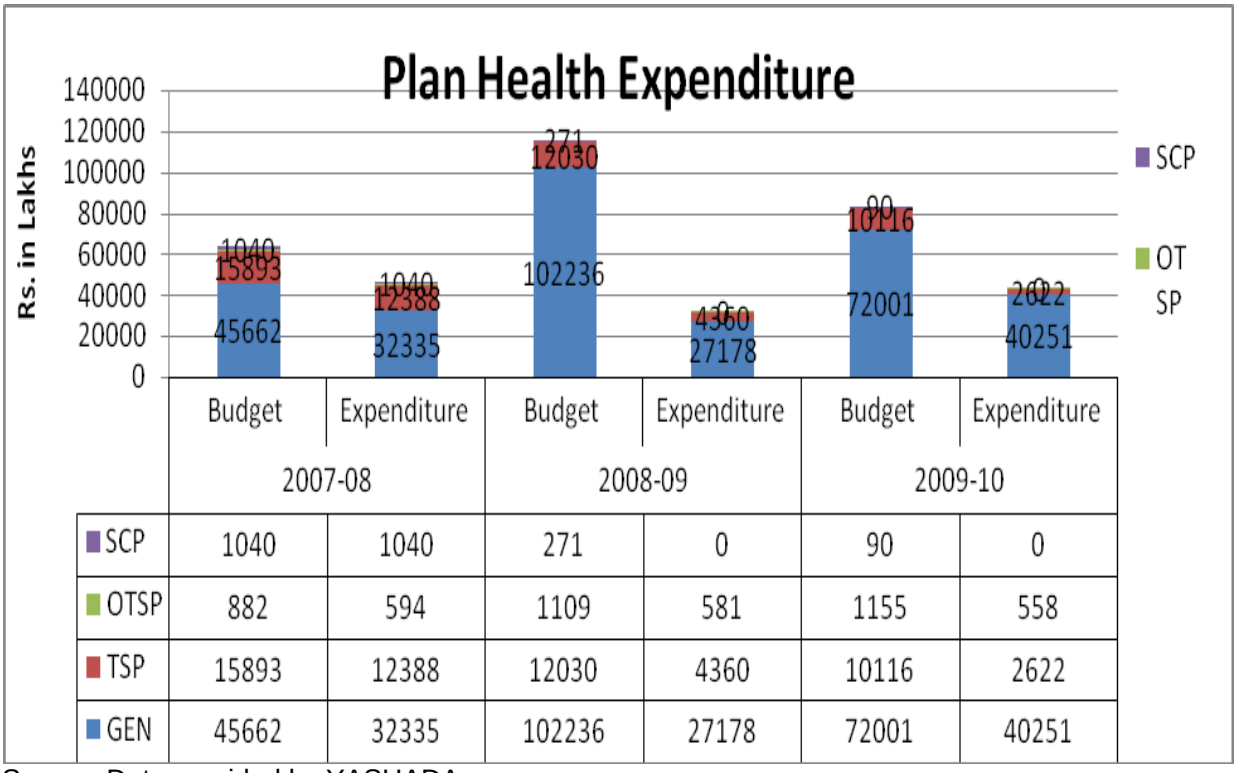
Table 16: Public Health Expenditure , Maharashtra Rs. In Crores

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Public Health Exp **	1,775	1,697	1,925	1,924	2,071	2,388	2,783	3,445	3,911
Public Health Exp (2004-05)	1,090		1,118	1,924	1,624	1,902	2,458	2,877	3,036
as % of Tot Exp	4.05	3.85	3.78	3.25	3.32	3.26	3.65	3.64	3.48
as % of Social Service	10.89	11.81	11.83	10.79	9.79	9.54	10.11	10.40	9.21
as % of NSDP**	0.74	0.64	0.64	0.57	0.54	0.52	0.55		

Source: Finance Accounts, Govt. of Maharashtra, Public Health Dept. and Medical education Dept.; Economic survey of Maharashtra.

Note: RE- Revised Estimate , BE –Budget Estimate ; Social services such as education, healthcare, water supply, housing, etc., are all essential to promote the well-being of the citizens of the State

Graph 36: Plan Health Expenditure



	2007-08 Budget	2007-08 Expenditure	2008-09 Budget	2008-09 Expenditure	2009-10 Budget	2009-10 Expenditure
SCP	1040	1040	271	0	90	0
OTSP	882	594	1109	581	1155	558
TSP	15893	12388	12030	4360	10116	2622
GEN	45662	32335	102236	27178	72001	40251

Source: Data provided by YASHADA

The plan components offer a better way of looking at public health expenditure and its utilization. Plan expenditures generally include spending on new schemes and upgradation or expansion of continuing schemes as well as outlays on new or replacement infrastructure. A glace through the above table that disaggregates total health expenditure shows the disturbing trend that expenditure under the Tribal Sub Plan Component has declined and in the case of Special Component Plan -which focuses on Dalits- there has been no expenditure reported in the last two years, despite there being budget allocations..

Expenditure on Disease Control Programmes

Expenditure on Disease Control programmes shows an increasing trend. Expenditure on National Disease Programme is mainly on Malaria, Filaria, TB , Leprosy and Anti Plague Programmes. These programmes accounts for nearly ninety percent of the total disease program expenditure and the recent increases are mainly due to central financial transfers to the states.

Table 17 : Disease Control Programme Expenditure

Year	Malaria	Filaria	T.B	Leprosy	Disease control program Total
	Per centage				(Rs. in Millions)
2002-03	50.36	6.36	13.21	NA	1,528.40
2003-04	55.85	7.13	5.66	NA	1,493.93
2004-05	59.26	8.03	4.43	NA	1,579.56
2005-06	58.97	7.62	4.76	NA	1,710.42
2006-07	NA	NA	NA	NA	1,906.00
2007-08	NA	NA	NA	NA	2,295.52

Year	Malaria	Filaria	T.B	Leprosy	Disease control program Total
2008-09	57.29	7.14	1.44	15.45	2,362.61
2009-10	62.72	9.37	4.29	15.65	2,307.75

Source: Civil Budget Estimate , Public Health department Finance Accounts, Govt. of Maharashtra, respective years

Per Capita Health Expenditure: Rural-Urban Disaggregation

Using disaggregated budget data from districts we have tried to understand the relative priority to investment in public health across districts. However, to gain a comprehensive picture of district health service expenditure, local government (Municipal Corporation) own contributions to such services needs to be incorporated in this analysis. Because of non availability of any such data on health expenditure in Urban local bodies, we limit our analysis on the district treasury data which is incomplete.

The source for District level Expenditure data is the Indian Audit & Accounts Department Office of The Accountant General (AG), Maharashtra. This district level expenditure is routed through the treasury and is captured by the AG's office through the vouchers received for the same. However, the sum of all districts treasury health expenditure data will not match with the sum total of the state health expenditure as there are some other expenses which are not categorized at district level. In the below table, revenue account expenditure from the district treasury data are used for per capita health expenditure computation. If we add expenditure at state level and for capital account, then the per capita health expenditure will doubtlessly increase. Further, the Per capita State total in the table excludes Mumbai since data for the same is not available. Though other sources (performance budget medical education) mention that Mumbai accounts for a major 15-20% share of the state health budget, the lack of actual numbers limits us from including the data for Mumbai. Thus, the per capita expenditure for rural and urban Maharashtra are not much different.

In our analysis, we thus stick to treasury data, which does not follow rural-urban disaggregation of expenditure. While some expenditures are directly available as rural and urban like rural allopathy and urban allopathy, the remaining have to be estimated on the basis of judgement and experience. Hence we have done this exercise for preparing the per capita rural – urban health expenditure Table .

There are a number of districts which have higher expenditure in rural areas and interestingly these are mostly districts which do not have a government medical college like Thane, Raigad, Nashik, Nandurbar, Akola, Chandrapur. At the same time, districts which do have a medical college like Nagpur, Sangli, Solapur, Aurangabad, Beed etc have much higher urban expenditures than rural (Pune being an exception). This means that in Maharashtra medical college and the tertiary care hospitals take away a substantial chunk of the public health budget.

Table 18: Per Capita Health Expenditure – Rural and Urban[82]

(in Rs.)

		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
		RURAL						URBAN					
1	Thane	162	185	154	167	203	264	102	91	101	104	99	100
2	Ratnagiri	131	127	125	132	143	165	339	352	429	426	359	361
3	Sindhudurg	195	180	178	188	207	250	337	364	394	569	562	540
4	Raigad	123	113	121	127	135	145	90	89	99	118	109	87
5	Satara	97	113	103	110	128	149	158	181	173	216	207	187
6	Solapur	100	102	99	105	120	143	217	216	236	238	246	272
7	Sangli	102	94	101	104	112	131	304	290	309	335	349	355
8	Kolhapur	102	117	112	124	139	153	149	183	195	196	206	201
9	Pune	214	220	215	205	279	317	198	203	221	239	206	217
10	Ahmadnagar	74	97	91	102	123	137	60	66	65	79	74	68
11	Nandurbar	111	151	137	139	224	257	38	49	131	159	173	76
12	Dhule	120	131	136	135	171	181	311	282	371	346	383	385
13	Jalgaon	99	123	108	118	119	144	74	76	84	93	89	80
14	Nashik	124	149	132	146	178	195	86	83	82	106	95	98
15	Parbhani	132	133	127	127	164	159	128	134	150	168	166	155
16	Nanded	123	147	149	153	173	174	305	282	300	312	356	335
17	Latur	136	137	120	127	173	169	153	171	198	258	367	373
18	Hingoli	86	86	118	120	136	136	26	30	57	46	157	37
19	Jalna	99	108	130	125	143	143	145	162	156	161	188	199
20	Osmanabad	130	131	144	140	150	158	250	275	309	338	382	370
21	Beed	93	106	114	115	131	141	561	617	669	762	797	809
22	Aurangabad	108	129	115	117	166	152	363	339	365	377	415	430
23	Yavatmal	112	122	118	123	154	159	341	324	425	419	472	418
24	Wardha	135	131	146	141	150	168	339	330	344	328	341	413
25	Gadchiroli	220	270	256	292	317	319	572	710	1023	941	1110	998

[82] Rural includes rural health services-allopathy, minimum needs programme and PHC grants to Zilla parishad , rural- family welfare prog. as 100 per rural. On the other hand urban health service – allopathy as well as hospital and dispensaries of medical education, urban-family welfare as 100 per cent urban . The program expenditure distributed on 60:40 rural urban population ratio includes Director and Adminstration , preventive and control program, MCH, hospital and dispensaries public health education and publicity, Manufacturing of sera. It excludes ESIS and Pay and account which is not disaggregated at district

26	Nagpur	1227	379	301	351	274	430	504	426	471	476	501	477
27	Bhandara	148	137	148	165	178	183	414	474	410	464	478	458
28	Buldhana	102	118	121	116	137	147	265	288	286	250	273	251
29	Washim	102	127	123	127	142	145	26	36	88	80	106	40
30	Chandrapur	161	157	172	183	220	236	97	97	116	115	130	114
31	Gondia	109	141	160	151	198	218	194	232	283	237	286	425
32	Amaravati	130	137	147	152	169	193	146	166	206	198	298	202
33	Akola	169	174	156	171	196	210	263	299	286	327	473	591
34	State	152	142	137	143	167	187	146	143	158	167	175	174

Rural Health expenditure, 2009-10

We would like to state here that we have reproduced the data as was contained in the District Economic Abstracts. Despite obvious errors (typographical or otherwise), we have not altered the data. But with this limited data Rural Per capita health expenditure for year 2009-10 is shown. Here again we would like to state that the Zilla Parishad Health expenditure includes both their own sources of resources expenditure and State grants. Rural Per capita in earlier year that were used in the above tables, however, does not include own sources of revenue expenditure.

Rural Per capita Health expenditure shows that 15 districts had less per capita expenditure compared with the State. First from the bottom is Wardha (Bhandara is excluded as the very low number may be a reported error in the district economic abstract) followed by Jalgaon, Beed, Ahmednagar, Latur, Solapur, Raigad, Akola, Satara, Hingoli, Dhule, Yavatmal, Pune, Amravati, Nandurbar, Nagpur and Washim.

	Table 19: Rural Health Expenditure , 2009-10 Rs. In thousand				
		Zilla Parishad	Tribal Sub Plan (TSP)	OTSP	
1	Thane	6141	1434		293
2	Ratnagiri	4336			273
3	Sindhudurg	4369		257.63	578
4	Raigad	2821.9		33.08	156
5	Satara	4527.1			170
6	Solapur	4363.9			150
7	Sangli	5489			253
8	Kolhapur	7518			277
9	Pune	5912	288.8	7.01	188
10	Ahmednagar	4703	285.1		139
11	Nandurbar	1338.8	868		199
12	Dhule	2341	223.1	1	178
13	Jalgaon	3248.9	18.77		112
14	Nashik	9219	1291		290
15	Parbhani	2935.9			253
16	Nanded	12010	310.4	108.64	490

17	Latur	2692.5			147
18	Hingoli	1427.4			171
19	Jalna	5069			346
20	Osmanabad	4442.8			315
21	Beed	2454			120
22	Aurangabad	5762.9			272
23	Yavatmal	4011	143.1	82.19	187
24	Wardha	1021		20.96	101
25	Gadchiroli	3348	1009		400
26	Nagpur	3308	96.16	5.69	208
27	Bhandara	24.85		4.81	3
28	Buldhana	4954.6		23.66	248
29	Washim	1872.3	27.4		226
30	Chandrapur	3766.6	269.7	23.11	267
31	Gondia	2537	242.5	135.32	276
32	Amaravati	3263	350.3	6.32	189
33	Akola	1834.5		18.13	163
34	**State**	133064	6857	727.55	226

Source: District Socio-Economic Abstract of respective districts

The achievements of Maharashtra are not commensurate with its level of GSDP. One of the important reasons for this is the low priority given to health and family welfare by the state. The problem is associated with the proportion of health budgetary allocation and expenditure to the total state budget and it constituted 2.3 % for year 2008-09 of the total state budget. It has declined over the years (fig 19). Maharashtra needs to increase the health budget substantially at least upto 3% of NSDP on the average as mandated by the NRHM to be able to provide quality public health care but around 5% of NSDP for underserved and difficult tribal areas. The recent study[83] by National institute of Public Finance and Policy (NIPFP) on Financing Human Development , estimated the Additional resource requirement in the health sector arising because of the shortfall of rural facilities following the national norms for health facilities like the SCs, PHCs and CHCs. It was estimated that a capital investment of Rs. 114 crore is required for meeting the norms on these facilities. If this investment is spread over a period of 5 years, the state would have to incur an additional investment of Rs. 23 crore annually. Apart from the capital investment, establishment of these facilities will increase the recurring expenditure of the state by about Rs. 670 crore annually. Additionally, to meet the IPHS standards on staff in SCs, PHCs and CHCs (as of 2007), the state would have to incur an additional recurring expenditure of about Rs. 1181 crore annually. Together, the state requires a minimum additional expenditure (both capital and recurring combined) of about Rs. 1874 crore annually.

In recent past, real per capita expenditure has remained nearly stagnant and the growth in public expenditure on health and family welfare has not kept pace with the growth of income in the state[84]. Possibly due to the stagnant public spending,

[83] Matching Human Development Across Maharashtra With Its Economic Development by Tapas K. Sen H. K. Amar Nath ,Mita Choudhury and Surajit Das (2010)
[84] ibid

expansion of preventive services like ante-natal registrations has primarily occurred in the private sector. Besides, the state spends a relatively higher amount on tertiary health care services and a lower amount on primary health care services .

Distribution of the health resources in districts are based on exclusively "supply-side considerations" (i.e., the existing supply of infrastructure and personnel). It does not take any equity based consideration thath is driven by the need/demand for services. Between 2002 to 2011 , there has been negligible increase in the number of PHC s particularly in the tribal districts (increase from 300 PHS in 2002 to 315 in 2011). Naturally, the state is yet to achieve Population norms. Steps need to be taken for removing regional imbalance and for maintaining inter-district equity while making provisions for health services.

To conclude, one sees that while the central government is giving more budgetary resources to the state , the state government is not reciprocating to the extent necessary, but abdicating its role of contributing more. State Budgets need to be augmented substantially to fully realise health outcomes. For this the state health sector budget need to be increased substantially.

CONCLUSION

For Maharashtra to achieve inclusive health outcomes for its population, the need of the hour is to address the shortcomings in some of its health inputs and processes as highlighted in the findings in the previous chapters. Some of the most pressing health sector development imperatives that Maharashtra needs to immediately address include shortages in human resources for health care , food and nutritional insecurity for the masses, child immunisation, enhancements in safe deliveries and increased coverage of ante natal care, These can only be achieved by an increase in the public expenditure on health by the state. A strong public health system which has no barriers to access, does not discriminate based on population sub-groups, has a large outreach and is effectively run by adequate, trained and accountable health personnel would most certainly lead to reductions in morbidity and improvements in the health status of its populace as well as result in inclusive health outcomes. As an initial step towards that goal, user charges in public hospitals can be abolished and the narrow BPL focus of health programmes need to be broadened.

In the light of the findings of the report, there is a need to specifically address regional disparities in terms of infrastructure availability of primary, secondary and tertiary care services. In addition to strengthening rural infrastructure, efforts need to be made in making it accessible in the light of the latest NHSRC study finding that about 18% of the facilities surveyed in Maharashtra were difficult to access. Specific programmes that aim at improving health access for highly disadvantaged groups that are evidenced to have a limited access to healthcare are necessary.

As a proportion of total budgetary expenditure, the state spent about 3.65 per cent, which was not only lower than states like Kerala and Tamil Nadu, but also significantly lower than the target of 7 to 8 per cent set by the National Health Policy 2002. It has to be increased to at least 5 per cent of the total budget. Underutilization of resources needs to be addressed. Low level of spending in the health sector is a concern and so is under utilization of available funds. There was no expenditure reported under Special Component Plan in the last two years, despite there being budget allocations. Urgent steps need to be taken towards solving these issues. Along with budgetary enhancements, Drug availability in hospitals needs to be made sure of so that patients do not have to purchase from outside. Tamil Nadu which is a much poorer state than Maharashtra has offered a model (TNMSC) which needs to be emulated at the earliest. TNMSC is without doubt contributing to its better health status in comparison to Maharashtra. More transparency in the procurement system will improve efficiency and access. Additionally, there is a lack infrastructure of support services like drug storage and warehousing, medical waste management, surveillance and cold chain management. Such facilities will have to be ensured at sufficient scales the regional and district level.

Human resources are amongst the most important components of a health care system. Maharashtra is producing a large number of doctors but they are in the private sector. Specific directives that make rural postings for MBBS and PG doctors

compulsory and non-negotiable. Financial and non financial incentives for serving in rural and tribal areas need to be specifically implemented and monitored for effectiveness. There is a dearth of trained nurses in the state and therefore need to set up nursing colleges. Maharashtra boasts of a huge private sector that is thriving without any regulation of any kind. The BNHRA rules submitted prepared in 2006 through a wide consultative process should be implemented immediately so that basic standards of care like human resources, maintenance of records, reporting of health information- morbidity, mortality data, adherence to patient's rights, provision of information to patients, display of cost and types of services, grievance redressal mechanism and so on are regulated for the nursing homes. These form a large part of the private sector. Implementation of a geographical norm for setting up of private hospitals can be considered so that there is some equitable distribution of facilities and resources.

The state has embraced PPPs as policy and has embarked on several initiatives. The monitoring mechanisms need to be made more effective and powerful. Verifiable sets of performance indicators have to be prepared for PPPs and reports routinely made. Health care services provided by such PPPs have to be, as a rule, an entitlement, and a service guarantee. The ownership of partnership should be with the public sector. Continuous monitoring and evaluation of the partnership is required so that equity concerns are addressed. There should mechanisms for reviewing contracts and making changes. The state needs to upgrade its management skills to be able to play role of monitor. As per law the charitable trust hospitals are required to provide free treatment to a stipulated number of BPL patients but they have been flouting this for long. Stringent action against them should be taken. The number of beds that each of these hospitals must make available for BPL patients should be labelled as public bed and a strong referral network with the public health services should be established so that this is operationalized.

Community based monitoring of NRHM, which has proved successful in some districts of the states, needs to be introduced in all districts. Maharashtra is one of the very few states that have successfully implemented this programme. It has contributed extensively to improving the public health services in terms of its availability and utilisation. Along with this, there is a need for bringing all laws governing public and private health care should be under one umbrella. Bringing all laws governing private sector like the MTP, PCPNDT, BNHRA, BMW under one umbrella to increase efficiency as well as effectiveness. This would ensure simplified procedures, better compliance, and stricter monitoring. Declining sex ratio is a shame and it is possible only with the connivance of doctors. Medical associations should be made answerable for taking action against such erring doctors. Gujarat has taken initiative on this and a draft Gujarat public health act has been drafted through a large consultative process. Maharashtra must consider this so that issues of health care as entitlements, standards of care, patients rights and grievance redressal mechanism, are all legislated. The stare must work towards this through consultative process that involves various stakeholders.

Urban health needs to be brought into focus as there has been rapid urbanization in the state. The disease load needs to be addressed using well organized referral system that has sufficient staff, where patients do not feel the need to visit tertiary hospitals even for minor ailments. Such a well developed referral system with focus to primary health care should take care of crowded tertiary hospitals. Lack of basic health care services in urban areas needs to be addressed rather than depending on insurance schemes like RSBY where the problems such as induced demand, cost escalation, moral hazard, and exclusion of the poor are severe. However, in the interim period, we recommend that empanelment of public hospitals in RSBY be improved substantially. Currently, the participation of government hospitals in the scheme is not even 1% of the total. As it is being run now, it is a completely private sector scheme.

There is a dearth of reliable data regarding the health sector, which is a serious handicap to policy improvements. Quality of government data even on public healthcare infrastructure is highly suspect. This needs to be remedied at the earliest so that policy is informed by strong evidence based of analysis of technically sound data on the facilities, at a regionally disaggregated level. As the Common Review Mission of NRHM recommended, the two parallel information management systems functional at the state level namely Maharashtra state MIS and the GOI HMIS need to be integrated and necessary training given to personnel. Apart from the double data entry done at both the sources the reliability of the HMIS data is highly questionable due to errors due to manual translation of the information from MIS to HMIS.In addition to the previous point, patient records in public hospitals needs to be collected and compiled electronically. An optimal use of IT and an enhanced level of computerization is advised. With enough safeguards, data thus collected should be available to inform policymaking and research as a source of sound epidemiological profile of the population.

Lastly, the removal of user charges from all government hospitals should be an immediate priority. The evidence from various studies show that they impede access of the poor and the recent Planning Commission's High Level Expert Group report has recommended withdrawal of all such fees. Access to care should be based on needs and not on ability to pay. In line with the recommendations of HLEG, initiatives to guarantee free access to universal access to health care without any targeting mechanisms should be started at the earliest.

ANNEXURE TABLES

Table 1: District wise availability of facility and health personnel

	percentage of villages with*						
District	Sub Centre	PHCs	Any Govt Health Facility*	Doctor	Asha	Anganwadi Worker	JSY beneficiaries
Thane	50	7.1	50	14.3	28.6	100	92.9
Ratnagiri	38.6	4.5	40.9	45.5	6.8	90.9	79.5
Sindhudurg	51.1	13.3	51.1	51.1	0	97.8	91.1
Raigad	31.6	18.4	36.8	34.2	5.3	97.4	71.1
Satara	37.2	16.3	48.8	41.9	0	97.7	83.7
Solapur	44.1	20.6	50	35.3	2.9	100	97.1
Sangli	57.9	15.8	57.9	55.3	5.3	100	76.3
Kolhapur	34.3	17.1	37.1	54.3	0	94.3	88.6
Pune	57.1	28.6	57.1	47.6	0	90.5	71.4
Ahmednagar	52.5	17.5	55	40	2.5	100	92.5
Nandurbar	26.2	9.5	42.9	31	57.1	97.6	69
Dhule	48.6	24.3	59.5	32.4	21.6	97.3	78.4
Jalgaon	44.4	16.7	50	69.4	5.6	91.7	91.7
Nashik	25.8	12.9	32.3	35.5	38.7	96.8	67.7
Parbhani	44.1	0	44.1	17.6	5.9	100	82.4
Nanded	31.6	5.3	36.8	36.8	5.3	97.4	89.5
Latur	47.4	13.2	50	39.5	0	100	92.1
Hingoli	19	0	31	45.2	0	100	92.9
Jalna	22.5	10	25	20	12.5	97.5	77.5
Osmanabad	33.3	11.9	35.7	26.2	4.8	97.6	81
Beed	24.4	14.6	34.1	43.9	0	97.6	80.5
Aurangabad	35.5	3.2	35.5	38.7	6.5	100	51.6
Yawatmal	48.8	9.8	48.8	34.1	7.3	100	80.5
Wardha	35.1	5.4	35.1	37.8	2.7	91.9	94.6
Bhandara	26.2	9.5	35.7	38.1	0	92.9	71.4
Gadchiroli	48.9	14.9	51.1	17	4.3	91.5	74.5
Nagpur	33.3	0	33.3	27.8	11.1	94.4	100
Buldhana	25.6	2.6	25.6	30.8	12.8	92.3	59
Washim	24.4	2.4	58.5	26.8	17.1	97.6	68.3
Chandrapur	38.2	14.7	38.2	38.2	17.6	94.1	76.5
Gondiya	50	18.2	54.5	45.5	22.7	100	72.7
Amaravati	30.3	9.1	30.3	45.5	27.3	93.9	90.9
Akola	29	6.5	29	80.6	3.2	93.5	80.6
Maharashtra	37.5	11.4	42.6	38.9	9.7	96.5	80.4

* Includes Sub-Centre, Primary Health Centre (including Block PHC), Community Health Centre or referral hospital, government hospital, and government dispensary within the village.

Source DLHS III 2007-2008 Maharashtra State Report

Table 2: Population per public health facilities across 1991, 2001 and 2011										
	Population Per Sub Centre			Population Per PHCs				Population per Rural Hospitals		
	2000	**2010-11**		**1990-91**	**2001-02**	**2010-11**		**1990-91**	**2001-02**	**2010-11**
Thane	4743	5443		25424	28953	34333		142763	185781	133899
Ratnagiri	4023	4259		20985	22456	24031		140600	167174	134170
Sindhudurg	3197	3244		20237	20698	21169		109857	87390	80441
Raigad	6040	6496		28230	30420	35979		136016	167309	124729
Konkan	**4531**	**4953**		**23927**	**26133**	**29631**		**134807**	**154839**	**122164**
Satara	7802	6804		30950	33956	38334		177961	241087	151206
Solapur	7976	6942		34872	38592	38860		209234	291584	157483
Sangli	7223	6963		29948	33056	37767		189671	216701	148549
Kolhapur	6665	6722		32873	34345	38560		169423	190216	138814
Pune	6051	6257		33238	35253	35129		170344	202115	140514
Western Maharashtra	**7017**	**6700**		**32470**	**35084**	**37575**		**181511**	**223035**	**146779**
Ahmednagar	6674	6649		32267	36370	38438		218420	248996	147603
Nandurbar	NA	4874		NA	22633	24369		NA	110904	88336
Dhule	2928	6397		24887	30782	36200		167990	420687	185523
Jalgaon	6624	6765		30434	32874	38834		154198	164369	149513
Nashik	5766	6522		27278	28832	36533		155142	122250	129756
North Maharashtra	**6128**	**6365**		**28722**	**30943**	**35576**		**172331**	**168570**	**136131**
Parbhani	2970	5570		32165	33630	38452		182271	130316	149002
Nanded	5848	6956		31452	34175	40975		165839	156228	163898
Latur	6795	7516		30336	34566	41176		166847	176669	157841
Hingoli	NA	7463		NA	34714	41048		NA	166626	197030
Jalna	7632	7054		34354	34345	37561		188950	186445	150245
Osmanabad	6144	7045		26401	29841	34552		154635	156666	161243
Beed	7013	7519		33225	37749	42107		186888	221773	161950
Aurangabad	7298	7887		34619	38508	44008		212662	258552	169262
Marathwada	**6428**	**7144**		**31744**	**34795**	**40210**		**178559**	**178718**	**162244**
Yawatmal	5350	5351		29156	32275	36949		132324	166755	136927
Wardha	5065	5859		29031	33766	39274		111977	130242	106040
Bhandara	2249	5481		28621	32014	32058		166521	320139	117547
Gadchiroli	2428	3019		15965	20067	25223		89806	75253	94587
Nagpur	4846	5325		27916	30289	34340		157028	181736	129434
Buldhana	6638	7378		31872	33829	39726		213995	251300	121515
Washim	NA	6715		NA	33671	41098		NA	140295	146779
Chandrapur	4185	4573		21613	24242	26730		141686	108156	119256
Gondiya	NA	4967		NA	25173	30311		NA	117475	107468
Amaravati	5336	5905		27462	30493	35112		164770	155235	140448
Akola	3076	6577		30383	33425	39022		197493	200548	195110
Vidharbha	**4829**	**5369**		**26873**	**29483**	**34018**		**151831**	**150587**	**125786**

Source: **: Government of Maharashtra, Directorate of Health Services**

Note: For the year 2011 we have also taken into account the Sub District Hospitals that were actually RHs before so that comparability is maintained. Many RHs were upgraded in the last decade into SDHs of 50 as well as 100 beds.

Table 3: Population per Public as well as Private Bed (2009-10)		
	Population Per Private Bed	Population Per Public Bed
Dist		
Thane	NA	1276
Ratnagiri	1003	1295
Sindhudurg	899	1030
Raigad	908	1353
Konkan	**935**	**1273**
Satara	NA	2463
Solapur	1247	878
Sangli	NA	2176
Kolhapur	NA	1866
Pune	NA	1129
Western Maharashtra	**1247**	**1320**
Ahmednagar	901	2551
Dhule	6171	1482
Jalgaon	1146	2175
Nashik	NA	1365
North Maharashtra	**1194**	**1744**
Parbhani	11404	1822
Nanded	11945	1586
Latur	4457	NA
Hingoli	NA	2927
Jalna	1169	NA
Osmanabad	NA	NA
Beed	763	NA
Aurangabad	8696	NA
Marathwada	**2450**	**1795**
Yawatmal	11102	1729
Wardha	2460	1399
Bhandara	2204	1169
Gadchiroli	25519	NA
Nagpur	601	1418
Buldhana	1917	2013
Washim	2671	2954
Chandrapur	2334	NA
Gondiya	12021	1156
Amaravati	NA	NA
Akola	2273	718
Vidharbha	**1578**	**1373**

Source: Various District Socio-Economic Surveys, DES, Govt of Maharashtra

Table 4: Population per Doctor/Nurse in the Public Sector		
Dist	**Population per Doctor (Doctors & Vaidya) in the Public Sector**	**Population Per Nurse In the public Sector**
Thane	16304	5552
Ratnagiri	8313	2610
Sindhudurg	6335	1584
Raigad	11559	4766
Konkan	**13088**	**4368**
Satara	15645	3989
Solapur	7598	NA
Sangli	6764	2849
Kolhapur	9313	3226
Pune	7677	3198
Western Maharashtra	**8309**	**3978**
Ahmednagar	18172	5252
Dhule	6363	3633
Jalgaon	14719	4369
Nashik	11107	3533
North Maharashtra	**12012**	**4103**
Parbhani	20629	4340
Nanded	14223	5353
Latur	11111	4961
Hingoli	12281	5751
Jalna	10941	48962
Osmanabad	8879	3602
Beed	10344	3786
Aurangabad	8635	3520
Marathwada	**11108**	**4701**
Yawatmal	12790	3647
Wardha	5761	2532
Bhandara	7784	3155
Gadchiroli	4304	1527
Nagpur	8633	2287
Buldhana	14458	4095
Washim	13915	3343
Chandrapur	5212	3310
Gondiya	4757	1797
Amaravati	4886	2831
Akola	9326	3283
Vidharbha	**7340**	**2754**

Source: Various District Socio-Economic Surveys, DES, Govt of Maharashtra

Table 5: Antenatal Care By District: Percentage of women (aged 15-49) who received any antenatal check-up (ANC) by districts, Maharashtra, 2007-08			
Place Of antenatal Check-up			
dist	Government Health Facility	Private health Facility	Community Based Services
Thane	51.5	40.3	3.3
Ratnagiri	57.9	43.1	0.7
Sindhudurg	66.7	37.1	3.2
Raigad	47.8	49.5	2
Satara	27.4	74.6	1.3
Solapur	35.8	61.3	0
Sangli	47.8	55	1.4
Kolhapur	39	64.4	0.8
Pune	43.9	59.8	2.3
Ahmednagar	43.1	61.2	2.8
Nandurbar	40.9	22.1	4.3
Dhule	43.2	43.7	4
Jalgaon	32	44.7	1.7
Nashik	39.2	47.8	4
Parbhani	35.6	55.7	2.4
Nanded	35	47.9	0.2
Latur	36.3	58.4	1
Hingoli	27.1	41.1	2.2
Jalna	38.9	48	0.7
Osmanabad	43.1	44.8	0.5
Beed	36.9	50.6	1.7
Aurangabad	43.8	45.5	1.3
Yawatmal	36.6	51	3.4
Wardha	46.3	49.5	1.5
Bhandara	67.4	33.4	3.6
Gadchiroli	72.3	8.2	16.5
Nagpur	55.8	46.8	4
Buldhana	38.8	51.1	3.6
Washim	23.7	54.5	2.1
Chandrapur	52.1	45.3	1
Gondiya	74.8	23.5	4.3
Amaravati	39.7	28.1	7.1
Akola	40.3	39.7	1.4

Source: DLHS III, Maharashtra State Report

Table 6: Percentage of women (aged 15-49)4 who received different types of antenatal care (ANC) by districts

Districts	Antenatal Checkup in the first trimester	three or more antenatal checkup	at least one TT	100+ IFA tablets/syrup	full antenatal checkup	any complications
Thane	67.8	84.7	93.9	49.5	41.5	50.5
Ratnagiri	73.8	83.3	95	46.3	37.2	47.2
Sindhudurg	81	92.5	99.5	49.8	47.2	55.9
Raigad	63.2	83.8	94.1	37.2	30.8	54.8
Satara	65.4	92.6	98.8	57.1	55.5	48.7
Solapur	72.5	86.6	96.8	36.3	32.4	49.1
Sangli	71.1	81.6	97.3	55.7	49.7	54.9
Kolhapur	79.2	82.8	95.6	48.2	37.4	47.6
Pune	75.2	89	97.1	55.9	52.7	59.8
Ahmednagar	76.8	83.6	95.9	61	55	69.6
Nandurbar	29.4	38.3	55.4	71.1	24.3	59.2
Dhule	40.6	49.5	71.9	55	25.7	75.5
Jalgaon	46.6	58.2	79.2	52	29.3	71.4
Nashik	62.2	71.6	86.1	56.6	39.3	65.7
Parbhani	60.9	69	83.9	49.8	34	54
Nanded	59.8	76.2	97.8	32.5	26.2	56
Latur	62.6	76.2	90	37.5	27.6	57.5
Hingoli	47.9	69.3	90.8	32.1	21.9	52.6
Jalna	58.1	69.3	88.3	42.9	28.6	53.9
Osmanabad	60.5	71.9	91.7	36.5	27.2	47.4
Beed	58.8	61.5	86.9	29.3	16	51.9
Aurangabad	51	57.2	84.2	28.5	14.1	63.7
Yawatmal	61.3	71.5	87.2	43.6	28.7	55.1
Wardha	80.4	88.6	99.2	38.2	36.1	52.2
Bhandara	65.8	84.5	95.7	54.9	47.4	72.9
Gadchiroli	46.7	72.5	83.2	61.8	43	55.3
Nagpur	74.7	95.5	97.3	47.8	44.9	61.6
Buldhana	61	66.7	89.1	39.4	27.7	76.8
Washim	66.6	68.6	93.5	28.9	23	66.3
Chandrapur	71	83.2	91.2	49.3	38.3	50.2
Gondiya	62.4	83	92	53.3	44.3	58.1
Amaravati	70.2	77.9	93.8	45.7	38.3	61.3
Akola	60.8	69.1	89.6	41.9	31	79

Source: DLHS III, Maharashtra State Report

Table 7: Institutional deliveries

PLACE OF DELIVERY AND ASSISTANCE CHARACTERISTICS BY DISTRICT				
dist	percentage of women who had institutional deliveries	home deliveries	home delivery assisted by skilled persons	percentage of safe deliveries
Thane	71.7	26.1	1.5	73.2
Ratnagiri	73.3	26.5	3.4	76.7
Sindhudurg	92.7	6.8	1.3	94
Raigad	69.2	30.5	5.9	75.1
Satara	87.4	12.3	3.5	90.9
Solapur	67.1	33.3	6.3	73.4
Sangli	76.1	24.3	2.8	78.9
Kolhapur	89	10.1	3.6	92.6
Pune	83.2	16.7	4.7	87.9
Ahmednagar	80.1	18.7	7.1	87.2
Nandurbar	25.4	73	8.6	34
Dhule	50.5	48	8.9	59.4
Jalgaon	53.1	46.7	12.1	65.2
Nashik	63.5	35.9	5.3	68.8
Parbhani	64.6	35.4	5.6	70.2
Nanded	55.9	43.4	5.5	61.4
Latur	63.9	35.8	7.5	71.4
Hingoli	41.5	57.7	5.8	47.3
Jalna	65.5	33.4	6	71.5
Osmanabad	58.9	40.9	10.2	69.1
Beed	68.3	30.6	1.4	69.7
Aurangabad	65.8	33.3	10.2	76
Yawatmal	53.4	45.1	6	59.4
Wardha	81.4	18.6	1.9	83.3
Gadchiroli	23.5	76.1	11.1	34.6
Nagpur	82.2	18.1	2.2	84.4
Bhandara	56.9	42.8	13.4	70.3
Buldhana	66.6	33.1	3.8	70.4
Washim	65.2	34.7	6.8	72
Chandrapur	54.9	45.5	5	59.9
Gondiya	53.6	43.3	9.2	62.8
Amaravati	63.6	36.8	2.3	65.9
Akola	74.3	24.8	4.1	78.4
Maharashtra (15-49)	63.5	35.9	5.7	69.2

Source: DLHS III, Maharashtra State Report

Table 8: Maharashtra Across DLHS Surveys		
	DLHS-3 (2007-08)	**DLHS-2 (2002-04)**
Indicators	**Total**	**Total**
Antenatal care (based on women whose last pregnancy outcome was live/still birth during the reference period)		
Mothers who received any antenatal check-up (%)……	91.8	92.9
Mothers who had antenatal check-up in first trimester (%)……..	61.6	51.7
Mothers who had three or more ANC (%)……	74.5	69.2
Mothers who had at least one tetanus toxoid injection (%)……..	89.6	87.6
Mothers whose Blood Pressure (BP) taken (%)……	74.0	70.6
Mothers who consumed 100 IFA Tablets (%)……	45.7	27.7
Mothers who had full antenatal check-up6 (%) ……..	33.9	22.5
Delivery care (based on women whose last pregnancy outcome was live/still birth during reference period)		
Institutional delivery (%)……	63.6	57.9
Delivery at home (%)……..	35.8	41.7
Delivery at home conducted by skilled health personnel (%)…	5.9	11.3
Safe Delivery7(%)	69.5	62.6
Mothers who received post-natal care within two weeks of delivery (%)……	79.7	NA
Mothers who received financial assistance for delivery under JSY8 (%)……..	8.3	NA
Child Immunization		
Children 12-23 months fully immunized (%)……	69.1	70.9
Children 12-23 months not received any vaccination (%)……	1.1	2.2
Children 12-23 months who have received BCG vaccine (%)……	95.7	96.2
Children 12-23 months who have received 3 doses of DPT vaccine (%)……..	79.0	88.2
Children 12-23 months who have received 3 doses of polio vaccine (%)……	86.3	80.2
Children 12-23 months who have received measles vaccine (%)……	84.5	85.4
Children (age 9 months and above) received at least one dose of vitamin Asupplement) (%)……	70.5	71.5

Source: DLHS Fact Sheet

S. No.	Table 9: RCH OUTCOME INDICATOR	MAHARASHTRA	
		DLHS–2 (2002–	DLHS–3 (2007–

		04)	**08)**
1	Mothers who received 3 or more antenatal care checkups (%)	69.2	76.0
2	Mothers who had full antenatal check-up (%)	22.5	33.9
3	Institutional deliveries (%)	57.9	63.6
4	Children 12-23 months age fully immunised (%)	70.9	69.1
5	Children age 6-35 months exclusively breastfed for at least 6 months (%)	14.0	33.6
6	Children with diarrhoea in the last 2 weeks who received ORS (%)	42.0	44.2
7	Use of any modern contraceptive method (%)	60.8	62.6
8	Total unmet need for family planning - both spacing methods and terminal methods (%)	12.6	14.2

Source: DLHS Fact Sheet

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