

## **Economic Burden of Non-communicable Diseases in India**

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### **Introduction:**

The reverberation of India's swift progress in demographic and epidemiological transition has resulted in a bigger challenge of double burden of communicable (CDs) and non-communicable diseases (NCDs). NCDs, which are often accompanied by long-standing disabilities, have a direct economic impact on households and communities both in terms of uptake of health services and loss of income or labor productivity due to illness (Abegunde et al. 2007; WHO, 2005).

Health expenditure, both in terms of percentage of GDP spent on health and per capita health expenditure, is very low in India. The ratio of public to private health expenditure in India is also extremely low. Further, all the private expenditure in India almost exclusively represents households out-of-pocket health expenses. According to World Health Organization (World Health Statistics, 2008), private share on total health care spending in India is as high as 81 percent, only next to Pakistan (82.5 percent). 94 percent of all private expenditure and 76 percent of total expenditure in India are out-of-pocket.

Pursuing from this background, in this paper we attempt to project the shift in the Share of communicable and non-communicable diseases and related economic cost of treatment for the Indian population, keeping in view the progress in the course of demographic transition. First, age profile of communicable and non-communicable diseases has been estimated for all the major states of India until 2051. Second, average health care costs of treatment for communicable as well as non-communicable have been estimated until 2051.

**Data:** The Morbidity and Health Care Survey (2004), carried out by the National Sample Survey (NSS) Organization has been used as the main data source for this analysis. Information on morbidity and utilization of health care services provided by the public and private sector, together with the expenditure incurred by the households for availing these services have been collected in this round. The survey was conducted between January to June, 2004 in 73,868 households, of which 47,302 were from rural areas and 26,566 from urban areas. Information on whether a person was ailing during the last 15 days preceding the survey was available for 383338 persons of which 195712 were male and 187626 were females.

The data collected can be summarized in three categories:

- The first category comprises the outpatient health care received by the household members as hospitalized cases during last 365 days. The expenses incurred during the reference period for treatment (as an inpatient of a hospital) of such ailments and the particulars of how the expenditure was financed have been recorded here.
- The second category includes all such elements for which the patients were treated during the last 15 days preceding the date of the survey, whether or not hospitalized during the last 365 days.
- The third category includes all ailments suffered during the last 15 days preceding the date of survey for which no medical treatment was availed.

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- Besides on this, the state-wise projected population by ailments in different age groups have also been estimated.

**Methodology:** The communicable and non-communicable diseases have been classified following the standard classification adopted by WHO in Global Burden of Disease Studies, 2004. Age specific prevalence of communicable and non-communicable diseases has been estimated for India and 21 major states. The shift in the share of each category of diseases has been estimated by state until 2051, assuming that the prevalence rate will remain the same among age groups over the years. Utilization over the 15-day reference period was multiplied by 24.33 to obtain an annualized counterpart to hospitalizations (after netting out any hospitalizations reported in the 15-day reference period).

We estimated the annual cost of treatment of CDs, NCDs and Other types of diseases, based on unit cost of treatment for inpatient and outpatient health derived from the NSSO data. Age-specific hospital-days have been estimated for each disease type. The average cost of treatment per stay as an inpatient and average duration of stay were estimated for each disease type to obtain per day average cost of treatment as inpatients, and multiplying it with the estimated hospital-days provide the annual cost of treatment as an inpatient. The annual out-of-pocket expenditure as inpatient has also been estimated following the same procedure, where out-of-pocket expenditure was the netting out expenditure after reimbursement. Average cost per outpatient visit was multiplied to the total number of outpatient visits to obtain the annual cost of treatment as an outpatient. Age specific inpatient and outpatient visit has been considered to capture the effect of the increasing prevalence of NCDs beyond age 45 years.

Much of health sector spending in India is financed by out of pocket expenses and the government via its provision of free or subsidized public facilities (Mahal et al. 2005). Thus, we will focus primarily on only these two sources of financing health, referring to other funding sources when appropriate. We have estimated total public subsidies as the difference between out of pocket payments incurred on private care relative to public facilities. This is based on the assumption that health insurance in India is practically non-existent. However, the amount of public subsidy varies by health conditions because of disease-specific variation in the average number of inpatient days and outpatient visits.

### Results:

#### *Age pattern of communicable and non-communicable diseases in the major states of India, 2004*

Results reveal the dominance of non-communicable diseases in total morbidity among the Indian population. In the very early stages of life, the prevalence of communicable diseases is higher than non-communicable diseases but with the advancement of the age, the prevalence of non-communicable diseases rises manifold. The non-communicable diseases turn dominant mainly beyond age 45 years and it increases gradually with the increase in age. The prevalence of either communicable or non-communicable disease is lowest among the population of 15-29 years age group. With the increase in the age, the prevalence of both communicable and non-communicable disease increases, but the latter increased at a much faster rate. The prevalence of communicable and non-communicable diseases among the elderly is 56 and 288, but among the oldest old it rises to 62 and 340 respectively.

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The prevalence of non-communicable disease is higher than the communicable disease for almost all the major states. Assam, Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Uttaranchal are the states with higher prevalence of communicable diseases than non-communicable diseases. These are also among the 18 states which gained special focus on the National Rural Health Mission. Uttar Pradesh shows the high prevalence of Communicable disease (47), followed by Assam (44). Non-communicable disease prevalence is highest among the oldest old group. The prevalence of non-communicable diseases relatively slows down beyond age 80 years though the level remains high. The prevalence of non-communicable disease is highest in Kerala (155), followed by Andhra Pradesh (82), Punjab (76) and Maharashtra (74).

Among the elderly (65+), the prevalence of non-communicable disease is highest in Kerala (588), followed by Andhra Pradesh (477), Karnataka (430) and Maharashtra (425). Prevalence among the elderly is lowest in Jharkhand (76). But, the prevalence of NCD is highest in Andhra Pradesh (631) among the oldest old group followed by Kerala (604), Chhattisgarh (515), Karnataka (492), Maharashtra (487) and Tamil Nadu (405).

### ***Projected shift in share of diseases among total population: 2006-2051***

In India, about half of the diseases are shared by NCDs (46.4 percent) and one third by CDs. The share of CDs is likely to reduce to one-fourth by 2051. At the same time, the share of NCDs is expected to increase to 57.4 percent by 2051, whereas a marginal decline will be observed in the share of other diseases during the same period. This change in share is observed mainly due to the shift in age distribution of population towards elderlihood. Among the major states, Assam has the highest share (58.6 percent) of CDs among total disease, followed by Orissa (46.4 percent), Madhya Pradesh (46 percent), Jharkhand (46 percent), Bihar (45.4 percent), Uttar Pradesh (43.6 percent) and Uttaranchal (41.3). The lowest share of CDs is observed in Andhra Pradesh (20.6 percent) and will reduce to 13.1 percent by 2051. Delhi shows a rapid decline in the share of CDs and the share will be lowest (10 percent) by 2051. At the same time, the share of NCDs in Delhi (77.7 percent) will be highest among all major states, compared to 53.2 percent in 2006. Being the capital of India, Delhi attracts a huge volume of migrants in their working age and a poor retention rate among them indicates about their settlement in the capital region. This changes the demographic profile of Delhi is reflected in the changing share of CDs and NCDs by 2051. In 2006, share of NCDs was highest in Kerala (58.5 percent), followed by Andhra Pradesh (58.1 percent), Karnataka (57.1 percent), Punjab (55.8 percent) and Maharashtra (55.6 percent). The share of NCDs in total morbidity is likely to increase in all the major states.

### ***Health spending on NCDs and Public subsidies:***

About 75 million people were hospitalized during January to June, 2004, out of which 35 million were in government hospital and 40 million in private facilities. The share of patients, suffering from communicable and non-communicable diseases, was almost same. Hospitalization is relatively higher in government facilities for communicable diseases but in private facilities for non-communicable diseases. Beyond age 45 years, hospitalized persons due to non-communicable diseases are higher than communicable diseases in both government as well as private facilities. Again, the average duration of stay as an inpatient is much higher for non-communicable diseases than for communicable diseases (Table 4.4). Irrespective of disease type, the average duration of inpatient stay is higher in government facilities than private facilities. This is likely due relative cost difference, as subsidy is a major component in health care costs in public health facilities. This gives the number of hospital days higher for NCDs than CDs in both government as well as private facilities.

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The average cost of hospitalization per stay at government and private was Rs. 4935 and Rs. 11552 respectively (Table 4.5). Average cost per stay as an inpatient is as high as Rs. 14377 for NCDs in private compared to Rs. 6876 in government. Both average cost per stay as an inpatient and out-of-pocket spending per stay as inpatient are higher in private facilities and four NCDs than their other counterparts. Per day average cost of hospitalization is more than three times higher in private facilities than in government. Though average per day cost of hospitalization is the highest in the 0-34 age group for CDs, it is also higher among elderly (65+ years) using government facilities. In private, the average cost of hospitalization for CDs is highest among 35-44 year age group than the previous age group. Per day average cost of hospitalization is highest for elderly (65 years or more) in government but for 45-64 year age group the per day cost is higher in private facilities (Table 4.5).

There were nearly 1740 million outpatient visits during 2004-05, out of which 380 million were in government and 1360 million in private. Outpatient visit is higher in private facilities than government in all the age groups. Outpatient visit due to CDs is highest in 0-34 year age group in both government and private facilities but resurges with ages. However, for NCDs, it increases with age among both types of health facilities (Table 4.8). Per visit cost of outpatient treatment in private facilities is much higher than public facilities for each disease type. Surprisingly, it's a fact that, instead of the high cost of treatment in private, crowd for outpatient treatment is higher in private facilities. This signifies the shortfall of public systems in Indian context. Cost of treatment for outpatient care is also higher for NCDs than CDs in both types of facilities.

Higher cost of treatment among the elderly age group has implication on future health care cost as a proportion of elderly will increase substantially with a higher burden of NCDs, compared to younger age groups. Per visit out-of-pocket cost of treatment is also similar to the total cost of treatment, signifies the negligible role of insurance to meet the higher treatment cost. Out-of-pocket health spending is the key source of health care financing in India and this leads to catastrophic level of spending for health care to many households and throw them inside poverty threshold (Ghosh S., 2011; Pal R., 2010; Berman et. al., 2010). Barman et. al. (2010) pointed out that outpatient care is more impoverishing than inpatient care in urban and rural areas alike.

Government subsidies per inpatient and outpatient day are estimated Rs. 795 and Rs. 102.50 respectively. Subsidies per inpatient day for all types of diseases are higher than outpatient days. Total governmental subsidy for health care was INR 335 billion, out of which INR 294 billion was for inpatient treatment and INR 41 billion for outpatient treatment in 2004. Among the total subsidy amount, the lion's share was utilized for treatment of NCDs.

### ***Health care spending as a share of Gross State Domestic Product (GSDP)***

Different states of India spend a different percentage of their GSDP for health care treatment. In 2004, health care spending in India was approximately INR 100,000 crores, out of which 87,000 crores were out-of-pocket spending. 3.35 percent of the GDP was spent to meet the health care cost and the share of OOP was 2.94 percent of GDP. The share of health care spending as percentage of GSDP varies as low as 0.31 percent in Delhi to as much as 5.08 percent in Uttar Pradesh. The share of health care spending on GSDP is higher in Bihar (4.85 percent) and Kerala (3.9 percent) and West Bengal (3.03). Though share of health care spending on GSDP is high in the above mentioned four states, the HC spending in Uttar Pradesh and Bihar is due the high cost of outpatient treatment of CDs but in Kerala and West Bengal, the main driver of high HC cost is NCDs. The cost of treatment of NCDs as an inpatient in the private sector is the main source of high treatment cost in

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West Bengal but the difference between inpatient and outpatient treatment cost is narrowed down in Kerala. The share of household OOP expenditure was 2.94 percent in India during 2004-05. The state level distribution of the share of OOP expenditure on HC also shows the picture similar to the share of total HC cost (Table 4.10).

In India, half of the OOP expenditure on HC was on account of the treatment of NCDs and 30 percent was due to CDs during 2004. Contribution of CDs in total OOP expenditure was highest in Jammu and Kashmir (55.7 percent), followed by Uttarakhand (51 percent), Assam (49.8 percent), Bihar (45.8 percent), Uttar Pradesh (45 percent) and Chhattisgarh (44.5 percent). Contribution was lowest in Karnataka (18.7 percent), followed by Delhi (20.7 percent), Andhra Pradesh (21.1 percent) and Kerala (21.2 percent). On the other hand, the share of expenditure due to NCDs was highest in Karnataka (60.7 percent), followed by Andhra Pradesh (57 percent), Kerala (54.3 percent) and Maharashtra (52.5 percent). This implies a higher burden of treatment cost due to NCDs in the demographically more advanced states, whereas less advanced states spend more on CDs.

### *Projected Health Care Expenditure due to CDs and NCDs in India and States, 2006-2051:*

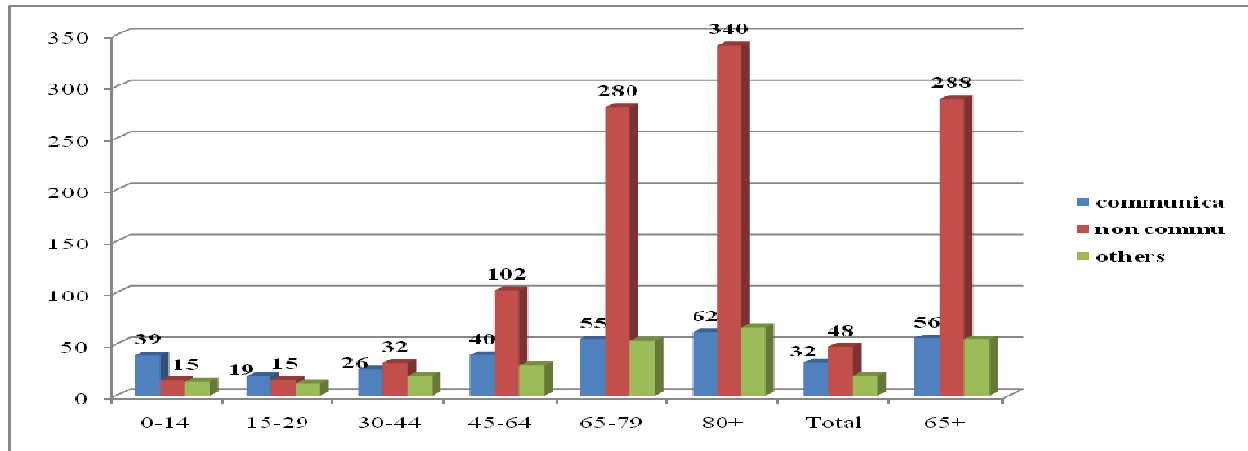
The health care expenditure on the CDs will grow rather more slowly than NCDs in both government as well as private facilities. HC expenditure on CDs in government facilities will rise only about 1.7 times from INR 4352 crores in 2006 to INR 7364 crores by 2051, but NCDs will increase by 2.5 times from INR 8424 crores to INR 20722 crores. In the private health facilities, HC expenditure on the CDs will increase from INR 26243 crores to INR 42222 crores and on NCDs from INR 45735 crores to 114413 crores during the same duration. The rise in HC expenditure due to CDs is relatively higher in the first part of the projection period (2006-26) compared to the second part (2026-51) for almost all states. The HC expenditure in CDs in government facilities is likely to decline by INR 45 crores and INR 15 crores for Chhattisgarh and West Bengal respectively during the second part of the projection period (2026-51).

By 2051, among the states, Rajasthan will spend the highest on CDs in government facilities, followed by Uttar Pradesh, Orissa and West Bengal. Delhi will have a very low spending on CDs by that time. Spending on NCDs in government facilities will also be higher in Rajasthan, followed by Uttar Pradesh, West Bengal, Kerala, Madhya Pradesh and Andhra Pradesh. Lowest spending on NCDs in government facilities will be in Uttaranchal. Expenditure on NCDs in government facilities will lower by INR 104 crores in Chhattisgarh during 2026-51. HC spending on CDs in the private sector will be highest (INR 12873 crores) in Uttar Pradesh, followed by Bihar, Maharashtra, West Bengal and Madhya Pradesh and lowest will be in Delhi (Table 4.13). Maharashtra will be a leader among the states to spend the highest in private facilities on account of NCDs by 2051 (INR 11193 crores). Uttar Pradesh, Andhra Pradesh, West Bengal and Gujarat will follow Maharashtra in HC spending at private facilities by 2051. Instead of different population base, similar HC spending at private facilities for NCDs in Maharashtra and Uttar Pradesh reveals a relatively higher dependence on private facilities in Maharashtra.

**Limitations:** The main limitation of this study is that, the prevalence of morbidity is based on the reported ailments, which is subject to the knowledge and awareness of particular morbidity and may differ from morbidity prevalence based clinical test data.

**Figure 4.3: Age profile of communicable, non-communicable and other types of diseases in India, 2004.**

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**Table 4.2: Projected share of Communicable, non-communicable and other types of diseases among total population 2006-2051.**

State/India	Communicable			Non-communicable			Others		
	2006	2026	2051	2006	2026	2051	2006	2026	2051
Andhra Pradesh	20.6	16.6	13.1	58.1	64.3	70.2	21.2	19.1	16.8
Assam	58.6	52.0	45.0	28.8	35.3	42.9	12.6	12.7	12.1
Bihar	45.4	41.4	35.2	35.8	39.9	46.5	18.8	18.7	18.2
Chhattisgarh	40.2	35.5	29.9	39.6	44.9	51.5	20.3	19.6	18.5
Delhi	27.0	15.9	10.0	53.2	67.7	77.7	19.8	16.5	12.3
Gujarat	34.6	28.8	23.1	52.8	58.9	65.2	12.7	12.3	11.7
Haryana	30.5	26.7	23.9	48.4	52.8	58.0	21.2	20.5	18.1
Himachal Pradesh	29.1	26.2	23.3	47.5	51.5	55.8	23.4	22.3	20.9
Jammu & Kashmir	37.3	31.4	25.5	53.1	59.4	66.3	9.6	9.1	8.2
Jharkhand	46.0	41.1	36.5	33.0	37.4	42.0	21.0	21.5	21.5
Karnataka	24.7	19.4	14.4	57.1	64.7	72.2	18.2	15.9	13.4
Kerala	21.5	17.4	14.0	58.5	63.6	68.2	20.0	19.0	17.8
Madhya Pradesh	46.0	42.4	36.0	37.6	41.3	48.3	16.4	16.4	15.7
Maharashtra	25.5	20.9	15.8	55.6	61.8	69.3	18.8	17.3	14.9
Orissa	46.4	42.6	37.0	29.0	33.0	39.8	24.6	24.4	23.2
Punjab	23.8	20.9	17.9	55.8	58.5	62.5	20.4	20.6	19.6
Rajasthan	33.4	30.9	27.2	46.3	49.6	55.5	20.2	19.5	17.4
Tamil Nadu	28.3	23.4	18.5	52.3	58.8	65.3	19.4	17.8	16.2
Uttar Pradesh	43.6	41.3	36.9	35.2	37.3	42.2	21.3	21.4	20.9
Uttaranchal	41.3	37.9	32.6	35.2	38.9	45.5	23.5	23.2	21.9
West Bengal	28.2	24.6	21.3	43.9	50.0	56.1	27.8	25.4	22.7
<b>India</b>	<b>33.7</b>	<b>29.8</b>	<b>25.0</b>	<b>46.4</b>	<b>51.1</b>	<b>57.4</b>	<b>19.8</b>	<b>19.1</b>	<b>17.7</b>

Source: Authors own calculation from NSS 60<sup>th</sup> round unit level data.

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**Table 4.7: Government subsidy per inpatient day and total subsidy for inpatient care by type of disease, 2004.**

	Government subsidy Per inpatient day (INR)					Total subsidy in Government (INR Billion)				
	0-34	35-44	45-64	65+	Total	0-34	35-44	45-64	65+	Total
<b>CD</b>	548	1154	770	896	737	31.6	26.2	25.8	7.3	90.0
<b>NCD</b>	655	1072	1011	937	892	27.2	29.4	46.0	18.3	119.5
<b>OTH</b>	644	768	771	699	706	32.8	20.2	19.0	5.0	77.0
<b>Total</b>	621	985	896	872	795	94.9	77.0	93.3	30.3	<b>294.1</b>

**Table 4.9: Government subsidy per outpatient visit and total subsidy for outpatient care by type of disease, 2004.**

	Government subsidy per outpatient day (INR)					Outpatient visit in Government (Million)					Total subsidy for outpatient care in Government (INR Billion)				
	0-34	35-44	45-64	65+	Total	0-34	35-44	45-64	65+	Total	0-34	35-44	45-64	65+	Total
<b>CD</b>	63.86	67.75	178.16	135.87	82.74	88.7	13.49	28.97	9.44	140.74	5.66	0.91	5.16	1.28	13.02
<b>NCD</b>	97.29	167.8	133.78	136.22	129.81	40.7	22.33	52.64	49.18	164.12	3.96	3.75	7.04	6.7	21.45
<b>OTH</b>	141.4	-73.31	146.86	17.68	91.59	38.9	12.78	15.45	11.75	78.72	5.5	-0.94	2.27	0.21	7.04
<b>Total</b>	86.75	70.63	146.84	118.51	102.45	168.3	48.6	97.06	70.38	383.58	14.6	3.43	14.25	8.34	40.63

**Table 4.10: Absolute total and out-of-pocket health care spending and their share on Gross State Domestic Product, 2004.**

State/India	INR Crore		% share in SDP/GDP		SDP/GDP*
	Out of Pocket	Healthcare cost	Out of Pocket	Healthcare Cost	
Andhra Pradesh	5654.64	5668.44	2.52	2.52	224713
Assam	1308.81	1343.62	2.45	2.52	53398
Bihar	3716.31	3774.38	4.78	4.85	77781
Chhattisgarh	904.90	1042.38	1.89	2.18	47862
Delhi	259.00	313.27	0.26	0.31	100325
Gujarat	3322.05	3738.90	1.63	1.84	203373
Haryana	1967.98	2382.18	2.05	2.49	95795
Himachal Pradesh	558.01	646.90	2.32	2.69	24077
Jammu & Kashmir	664.61	678.28	2.43	2.48	27305
Jharkhand	956.47	1000.66	1.60	1.67	59758
Karnataka	2760.18	3005.68	1.66	1.80	166747
Kerala	4446.70	4647.51	3.73	3.90	119264
Madhya Pradesh	2864.57	3000.37	2.54	2.66	112927
Maharashtra	8575.24	9582.30	2.07	2.32	413826
Orissa	1566.11	1689.69	2.01	2.17	77729
Punjab	2761.89	3247.23	2.85	3.35	96839
Rajasthan	3664.75	3877.03	2.87	3.03	127746
Tamil Nadu	4467.50	5068.60	2.04	2.31	219003
Uttar Pradesh	13314.52	13249.13	5.10	5.08	260841
Uttarakhand	649.58	690.27	2.62	2.78	24786
West Bengal	5956.05	6315.20	2.85	3.03	208656
<b>India</b>	<b>87225.22</b>	<b>99573.38</b>	<b>2.94</b>	<b>3.35</b>	<b>2971464</b>

Source: Authors own calculation from NSS 60<sup>th</sup> round unit level data.

\*Ministry of Statistics and Programme Implementation, Govt. of India.

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**Table 4.11: Out of pocket expenditure on communicable and non-communicable diseases and their share on total out of pocket expenditure by major states, 2004.**

State/India	Expenditure in INR Crore			% share in total OOP	
	CD	NCD	OOP	CD	NCD
Andhra Pradesh	1192.62	3220.44	5654.64	21.1	57.0
Assam	651.89	514.34	1308.81	49.8	39.3
Bihar	1703.09	1352.30	3716.31	45.8	36.4
Chhattisgarh	402.47	320.79	904.90	44.5	35.5
Delhi	53.71	128.20	259.00	20.7	49.5
Gujarat	1034.26	1650.28	3322.05	31.1	49.7
Haryana	504.37	891.72	1967.98	25.6	45.3
Himachal Pradesh	146.97	238.93	558.01	26.3	42.8
Jammu & Kashmir	370.01	238.21	664.61	55.7	35.8
Jharkhand	373.80	422.19	956.47	39.1	44.1
Karnataka	515.54	1674.62	2760.18	18.7	60.7
Kerala	941.90	2414.58	4446.70	21.2	54.3
Madhya Pradesh	707.65	1132.00	2864.57	24.7	39.5
Maharashtra	2169.82	4498.95	8575.24	25.3	52.5
Orissa	660.19	511.92	1566.11	42.2	32.7
Punjab	738.22	1314.13	2761.89	26.7	47.6
Rajasthan	1171.57	1457.53	3664.75	32.0	39.8
Tamil Nadu	1076.63	2206.60	4467.50	24.1	49.4
Uttar Pradesh	5993.03	4180.61	13314.52	45.0	31.4
Uttarakhand	331.21	205.99	649.58	51.0	31.7
West Bengal	1532.45	2834.29	5956.05	25.7	47.6
<b>India</b>	<b>26538.06</b>	<b>43356.47</b>	<b>87225.22</b>	<b>30.4</b>	<b>49.7</b>

**Table 4.12: Projected annual health care cost (INR Crore) in government facilities for communicable and non-communicable diseases in India and major states.**

State/India	Communicable Diseases			Non-communicable Diseases		
	2006	2026	2051	2006	2026	2051
Andhra Pradesh	156.2	206.1	231.6	405.0	661.6	1008.0
Assam	208.5	304.9	448.8	187.6	342.9	647.4
Bihar	193.0	273.6	342.3	182.2	288.0	455.1
Chhattisgarh	60.6	163.7	118.8	107.7	311.5	207.3
Delhi	4.5	7.0	11.9	45.8	100.4	204.9
Gujarat	156.2	218.0	283.5	216.8	350.8	546.5
Haryana	50.3	76.0	124.8	403.5	680.9	990.9
Himachal Pradesh	118.5	159.0	191.0	204.1	299.7	380.6
Jammu & Kashmir	159.4	215.4	279.8	189.4	313.0	463.7
Jharkhand	108.2	132.1	136.5	136.5	257.5	469.9
Karnataka	129.6	154.1	168.6	277.8	431.9	617.3
Kerala	176.3	232.5	275.0	624.8	897.5	1087.9
Madhya Pradesh	254.1	350.7	445.2	359.3	585.6	1056.1
Maharashtra	221.7	263.8	276.6	482.2	722.7	997.3
Orissa	432.0	515.6	588.1	372.4	489.4	622.3
Punjab	76.5	106.0	126.9	433.7	647.0	996.7
Rajasthan	517.3	803.1	1205.6	721.8	1167.3	1967.1
Tamil Nadu	113.8	150.3	157.7	133.6	186.3	230.2
Uttar Pradesh	459.2	705.4	1048.0	549.1	883.2	1494.7
Uttarakhand	39.4	54.6	68.6	20.5	28.3	38.2
West Bengal	462.8	553.5	538.2	698.6	1071.1	1486.1
<b>India</b>	<b>4352.1</b>	<b>5876.8</b>	<b>7364.1</b>	<b>8424.3</b>	<b>13293.9</b>	<b>20722.0</b>

Source: Authors own calculation from NSSO 60<sup>th</sup> round unit level data



**Extended Abstract**

**Table 4.13: Projected annual health care cost (INR Crore) in private facilities for communicable and non-communicable diseases in India and major states.**

<b>State/India</b>	<b>Communicable Diseases</b>			<b>Non-communicable Diseases</b>		
	2006	2026	2051	2006	2026	2051
Andhra Pradesh	1100.5	1320.9	1466.8	3013.1	4600.4	6609.6
Assam	516.9	751.9	1005.7	358.5	584.0	952.5
Bihar	1680.3	2392.0	2986.4	1235.3	2052.7	3563.1
Chhattisgarh	382.2	559.5	668.6	349.0	381.0	760.8
Delhi	52.4	65.4	63.9	150.2	281.5	480.4
Gujarat	1036.0	1330.5	1607.1	1801.1	2849.0	4186.2
Haryana	520.5	673.7	880.9	860.2	1235.0	1698.3
Himachal Pradesh	54.0	73.5	102.4	96.2	145.8	209.3
Jammu & Kashmir	89.6	114.0	136.9	144.0	233.1	337.3
Jharkhand	286.5	369.3	414.4	346.9	542.1	836.7
Karnataka	463.3	597.1	666.8	1631.5	2641.1	3900.8
Kerala	815.3	931.6	967.1	2053.3	3027.7	3974.9
Madhya Pradesh	974.3	1427.4	2032.3	970.4	1479.3	2311.4
Maharashtra	2226.1	2647.5	2875.5	4972.7	7630.5	11192.8
Orissa	294.2	364.5	431.8	206.9	304.6	443.0
Punjab	744.5	966.4	1068.6	1135.8	1686.8	2330.3
Rajasthan	731.5	1103.0	1543.0	956.0	1434.2	2124.9
Tamil Nadu	1087.0	1277.2	1322.2	2584.7	3741.9	4849.7
Uttar Pradesh	5770.0	8716.7	12872.5	3921.7	6339.9	10822.0
Uttarakhand	318.9	447.0	528.5	222.4	360.0	554.1
West Bengal	1269.4	1696.6	2078.6	2473.1	4040.9	5981.2
<b>India</b>	26242.8	34634.1	42222.4	45734.3	72534.8	114413.3