

Health Care Financing Reforms in India

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It is very widely acknowledged that health is an important component of human development. The empowerment of people comes from the freedoms they enjoy, and these include, among others, freedom from poverty, hunger, and malnutrition, and freedom to work and lead a healthy life (Sen, 1999). Access to health care is critical to improving health status, and good health is necessary for empowerment. Ensuring access to health care helps to minimize absenteeism, enhance labor productivity, and prevent misery. Government intervention in health is also argued for because of the presence of a high degree of asymmetric information in the health sector. Not surprisingly, throughout the world, governments have had a significant role in providing and regulating health services, and their role is particularly important in developing countries with large concentrations of the poor.

Despite poor health indicators, government spending on health care in most low- and middle-income countries is well below what is needed. A recent analysis suggests that while low-income countries need to spend \$54 per capita for a basic package of health services, the average actual per capita health expenditure in these countries is only \$27 (Stenberg and others, 2010). Low revenue collections, competing demands for revenues, and relatively low spending priority contribute to this insufficient spending.¹ Consequently, limited access to public health care facilities forces people to go to private providers, resulting in substantial out-of-pocket (OOP) spending, especially for the poor (WHO, 2004).

The Millennium Development Goals have helped to draw attention to the need to ensure universal coverage in many low- and middle-income countries. The 58th session of the World Health Assembly in 2005 defined universal health care as providing “access to key promotive, preventive, curative, and rehabilitative health interventions for all at an affordable cost.” However, most low- and middle-income countries find this a major challenge, as it would require substantial

*The authors without any incrimination thank Dr. Sanjeev Gupta, Dr. Baoping Shang and Dr. Poonam Gupta for very useful comments on the earlier draft of the chapter. They would also like to thank Mr. Bharati Bhushan Dash for meticulous research assistance.

¹Heller (2006) defines fiscal space as “the availability of budgetary room that allows a government to provide resources for a given desired purpose without any prejudice to the sustainability of a government’s financial position.”

increases in public spending and productivity increases in an environment of severely strained resources. Of course, there has been considerable success in achieving universal health coverage in some middle-income countries, including Thailand and some Latin American countries, while other countries, such as China, Indonesia, and Vietnam, are focusing their attention on improving access. In Africa, Ghana and Rwanda have recorded remarkable success in expanding coverage, which has inspired other countries on that continent to embark on health sector reforms.

The health sector challenges in India, like those in other low- and middle-income countries, are formidable. Public spending on medical, public health, and family welfare in India is much below what is required. Further, the gap between the actual spending and the required amount is much larger in the low-income states, and this results in marked interstate inequality. The low levels of spending have had an adverse impact on the creation of a preventative health infrastructure. With over 80 percent of the spending on health being OOP, the low level of public spending and its uneven distribution have been a major cause of the immiseration of the poor.

Of course, there have been some recent initiatives to augment public spending on health care, but these have met with only limited success. The National Rural Health Mission (NRHM), established in 2005, and the *Rashtriya Swasthya Bima Yojana* (RSBY), a recently introduced national health insurance scheme for people below the poverty line, are the two most important initiatives by the central government. Several state governments also have come up with their own insurance schemes. Despite these initiatives, actual public spending on health has not shown much increase.

This chapter analyzes public spending on health care in India. The second section presents the salient features of health spending and shows that low levels of public spending have resulted in the population's low health status. The third section examines the impact of low levels of public expenditures on the state of health infrastructure. The fourth section presents some estimates of the health expenditure needed to provide essential health infrastructure in the states and the gap between current levels of spending and the needs. The fifth section examines recent reforms, particularly the introduction of specific-purpose transfers and the impact of these transfers on overall health expenditure, and the final section summarizes the main findings.

THE PUBLIC HEALTH CARE SYSTEM IN INDIA AND ITS IMPACT ON HEALTH

Salient Features

The three most important features of the Indian health care system are

1. *Low levels of public spending:* Between 1996–97 and 2005–06, total government spending on health was stagnant at about 1 percent of GDP, and the public expenditure elasticity with respect to GDP was at 0.94, lower than

the average for low-income countries (1.16) for the same period (Tandon and Cashin, 2010). Despite efforts to increase public spending after 2005–06, including the adoption of the NRHM, expenditure increased only marginally to 1.2 percent of GDP in 2009–10.

2. A resulting *poor quality of preventative care and poor health status* of the population.
3. An inadequate level of public health provision, which has forced the population to seek private health providers, resulting in *high OOP spending* more than four times higher than the public spending on health care.

Thus, reforms in the health sector will have to address the issue of increasing the allocation to health care, focusing on preventative care, ensuring greater access to health care for the poor, and significantly improving the productivity of public spending (Government of India MoHFW, 2005a, 2005b, 2005c).

As India is a federal country, its constitution assigns the states predominant responsibility for the provision of social services and coequal responsibility with the central government for the provision of economic services. However, since all broad-based tax handles except the general sales tax are assigned to the central government, there is a high degree of vertical fiscal imbalance. Further, the wide interstate disparities in revenue capacity make it difficult to ensure comparable levels of public services in different states at comparable tax rates.

The constitution recognizes the need to resolve both vertical and horizontal imbalances and has provided for the sharing of central taxes with the states and for providing grants in aid to the states based on the recommendation of an independent body, the Finance Commission, appointed every five years. Further, the Planning Commission also makes grants for state plan schemes based on a formula (Rao and Singh, 2005; Rao, 2010). In addition to the general-purpose transfers described above, specific-purpose grants are given by the central ministries for various central schemes formulated within each ministry. The Ministry of Health and Family Welfare administers the major transfer scheme under the NRHM, which is discussed in detail later in the chapter. Despite these mechanisms, the transfer system has failed to offset the fiscal disabilities of the poorer states, and states with poor health indicators are left with large unmet expenditure needs (Rao and Singh, 2005).

As mentioned previously, state governments have predominant responsibility for providing health care services. Entry 6 on the “state list” of the Seventh Schedule of the Constitution assigns “public health and sanitation, hospitals and dispensaries” to the state governments. However, “population control and family planning” (entry 20A), “legal, medical and other professions” (entry 26) and “lunacy and mental deficiency, including places for the reception or treatment of lunatics and mental deficiencies” (entry 16) are put in the “concurrent list.” Similarly, institutions declared to be of national importance by the parliament and institutions for professional and technical training and research are in the domain of the national government.

Health service delivery in India is characterized by a three-tier system. At the lowest level are the subcenters, each covering a population of about 5,000 in the

plains and about 3,000 in hilly and difficult terrain. Only paramedical staff are available in these subcenters. The first points of contact with a doctor are the primary health centers, each covering about 30,000 people in the plains and about 20,000 in hilly and difficult terrain. Community health centers provide secondary care and are organized at the block levels.

Then there are subdivisional hospitals and district-level hospitals. In principle, the subcenters, primary health centers, and community health centers should handle the preventative aspects of health care, institutionalize deliveries, treat minor diseases, and act as referral centers. The subdivision and district-level hospitals would then treat major ailments as referral hospitals. However, in practice this has not been the case, as the subdivision and district-level hospitals deal with all aspects of health care.

HEALTH STATUS OF THE POPULATION

India's health achievements are low in comparison to the country's income level. According to United Nations Development Program's *Human Development Report* 2010, in a set of 193 countries, while India ranked 119th on the human development index, it ranked 143rd in infant mortality rate, 124th in maternal mortality rate, 132nd in life expectancy at birth, and 145th in under-five mortality rate.² Scatter plots across countries between gross national income and each of the four indicators along with their associated trend lines (shown in Figure 15.1) also indicate that India's health indicators are worse than what is expected at India's level of income for three of the four indicators. Summaries of health indicators in various developing regions of the world show that India's performance is better only than that of sub-Saharan Africa (Table 15.1). In fact, among the South Asian countries, the infant mortality rate in India in 2008 was better (lower) only than that of Pakistan and Bhutan (Table 15.2). Furthermore, the rate of improvement in the infant mortality rate over 1990–2008 in India was lower than in most other South Asian countries, including Bangladesh, Nepal, and Bhutan.

An important factor contributing to the slow progress in population health in India is the poor access to primary and preventive health care services.³ This is evidenced by the fact that India's immunization rates and percentage of births attended by skilled health personnel rank among the worst in the world (Table 15.1). Inadequate preventive health care services results in high incidence of deaths from communicable diseases. According to *Global Burden of Diseases* data published by the World Health Organization (WHO) in 2008, of

²Data are available for 193 countries for infant mortality and under-five mortality rates, for 171 countries for maternal mortality rates, and for 180 countries for life expectancy at birth. Since data for all countries are not available for each of the four indicators, countries for which data on the respective indicators are available have been used to arrive at the ranking.

³The *Mid-Term Appraisal of the Tenth Five-Year Plan* (Government of India Planning Commission, 2005), for example, states, "A major concern . . . of the health sector is how best to reach out to the bottom 300–400 million people who perceive health services as unavailable and inaccessible" (p. 74).

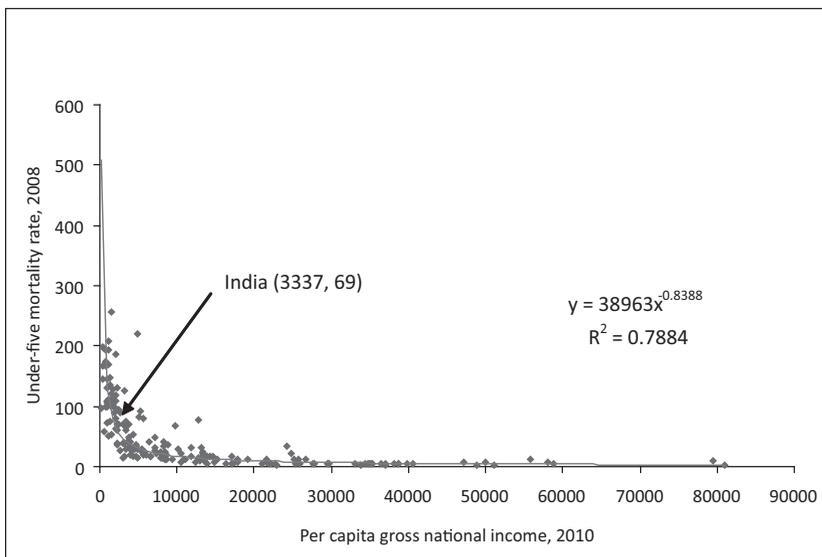
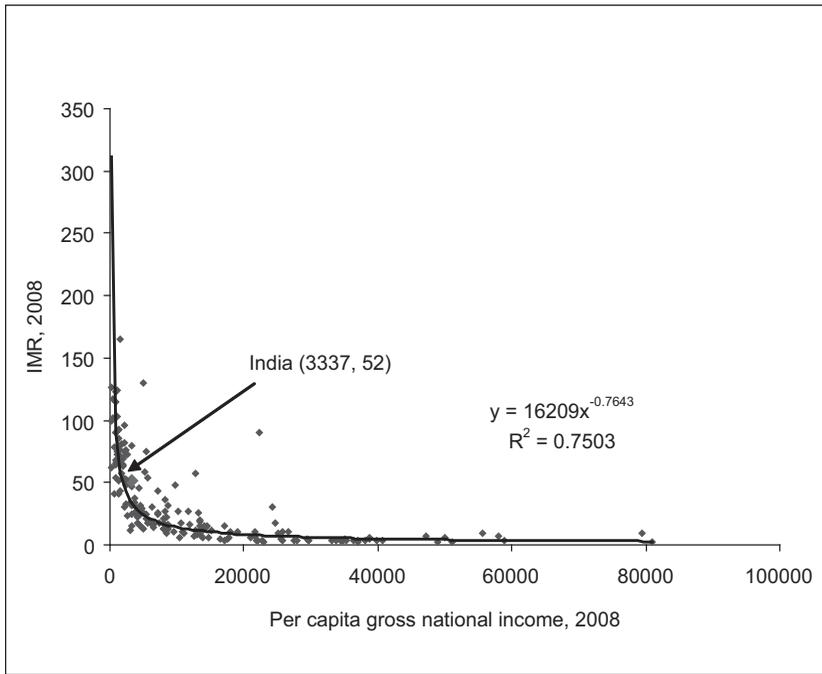


Figure 15.1 Selected Health Indicators and Per Capita Gross National Income across Countries (2008 U.S. dollars at purchasing-power parity) (continued)
Source: UNDP (2010).

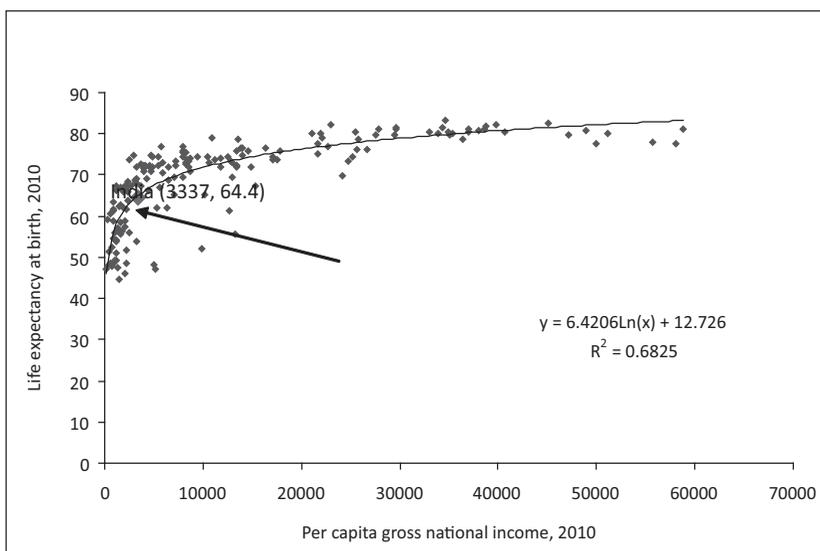
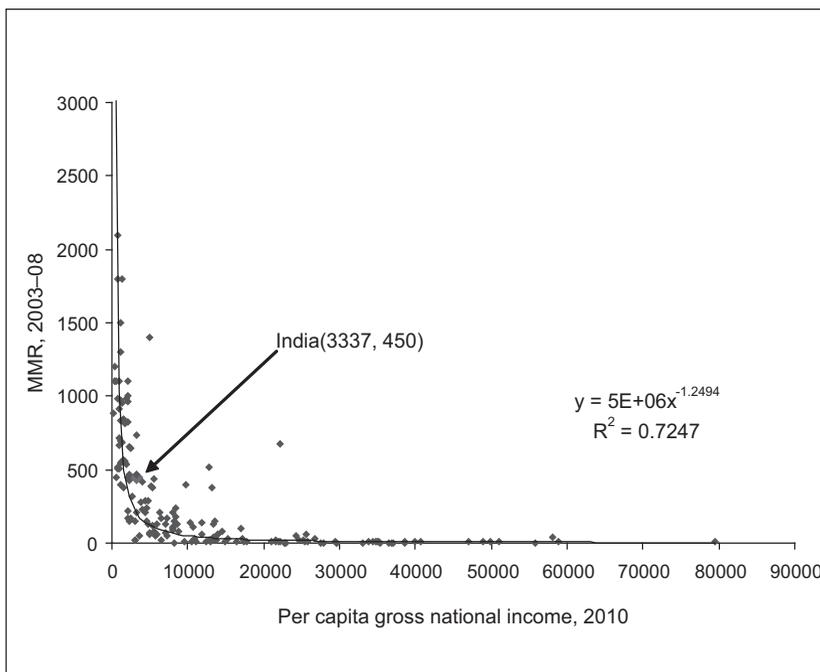


Figure 15.1 (Continued)

TABLE 15.1
Selected Health Indicators in India and Developing Regions of the World

	Infant mortality rate (per 1,000 live births), 2008	2008 Under-five mortality rate (per 1,000 children under age 5), 2008	Maternal mortality ratio (per 100,000 live births), 2003–08	Antenatal coverage of at least one visit (percent), 1990–2008	Births attended by skilled health personnel (percent), 2000–08	Infants lacking immunization against DTP or measles (percent of one-year-olds) 2008	
						DTP	Measles
Arab states	38	50	238	74%	77%	15%	19%
East Asia and the Pacific	23	28	126	91%	91%	8%	9%
Europe and Central Asia	20	22	41	95%	96%	5%	4%
Latin America and the Caribbean	19	23	122	95%	91%	10%	7%
South Asia	56	73	454	70%	45%	28%	25%
Sub-Saharan Africa	86	144	881	73%	48%	29%	28%
India	52	69	450	74%	47%	34%	30%

Source: UNDP (2010).
Note: DTP = diphtheria, tetanus, and pertussis.

TABLE 15.2
Infant Mortality Rate in Selected South Asian Countries, 1990 and 2008

	1990	2008
Sri Lanka	23	13
Maldives	79	24
Nepal	99	41
Bangladesh	103	43
India	83	52
Bhutan	91	54
Pakistan	101	72

Source: UNDP (2010).

Note: Infant mortality rate refers to the number of deaths of infants under one year old per 1,000 live births

the total number of deaths in a sample of 192 countries across the world, India accounted for nearly one-fourth of the deaths due to diarrhea, more than a third of the deaths due to childhood cluster diseases (many of which are preventable by basic immunization), more than a third of the deaths due to leprosy, more than half the deaths due to Japanese encephalitis, and about 30 percent of the deaths due to prenatal conditions (Table 15.3). The overall level of health status masks the large intracountry variations across states. In 2008, the difference in infant mortality rate (IMR) between the best state in India (Kerala) and the worst state (Madhya Pradesh) was nearly sixfold (12 in Kerala and 70 in Madhya Pradesh). In general, the IMR in the four states with the highest rates (Madhya Pradesh, Orissa, Uttar Pradesh, and Rajasthan) was about double the IMR in the best four states in the country (Kerala, Tamil Nadu, West Bengal, and Maharashtra) (Table 15.4). Moreover, the rate of decline in IMR in the four worst states (those with the highest IMR) has been much lower than that in the four best states (those with the lowest IMR). In the 20-year period from 1988

TABLE 15.3
Estimated Total Deaths by Cause, 2004 (Thousands)

	Cause of death					Perinatal conditions
	Diarrhea	Childhood cluster diseases	Leprosy	Japanese encephalitis	Dengue	
India	516	295	2.1	6.1	5.2	920
World (among 192 World Health Organization member countries)	2,162	847	5.4	11	18.1	3177
Share of deaths in India (percent)	23.8	34.8	38.2	55.1	28.8	29

Source: WHO (2008).

Note: India's share of population in the sample of 192 countries was about 17.4 percent.

TABLE 15.4

Level and Improvement in Infant Mortality Rate in Selected Indian States, 1988 and 2008

	Infant mortality rate		Improvement index, 1988–2008, based on	
	1988	2008	Kakwani (1993)	Sen (1981)
Top four states				
Kerala	28	12	0.25	0.70
Tamil Nadu	74	31	0.20	0.62
Maharashtra	69	33	0.17	0.56
West Bengal	68	35	0.16	0.53
Average			0.19	0.60
Bottom four states				
Madhya Pradesh	121	70	0.12	0.44
Orissa	122	69	0.13	0.45
Uttar Pradesh	124	67	0.14	0.48
Rajasthan	103	63	0.11	0.41
Average			0.12	0.45

Source: Based on figures of the Sample Registration System, reported by the Registrar General, India, in various issues of the *SRS Bulletin* and Government of India, Registrar General (1999).

Note: Kakwani's index and Sen's index have been used to compare improvement in infant mortality rates because these indexes take into account the differences in that rate in the base year across states. For calculating the improvement indexes, the maximum and minimum values of the infant mortality rate have been assumed to be 130 and 5, respectively.

to 2008, the average improvement index (based on improvement indices calculated based on Kakwani [1993] and Sen [1981]) in the top four states was markedly higher than that average improvement index in the bottom four states (Table 15.4).

PUBLIC SPENDING ON HEALTH AND HEALTH INFRASTRUCTURE

Public Spending on Health: Important Features

It is believed that an important factor contributing to India's poor health status is its low level of public spending on health, which is one of the lowest in the world. In 2007, according to WHO's *World Health Statistics*, India ranked 184th among 191 countries in terms of public expenditure on health as a percentage of GDP. In per capita terms, India ranked 164th in the same sample of 191 countries, spending just about \$29 (purchasing-power parity). This level of per capita public expenditure on health was around a third of Sri Lanka's, less than 30 percent of China's, and 14 percent of Thailand's (WHO, 2010). What is more, public spending on health as a percentage of GDP in India has stagnated in the past two decades, varying between 1990–91 and 2007–08 (most recent year for which data are available) from 0.9 to 1.1 percent of GDP.

While public spending on health care is low, OOP expenditure by households has been large. In 2007, total expenditure on health in India (public and private) was about 4.1 percent of GDP, higher than the level in Thailand and around the

TABLE 15.5
Expenditure on Health in Selected Countries, 2007

	Public expenditure		Total expenditure	
	As percentage of GDP	Per capita (PPP int \$)	As percentage of GDP	Per capita (PPP int \$)
India	1.1	29	4.1	109
Bangladesh	1.1	14	3.4	42
Sri Lanka	2.0	85	4.2	179
China	1.9	104	4.3	233
Thailand	2.7	209	3.7	280

Source: WHO (2010).

levels of Sri Lanka and China (Table 15.5). In 2007, private spending in India constituted nearly 74 percent of the total spending on health (in contrast to 18 percent in the United Kingdom) (Figure 15.2). Nearly 90 percent of this private expenditure in India was in the form of OOP expenditure on health by households (WHO, 2010), one of the highest shares in Asia (Van Doorslaer and others, 2007). The high OOP expenditure has put an increasing financial burden on the poorer sections of the population. Data from the National Sample Survey Organization indicate that between 1986–87 and 2004, the share of ailments not treated due to financial reasons in India increased from around 15 percent to 28 percent in the rural areas. Part of this increased financial burden arises from the fact that the share of visits to private health facilities has increased in recent years. According to the National Sample Survey Organization data, the share of outpatient visits to public facilities has dropped from 25 to 20 percent and for inpatient visits from 60 to 40 percent (Selvaraj and Karan, 2009, cited in Shahrawat and Rao, 2011). Notably, outpatient treatments account for nearly

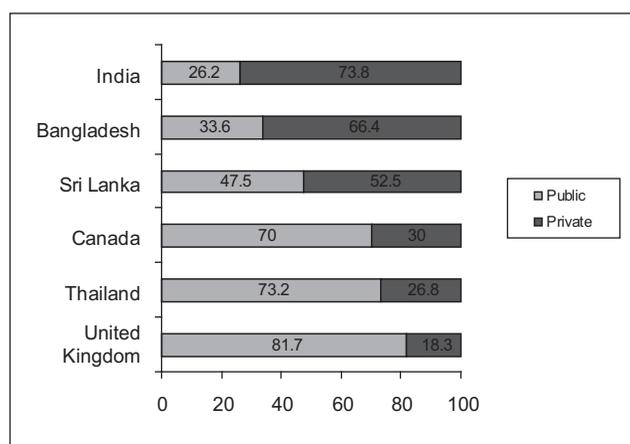


Figure 15.2 Share of Public and Private Expenditure on Health in Selected Countries, 2007 (Percent)
Source: WHO (2010).

three-fourths of OOP expenditure by households; a large part of this could be reduced through adequate provision of primary and secondary care (NSSO, 2007).

The skewed composition of public spending further reduces its effectiveness. A significant share of that spending is directed toward curative and tertiary health care services as opposed to preventive, primary, and secondary care. According to the latest National Health Accounts data (for 2004–05), about 28 percent of total public expenditure was allocated for tertiary health care services, significantly higher than the target of 10 percent recommended by the National Health Policy of India. Also, an overwhelming portion of the expenditure is for wages and salaries, leaving little for nonsalary (complementary) expenses like drugs and other material supplies. The expenditure is particularly skewed toward salaries in some of the poor-performing states. For example, wages and salaries constituted around 83 and 85 percent, respectively, of total health spending in the states of Madhya Pradesh and Orissa—the two states with the worst health indicators.

The nature of public spending has resulted in a grossly inadequate health infrastructure. The number of allopathic doctors, nurses, and midwives in India (when adjusted for qualification) is less than a fourth of the WHO benchmark (Rao and others, 2011). This has led to recourse to unqualified medical practitioners in the rural areas (Rao, Bhatnagar, and Berman, 2009). In addition, the ratio of nurses to doctors in India is extremely unfavorable in comparison to those in some of the better-performing countries. When adjusted for qualification, the ratio of nurses to doctors is about 0.6 to 1, that is, less than one nurse per doctor (Rao and others, 2011). In many developed countries, this ratio is about 3:1, three nurses to one doctor. The low share of nonsalary expenditure has also resulted in inadequate essential drugs at subcenters, primary health centers, and community health centers—the first three tiers of primary and secondary health care facilities in the rural areas. According to a facility survey conducted by the International Institute of Population Sciences in 2007–08, about 35 percent of the subcenters and 30 percent of primary health centers had less than 60 percent of the essential drugs required for primary care. Similarly, about a third of the primary health centers had less than 60 percent of the basic refrigeration facilities required for primary care (IIPS, 2010).

Interstate Differentials in Public Spending and Health Infrastructure

The level of public expenditure and health infrastructure as a whole is dragged down by that in some of the states. In 2008–09, the level of public spending on health in Bihar (the state with the lowest per capita health spending) was less than half that in Kerala and Tamil Nadu (the top two states). Moreover, in recent years, interstate inequalities in health spending have increased. Thus, the difference between per capita public spending in the top three states (Kerala, Tamil Nadu, and Punjab) and that in the bottom three states (Bihar, Madhya Pradesh, and Orissa) has increased, leading to a stronger divergence between the two categories of states (Figure 15.3).

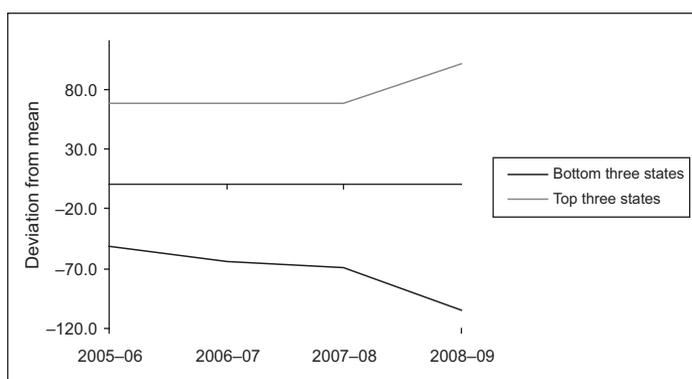


Figure 15.3 Deviation of Per Capita Public Health Expenditure: Top Three and Bottom Three States, 2005–06 to 2008–09 (Rupees per capita)

Source: Estimates using data from the finance accounts of individual states, compiled by the Comptroller and Auditor General of India.

In general, the variation in per capita expenditure across states has increased over the years. Between 1993–94 and 2008–09, the coefficient of variation in per capita public spending across states increased from 0.19 to 0.26 (Table 15.6). It is important to note that public expenditure on health is positively correlated with income levels by states. The correlation coefficients between per capita public

TABLE 15.6

Per Capita Public Expenditure on Health in 14 Major States (Rupees)

	Per capita health expenditure		Per capita net state domestic product
	1993–94	2008–09	2008–09
Andhra Pradesh	75	402	40,902
Bihar	53	166	13,663
Gujrat	82	320	49,251
Haryana	80	364	68,614
Karnataka	85	405	41,513
Kerala	100	507	49,316
Madhya Pradesh	81	214	21,648
Maharashtra	86	351	54,867
Orissa	58	303	29,464
Punjab	110	348	52,879
Rajasthan	84	405	27,001
Tamil Nadu	98	421	45,058
Uttar Pradesh	70	269	18,710
West Bengal	73	292	36,322
Standard deviation	15.3	89.1	
Mean	81.1	340.5	
Coefficient of variation	0.19	0.26	

Source: Per capita expenditure has been estimated using data from the finance accounts of individual states, compiled by the Comptroller and Auditor General of India. Per capita NSDP has been taken from Government of India, Economic Survey 2010–11.

Note: Data for 2008–09 for Bihar are inclusive of the data for Jharkhand. Similarly, data for Madhya Pradesh are inclusive of data for Chhattisgarh, and those for Uttar Pradesh are inclusive of data for Uttarakhand. Data for 2008–09 include off-budget expenditure under the National Rural Health Mission.

TABLE 15.7

Indicators of Access to Health Care in Selected High and Low Expenditure States

Indicators	High-expenditure states		Low-expenditure states	
	Kerala	Tamil Nadu	Madhya Pradesh	Orissa
Average number of villages covered by a primary health center, 2009	2	13	48	40
Percentage of primary health centers having at least 60 percent of required cold-chain equipment, 2007–08	97.2	94.8	49.4	34.9
Percentage of vacancies for doctors at primary health centers, 2009	0	0.5	53	38
Percentage of general-duty medical officers at community health centers, 2009	0	0	56	n.a.
Percentage of primary health centers having regular power supply, 2007–08	96.9	86.5	20.4	41.5
Percentage of habitations connected by roads, 2009	91.15	98.55	40.68	50.15

Source: Data for 2009 have been taken from the *Bulletin on Rural Health Statistics 2009*, compiled by the Ministry of Health and Family Welfare. Data for 2007–08 have been taken from the International Institute of Population Sciences' 2007–08 District-Level Household and Facility Survey (DLHS III).

spending on health and per capita gross state domestic product (GSDP) were 0.7 and 0.8, respectively, for 1995–96 and 2004–05 (Rao and Choudhury, 2008).

The low-expenditure states are also the states with relatively low per capita GSDP, and they have some of the poorest health indicators and infrastructure in the country. Madhya Pradesh and Orissa, the two states with the worst IMR in the country, have significantly worse access to health infrastructure and professionals than Kerala and Tamil Nadu, the two best states in the country in terms of IMR (Table 15.7). Apart from this low level of access to health facilities, there are large numbers of vacancies for doctors and paramedical staff in these states. Part of the reason for the large numbers of vacancies is the low availability of health workers. The number of health workers per 1,000 people in these states is, on average, half of that in the relatively better-performing states. An important reason is that medical colleges are concentrated in the better-performing and higher-income states (Mahal and Mohanan, 2006).

RECENT REFORMS TO INCREASE ALLOCATIONS TO HEALTH CARE

National Rural Health Mission

Low public expenditure allocation and its skewed interstate distribution were the major reasons for the central government's launching in 2005 of a major program, the National Rural Health Mission. The NRHM is a comprehensive program initiated to improve access to effective health care for the poor residing in rural areas. The program covers the entire country but has a greater focus on 18 lagging states. It is to be implemented from 2005 to 2012, and spending on health care is expected to be increased to 2–3 percent of GDP (from about 1 percent of GDP in 2005).

The important components of the NRHM include the initiation of an accredited social health activist program—a voluntary female community health program aimed at improving immunization rates, institutionalized deliveries, reproductive health care, and nutrition. The NRHM also mandates improvements in health infrastructure, human resources for health, and availability of drugs. It is a flexible, decentralized program comprising

1. a mission flexible pool
2. a reproductive-health flexible pool
3. pulse polio immunization
4. infrastructure maintenance, and
5. a national disease control program

For allocating funds in the first two schemes, the states are divided into focus states (states with poor health status) and nonfocus states. The funds for these schemes are allocated according to population, with focus states getting 30 percent higher weight. The program was supposed to substantially increase the central government allocation for the NRHM (by 30 percent for the first two years and thereafter by 40 percent) until 2012, and the states were required to contribute an additional minimum of 15 percent of the central government's allocations or an increase of 10 percent in their health budgets every year over the period 2007 to 2012. In order to ensure that the funds would be transferred to the implementing agencies without delay, the transfers were made directly to the state-level societies, bypassing the budgets.

There are a number of problems with both the design and implementation of this program. In terms of the design, allocating financial resources on a per capita basis with an additional weight of 30 percent assigned to the focus states does not adequately take account of the requirements. Second, although the program requires the states to make matching contributions, it does not stipulate that the contribution should be additional, so the states can substitute expenditures on health in other areas to fulfill their matching requirements.

The implementation problems have been even more formidable. The expected large increases in central funding simply did not take place, and the actual expenditure incurred by the central government in regard to the program has been only a fraction of what was allocated. In 2009–10, for example, the funding allocated for the program was Rs 115.9 billion, but the actual expenditure was just Rs 46.6 billion or 40 percent of that amount. Second, the pattern of distribution of actual expenditure was vastly different from the original allocation, because when states are unable to make matching contributions or unable to provide utilization certificates to the central government as required under the scheme, the funds are reallocated to the states by the central government, thereby completely altering the original pattern of interstate allocation.

Thus, although the program held much promise, the actual improvement in increasing the health expenditures in poor-performing focus states has been lower than what was expected from the program. Public expenditure could not be increased as proposed, because neither the central government nor the states

could find enough fiscal space. Secondly, the involvement of the states in the reform program was much less than desired. As the funds were directly transferred to the implementing societies, the states gave up their own supervisory and management role as well.

Rashtriya Swasthya Bima Yojana

Another important reform initiative was the introduction of an insurance scheme, not by the Health Ministry, but by the Union Labor Ministry. In an attempt to provide financial protection against high OOP expenditure, in 2007 the Government of India introduced *Rashtriya Swasthya Bima Yojana*, a health insurance scheme that provides insurance coverage for selected hospitalization expenses and daycare procedures to people below the poverty line.⁴ Under this scheme every poor (below the poverty line) family can access free hospitalization care and daycare procedures up to Rs 30,000 per year in selected private and public health facilities. A maximum of five members of a family can be covered under the scheme on a floater basis. A transportation allowance of Rs 1,000 (with a maximum of Rs 100 per visit) is also extended to these families under the scheme.

While the state governments are responsible for identifying the eligible poor families for the scheme, the scheme is actually implemented by insurance companies, which are selected through bids at the state level. Eligible families are provided with a smart card by the insurance company, and treatment can be received at the selected health facilities without cash transactions. The premium for the scheme (estimated to be a maximum of Rs 750 per family per year) is shared between the central government and the state in the ratio of 75:25, subject to a maximum subsidy of Rs 565 per family per year by the central government. For northeastern states, Jammu and Kashmir, the premium burden is shared between the central government and the states in the ratio of 90:10. Additionally, the central government also bears the cost of the smart cards, at Rs 60 per card. The beneficiary family does not contribute to the premium but needs to pay Rs 30 per year as a registration fee.

As of July 2011, the scheme was being operated in 385 (of 640) districts and spanned 26 states. About 27 percent of all poor families in the country were enrolled under the scheme. However, even in the districts where the scheme was being operated, it covered less than 50 percent of the poor population. While some states, like Andhra Pradesh, have chosen not to implement RSBY but implement their own state insurance scheme (like *Aarogyasri*), others, like Karnataka, have implemented RSBY in selected districts along with state-level health insurance schemes (like *Vajpayee Aarogyasri*).

⁴The scheme was initially aimed at providing financial protection to informal workers and was therefore initiated by the Ministry of Labor and Employment. As the bulk of the informal workers were poor, the scheme was designed to cover the entire below-poverty population.

EXPENDITURE NEEDS OF STATES AND THE TRANSFER SYSTEM

As mentioned earlier, the provision of health care in India is predominantly the responsibility of state governments. However, the ability of these governments to spend on health care, particularly those in the low-income states, is constrained by a number of factors. First, most of the low-expenditure states are also low-income states (as discussed in the previous section) and have limited capacity for generating additional resources. Central transfers to these states have not been able to offset their fiscal imbalances fully, and this is mirrored in the strong correlation between per capita health spending and income levels across states. In addition, most of the existing resources of the states are used up to meet their committed liabilities in regard to wages, salaries, interest payments, and pensions, leaving little room for reprioritizing expenditures toward the health sector. Fiscal responsibility legislation has now been enacted in all states as well, and there is very little room to increase allocations to the health sector. Since they have some of the poorest health infrastructures, improving the level of expenditure and the state of health infrastructure in these states assumes particular importance.

For these reasons, and considering the significant externality associated with the health sector, it is necessary for the central government to introduce specific-purpose transfers to these states to ensure a certain minimum standard of basic health services. At present, transfers from the central government to states (specifically for health) are primarily through the NRHM, and as discussed in the previous section, the grants given under the program do not have any relationship with the requirements. The Thirteenth Finance Commission provided an incentive grant to states for improving infant mortality rates, but in effect, they recommended that the grants cover only 30 percent of the gap between the state's per capita health expenditure and the expenditure requirements assessed by them for each of the states.

Interestingly, most of the low-income states assign greater priority to spending on the health sector, as evidenced by a relatively higher share of their income GSDP as well as a higher percentage of their total expenditures on health. Despite this, they have some of the lowest per capita expenditure on health in the country. An analysis of health expenditure as a percent of GSDP across states indicates that the low-income, low-expenditure states spend a relatively higher share of their GSDP on health. In 2008–09, health expenditure as a percentage of GSDP in low-income states like Bihar and Uttar Pradesh was more than double that in high-income states like Punjab, Haryana, Maharashtra, and Gujarat (Table 15.8). As a percentage of total budgetary expenditure also, states like Uttar Pradesh and Rajasthan spend a significantly higher share than the high-income states. In fact, the four highest-income states, Punjab, Haryana, Maharashtra, and Gujarat, rank at the bottom in terms of health expenditure as a percentage of budgetary expenditure.

Additional transfers from the central government have to be directed toward primary care and the first level of secondary care by strengthening the related health infrastructure and personnel at the state level. At present, according to the norms set by the central government, a three-tier health care system should be set up, depending upon the population. A subcenter must be provided for every 5,000 people in the

TABLE 15.8
Additional Resource Requirement and Per Capita Expenditures in 16 Major States

	Additional resources required (2008–09 prices) (rupees crore)	Per capita expenditure (2008–09) (current prices) (rupees)	Per capita expenditure (after transfer) (2008–09 prices) (rupees)	Ratio of per capita expenditure (after to before transfer) (rupees)
Andhra Pradesh	2,191	353	617	1.7
Bihar	4,396	137	602	4.4
Chattishgarh	701	258	549	2.1
Gujrat	1,219	280	494	1.8
Haryana	555	315	764	2.4
Jharkhand	1,097	257	440	1.7
Karnataka	1,502	358	617	1.7
Kerala	764	463	688	1.5
Madhya Pradesh	2,202	198	515	2.6
Maharashtra	1,906	316	491	1.6
Orissa	1,480	234	604	2.6
Punjab	538	305	497	1.6
Rajasthan	1,251	315	506	1.6
Tamil Nadu	1,170	374	550	1.5
Uttar Pradesh	6,404	257	589	2.3
West Bengal	2,777	248	566	2.3
India (including special-category states)	30,152	430	689	1.6

plains and for every 3,000 people in hilly or tribal regions, a public health center must be established for every 30,000 people in the plains and every 20,000 people in hilly/tribal regions, and a community health center must be provided for every 120,000 people in the plains and for every 80,000 people in hilly/tribal regions. The requirements for the subcenters, health centers, and community health centers as well as referral hospitals are specified in norms of the Indian Public Health Standards. Strengthening these tiers would be important not only to facilitate basic primary and secondary care, but also to reduce the burden and expenditure share at the tertiary level.

Designing the transfer scheme would require estimating the gaps between the expenditure needs and actual expenditures. A preliminary estimation of expenditure needs of different states based on the norms indicated above suggests that an additional amount of about Rs 3 billion (at 2008–09 prices), or about 0.6 percent of GDP, will be required to be spent across 16 major states in India.⁵

⁵The norms have been adjusted for the percentage of tribal population in each state. State-level gaps in the number of subcenters, primary health centers and community health centers have been estimated on the basis of the number of facilities reported in the Ministry of Health and Family Welfare's *Bulletin of Rural Health Statistics 2009*. In existing subcenters, primary health centers, and community health centers, gaps in manpower, drugs, and equipment have been considered for costing. Data on gaps in availability of medicines and equipments in existing facilities have been compiled from the International Institute of Population Sciences' 2007–08 District-Level Household and Family Survey (DLHS III). Data on gaps in availability of manpower have been compiled from both sources. The ratio of salary to nonsalary expenditure in each facility is assumed to be 70:30.

About 65 percent of these additional transfers will be required in just the six states that have the poorest health indicators in the country: Bihar, Uttar Pradesh, Madhya Pradesh, Orissa, Assam, and Rajasthan. If the 16 states are enabled to incur expenditures as required according to the norms, it is clear from Table 15.8 that the coefficient of variation of per capita expenditure across the states would decline from about 0.3 in 2008–09 to about 0.15 after such a transfer of resources.

Much of the additional expenditures will have to be generated at the central level for two important reasons. The states do not have broad-based taxes except the sales tax, and considering that they have predominant responsibility for providing social services and coequal responsibility for providing physical infrastructure, resources will have to come by way of transfers from the central government. Second, the significant externalities implicit in health expenditures warrant that the central government should bear a substantial proportion of the cost. Given the high degree of externality in health spending, it is important for the central government to ensure a certain minimum specified level of spending on health, which is best achieved through specific-purpose matching transfers. However, while designing the specific-purpose transfers, it is important to ensure that the transfer system is incentive-compatible in the sense that it leads to stimulation and not substitution at the state level and also that states with low revenue capacity can utilize the funds by making matching contributions. In other words, matching ratios can be varied among the states depending on their capacity to make matching contributions.⁶

FISCAL SPACE FOR HEALTH CARE, STIMULATION, AND SUBSTITUTION EFFECTS

The estimated additional expenditure requirements just to provide subcenters, health centers, and community health centers according to the norms is estimated at 0.6 percent of GDP. There are additional administrative expenditures and requirements for providing health facilities in urban areas, and these could add up to another 0.4 percent. Thus, a minimum of 1 percent of GDP will be required in the medium term to ensure minimum levels of health care as per the norms. The High Level Expert Group on Universal Health Coverage for India actually has recommended that public spending on health should increase to 2.5 to 3 percent in the medium term (Government of India, 2011).

Finding this additional fiscal space will be a formidable challenge. On the one hand, calibrating a sustainable fiscal policy in India requires significant compression of consolidated fiscal deficit (of both the central government and the states)

⁶During the Eleventh Plan period, under the NRHM, the states were required to contribute 15 percent of the central government's contribution. However, only a few states could contribute this amount, and the shortfall was particularly glaring in the case of the focus states. In the event, the states could not utilize the funds from the central government. Furthermore, even those states that made the contribution seem to have cut down other aspects of health expenditures.

as a ratio of GDP, and the Fiscal Responsibility Act requires the compression of fiscal deficit from 7.6 percent in 2010–11 to 5.4 percent by 2014–15. At the state level, there are competing demands on the resources of the states and additional fiscal space from mobilizing more resources, and reprioritization may not be large. The pattern of unconditional transfers from the Finance and Planning Commissions in the medium term is predictable and is not likely to lead to substantial increases in health care spending. Much of the increase, therefore, will have to come from specific-purpose transfers from the central government to the states.

It is important in this context to determine the impact of the central government transfers—both unconditional and specific-purpose—on states' expenditures on health. In a median-voter model, it is shown that unconditional transfers are a "veil" for tax cuts, and even when there are increases in unconditional transfers, the response to this in regard to health care spending would be similar to the response to general increases in incomes (or own revenues), although in actual empirical studies, there is considerable evidence of a "flypaper effect," that is, of a significantly higher response of expenditures to unconditional transfers.⁷

As far as specific-purpose transfers are concerned, whether the expenditures of the aided sector get stimulated or substituted depends on the way in which the transfer scheme is designed. As mentioned in the previous sections, despite a substantial increase in central government transfers to augment spending on the health sector, aggregate spending has not shown much increase. However, there are no econometric estimates of the extent of stimulation or substitution. A recent cross-country study of international aid to the health sector in developing countries shows a significant substitution of domestic financing of the health sector with international aid (Lu and others, 2010).

Considering the importance of increasing the overall public spending on health and the fact that the central government will have to make substantial additional grants to augment spending on the sector, the fiscal space analysis should incorporate the effect of central grants on actual health expenditures. Measurement of the impact of central grants on states' own spending on health care is important for evaluating the design of the transfer system, which is attempted in the following.

In India, given that the states have a predominant role in the provision of health care, the possibility of additional fiscal space at the state level can be due to (1) increase in own revenues of the states; (2) increase in general-purpose transfers from the Finance and Planning Commissions, which includes shared taxes and plan and nonplan grants; (3) increase in specific-purpose transfers for the health sector; and (4) changes in prioritization in favor of the health sector. In India, foreign aid is not an important factor in determining the fiscal space, nor are earmarked taxes important.

Thus, increases in per capita expenditure on health in a state excluding the specific-purpose transfers in a year [$\Delta (PC_OHE)_{it}$] depend on increases in own

⁷For a recent analysis of the "flypaper effect," please see Inman (2008).

revenues of the state [$\Delta (PC_SOR)_{it}$], increases in unconditional transfers received from the central government [$\Delta (PC_GPGC)_{it}$], increases in specific-purpose transfers [$\Delta (PC_CGH)_{it}$], and changes in priority assigned to health spending in the overall budget allocation [$\Delta (PC_CGH)_{it}$]. Thus,

$$\Delta (PC_OHE)_{it} = \alpha + \beta \Delta (PC_CGH)_{it} + \gamma \Delta (PC_SOR)_{it} + \psi \Delta (SPH)_{it} + \tau \Delta (PC_GPGC)_{it} + \varphi (\text{State Dummies}) + \sigma (\text{Year Dummies}) + \varepsilon_{it}$$

where $\Delta (PC_OHE)_{it} = [(PC_OHE)_{it} - (PC_OHE)_{it-1}]$, or changes (from the previous year) in per capita own health expenditure of state i in year t ; $\Delta (PC_CGH)_{it} = [(PC_CGH)_{it} - (PC_CGH)_{it-1}]$, or changes (from the previous year) in the central government's per capita grant for health to state i in year t ; $\Delta (PC_SOR)_{it} = [(PC_SOR)_{it} - (PC_SOR)_{it-1}]$, or changes (from the previous year) in per capita own revenues of state i in year t ; $\Delta (SPH)_{it} = [(G_{bit}/G_{bt})_t - (G_{bit}/G_{bt})_{t-1}]$, or changes in the ratio of public expenditure (over the previous year) on health to total budget expenditure of the i th state in year t ; and $\Delta (PC_GPGC)_{it}$ = changes in the per capita general-purpose grant by the central government to state i in year t = (tax devolution + plan and nonplan grants).

The estimate of β in the model measures the impact of a one-unit increase in the per capita health grant on the per capita health expenditures of the state from its resources, including unconditional transfers. A significant negative sign for β would indicate that all else being equal, additional central health grants lead to a lowering of states' own health expenditure—an indication that states substitute additional central government health grants for their own health expenditure. A significant positive sign would indicate stimulation of a state's spending when higher central health grants are received. States' own health expenditure may also be affected by changes in other sources of state revenues and by priority accorded to health by the state. We use a set of control variables in the regression specification to account for the effect of these factors.

We have taken the data for 14 major states in India for the period 1991–92 to 2007–08 to estimate the effect, on changes in states' per capita health expenditures (excluding per capita specific purpose transfers), of changes in states' per capita own revenues, unconditional central transfers, specific-purpose central transfers for the health sector, and changes in priorities of the states (Table 15.9). A two-way fixed-effects panel data model has been used to estimate the above specification. All variables (excluding population) have been sourced from the finance accounts of individual states published by the Comptroller and Auditor General of India. Variables expressed in per capita terms have been converted at constant (1999–2000) prices for estimation. Population figures have been sourced from the Central Statistical Organization. Since 2001–02, some of the central government health grants to states were being transferred directly to implementing agencies, bypassing the states' budgets, so the regression has also been estimated separately for two subperiods: 1991–92 to 2000–01 and 2001–02 to 2007–08.

In the two subperiods as well as for the entire period, the coefficient on central government health grants β is significantly negative, which implies that increases

TABLE 15.9

Regression Results

Dependent Variable: Changes in Per Capita Health Expenditure of Central Health Sector Grants

	1991–2007 (Model I)	1991–2000 (Model II)	2001–2007 (Model III)
Center's health grant	−0.952*** (0.074)	−0.777*** (0.114)	−1.059*** (0.109)
States' own revenues	0.012*** (0.003)	0.015*** (0.004)	0.0001 (0.006)
States' priority to health	17.649*** (1.828)	15.03*** (2.038)	19.487*** (4.231)
General (unconditional) transfers by center	0.019*** (0.007)	0.014 (0.011)	0.013 (0.01)
Constant	18.252*** (3.561)	17.17*** (3.885)	3.552 (5.035)
State-specific fixed effects	Yes	Yes	Yes
Time-specific fixed effects	Yes	Yes	Yes
Number of observations	224	126	84
R^2	0.69	0.62	0.77

Note: *t*-statistics are given in parentheses. The standard errors are robust to cross-sectional heteroskedasticity and within-panel serial correlation.

*** $p < 0.01$.

in the health grants by the central government result in the substitution of those increased resources in place of health expenditure by the states from their own resources. The sign and significance of the coefficient are consistent across all the subperiods. Thus, the results clearly show that increases in the central government grants for the health sector have not led to increases in the states' health expenditure. The states receiving the additional grants have been reducing the expenditures on health from their own resources. Interestingly, the magnitude of the coefficient is significantly larger in the later subperiod than in the earlier period. With most states experiencing relatively higher fiscal stress in the later period than in the earlier period, this possibly indicates that the substitution effect is stronger in the later subperiod, which is a period of fiscal stress.

The regression estimates presented in Table 15.9 also show that the changes in per capita revenues have a significant impact on per capita health expenditures when the whole period (1991–2007) is considered. This is also true of the first subperiod (1991–2000), but the coefficient is not significant in the second subperiod. Perhaps the absence of an increase in health expenditure in response to increased revenues in the post-2000 period may be explained by the focus on fiscal adjustment to adhere to the targets set by fiscal responsibility legislation. It is also seen that the coefficient on unconditional transfers does not show evidence of a significant flypaper effect. The coefficients are broadly similar to those of per capita own revenues. The changes in priority assigned to the health sector clearly show a significant impact on changes in per capita health expenditures.

Also, all the control variables are significant in the entire time period (Model I), which reflects the importance of these variables in determining the level of health expenditure in states (Table 15.9). Besides, in the later subperiod (Model III), the

coefficient on states' own revenues is nonsignificant, possibly because in the later period, as the result of the Fiscal Responsibility and Budget Management Act, states were constrained in regard to expanding expenditure from their own revenues, as they were mandated to bring down the fiscal and revenue deficits. On the whole, the preceding analysis points toward the fact that states substitute additional grants received from the central government for the health sector for health expenditures incurred out of untied resources at the state level. This substitution effect appears to be higher in periods of higher fiscal stress.

CONCLUDING REMARKS

This chapter analyzes public spending on health care in India. It analyzes public spending in different states in relation to the requirements to provide basic health infrastructure. The chapter also analyzes recent reform attempts to augment spending on health care through specific-purpose transfers to states.

The Indian health care system is characterized by low levels of public spending on health care; poor quality in health care services, with adverse effects on the population's health status; a lack of focus on preventative health care; and dependency of the population, particularly the poor, on private health care providers and consequently high OOP spending and immiseration.

Reforms in the health sector will have to address the need for increasing public spending on health care, focus on preventative health care, ensure greater access to health care by the poor, and significantly improve the productivity of public spending. Not only is public spending on health care in India too low, but its distribution across the country is very uneven. Per capita health care expenditure in the poorest state, Bihar, was Rs 166 in 2008–09, whereas in that same year, it was Rs 421 in Tamil Nadu and Rs 507 in Kerala, relatively more affluent states. This is in spite of the greater emphasis given by the low-income states to health care spending. The coefficient on the correlation between per capita expenditures and per capita GSDP was 0.7 and 0.8, respectively, for 1996–97 and 2004–05.

Considering both the existence of a significant vertical imbalance and the fact the health is an important merit good, much of the additional resources for health care will have to come from the central government. Increasing public spending on health care in low-income states will require designing specific-purpose transfers with matching contributions from the states. Such transfers should be equalizing and should not lead to a substitution of states' expenditures on health care from their own resources.

The chapter reviews the introduction of the NRHM, an important specific-purpose transfer program introduced by the government of India in 2005. It shows that the program's objective of increasing expenditures to 2 percent of GDP has not been fulfilled, partly because the low-income states could not avail themselves of the grants by making their own contributions and could not afford to pay for the current component of spending. Furthermore, econometric estimates show significant substitution of central grants for states' spending from

their own resources. These findings underline the need to redesign the transfer system. Furthermore, the focus of the NRHM is on rural areas, and there is no program to create health infrastructure in urban areas.

It is imperative for the central government to embark on a major expansion of health infrastructure in both rural and urban areas of the country in its Twelfth Plan (2012–13 to 2016–17). This calls for a significant increase in expenditure. Our estimates show that an additional 1 percent of GDP would be necessary in the medium term to provide basic health care services as per the norms. Finding additional fiscal space will be a major challenge. Calibrating a sustainable fiscal policy will require additional fiscal adjustment of over 2 percentage points of GDP, as set out in the Fiscal Responsibility Act, and with competing demands for additional spending for education and food security, which are supposed to claim an additional 2 percent of GDP, the creation of fiscal space for spending on health care during the Twelfth Plan will be very challenging.

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