HEALTH EXPENDITURES IN INDIA

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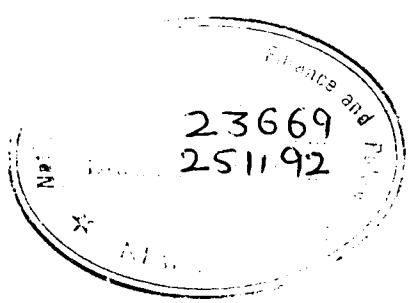

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Abstract

An attempt has been made to (a) quantify the volume of health expenditure of Central, State and Union Territory Governments in India and (b) identify the priorities among different health categories and programmes. As of 1990-91, the combined health expenditures of the Central, State and Union Territory Governments account for Rs. 98,377 million or US$ 4,143 million and in per capita terms Rs. 117 or US$ 5. In comparison to other countries in the world, on the average Government in India is spending a slightly higher proportion of GDP on health. The share of the Central Government is 16 per cent while that of the State and Union Territory Governments is 84 per cent.

About 57 per cent of government expenditures on health (Medical, Public Health and Family Welfare) are allocated to secondary and tertiary sectors (medical relief, CGHS/ESIS, medical education, training and research). Some of the programmes - like prevention and control of diseases, maternal and child health, mass education, training and research, rural family planning - vital to improve health status, are given negligible importance.

It is suggested that resource allocation for different categories as well as for different programmes should undergo drastic change, if health status in the country has to be improved. The priorities, as revealed by statistical evidence, are mass education; training research and evaluation; public health laboratories; health education, training and research; prevention and control of diseases (including other systems of medicine); maternal and child health; rural family planning, urban family planning; medical education, training and research.

But to be realistic, priorities have to be guided by various qualitative factors influencing health care on the one hand and magnitude of total health expenditures in the country on the other. It is estimated that total expenditures on health in India (combining Central Government, State governments, Union territory governments, Local bodies, Corporations in public and private sectors, hospitals, dispensaries, clinics, voluntary organisations, households, etc.) in 1990-91, come to Rs. 2,56,094 million (US$ 10,784 million) or Rs. 303.43 (US$ 12.78) per head of population or 6.14 per cent of the GDP.

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HEALTH EXPENDITURES IN INDIA*

1. Introduction

1.1 The purpose of this paper is to identify the current priorities in India, as reflected in patterns of public resource allocation, among different health categories and programmes. Public resource allocation here refers to expenditures charged to general budgets of the Central government, State governments and Union territory governments without legislature and with legislature. Expenditures charged to budgets of State owned enterprises (SOEs) and other autonomous or semi-autonomous entities (usually called off-budgets) carried out under the legislative control of Central, State, and Union territory governments are kept out of the purview. However, some attempt has been made to quantify the total resources devoted to health care in the country, so that any expansion by the government will be seen in proper perspective.

2. Definition and Meaning of Health Expenditures

2.1 About half a dozen studies have been made on the quantification of government expenditures on health in India. But there has been no unanimity as to what constitute health expenditures of the

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government; for example, IIM Study (1987) and F.R.C.H. Study (1987) excluded nutrition, water & sanitation and other non-health Ministry programmes, Duggal's study (1986) excluded nutrition & family planning and was not clear about the non-health Ministry government expenditures, the World Bank Studies, Ravishankar (1989) and Subba Rao (1989) combined nutrition, medical, public health, family welfare and water and sanitation, and ORG's Study - Rao, Khan and Prasad (1987) excluded some of the health/health related schemes like water supply, nutrition, child welfare, pollution control and hospitals run by the Ministry of Defence and Railways at the Central level and some expenditures relating to Employees State Insurance Scheme (ESIS) at the State level (Table 1). It is not known as to why such exclusions were made[1]. Lack of any standard definition on health expenditure, perhaps was responsible for such varied interpretations.

2.2 By and large, the definition of health expenditures depends upon the meaning of health one takes into account. World Health Organisation (WHO), defines "health as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity". But such a definition is too wide and not amenable for any meaningful economic analysis or for any rational resource allocation. Necessarily, health has to be defined from a practical point of view and therefore has been defined by economists according to life expectancy, infant mortality, and crude death rate, etc. In fact, "it has been studied as a function of medical care, income, education, age, sex, race, marital status, environmental pollution, and personal behaviour such as cigarette smoking, diet, and exercise. It also has been used as

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1. For a brief review of these studies, see Peter Berman (January, 1991), pp. 21-34.

TABLE 1

Health Expenditures by Government in India - Comparison with Other Estimates

(Rs. Million)

Government	Reddy K. N. 1990-91 (RE)	I. I. M. 1984-85	F.R.C.H. Annual Average for 6th Plan Period 1982-83	Duggal 1983-84	Combined World Bank Studies Ravishankar (1989) Subba Rao (1989)	ORG (Rao, Khan and Prasad) 1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Central Government	15734	6940)	25556	19105	4910	2389
State government	79333	20167)			47280	14763
Union Territories	3310	NA	NA	NA	NA	NA
Total	98377	27107	25556	19105	52190	17152
GDP	4172710	2085770	1588510	1864060	3517240	1588510
Total as Percentage of GDP at factor cost	2.36%	1.30%	1.61%	1.02%	1.48%	1.08%
Comments	1. Includes expenditures of Ministries other than Health (For details please see the text)	1. Excludes nutrition water & sanitation other non-health Ministry programmes local government spending	1. Excludes nutrition water & sanitation other non-health Ministry programmes	1. Excludes nutrition and family planning 2. Not explicit about non-health ministry government expenditures	1. Combines nutrition, medical, public health, family welfare and water and sanitation	Excludes: 1. Punjab and Manipur 2. Some of the health/ health related nutrition, child welfare, pollution control, & hospitals run by Ministry of Defence and and Railways 3.A part of ESIS

Source: For Columns 3, 4, 5 and 6, Peter Berman (January, 1991). Health Economics, Health Financing and the Health Needs of Poor Women and Children in India, Ford Foundation, India, p. 24 and for column 7, ORG, Health Sector Differentials in India, A State Level and National Level Study, 1987, p. 31. For GDP at factor cost, Central Statistical Organisation, National Accounts Statistics, relevant issues.

an independent variable to explain labour force participation, particularly at older ages. Not only do retired persons frequently cite poor health as the reason for retirement, but current workers who report a health limitation are more likely to withdraw from work in subsequent years. Health status has also been used to explain wages, productivity, school performance, fertility and the demand for medical care. The results are often sensitive to the particular measure of health that is used but the direction of effect generally confirms a priori preconditions" (Victor R. Fuchs, 1987).

2.3 The concern here is that health is the function of resources allocated to it - by government and non-government sectors. What constitute health resources/expenditures is again a matter of definition and expectedly there has been no unanimous definition of health expenditures in India or elsewhere in the world. According to Peter Berman (1988): "All those activities, with a primary and significant (but not necessarily sole) purpose being health improvement should be included, while others must be judged on their merits. For example, spending on rural health centres, should be obviously included, but including public housing investments probably casts the net too wide. General food subsidies would not normally be listed explicitly as health spending, but targeted remedial feeding programmes could be. To date, health financing researchers in India have not dealt systematically with this issue".

2.4 This view has generally been accepted although other experts on health economics argue for a wider definition that includes expenditure on population control, improvement in the nutrition of

mothers and children, sanitary conditions and shelter, education relating to nutrition, personal hygiene, clean water supply and waste disposal and alleviation of poverty[2]. It needs no particular mention that using a wider definition will diffuse the focus of issues surrounding health expenditures.

2.5 In the definition of health expenditures here, all those that help improve health of the people directly are included. They are expenditures on (1) Medical & Public Health; (2) Family Welfare; (3) Nutrition; (4) Water Supply & Sanitation; and (5) Social Security & Welfare in respect of child care and handicapped care - spread over different Ministries of Central Government, Departments of State governments and Departments of Union territory governments with and without legislature. At the Central level these expenditures are spread over twelve Ministries, Ministry of Health & Family Welfare, Ministry of Human Resource Development/Department of Women & Child Development, Ministry of Welfare, Ministry of Food and Civil Supplies/Department of Food, Ministry of Agriculture/Department of Rural Development, Ministry of Urban Development/Department of Urban Development and Housing, Ministry of Environment and Forests, Ministry of Railways, Ministry of Communications, Ministry of Energy/Department of Coal, Ministry of Labour, and Ministry of Defence. And at the States and Union territories' level they are spread over three or four departments - with variation across the States and Union Territories. The choice of these

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2. For example, protagonists of basic needs approach emphasize that the direct fulfillment of basic needs such as health, clothing, sanitation, shelter, nutrition and education can play an important role in importing people's health - see particularly ILO (1976) Singh (1979), Bhalla (1975), Stewart (1985), Hicks (1980 and 1982) and Streeten (1979).

expenditure categories is based on extensive empirical proof across the countries, between these categories and health indicator (Infant mortality)[3]. By and large, all those that help improve health of the people indirectly (such as education, environment, poverty alleviation etc.) are excluded. Methodology, as to how health expenditures, under Central government, State governments and Union territory governments are estimated, is described in Appendix-1.

3. Volume of Health Expenditures by Government

3.1 As estimated above, health expenditures in India accounted for Rs. 98,377 million or US$ 4,143 million (Exchange rate being 1 US$ = Rs. 23.748 for 1990) in 1990-91 in absolute terms and Rs. 116.52 or US$ 4.91 in per capita terms. Fifty per cent of total health expenditures were devoted to medical and public health, 10 per cent were spent on family welfare, 28.40 per cent were spent on water supply and sanitation, 7.07 per cent were spent on nutrition and 4.55 per cent were spent on child and handicapped. As percentage of GDP at current market prices, they accounted for 2.36 per cent (Table 2).

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3. A succint summary of the proofs may be seen in Guy Carrin (1984), pp. 10-16 and 20 to 25. It is interesting to know that attempts to reduce population growth would mean more food per person, better nutritional status and reduction in susceptibility of diseases. Studies of Morley, et.al. (1968) and Gopalan and Rao (1969) show that there exists a negative correlation between large family size and close spacing of births on the one hand and food and availability and care to children on the other hand. Similar is the case with nutrition and sanitation. Scrimshow, et.al. (1968) found that incidence of tuberculosis is much lower among adequately nourished population. Puffer and Serrano (1973) observed that 74 per cent of measles deaths were associated with nutritional deficiency.

TABLE 2

Health Expenditures by Government by Important Categories - 1990-91(RE)

Categories of Health Expenditure	Health Expenditures		Per Capita		Health Expenditur as percentage of GDP at factor cos
	Rs. Million	US$ Million	Rs. p.	US$	
1. Medical and Public Health	49145 (49.15)	2070	58.21	2.45	1.18
2. Family Welfare	9863 (10.03)	415	11.68	0.49	0.24
3. Water Supply and Sanitation	27936 (28.40)	1176	33.09	1.39	0.67
4. Nutrition	6952 (7.07)	293	8.23	0.35	0.17
5. Child and Handicapped Welfare	4481 (4.55)	189	5.31	0.22	0.11
Total Health Expenditures (1 to 5)	98377 (100.00)	4143	116.52	4.91	2.36

Note: Figures in brackets are percentages of total health expenditures.

3.2 In comparison to other countries in the world, on the average, India spent a slightly higher proportion of its GDP - subject to the uniformity of definition of health expenditures used in those countries. It can be seen from Table 3 that India spent higher than all developing countries (1.4 per cent), and even low and medium human development countries in the world (0.7 per cent and 1.5 per cent respectively). But, it was far behind that of industrial countries (4.7 per cent), high human development countries (4.6 per cent). If expenditures on medical and public health and family welfare (a restrictive definition) alone were taken into account, India was spending (1.42 per cent) somewhat less than most of the medium human development countries (1.5 per cent) a point that has to be borne in mind for rational allocation of resources (Tables 2 and 3).

3.3 Of the total Rs. 98,377 million health expenditures in India, 84 per cent was incurred by State and Union Territory governments only. The rest, 16 per cent was incurred by the Central Government. It should not surprise any one if major share of it was spent by State governments since, under the Constitution of India, health is the responsibility of the States. Coming to a more important question, resource allocation pattern by level of government, it is interesting to note that all the three types of government (Centre, States and Union Territories) had given top priority to medical and public health, allocating a little more than 49 per cent of their total expenditure. The only glaring differences were with respect to Union Territories, where allocations to water supply were 40.54 per cent, while that of Central Government and State governments' allocations were 24.71 per cent and 28.05 per cent respectively (Table 4).

TABLE 3

Health Expenditure as Percentage of GNP/GDP in Low Medium and High Human Development Countries in Comparison to India

Countries	Health Expenditure as Percentage of GDP (Year)
1. Low Human Development Countries (excluding India)	0.7 (1986)
2. Medium Human Development Countries (excluding China)	1.5 (1986)
3. High Human Development Countries	4.6 (1986)
4. All Developing Countries (61)	1.4 (1986)
Least Developed Countries (46)	0.9 (1986)
Sub-Saharan Africa (45)	0.8 (1986)
5. Industrial Countries	4.7 (1986)
6. World	4.2 (1986)
7. India	2.4 (1991)

Sources: For rows 1 to 6; U.N.D.P.; Human Development Report, 1990, pp. 148-149.
For row 7 (India) our estimate.

TABLE 4

Pattern of Allocation of Health Expenditures by Level of Government (1990-91)

(Percentage)

Health Expenditures : Important Categories	Central Government	State Governments	Union Territories	Total
1. Medical and public health	49.34	48.96	52.63	49.15
2. Family welfare	8.69	10.49	0.18	9.86
3. Water supply and sanitation	24.70	28.05	40.54	27.93
4. Nutrition	9.12	8.64	4.23	8.58
5. Child and handicapped welfare	8.14	3.85	2.42	4.48
6. Total health expenditure (1 to 5)	100.00	100.00	100.00	100.00

4. Allocation Pattern Among States

4.1 Health expenditures have to be looked in terms of per capita if we want to know whether expenditures are adequate and whether they have any influence on health indicators - infant mortality rate, or life expectancy at birth. Table 5 indicates per capita expenditure by Central, State, and Union Territory governments. Central, State and Union Territory governments, put together were spending Rs. 117 or US$ 5 per head of population. To what extent per capita expenditure on health (defined above) has been improving health status in the country is difficult to say without time series data and knowledge about numerous factors associated with health status. To go into those details will be a subject matter for another study. However, with the available information an attempt is made, in what follows, to find out (i) whether spending pattern across the States is on the right lines and, if so (ii) which categories of expenditures influence health status more positively.

4.2 Table 6 shows. the per capita expenditures and the health indicators of the 15 major States. Infant Mortality Rate (IMR) is considered as indicator of health status, (life expectancy at birth, the other most important indicator of health status is not taken into account as proper data are not available). It can be seen that health status as measured in terms of IMR differs from State to State and disparities are considerable. This has happened in spite of sincere efforts of the governments to bridge the gap - in view of the Alma-Ata Declaration of "Health for All by 2000 A.D.". What accounts for the disparities? Are the policy makers trying to pinch on the real cause of low health? Is it possible to modify the present resource allocation process in line with the priorities fixed on the basis of the reasons perceived from experience? Answers to these questions may provide some guidance to policy makers. But the questions are not easy to answer.

TABLE 5

Per Capita Expenditure by Level of Government [1990-91 (RE)]

Level of Government		Rs.	US$
A. Central Government		18.64	0.78
B. State Governments			
1.	Andhra Pradesh	72.64	3.06
2.	Arunachal Pradesh	290.64	12.23
3.	Assam	102.87	4.33
4.	Bihar	51.12	2.15
5.	Goa	559.33	23.55
6.	Gujarat	108.90	4.59
7.	Haryana	121.51	5.12
8.	Himachal Pradesh	283.12	11.92
9.	Jammu and Kashmir	269.67	11.36
10.	Karnataka	81.00	3.41
11.	Kerala	134.26	5.65
12.	Madhya Pradesh	91.02	3.83
13.	Maharashtra	103.05	4.34
14.	Manipur	260.59	10.97
15.	Meghalaya	424.17	17.86
16.	Mizoram	542.51	22.84
17.	Nagaland	990.74	41.72
18.	Orissa	67.59	2.85
19.	Punjab	111.72	4.70
20.	Rajasthan	100.63	4.24
21.	Sikkim	351.18	14.79
22.	Tamil Nadu	142.08	5.98
23.	Tripura	197.28	8.31
24.	Uttar Pradesh	63.51	2.67
25.	West Bengal	91.57	3.86
C. Union Territories			
1.	Andaman & Nicobar Islands	382.03	16.09
2.	Chandigarh	207.71	8.75
3.	Dadra & Nagar Haveli	157.64	6.64
4.	Daman & Diu	236.09	9.94
5.	Delhi	290.57	12.24
6.	Lakshadweep	522.40	22.00
7.	Pondicherry	340.96	14.36
	ALL INDIA	116.52	4.91

TABLE 6

Infant Mortality Rate and Selected Per Capita Health Expenditures

(In Rupees)

States	Infant mortality rate (Per thousand live birth) (1989)	Per capita expenditure on medical and public health (1990-91)(RE)	Per capita expenditure on family welfare and sanitation (1990-91)(RE)	Per capita expenditure on water supply of handicapped (1990-91)(RE)	Per capita expenditure on nutrition (1990-91)(RE)	Per capita expenditure on child & welfare (1990-91)(RE)
1. Andhra Pradesh	81.00	40.48	10.86	14.99	2.11	4.20
2. Assam	91.00	48.26	10.70	37.60	2.85	3.46
3. Bihar	91.00	28.99	8.89	10.50	1.18	1.56
4. Gujarat	86.00	51.60	9.76	30.50	15.02	2.02
5. Haryana	82.00	51.20	8.96	47.22	6.08	8.05
6. Himachal Pradesh	74.00	108.93	14.63	144.78	4.50	10.28
7. Karnataka	80.00	29.15	13.09	19.75	14.87	4.14
8. Kerala	22.00	65.83	26.49	32.26	2.20	7.48
9. Madhya Pradesh	117.00	38.26	11.32	35.54	2.58	3.32
10. Maharashtra	59.00	55.60	9.34	28.84	7.07	2.20
11. Orissa	122.00	34.98	1.58	21.52	5.72	3.79
12. Rajasthan	96.00	54.21	12.16	28.74	4.37	1.15
13. Tamil Nadu	68.00	53.85	9.41	38.18	37.99	2.65
14. Uttar Pradesh	118.00	33.69	6.28	18.48	0.23	4.83
15. West Bengal	77.00	60.89	9.60	13.25	2.54	5.29

Sources: 1. Registrar General and Census Commissioner of India, Sample Registration System, 1990.

2. Independent Variables - Calculated from the State Budgets

For example, compare the health status of Kerala with that of Haryana. Neither economic backwardness of the former nor economic affluence of the latter explains the existing health status. So, what is the root of the problem? Is it the socio-cultural factors that play an important role in explaining the variation in health? Panikar and Soman (1984, p. 1) who made a study on the determinants of health status in Kerala, pointed out that The health status of a population is shaped by a variety of factors - e.g. the level of income and standard of living, housing, sanitation, water supply, education, health consciousness, personal hygiene, and by the coverage and accessibility of medical hospitals - and no single factor could be held solely responsible for it.

4.3 There is wide variation among the States in respect of per capita expenditure on nutrition. All other per capita expenditures show reasonable variations across the states (Table 6). Though expenditure on nutrition and child welfare is meant for a specific target group, per capita expenditure has been calculated by using total population in order to attain symmetry with the other variables, e.g., medical and public health, etc.

4.4 The correlation of all the explanatory variables with the dependent variable IMR shows signs as expected (Table 7). There is negative relationship between per capita expenditures and IMR. The degree of relationship is the highest in case of per capita expenditure on Family Welfare (PCEXF) and lowest in case of per capita expenditure on Water Supply and Sanitation (PCEXW) with IMR. But per capita expenditure on Medical and Public Health (PCEXM) and per capita expenditure on Family Welfare (PCEXF) alone have significant relationship with IMR.

TABLE 7

Correlation Matrix of Dependent and Independent Variables

Variables	IMR	PCEDH	PCEHF	PCEHW	PCEDN	PCEDS	
IMR	1.0000						
PCEDH	-.4815	1.0000					
PCEHF	-.7766	.4431	1.0000				
PCEHW	-.1652	.8547	.2493	1.0000			
PCEDN	-.1988	.0151	-.906	.0325	1.0000		
PCEDS	-.3230		.6387	-.5306	-.6687	-.2285	1.0000

Notes: Explanation for Abbreviations: IMR - Infant Mortality Rate; PCEDH - Per Capita Expenditure on Medical and Public Health; PCEHF - Per Capita Expenditure on Family Welfare; PCEHW - Per Capita Expenditure on Water Supply and Sanitation; PCEDN - Per capita Expenditure on Nutrition; and PCEDS - Per Capita Expenditure on Child and Handicapped Welfare.

TABLE 8

Regression Results

Dependent Variables	Intercept	Explanatory Variables					R^2	$\bar{R}^2$	F' Value
		PCEDH	PCEHF	PCEHW	PCEDN	PCEDS			
1. Infant mortality rate	115.005	-.610[c]					.2318	.1728	3.9235
	(-1.982)								
2. Infant mortality rate	131.581	-.217	-3.348[a]				.6266[a]	.5644	10.0702
	(10.187)	(-.869)	(-3.356)						
3. Infant mortality rate	146.374	-.952[b]	-2.868[a]	.490[c]			.7245[a]	.6494	9.6439
	(10.614)	(-2.194)	(3.268)	(1.977)					
4. Infant mortality rate	152.050	-.934[b]	-3.018[a]	.493[c]	-.696[c]		.7941[a]	.7118	9.6432
	(11.804)	(-2.372)	(-3.773)	(2.195)	(-1.839)				
5. Infant mortality rate	155.195	-.919[b]	-2.829[a]	.580[b]	-.814[c]	-1.897	.8109[a]	.7059	7.7192
	(11.513)	(-2.307)	(-3.387)	(2.349)	(-2.012)	(-.894)			

Notes: Figures in parentheses are t' values: a. Significant at 1 per cent level; b. Significant at 5 per cent level; and c. Significant at 10 per cent level.

4.5 Having an insight into the nature of relationship among the dependent and independent variables, IMR has been taken as dependent variable and coefficient of determination (R^2) has been estimated with five common explanatory variables - per capita expenditure on medical and public health (PCEXM); per capita expenditure on family welfare (PCEXF); per capita expenditure on water supply and sanitation (PCEXW); per capita expenditure on nutrition (PCEXN); per capita expenditure on child and handicapped welfare (PCEXS). In all 5 regression equations have been estimated (Table 8), which are presented below.

Step I IMR = 115.005 - .610 PCEXM (1)

Step II IMR = 131.581 - .217 PCEXM - 3.348 PCEXF (2)

Step III IMR = 146.374 - .952 PCEXM - 2.868 PCEXF + .490 PCEXW (3)

Step IV IMR = 152.050 - .934 PCEXM - 3.018 PCEXF + .493 PCEXW - .696 PCEXN (4)

Step V IMR = 155.195 - .919 PCEXM - 2.829 PCEXF + .580 PCEXW - .814 PCEXN - 1.897 PCEXS (5)

4.6 In the five equations, PCEXM in equation (1) and PCEXS in equation (5) are not significant (Table 8). R^2 in equation (1) is not significant. All other coefficients and R^2 are significant. The coefficient of PCEXW does not show correct sign in all the three equations (3, 4 and 5). As explanatory variables go on increasing step by step, R^2 goes on increasing upto step V, while R^2 reduces at the 5th step. So step V has been rejected as PCEXS has no impact on IMR when it is associated with other four explanatory variables. Here, it may be noted that the coefficient of PCEXF is highly significant (1 per cent level) in all the four equations, where it has been used.

4.7 The values of R^2s show that per capita health expenditures may explain variation in the health status (as measured by IMR) in a significant manner. As said earlier, the concern here is about broad categories of health expenditures and their relationship with health status only. No attempt is made to suggest prioritisation for allocation of resources among various uses. Nevertheless, a few important guidelines would follow for reallocation of resources from the above regression analysis: As is evident from the R^2s (i) a one per cent increase in per capita expenditure on medical and public health may reduce IMR by 0.23 per cent, (ii) a one per cent increase in per capita expenditures on medical and public health and family welfare (taken together) may reduce IMR, by 0.63 per cent, (iii) a one per cent increase in per capita expenditure on Medical and Public Health, Family Welfare, Water Supply and Sanitation, (taken together) may reduce IMR by 0.72 per cent, and (iv) a one per cent increase in per capita expenditures on medical and public health, family welfare, water supply and sanitation and nutrition (taken together) may reduce IMR by 0.79 per cent.

4.8 Now, it is obvious that per capita expenditures have to be increased to improve health status. But increasing per capita expenditure in India may be very near to impossible because of scarcity of financial resources and persistent economic backwardness. The situation may become still worse because of a very high rate of population growth - which means, expenditure has to increase for the present population and additions to it. Therefore, present level of resources have to be taken as given and then try to see how adjustment of shares of expenditure on various programmes/schemes of health finance can be possible, in order that improvement in health may see the light of the day. This requires that we have to find out Priority for

Programmes/Schemes of the governments, so that existing resources can be reallocated in favour of priorities. What follows is an attempt towards that.

5. Allocation of Resources by Programmes

5.1 Table 9 shows percentage shares of different programmes in "health expenditure" (medical, public health and family welfare only). These do not include expenditures under water supply and sanitation, nutrition, child and handicapped welfare for want of relevant details. It can be seen that while the Central Government spends 10 per cent on medical relief, the States and Union Territories spend 42 per cent and 75 per cent respectively. Similarly, while the Central Government spends 39 per cent on medical education, training and research, States and Union Territories spend only 8 per cent and 7 per cent respectively. Further, the Central Government spends about 5 per cent only on prevention and control of diseases whereas, the States and Union Territory Governments spend 12 per cent and 5 per cent respectively.

Sectoral Allocation

5.2 Looked at from the sectoral point of view, as much as 57 per cent of the expenditure on health has been devoted to secondary and tertiary sectors (medical relief, CGHS/ESIS and medical education, training and research). The remaining has been allocated to the primary sector and administration. The truth is that some of the programmes - (a) prevention and control of diseases, (b) maternal and child health, (c) family welfare, mass education, training and research, (d) rural family planning - vital to health of the people have been given negligible importance. Steps have to be taken for reallocation of resources, after examining the reasons for greater share on medical relief.

TABLE 9

Percentage Share of Health Expenditure by Programmes and by Level of Government

(Per cent)

Expenditure by Programmes		Central Government	State governments	Union Territory governments	State and Union Territory governments combined	Total Central, State and UT governments, combined
1.	Direction and administration	2.54	5.18	4.50	5.16	4.90
2.	Medical relief	9.79	41.57	74.53	42.63	39.47
3.	CGHS/ESIS	15.49	5.05	2.92	4.99	5.99
4.	Medical education, training and research	38.55	8.04	6.93	8.01	10.94
5.	Other systems of medicine	0.48	4.44	2.17	4.37	3.99
6.	Prevention and control of diseases	4.86	11.91	4.72	11.68	11.03
7.	Prevention of food adulteration	0.26	0.71	0.92	0.72	0.67
8.	Drug control	0.28	0.40	0.30	0.40	0.39
9.	Health education, training and research	2.36	0.51	0.35	0.51	0.68
10.	Public health laboratories	1.46	0.28	0.10	0.27	0.39
11.	Manufacture of sera and vaccine	0.31	0.13	0.00	0.13	0.14
12.	Rural family planning service	0.05	7.05	0.15	6.83	6.18
13.	Urban family planning service	0.49	1.22	0.00	1.18	1.12
14.	Maternal and child health	7.81	0.88	0.02	0.86	1.52
15.	Mass education, training, research and evaluation	5.09	1.05	0.01	1.02	1.41
16.	Other expenditures	10.16	11.56	2.38	11.27	11.17
	TOTAL (Medical, Public Health and Family Welfare)	100.00	100.00	100.00	100.00	100.00

5.3 Going into the details as to why greater allocations have been made to secondary and tertiary sectors will constitute a separate study by itself. Pending such a study, we have tried to work out priorities for immediate purpose[4] (Table 10). Mass education training, research and evaluation, has to be given top priority, followed by public health laboratories; health education; training and research; prevention and control of diseases; medical relief (including other systems of medicine), maternal and child health and rural family planning services; urban family planning services; medical education, training and research. But the priorities, have to be amended by lessons of practical experience as the technique used here ignores influence of socio-economic factors, cultural factors, political factors, administrative efficiency, climatic factors, commitment to programme implementation, type of medical services and facilities available, etc., which have bearing on the health status of people.

6. Limitations

The foregoing findings have three important limitations:

6.1 First, the volume of health care expenditures (defined in Section 2), grossly understates the total resources devoted to health care in the country. For, it takes into account only a fraction - i.e., Central, State and Union Territory governments' expenditure - of total health care expenditures. A good number of expenditures incurred by Local bodies (Municipal Corporations, Municipalities, Panchayats, Port

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4. In working out the priorities, technique used by Norman L. Hicks (1982) has been closely followed.

Trusts, etc.) public sector enterprises, autonomous bodies funded by government, joint sector enterprises, private hospitals, charitable and endowment hospitals, private clinics and dispensaries. corporations in the organised private sector, small enterprises in the unorganised sector, and households are excluded. Even on a conservative level the total volume of expenditures (combining all organisations and agencies in public and private sectors) in 1990-91 come to around Rs. 2,56,094 million or US$ 10784 million. In terms of per capita they come to Rs. 303.43 or US$ 12.78. And as a percentage of GDP, they come to 6.14 per cent. Details regarding methodology on quantifying the total volume are given in Appendix 2 and Table 11.

6.2 Second, no effort has been made to quantify interest payments on borrowings for health and health related items.

6.3 Third, analysis of resource allocation is aggregative and is not based on identification of beneficiaries of health expenditures. The suggested shifts in the pattern of allocation should be taken in conjunction with other important factors affecting health status mentioned in para 5.3.

TABLE 10

Overall Ranks of the Explanatory Variables

Explanatory Variables	Dependent Variables				Total score (Average Rank)
	Correlation		Beta Coefficient of Multiple Regression		
	IMR	Rank	IMR	Rank	
1. Medical relief	-.2564	7	0.4650	4	5.50
2. Medical education, training and research	-.3198	6	0.0268	10	8.00
3. Other systems of medicines	-.0971	9	0.1683	8	8.50
4. Prevention and control of diseases	.5873	4	0.3198	6	4.50
5. Health education, training and research	-.4811	5	0.4883	3	4.50
6. Public health laboratories	-.7675	1	0.3986	5	4.25
7. Rural family planning services	.6828	2	0.2149	9	4.50
8. Urban family planning services	-.1388	8	0.1918	7	7.50
9. Maternal and child health	.0384	10	0.6011	1	5.50
10. Mass education training, research and evaluation	.6382	3	0.5410	2	2.50

Notes: 1. A word as to how ranking has been done and how resource allocation priorities has been reached would be in order. First, the ranks of the correlation coefficients between all the explanatory variables and the dependent variable (namely, IMR) have been found out. Next, beta coefficients of all the 10 explanatory variables, from multiple regression equations (see Table 10 above) have been calculated. By dividing the summation of ranks by two average score (rank) has been obtained for each explanatory variable. The variable with the lowest average rank has been taken as the first priority programme.

2. The explanatory variables represent shares of combined expenditure on medical, public health and family welfare.

TABLE 11

Total Health Expenditures in India 1990-91

(Rs. Million)

Sectors		Expenditure	Percentage share	Percentage to GDP
I.	Public Sector			
1.	Central Government	15734	6.14	0.38
2.	State Governments	79333	30.98	1.90
3.	Union Territory Governments	3310	1.29	0.08
4.	Local Bodies	16930	6.61	0.41
5.	Corporations (Public Enterprises)	6912	2.70	0.17
	Total Public Sector	122219	47.72	2.93
II.	Private Sector			
1.	Private Hospitals	11260	4.40	0.27
2.	Others (Nursing Homes, Charitable-Institutions and Others)	4743	1.85	0.11
3.	Private Corporations	15019	5.86	0.36
4.	Households	102853	40.16	2.46
	Total Private Sector	133875	52.28	3.21
TOTAL (PUBLIC AND PRIVATE)		**256094**	**100.00**	**6.14**

Appendix - 1

Methodology on Estimation of Health Expenditures by Government

1. Health expenditures as defined in the text, include resources allocated to (i) Medical and Public Health, (ii) Family Welfare, (iii) Nutrition, (iv) Water Supply and Sanitation and (v) Child and Handicapped Care (usually described as part of social security and welfare) of general budgets of Central, State and Union Territory Governments. The procedure as to how they have been aggregated to get total health expenditure is described below.

Central Government

Medical and Public Health

2. At the Central Government level, expenditure on medical and public health is funded not only by the Ministry of Health and Family Welfare, but also by other Ministries, and Union Territory governments without legislature whose demand for grants is presented under the Ministry of Home Affairs. Ministry of Health and Family Welfare has two Departments (i) Department of Health and (ii) Department of Family Welfare.

3. In the Detailed Demand for Grants of the Department of Health, expenditures are shown under secretariat social services, council of Ministers, medical and public health, grants-in-aid to State

governments, grants-in-aid to Union Territory governments and Aid materials and equipments on Revenue Account, and capital outlay on medical and public health, loans for medical and public health, and loans and advances to State governments on Capital Account. The sum total of these 9 major heads constitute gross expenditure of the Department of Health under the Ministry of Health. But, a part of that gross expenditure, though shown in the Demand of the Department of Health, is financed by other Ministries such as Defence, Railways, etc., and as such the former (Department of Health) gets reimbursed that part of expenditure from the latter as recoveries. So, when recoveries from other Departments are accounted for, net expenditure (or actual expenditure) of the Department of Health is arrived at.

4. However, neither the net expenditure of the Department of Health represents the total expenditure on health nor recoveries of the Department of Health represent the total expenditure of other Ministries/Departments of Health. The amount of the recoveries is not only included in the gross demand of the department of health, but is also reflected in the expenditures of other Ministries/Departments. So to avoid double counting of the amount of recoveries, while adding the expenditure of other Ministries to that of the Department of Health, it (i.e., the amount of recoveries) has been deducted from the gross expenditure of the Department of Health and arrived at net expenditure. One important reason for deducting the recoveries from the gross expenditure of the Department of Health is that, other Ministries/ Departments spend much more than what they reimburse to the Ministry of Health and Family Welfare. By taking the full amount of expenditure on health of other Ministries and adding it to net expenditure of the Department of Health, health expenditures are reflected truly; otherwise they would have been understated/overstated.

5. While adding the gross expenditures of the other Ministries to the net expenditures of the Department of Health, it may be noted that expenditures on Revenue Account only have been taken into account (as they are available).

6. To obtain total Central government expenditures on health, expenditures on health of the two entities - i.e. (1) Net (or actual) expenditure of the Department of Health/Ministry of Health and Family Welfare, and (2) Gross expenditures of other Ministries/Departments - have been added.

Family Welfare

7. Unlike in the case of Department of Health (where net expenditures was taken), in that of Department of Family Welfare (Ministry of Health and Family Welfare) gross expenditure has been taken into account. The reason is that the whole of expenditure on family welfare in other Ministries is shown under the demand for grants of the Department of Family Welfare. That is, the recoveries, if any, received by the Department of Family Welfare from other Ministries are equal to the expenditure of the latter.

Nutrition

8. Expenditure on nutrition is incurred by two Central government departments, (1) Department of Food/Ministry of Food and Civil Supplies and (2) Department of Rural Development/Ministry of

Agriculture. No recoveries are there between these two departments. So we have added the gross expenditures of these two Departments/Ministries to arrive at the total Central Government expenditure on nutrition.

Water Supply & Sanitation

9. Expenditure on water supply and sanitation is incurred by as many as seven Central Government Ministries/Departments (i) Ministry of Agriculture/Department of Rural Development, (ii) Ministry of Urban Development/Department of Urban Development and Housing, (iii) Ministry of Environment and Forests, (iv) Ministry of Railways/Staff Welfare and Amenities, (v) Ministry of Defence/Defence Services, (vi) Ministry of Energy/Department of Coal/Staff Welfare, and (vii) Ministry of Labour - Labour Welfare. And there are no inter-department recoveries. So we have added together the gross expenditures of all the seven Ministries/Departments.

Social Security and Welfare/Child and Handicapped Welfare

10. Expenditure on social security and welfare (that is, child care and handicapped care) is incurred by two Central Ministries: (1) Ministry of Human Resource Development/Department of Women and Child development, and (2) Ministry of Welfare. Besides, the whole expenditure is under revenue account only. As there is no recovery between the two Central Ministries, their gross expenditure has been taken into account.

State and Union Territory Governments

11. State governments and Union territory governments in India have separate budgets, and their expenditures on medical and public health, family welfare, nutrition, and water supply and sanitation have to be separately shown for meaningful analysis. Hence, data for these have been collected separately and the same methodology has been followed for each State and Union territory as that for the Central Government.

Aggregation of Centre, State and UT Governments' Expenditures

12. In India, expenditure on many public services is incurred not only by the Central Government but also by State governments and U.T. governments, and to obtain total public expenditure on a service, expenditures incurred by all the three Governments have to be added. If due care is not exercised in adding them up, double counting may arise. For, transfers do take place from Centre to States and Union Territories in the form of grants-in-aid and loans and advances. These grants and loans, although financed by Central Government, are really put to use by the States and Union Territory Governments and as such are reflected in the expenditures of the latter Governments.

13. Hence, while combining Central, States and Union Territory Governments' expenditure on health (i.e., total expenditure on Medical and Public Health, Family Welfare, Nutrition, Water Supply and Sanitation and Child and Handicapped Welfare) expenditures on grants-in-aid to State governments, grants-in-aid to Union Territory governments, and loans and advances to State governments of the Central Government have been deducted from the total expenditure.

Appendix - 2

Methodology on Estimation of Total Health Expenditures in India

1. Health expenditures by government described in Appendix-1 cover Central, State and Union Territory governments and that too of their administrative departments and certain departmental commercial undertakings only. They exclude sizeable amount of expenditures incurred by several entities in government sector as well as in private sector. In fact what is included in Appendix 1 represents a fraction of total expenditure. Owing to lack of reliable data, it was not possible to estimate total health expenditure. But in the absence of total health expenditure it will be difficult to size up the draft on the nation's resources for health care and take decisions about alternative policies of health care. Based on the available information, expenditure incurred by different entities other than those covered in Appendix 1 are described below.

Local Bodies

2. Under the Constitution of India local bodies are autonomous and have been assigned their own revenues and functions. They incur expenditure on health care as public health, water supply, sanitation, drainage, etc. are the obligatory functions. Information about health expenditure of local bodies is very scanty and not easily available and whatever available is incomplete. The Statistical Abstract of India gives information on health expenditure of 30 corporations - namely, Hyderabad, Patna, Ahmedabad, Baroda, Surat, Shimla, Bangalore, Hubli Dharwar, Calicut, Cochin, Trivandrum, Bhopal, Gwalior, Indore, Jabalpur,

Raipur, Ujjain, Bombay. Nagpur, Pune, Sholapur, Madras, Agra, Allahabad, Kanpur, Lucknow, Varanasi, Calcutta, Chandranagore and Delhi - and that too not for the same year. For some corporations it is 10 years old and for some others it is 3 years old. Some individual scholars and institutions like National Institute of Urban Affairs also have collected information. Here again information is incomplete. After careful consideration and my own experience with local bodies in Karnataka, data available from Statistical Abstract of India has been used to estimate expenditure on health care in local bodies.

3. First, expenditure data on health of 30 major local bodies (available from Statistical Abstract 1989) has been taken as given. And using the growth rate of preceding 10 years, data have been updated for all the 30 corporations. For rest of the municipalities, it has been assumed that per capita health expenditure (in them) has been similar to that of the municipal corporations/municipalities whose population has been 100,000 and above but below 3 million population.

4. Second, per capita expenditure of those municipal corporations/municipalities have been multiplied by respective populations of cities and towns to arrive at aggregate expenditure of major corporations and municipalities and added the same to the expenditures of mega municipal corporations of Bombay, Calcutta, Delhi, Madras, Hyderabad, Bangalore and Ahmedabad. In regard to small municipalities and Panchayats, whose populations are below 100,000 it has been assumed that the per capita expenditure on health must have been at least one-third of the per capita expenditure of the municipal corporation/municipalities whose populations are between 100,000 and 3 million and multiplied by the relevant population. Next, expenditures of all the three types of corporations - mega corporations, major corporations/municipalities and small municipalities have been added to arrive at a total expenditure on health of local bodies.

Corporations (Public and Private)

5. Corporations in public and private sectors spend substantial amounts on the health of their employees and their family members, through reimbursement of medical expenses and through contributions to insurance. Information as to how much corporations are spending is not just available. Special efforts have to be made to collect from individual corporations. But that will form a separate study. Pending such a study, we have based on the sample of some private sector industries and public sector enterprises. On the average, it appeared to us that most of the companies spent an amount equal to 9 per cent of the salary (gross) of the employees. Using this as base, estimation has been made for public and private sector employees[5]. Sizeable number of companies in unorganised sector also spend some amount on health care, but that has not been taken into account.

Private Hospitals, Dispensaries, Clinics, etc.

6. Expenditures incurred by private hospitals, dispensaries, voluntary organisations, clinics, etc., on health seem to be substantial. To leave them unestimated would amount to gross underestimation. As of January, 1990 there are 7203 hospitals, dispensaries, voluntary organisation. But there is no information on the amounts incurred by them annually. In the absence of any data, it has been estimated on the basis of data published by National Sample Survey

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5. Figures relating to number of employees working in public and private sectors have been taken from Economic Survey, 1991-92, Ministry of Finance, Government of India.

Organisation in its 42nd round. Since the data are for 1986-87, they have been adjusted for inflation using GDP deflator to arrive at 1990-91 figures.

Households

7. Expenditure on health by households is not available. It has been estimated on the basis of "per capita monthly expenditure on medical expenditure and expenditure on medical services" estimated by National Sample Survey Organisation for 1987-88 (43rd round) and published in **SARVEKSHANA**, July-September, 1991 by NSSO, Department of Statistics, Ministry of Planning, Government of India. Since the figures pertain to 1987-88, adjustment has been made for inflation, upto 1990-91 using All India Consumer Price Index.

8. Table 11 shows the total estimated Health Expenditures in India in 1990-91. I am afraid that the estimation of total expenditure on Health Care is an understatement in so far as it does not take into account the interest that would have been paid on the amounts borrowed for health purposes.

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