

Health Accounts for Karnataka, 1995/96

Abstract

The study aims to estimate health spending in Karnataka, the primary focus being health spending on the elderly (above 60 years of age). There are different sources of funds for health expenditure, including the State and Central governments, foreign funds, household expenditure, public and private firms and Non-Government Organizations (NGOs). A part of the expenditure by the government is undertaken under the Central Government Health Scheme (CGHS) and the Employee State Insurance Scheme (ESIS).

The use of the different sources have been classified by provider, namely hospitals, primary health centres, sub-centres, NGO hospitals, charitable institutions, traditional providers, etc; and function, namely inpatient and outpatient care, self-treatment, communicable diseases control, health promotion, etc. The study also shows the expenditure on the elderly covered in public and private firms under different medical care schemes, including in-house medical facilities.

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1. Data and Estimation

1.1 State government health expenditures and its sources.

Data for government health expenditures were sourced from the Karnataka state budget documents for 1997/98 (which contain actual expenditures for 1995/96).

State government health expenditures in India are financed from three principal sources – the states own resources, transfers from the central government and transfers from foreign sources such as international donors and lending agencies. In estimating government health spending in Karnataka only budget expenditures for the Department of Medical & Public Health have been included. Expenditures of the Department of Family Welfare have been ignored as the department funds family welfare and reproductive and child programs which do not benefit the elderly¹ (i.e. those 60 or more years of age).

Total expenditures for the Department of Medical & Public Health have been estimated at 4 billion rupees, of which 741 million rupees is spent on the elderly (Table 1). Several steps were taken to estimate expenditures on the elderly as detailed in Table 1. First, state expenditures on the Employee State Insurance Scheme (ESIS) were excluded as they are dealt with separately (please see the ESIS section). Secondly expenditures on school health services were excluded as these do not benefit the elderly. Third, after subtracting the above two items from total expenditures, the resultant is multiplied by 0.19 which is the estimated proportion of expenditures at public health facilities spent on the elderly. This last step deserves a detailed explanation and is discussed in Appendix 1.

While the majority of state health expenditures are sourced from within the state itself, the central government and foreign sources are important contributors to state health expenditures. The budget documents indicate that the gross central government contribution to state health expenditures is 114 million rupees of which 21 million are estimated to be spent on the elderly (Table 1). These transfers are typically for centrally sponsored schemes such as the various disease control programs. However, these figures need to be adjusted for contributions from foreign donors which flow through the central government. As the contribution of foreign donors through the central government is not explicit in the budget documents (except for World Bank contributions) we use Garg's (2001)² estimate that 27% of central transfers to the state come from foreign sources. In sum, central transfers to state health expenditures on the elderly turn out to be 15 million rupees, while that of foreign contribution flowing through the central government amounts to 5 million rupees.

¹ In this paper elderly includes those 60 years of age and above, unless specified otherwise.

² Garg's (2001) estimate is based on foreign contribution to India's Family Welfare program.

Table 1: Government health expenditures for Karnataka, 1995/96 ('000 Rs).

Major Budget Head	Revenue		Capital		Total
	state	center	state	center	
Urban Health Services : allopathy	1478796	708	40223	0	1519727
Urban Health Services : other	25,714	0	0	0	25,714
Rural Health Services : allopathy	29,424	0	2,312	0	31,736
Rural Health Services : other	8,813	0	0	0	8,813
Medical Education , Training & Research	442,300	6,023	86,987	1,945	537,255
Public health	225,692	105,384	6,717	0	337,792
General	1,726,944	0	0	0	1,726,944
A. Total expenditure	3,937,683	112,115	136,239	1,945	4,187,981
B1. Expenditure on ESIS (-)	264,177	0	0	0	264,177
B2. Expenditures on school health services etc. (-)	18,699	0	0	0	18,699
C. Total expenditure [A-(B+C)]	3,654,807	112,115	136,239	1,945	3,905,105
D. Total expenditure on the elderly	694,413	21,302	25,885	370	741,970
E. Total foreign contribution to elderly through central government		5,751		100	5,851
F. Central government contribution to elderly		15,550		270	15,820

Note: Above expenditures are only for the Department for Medical & Public Health.

1.2 Allocation of government health expenditures by providers and functions.

Table 1.1 shows the allocation of state government health expenditures by providers. Expenditures by providers was arrived at by assigning the different budget items to various providers. Expenditures on the elderly were estimated by multiplying total expenditures (column 1) by 0.19, which is the estimated proportion of expenditures at public health facilities spent on the elderly. A certain amount of personal judgment has been used in allocating budget items to providers. For example, direction and administration expenditures of the department of medical health has been assigned to hospitals. Clearly, some of these expenditures should go to primary health centers, sub-centers and other government providers. But we have no means of estimating this distribution and so we allocated it all to hospitals. Various other budget items have been allocated in a similar manner due to the lack of distributional information. The details of this is shown in Appendix 2.

Table 1.2 shows the allocation of state government health expenditures by health care functions. The first column in this table shows the distribution of budget expenditures by broad categories of functions. The functional category 'inpatient and outpatient care' includes hospital expenditures which are not directly assignable to functions as the budgets do not indicate how much is spent on inpatient and outpatient care. The method used to break this down into inpatient

and outpatient care is given below. Expenditures on the elderly were estimated by multiplying total expenditures (column 1) by 0.19, which is the estimated proportion of expenditures at public health facilities spent on the elderly. We get around this problem of apportioning hospital expenditures to inpatient and outpatient care by multiplying hospital expenditures by 0.34 for public hospitals and by 0.69 for private hospitals. These figures are estimated from the NSSO and represent the proportion of total expenditures on the elderly at public and private hospitals which are spent on inpatient care. Details of how these figures were arrived at are detailed in Appendix 3.

Table 1.1. Allocation of Karnataka state health expenditures by providers, 1995/96.

Providers	Total (all ages) (Rs. '000)	Total (elderly) (Rs. '000)
1. Government	1,589,647	302,033
Hospitals	1,256,520	238,739
Primary Health Centers	295,453	56,136
Sub-centers	195	37
ANMs	0	0
Indian Systems of Medicine	33,768	6,416
Collective Services (eg. IPM, SPACS, IEC under other heads)	3,711	705
2. Other public facilities	1,727,128	328,154
ESI	0	0
CGHS	0	0
PSUs & other public bodies	1,727,128	328,154
3. Private	1,278	243
For-profit Hospitals	0	0
NGO Hospitals	6	1
Non-hospital providers	636	121
Traditional Providers	636	121
Private Enterprise Facilities	0	0
4. Medical Education/Training	546,306	103,798
Research and Development	100,468	19,089
Medical Education	444,809	84,514
Other	1,029	196
5. Allied health services	40,746	7,742
Total	3,905,105	741,970

Note: Above expenditures are only for the Department for Medical & Public Health.

Table 1.2. Allocation of Karnataka state health expenditures by functions, 1995/96.

Function of Health Care	Total (Rs. '000)	Total on elderly (Rs. '000)	Total on elderly (Rs. '000)
1. Personal Services (Public)	2,929,351	556,577	556,577
Inpatient & outpatient care	2,922,255	555,228	
Inpatient Care			188,778
Outpatient Care	7,096	1,348	367,799
2. Personal Services (Private)	642	122	122
Inpatient & outpatient care	642	122	
Inpatient care			84
Outpatient Care			38
3. Personal Services (other)	0	0	0
Self-treatment			
4. Communicable Diseases Control	334,568	63,568	63,568
TB	87,331	16,593	16,593
AIDS	19,874	3,776	3,776
Malaria	170,533	32,401	32,401
Cholera	232	44	44
Leprosy	29,825	5,667	5,667
Other disease control	26,773	5,087	5,087
Other (e.g. expenses on IPM)	0	0	
5. Health Promotion	3,711	705	705
Family Planning & Welfare			
Food Adulteration			
Other	3,711	705	705
6. Administration	49,781	9,458	9,458
Direction & Administration (DoHMFW)	49,781	9,458	9,458
Administration (CGHS, ESIS)			
Administration (Other government & PSU)			
Administration (GIC)			
7. Other	587,052	111,540	111,540
Medical Education & Training			
	546,306	103,798	103,798
Allied health services	40,746	7,742	7,742
Total	3,905,105	741,970	741,970

Note: Above expenditures are only for the Department for Medical & Public Health.

2.1 Household health expenditures and its sources.

Household health expenditures for the elderly have been estimated from the National Sample Survey Organization's (NSSO) 52nd round on 'Morbidity and Treatment of Ailments.'³ This multi-stage household sample survey was conducted from July 1995 to June 1996 and covered all the major states of India. The survey collected information on the prevalence and treatment of illnesses, the source of treatment, expenditures on hospitalizations in the year preceding the survey and outpatient visits made 15 days preceding the survey. Some information on different types of insurance mechanisms were also included. As with other household surveys information on the socio-demographic characteristics of the household members was also collected. The survey covered 2,558 and 2,479 households in rural and urban Karnataka, respectively.

Household utilization of health care services is paid for by one or more of the following sources - household current income and savings, employers (public and private employers) and insurance companies. However, insurance companies typically act as financial intermediaries as they collect premiums from households and then pay the providers directly for any health care used. For this reason we do not treat insurance companies as a source of financing and consider them separately. Therefore, in estimating household expenditures on health care we are concerned only about the out-of-pocket payments made by the household and any reimbursement the household's receive from employers (public and private). Medical services provided free by the employer are also considered separately.

Table 2 : Annual household health expenditure of the elderly on curative care by facility type (Rs. '000).

Facility type	Inpatient		Outpatient		Total		Total
	Urban	Rural	Urban	Rural	Urban	Rural	
PHC	0	9,415	0	52,446	0	61,861	61,861
Pub. Hosp	14,976	81,712	45,651	31,288	60,627	113,001	173,628
Pub. Dispansary	0	1,238	9,775	0	9,775	1,238	11,013
ESIS facility	0	0	0	0	0	0	0
Private hosptital	144,544	200,705	75,915	45,141	220,458	245,846	466,304
Nursing home	33,752	7,248	35,662	16,247	69,414	23,495	92,909
Charitable Inst.	1,814	162	727	692	2,540	854	3,394
Private doctors	0	0	199,952	189,309	199,952	189,309	389,261
Others	0	0	8,094	82,309	8,094	82,309	90,403
Total	195,086	300,481	375,775	417,432	570,861	717,913	1,288,774

Table 2 shows household expenditures on health care by the elderly derived from the NSSO 52nd round survey described earlier. The elderly spent a total of 1.3 billion rupees on health care out of their own pockets of which only around 5.5 rupees was reimbursed by employers (Table 2.1).

³ This survey will be referred to as NSSO from here on.

In estimating household expenditures on hospitalizations only those expenditures on medical care incurred (both inside and outside the hospital) during the patients stay in the hospital are included. For outpatient expenditure, the NSSO recorded outpatient treatments and expenditures incurred 15 days prior to the interview date. These estimates have been annualize by multiplying them by 24. Expenditures on food, transportation etc. have not been included in either inpatient and outpatients expenditures. Reimbursements for medical care includes only those reimbursements made or expected from the employer for medical treatment.

Table 2.1: Annual reimbursements for health expenditures received by the elderly by source of reimbursement, (Rs. '000).

Source of reimbursement	Inpatient		Outpatient		Total
	Urban	Rural	Urban	Rural	
Public	3,283	0	0	0	3,283
Private	1,713	471	0	0	2,183
Total	4,996	471	0	0	5,467

2.2 Household health expenditures by providers and functions.

Household health expenditures by providers have been directly estimated from the NSSO. Table 2.2 shows the expenditures incurred at different facilities by the elderly. The facility type 'others' was included under private providers. For estimating household expenditures by functions, inpatients and outpatient expenditures at public and private facilities (Table 2.2) have been used.

Table 2.2 : Household expenditures of the elderly by facility type.

Facility type	Inpatient		Outpatient		Total		Total
	Urban	Rural	Urban	Rural	Urban	Rural	
PHC	0	9,415	0	52,446	0	61,861	61,861
Public hospital	14,976	81,712	45,651	31,288	60,627	113,001	173,628
Public dispensary	0	1,238	9,775	0	9,775	1,238	11,013
ESIS facility	0	0	0	0	0	0	0
Private hospital	144,544	200,705	75,915	45,141	220,458	245,846	466,304
Nursing home	33,752	7,248	35,662	16,247	69,414	23,495	92,909
Charitable institution.	1,814	162	727	692	2,540	854	3,394
Private doctors	0	0	199,952	189,309	199,952	189,309	389,261
Others	0	0	8,094	82,309	8,094	82,309	90,403
Total	195,086	300,481	375,775	417,432	570,861	717,913	1,288,774

3.1 Local government expenditure on health and its sources

Data for local government expenditures on health was taken from the Statistical Abstracts of Karnataka. The most recent edition available contained budget expenditures of municipalities and municipal corporations for the 1994/95 and these have been used in the study. We were unable to get any information on rural local government budgets in Karnataka for 1995/96, confining our estimates of local government expenditures to only urban local governments.

An analysis of local government budgets reveals that they spend on a variety of activities including health and also receive funds from a variety of sources. Table 3 describes the health expenditures and sources of financing of these expenditures for urban local governments in Karnataka.

Table 3 : Expenditures and Income of urban local governments in Karnataka, 1994/95 (Rs. '000).

Expenditure / Income	Municipal Corporation	Municipalities	Total	Health expenditure	Health expenditure on elderly
A. Expenditures					
1. Hospital, dispensary & vaccination	2,000	1,300	3,300		
Total expenditures	2,417,800	1,107,900	3,525,700	3,300	633
Health share of total expenditures (%) =	0.09				
B. Income					
1. Own sources	2,188,300	808,400	2,996,700	2,805	538
1.1 rates, taxes, octroi compensation, watersupply receipts, others	1,400,700	585,500	1,986,200	1,859	357
1.2. extra-ordinary income & debt (sale of assets, other receipts)	398,900	55,700	454,600	425	82
1.3. income from commercial enterprises	0	1,300	1,300	1	0
1.4. all other receipts	179,900	59,900	239,800	224	43
1.5. opening balance	208,800	106,000	314,800	295	57
2. Government (grants, loans, other)	229,500	299,500	529,000	495	95
Total income	2,417,800	1,107,900	3,525,700	3,300	633

Source : Government of Karnataka, Statistical Abstract of Karnataka 1997.

Urban local governments in Karnataka spent 1.3 million rupees on health care which is around 0.09% of the total budget expenditures (Table 3). Local government finance health services at hospitals, dispensaries and vaccination. We now need to apportion a part of these local government health expenditures to the elderly. To accomplish this we multiplied health expenditures by 0.19 which is the proportion of health expenditures at public health facilities attributable to the elderly (A detailed description of how this proportion was arrived at can be found in Appendix 1). The results suggest that around 633 thousand rupees is spent on the elderly by urban local governments.

Our next task is to identify the sources of funding for health expenditures. The local government budgets describe the broad sources of income and these have been broadly grouped into local

governments own income sources and government sources (Table 3). To arrive at the contribution of each income source to health expenditures we multiply the revenue received from each source by 0.09%, which is the share of health in total expenditures. In doing this we assume that each income sources contributes the same proportion to health expenditures. We further estimate how much each income source contributes to expenditures on the health of the elderly by multiplying the previous results by 0.19. The results of this exercise suggests that of the 633 thousand spent of the health of the elderly by urban local governments, 538 thousand comes from urban local government's own sources of income and the remainder of 95 thousand comes from the government. The latter has been ascribed to state governments in the health accounts matrix (see Matrix 1 in the results section).

3.2 Local government health expenditures by providers and functions.

In allocating local government expenditures by providers, all local government expenditures have been assumed to go to primary health care centers. By functions, all local government health expenditures are assumed to go to outpatient care at public facilities.

4.1 Health expenditures of Private, Public Firms & Autonomous Bodies and its sources.

Data used in estimating health expenditures of private, public firms & autonomous bodies was taken from a variety of sources. Data on the number of employees in the organized sector by source of employment was downloaded from www.indiastats.com, the primary source being Urban Statistics Hand Book 2000, published by the National Institute of Urban Affairs. Estimates on the number of employees in the organized sector covered by various forms of health insurance was taken from Garg (2001), which is based on a study by Duggal (1993).

Firms provide for the health care of their employees in a variety of ways. These include in-house medical facilities, reimbursements of employee health expenditures and providing health insurance coverage for their employees through private insurance firms. Reimbursement to employees has been included under household health expenditures as employees first incur health expenditures from their own pocket before being reimbursed by their employers. Employer reimbursements therefore become payments to the household. Expenditures under private insurance are dealt with separately under private insurance. Thus, the present analysis is restricted to expenditures on in-house facilities.

Tables 4.1 to 4.3 show the various steps taken in arriving at the expenditures incurred by firms on in-house medical care facilities. Estimates for schemes other than in-house facilities have been shown for general interest and for purposes of comparison with estimates made elsewhere. We are primarily concerned with in-house medical facilities in this section.

Table 4.1 : Employees in the organized sector under various medical care schemes.

Medical Care Schemes	Percentage of Employees covered			Expenditure per employee	
	Public	Private	Total	Public	Private
Group Health Insurance Policy	20.3	79.7	10.9	1377.9	571.4
Reimbursements	50.6	49.4	35.3	1868.9	533.1
Lump sum payment	26.5	73.5	9.7	2238.8	460.9
In-house facilities	31.1	68.9	46.6	1060.3	407.0

Source :Garg(2001). Above estimates are based on Duggal (1993).

* Columns do not total to 100% as employees can be covered by more than one scheme.

Table 4.1 shows the percentage of employees covered in public and private firms under different medical care schemes, including in-house medical facilities. Expenditures incurred per employee for the different schemes are also shown in this table. Table 4.2 shows the number of employees in the organized sector in Karnataka in 1995/96. Table 4.3 displays the results of multiplying the respective contents of Table 5 with those of Table 6. First the number of employees covered under the various schemes is calculated by multiplying the percentage of employees covered (Table 4.1) with the number of employees in the organized sector (Table 4.2). Secondly, the expenditure per employee shown in Table 4.1 is multiplied by the number of employees covered. This gives the health expenditures incurred by public and private firms. One additional step remains – that of apportioning total expenditures on in-house facilities to the elderly. This was done by multiplying expenditures on in-house facilities by 0.21 for private firms and by 0.18 for public firms. This gives a total of 22.5 and 41.5 million rupees being spent by public & quasi-government and private firms on the health of the elderly, respectively. Since these expenditures are made by firms on their own facilities in Matrix 1 they have been shown as flows from these firms to themselves. The proportions used to apportion in-house medical expenditures to the elderly have been derived from the NSSO and refer to the proportion of expenditures on in-house medical facilities spent on the elderly. A detailed discussion of this can be found in Appendix 4.

Table 4.2 : Distribution of employees in the organized sector, Karnataka 1995/96.

	Public Sector					Private sector	Total
	Central Govt. Establishments	State Govt. Establishments	Quasi Govt. Establishments - center	Quasi Govt. Establishments - state	Local bodies		
Total	132,100	504,800	187,400	178,400	55,700	700,900	1,759,300
(persons)	636,900		365,800				

Source : Urban Statistics, Hand Book 2000, National Institute of Urban Affairs. Downloaded from www.indiastats.com

Table 4.3: Employees covered and expenditures on various medical schemes.

Medical Schemes	Total Employees covered				Expenditure ('000 Rs.)			
	Govt.	Quasi-gov	Private	Total	Govt.	Quasi-gov	Private	Total
Group Health Insurance Policy	140,598	74,257	558,617	773,473	193,730	102,319	319,194	615,243
Reimbursements	350,456	185,095	346,245	881,795	654,966	345,924	184,583	1,185,473
Lump sum payment	183,539	96,937	515,162	795,638	410,907	217,023	237,438	865,368
In-house facilities	215,399	113,764	482,920	812,083	228,387	120,624	196,548	545,559
Total	889,991	470,053	1,902,944	3,262,988	1,487,990	785,889	937,763	3,211,643
Expenditures on in-house facilities going to the elderly:					42,547	22,471	41,544	106,562

4.2 Health expenditures of Private, Public Firms & Autonomous Bodies by providers and functions.

Health expenditures of public and private firms, which are expenditures on in-house facilities, have been assigned to private in-house facilities. Distribution of health expenditure by functions are shown in Table 4.4. To assign these expenditures by functions we multiplied health expenditures of public firms by 0.34 and by 0.69 for private firms. These figures estimated from the NSSO, represent the proportion of total expenditures at public and private hospitals which

are spent by the elderly on inpatient care, respectively. Details of how these figures were arrived at are detailed in Appendix 3.

Table 4.4 : Health expenditures of private and public firms by functions.

Function	Quasi-gov.	Private	Total
Inpatient care	15,506	28,667	44,173
Outpatient care	6,965	12,877	19,842
Total	22,471	41,544	64,015

5.1 Health expenditures by Central Government Health Services (CGHS) and Employee State Insurance Scheme (ESIS) and their sources.

Data for ESIC were obtained from two sources. Expenditures and income sources of ESIS were obtained from the ESIC Annual Report for 1995/96. Expenditures of the ESI Corporation for Karnataka, was obtained from the ESIC directorate in Bangalore. Background information on ESIS was also obtained from their website - www.labour.nic.in/esic/welcome.htm. We have not been able to obtain any data on the CGHS till date.

ESIS is a form of social insurance which covers workers in the organized sector in India. Under the ESI Act of 1948 “non-seasonal factories using power and employing ten or more persons and non power using non seasonal factories and establishments employing twenty or more persons” are required to be enrolled in this scheme. This coverage has been subsequently extended by most state governments to all types of businesses that employ 20 or more people. However, if an establishment provides equal or better social security to its employees, then it can be exempted from the ESIS. ESIS provides a variety of social security benefits to workers and their families including medical care, cash benefits, sickness benefit, maternity benefit, disablement benefit etc. Our concern in this analysis is with medical care expenditures only.

Medical benefit under the ESIS is provided to workers and their families. It is our understanding that retired workers can also avail of medical benefits for a nominal enrollment fee. From day one of entering insurable employment a worker and his dependents can avail of the medical benefits under ESIS. For this purpose ESIS has a number of dedicated hospitals, dispensaries and diagnostic centers. Numerous private health care establishments in certain areas also provide outpatient health care under this scheme. ESIS expenditures on medical care is financed jointly by the state government and the ESI Corporation. The state government picks up 1/8 of medical care expenses till a limit of Rs. 410 per insured person per annum. Expenditures on medical care above this limit are picked up completely by the state government.

Tables 5.1 and 5.2 show the expenditure and income on medical benefit of the ESI Corporation. In calculating the expenditure on medical benefit and the sources of this expenditure we have essentially followed Garg (2001). The steps involved in estimating ESI Corporation’s expenditure on medical benefit for the elderly are as follows. We assumed that expenditures by the ESI Corporation in Karnataka follow the all India expenditures patterns. Applying the all India proportions to expenditures on medical benefit (which we got from the ESIC directorate, Karnataka) we estimated total and other expenditures.

Total expenditure on medical benefit for the ESI Corporation (item 2 in Table 5.1) was estimated to be 257.8 million rupees and has been calculated as the sum of expenditures on medical benefit, administrative costs and provision for depreciation, maintenance etc. Expenditures on cash & other benefits, capital construction fund and net excess transferred to ESI reserve have been left out as they do not directly contribute to health. We estimate that the ESI Corporation spent 9.3 million on medical benefits for the elderly. This figure was arrived at by multiplying the corporation's expenditure on medical benefit by 0.04, which is the proportion of expenditures at ESIS health facilities attributable to the elderly and has been derived from the NSSO. A detailed description of how this proportion was arrived at is available in Appendix 5. The state government's share of ESIS medical benefit is estimated by subtracting out the ESI Corporation's share from total expenditures on medical benefit. The contribution of the state to ESIS medical expenditures on the elderly is estimated by multiplying the state's share by 0.04. In sum, of the 11.2 million rupees spent by ESIS on medical benefit of the elderly, 9.3 million rupees and 1.9 million rupees is the respective contributions of the ESI corporation and the state government.

To estimate the funding sources for ESI Corporation's expenditure on medical benefit (9.3 million rupees) for the elderly, we again turn to the all India sources of income for ESI Corporation. Based on all-India income sources and amounts we estimate the proportion of income from each source and apply these proportions to the ESI Corporation's expenditure on medical benefits (Table 5.2) for the elderly. We estimate that employers, employees and other income sources contribute 4.8, 1.7 and 2.6 million rupees respectively to ESI Corporation's expenditure on medical benefits for the elderly. Finally, following Garg(2001), we apportion employee contributions between private (51%) and public (49%) employers (Table 5.2).

Table 5.1: Expenditures on medical benefit by the ESI Corporation, 1995/96.

Expenditure heads of ESI Corporation	All India		Karnataka (Rs. '000)
	Expenditure (Rs. '000)	Proportion	
Medical Benefit	3,161,207	0.43	198,477
Cash & other benefit	1,608,880	0.22	101,014
Administrative expenses	826,417	0.11	51,887
Provision for depreciation, maintenance, rates & taxes of hospitals & dispensaries	119,392	0.02	7,496
Capital construction fund	263,297	0.04	16,531
Net excess transferred to ESI general reserve	1,386,692	0.19	87,064
Total	7,365,885	1.00	462,469
1. Total exp of ESIS (ESI corporation + state) on medical benefit in 1995/96 (Rs. '000)			251,621
2. Total expenditure of ESI corporation on medical care (all)			257,860
2a. Prop of ESIS expenditures spent on the elderly			0.04

2b. Total exp of ESI Corp. on medical care on the elderly	9,318
3. State share of expenditure on medical care	53,144
3a. State share of expenditure on medical care on the elderly	1,920
4. Total expenditure on medical care (all)	311,004
4a. Total expenditure on medical care on the elderly	11,238

Source: Employee State Insurance Corporation (1997).

Table 5.2 : Income sources for ESI corporation for expenditures on medical benefit for the elderly.

Income sources of ESI Corporation	All India		Karnataka (elderly)
	(Rs. '000)	Proportion	(Rs. '000)
Contributory income	5,265,942	0.71	6,662
- employers contribution		0.73	4,863
- employees contribution		0.29	1,799
Other income	2,099,943	0.29	2,656
Total	7,365,885	1.00	9,318
1. Private employers share of contributory income (51%)			2,480
2. Public employers share of contributory income (49%)			2,383

5.2 Health expenditures by Central Government Health Services (CGHS) and Employee State Insurance Scheme (ESIS) by providers and functions.

ESIC provides health services through its own network of health facilities and so its expenditures on medical care are assigned to ESI under the 'Other public facilities' category. ESIC health facilities provide both inpatient and outpatient care. However, the NSSO data indicates that none of the elderly utilized their inpatient care. Therefore all ESIS medical benefit expenditures on the elderly have been assigned to outpatient care at public facilities.

6.1 Health expenditures by Non-Governmental Organizations (NGO) and its sources.

Health expenditures and sources of funds of NGOs in India are not documented in any systematic way either by the government or other organizations. NGOs receive funds from a variety of sources – from foreign contribution, central and state government grants, donations from the public and they also generate funds from their own resources (e.g. charging user fees at charitable clinics). We could find no official source of information or study which comprehensively documents this either for Karnataka or for India as a whole. Some budget information on NGO's is available. Foreign contribution to NGOs in health in Karnataka was estimated using two studies by AccountAid (see references) which is based on the Ministry of Home Affairs 'Inflow of Foreign Contributions Report, 1996-97.' Information on central government grants (i.e. from the Ministry of Health and Family Welfare) to NGOs are available from the Ministry's budget documents. However, the budget documents do not specify how much of the central government grants to NGOs goes to which state. To further complicate

matters, many NGOs, such as those involved in rural development etc., spend on health care even though they do not explicitly work in health. Given this paucity of information on NGO expenditures we followed Garg (2001) and estimated NGO spending on health care in an indirect fashion.

Table 6.1 details the steps taken in arriving at estimates of NGO expenditure on health in Karnataka in 1995/96. We first estimated how much foreign contribution goes to NGO's working in health in Karnataka in 1995/96 (section A in Table 6.1). The studies done by AccountAid (www.accountaid.net), suggest that approximately 11.1% of all foreign aid in 1996/97 went to health and family welfare. We assume that half of this goes to health (i.e. 5.55%). We then multiply this percentage with the foreign contribution to NGOs in India (21.6 billion rupees) in 1995/96 to arrive at the foreign contribution to NGOs working in health in India in 1995/96. We further multiply this result with the percentage share of foreign funds going to Karnataka in 1995/96 (10.7%) to arrive at the foreign contribution to health in the NGO sector of Karnataka in 1995/96. To estimate how much of these funds are spent on the elderly we multiply again by 0.08, which is the proportion of expenditures of charitable institutions spent on the elderly. This proportion is derived from the NSSO and is detailed in Appendix 6. We estimate that foreign contribution to the NGO health spending in Karnataka in 1995/96 is 10 million rupees (Table 6.1).

To estimate total NGO spending on health in Karnataka in 1995/96 we draw on Garg's (2001) estimates of NGO spending on health in Punjab in 1995/96. Garg (2001) estimates that foreign contribution constituted 13% of total NGO expenditures in health in Punjab. We apply the same percentage to our estimates of foreign contribution to NGO spending on the health in Karnataka (i.e. 10 million rupees) to arrive at total expenditure by NGOs on health in Karnataka in 1995/96 (990.8 million rupees). This result is multiplied by 0.08 to arrive at an estimate total NGO expenditures on the health of the elderly in Karnataka in 1995/96 (i.e. 77 million rupees).

To estimate how much of NGO spending on health in Karnataka in 1995/96 comes from central government grants we again make use of Garg's (2001) Punjab study, where 10% of total NGO expenditure on health comes from central government grants. We apply the same percentage to our estimate of total NGO spending on health in Karnataka in 1995/96 (990 million rupees) to arrive at total central government contribution to health spending of NGOs in Karnataka in 1995/96 (7 million rupees). This result is further multiplied by 0.08 to arrive at 604 thousand, which is the estimated contribution of the central government to NGO health spending on the elderly.

The two remaining sources of funds for NGO expenditures on health are revenues raised by the NGO's own resources and donations which NGOs receive from the general public. In the previous steps we estimate total NGO spending on the health of the elderly and the contribution of foreign institutions and the central government to NGO spending on the elderly. If these contributions are subtracted out from total NGO expenditures on the elderly, then the result would include both contributions from NGO own resources and donations from the general public to NGO expenditures on the elderly. For lack of a better rule to allocate this expenditure between these two sources, we follow Garg (2001) and divide it equally between NGO own resources and donations from the public. Thus, we arrive at an estimate of 33 million rupees each

as contributions of NGO own sources and donations from the public for NGO expenditures on the health of the elderly in Karnataka in 1995/96.

Table 6.1 : Estimation of NGO health expenditures and sources of funding, Karnataka 1995/96.

Estimation steps	Rs. ('000)
A. Estimation of foreign funds spent on the health of the elderly:	
A1. Share of Health & Family welfare of all India foreign funds to NGOs in 1996/97 (source: Accountaid India) (%)	11.10
A2. Share of health in all India foreign funds (%)	5.55
A3. Total foreign funds received by NGOs in India in 1995/96 (source: AccountAid India)	21,690,000
A4. Total foreign funds received in India and spent on health in 1995/96	1,203,795
A5. Karnataka's share of total foreign funds received by India in 1995/96 (%)	10.70
A6. Total foreign funds for health received by NGOs in Karnataka in 1996/97	128,806
A7. Proportion of expenditures at charitable facilities spent by the elderly	0.08
A8. Total foreign funds for health spent on the elderly	10,061
B. Estimation of total expenditure of NGOs on the health of the elderly :	
B1. Share of foreign contribution in total NGO expenditures (source: Garg, 2001) (%)	0.13
B2. Total expenditure of NGOs on health in Karnataka	990,816
B3. Total expenditure of NGOs in Karnataka on the health of the elderly	77,391
C. Estimation of central government grants to health NGOs :	
C1. Share of central government grants in total NGO expenditures in Karnataka (source: Garg, 2001) (%)	0.10
C2. Total transfers from central government to NGOs for health	7,739
C3. Total transfers from central government to NGOs for the health of the elderly	604
D. Estimation of funds raised from NGO's own sources and donations :	
D1. Expenditures on the elderly excluding foreign funds and central government transfers	66,726
D2. Share of NGO own sources, donations in D1 (source: Garg, 2001) (%)	0.50
D3. Total contribution of NGO own sources on health of the elderly	33,363
D4. Total contribution of donations to NGOs for the health of the elderly	33,363

6.2 Health expenditures by Non-Governmental Organizations (NGO) by providers and functions.

NGO's provide health care through their own facilities. Since they themselves are providers, their expenditures are on their own facilities and are shown as such in the providers matrix. To distribute NGO expenditures by functions (i.e. inpatient and outpatient care) we multiply NGO health expenditures by 0.87, which the proportion of inpatient to total expenditures of the elderly at charitable institutes. This proportion is derived from the NSSO and is detailed in Annex 6.

Data that was unavailable

There was a reasonable amount of information on health expenditures which was not available. These include (a) CGHS expenditures; (b) expenditures by 'other' government ministries such as railways, defense etc., (c) information on private insurance such as mediclaim. In addition, the information on NGO expenditures was very thin.

2. Results

Matrix 1: Sources of Financing and Disbursements to Financial Intermediaries (in Rs. '000), ages 60 years and more.

Financial Intermediaries	Sources of Financing										Total
	Government			Autonomous Bodies	Public Enterprises	International Agencies	Private Sector Financing				
	Center	State	Local				NGOs	Private Firms	Households	Other	
1. DoHMF	15,820	720,299				5,851					741,970
DoH											
DME	15,820	720,299				5,851					741,970
APVVP											
FW											
Other											
2. Local Government		95	538								633
3. Other Ministries & Divisions											
4. Societies											
5. Public Firms & Autonomous Bodies					22,471						22,471
6. CGHS & ESIS		1,920			2,383			2,480	1,799	2,656	11,238
7. Private Firms								41,544			41,544
8. Private Insurance											
9. Households		3,283						2,183	1,283,307		1,288,774
10. NGOs	604					10,061	33,363		33,363		77,391
Total	16,425	725,597	538		24,854	15,912	33,363	46,207	1,318,469	2,656	2,184,021

Matrix 2: Distribution of Health Expenditures from Financial Intermediaries to Provider Categories (in '000 Rs.)

Providers	Financial Intermediaries													
	DoHMFW					Local Gov't	Other Ministries and Divisions	Societies	Public Firms and Autonomous Bodies	CGHS and ESIS	Private Sector			
	DoH	DME	APVVP	FW	Other						NGOs	Private Firms	Private Insurance	HHs
1. Government		302,033				633								246,502
Hospitals		238,739												173,628
Primary Health Centers		56,136				633								61,861
Sub-centers		37												11,013
ANMs		0												
Indian Systems of Medicine		6,416												
Collective Services (eg. IPM, SPACS, IEC under other heads)		705												
2. Other public facilities		328,154							11,238					
ESI		0							11,238					
CGHS		0												
PSUs & other public bodies		328,154												
3. Private		243							22,471		77,391	41,544		1,042,272
For-profit Hospitals		0												466,304
NGO Hospitals		1									77,391			3,394
Non-hospital providers		121												482,170
Traditional Providers		121												90,403
Private Enterprise Facilities		0							22,471			41,544		
4. Medical Education/Training		103,798												
Research and Development		19,089												
Medical Education		84,514												
Other		196												
5. Allied health services		7,742												
Total		741,970				633			22,471	11,238	77,391	41,544		1,288,774

Matrix 3: Distribution of Health Expenditures from Financial Agents to Functional Categories (in Rs.)

Function of Health Care	Financial Agents													Total	
	DoHMFV					Local Gov't	Other Ministries and Divisions	Societies	Public Firms and Autonomous	CGHS and ESIS	Private Sector				
	DoH	DME	APVVP	FW	Other						NGOs	Private Firms	Private Insurance		HHs
1. Personal Services (Public)		556,577				633				11,238				246,502	814,950
Inpatient Care		188,778												107,342	296,119
Outpatient Care		367,799				633				11,238				139,160	518,830
2. Personal Services (Private)		122							22,471		77,391	41,544		1,042,272	1,183,800
Inpatient Care		84							15,506		66,985	28,667		388,225	499,468
Outpatient Care		38							6,965		10,406	12,877		654,047	684,333
3. Personal Services (other)															
Self-treatment															
4. Communicable Diseases Control		63,568													63,568
TB		16,593													16,593
AIDS		3,776													3,776
Malaria		32,401													32,401
Cholera		44													44
Leprosy		5,667													5,667
Other disease control		5,087													5,087
Other (eg. expenses on IPM)															
5. Health Promotion		705													705
Family Planning & Welfare															
Food Adulteration															
Other		705													705
6. Administration		9,458													9,458
Direction & Administration (DoHMFV)		9,458													9,458
Administration (CGHS, ESIS)															
Administration (Other government & PSU)															
Administration (GIC)															
7. Other		111,540													111,540
Medical Education & Training		103,798													103,798
Allied health services		7,742													7,742
Total		741,970				633			22,471	11,238	77,391	41,544		1,288,774	2,184,021

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Appendix 1 : Estimating the proportion of public health expenditures spent on the elderly.

How does one allocate government health expenditures to the elderly ? The budget documents certainly don't carry any information on this. Nor were we aware of any study that has tried to answer this question in any detail. There is also the question if such apportioning is indeed correct as it assumes that all government health expenditures can be apportioned by age. For example, how would one apportion expenditures on hospital buildings or on direction & administration ? If one were to assume away this last problem, there seem to be three paths available for the distribution government health expenditures between the elderly and the non-elderly. The simplest way is to assume some percentage of government health spending goes to the elderly. This is clearly an arbitrary and uninformed method. A slightly more sophisticated method would be to apportion government health expenditures on the basis of the age distribution in the population. One of the failings of this method is that it assumes that the age distribution of public health facility users follows that of the general population. It is very possible that users of health facilities would have a higher representation of younger and older people than in the general population. A third method, and the one used here, is to directly estimate the age distribution of users of public health facilities and then apportion government expenditures by age group. For this we turn to the NSSO's 52nd round household survey on 'Morbidity and Treatment of Ailments' carried out in 1995/96. This method is susceptible to all the failings of household surveys including recall bias.

Table A1.1 details the steps taken to arrive at the proportion of public health expenditures spent on the elderly using the NSSO data. The NSSO survey enquired about the number of hospitalization days and the number of treated illness spells at public and private health facilities.

It also collected information on the expenditures incurred on treatment. We cannot use the expenditures reported by users of public health facilities as this spending is subsidized. In other words, we need some measure of the true cost of utilizing public health facilities. We assume that users of private health care facilities pay the full cost of treatment and from the survey data we estimated the unit cost of an hospitalization day and that of an outpatient visit at private health care facilities. We do this for all individuals and separately for the elderly as we expect that their treatment costs would be different from that of the general users. The estimated unit costs for the elderly at private health facilities confirms our assumption as it is higher than that of general users. We then multiply these private unit costs with utilization at public facilities separately for all users and for elderly users. This gives an estimate of total 'true' expenditures at public health facilities for all users and that of elderly users. The share of the elderly in this expenditure is estimated at 0.19.

Table A1.1 : Estimation of the proportion of public health expenditures spent on the elderly in Karnataka, 1995/96.

Item	Inpatient		Outpatient		Total		Grand Total
	Urban	Rural	Urban	Rural	Inpatient	Outpatient	
Private expenditure, all (Rs '000)	632,666	1,004,707	1,154,644	1,880,985	1,637,373	3,035,629	4,673,002
Private utilization, all	1,449,001	3,444,891	8,078,203	17,787,613			
Cost (Rs.)/utilization of private health care	436.62	291.65	142.93	105.75			
Private expenditure, 60 yrs and above (Rs '000)	180,110	208,116	320,349	333,698			
Private utilization, 60 years and above	251,808	700,463	1,591,097	3,525,111			
Cost (Rs.)/utilization of private health care, 60 years and above	715.27	297.11	201.34	94.66			
Public utilization (all)	811,541	3,679,527	1,863,277	8,565,080	4,491,068	10,428,357	
Public utilization (60 years and above)	102,572	494,572	402,907	2,082,025	597,144	2,484,932	
Expenditure on public facilities, all (Rs. '000)	354,337	1,073,139	266,324	905,731	1,427,475	1,172,055	2,599,530
Expenditure on public facilities, 60 years and above. (Rs.'000)	73,366	146,943	81,121	197,091	220,309	278,212	498,521
Proportion of expenditure at public facilities spent by those 60 years and above							0.19

Appendix 2 : State government health expenditures by health providers (lakhs).

Provider Categories	Revenue				Capital		Total
	Non-Plan		Plan		Plan + N-Plan		
	State	Center	State	Center	State	Center	
1. Government	10280.55	203.36	4255.485	851.545	492.52	0	16083.46
<i>1a. Rural Health Services</i>	1435.49	203.36	701.275	840.735	90.29		3271.15
<u>1a.1 Hospitals</u>	103.4	0	0	0	23.12	0	126.52
hospitals							
hospital buildings	103.4						103.4
					23.12		23.12
<u>1a.2 Primary Health Centers</u>	1184.96	203.36	540.585	840.735	67.17	0	2836.81
direction & administration	298.4		8.96				307.36
prevention & control of disease, malaria	784.13		458.735	458.735			1701.6
prevention & control of disease, Cholera	2.32						2.32
prevention & control of disease, leprosy		203.36		88.53			291.89
prevention & control of disease: filaria	0	0	0.03	0.36			0.39
prevention & control of disease: kyananur forest disease	37.97						37.97
Guinea worm eradication, Goitre, AIDS control etc.			71.46	207.92			279.38
Buildings					67.17		67.17
prevention & control of disease, blindness control	62.14		1.4	85.19			148.73
<u>1a.3 Sub-centers</u>	58.98	0	129.96	0	0	0	188.94
establishment of new sub-centers	0.31						0.31
tribal area sub-plan	1.64						1.64
other (school health services etc.)	57.03		129.96				186.99
<u>1a.4 ANMs</u>							0
<u>1a.5 Indian Systems of Medicine</u>	56.07		25.7	0			81.77
ayurvedic hospital and dispensary	56.07		25.7				81.77
<u>1a.6 Collective Services (eg. IPM, SPACS, IEC under other heads)</u>	32.08		5.03	0			37.11
health education and publicity	32.08		5.03				37.11
<i>1b. Urban Health Services</i>	8845.06	0	3554.21	10.81	402.23		12812.31
<u>1b.1 Hospitals</u>	8507.49	0	3521.88	7.08	402.23	0	12438.68
major hospitals	3169.93		1199.12	7.08			4376.13
hospitals attached to teaching institutes	3372.33		1965.86				5338.19
TB institutions	635.02		238.29				873.31
direction & administration	35.34		101.3				136.64
medical stores depot	1291.59						1291.59
other (maintaining of hospitals, repairs)	3.28		17.31				20.59
Hospital buildings					402.23		402.23
<u>1b.2 Primary Health Centers</u>	113.99	0	0	3.73	0	0	117.72
local fund hospitals & dispensaries	93.4						93.4
primary health centers	20.59						20.59
CSS : Urban malaria eradication				3.73			3.73
<u>1b.3 Sub-centers</u>							0
<u>1b.4 ANMs</u>							0
<u>1b.5 Indian Systems of Medicine</u>	223.58		32.33	0	0		255.91
ayurveda : directorate of ISM	21.48		32.33				53.81
ayurveda : hospitals and dispensaries	202.1						202.1
<u>1b.6 Collective Services (eg. IPM, SPACS, IEC under other heads)</u>							0

Appendix 2 contd. : State government health expenditures by health providers (Rs. lakhs).

Provider Categories	Revenue				Capital		Total
	Non-Plan		Plan		Plan + N-Plan		
	State	Center	State	Center	State	Center	
2. Other public facilities	15130.84	0	4782.21	0	0	0	19913.05
<u>2.1 ESI</u>	2266.92		374.85	0			2641.77
ESIS	2265.69		374.85				2640.54
ESI (ayurvedic dispensaries)	1.23						1.23
<u>2.2 CGHS</u>							0
<u>2.3 PSUs & other public bodies</u>	12863.92		4407.36	0	0	0	17271.28
assistance to zilla and gram panchayats	12862.08		4407.36				17269.44
maintenance of dispensaries by municipalities grant-in-aid	1.84						1.84
3. Private	12.78	0	0	0	0	0	12.78
<u>3.1 For-profit Hospitals</u>							0
<u>3.2 NGO Hospitals</u>	0.06		0	0			0.06
maint of hosp & disp by voluntary orgs	0.06						0.06
<u>3.3 Non-hospital providers</u>	6.36		0	0			6.36
voluntary health organizations for leprosy control grant -in-aid	6.36						6.36
<u>3.4 Traditional Providers</u>	6.36		0	0			6.36
rural pvt. disp & hosp grant aid: ayurvedic	6.36						6.36
<u>3.5 Private Enterprise Facilities</u>							0
4. Medical Education/Training	2677.5	0	1836.01	60.23	869.87	19.45	5463.06
<u>4.1 Research and Development</u>	102.17	0	13.19	0	869.87	19.45	1004.68
ayurveda research	5.86						5.86
ayurveda drug manufacture	84.69		8.44				93.13
ayurveda drug licencing	8.59						8.59
ayurveda dev of medicinal plants	3.03						3.03
ayurveda maintenance & dev of herbarium			0.69				0.69
Buildings for ayurveda					37.42	19.45	56.87
research (Medical & Public health dept.)	0		4.06				4.06
Buildings for allopathy					832.45		832.45
<u>4.2 Medical Education</u>	2568.92	0	1818.94	60.23			4448.09
ayurveda	345.52		29.88	2.03			377.43
ayurveda workshop, training, conference			0.25				0.25
homeopathy	24.7		14.56	5.2			44.46
unani	23		9.63				32.63
siddha	3.52						3.52
allopathy education	2010.84		1763.03	53			3826.87
allopathy training	76.48						76.48
training public health	84.86		1.59				86.45
<u>4.3 Other</u>	6.41	0	3.88	0			10.29
other (yoga, nature cure)	6.41		3.88				10.29
5. Allied health services	233.87	5.04	167.58	0.97	0	0	407.46
drug control	69.31		135.68				204.99
manufacture of sera & vaccine	74.42						74.42
public health laboratories	72.92	5.04	3.54	0.97			82.47
oth (state transp, support women's employme	17.22		28.36				45.58
Total	28335.54	208.4	11041.285	912.745	1362.39	19.45	41879.81

Appendix 3: Estimating the proportion of expenditures on inpatient care in health expenditures on the elderly at public and private hospitals.

How can public and private hospital expenditures be apportioned to inpatient and outpatient care? The budget documents do not break up hospital expenditures by patient type. Therefore, we take the help of the NSSO's 52nd round household survey on 'Morbidity and Treatment of Ailments' carried out in 1995/96. We assume that hospital expenditures on inpatient and outpatients follow inpatient and outpatient utilization levels. The NSSO recorded information on the type of facility where inpatient and outpatient treatments took place. Based on this information and using the unit costs of private inpatient and outpatient treatment we estimate the proportion of total inpatient expenditures at public and private hospitals that are attributable to the elderly. We use private hospital unit costs for public hospitals on the assumption that they better reflect the true cost of an inpatient or outpatient service. The steps involved in this estimation are similar to those previously described in Table A1.1.

Table A3.1 : Estimating the proportion of expenditures on inpatient care in health expenditures on the elderly at public and private facilities.

	Inpatient		Outpatient		Total		Grand Total
	Urban	Rural	Urban	Rural	Inpatient	Outpatient	
Private expenditure, 60 yrs and above (Rs '000)	180,110	208,116	112,303	62,079	388,225	174,383	562,608
Private utilization, 60 years and above	251,808	699,543	417,348	401,895			
Cost (Rs.)/utilization of private health care, 60 years and above	715.27	297.50	269.09	154.47			
Public utilization (60 years and above)	102,572	494,573	402,907	2,082,024			
Public expenditure, 60 yrs and above (Rs.'000)	73,366	147,137	108,418	321,602	220,503	430,020	650,522
Proportion of total expenditures on those 60 and above at private hospitals on inpatient care							0.69
Proportion of total expenditures on those 60 and above at public hospitals on inpatient care							0.34

Note : above estimates exclude private doctors.

Appendix 4: Estimating expenditures on in-house medical facilities spent on the elderly

We considered various ways to apportion total expenditures on in-house medical facilities by firms to the elderly. The gold-standard for this would be getting data from the various public and private firms on how many of the beneficiaries of their in-house medical facilities are elderly. Clearly, this would be a time consuming task and it is not clear if such data is recorded. We are also not aware of any study or survey that carries this kind of information. We therefore consider indirect methods of estimation. One could take the age distribution of employees in the organized sector and then find the proportion of those who are elderly. This information would not fully serve our purposes because it is very possible that the families of workers and retired workers also avail of in-house health facilities. We therefore again resort to the NSSO's 52nd round household survey on 'Morbidity and Treatment of Ailments' carried out in 1995/96.

The NSSO survey enquired of each sampled household member if they had been hospitalized in the previous year or if they had any spell of illness treated as an outpatient. When enquiring about the expenditures associated with each utilization the survey asked if the service was provided free/partly free by the employer and if the employer was private or public. The intent of this question, according to the survey instruction manual, was to capture the fact that "often employers have their own arrangements for medical treatment of their employees and their dependents." We assume here that this primarily refers to in-house medical facilities or a similar arrangement offered by the public and private sector. It should be noted that such free care can include medical services availed at the likes of CGHS and railway medical facilities. However, the survey does not allow further disaggregating this free/partly free utilization beyond the broad categories of public and private employer.

Table A4.1 describes the various steps taken in estimating expenditures on in-house medical facilities attributable to the elderly. Since these medical facilities were offered free/partly free to the individuals availing them, we assume that the unit costs of private utilization reflect the true cost of in-house medical facilities. We estimate separate unit costs for private utilization for the elderly. These unit costs are multiplied by the utilization of inpatient and outpatient visits which were provided free/partly free by the employer. This is done separately for private and public employers. The expenditures incurred on the elderly and that of all users is thus estimated for public and private employers and the respective proportions derived.

Table A4.1 : Estimating expenditures on in-house medical facilities attributable to the elderly. Karnataka 1995/96.

Item	Inpatient		Outpatient		Total		Grand Total	
	Urban	Rural	Urban	Rural	Inpatient	Outpatient		
Private expenditure, all (Rs '000)	632,666	1,004,707	1,154,644	1,880,985				
Private utilization, all	1,449,001	3,444,891	8,078,203	17,787,613				
Cost (Rs.)/utilization of private health care	437	292	143	106				
Private expenditure, 60 yrs and above (Rs '000)	180,110	208,116	320,349	333,698				
Private utilization, 60 years and above	251,808	700,463	1,591,097	3,525,111				
Cost (Rs.)/utilization of private health care, 60 years and above	715	297	201	95				
Free private utilization (all ages)	63,525	318,447	299,406	754,555				
Free private utilization (60 yrs & above)	3,525	118,881	25,208	89,647				
Expenditure on free private. utilization (all ages) (Rs.'000)	27,736	92,875	42,795	79,792	120,612	122,587	243,199	
Expenditure on free private utilization (60 years & above) (Rs.'000)	2,521	35,321	5,075	8,486	37,842	13,562	51,404	
Free govt. utilization (all ages)	176,692	109,186	586,279	84,190				
Free govt. utilization (60 yrs & above)	32,731	3,806	64,726	0				
Expenditure on free govt. utilization (all ages) (Rs.'000)	77,148	31,844	83,799	8,903	108,992	92,702	201,693	
Expenditure on free govt. utilization (60 years & above) (Rs.'000)	23,412	1,131	13,032	0	24,542	13,032	37,574	
Proportion expenditures provided free by private employers spent on elderly employees								0.21
Proportion expenditures provided free by govt. employers spent on elderly employees								0.19

Appendix 5: Estimating the proportion of expenditures at ESIS facilities spent on the elderly.

To apportion ESIS expenditures on medical care to the elderly we take the help of the NSSO's 52nd round household survey on 'Morbidity and Treatment of Ailments' carried out in 1995/96. The NSSO recorded information on the type of facility where inpatient and outpatient treatments took place, including ESIS facilities. Based on this information and using the unit costs of private inpatient and outpatient treatment we estimate the proportion of ESIS expenditures that are attributable to the elderly. The steps involved in this estimation are similar to those previously described in Appendix 1 and are detailed in Table A5.1.

Table A5.1 : Estimating the proportion of expenditures at ESIS facilities spent on the elderly in Karnataka, 1995/96.

Item	Inpatient		Outpatient		Total		Grand Total
	Urban	Rural	Urban	Rural	Inpatient	Outpatient	
Private expenditure, all (Rs '000)	632,666	1,004,707	1,154,644	1,880,985			
Private utilization, all	1,449,001	3,444,891	8,078,203	17,787,613			
Cost (Rs.)/utilization of private health care	437	292	143	106			
Private expenditure, 60 yrs and above (Rs '000)	180,110	208,116	320,349	333,698			
Private utilization, 60 years and above	251,808	700,463	1,591,097	3,525,111			
Cost (Rs.)/utilization of private health care, 60 years and above	715.27	297.11	201.34	94.66			
ESIC utilization	0	0	215,662	257,106			
ESIC utilization. 60 years and above	0	0	10,412	0			
Total ESIS exp all	0	0	30,825	27,188	0	58,013	58,013
Total ESIS exp, 60 years and above	0	0	2,096	0	0	2,096	2,096
Proportion of ESIS expenditures spent on the elderly							0.04

Appendix 6: Estimating the proportion of NGO health expenditures on the elderly.

To apportion NGO health expenditures to the elderly we take the help of the NSSO's 52nd round household survey on 'Morbidity and Treatment of Ailments' carried out in 1995/96. The NSSO recorded information on the type of facility where inpatient and outpatient treatments took place, including at charitable institutions. Based on this information and using the unit costs of private inpatient and outpatient treatment we estimate the proportion of NGO expenditures that are attributable to the elderly. We use private hospital unit costs for public hospitals on the assumption that they better reflect the true cost of an inpatient or outpatient service. The steps involved in this estimation are similar to those previously described and are detailed in Table A6.1.

Table A6.1: Estimating the proportion of NGO health expenditures on the elderly

	Inpatient		Outpatient		Total		Grand Total
	Urban	Rural	Urban	Rural	Inpatient	Outpatient	
Cost (Rs.)/utilization of private health care	436.62	291.65	142.93	105.75			
Cost (Rs.)/utilization of private health care, 60 years and above	715.27	297.11	201.34	94.66			
Charitable utilization (all)	91828	213675	32976	61612			
Charitable utilization (60 years and above)	4461	15119	4843	2306			
Expenditure on charitable facilities, all (Rs.)	40,094	62,319	4,713	6,515	102,413	11,229	113,641
Expenditure on charitable facilities, 60 years and above. (Rs.)	3,191	4,492	975	218	7,683	1,194	8,876
Proportion of inpatient to total expenditures at charitable facilities, 60 years and above							0.87
Prop of expenditures at charitable facilities spent by those 60 years and above							0.08