HEALTH SERVICES DATABASE IN THE CONTEXT OF NATIONAL HEALTH ACCOUNTS

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Overview

Historically health services data has been very limited in India. Colonial India put together data in the context of how it affected the cantonments and civil lines. Occasional public health enquiries by Commissioners contributed to some community based data. Institutional data from the public domain like hospitals, public health expenditures and census related data such as medical professionals and employees was reasonably well organised. But data on the private health sector was conspicuous by its absence. The scenario today is not very different!

The first efforts at a large scale survey, but not household based, was done by the Bhore Committee – Health Survey and Development Committee- which based on the survey formulated a national health plan for a universal access health care system with a clear message that the responsibility of providing health care to all was that of the State and that the private sector was dispensable. The Bhore Committee also chalked out a framework for a national and regional health information system.

The situation in the post-colonial period did not change drastically and this is again largely because the State did not commit itself to assure the people of the country basic health care as a right. The recommendations of the Bhore Committee were not taken as a whole but only selectively and it is this attitude of selective programming that is responsible for the type and the quality of health care system that we have today.

The first effort at a general health survey in post-colonial India was undertaken in the late fifties and early sixties by S C Seal of the AIIH&PH (Seal, 1955 -1963). This study of districts selected from all major states was modelled around the British General Health Survey and data from this if compiled systematically can form a baseline for the country. This data includes out of pocket expenditures and perhaps is the first indication of the scale of the private health economy. The only copies of the study volumes that I have seen are in the AIIH&PH library in Calcutta, and afew volumes in the National Medical Library in New Delhi. This is valuable data and efforts must be taken to preserve it, if possible in electronic form. Apart from this the NSSO has in its occasional rounds undertaken morbidity and utilisation studies periodically, including out of pocket expenditures, but it was only in the 42nd and 52nd Rounds in 1986-87 and 1995-96 that a comprehensive survey was undertaken giving population based health data. Taking a cue of the gap in health related information the first National Family Health Survey (NFHS) was conducted in 1992-93 and repeated in 1997-98. These surveys are largely demographic in nature but do have useful though limited health information.

The census every ten years gives some demographic data, which has some use for health sector analysis. Similarly the National Sample Survey Organisation and the Registrar General of India's Sample Registration Scheme data gives regular sets of data, again largely demographic. A point to flag here is the larger emphasis on demographic and family planning data even when surveys are labelled as health surveys - this also explains why the NFHS is not a health survey and much less a family health survey! The State's obsession with fertility reduction is partly responsible for this demographic view of health and this gets reflected in the paucity of health information in the country. The data pertaining to the demographic situation and family planning is much better organised and more widely available whereas data on health care services, utilisation, epidemiological and morbidity patterns, health care availability, health care expenditures,

humanpower etc. are most inadequate and not easily available. Outside the state framework the NCAER is the only organisation that has carried out national surveys through which limited population-based health information has been collected – they conducted two surveys in the fist half of the nineties.

At the micro level the situation is similar. A large number of micro studies have been carried out but a large majority of them are again demographic or family planning related. This is largely because funding for such studies comes either from the family planning department or international agencies whose primary concern is population control. In a national review of such research done in 1993 by the research team of the Foundation for Research in Community Health it was found that an overwhelming majority of such funded research, a small proportion of it very good, lies unpublished and inaccessible to those who would like to use such research findings (FRCH,1993).

Data Availability and Organisation

In India data collection, compilation and distribution is almost the sole monopoly of the Central Statistical Organisation (CSO). The NSSO and the RGI's offices provide the CSO with a fair amount of support in its efforts at compiling and publishing a wide array of data. The CSO is also dependant on other bodies to feed it with the necessary data, which is collected through their routine functioning.

The CSO publishes a wide range of statistical compendia that provide information on all aspects of the economy and society (CSO, 1989). The users of this information are also a highly differentiated group and are appreciative of the thankless task that the CSO undertakes. However, the CSO encounters many problems in compiling this data. It is evident from their numerous documents that they invariably do not receive complete information for the variables that they publish in their various compilations. This is largely because of the poor organisation and lack of cooperation on the part of bodies which generate the data and are supposed to supply regularly to the CSO - while a large part of the data from public bodies is more or less regularly available it is the private institutions whose compliance is very poor, and this is especially crucial for the health sector in India because of the overwhelming dominance of the private sector. One sees complacency setting in within the CSO as evidenced from the decline and delays in bringing out its crucial publications.

The NSSO is one agency that collects primary data on practically every socio-economic issue. Its sample cuts across the entire country and hence its contribution is very vital for any database. Its methodology and credibility (though of recent being questioned) is generally held in high esteem internationally. Unfortunately it has failed to provide data on time - the delay most often being about seven to eight years.

Here our concern is with health and related data so we will not comment on other data. Compilation of health services data at the national level is the responsibility of the Central Bureau of Health Intelligence (CBHI). Similar bureaus at the state level lend support as clearing houses for respective states. The CBHI has been regularly bringing out its annual publication "Health Statistics of India", now called "Health Information of India". Though the range of subjects is diverse, it covers mostly the public sector and it is this that is its major shortcoming because health care in India is largely in the private sector. And in recent years, in spite of computerisation the time lag in availability of this document has become 4 - 5 years. The latest data available today is for 1997-98. Once in 5 years they also bring out a Directory of Hospitals which gives details about hospitals, its bed capacity etc.. for each hospital which is registered or files its return

to the appropriate authority. In this too it is seen that while all public hospitals are covered, private hospitals are grossly under enumerated because regulation and control of private health care facilities is not taken seriously in most states (Mahapatra and Berman, 1992; Duggal and Nandraj, 1991 and 1996). Incidentally, the last issue of the Hospital Directory was in 1988!

The CBHI's Health Information of India, apart from giving basic socio-economic and demographic information, which it draws from either the RGI or the CSO, publishes information, in a number of cases state-wise, on health care infrastructure like hospitals, dispensaries, PHCs and beds (including private sector, which studies now show are underestimates in the CBHI compendium), communicable diseases like leprosy, tuberculosis, malaria, etc.. which is data mainly from public institutions hence grossly underestimated, health humanpower - doctors of various systems, nurses, paramedics in government health programs, rural health care personnel, medical education admissions and outturns etc.., public health expenditures in aggregate form, cause of death statistics, and health insurance (public sector only) statistics.

While the data categories appear to have a wide range of coverage basic morbidity data or an epidemiological profile on which all health care planning should be based is not available. Morbidity/epidemiological studies on a national scale have never been done, except for the one on tuberculosis way back in 1957. The quality of the data and its uptodateness is far from what is desired. This inadequacy of even the existing data is largely due to the laxity of data collecting and reporting agencies. The CBHI can only report from what it gets. The blame lies mainly with the state bureaus who do not put serious efforts at assuring that the data from the agencies responsible for supply of the respective data reaches them. For instance, the state Medical Councils are supposed to supply information on registration of allopathic doctors. While some state medical councils have been quite regular and up-to-date many have not been doing their duty of sending updated records to the health information bureaus. Thus, for a number of states we see that data reported on the number of registered doctors is for up to even five years ago. In contrast the Nursing Council and the Dental Council are much more efficient and timely.

Now for nearly a decade the CBHI's Health Information is computerised but that has not changed the way it reports data. Neither has it made them up-to-date nor has the presentation improved. Computerisation gives the opportunity for analytical statements but nothing of this kind has been forthcoming.

Further CBHI reports some sets of data which are meaningless - reporting targets achieved for treatment of communicable diseases makes little sense, what is needed is to report actual prevalence and/ incidence and then the percent of such cases who have received treatment. For example, the 1988 Health Information reported that there were only 9375 deaths due to tuberculosis in India in 1987 (Table 10.17, pg.178) - this is a ridiculous figure to present for those who don't know that it represents deaths only in public hospitals and that too partially reported. In the same volume in Table 11.3 on page 202 the RGI data on survey of causes of death is reported in which of all surveyed rural deaths 5.29% were due to tuberculosis of the lungs - this gives us an all India figure for 1986 of over 353,000 deaths due to pulmonary tuberculosis in rural areas alone!

Other national level efforts have been from the Census (data on professions which gives us estimates of doctors of different systems, nurses, paramedics etc..), in the Economic Census Tables (data on establishments etc..), from the NSS (Expenditure on medical care in selected consumption expenditure rounds, morbidity, 42nd and 52nd round on morbidity and utilisation, disability, nutrition, health care establishments, immunisation, indebtedness due to health care etc..), and Comptroller and Auditor General which gives public health spending by major

programs in its Combined Finance and Revenue Accounts - which since 1987 has not been published – of course there are state finance and revenue accounts separately for each state which are available in the NIPFP and RBI libraries.

Among the other surveys the NCAER surveys focus on household morbidity, utilisation and expenditure patterns, the NFHS is mostly demographic and family planning related and provides health data pertaining only to immunisation, pregnancy, delivery (MCH related) and of important communicable diseases like malaria, tuberculosis and malaria, and physical disabilities, and ARI and diarrhoea among children. Both NCAER and NFHS data sets are computerised and the latter is available to any serious researcher in electronic form from the IIPS on request. The NFHS has a volume on India and separately for each state. They have also published selected thematic reports and a series of NFHS Research Bulletins.

Making a Health Database

When I was at FRCH we began the first efforts at evolving a health services database. Public health expenditures was the item selected to begin this process because it was the most organised form of data and easily accessible. From 1951 to 1985 all available data on public health expenditure for each state and union territory was compiled and computerised. Now at the Centre for Enquiry into Health and Allied Themes (CEHAT) we have continued this process. The health finance database has been updated up to 1998-99 and other health services data like health personnel, hospitals, beds, PHCs, mortality and fertility rates, immunisation, ante-natal care etc.. has also been partially compiled. CEHAT is committed to building a complete health care database and as an initial step for making it public we published a core part of it in the Economic and Political Weekly (April 15 and 22, 1995). Subsequently we brought it out in an electronic version as a DOS based database This data is available on a single year basis from 1951 to 1995 for each state and union territory in a set of two floppies along with a user friendly program. Recently we have undertaken the task to update it and make it available in a windows-based version. This new version updated to the most recent year will be available on a CD-ROM before end of 2002 – selected data is already available on the web at www.cehat.org CEHAT is working out a strategy to make this process an ongoing one, add newer categories of data, including those from micro studies and make these updates available periodically, and also place it on the website.

To conclude, each set of health data has been discussed below in the context of its sources, availability, quality, access etc. and the work that CEHAT has already done is also highlighted. The larger focus will be on health expenditures and how it can contribute to developing the base for national Health Accounts.

HEALTH POLICY AND PLANNING

- Five year plan documents: health program recommendations, allocations, investment expenditures
- Various Committee reports' recommendations: Bhore Committee, Mudaliar Committee, Chopra Committee, Shrivastava Committee, Kartar Singh Committee, ICMR-ICSSR Committee etc..
- Annual Reports of the Ministry of Health and the Report and Recommendations of the Joint Council of Health and Family Welfare.

The Ministry of Health has put in some efforts at compilation of Committee reports; annotations can be compiled into a database. The five year plans, including allocations, investments and expenditures are already on the planning commission website. At CEHAT too we have already

collated most of this information and it will be bundled into the database that CEHAT has developed.

HEALTH PERSONNEL

- State Councils for allopathic and ISM&H doctors, dentists and nurses which generate information on registered practitioners and the CBHI publishes it in Health Information of India (HII), also data on medical colleges, admissions and outturn
- Information on paramedics and all other health personnel in rural government health care in Rural Health Bulletin and CBHI's HII
- Census Economic Tables for all categories of health personnel for census years
- IAMR also publishes health personnel data in its statistical compendium - Manpower Profile Yearbook

The quality of registration data, especially of the State (allopathic) Medical Councils is unsatisfactory and in many states there is a lag of over five years in reporting. Other problems with this data is that it is registration data and does not reflect on the number of active practitioners - often those who have died, migrated to other countries or have stopped practicing continue to be on the list and on the other hand many who are practicing have not registered and hence are not included in the list. CBHI in its HII publishes most of the above data for previous year. The Census economic tables give more accurate data on doctors who are economically active and here we get breakdown by gender, pathy, rural/urban residence, age, educational background etc.. Analysis of Census data, which comes once in ten years, shows that for allopathic doctors, for the same year as the Census, the Medical Councils make an over count by 15-20%. CEHAT has compiled a substantial part of this data for single year since 1951 and the Census data too and computerised it - part of it published in the EPW as mentioned above and up to 1993 it is now available on floppies. The data categories include number of doctors, dentists, nurses registered with the respective Councils, breakdowns of the Census data by gender, pathy, residence. Also included are different categories of paramedics like ANMs, MPWs, pharmacists etc. in government services.

HEALTH INFRASTRUCTURE

- HII compiles annual information on hospitals, dispensaries, hospital and dispensary beds, PHCs, Subcentres. The hospital and dispensary data includes private hospitals also.
- CBHI also brings out a Hospital Directory every few years.
- PHC and other rural health infrastructure also available in the Rural Health Bulletin of the Ministry of Health

Various micro studies have shown that the private sector data is very much underestimated. CEHAT has compiled all the available data in this category and up to 1993 it is available on floppies. Data categories include hospital and dispensaries and beds by rural/urban location and by private/public ownership. Apart from CBHI another source of information are the Establishment data from the economic census which lists directory/non-directory establishments and own account enterprises in the health sector.

UTILISATION AND MORBIDITY

- NSS and NCAER are the only major sources for such data
- Number of micro studies provide good information

This is one set of data that is not available on a regular time series basis. The NSS morbidity and utilisation surveys are very few and the only detailed survey was the 42nd and 52nd round in 1987

and 1996, respectively. In the eighties a number of micro studies were done which for the first time brought such data on agenda and as a consequence NCAER did two national level studies in 1992 and 1994. Both NSS and NCAER data is computerised but is not as yet available publicly for independent analysis. The NSS data is published in Sarvekshana and NCAER data in book form. Some important micro studies are those done by FRCH in Maharashtra and Madhya Pradesh (Duggal and Amin, 1989; George et.al. 1993;), KSSP in Kerala (Kanan et.al. 1991 and Kunhikannan et.al., 1999), CEHAT in Maharashtra (Nadraj et.al., 1998, Madhiwala et.al. 2000 and Dilip and Duggal, 2002)

Morbidity data is also available in a limited way for captive populations like users of public hospitals (published by CSO in Statistical Abstract of India - but since returns are not filed by all hospitals regularly this data has very little value, except perhaps for percent distribution of cause of morbidity), for users of railway, postal, mining, CGHS and ESIS health services. Such data can be used to give useful proxy estimates in the absence of better quality data. This data is available in respective organisation's annual reports.

FAMILY PLANNING

- Family Welfare Yearbook, an annual publication of the Dept. of Family Welfare of the Ministry of Health publishes detailed data on contraceptive methods use, fertility related indices, family planning expenditures, MCH related data, abortion and abortion services etc.
- NFHS also has similar data

This data is quite comprehensive but a fair part of it relating to contraception acceptance is suspect. Of course, the data refers only to the public system. The NFHS data is very useful here because it gives an opportunity to compare field level data with service statistics of the Family Planning department.

HEALTH INDICES

- RGI's SRS data on mortality and fertility, cause of death data and data on use of medical facility at birth and death,
- Also NSSO and Census data and now NFHS data.

Data categories include crude birth and death rates, infant mortality rates, total fertility rates, age-specific fertility rates, pregnancy outcomes, % users of medical facilities at birth and death, causes of death etc..

HEALTH INSURANCE

- ESIS, CGHS, Railways data on expenditure and utilisation from their Annual Reports, HII also publishes some of this data
- Also data on various other insurance programs under Acts covering various miners, maternity benefit, plantation workers, beedi workers, cinema workers etc.
- Data on Mediclaim could be compiled from the various insurance companies; this will provide information on both corporate health insurance from group policies as well as individual insurance cover

PHARMACEUTICAL PRODUCTION

- Data on overall and key drugs production and availability from Ministry of Chemicals, and association of pharmaceutical producers like IDMA and OPPI.
- Also from ORG which compiles market intelligence on drugs, but as yet not available publicly

HEALTH EXPENDITURES

- Combined Finance and Revenue Accounts of the Union and State Governments and the State Finance and Revenue Accounts and Civil Budgets for public health expenditures by major health programs and the latter with line items. Such data is available from the year 1891 onwards.
- The Performance Budgets of state governments and zilla parishads in some states give more detailed information and in these budgets one can get integrated information on accounts and health services data in one place. Unfortunately, in the few states that this instrument exists it is being neglected
- Municipal and other local body expenditures available for selected years: Statistical Abstract of India (for Municipal Corporations), Health Statistics of India (until early sixties), NCAER and NIUA studies for some specific years and the Census village and town directories
- Other public health expenditures for selected populations as part of social security for employees - the largest is the Employee State Insurance Scheme providing comprehensive health cover for organised sector employees covered under the Factories Act and related Acts; compensation for injuries and occupational diseases under the Workmen's Compensation Act; social security benefits, including medical care, for other category of workers like miners under the various Mines Act, for Beedi workers under the Beediworkers welfare Fund; plantation welfare funds; for cinema workers under the Cinema workers welfare Fund; maternity benefits under the Maternity benefits Act for all women workers in the organised sector and those covered by the various social security and welfare fund legislations; the Central Govt. Health Scheme for Central govt. employees; health services for employees of Railways, armed forces and post and telecommunication services and other public sector units. Information on expenditures, services, utilisation etc.. is available from statutory returns and Annual reports of these organisations.
- Health insurance, apart from the social security schemes referred to above, is still in its infancy. The main scheme available is Mediclaim from the public insurance companies. This is for hospitalisation cover and is offered both as individual and group schemes. Today private insurance companies are also offering similar packages, and with TPAs such schemes are becoming more attractive though also more expensive. Insurance companies do not make their data public but one could push IRDA to make it available for national accounts purposes. For clients who give large "other business" to insurance companies the latter provide even comprehensive healthcare cover for their employees with reasonable premiums.
- For private expenditures national level data from NSSO's morbidity and utilisation surveys and consumption expenditure rounds as also CSO's estimates of private final consumption. Recent years NCAER survey data also available. Estimates also from various micro studies.

While the public expenditure data is easily available from the CFRA, State FRA and Civil Budgets, and the CBHI publishes atleast aggregate data for the previous year in its annual Health Information compendium, that of the private sector is not available - the NSS and CSO estimates

are underestimates as shown by various micro studies. NIPFP (1993), FRCH (Duggal et.al.1992) and CEHAT (Duggal et.al.,1995) too have compiled data on public health expenditures in a more systematic and analytic manner. The public health expenditure data in its disaggregated form has now been compiled into a computerised database by CEHAT for all states with single-year data from 1951 onwards - part of this has been published in the EPW of April 15 and 22, 1995 as a 5 year time-series data set. Now it is available on floppy for the years 1951-1995 for each year and for each state and union territory. The data categories include overall health expenditure as incurred by the Ministries of Health, and separately expenditures of the Medical department, Public Health department and Family Planning department. In each of these departments further desegregations have been made - hospital and dispensaries, medical education and research, disease programs, rural family planning services, urban family planning services, maternal and child health services, public health training etc.. Presently this is being updated and converted into a windows based database.

One problem faced presently is that the CFRA has not been published from 1987 onwards and hence a compiled source of Finance data for all states together is no longer available in the details that CFRA used to provide. For such data we have to now go to each state's accounts/budget individually, and thus the process of compiling such data becomes much more cumbersome. We hope the CFRA gets back to publishing its reports as earlier, and perhaps also makes the data available digitally.

For the social security data the Labour Bureau publishes annual year books called the Indian Labour Yearbook and all such data categories, including income and expenditure is covered. The Railway Board, the P and T Dept, and the CGHS provide the data for their medical expenditures, which the CBHI publishes. The armed forces do not provide their data, but in terms of their strength they are similar to the Railways and the volume of their expenditure would be at least similar, but likely to be more because for every working soldier the armed forces have 1.8 pensioners.

As an illustration we are pooling together below all data that will be relevant for a National Health Accounts system:

1. Overall Health Sector Profile

HEALTH INFRASTRUCTURE DEVELOPMENT IN INDIA 1951-2000

			1951	1961	1971	1981	1991	1995	1996	1997	1998	2000
1	Hospitals	Total	2694	3054	3862	6805	11174	15097	15170	15188		17000
		% Rural	39	34	32	27		31	34	34		
		%Private				43	57	68	68	68		
2	Hospital & dispensary beds	Total	117000	229634	348655	504538	806409	849431	892738	896767		950000
		% Rural	23	22	21	17		20	23	23		
		%Private				28	32	36	37	37		
3	Dispensaries		6600	9406	12180	16745	27431	28225	25653	25670		
		% Rural	79	80	78	69		43	41	40		
		% Private				13	60	61	57	56		
4	PHCs		725	2695	5131	5568	22243	21693	21917	22446	23179	24000
5	Sub-centres				27929	51192	131098	131900	134931	136379	137006	140000
6	Doctors	Allopaths	60840	83070	153000	266140	395600	459670	475780	492634	503947	530000
		All Systems	156000	184606	450000	665340	920000			1080173	113347	1211124
7	Nurses		16550	35584	80620	150399	311235	562966	565700	607376		

8	Medical colleges	Allopathy	30	60	98	111	128		165	165	165	
9	Out turn	Grads	1600	3400	10400	12170	13934	*	*	*	*	
		P. Grads		397	1396	3833	3139			3656		
10	Pharmaceutical production	Rs. in billion	0.2	0.8	3	14.3	38.4	79.4	91.3	104.9	120.7	165.0
11	Health outcomes	IMR/000	134	146	138	110	80	74/69	72	71	72	70
		CBR/000	41.7	41.2	37.2	33.9	29.5	29	27	27	27	26
		CDR/000	22.8	19	15	12.5	9.8	10	9	8.9	9	8.7
	Life Expectancy	years	32.08	41.22	45.55	54.4	59.4	62	62.4	63.5	64	65
	Births attended by trained practitioners	Percent				18.5	21.9		28.5		42.3	
12	Health Expenditure Rs. Billion	Public	0.22	1.08	3.35	12.86	50.78	82.17	101.65	113.13	126.27	178.00
		Private@	1.05	3.04	8.15	43.82	173.60	233.47		399.84		
		CSO estimate of private spending		2.05	6.18	29.70	82.61	279.00	329.00	373.00	459.00	833.00

@ Data from - 1951:NSS 1st Round 1949-50; 1961: SC Seals All India District Surveys,1958; 1971: NSS 28th Round 1973-74; 1981: NSS 42nd Round 1987; 1991 and 1995: NCAER – 1990; 1995: NSS 52nd Round 1995-96; 1997: CEHAT 1996-97 Madhiwala,2000

*Data available is grossly under-reported, hence not included

Notes: The data on hospitals, dispensaries and beds are underestimates, especially for the private sector because of under-reporting. Rounded figures for year 2000 are rough estimates.

Source : 1. Health Statistics / Information of India, CBHI, GOI, various years
2. Census of India Economic Tables, 1961, 1971, 1981, GOI
3. OPPI Bulletins and Annual reports of Min. of Chemicals and Fertilisers for data on Pharmaceutical Production
4. Finance Accounts of Central and State Governments, various years
5. National Accounts Statistics, CSO, GOI, various years
6. Statistical Abstract of India, GOI, various years
7. Sample Registration System - Statistical Reports, various years
8. NFHS - 2, India Report, IIPS, 2000

2. Central and State government's Health Expenditures

MINISTRY OF HEALTH AND FAMILY WELFARE EXPENDITURES 1991-2000

CATEGORY		1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99 RE	1999-00 BE
All India Health expd. at current Rs. In crores	**Total**	5078	5639	6464	7518	8217	10165	11313	12627	16303	17854
	Central	493	558	705	744	1068	1210	1346	1354	1907	2309
	State	4585	5081	5759	6774	7149	8955	9967	11273	14396	15545
Health expd. at 1981-82 Rs. In crores		2775	2711	2822	3031	2988	3434	3591	3826	4631	4891
Real Growth Rate of health Expenditure %			-2.3	4.1	7.4	-1.4	14.9	4.6	6.5	21	5.6
Share of state govt. in total Health expd. %		90.3	90.1	89.1	90.1	87.0	88.1	88.1	89.3	88.3	87.1
Grant in Aid component from Centre in state Health expd. %		17.0	16.2	18.9	20.7	18.8	14.8	14.1	15.6	16.1	
Health expd. to total govt expd. in percent		2.88	3.11	2.88	2.91	2.13	2.98	2.94	2.7	2.9	3.0
Health expd. as % of GDP		0.94	0.91	0.91	0.93	0.85	0.91	0.88	0.81	0.86	0.87
Percapita total health expd. in Rs./yr.		60.02	65.34	73.45	83.90	89.9	109.07	119.08	130.3	165.0	177.3

Source: Finance and Revenue Accounts of Central and Stage Governments, various years for health expenditures. Ratios and percentages computed using CSO data from National Accounts Statistics

CHANGING PATTERN OF STATE GOVERNMENT HEALTH BUDGETS

	1975-76	1980-81	1985-86	1991-92	1995-96	1999-00*
All States Health Budget Rs. Crores	591	1123	2626	5081	8955	15545
Percent capital	5.5	3.2	6.3	5.4	4.1	3.6
Grant in aid received by states Rs. Crores			577	826	1676	2691
Grants as percent of states' health expenditure			21.9	16.2	18.7	17.3
Percent Expenditure on Medical care (Hospitals and medical education)	54	53	47	35		
Percent Expenditure on Disease Programs	14	14	12	11		
Percent Expenditure on Family Planning	13	12	18	17		
Percent expenditure on MCH	0.4	0.3	0.5	1.3		
Percent Expenditure on Administration	5	5	5	4		

*Budget Estimate

Source: State Finance and Revenue Accounts, various years

3. Social Security related Health Expenditures

ESIC EXPENDITURE
(Rs. Million)

Year	Total Expen-diture	Excess of Income over exp.	Investments	Beneficiaries (millions)
	1	2	3	4
1952-56	18.06	30.58		1.29(1956)
1960-61	69.78	24.56		3.89
1965-66	206.89	24.24		12.14
1972-73	472.38	151.89	439.81	17.53
1976-77	1019.10	347.70		21.68(1975-76)
1980-81	1880.60	51.00		28.22
1985-86	2556.73	1084.80	6022.37	27.25
1988-89	2972.14	1240.55	11191.10	26.41
1993-94	5693.38	1134.86		28.69
1996-97	5679.88	2528.42		32.77
2001-02	11041.20	6261.00		33.00

Source : ESIS Annual Reports, various years; 1993-94&1996-97 from Indian Labor Yearbook, 1999

Compensations paid Under Workmen's Compensation Act

	1971	1976	1981	1993	1996
Compensated Injuries	57346	43088	33031	3738	3846
Compensation Paid Rs. Mill.	15.92	13.43	38.80	30.83	134.60
Amount per employee Rupees	277	312	1175	8248	34997

Source : Indian Labour Yearbook, various years

Maternity Benefits for Factory, Plantation and Mine workers

	1982	1987	1992	1994	1996
Claims Paid	42502	26832	21124	6311	20474
Amount Paid Rs. millions	32.61	40.60	45.43	19.72	48.23
Amount per woman Rupees	767	1513	2151	3125	2356

Source: Indian Labour Yearbook, various years

Post and Telecom Dept.

	1984-85	1989-90	1990-91	1994-95	1999-00
Medical Expenditures Rs. Million	51.20	243.40 (?)	126.50	248.00	662.00

Source: Health Information India, various years

Labour Welfare Funds: Medical expenditure on Workers of Mines (Mica, Iron, Manganese, chrome, limestone and Dolomite), Beedi industry and Cinema industry (Rs. Million)

	1986	1989	1995	1998
Mines	46.8	42.99	54.63	71.15
Beedi	15.59		84.23	130.25
Cinema			0.09	0.46

Source: Indian Labour Yearbook, various years

Others

1. Railways in 1987-88 spent Rs. 1272 million on 8.6 million beneficiaries or Rs. 148 per beneficiary per year (Health Information India)
2. Plantation Welfare Funds spent Rs. 27.46 miilion on 592,280 beneficiaries in 1982 or Rs. 46 per beneficiary per year (Indian Labour Yearbook)
3. CGHS expenditures are included in the general health budgets of Ministry of Health and Family Welfare
4. Group Insurance under the New India Insurance Company in 1986 for 57,521 employees of 250 companies was premium of Rs. 10.3 million and reimbursement of Rs. 9.2 million, that is Rs. 160 payout per insured employee per annum (IIM, 1987)
5. Employer reimbursements from 132 companies to 453,725 employees for medical expenses amounted to Rs755.50 million or Rs. 1665 per employee per annum in 1989-1990 (Duggal, 1993)
6. Armed forces are another major category spending on healthcare of their employees but data is not made available

4. State level Health Expenditure Desegregations

Total health expenditure (in millions) and per capita expenditure on health and health expenditure as a percentage of NSDP, Selected States

State	Item	1980-81	1985-86	1990-91	1995-96	1998-99
Punjab	Health Expenditure	533.00	906.37	1696.78	2604.29	5183.12
	Per capita health exp.	29.60	55.37	83.66	117.96	221.80
	Health exp as % of NSDP	1.2	1.1	1.0	0.7	
Haryana	Health Expenditure	395.00	641.90	871.07	1666.96	3079.72
	Per capita exp.	28.45	60.05	52.91	91.29	156.80
	Health exp as % of NSDP	1.3	1.1	0.7	0.7	
Gujarat	Health Expenditure	875.00	1517.51	2524.03	4708.85	NA
	Per capita exp.	22.74	44.45	61.10	104.75	
	Health exp as % of NSDP	1.3	1.3	1.0	0.9	
Kerala	Health Expenditure	818.00	1279.15	2219.90	4172.08	5751.13
	Per capita exp.	29.76	45.36	76.29	135.86	179.30
	Health exp as % of NSDP	2.1	2.0	1.8	1.6	
Tamil Nadu	Health Expenditure	1106.00	1964.44	3895.14	7182.95	11667.14
	Per capita exp.	20.99	47.57	69.93	121.83	189.94
	Health exp as % of NSDP	1.5	1.4	1.4	1.2	
Karnataka	Health Expenditure	714.00	1507.80	2495.82	5133.77	NA
	Per capita exp.	17.00	34.24	55.49	105.33	
	Health exp as % of NSDP	1.3	1.5	1.2	1.1	
West Bengal	Health Expenditure	1409.00	2098.13	4600.04	6298.94	11495.35
	Per capita exp.	24.25	37.54	67.57	85.47	146.78
	Health exp as % of NSDP	1.5	1.2	1.5	1.0	
Andhra	Health Expenditure	1228.0	193.67	3297.95	6061.22	10401.75
Pradesh	Per capita exp.	20.59	39.08	49.59	84.92	138.67
	Health exp as % of NSDP	1.7	1.4	1.1	0.9	
Maharashtra	Health Expenditure	1306.98	2766.47	4976.25	9061.10	11854.90
	Per capita exp.	39.94	63.73	63.04	105.95	131.07
	Health exp as % of NSDP	0.9	1.0	0.9	0.7	0.6

Source: Finance and Revenue Accounts, respective states, various years.

Profile of Utilisation and Expenditure in Public Hospitals in Maharashtra 1999-2000.

	District hospital @	Women Hospitals	Cottage/ other hospitals	Rural Hospitals (CHC)	Primary Health Centres
No of units	23	6	23	345	1752
No of beds	6501	883	1019	10350	10512
Outpatient Care					
Total no. of OPD patients	4676639	524869	1615959		19026000
Avg. no. of OPD patients per day in a hospital	678	292	234		36
Total exp. On medicine	69397888	5706398	13222912		
Avg. expd. On medicines per patient	15	11	8		
Inpatient care					
Total inpatients registered in an year	688710	168081	168253		
Total inpatient days in an year	2513390	531294	323134		
Avg. no. daily indoor patients per hospital	313	243	39		
Total exp. On medicines (in Rs.)	115685728	15220034	1338992		
Avg. daily exp. on medicines per patient	46	29	40		
Total expenditure on diet	15684356	3770149	1729097		
Avg. daily expenditure on diet per patient	15	21	15		
Total exp. On linen (in Rs)	11423476	1395819	1989492		
Avg. daily expenditure on linen (per patient)	5	3	6		
Other expenditure on inpatients (in Rs)	85850018	9066893	7763464		
Avg. daily other expenditure (per patient)	34	17	24		
Avg. exp. On inpatients excluding salaries	91	55	76		
Combined					
Total exp. On salaries and allowances	665294216	111505740	118325329		
Total exp. On Hospital including establishment and hosp. Exp.	946460902	144146914	152838348		
Total patients treated during the year	6927041	2086393	1954072	10832000	
Avg. daily exp. per patient	137	136	78		

Note: @Data for inpatient pertains to 22 district hospitals.
Source: Government of Maharashtra, Performance budget 2001-2002

Percentage distribution of medical expenditure in public health care sector by selected line items, in Maharashtra, 2000-2001.

Expenses on item.	District hospital	Women's hospital	Cottage/ other hospitals	Dispensaries
Medicine	19.56	14.52	9.53	4.87
Diet	1.66	2.62	1.13	NA
Linen	1.21	0.97	1.30	NA
Salaries, TA etc	70.29	77.36	77.42	76.40
Other	8.49	5.51	11.92	18.73
Total expenses	100.00	100.00	100.00	100.00

Source: Government of Maharashtra, Performance budget 2001-2002

Maharashtra Government Expenditure on Health

Amount in Rupees Million	1980-81	1985-86	1988-89	1992-93	1995-96	1998-99
Total Health Expenditure (% of NSDP)	1306.98 0.9	2766.47 1.0	4000.79 1.0	6356.23 0.8	9061.10 0.7	11854.90 0.6
Capital Expenditure on Health	54.93	71.78	220.95	198.06	162.87	255.65
Revenue Expenditure on Health	1252.05	2694.69	3779.84	6158.17	8898.23	11599.25
% of Total Govt. Revenue Expenditure	6.53	5.97	5.78	5.33	5.18	4.5
Per Capita Expenditure on Health (In Rupees)	19.94	38.95	50.71	75.63	102.26	128.24
Expenditure on National Disease Program (NDP)	192.0	431.95	582.27	726.98	1011.08	1435.68
% of Total Revenue Expenditure on Health	15.33	16.03	15.4	11.81	11.36	12.38
Per Capita Expenditure on NDP (In Rupees)	3.08	6.24	7.81	8.93	11.62	15.87
Expenditure on Hospitals &Dispensaries (H&D)	355.0	673.52	950.43	1638.31	2447.46	3390.11
% of Total Revenue Expenditure on Health	28.35	24.99	25.14	26.60	27.50	29.23
Per Capita Expenditure on H&D (In Rupees)	5.7	9.74	12.75	20.12	28.13	37.48
Expenditure on Medical Training Education & Research	105.0	169.15	244.46	477.77	635.72	1255.89
% of Total Revenue Expenditure on Health	8.39	6.28	6.47	7.76	7.14	10.83
Expenditure on Family Welfare	128.0	469.23	493.34	826.31	1315.34	948.16
% of Total Revenue Expenditure on Health	10.22	17.41	13.05	13.42	14.78	8.17
Expenditure on Maternal & child Health	4.0	14.05	42.38	130.45	381.02	157.16
% of Total Revenue Expenditure on Health	0.32	0.52	1.12	2.12	4.28	1.35
Expenditure on Health Administration	178.0	467.24	556.19	1154.55	1621.96	2566.37
% of Total Revenue Expenditure on Health	14.22	17.34	14.71	18.75	18.23	22.13

Sources: 1. Data for years 80-81 & 85-86 -Comptroller & Auditor General of India, GOI, " Combined Finance & Revenue Accounts" respective years. 2. Data for years 85-86 Onwards- Govt. of Maharashtra, Finance and Revenue Accounts, various years.

Expenditure on National Disease Programme and Public health – Maharashtra 1989-1999

Year	Expenditure on Disease Programme (Rs. Millions)	Expenditure on Public Health (Rs. Millions)	% of Disease Programme to P.H.
1988 – 1989	582.27	1498.08	38.87
1989 – 1990	547.86	1704.83	32.14
1990 – 1991	622.48	1888.85	32.96
1991 – 1992	630.14	2161.38	29.15
1992 – 1993	572.60	2489.81	22.91
1993 – 1994	787.59	2649.94	29.72
1994 – 1995	1056.07	3175.20	33.26
1995 – 1996	1011.08	3600.15	28.08
1996 – 1997	1218.85	4169.46	29.23
1997 – 1998	1154.26	4583.52	25.18
1998 – 1999	1435.68	4806.33	29.87

Source: Finance Accounts, Govt. of Maharashtra, respective years

Expenditure on diseases program (as % to expenditure on Disease Programs) - Maharashtra

Year	Malaria	T.B	Leprosy	Blindness	Total (in Rs. Millions)
1986-87	54.65	9.20	18.03	.65	520.67
1988-89	55.58	6.77	19.12	.77	582.23
1990-91	59.84	10.00	20.91	.71	622.47
1991-92	60.36	6.75	22.01	.63	630.16
1992-93	57.14	7.43	24.63	.65	727.40
1995-96	46.71	10.90	18.97	.69	1164.76
1996-97	53.03	18.43	18.52	.00	1230.69
1997-98	58.40	5.68	26.44	.73	1154.41
1998-99	71.11	4.47	15.44	.69	1435.68

Source: Performance Budgets, Govt. of Maharashtra, respective years

Expenditure on Malaria Control Programme by line items (in percentage) - Maharashtra

Year	Salaries	Travel	Drugs	Others	Total (in Rs. Millions)
1988 – 1989	61.08	3.58	2.14	33.2	323.65
1992 – 1993	84.09	.00	15.91	.00	415.62
1995 – 1996	80.89	2.11	7.51	9.49	544.01
1998 – 1999	87.28	1.16	7.72	3.84	1005.21

Source: Performance Budgets, Govt. of Maharashtra, respective years

Rural – Urban Profile Of Health Budget Of Government of Maharashtra

Programs	Percentage		Total in Rs (crores)	In %
	Urban	Rural		
1995-96				
1. Health Administration	7.26	92.74	165.70	19.3
2. Hospitals and Dispensaries (inc.ESI's)	94.94	5.06	307.50	35.99.5
3. Medical Education	100.00	0.00	81.11	11.8
4. Disease Programs	0.00	100.00	101.53	3.4
5. Family Planning	21.11	78.89	29.45	4.4
6. MCH	52.00	48.00	37.63	7.4
7. MNP	0.00	100.00	63.25	0.4
8. Area Projects	52.00	48.00	3.48	7.9
9. Other	47.19	52.81	67.56	
TOTAL	51.7	48.3	857.21	100
1999-2000				
1. Health Administration	12.14	87.86	245.30	18.7
2. Hospitals and dispensaries (inc.ESI's)	96.46	3.54	587.54	44.7
3. Medical Education	100.00	0.00	138.34	10.5
4. Disease Programs	0.00	100.00	161.10	12.3
5. Family Planning	33.6	66.39	22.70	1.7
6. MCH	60.00	40.00	23.00	1.8
7. MNP	0.00	100.00	55.72	4.2
8. Area Projects	60.70	39.30	30.08	2.3
9. Other	44.96	55.04	49.98	3.8
TOTAL	60.65	39.35	1313.76	100

Source: Performance Budget, Ministry of Health of Family Welfare, Govt. of Maharashtra, 1997-98 and 2001-2002

7. Private sector or out-of-pocket Expenditures on Healthcare

Summary of information on studies on utilization of health care services and medical expenditure in India.

	Source of treatment (in percentage) *						Avg. out-of-pocket medical expenditure per ailment/episode					
	Rural			Urban			Rural			Urban		
	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total
NSSO –1995-96 (1998)												
Inpatient care	45	55	100	43	57	100	2080	4300	3202	2195	5344	3921
Outpatient care	19	64	83	20	72	92	110	168	157	146	185	178
NSSO 1986-87 (1992)												
Inpatient care	60	40	100	60	40	100	320	733	597	385	1206	933
Outpatient care	26	74	100	27	73	100	73	78	76	74	81	79
NCAER (1993)												
Inpatient care	62	38	100	60	40	100	535	1877	1044	453	2319	1197
Outpatient care	42	52	94	34	59	93	49	131	90	63	152	114
NCAER (1990)	38	58	96	39	56	95	169	147	152	126	164	143
Small Scale Studies												
1. Madhiwala (*et al.)* 2000	22.60	63.50	86.10	10.30	71.70	82.00						
Inpatient care							16.00	118.00	97.00	12.00	128.00	98.00
Outpatient care							332.00	2188.00		1938.00	2188.00	--
2. Nandraj (*et al.* 1998)	--	--	--	10.00	84.00		--	--	--	179.89	134.46	134.00
3. Kunhikannan *et al.* 1997	30	63	93	--	--	--	--	--	165.20			
4. George *et al.* (1994)	16.74	70.52	87.26	13.67	71.6	85.27			137.67			128.86
5. Kannan *et al.* (1991)	23	66	89	-	-	-	NA	NA	16.56	-	-	-
6. Duggal and Amin (1989)	10.43	79.82	90.35	15.99	73.95	89.94			103.56			100.44
7. FRCH 1984 (Jesani *et al.* 1996)	33.1	58.4	91.5	--	--	--	28.0	87.08	56.99	--	--	--

* Percentage may not add up to hundred in some cases since some have not sought treatment or might have gone for self treatment

6. Municipal Expenditures on Healthcare

Health Expenditure of Municipal Corporations
(figures in Rs. Thousands)

	1960-61	1965-66	1970-71	1975-76	1980-81	1985-86 or latest available
Expenditure of 30 Corporations	162673 (29.24)	283659 (29.98)	467014 (28.68)	768888 (24.29)	1428248 (28.28)	2763101 (27.11)

Note: Figures in parenthesis are percentage to total Municipal expenditure.
Source: Statistical Abstract of India, 1987, Central Statistical Organisation, GOI, New Delhi, 1988.

MUNICIPAL HEALTH FINANCE (Medical+Public Health+Water Supply & Sanitation)

Year	Rs. million Municipal Bodies	Rs. million District Boards	Source	Remarks
1951-52	121.52 (30% of Income)	21.45(6.3% of Income)	GOI, Health Stats. India	Incomplete information, population not known.
1952-53	161.74 (31.8% ")	13.79 (4.0%)	"	"
1953-54	89.00 (30.5% ")	11.00 (4.9%)	"	"
1954-55	146.71 (32.7% ")	11.31 (2.0%)	"	"
1955-56	156.02 (29.4% ")	4.09 (2.6%)	"	"
1956-57	111.93 (32.0% ")	NA	"	"
1957-58	93.35 (32.7% ")	NA	"	"
1959-60	355.23 (50.9% ")	16.24 (6.63%)	"	"
1960-61	263.71 (53.64% ")	9.20 (6.11%)	"	"
1970-71	530.97 (35.0% of total expnd.)	NA	NCAER	Rs.24.68 per capita(sample 21.5 million population in 12 Municipal corporations and 27 Municipalities
1974-75	2155.89 (40.2% " ")	NA	NIUA-1983	Rs.26.71 per capita (sample 1533 municipal bodies covering 80.7 million population)
1976-77	1294.33 (37.8% " ")	NA	NCAER	Rs.48.08 per capita (sample 26.9 million population in 12 Municipal Corporations and 27 Muncipalities)
1979-80	3791.84 (37.83% " ")	NA	NIUA-1983	Rs.33.47 per capita (Sample 1533 Municipal bodies with 113.27 million population)
1986-87	2270.00 (38% " ")	NA	NIUA-1989	Rs.55 per capita (sample 41.2 million population of 157 Class I municipal bodies)

Sources:

1. GOI, Health Statistics of India, Various years DGHS, MOHFW, Delhi.
2. NCAER, A Study of Resource of Municipal Bodies, 1980, New Delhi.
3. NIUA, 1983 - A Study of Financial Resources of Urban Local Bodies in India and the Level of Services Provided, New Delhi.
4. NIUA, 1989 - Upgrading Municipal Services : Norms and Financial Implications, NIUA Research Studies Series Number 38, New Delhi.

Growth of Mumbai Municipal Corporation (BMC) Health Services 1974-1998

	1974	1979	1985	1989	1994	1998
Teaching Hospitals	3	3	3	3	3	3
❑ Expd.Rs. Lakhs				4172	7792	17500
General Hospitals	7	11	13	13	15	15
❑ Beds	1328	2362	2851	3294		4000
❑ Inpatients	523169	963129	945990	790579		1000000
❑ Per bed inptnts.	394	408	332	240		250
❑ OPDs (lakhs)		56	34	50		35
❑ Expnd.Rs.lakhs	167	651	1362	2094		6470
❑ Exp. Per bed Rs	12575	27561	47773	63570		161750
Special Hospitals	5	5	5	5	5	5
Maternity Homes	27	25	28	25	25	27
Dispensaries	107	148	148	150	159	185
❑ Cases (lakhs)	123.32	158.88	40.94	39.73		40.00
❑ Cases per disp.	115252	107351	27662	26487		21622
❑ Expnd.Rs.lakhs			294.73	338.09		1350.00
❑ Exp.Per case Rs			7.20	8.51		33.75
Health Posts					176	176

Source: Annual Reports of Executive Health Officer upto 1989; Know Your Wards, respective years; BMC Budget A, Part II, various years.

Health Care Expenditure of BMC Services Across Levels 1992-98
(Rs. Millions actuals upto 95-96, RE 96-97, BE 97-98)

	1991-92	92-93	93-94	94-95	95-96	96-97	97-98	Avg. annual growth 92-98 percent
1. **Total Health**	**1554**	**1999**	**2224**	**2637**	**2959**	**3436**	**3808**	**16**
	(100)	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	
Secondary / Tertiary Level								
2. Hospitals	906	1193	1286	1528	1700	1984	2157	16
	(58)	(60)	(58)	(58)	(57)	(58)	(57)	
3. Mat.Homes	56	72	75	89	103	121		14
	(4)	(4)	(3)	(3)	(3)	(4)		
Primary Care Level								
4. Dispensaries	49	63	67	78	92	101	135	19
	(3)	(3)	(3)	(3)	(3)	(3)	(4)	
5. IPP-V	55	72	121	148	164	147	148	20
	(4)	(4)	(5)	(6)	(6)	(4)	(4)	
-of which HPs	32	48	54	73	80			
	(2)	(2)	(2)	(3)	(3)			
-of which PPCs	9	10	38	40	39			
	(..)	(..)	(2)	(2)	(1)			

Note: *Total Health includes others not included in table like medical education, public health, pollution control etc.. Figures in parentheses are column %s. Also note that the HP data excludes the HPs under ORS dept., thus upto 1993 the expenditure is for 70 HPs and after that for 120 HPs*

OPD PROFILE OF DISPENSARIES OF G-NORTH AND H-EAST WARDS

	1991-1992			1992-1993			1993-1994			1994-1995			1995-1996			1996-1997		
Name of Disp	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**
H-East	**OPD**	**F**	**C**	**OPD**	**F**	**C**	**OPD**	**F**	**C**	**OPD**	**F**	**C**	**OPD**	**F**	**C**	**OPD**	**F**	**C**
1.Kherwadi	26807	36	51	28871	46	35	34489	36	45	31413	25	52	24648	43	31	26703	44	32
2.Kalina	6774	36	36	9124	31	40	9323	33	36	11639	34	41	10558	36	42	10248	39	41
3.Bharatnagar	16360	37	42	28349	47	31	21561	34	42	24460	34	47	26688	35	41	23532	37	33
4.Jwaharnagar	17125	40	30	14632	46	15	12624	37	40	16384	28	52	23135	37	39	28241	32	34
5.SV Nagar	27550	33	48	44757	32	49	43388	33	43	48547	35	37	26190	38	39	21042	38	41
6.Prabhat Cly	18327	35	32	17605	38	29	16475	37	31	16835	41	35	16142	40	35	16509	43	34
G-North																		
7.Shahunagar	30725			29604			33708			38666			32114			29317	12	12
8.Gokhale Rd	18118			23862			27761			36918			37152			38951	20	46
9.Welkarwadi	36410			38594			54108			54789			49486			54451	44	31
10.ShreeCine	31510			41089			46206			47110			41961			35654	34	16
11.Gulbai	29877			29008			34539			35121			40310			34163	46	29
12.Shastrinagr	14614			22655			20839			22609			16827			16929	29	50
13.TransitCmp	29823			21527			24712			31887			29184			23962	36	44
14.Kumbharwd	55553			66906			68370			58383			27114			21903	34	35
15.Matunga LC	42507			29958			23492			25186			25114			25223	32	35
16.PillaBunglw	15566			21141			19407			21820			20505			18548	33	39
MEAN yearly	**26103**			**29230**			**30688**			**32610**			**27945**			**26586**		
MEAN weekly	**502**			**562**			**590**			**627**			**537**			**511**		
Avg. Per Hour	**14**			**16**			**16**			**17**			**15**			**14**		

NOTE : F = Female and C = Children
Source: Records of BMC

EXPENDITURE PATTERN OF DISPENSARIES

	1991-1992			1992-1993			1993-1994			1994-1995			1995-1996			1996-1997		
Name of Disp	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%S**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**	**Total**	**%**	**%**
H-East	**Rupees**	**S**	**M**	**Rupees**	**S**	**M**	**Rupees**		**M**	**Rupees**	**S**	**M**	**Rupees**	**S**	**M**	**Rupees**	**S**	**M**
1.Kherwadi	266940			332422	83	15	421539	76	19	450868	82	16	516364	79	19	562039	85	13
2.Kalina	164124			249286	76	22	269071	80	12	318514	81	16	371024	77	21	400135	78	19
3.Bharatnagar	164124			249286	76	22	297503	72	20	331753	78	19	371024	77	21	396135	78	18
4.Jwaharnagar	164124			249286	76	22	294012	73	19	333514	77	20	371024	77	21	396135	78	18
5.SV Nagar	164124			249286	76	22	317127	68	25	333387	77	20	373024	76	21	395135	79	18
6.Prabhat Cly	164124			249286	76	22	316760	68	25	327906	79	18	380524	75	22	395135	79	18
G-North																		
7.Shahunagar	288951	87		482641	94		741479	87	11	806751	86	11	1033432	86	7	1103952	90	8
8.Gokhale Rd	574275	96		560641	95		823479	89	9	943751	88	10	1401582	68	6	1444132	82	7
9.Welkarwadi	259447	98		455641	93		725479	87	11	810751	86	11	993582	89	8	1348807	81	7
10.ShreeCine	260123	95		445641	93		711479	87	11	793751	86	12	892932	88	9	1167877	84	9
11.Gulbai	420233	74		558641	95		818479	89	10	941751	88	10	1181081	80	8	1280337	91	7
12.Shastrinagr	212463	82		388641	92		642479	86	12	643751	83	14	993932	65	8	975952	87	9
13.TransitCmp	222003	76		357641	91		621479	85	13	669751	84	14	1183932	58	6	1047952	84	9
14.Kumbharwd	275411	62		382641	92		646479	86	12	633751	83	14	1083932	59	7	1033952	76	9
15.Matunga LC	174343	98		368641	92		652479	86	12	742751	85	12	831522	83	9	1060452	83	9
16.PillaBunglw	298879	59		385641	92		680479	86	11	747751	85	12	1179932	66	6	1152952	84	8
MEAN / Disp	**254605**	**83**		**372829**	**87**	**21**	**561238**	**82**	**15**	**614403**	**83**	**14**	**822428**	**76**	**12**	**885067**	**83**	**12**
MEAN / Case	**9.75**			**12.75**			**18.29**			**18.84**			**29.43**			**33.29**		

NOTE : S = Salary and M = Medicines and Supplies

Source: Records of BMC

Concluding Remarks

The above data sets indicate the range of information available to establish a National Health Accounts framework. The data sets do have various kinds of problems as referred to earlier but they are not insurmountable if there is a will to set up an organised system of National Health Accounts. From the above data sets it is evident that the Performance Budgets come the closest to any decent system of National Health accounting. Given the latest information apart from the Central Government only ten states (including in some Zilla parishads) and afew Municipal corporations do performance budgeting. According to accounting norms for public expenditures almost all states should have established performance budgeting by the eighties but what we witness is that the few who have set it up are not doing it very seriously and allowing it to collapse.

Some recent developments show that the Comptroller and Auditor General of India is seriously considering improving the quality of presentation of data on the accounts of the nation which should make the public health expenditure data available in more useful categories. But financial data is not the only data needed in National Health Accounts; one also needs utilisation and services data to make the accounts system analytic and meaningful so that resources can be used more effectively. Many government departments are now making special efforts at improving the quality of their reports, statistical compendiums etc.. and to do this they have now made a large number of their non-priced publications as priced ones. The Ministry of Health too has adopted pricing but the quality of its data or timely availability is still far from being what it should be. It must be remembered that HII is the only compiled source on a wide array of health information and the users of health data are at its mercy. Hence a lot of pressure on the Ministry of Health will have to be put to make it meet the demands for quality and timely availability of health and health care data. And the ministry in turn will have to exert similar pressure on its constituents from whom it gets the data it compiles, both public agencies and institutions as well as private ones. The latter would require organised regulatory initiatives to make them accountable. That apart the need to regularise the NSS and NFHS kinds of surveys (ofcourse improved ones) for generating population based information is also vital.

To conclude an illustration of the Canadian system is given below:

In 2000-2001, total health expenditures in Canada were $97.6 billion, up 7.2% from its expenditures of $91 billion in 1999-2000. Total health expenditures in 2000-2001 amounted to $3,174 per capita. The text in the table below gives a profile of the NHEX database used in Canada.

Definitions
Health expenditure — includes any type of expenditure for which the primary objective is to improve or prevent the deterioration of health status. This definition allows economic activities to be measured according to primary purpose and secondary effects. Activities that are undertaken with the direct purpose of improving or maintaining health are included. Other activities are not included, even though they may impact health. For example, housing and income support policies have social welfare goals as their primary purpose and are not considered to be health expenditures, yet they are recognized as powerful factors in determining population health.
Source of Finance (Sectors)
National health expenditures are reported based on the principle of *responsibility for payment* rather than on the source of the funds. It is for this reason, for example, that federal health transfers to the provinces are included in the provincial government sector since it is the responsibility of provincial governments to expend federal transfers on health services. The exception to this principle is that provincial government health transfers to municipal governments are included in the provincial government sector.
Public Sector—includes health care spending by governments and government agencies. It is sub-divided into four levels, as described below:
1. The Provincial Government Sector includes health spending from provincial/territorial government funds, federal health transfers to the provinces/territories, and provincial government health transfers to municipal governments.
2. The Federal Direct Sector refers to direct health care spending by the federal government in relation to health care services for special groups such as Aboriginals, the Armed Forces and veterans, as well as expenditures for health research, health promotion and health protection. Federal Direct health expenditure does not include federal health transfers to the provinces.
3. The Municipal Government Sector expenditure includes health care spending by municipal governments for institutional services; public health; capital construction and equipment; and, dental services provided by municipalities in the provinces of Nova Scotia, Manitoba and British Columbia. Designated funds transferred by provincial governments for health purposes are not included in the municipal sector, but are included with provincial government expenditure.
4. Social Security Funds are social insurance programs that are imposed and controlled by a government authority. They generally involve compulsory contributions by employees, employers or both, and the government authority determines the terms on which benefits are paid to recipients. Social security funds are distinguished from other social insurance programs, the terms of which are determined by mutual agreement between individual employers and their employees. In Canada, social security funds include the health care spending by workers' compensation boards and the drug insurance fund component of the Quebec Ministry of Health and Social Services drug subsidy program.
Health spending by Workers' Compensation Boards (WCB) includes what is commonly referred to by the provincial boards as medical aid. Non-health related items often reported by the Workers' Compensation Boards as medical aid expenditure such as funeral expenses, travel, clothing etc., are removed.
On January 1, 1997 the government of Quebec introduced a drug program that covered residents of the province, who were not otherwise covered by the provincial program or by private health insurance generally offered through employment. Drug claims for these participants of the new plan are paid from the Drug Insurance Fund. This component of the Quebec drug program is self-funded (i.e. it is funded through the compulsory payment of premiums and not by the provincial government of Quebec).
Private Sector —includes out-of-pocket expenditures made by individuals for health care goods and services; the health insurance claims paid by commercial and not-for-profit insurance firms, as well as the cost of administering those claims; non-patient revenues received by health care institutions such as donations and investment income; private spending on health-related capital construction and equipment; and, health research funded by private sources.
Data Quality—most private sector expenditures are estimated from survey data. Prior to 1996, the Family

Expenditure Survey by Statistics Canada, an important source of private sector data, was not carried out annually; therefore, trend data have been imputed for years between surveys. Private sector data were revised following a methodology review in the early 1990s. The revised private sector data incorporated information estimated directly from new sources for 1988 and subsequent years. Prior years were estimated using trend data. As a result, readers should use caution when using the private sector expenditure data for small provinces and for years prior to 1988.

Use of Funds (Categories)

Hospitals— are institutions where patients are accommodated on the basis of medical need and are provided with continuing medical care and supporting diagnostic and therapeutic services. Hospitals are licensed or approved as hospitals by a provincial/territorial government, or are operated by the Government of Canada and include those providing acute care, extended and chronic care, rehabilitation and convalescent care, psychiatric care, as well as nursing stations or outpost hospitals.

Other Institutions —include residential care types of facilities (for the chronically ill or disabled, who reside at the institution more or less permanently) and which are approved, funded or licensed by provincial or territorial departments of health and/or social services. Residential care facilities include homes for the aged (including nursing homes), facilities for persons with physical disabilities, developmental delays, psychiatric disabilities, alcohol and drug problems, and facilities for emotionally disturbed children. Facilities solely of a custodial or domiciliary nature and facilities for transients or delinquents are excluded.

Physicians— expenditures include primarily professional fees paid by provincial/territorial medical care insurance plans to physicians in private practice. Fees for services rendered in hospitals are included when paid directly to physicians by the plans. Also included are other forms of professional incomes (salaries, sessional, capitation).

The physician expenditure category does not include the remuneration of physicians on the payrolls of hospitals or public sector health agencies; these are included in the appropriate category, e.g. hospitals or other health spending.

Other Professionals —services, at the aggregate level represent expenditures for the services of privately practicing dentists, denturists, chiropractors, massage therapists, orthoptists, osteopaths, physiotherapists, podiatrists, psychologists, private duty nurses, and naturopaths. Discrete identification of many of the professions included under other professional services is often possible only when they are reported by provincial medical care insurance plans.

This category has been disaggregated at the Canada level in the Data Tables to provide information on the following sub-categories:

Dental Services—expenditures for professional fees of dentists (includes dental assistants and hygienists) and denturists, as well as the cost of dental prostheses, including false teeth and laboratory charges for crowns and other dental appliances.

Vision Care Services— expenditures for the professional services of optometrists and dispensing opticians, as well as expenditures for eyeglasses and contact lenses.

Other—expenditures for chiropractors, massage therapists, orthoptists, osteopaths, physiotherapists, podiatrists, psychologists, private duty nurses, and naturopaths.

Drugs—at the aggregate level, include expenditures on prescribed drugs and non-prescribed products purchased in retail stores. This category has been disaggregated at the Canada level in the Data Tables to provide information on the following sub-categories:

Prescribed Drugs—substances sold under the Food and Drug Act which require a prescription.

Non-prescribed Drugs—include two sub-components; Over-the-Counter drugs; and, Personal Health Supplies.

- *Over-the-Counter Drugs*— therapeutic drug products not requiring a prescription.

• *Personal Health Supplies*— include items used primarily to promote or maintain health, e.g. oral hygiene products, diagnostic items such as diabetic test strips and medical items such as incontinence products.
The drug category does not include drugs dispensed in hospitals and generally in other institutions. These are included with the category of hospitals or other institutions.
Capital— includes expenditures on construction, machinery and equipment of hospitals, clinics, first-aid stations, and residential care facilities. (See also Technical Notes.)
Public Health and Administration —expenditures for items such as measures to prevent the spread of communicable disease, food and drug safety, health inspections, health promotion activities, community mental health programs, public health nursing and all costs for the infrastructure to operate health departments.
Other Health Spending —at the aggregate level includes expenditures on home care, medical transportation (ambulances), hearing aids, other appliances and prostheses, prepayment administration, health research and miscellaneous health care. This category has been disaggregated at the Canada level in the Data Tables to provide information on the following sub-categories:
Prepayment Administration— expenditures related to the cost of providing health insurance programs by either government or private health insurance firms.
Health Research—expenditures for research activities designed to further knowledge of the determinants of health, health status or methods of providing health care, evaluation of health care delivery or of public health programs. The category does not include research carried out by hospitals or drug companies in the course of product development. These amounts would be included with the hospital or drug categories respectively.
Other—expenditures for items such as home care, medical transportation (ambulances), hearing aids, other appliances, training of health workers, voluntary health associations, and occupational health to promote and enhance health and safety at the workplace.
The definition of home care that is currently in use in the National Health Expenditure Database is based on the definition used by the OECD, under which only the health professional component of home care is intended to be included. The portion that is commonly referred to as home support is considered to be a social service expenditure rather than a health expenditure and is excluded when it can be identified. A project is underway at CIHI to investigate the feasibility of developing a set of estimates that identify both the health professional and the home support components of home care

Source: http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=statistics_nhex_definitions_e

References :

CAG, various years : Combined Finance and Revenue Accounts of the Union and State Governments, Comptroller and Auditor General, GOI, New Delhi

CBHI, various years : Health Information of India, CBHI, Ministry of Health, New Delhi

Census - 1981 and Others : Economic Tables - B Series, Census Commissioner, New Delhi

CSO, 1989 and various years : Basic Statistics Relating to the Indian Economy, GOI, New Delhi

Dilip TR and Ravi Duggal, 2002: Demand for Public Health services in Mumbai (draft report), CEHAT, Mumbai

Duggal Ravi, 1993: Employee Medical Benefits in the Corporate Sector, FRCH, Bombay

Duggal Ravi and Sucheta Amin, 1989 : Cost of Health Care, FRCH, Bombay

Duggal Ravi and Sunil Nandraj, 1991 : Regulating the Private Health Sector, mfc Bulletin No.173-174

Duggal Ravi, Sunil Nandraj and Sahana Shetty, 1992 : State Sector Health Expenditures, FRCH, Bombay

Duggal Ravi, Sunil Nandraj and Asha Vadair, 1995 : Health Expenditure Across States - Part I and II, Economic and Political Weekly, April 15 and 22

FRCH, 1993 : Health Research Studies in India, FRCH, Bombay

George Alex, Ila Shah and Sunil Nandraj, 1993 : Household Health Expenditures in Madhya Pradesh, FRCH, Bombay

GOI, 1946 : Report of the Health Survey and Development Committee by Joseph Bhore - 4 Vols., GOI, New Delhi

IAMR, 1997 : Manpower Profile of India, Yearbook 1997, 5th Edition, IAMR, New Delhi

IIM, 1987: Stuudy of Health Care Financing in India, IIM, Ahmedabad

Kanan KP, Thankappan, Kutty and Aravindan, 1991 : Health and Development in Rural Kerala, KSSP, Thiruvanathapuram

Kunhikannan *et al.* 1999: Changes in the Health Status of Kerala 1987-1997, KSSP, Thiruvananthapuram
Labour Bureau, various Years: Indian Labour Yearbook, Labour Bureau, Shimla
Madhiwala, Neha et.al., 2000: Health, Households and Women's Lives, CEHAT, Mumbai
Mahapatra P and P Berman, 1992 : Evaluating Public Hospital Performance - Secondary Hospitals in Andhra Pradesh, APVPP, Hyderabad
Nandraj, Sunil et.al., 1998: Women and Healthcare in Mumbai, CEHAT, Mumbai
Nandraj Sunil and Ravi Duggal, 1996 : Physical Standards in the Private Health Sector, Radical Journal of Health (New Series), Vol II : 2/3
NCAER – 1990- all India: NCAER – Household survey of Medical Care, NCAER, New Delhi, 1992
NCAER 1995: Household Survey of Health Care Utilisation and Expenditure Working paper No. 53, New Delhi
NFHS - 1992 : National Family and Health Survey, All India and respective States, IIPS, Bombay
NFHS 2, 2000: National Family Health Survey - 1998-99, Ministry of Health, New Delhi
NIPFP, 1993 : Structural Adjustment Program - Its Impact on the Health Sector, NIPFP, New Delhi
NSSO -1987 : Morbidity and Utilisation of Medical Services, 42nd Round, Report No. 384, National Sample Survey Organisation, New Delhi, 1990
NSSO -1996 : Report No. 441 – 52nd Round, NSSO, New Delhi ,1998
RGI, various years : Sample Registration System - Annual Bulletin, Registrar General Office, New Delhi
Seal SC, et.al. 1955...1963 : Reports of the Short General Health Survey, various states, AIIH&PH, Calcutta

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