

DEVELOPING HEALTH ACCOUNTS FOR SELECTED INDIAN STATES

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Almost all the countries of the world including India have introduced reform measures in their health sector in order to improve the efficiency in resource allocation to health sector and equitable distribution of the health care services across regions and population. In view of achieving the twin objectives of efficiency and equity the limited resources for health sector particularly in the less developed countries, need to be managed most efficiently. National Health Accounts (NHA) is a tool to track the flow of resources within the health sector, which provides proper guidance to policy makers to allocate the resources optimally. NHA is increasingly gaining popularity among the low and middle income countries. It is still in its infancy stage in India. The Government of India produced its first NHA in 2005 estimating the health accounts for the year 2001-02. The state specific Health Accounts in India is yet to be initiated. The present study is timely to produce Health Accounts for three selected states of India with varying levels of Development. The states are Orissa, Karnataka and Maharashtra. The study is the first modest attempt in this direction.

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DEVELOPING HEALTH ACCOUNTS FOR SELECTED INDIAN STATES

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EXECUTIVE SUMMARY

India joined the group of both developed and developing countries to develop the Health Accounts and produced the NHA for India for the year 2001-02. The exercise on health accounts for India for the year 2001-02 is in the nature of a pilot exercise based on many assumptions. But the attempt to develop health accounts at the state level in India has not been very rigorously made. Some of the states in India have of course, initiated some efforts, though not on a very large scale, to develop health accounts. These states are Andhra Pradesh, Punjab, and to a very limited extent Karnataka. The present exercise of CMDR therefore, can be considered as an innovative one since under this study *we are attempting for the first time to develop health accounts for three states of India with varying levels development*. These are Orissa (a less developed state), Karnataka (a medium developed state) and Maharashtra (a developed state). The work has been conducted by CMDR through appropriating the methodology proposed by OECD and WHO. The study is the first of its kind and it may provide useful insights for the researchers, policy makers and decision makers. We hasten to add that as in the case of any pioneering attempt many refinements can be introduced in this study also. We have indicated below the limitations of the study.

Mainly four players (sources of funds, purchasing agents, the providers and health care users) are cross classified to determine the level of health spending, the sources of mobilization of funds, the weight of paying agents and providing agents and approximate distribution of the final use of goods and services of health. The methodological facets developed in the study are quite innovative, which are developed in the background of access and utilization of health care facilities in the Indian context and at the state level.

The results of HA for three states presented for 2004-05 constitute the following characteristics;

- Comprehensive
- Standardized
- Documented
- Plausible globally and
- Policy relevant.

The study has clearly pointed out a number of methodological roadblocks, pitfalls, underlying assumptions and identified potential areas of further statistical and analytical development.

The following are the major insights of the present study:

- The proportion of expenditure on health to GDP is found to be the highest in Orissa (4.45 %) while the corresponding proportions in Karnataka and Maharashtra are 2.49 and 2.06 % respectively. The percapita expenditure on health care is Rs 806, Rs 675 and Rs 648 respectively for Maharashtra, Karnataka and Orissa. During 1998-99 to 2003-04 the average growth of GDP in Orissa, Karnataka and Maharashtra is 9.1 %, 14.1% and 13.4 % respectively. This implies that despite the lower growth in GDP the backward state of Orissa is devoting higher share of its income to health care which is not found in the other two states.
- The source wise expenditure on health care services for the three states indicates that the share of the household expenditure is the highest in all the states. Across states, it is noticed that the households spend more in Maharashtra followed by Orissa while the expenditure in Karnataka in this respect appears to be the lowest. The external financing of health sector is found to be higher in Orissa compared to other two states which seems to be in order in view of the extent of poverty and backwardness of Orissa. The local govt's role in Orissa is not at all visible while the role of local govt in case of Karnataka is found to be very significant as it contributes more than 10 percent of the total resources of health.
- The classification of budgetary data on type of health care expenditure shows that Maharashtra is giving topmost priority to secondary care while Orissa and Karnataka

are spending more on tertiary care. The tertiary care for Orissa is the highest as compared to other two states. It is surprising to notice in the context of a less developed state that the secondary care gets the least priority and relatively less importance is given to primary care as compared to Maharashtra state which is the developed state. In Karnataka Family welfare is getting a good share of resources as compared to other two states. The general expenditure which includes mostly the administrative expenses is found to be on the higher side in Orissa followed by Karnataka. In Orissa, it appears that the share of urban health care is getting more attention of the govt in terms of resource flow than the rural health care and over the years this has increased. This tends to make the health care provision more urban biased and inequitable.

- Almost all the three states have observed the unclassified head of expenditure which ranges from a minimum of 5 percent in Karnataka to a maximum of 42 percent in Maharashtra. This head is found to be the highest in the developed state of Maharashtra followed by Orissa state. The external funding to Orissa state is the highest as compared to other two states.
- The health expenditure incurred by the departments other than health and family welfare is found to be very negligible for all the states. The role of Insurance in health sector shows that hardly 2 percent of the population have opted for health insurance and the pattern is similar in all the states irrespective of their developmental status.
- The pattern of out of pocket spending (OOPS) by the households on health care services for different states reveals very interesting insights. The burden of household expenditure in respect of medicine and on ancillary services is the highest for all the states. Most significantly across states, ***this burden is the highest in the backward state of Orissa (more than 80%) and the least in Maharashtra (developed state).*** Orissa being one of the poorest states in the country, the household burden needs to be reduced considerably through state intervention. The probability of sickness is also found to be the highest in Orissa as compared to the other two states. Within the

state, the backward district of Kandhamal in Orissa has the dubious distinction of having highest proportion of sick population.

- The communicable diseases appear to be higher in rural and backward districts. One more interesting finding is that higher incidence of communicable diseases is found in the backward district of Kandhamal which is similar to Maharashtra state.

The present health accounts exercise provides a very strong data base by source, agent, providers and health which should be used by the researchers, policymakers and administrators to do further research in the area of health accounts. This study should be considered as broad pointers of the financial segment of the health care system of the states. They do provide information on how the resources are mobilized and utilized and based on this one can consider the option of bringing in certain policy corrections in the overall resource allocation pattern.

DEVELOPING HEALTH ACCOUNTS FOR SELECTED INDIAN STATES

1. Brief About the Study:

India had adopted the goal of Health for All by the year 2000 A.D. It is now obvious that there is still quite a long way to go before that goal is achieved. Presently new targets have been set forth as Millennium Development Goals to be achieved by the year 2020. These goals have been reiterated in the National Health Policy of 2002 that has been already adopted by the Indian Parliament. The country has been spending significant amounts of its resources for the provision of health and medical care services, but there is still a large demand – supply gap accompanied by problems of inequitable access to facilities and a virtual absence of low-cost risk-pooling mechanisms for the poor and vulnerable groups of the population. There is a growing realization among administrators and researchers that a major cause of implementation slippages of the policy proclamations relate as much to **the problem of non-availability of useful data as to the non-use of available data on the health sector**. In other words, pronouncements of desires have not been supported by suitable informational structures and databases for effective health sector governance in India. In such a context, health sector accounting is visualized as a tool for efficient governance. By facilitating greater transparency in the flow of resources from sources to uses, health sector accounts enable health sector managers to get a clear idea about the incidence and impacts of targeted policy interventions. Further, the dynamic benefits from health accounting flow in the form of critical informational inputs to policy makers for appropriate moulding of health delivery systems taking into account budgetary innovations, structural and health sector reforms, decentralization of governance, equity and gender interventions, disease burdens, risk pooling and health sector research requirements.

However, health accounting is still in its infancy stage in India and research in this field is still on the learning curve. In comparison, many EU countries have well-established systems for generating health sector accounts and linking them with institutionalised processes of policy formulation. The utilization of available EU expertise in this area for

developing health accounts in the selected states of India was a core component of the proposed action.

In the above background, the overall objectives, the specific objective and core components of the proposed action are set out as follows:

2. Overall objectives

1. To develop methodologically robust state-level health accounts as a policy tool for better health sector governance in India, with critical inputs from EU expertise and experience
2. To contribute to the institutionalisation of health accounts in the Indian states through insights developed from the EU experience in this regard as well as through pilot capacity building exercises

2.1 Specific objective

Generation of health accounts matrices for 3 Indian States – Maharashtra, Karnataka and Orissa –accompanied by

- (a) a study of their policy relevance in the Indian context and
- (b) the requisite capacity building inputs for health sector stakeholders.

2.2 Core components of the study

- a. To study the experiences of EU countries about the development and use of health accounts as a tool for effective health sector governance and deriving insights applicable to the Indian context.
- b. To use EU expertise in developing the health sector flow of funds accounts for the 3 selected states.
- c. To learn from EU experience in institutionalizing the health accounts system as a policy tool and in developing a Common Comparable Framework for different health systems.
- d. To train 45 health sector stakeholders in each of the study states through structured capacity building modules to be developed under the project

2.3 Overall Sample for the Study:

The study was implemented in three states of India namely, the underdeveloped state of Orissa, medium developed state of Karnataka and developed state of Maharashtra. The district and taluka selection within each state was also based on the same criteria. The detailed sampling framework for each state is presented in respective state reports.

3. Relevance of the action to the objectives of the program:

Unlike many of the EU countries, India currently lacks systematically compiled information about the flow of funds in the health sector. The basic purpose of the study was to develop systematically designed Health Accounts for the selected Indian states. **Considering that the EU's SPF programme aims at enhancing EU visibility in India through greater civil society interaction, the study was designed as a collaborative endeavor between an Indian think-tank and an EU expert in the field of health accounting.** The basic aim as already stated is to develop a policy tool for better health sector governance with critical inputs from EU expertise and experience.

The three selected Indian States in which the study was carried out, have a history of benefiting from external financing by European Donor Agencies as well as Governments for the development and restructuring of their respective health sectors. For example, in Orissa, the DFID has a close to 20 years of involvement in Health Sector Financing. **The development of health accounts with EU expertise is expected to promote EU visibility directly in the three selected States and, through long run multiplier effects, in the country as a whole.**

4. Relevance of the study to the priorities of the EU’s SPF programme

One of the stated priority themes of the EU – SPF programme is related to **public administration reform process and institution building**. Among the issues identified in this priority area are issues related to improved governance. Further, **capacity building of stakeholders** has been identified as a priority action under the programme.

In the wake of the economic reforms in general and health sector reforms in particular in the Indian context, the need was felt to address issues of better governance especially at the decentralized level. The study which focused on the development of Health Accounts for the selected states has inbuilt aim of developing a policy tool for the better governance of the health sector especially when the sector is poised for sweeping reforms. In so doing, the study also aimed at developing capacity for different stakeholders to carry forward Health Accounting exercises in a sustained manner. The following types of people from different walks of life benefitted from such capacity building exercise.

Beneficiary category	Target groups (stakeholders of health sector)	Number of beneficiaries		
		Maharashtra	Karnataka	Orissa
Direct	<ul style="list-style-type: none"> • Planners • Public Administrators • People’s representatives • Public watchdogs • Financing agencies • Voluntary organizations • Corporate bodies • Pharmaceutical sector • Insurance companies and third party administrators • User groups • Academia 	45	45	45
Indirect	<ul style="list-style-type: none"> • State’s population as percentage of India’s total population (2001 census) 	9.4	5.1	3.6

In sum the study was a small step forward in developing health accounts for the selected three states in India. The undercurrent of the study was to address the perceived needs and constraints in the India and the lessons learnt could be useful for other developing countries in general and for the Indian economy as whole.

The study is a step towards addressing three specific perceived needs relating to health sector governance in India i.e.,

- a) the need for a robust and evolving methodology for systematic health accounting in the Indian states
- b) creating / strengthening the relevant data base for more effective health sector governance and
- c) the need for integrating health accounting with policy making and implementation through structured capacity building exercises.

4. National Income Accounts & System of Health Accounts:

Every one wishes to be away from disease, disability and premature death. Substantial evidence is now available regarding the fact that good health is an important contributor to economic growth in any nation. In this background both policy makers and researchers have recognized the importance of investments in health. Public spending on health and education bring about a change in incomes among the poor. Such investments also seem to be the major determinants, which would contribute to the better health status of the community. Such an outcome also depends on equitable sharing of provision of health services coupled with life-enhancing activities such as nutrition and education. Therefore, the role of government is very important in order to achieve better health in a country like India. As per the Constitution of India, the provision of health care by the public sector is a responsibility shared by State, Central and local governments, although it is primarily a State responsibility in terms of service delivery. Primarily health is a state subject as far as the constitutional provision is concerned. Central government frames health sector related policy for the country as a whole which would act as pointer for the states to act accordingly.

A careful understanding of financial flows of the health sector seems to have emerged as an important policy tool in the recent times. The earlier attempts in developing countries were restricted to the estimation of health expenditures from the public sector only. This was obviously due to data limitations experienced in such countries. In the light of the limited availability of resources to the health sector a judicious use of resources assumes utmost significance. To have a comprehensive picture about health expenditure we must take into account not only public sector spending but also private sector contributions in this regard.

This gives us a form of accounts for the health sector, which may be the national health accounts.

Both national income accounts and national health accounts are similar, in the sense that what national health accounts describe for the health sector is being done by national income accounts for the economy as a whole. Both these estimates agree to the fact that money payments or transfers should not be double counted and a distinction to be maintained between capital and current expenditures. With regard to the health sector, the national health accounts is a recent addition and in most of the developing countries the efforts are still in infancy. Some studies have indicated that the methodology adopted for the estimation of national income accounts may not act as a useful tool for the national health accounts. (Foulon 1982, Petre 1983). It is argued that the categories adopted in the estimation of national income estimates may not be useful for health sector analysis. For example national income estimates broadly give the inputs to the health sector and the output of the health sector to the economy or for a given region as a whole. It does not give in detail the nature of various transactions that occur within the health sector, an information quite crucial for the managers of the health sector. This may be due to the fact that it is difficult to define what the constituents of health sector are. For example the national income accounts do not specify different entities within the health sector that receive and spend the resources. The confusion gets confounded due to the fact that the framework of national income accounts focuses mainly on tangible activities rather than on services like health. Who pays for the health care, how much is paid for and on what kind of services the funds are spent is not provided by the national income accounts. Thus, the need is felt to develop the health accounts to suit the needs of the managers of health sector.

In the present day context health accounts are in the process of development across the globe. The need for such an accounting has risen due to increased complexity of health care systems and the need to keep track of the resources of the health sector per se.

4.1 SNA And Health Accounts:

Better understanding on the information on financing of Health Sector is a sine qua non for most of the developing countries. This is because it acts as a basis for wise policy change in the area of health sector reforms. Any attempt in analyzing health care financing should have sound estimates of national health expenditure. In other words, it should take into account total spending, the contributions to such spending from different sources and the claims on spending by different uses of funds.

The 1993 revision of United Nations system of National Accounts (SNA 1993) has extended the boundaries of national income accounting to sectoral accounts. National Health Accounts developed in the United States in the form of United States National Health Accounts (USNHA) and the OECD experiment are considered to be the two major attempts in evolving a system of National Health Accounts (NHA). There is a subtle distinction between NHA and SNA with regard to health expenditure estimation. SNA shows links between the health sector and the macro economy, the NHA attempts to describe the flows of expenditures between different institutional elements within a health care system, with the emphasis on structuring the data in a manner most relevant to health sector system operates (Rannan Eliya and others 1997). NHA also excludes valuation of economic activities and concentrates only on expenditures, and sometimes NHA also ignores a distinction between capital and revenue expenditures.

Objectives of SNA are to provide a cross-national and stable framework for the consistent compilation and structuring of macro economic data. Thus SNA provides broad contours of economic activities across the whole economy. In so doing SNA lays less emphasis on defining in greater detail the specific activities that occur within each sector of the economy. Due to the rigidities within the SNA to understand the impact of individual sector on the macro economy the concept of satellite accounts emerged. These sector specific accounts were separate in nature but were linked to the central framework.

SNA clearly identifies production activities, which are carried out under different units using different inputs to produce certain outputs. Satellite accounts are permitted to vary both classifications of production as well as production boundary. For Example, SNA classifies on site medical facilities in any production unit as ancillary activities and considers the cost of such facilities as indirect costs in producing the product by the production unit. The satellite accounts treat this facility as the activity of health care and the costs incurred

are included as direct costs incurred in providing health services. Sometimes the production boundary may itself undergo a change, the SNA does not include services rendered by household members or other voluntary work but in a satellite accounts these can be measured if one desires accordingly. The distinction between central framework and satellite accounts may also vary with respect to income, uses of goods and services, assets and liabilities, purposes and the like. Primarily SNA takes into account the production activities in the economy and the health accounts considers provision of health care services to the community. In so doing there seem to be divergence in defining the boundaries with regard to various actors, activities and transactions in SNA and health accounts.

SNA guidelines for evolving a **Satellite Accounts** (may be Health Accounts in this case)

- The goods and services considered specific to the field.
- The activities for which capital formation will be recorded.
- The transfers that are considered specific to the field.

Uses will be classified as

Consumption - final and intermediate

Capital formation

Transfers – Current and capital

Current and capital uses of residents financed by rest of the world

Actors will be classified in the same manner as institutional sectors and types of producers in the central framework as shown below:

- Market producers
- Non-market producers
- Government
- Households
- Rest of the world.

Health Accounts have a methodology of their own and the attempts in estimating them have demonstrated that they are likely to be different from the central framework of SNA. NHA have developed independently for the most part from the SNA and satellite

accounts. They have been compiled in response to the needs of health sector managers. The first set of NHA estimates was compiled in the United States only 35 years ago (Rice and Reed 1964). Only in recent years many countries have begun work in this direction.

The basic function of the NHA is to show and link between the sources and uses of health care expenditures. Similar to SNA these are shown in a matrix format. Unlike NHA the previous health expenditure surveys have not considered both sources and uses of funds. The aim of NHA is to measure the total volume of financial expenditures and present them in such a way that the flow of resources between different units in a health care system are immediately visible to the managers of the health sector.

A satellite account usually tries to show the link between the sector in question and the overall macro economy.

Distinctions between NHA and SNA

NHA	SNA
Focuses on expenditures in a Specific purpose in a given year. For example health	Focuses on the valuation of economic activities
More concern for clearly defined sectoral purpose of an expenditure	Distinguishes between primary and secondary purpose
All expenditures associated with Health are considered as health Expenditure regardless of their Economic purpose	Does not consider such expenditures on health

Source: Rannan Eliya, Ravindra, Peter Berman and Aparanaa Somanathan (1997) *A Comparison of the system of National Accounts and National Health Accounts Approaches, Special Initiative, Report No. – 4, Bethesda MD, Partnership for Health Project Abt Associated Inc.*

4.2 Classification of Health System Entities:

The emphasis in NHA is to describe in an integrated way who pays, how much and for what, separating who from what. This helps us to understand the sources of funding in a health care system. This information is absolutely essential for policymaking process. Following are the major entities, which are part of NHA.

- Entities, which act as ultimate sources of funds.
- Entities, which transfer the resources between the funding entities and the actual providers of services (also known as Financing Agents).

- Providers of services.

4.3 Sources of funds are grouped into the following major categories.

1. Public Sector – Government ministries and administrative departments.
2. Public sector – other government agencies.
3. Private Sector – firms and enterprises.
4. Private Sector – Non-governmental organizations (NGOs).
5. Households.
6. Foreign sector – Government and non-government sources.

Insurers appear as an additional category in the above classification, and are treated as financing intermediaries.

Capital expenditures purchase inputs that contribute to production well beyond the period in which they are purchased. Recurrent expenditures purchase inputs for current production only, and so must 'receive' in every period. NHA counts all current period capital expenditure depending on the availability of data in a given economy.

Health care goods and services provided by government and non-governmental providers at no cost to the users (non-market output) are valued at the cost of production. Those sold to the consumers are valued on the basis of price paid. In situation where health services are subsidized to the consumers, the imputed cost of production would be considered taking into account the prevailing market prices.

4.4 Structuring and Presentation of Results

SNA	NHA
<p>Consumption</p> <ul style="list-style-type: none"> • Intermediate • Final 	<p>NHA presents data in the matrix format with two-dimensional tables. These tables show where the funding comes from and where it goes. The emphasis is mainly on final consumption.</p>
<p>Capital formation</p> <ul style="list-style-type: none"> • Gross fixed capital Formation • Consumption of fixed capital • Current transfers • Other current transfers • Capital transfers 	<p>- Financing sources</p> <ul style="list-style-type: none"> -Payers/ financial intermediaries -Providers - Beneficiaries (socio-economic groups, Geographical regions, demographic groups. -Factor inputs -Patient/disease groups -Types of Services.

Source: Rannan Eliya, Ravindra, Peter Berman and Aparanaa Somanathan (1997) *A Comparison of the system of National Accounts and National Health Accounts Approaches, Special Initiative, Report No. – 4, Bethesda MD, Partnership for Health Project Abt Associated Inc.*

Not all NHA systems provide clear values as to how health care services provided by resident providers to individuals or units outside the territory are to be treated. In this context NHA follows the conventions of SNA. The convention states that ‘residency’ depends on maintaining a center of economic interest in the territory for a significant period of time, (usually interpreted as one year, SNA 1.28).

5. OECD Methodology of Estimating National Health Accounts:

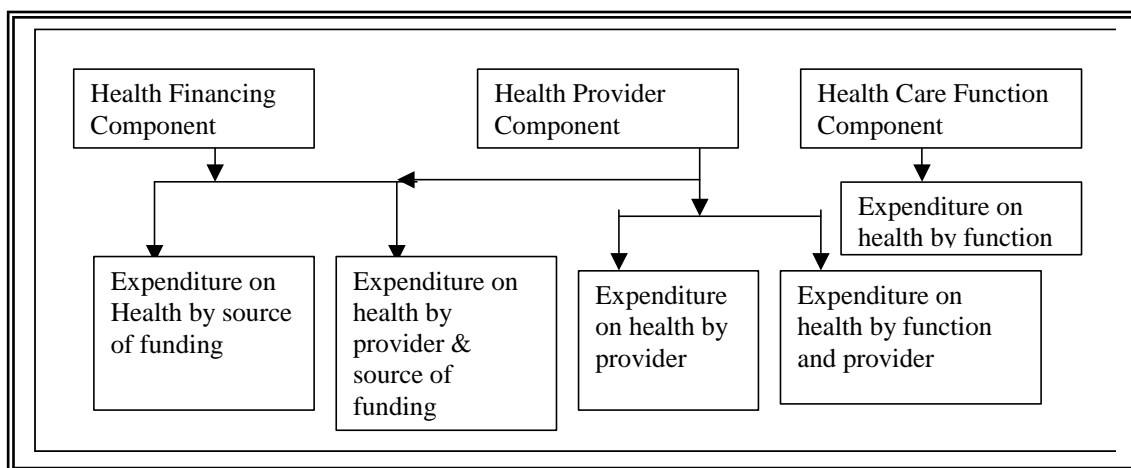
The concept of Health care used in the design of International Classification of Health Accounts as stated in the OECD methodology covers the following broad activities, which have a bearing on health status of the community.

- Promoting health and preventing disease.
- Curing illness and reducing premature mortality.
- Caring for persons affected by chronic illness who require nursing care.
- Caring for persons with health related impairment, disability and handicaps who require nursing care.
- Assisting patients to die with dignity.
- Providing and administering public health.

- Providing and administering health programmes, health insurance and other funding arrangements.

The theme of components of ‘System of Health Accounts (SHA)’ of OECD is depicted in the following flow Chart 1.

Chart 1



Source: *A System of Health Accounts for International Data Collection Version 1.0* OECD, Health Policy Unit

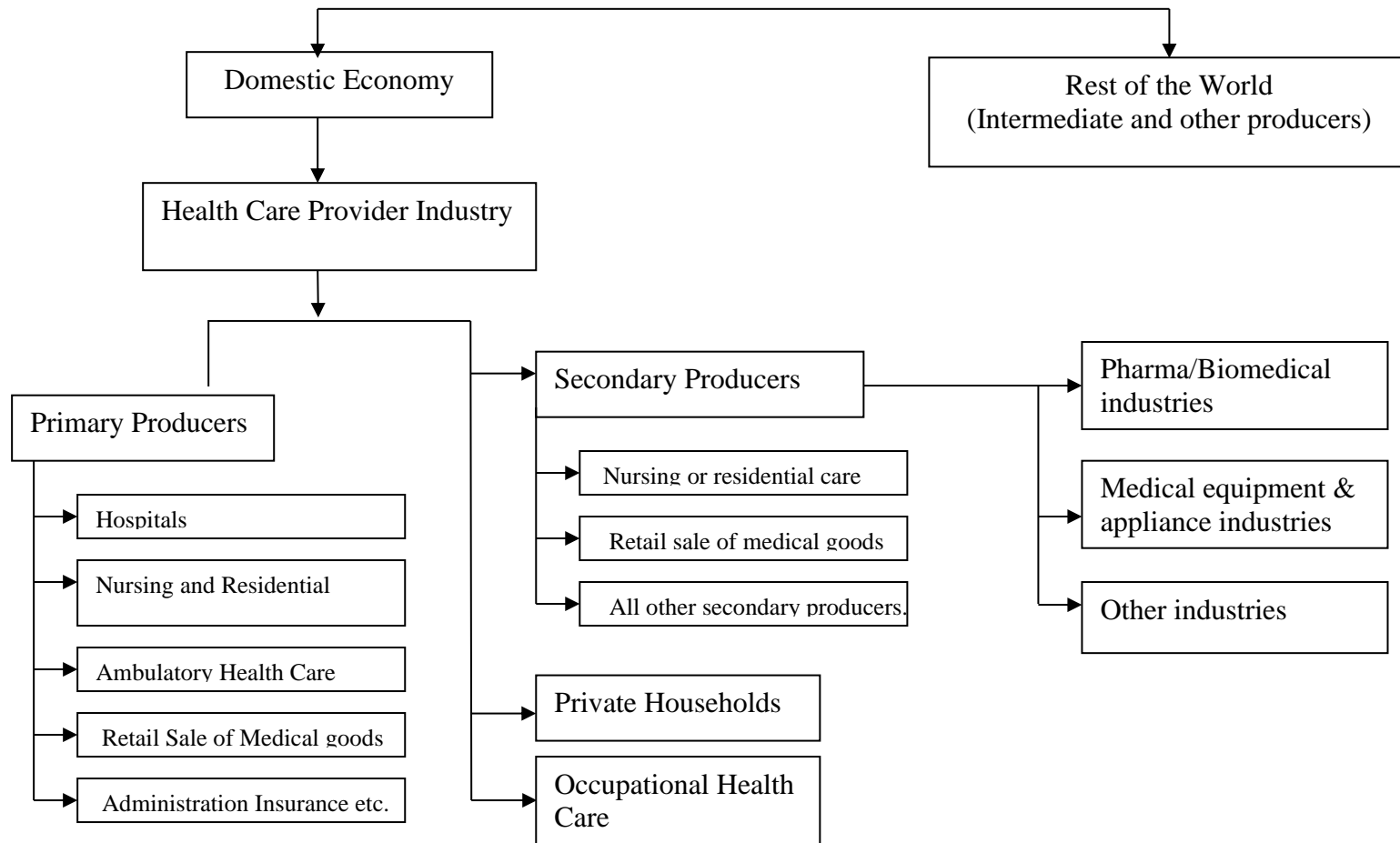
The further break up of components of these classifications is shown Box 1 below, which provides a broad view of the SHA.

Box 1
ICHA-HF classification of sources of funding

ICHA Code	Sources of funding
HF1	General government.
HF 1.1	General government excluding social security funding.
HF 1.1.1.	Central government.
HF 1.1.2	State/provincial government.
HF 1.1.3	Local / municipal government
HF 1.2	Social Securing funds.
HF2	Private Sector.
HF2.1	Private social insurance.
HF 2.2	Private Insurance (other than social insurance).
HF 2.3	Private households.
HF 2.4	Non-profit organizations serving households (other than social Insurance).
HF 2.5	Corporations (other than health insurance).
HF 3	Rest of the world.

Source: A System of Health Accounts for International Data Collection Version 1.0
OECD, Health Policy Unit

**Chart 2
Health Care Providers.**



Source: A System of Health Accounts for International Data Collection Version 1.0, OECD, Health Policy Unit

Box 2 : ICHA-HC Functional Classification of Health Care:

Function of Health Care	
HC1-HC7 Services and Goods of Health Care by Function: HC1-HC5 Personal Health Care Services and goods.	
HC1	Services of curative care
HC2	Services of rehabilitative care
HC3	Services of long term nursing care.
HC4	Ancillary Services to health care.
HC5	Medical goods dispensed to out patients.
<hr/>	
HC6- HC7	Collective health care services.
<hr/>	
HC6	Prevention and public health services.
HC7	Health administration and health insurance.
<hr/>	
HC.R	Health Related Functions.
<hr/>	
HCR1	Capital formation of health care provider institutions.
HCR2	Education and training of health personnel
HCR3	Research and Development in health
HCR4	Food, hygiene and drinking water control.
HCR5	Environmental health.
HCR6	Administration and provision of social services in kind to assist living with disease and impairment.
CR7	Administration and provision of health related cash benefits.

Source: A System of Health Accounts for International Data Collection Version 1.0
OECD, Health Policy Unit

Functional Boundaries of total expenditure on Health	
HC1-HC4	Personal Health Care Services.
HC5	Medical goods dispensed to out patients.
7PHE	Total Personal expenditure on Health.
HC6	Services of prevention and public health.
HC7	Health Programme administration and health insurance.
TCHE	Total current expenditures on Health (sum of HC1 to HC7)
HCRI	Gross capital formation in health care industries
THE	Total expenditure on health (= TCHE + HCR1)

The OECD has over the years developed the ‘System of Health Accounts’ (SHA) which presents data in the following manner.

1. Current expenditure on health by function of care, provider and source of funding.
2. Current expenditure on health by function of care and provider industry.
3. Current expenditure on health by provider industry and source of funding.
4. Current expenditure on health by function of care and source of funding. Total expenditure on health including health related functions.
5. Personal expenditure on health by major disease category (ICD)
6. Personal expenditure on health by age and gender.
7. Selected price indices for health care.
8. International trade in health care.
9. Total employment in health care.

The OECD methodology broadly concentrates on the following components viz,

- Health Financing
- Health Providers
- Health Care Function

In the financing component various levels of government are taken separately as well as various other private sources of financing and households. Health care providers include various providers including drug production, hospitals and others. Financing of health care include preventive, promotive, curative and rehabilitative care. Thus the OECD methodology tries to evolve the health accounts in a tri axial format. The methodology seems to be quite exhaustive in its coverage. For a developing country like India, the data to match these requirements may not be easily available, but a beginning needs to be made so that in the years to come we may probably evolve the methodology, which suits our own country specific requirements.

In the present study, an attempt is made to use the conceptual framework of the OECD methodology and the Producers Manual for National Health Accounts developed by World Bank, WHO and USAID to suit the needs of the developing countries.

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The chapter scheme of the present study is structured in the following manner

Chapter 1	Introduction
Chapter 2	Health Accounts: A Driver and an Offspring of Europe's Governance and Systemic Reforms
Chapter 3	Counting the beans in Orissa, Karnataka, Maharashtra
Chapter 4	Health Accounts of Orissa
Chapter 5	Developing Health Accounts for Karnataka State
Chapter 6	Developing Health Accounts for Maharashtra State
Chapter 7	Summary & Conclusions

HEALTH ACCOUNTS: A DRIVER AND AN OFFSPRING OF EUROPE'S GOVERNANCE AND SYSTEMIC REFORMS*

India's revealed interest in Health Accounting (HA) originates in a World Health Organisation (WHO) advocacy promoting the diffusion of governance tools with proven usefulness in high-, medium- and low per capita income countries. India has normatively endorsed HA as a target in its *National Health Policy 2002*. The Constitution entrusts the responsibility to the States to implement the shared health goals. The expectation is thus that the States invest and will invest in tools of accountability, exchanging information on the progress achieved so as to facilitate a future aggregation of their monitoring and reporting. The Indian Union tradition in this respect is consistent with the examples of the Australian States, the Canadian Provinces, and other countries with decentralised decision-making power. The process is dual: conceptual impulses originate often from the top (the Centre) and mesh with methodological innovations originating at the bottom where much implementing legislation and regulation is formed, where monitoring instruments adapted to the specifics of administering programmes are formed. The method of the pilot study on Orissa – Karnataka – Maharashtra Health Accounts presented in Chapters 4 – 5 and 6, original in populating matrices with data collected at the grass root, has been generated by incipient knowledge acquired by Indian research and public institutions and by European know-how developed over a longer stretch of time.

Important Indian references include: C. Garg (1998) *Health Accounts for Karnataka* and (2001) *Health Accounts for Punjab*, the Indian Institute of Health Management (2001) *Financing of Reproductive Health in Rajasthan*, C.K George and Panik G.S. (2004) *Andhra Pradesh State Health Accounts*, the National Commission on Macro- Economics and Health (2005) *Financing and Delivery of Health Care Services in India*, the Ministry of Health and Welfare (2006) *National Health Accounts India 2001-02* and the Central Statistical Office's recurrent *National Accounts of India*. The synthetic indicators of the health system's finance and of public and private provision of services

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rest on statistical foundations set notably by the Finance Commission, the Reserve Bank of India, the National Sample Survey Organisation, the International Institute for Population Sciences' (1993, 2000, 2006) *National Family Health Survey 1 1992-93 - NFHS 2 1998-99 – NFHS 3 2002-03*. These contributions and those of other stakeholders in economic and social intelligence is gratefully acknowledged.

The European Health Accounts are a public good that integrates interdisciplinary knowledge cumulated over centuries. Aristoteles' contributed a theory of value. Indian mathematicians introduced the "0" functionality. William Petty, confidant of a 17th century British ruler, initiated *Political Arithmetic*. John Maynard Keynes conceptualised the foundations of the macro- and meso-economic models: identities. Simon Kuznets operationalized a macro-accounting framework in the 1930s. Dorothy Rice in the United States and Simone Sandier in France pioneered its application to Health. OECD steered at arm's length from the mid-1970s to the mid-1990s its political acceptance by two dozen nations, next proceeded to draft (2000) *A System of Health Accounts (SHA)*. The WHO-World Bank complemented a (2003) *Guide to Producing National Health Accounts with special applications for low- and medium-income countries (PG)*. Faceless number crunchers relentless grease the mechanism to make the blueprint workable with heterogeneous national data; they tested in 2006 a common syntax enshrined in the Joint OECD – Eurostat – WHO Questionnaire (JQ). The SHA/PG vintage, implemented by two thirds of the European Union member and associate States, also by six non-European OECD Member countries (table 2-1, columns 4 & 5 and footnote 4), emerges as a forerunner that India's may want to consider in institutionalizing its Health Accounting process. Several countries that did not join in 2006 have signalled their intention to participate in 2007.

Asia's health accountants had in 2006 an open invitation to participate in a procedure that entailed a methodological appraisal by an international panel of peers. The invitation remains open.

Focusing on the European diligence and ability to comply in large numbers with the blueprint, the sizeable HA response rate in 2006 may be attributed to a long commitment to implement in full macro-economic classifications, principally those required to construct

the (1993) *System of National Accounts* (SNA) / the (1995) *European System of Accounts* (ESA). These are chiefly:

- the Classification of the Function of Government (COFOG)
- the Classification of Individual Consumption by Purpose (COICOP)
- the Classification of Non-Profit Institutions (COPNI)
- the International Standard Industrial Classification (ISIC) / Nomenclature of Activities of the European Community (NACE).

The prior experience of most countries in *massaging* information contained in the macro-economic accounts that pursue the objective of mapping for the whole economy a path tracking purchases (a finance dimension), provision and consumption (a final use dimension) with the expectation that the three dimensions are equivalent, played an important role in the development of the first generation health accounts (in table 2-1, column 2 underscores the national accounting filiations observable, a process partly impelled by OECD, but widely taken over by the respective statistical offices).

These United Nations' classifications – further discussed in Chapter 3 – are also widely used in India. Given the many priorities that the Central Statistical Office and other agencies collating quantitative data in India have to attend, the implementation of these classifications may be assessed as having not been as deeply entrenched and universal as in Europe. A somewhat larger lust for governance principles, facilitated by a larger tax collection, has been an explanatory factor of a greater devotion to statistical observation; the economic integration process, that requires data that can readily be compared and aggregated, has constituted another. May, however, any impedimenta that may prevail in India and in other Central, Pacific and South Asian nations not constitute a sufficient motive to shunt the opportunity to reinforce the chest of governance tools! The beneficiaries are less the few *comparativists* in international public administration and the academics in search of causality for observed cross-national differences than the populations included in the common mould, which suffer from the absence of transparency and ensuing resource misallocation. Accessorily, public administrations benefit as many contractual arrangements with multilateral institutions and with public or non-government technical cooperation agents require greater accountability of processes and of outcomes.

Table 2.1
Health Accounting systems in the European Statistical Space : state of the art

Country	Pre-SHA Health Accounts (period spanned & main concept)	National developer	Pilot SHA reported - to OECD - to Eurostat (1 year requested)	Joint 2006 OECD – Eurostat – WHO Health Accounts Questionnaire (2 years requested)	Institutional compiler & reporting agency
Austria	1975 - 2004 ESA derived	Central Statistical Office	----	Reporting from 2007	Central Statistical Office
Belgium	1980 1987 1970-1998 ESA derived	Provident fund study University Leuven OECD Secr. estimates	---	2003	National Bank
Bulgaria	2001	Ministry of Health with KPMG	Eurostat, 2003	2003 - 2004	National Statistics Institute
Cyprus	----	National Statistics Service	Eurostat , 2003	2003 - 2004	National Statistics Service
Czech Republic	1989 - 2004 ESA derived	Central Statistics Office	Eurostat, 2003	2003 - 2004	Central Statistics Office
Denmark	1971 - 2004 ESA derived	Statistics Denmark	OECD, 1999	Reporting from 2011	Statistics Denmark
Estonia	1997 – 2004	Ministry of Health & Social Affairs	Eurostat, 2003	2003 - 2004	Ministry Health & Social Affairs
Finland	1960 – 2004	Social Insurance Institute	----	Reporting from 2007	STAKES
France	1950 – 2005	CREDOC	----	2003 – 2004	Ministry of Health / Statistics Institute
Germany	1970 – 2003 1995 - 2004	Federal Statistical Office	OECD 2001&2	2003 - 2004	Federal Statistical Office
Greece	1987 - 2004 ESA derived		----	----	National Statistical Service
Hungary	1991 – 2001	Central Statistical Office	OECD, 1998-2001 Eurostat, 2001	----	Central Statistical Office
Iceland	1960 – 2004 ESA derived	National Bank	----	----	Statistical Office of Iceland
Ireland	1960 - 2004 ESA derived		----	----	Central Statistical Office
Italy	1988 – 2004 ESA derived		----	----	Statistical Institute
Latvia	1995-2004 ESA derived	Central Office of Statistics	Eurostat, 2003	Reporting from 2007	Central Office of Statistics
Lithuania	1998-2002	Ministry of Health	Eurostat , 2003	Reporting from 2007	Statistics Lithuania
Luxembourg	1970 - 2004	General Inspectorate of Social Security	----	2003 - 2004	General inspectorate of Social Security

Table 2.1 – Health Accounting systems in the European Statistical Space : state of the art (Contd...)

Country	Pre-SHA Health Accounts (period spanned & main concept)	National developer	Pilot SHA reported - to OECD - to Eurostat (1 year requested)	Joint 2006 OECD – Eurostat – WHO Health Accounts Questionnaire (2 years requested)	Institutional compiler & reporting agency
Malta	1995-2004	WHO Secr. Estimates	----	----	Ministry of Health
Netherlands	1958 / 1963 & 1968 1972 - 2002 1998 – 2004	Statistics Netherlands / Ministry of Health	OECD, 2001	2003 – 2004	Statistics Netherlands
Norway	1960 – 2004 SNA derived 1997 – 2005 Satellite Acc.	Norwegian Office of Statistics	OECD, 2003	2003 – 2004	Norwegian Office of Statistics
Poland	1990-2004	Central Statistical Office * Private researchers under a World Bank contract	OECD, 1999 * Eurostat, 2003	2003 - 2004	Central Office of Statistics
Portugal	1970 - 2004 ESA derived	Ministry of Health	----	2000 - 2004	National Institute of Statistics
Romania	1995 – 2004 ESA derived	National Institute of Statistics	Eurostat, 2003	2003 - 2004	National Institute of Statistics
Slovakia	1997 – 2004	Health Informatics Institute	Eurostat, 2002	2003 - 2004	Central Office of Statistics
Slovenia	1995-2004 ESA derived	Ministry of Health / Central Statistics Off.	Eurostat, 2003	2003 - 2004	Central Statistical Office
Spain	1960 - 2003 ESA derived	Ministry of Health	OECD, 2001	2003 -2004	Ministry of Health
Sweden	1980 – 2005 ESA derived	National Board of Statistics	----	Reporting from 2007	National of Board of Statistics
Switzerland	1960 – 1995 1995 – 2004	Federal Statistical Office	OECD, 2001	2003 – 2004	Federal Statistical Office
United Kingdom	1960 - 2005 ESA derived	Office of National Statistics	OECD, 1997 – 2002 + 2003-05	----	Office of National Statistics

Notes:

1. Pre-2000 Health Accounts are mostly special tabulations derived from the *System of National Accounts (SNA) / European System of Accounts (ESA)*, compiling General Government outlays classified by function (COFOG), household expenditure classified by purpose (COICOP), non-profit institution expenditure classified by purpose (COPNI), value added and components by branch of activity (Nomenclature of Activities, NACE / International Standard Industrial Classification ISIC 3rd Revision), Government Finance Statistics (GFS). Much detail is unpublished and is not strictly consistent across country, as the basic data respond to *local* administrative requirements. Some segments developed are methodologically not rigorous.
2. Using a similar approach, the Czech Republic, Greece, Italy have developed accounts for some earlier years.
3. Norway and Portugal construct Satellite Accounts (estimated from the production dimension), which are made “compatible” with the SHA functional dimension. A parallel construct is also found in Mexico.
4. Iceland, Norway and Switzerland have only an associate status to the European Union. They fully participate to various activities, including the statistical harmonization programmes.
5. Australia, Canada, Japan, Korea (Rep. of), Mexico and United States have submitted entries to OECD for the Pilot study (fourth column), respectively for the years 2000, 1999, 2000, 2001, 2001, Canada and Korea have participated to the 2006 Joint Questionnaire for 2003-2004 (fifth column).

Sources: elaborated from *OECD Health Data*, derestricted OECD documents and unpublished notes regarding the OECD Member countries and the European Union Member States not member of OECD.

External cooperation and some financial support can contribute to the build-up of health accounting construction capability, as this study on Orissa / Karnataka / Maharashtra, largely funded by the European Union but mainly conducted by seasoned social science researchers from the three States demonstrates.

The Indian Constitution provides for State responsibility, thus regional accountability, for much of what is termed public involvement in the restoration of a lost health status, the maintenance of the levels attained, and enhancement of the indicators that the Union with all other nations of the world has called as a minimum attainment by 2015: the Millennium Goals. The States as primary actors, the Central Government as a go-between and partial supplier of funds that must increase “[government] expenditure from 0.9 % of GDP to 2-3 % in five years” are partners in pursuing specific Millennium targets and in securing the means to do so.

Though the main chapters of this study concentrate on the resources mobilised in Orissa – Karnataka – Maharashtra, and, by nature, reflect specific human settlements, community behaviour and environmental circumstances, most conceptual and methodological constraints are shared with the other 27 Indian States and 5 Union territories. The methodology raises appropriateness questions in respect of an *imported* measurement technology. The innovations attempted are wagers to better serve the interests of the Orissa – Karnataka – Maharashtra populations, beyond that of all States and Union territories. This is also the case in federal Australia, Belgium, Canada, Spain, United States and others where decentralised responsibility conjugates with shared statistical frameworks.

The virtual pilot studies presented in the following chapters constitute a demonstration of feasibility of health accounting in India and in the Indian States at low cost. The cost-effectiveness of the accounting approach is further demonstrated by a partial projection of time series for Europe, presented in the latter part of this chapter. Formal HA reporting exists in Europe through 2004 from between 1950 in a few countries, 1995 in a few others, 1960 or later for all others (it may be useful to remind that the Baltic States of Estonia, Latvia and Lithuania, or the Adriatic state of Slovenia, did not exist as constitutionally independent until the beginning of the 1990s, just as in the Indian Union

new States have been formed after Independence; there could thus not have been national health accounts in the new States).

Using partial indicators, such as aggregate public finance data, the thirty European countries' series have been extended to include estimates for 2005, with a double objective:

- to show the benefits of institutionalization, since this allows to project the impact of reforms (just as the National Accounts permit to project incomes and products for the whole economy, the requirements to sustain high growth rates and to anticipate needed structural changes growth induced by that dynamic),
- to sketch based on the European experience some of the avenues open for Indian policy thinkers in reshaping the health financing landscape.¹

The European experience with Health Accounting rests on the unique foundations of its history, which differ from the circumstances present in India, yet it offers a similarity with the intended path of creating larger pools of resources to address the pressing needs of the population. A concise overview of that path and selected illustrations of different calls to produce accounts precede an illustration of lessons derived from the Accounts which may be of relevance to Indian States and to the Indian Union.

From cradle to adulthood, a concise history of the genesis of NHA:

Self-help, charity and solidarity interventions have long been partners in health system finance and management. At the initiative of Chancellor Bismarck in 1883, Prussia introduced employment-related insurance schemes to accelerate the return to work, the rehabilitation of workers absent due to sickness. Within thirty years, similar schemes had been established in most Western and Central European countries, enabling expanded enrolment during the 1920s and 1930s, bringing under the *safety net* increasing strata of

¹ Europe in this report refers to the European Union – presently 27 States – and to three States which have a global association status with the European Union and, in the context of the measurement of health financing and expenditure on health services and goods, participate fully in the development – implementation and evaluation of health accounts. The use of the concept of Europe has no normative connotation in respect of the use of the term by other countries which participate to the Council of Europe, such as Albania, Andorra, Bosnia & Herzegovina, Croatia, Liechtenstein, Macedonia, Monaco, Montenegro, the Russian Federation, San Marino, Serbia, Turkey, Ukraine.

blue-collars from industry and white collars from commerce & other service branches, often with their dependents. .

By the mid-1960s, the *safety net* embraced also the farmers, the self-employed, the students, and various professions or population segments not included in preceding enrolment waves, *outcome* of collective bargaining, *round-table* negotiations, administration-led harmonization or Human Rights' entitlement. The military occupant imposed it to the Netherlands in 1941, the authoritarian Franco regime to Spain in 1942. The prevailing ethic of universal social protection generated countless bills of right and regulations, closing loopholes in the prevailing legislation and expanding entitlement to services previously *out of boundaries* or to new medical technology. The pace of enactment affecting beneficiaries and/or benefits has been stronger in the third quarter of the 20th century than in the fourth quarter. This reflects both a quasi achievement of the universal status by the mid-1970s rendering further expansion of coverage at the fringes difficult and to the economic environment impact. European history has no record of a longer period of quasi uninterrupted growth than that achieved in the 1950s, 1960s, and early 1970s; as disposable incomes rose faster than memories could record, the citizenry opposed limited resistance to an even faster pace of taxation and social contributions.

Contrasting with virtually open-ended expansion of benefits, expenditure restraint programmes introduced from the late 1970s to the entitlement programmes to counteract the economic turmoil that resulted from higher oil prices and sluggish economic growth have generated a flurry of regulations and "managed care" formulations, which have had an impact on measurement as well.² Overall, the priority given to the European equivalent of the Indian "*social expenditure*" ratio has receded little, if at all, during the past three decades (partial evidence on this point, regarding only the last decade, is supplied in table 2-2 below).

² Unnoticed by virtually every analyst contributing his/her share of the *true* history of European health expenditure expansion after World War II and the alleged brakes introduced from 1977, the British Treasury observed within the first year of the creation of the National Health Service (July 1948) that the premises of a bulge of expenditure to accommodate the pent-up demand of years of deprivation resulting from income inequalities and inability to access needed medical services profiled to result in an initial bulge, next a lower and more stable level of expenditure, was a non-starter. Sir Stafford Cripps, the Chancellor, introduced expenditure restraint features from 1949 onwards which have been a feature of the NHS till 2002.

A distant observer – as a newcomer to health policy analysis and to health accounting is – must make explicit some of the environmental circumstances to gain full intelligibility.³ One of the lessons drawn from the European experience is the requirement to attach a commentary, even a full report to the matrices and tables produced, lest quantification and the use of data get divorced. That has been the experience of macro-economic accounting in the early decades of National Accounting. It still is, even though the two functions have largely been split. The release by the Reserve Bank of India, for instance of data on the level and trends of State Finance is accompanied by educated commentaries and analyses at the hands of experts closely associated with the institutions providing the basic tabulation or by senior academics. Many of the first wave Health Accounts institutionalised in Europe have been accompanied by reports and have thus taken a relatively privileged seat in the health policy or social policy debates. The more recent developments reported in the right hand-side of table 2-1 are more statistically-oriented, discussed amongst technicians, and have so far attracted little attention (except in a few countries which recently joined the European Union, where a formal introduction to senior government circles was organised).

The production of accounts linked to policy analysis or parallel to policy analysis work has been a strength of much health accounting developmental work in Europe during the closing decades of the 20th century. The pursuit of technical prowess neglecting the interface with policy analysts (in its broadest acceptance, i.e. including production technology, consumer behaviour, ...) is a recurrent risk for economic and social statisticians; a neglect of that interface is offered as an explanation of a more limited use of Health Accounts by its potential users in recent years: more accounts produced, of greater

³ The European Union Member States also construct Social Protection Accounts, referring to four classes of *risks* loss of income linked to old-age and disability (often referred to as pension rights), loss of income linked to spells of unemployment, loss of income due to spells of sickness (or sickness benefits in cash) and to treatment of disease (entitlement to benefits in kind), reduced income linked to family circumstances (maternity benefits, children allowances, selected day care activities services, specific education allowances, selected housing cost support benefits, ...). The relationship between health benefits in kind and health accounts is not a one-to-one as notably part of the antenatal attention, the obstetric services, part of the infant health and child health services fall under the family circumstances heading in Social Protection, funeral benefits may be administered as a sickness benefit. The Health Accounts cover benefits indistinctly of the paying agent and on an accrual basis, while the Social Protection Accounts refer to public and private social security arrangements on a cash flow basis. Capital costs are segregated from the Social Protection Accounts, whose total (four classes of risks combined) differ from the sum of distinct accounts for the four risks or the flows of the four tracked in the National Accounts, as each set was created with specific policy audiences or administrative targets in mind. A similar comment applies to the Indian concept of social expenditure ratio, referring to public expenditure on education + public expenditure on health + a portfolio of public expenditure on welfare (social care, welfare and human services are concepts covering different realities in different environments and need, when used in a comparative setting, be carefully defined).

technical quality, more comparable across countries, but unlike the National Accounts not *appropriated* by the decision-makers. .

The producers of Health Accounts in Orissa – Karnataka – Maharashtra and other States of the Union are invited to take note of the European experience, illustrated below for three countries (though each one of the 30 experiences is equally relevant but that might be taxing unduly the patience of readers). In different ways, the British, the French and the Estonians health accounts have induced all stakeholders to make the tool their own, the statisticians and economists proposing classifications and tabulation concepts that have proven their worth but adjusting these to perceived needs, to specific institutional arrangements and to circumstances. Europe's health accounting history is replete of illustrations of appropriation and innovations. Europe's health system history of the past century is one of continuity of purpose: *universalization* of access to social benefits beyond what households can access on their own given inequalities in primary income distribution, health policy has followed a human rights entitlement principle that has been conditioned by the economic growth performance, a kind of social dividend, but also a factor of economic growth as the pursuit of productivity gains is conditioned by an educated, flexible and able labour force. No formula has been perfect but the principles widely shared.

The arrangements to sustain this dual objective, set by Chancellor Bismarck in 1883, appropriated as the *European social model*, has evolved in nature and intensity over the decades, rendering the task of government interventions ever more complex and the demands placed on the accounting tools servicing the central objectives more diverse and more detailed.

Through the late 1940s and even the early 1950s, cash benefits partly compensating the income loss due to absenteeism from work ("*sickness allowances*") have constituted in Europe the second (after pensions) largest share of the social transfer mechanisms installed.⁴ The share of benefits-in-kind: reimbursement of medical and paramedical claims, occasionally direct payments to medical care and paramedical care suppliers, increased sharply from the 1950s onwards. Provident funds, friendly societies, voluntary associations,

⁴ When tax expenditure, tax deductions, tax credits are tabulated, the actual benefits consented to home owners and the benefits consented for children have historically and on occasion exceeded sickness benefits.

subsidiaries of - or, sometimes, parastatal institutions were accountable to their members and subject to varying legal reporting requirements. These statements of income and outlays, assets and liabilities remain the foundations of health accounting, which are a sequence of parallel T-accounts arrayed in matrices, consolidating the transactions with a homogenous finality or pertaining to the same class of agents.

Over time, many providers of *social protection* have separated their outlays by *risks*:

- compensation for loss of income due to old-age and disability (often referred to as pensions)
- compensation for loss of income due to periods of unemployment
- compensation for loss of income generated by disease episodes (usually referred to as *sickness allowances*) and for exceptional costs incurred by these episodes (which are a sizeable part of what health accounts monitor)
- compensation for family circumstances (comprising notably size: maternity and neo-natal benefits, child allowances, ...; income vulnerability: access to day care, housing allowances).

As these targeted institutional schemes have not succeeded in wiping all glaring inequalities and socially unacceptable differentials in opportunity to *participate*, poverty alleviation policies supplement the social protection schemes, acting as negative income taxes or supplemental benefits. Pro-active labour market policies and human resource policies have also been expanded.

States have been intervening in these domains since centuries. Though many primary education laws emerged only during the second half of the 19th century, emperor Charles the Great a millennium earlier had entrusted by charter the religious orders to diffuse education to all layers of the population. Sanitation programmes have existed establishing notably the protection against pests, distant precursors of contemporary prophylactic programmes. Records from the 17th – 18th century yield the existence of public health programmes in the Netherlands, in Sweden and in other countries, designed to complement century old municipal and communal interventions in regard of sanitation and poverty alleviation. Charities existed, religious congregations have played a major role in assisting the terminally ill, the victims of infectious epidemics, the disabled; the

evidence of a massive intervention. Modest in size and in scope, public health spending programmes have further been subject to the vagaries of institutional reporting and of transparency requirements. These were considerably less exacting in quantitative terms. No other substantive financing pool emerges from the older archives or secondary resource accessed.

After World War II, the prevailing “household financing of health care costs tempered by a rising share of health insurance” changed in Europe as a consequence of the rising *medicalization* of life from cradle to grave, a rapidly creeping technology ([allopathic] “medicine progressing faster in the second half of the 20th century than in the preceding five millennia”), of the revision of the Welfare State concept and of risk management processes. This translated into the *universalization* of social protection, rising health care baskets and a split between policies promoting an expansion of the third-party coverage of health risks and policies promoting a basic package delivered by public stakeholders. In a short span of time, antenatal and neonatal care moved into clinics and hospitals, thousands of new therapies (infectious and parasitic diseases, endocrine and circulatory disorders, neoplasm and congenital anomalies,) became amenable to care if not to cure. Drove of new pharmaceuticals, therapeutic appliances entered the health care market.

In view of the suffering endured by the civilian population (bombardments, etc.), the British Cabinet opted during World War II for a fairer deal to be translated after the end of the war notably as an access virtually free at the point of delivery to a large package of hospital services, to general practitioners and other health benefits. That approach has been subsequently named *Beveridgian* after the Government member who defended the White Paper, to contrasting with the national insurance-based proposal, labelled *Bismarckian* after its promoter. With different institutions and revolving around communes (Finland), administrative districts (Denmark), counties (Sweden), and, in the latter two decades, Health Boards (Ireland), “Sanitary” Regions (Italy) and Autonomous Regions (Spain), the Nordic countries and several Mediterranean fringe countries also adopted the principle of direct delivery. A variant was developed in the Soviet Union and its socialist satellite countries, the *Shemashko* system, also State-financed and State-delivered though, with hindsight, parsimonious on technology and more liberal regarding prevention. 1

Sharing broadly similar goals of efficiency, effectiveness, equity and promoting greater systemic empowerment, the *Beveridgian* direct delivery and the *Bismarckian* health insurance route differentiated themselves ever more, institutionally as well instrumentally, pursuing however only marginally distinct targets. Expanding coverage, expanding *generosity* (entitlement to benefits), rising technological opportunities (expanding the scope for interventions on the health system), rising relative prices (the measured productivity in services lagging to that in services), and a few other expenditure determinants conduced the costs of publicly funded services to augment considerably faster than total public expenditure which in turn increased faster than the available resources to pay for them (proxied by Gross Domestic Product). When the oil prices surged for the first time in 1973-1974, the intellectual shock outpaced the oil shock. “Unmanageable!” appears to best summarize the thousand speeches, articles, books characterizing the European health systems of the 1970s.⁵

In comparative health sciences, a *functional* approach emerged as a substitute to the dominant *institutional* approach. The first set of health indicators based on National Income and Product Accounts, previously only created in the United States and in France, found its place on many planners’ bookshelves.⁶ Three decades on, the future of the functional approach lies still ahead, if only because, in its educated form, it is like the seven-year old child just discovering that alphabet and grammar serve to read and write, to communicate and to dream.

In the past three decades of advances in knowledge concerning the financing and delivery of health care and , health accounting processes have been different in the thirty countries listed in Table 2-1. Only a few salient facets and short sections on three cases are shown below.

⁵ Three pages cannot summarize a century of institutional and behavioural developments, of countervailing policies and analyses in three dozen countries. Bureaucracies cannot recognize a void. They have been quick in the mid-1970s to bring in train loads of mimics of the market and of “managed” solutions applicable to “non-markets”, a task much facilitated by the rise of new disciplines like health economics. “Unmanageable” reflects the disarray in policy thinking circles at one point in time, the mid-1970s.

⁶ *Public Expenditure on Health*, Paris, OECD, 1977

Health Accounts, a problem or part of the solution ?

Transparency, far from reducing choice and decision-making power, increases it.

When Finland found itself confronted in 1990 to a loss of its Eastern markets, inducing a quasi-overnight national income loss of around 17 %, an investment in health accounts made several years before had a huge unplanned payoff: that of facilitating a drastic overhaul of the implicit production function without substantial reduction of benefits. An easy accessibility to other OECD countries' accounts led to a systematic assessment of the implicit production function in *comparable* countries and to an identification of alternative more effective resource allocation patterns. Within five years, the health system thrown by the crisis into a *socially unaffordable* costing spree had regained its ex-ante status without apparent loss in measured health status. Finland enjoys amongst the lowest premature mortality levels and among the highest healthy life expectancy levels. Coupled with more micro-instruments, such as cost-effectiveness analyses, with operational research tools, the health accounts emerged as offering the most comprehensive and integrated synthesis of the health system around which to eschew scenarios of an *affordable* system.

Confronted before an election in the early years of the Millennium with loud complaints of *underfunding* of the National Health Service, the British Government used as a gauge the aggregate spending ratio of its main partners, vowing to close the gap. In 2004, total expenditure on health is estimated to be 8.5 % for the United Kingdom and 9.4 % for the European Union, a reduction of one quarter of the gap observed in 2002: 7.5 and 9.0 % respectively. The “additional” resources have, however, been largely directed to rehabilitate facilities; the value of the capital stock has been much enhanced, as have the relative remunerations of NHS personnel. Aggressive ever-changing reforms incrementing inputs per unit of output or their relative price have, however, a limited short-run pay-off when considering the NHS *clients* or beneficiaries. Access to micro data files (detailing, for instance, the costs of producing some 1700 medical and surgical procedures) adds much to micro-performance assessment but fails on the attributes of comprehensiveness, consistency, and aggregability. necessary to evaluate the performance of the system.

The European statistical systems and health accounting systems have neither been constructed in one lump, nor obeyed the same pattern, but have responded to local

circumstances at the time of their establishment. The questions “Where ? “ “To? ” “ What for?”

- Where does the money come from?
- Who mobilizes it? To purchase what?
- Who transforms what kind of demands through what channels?
- What is being consumed?
- By which population segments: youth or elderly, female or male, rural or urban, poor or well-off, afflicted by what type of disease, living in northern – eastern - southern – western entities – central or peripheral entities, ... ?

were not all raised with great intensity thirty-five years ago. Greater demands placed on governance: *to achieve more with less money!*, have induced a demand for transparency, for accountability and co-responsibility. Governments have been called to prioritize to ensure adequate investment in the pursuit of economic and social endeavours and also appropriateness (effectiveness, quality and greater equity in service delivery and, timidly, in outcomes). After health accounts had matured, the large segment of research in the United States concentrated on micro-performance; though the subject does not leave Europeans indifferent, a greater share of the research has concerned systemic performance. Macro-performance has been superior.

The achievements of the 30 European countries fill several bookshelves, as would an assessment of their successes - failings and ... accounting approaches. To prevent an excessive dilution of the relevant information: the build-up of a minimum accounting health accounting basis, the emphasis is placed below on three *case studies* found of somewhat greater interest for Indian decision-makers just as three *case studies* illustrate the potential for the 30 Indian States and five Union territories) to pave governance with greater blocks of transparency and *understandability* though on both levels pertinent lessons can be derived from the 27 given less attention and innovative solutions may have to be introduced to achieve higher standards of governance in all States. France, the United Kingdom have been selected as representative of the two main approaches, *Bismarckian* and *Beveridgian*, in large European countries, with fairly high per capita income. Estonia, a country which experienced during 45 years a *Shemashko*, turned *Bismarckian* after the “dismantling of the Berlin Wall”, illustrates the introduction of

health accounts in a little populated country with relatively low per capita income, embarked in a race to bridge the economic gap with its richer partners, using a model that calls for very effective but low cost social policies during one generation.

France:

Europe's oldest health accounts (if one excepts aggregate spending tables prepared in the Netherlands for 1958, published in 1963, and for 1963, published in 1968) rest on the initiative of Dr. Rösch, M.D. at the Centre for the Documentation of Living Conditions, CREDOC, who perceives well before the oil crisis of 1973-74 that health spending will not go on rising without social questioning. CREDOC requested its collaborators, principally Alain Foulon and Simone Sandier, to estimate the medical consumption patterns of the French people. The National Statistical Institute, INSEE, is one of Europe's statistical offices that had invested most in National Accounts and, because the economy is steered by indicative planning, one that had developed one of the most detailed tables of household consumption (value, volume and prices). Consequently, the health accounts being constructed – labelled “Medical consumption” – consistently track medical and paramedical services, their value and the quantities delivered. The domestic version of the French accounts – as distinct from that prepared with OECD /European Union Statistical Office (Eurostat) rules – still abides by this final use rule.

One of the health accounts' most intractable issues: where to set the system's boundaries? had been empirically resolved.

Failing an agreed definition of what health is [measured by its absence and the costs to restore it to a previous “functional norm”], the price paid to acquire goods and services deemed to achieve the required corrective intervention (and, in rarer cases, to boost the investment) was accepted as a satisfactory social norm to assess the utility of the system. In addition to expenditure initiated by households the definition also comprised community services such as maternal and child health protection, school health services, prison health services and screening services of the labour force (“médecine du travail”). The accounts have been calculated for every year since 1950.

When, in 1977, the Ministry of Health and INSEE took over from CREDOC, the health accounts have been formally linked with the Central Accounts and a succinct

summary published in the annual National Accounts, consistent with an INSEE's innovation of *Satellite Accounts* defined as an outgrowth of the Central Accounts focussed on one function or one branch of the economy that could be wider than the Central Accounts' scope, that could be supplemented with non-monetary values (expressed in physical quantities) provided one vector of the satellite had a one-to-one identity with the referent Central Account vector [the Satellite Account outgrowth concept became an integral part of the United Nations' System of National Accounts and is actively promoted in the 2000s, regarding health, by the Pan American Health Organisation. The most notable developments outside France are Tourism Satellite Accounts, developed in several OECD and Latin American countries; in the European Union, mainly Satellite Accounts for Education, for Environment and for Social Protection].

Institutional developments have strongly reinforced France's approach to the measurement of the health system's finances. Since 1971, most patient-physician (or other health professional) contacts have been *framed* by a national convention between the health professions and the health insurance bodies, frequently renewed / updated / amended which fixes tariffs and other conditions of interventions. Non profit friendly societies' ("mutualities") and complementary insurers tend to *top up* the national schemes' payments, thereby ensuring uniformity in nomenclatures of medical services, thereby preventing double count, reducing gaps in coverage (83-84 % of the population covered until 1990 when a universal complementary insurance was enacted. The "final use" data are cross-classified by "purchasing agents": the national insurance scheme, supplementary funds by the government layers, private social and private commercial insurers, non-profit organisations, firms, households.

French financing flows towards health exceed medical consumption, notably in terms of payments made for the education /training of medical personnel, R& D, investment in physical facilities. Accountability requirements increased when "global budgets" (predetermined allocations based at the onset on the stock of facilities and/or manpower attached to facilities, presently tied to "activity" or patient flows by nature and type of interventions).

France doubled-up its monitoring of consumption by a monitoring of expenditure flows comprising the investment flows mentioned and the factor input prices, such as

capital consumption. The “additional” information, also cross-classifiable by payers and by main classes of consumption, has been released for 1980 – 1985 and, from 1990, on an annual basis.

The accounts are supplemented by tabulations on income levels and flows for some providers or types of provision, tabulations highlighting one or other facet of a scheme given political attention, analyses of special surveys such as surgical procedures performed, ... enhancing comprehensiveness and accuracy.⁷

The French Health Accounts have been a policy analysis reference for all stakeholders. Their launch in $t + 5$ to $t + 7$ (May to July after the end of the accounting period) is usually presided over by the Minister of Health with participation of a wide range of stakeholders.

Professional and personal contacts have contributed to inspire a number of other developments in Europe and elsewhere though greater familiarity with English have led many to access the United States system, constructed along broadly similar lines, except that expenditure included in addition to medical consumption R&D and construction but not equipment, and that Central Government is inclusive of an entitlement programme for the elderly and some disabled. Medicare (“an autonomous trust fund”), and State Governments comprise Medicaid, a social assistance programme for the poor to which eligibility is means tested. Formally, the French and US Health Accounts cross-classify financing and providing agents and/or institutions, when it is transactions that are exchanged.

Responding to administrative requirements that differ, the instruments designed differ and have tended to amplify over time with a growing sophistication of the financing and delivery system for broadly similar but not invariant outputs. Much the same is expected from all countries developing accounting approaches.

⁷ As for all accounting systems, directed observation is not possible for all transactions and indirect methods, relying on ratios and indirect modes of calculation, penetrate the matrices. Expenditure on dental care, for instance, has long been overestimated as virtually complete records existed for prostheses but, for fillings, a ratio based on one survey: average number of fillings per prosthesis installed, obtained in 1993 was used for the subsequent two decades and a half when the survey was repeated, a period during which with tooth brushing, the fluoridation of water, ..., the conventional tooth decay had fallen. Anecdotes of the kind fill the corridors of all statistical offices.

United Kingdom:

Serving government enterprises, many nationalised at the time the National Health Service entered in operation (1st July 1948), the reporting system pre-dates the French – Dutch – German and many other European countries' accounts. Until the early 1980s, formally the accounts were those reported by government enterprises with an emphasis on aggregate provider costs: the wage bill, capital accounts, purchases from other enterprises (of which contracts with General Practitioners. The Office of National Statistics (ONS) *Blue Book* (National Accounts) has been a regular carrier of aggregate financial information, together with the NHS National Executive (and related specialised bodies) reports documenting hospital activities (doctors' remunerations, pharmaceutical consumption, ...) regarding the public sector – generally held to fund 9/10th of the system. Separate institutions regulating the English, the Welsh, sometimes the English & Welsh, the Scottish, the Northern Irish health systems, the only aggregate information was that of the *Blue Book*, which also carries an estimate of household purchases of medical goods and services, including part of private insurance (an estimated 11 % of households have been carrying in the past decade, for many a *perk* provided by their employer, a sizeable increase since the early 1980s which has since hit a ceiling). Private suppliers, whose importance has somewhat grown in diagnostic - elective surgery and, lately, long-term nursing care, are periodically surveyed by a private consulting firm.

As part of a pilot study conducted to by OECD countries to verify the feasibility of implementing the *System of Health Accounts* (SHA) blueprint, the information collated has been formally consolidated by the Office of National Health Statistics (ONS), which has released the aggregate values for 1997-2002. ONS has complemented data for 2003-2005 but not published it. The ONS worksheets implicitly carry the details required to prepare full-fledged Health Accounts.

Several reforms introduced in 1979 and during the Labour Governments between 1997 and 2007 have focused on micro-management, refining successive versions of GP practices *purchasing* hospital services in partly competitive markets and of incentive-based management of hospital trusts: Anticipating on an explanation of the British entry in table 2-2 below, the return on human capital has been considerably enhanced (micro-data comparisons suggest that GP in England enjoy in 2006 higher incomes than their

continental colleagues relative to average disposable income), the investment in refurbishing or constructing new hospital facilities and equipping day centres is booming, many queues have diminished but little evidence of a narrowing in previously documented gaps in health status has surfaced, except in relation to the United States (where relative spending is twice as high).

A high-level Commission, chaired by Professor Atkinson, has recommended a re-evaluation of the age-long principle of a zero productivity assumption for non-market services. The documentation collated – over 1,700 medical and surgical procedures analyzed for the period 1997-2004 – is inconclusive regarding a measurable aggregate productivity gain in the British

Health system (different and lighter productivity gain measurement are under way in Denmark and Finland notably, of which the results are not yet accessible). Accountingwise, the British experience emerges as one in which the conventional classifications fulfil the needs of the Treasury, of departmental management but provides no proof that it can go beyond and meet the governance needs of a society targeting outcomes.⁸

Britain's hospital delivery sector for much of the second half of the 20th century has been a mammoth NHS and a modest private sector catering to a niche segments. The reforms implemented during the closing two decades have permitted private-public partnerships notably in diagnostic and specialised surgical services. As Public Private Partnerships (PPP) are expected to be conducive to efficiency in timely delivery, cost control and management skills, valuation issues have landed on the desk of British (and other European countries where health \$ PPP have gained a strong foothold.

⁸ That conclusion does not exonerate the French accounts previously examined, nor the international blueprints pushed forward by OECD – Eurostat – WHO, from a similar assessment. From the point of view of India and Indian States, the implication is that in the on-going *appropriation* process, the shortcomings of borrowed blueprints must be transparent and, once the implementation in orbit, a domestic investment is required to improve on the borrowed formulation until it complies with the Planning requirements that may be expected to augment in sophistication as economic growth rates in excess of 9% are recorded. The large Indian corporations invest between 5 and 9 % in knowledge about themselves (including marketing, etc.) The Indian R & D budget is slated to increase from 1 to 2 % of GDP during the Twelfth Plan. The Indian investment in knowledge about its health system, including accounting by hospitals, epidemiology, advocacy of special groups dealing with AIDS, diabetes, leprosy, psoriasis, ..., is reckoned not to reach 1 % of health expenditure. The National Cell of National Health Accounts and the States should invest in furthering their governance auditing tool once it is institutionalized.

Inherent to the British approach has been a conventional public finance analysis – as £ 9 out of 10 were financed by the Treasury – that required no analysis of the 10th £ which have entered the picture mainly at the insistence of the OECD Secretariat which, from 1976 onwards, has insisted on the global picture, mainly to facilitate the introduction of multi-payer systems in a comparative framework. At the time, the largest private payer (the United States) accounted for 55 % of the total. As India will only gradually move towards a lower private share, an emphasis on public spending may not be its preferred path to health accounting (this observation does not preclude the development of public accounts of education, health and social care).

Estonia

Prior to the entry of Bulgaria and Romania in the European Union, the Baltic countries (Estonia, Latvia, Lithuania) – which had been infeodated in the Soviet Union in 1945 – had the European Union’s lowest per capita incomes, but have also emerged as the countries with the greatest ambition to close the income gap. In 2006, the Estonian economic growth rate is estimated to have reached 11.2 %, the Latvian one 10.N %, Lithuania N.N %. (in nominal terms, between 1995 and 2005, Estonia quadrupled its GDP, Latvia multiplied it by 3.5 times and Lithuania 2.8 times). The social policies have deliberately prioritised employment and productivity growth. Inheriting a *Shemashko* endowment, the three countries have opted for a fast downsizing pf their hospital establishment (the capacity measured in beds per 1000 population fell from 12.2 at the end of 1990 to 5.8 at the end of 2005 in Estonia – from 16.3 to 6.7 in Latvia – from 12.4 to NN %° in Lithuania) and substantial shifts in their purchases of medicines (table 2-2 below provides an estimate).

With a leitmotiv of implementing high standards of governance, Estonia moved to implement health accounts in the late 1990s. It was first guided by the World Bank to implement the so-called Harvard method (the United States Health Care Financing multiple payer approach) but, informed in 1999 about the impending publication of the OECD manual, it moved in stages to implement the latter. SHA (and PG) offered the advantage of proposing classifications [these are briefly examined in chapter 3]. The conversion to SHA was fully effected in 2004 and the data collated for past years hand-adjusted back to 2000 and in part to 1999.

A major difference between Estonia and other countries which have piloted a SHA and implemented the Joint Questionnaire (JQ) lies in the *population* of the cells. The JQ 2006 (and most pilot exercises conducted in 2002-2003 under OECD auspices) have been carried out by Central Statistical Offices or agencies with an institutional responsibility for Health Accounts in the case of Australia, Canada, Japan, Korea, Mexico, United States. In Europe, the exception is Estonia, where the Ministry of Health and Social Affairs exerts that responsibility.

The population size (13 lakhs) and a low per capita and total income level implied that the total resources devoted to the health accounts had to be constrained. Lacking access to all public finance flows – which Statistical Offices are entitled to – and to a large part of the economic agents reports to the Finance Ministry, to the Ministry of Industry and other – the Ministry of Health elicited a government decree instructing all Ministries other than Health and Social Affairs to fill once a year a questionnaire that reports spending on health carried under their responsibility. Estonian diplomats abroad may be insured against large health care bills they might incur. Defence – Education – Justice – Labour conduct recurrent health programmes for the Armed Forces, school age youth – prisoners – work protection. Recurrent also are the distribution of medicines, a fair share of which is imported, that are supervised by a specialised agency. Non-recurrent activities may include trials of new medical equipment conducted under the auspices of the authorities monitoring R&D in industry. The pursuit of health goals constitutes by that procedure a national task with shared implementation and reporting responsibility, centralised by the Ministry of Health.

The drawback of a questionnaire approach is obviously that only rows and columns are reported without without the path leading to the cells filled; this constitutes a potential risk of double counting and a potential risk of underreporting when questions are misunderstood. The exceptional civic and administrative cohesion in Tallinn limits the risks as does a heavy concentration of expenditure in establishments monitored by the Ministry of Health and Social Affairs (and the willingness of the Agency monitoring the dispensation of medicines to ensure high standards of reporting by small pharmacies, filling gaps in one of most digitalized countries in the world). The lack of immixion in the carry-out has meant a high degree of commitment, various ministries setting up procedures

to survey the health activities under their jurisdiction over which they exerted previously no control.

As a model, notwithstanding its efficacy: by European standards, Estonia operates at low cost, yet a decade and a half into independent management of its health affairs exhibits gains in its health status indicators that match those of other European Union countries (though from a lower basis), the inexpensive approach to produce health accounts conducted in Tallinn does not appear to be a readily exportable commodity. Interaction with the Baltic neighbours, with Nordic statisticians, with European health accounts has facilitated a recurrent questioning of the data collated. These induce marginal year-to-year improvements.

Selected features of other Health Accounting experiences

Eventually, all Health Accounts walk in the footpaths of the National Accounts' classifications. The Netherlands Statistical Office has opted to track health spending in a fair detail, which subsequently makes up the health aggregates in the National Accounts. In the process, it emerged that the joint products health care and social care cannot readily be dissociated with the sources of information accessible and that only a conjoint account is possible. As few residential nursing care institutions emerge in the readily accessible Indian statistics, the boundary issue can be addressed anticipatively. In Europe, the growth of palliative care generates a demand for information that is partially met by each country's statistical machinery but also confronted at professional level by the European Association of Palliative Care (EAPC). Non governmental organisations have sprung to deal with every facet of health care, dealing with general and specialised medical fields, with various forms of institutional arrangements, with medical information and electronic record issues, The hospital industry in many countries generates a considerable amount of intelligence which is accessible to the statistical units preparing health accounts, as are data on same-day surgery prompted by the International Association of Ambulatory Surgery (IAAS) and bodies dealing with minimally invasive surgery. Organ transplants, hypertension, diabetes, cancer, ..., are monitored by official statistical agencies as well as by transnational bodies acting as interest groups and/or as learned societies, that amplify and diffuse best practice in the most advanced states. The emulation across borders should not be disregarded as a force of progress. The medical goods industries share in that information activity: pharmaceutical manufacturers and

retailers, medical equipment producers, ... Patient associations are active as well, promoting by repeated demands decisions to monitor one or other behaviour, generating at times new information. For health accountants, a difficulty consists in channelling that partial observation into the organised classifications that constitute the basis of the accounts (chapter 3 discusses some of these).

The Central Statistical Office of India, the Reserve Bank and numerous agencies collating information on the Indian economic and social system operate in a similar environment. The European experience has been that the civil society, the industrial and professional stakeholders are the owners of essential information not previously collated. India, for instance, has a sizeable generic medicines' industry, which may yet equal the strongest in the world to produce off-patent medicines, but also be the (actual or potential) suppliers of a rich accounting documentation. The message is also that health accounting has been a long haul, the product of a myriad of information sources, which can be tapped with the appropriate administrative approaches, increased also with appropriate regulations. Emulation helps, thus opportunities for methodological sharing between the 30 States.

The European experience is, however, also one which underinvests in health information and in health accounts. The manufacturing industry typically invests between 5 and 10 % in knowledge about itself and its operations, ranging from R&D to management consultancy to internal communication to external communication (advertisement). By contrast, human health R&D excepted, the evidence accessible suggests that less than 1 % of medical and paramedical turnover is epidemiology, activity an analysis, consultancy, statistics and the like. Though the global investment in knowledge about their system is deficient, there is considerably more information about the health system than is commonly denounced. It is, however, still poorly aggregated, synthesized and organised. Health accounting has proved to be a powerful catalyser leading to considerable innovations that both responded to managerial demands and to ways to capture the synthesis.

The *managed care* episodes of the 1980s have equipped Belgium, France, Ireland, the Netherlands, the Nordic countries (Denmark, Finland, Iceland, Norway, Sweden), Spain, the United Kingdom and other countries with diagnose-related hospital statistics complementing at the resource level nosologic-based records. The surge of same-day

surgery has been traced short after anaesthetic products and instrumental innovations permitted its expansion by a coalition involving surgeons favourable to the alternative and health accountants. Pharmaceuticals are tracked by brand holding producers but also by generic manufacturers.

Norway and Portugal track the production of health care in greater detail, developing quasi Satellite Accounts, adjusting the boundaries of the health function to suit the SHA Health Care reporting. In Mexico, the Ministry of Health produces SHA by selective picking in the relevant reporting systems using the standard classifications so that the accounts can be developed by each State; the Mexican Statistical Office conducted at federal level a Satellite Account exercise that did not start from the production side but from the SHA functions, interrogating for Census years the productive apparatus, moving backwards to track the financing agents which “purchase” that production, balancing then the results obtained. For intercensus years, the value added estimates for the relevant branches provide the gauge from which to assess the consumption dimension and the missing financing data. The three approaches circumvent the conventional drawback of the Satellite Account approach that fixes arbitrarily the boundaries and banks on a greater accuracy of the monthly or quarterly production indices and surveys.

In Austria, Belgium, Germany, Luxembourg, Switzerland, the main “purchasers” (payers) are health insurance institutions with a long tradition of accountability and reliable records. That route is also travelled by many new European Union member States with, however, a shorter tradition, such as Bulgaria, the Czech Republic, Latvia, Lithuania, Poland, Romania, Slovenia .. These are co-payers or co-insurers, leaving a share of the bill to households. In several countries, the original records do not only tally what the insurer paid but the total amount due, yielding estimates for all payers ... except gratuities and under-the-table payments (by nature, not known except that the “usual” practice has been codified by some parties, examples including Hungary and Lithuania). National Accountants which have long had to estimate grey markets have provided information on formerly unknown informal payments and on informal health providers, for example in the Czech Republic.

In Denmark, the district statistical registries interconnect provider registries’ information with the socio-demographic bases. Comprehensive records are maintained by

the paying agents, the communes in Finland, the hospitals and the social security in Iceland, the counties in Sweden. The Irish Health Boards and the Spanish Autonomias who regulate regional spending locally ma too has expanded population-based records.

In sum, experiences which point out the usefulness early in the institutionalization process to recommend or to require traceability of the payments received for health services from public and private stakeholders. Private insurers and market intelligence firms are important sources to tap. In Sri Lanka, the pharmaceutical consumption estimates rely largely on probably the largest international market intelligence firm on that data. Ph.D. dissertations and one-off academic research projects have been found in the European experience to constitute a large reservoir of pointers where to start and where to head of first. No account has, however, been perfect the first time around. Finland determined to create accounts, entrusted its construction to a skilful analysts in the Social Insurance Institution; questioning the results, it entrusted another researcher to create an alternative approach and only after completion chose the way it institutionalized its data.

If Europe's health financing black box has rapidly been populated, it is because it could bank on a wealth of partial data files, including the health insurance institutions, the provider organisations and relatively integrated data compilations of physical inputs in the delivery systems. When values and quantities are known, the missing link is pricing. The monitoring of price indices has been much amplified with the economic integration process, including in fields not entering harmonization (this has been the case of health).

Projecting the past to determining the future

The accounting approach devised is challenged as resource consuming and time consuming. A senior policy adviser opening a national symposium at which the country's first national health accounts were presented lamented that the data to be discussed in mid-2006 related to 2001-02, while he was already involved in preliminary arbitrages relating to the 2007-2008.budget. Table 2-2 aims at demonstrating that, once a basis has been established, the calendar 2007 budgets could have been prepared with crude indicators of the calendar 2005 outcomes where a prior accounting base was pre-existent. Table 2-1 suggests this to be the case for most European countries. Invited to indicate the time profile required to comply with the complex 2006 OECD – Eurostat – WHO Joint Questionnaire procedure, most statistical offices responded 3-4 man-months. Invited to indicate when

important building blocks (in Europe, executed government and social insurance budgets constitute over three quarters of total financing, the opposite reflects better the Indian situation), the range in the response is larger but at $t + 5$ (end of the calendar year plus five months) constitutes a fair representation, making it possible to produce crude and preliminary aggregates by mid-year and, short of resource constraints (as health accountants have mostly other duties to attend), preliminary health accounting matrices by $t + 9$ or 10 when many Parliaments debate the next year budget.

The Netherlands in the early 1960s produced sketchy health accounts related to five years before. In 1977, the ministry of Health embarked on the production of a skeleton financial summary covering the past five years and sketching the next five on the basis of ministerial proposals tabled in Parliament. In the 1990s, Netherlands Statistics submitted to the ministry in February a condensed sketch of the expenditure incurred in the year terminated in December, refining and extending these by May, publishing the data in August. At the beginning of the Millennium, the health statisticians were drafted to prepare the health entries in the annual National Accounts to be released around mid-year.

The possible acceleration in the production of health accounts can prospectively match with a short time lag the demands placed on macro-economic accounts, accessible during the quarter following the end of the calendar or fiscal year.

New European Union Member States, like Lithuania or Slovenia, far from lagging in respect of their partners, release on a monthly and quarterly basis cash flow data that seasoned accountants will integrate in accrual-estimated health accounts. There is no urge to achieve that target, but the policy relevance criterion underpinning the production of the health accounts dictates that the $t + 36$, $t + 30$ and $t + 24$ releases, fairly common in the early years of the tool are unlikely to depict the environment of the next decade. Indian health accountants in shaping the tool are strongly urged to adapt the blueprint to its administrative reporting requirement and surveys so as to pencil a similar performance.

Though the $t + 9 / t + 10$ is not yet a requirement in Europe, in parallel to the development of new accounts for Orissa – Karnataka – Maharashtra, a hand-update of the financial dimension and of selected vectors of the final use dimension of the 30 European accounts established through 2004 has been generated. The update assumes that globally

the financing-provision and the provision-consumption relationships remain stable from stable from year to year. Aggregate public finance, social insurance and survey records permit to extend aggregate time series accessible on the national accounts and other statistical indicators. The partial synthesis yields indicators that do not provide the wealth of information of the matrices filled eight - ten – twelve months later, nonetheless provide a plausible evaluation of the main NHA indicators.

[a cruder attempt, carried annually on two thirds as many countries in the 1990s, provided few deviations from the indicator-levels released half a year later].

Though failing at the detailed level, the quick measurement can be integrated into relevant analyses, e.g. in Table 2-2:

- though most European Union countries are high relatively spenders, with the exception of Estonia, they have budgeted and continue to budget increased commitments towards the provision of health services, albeit marginal in several

**Table 2-2 European health systems' measured expenditure patterns:
selected 2005 levels and 1995-2005 trends**

Countries	Total expenditure on health						Public Health insurance % point change* 95 – 05	Pharmaceutical spending share	
	% of GDP 2005	% points change 95-05	Elasticity to GDP 1995-2005	Share pooled expend 2005	Share Public expend 2005	Share public Insur. 2005		% THE 2005	% points change 95 – 05
Austria							11.6	13.7	0.4
Belgium	9.6	1.4	1.17	75.8	67.3	62.7	4.5	18.7	2.0
Bulgaria	8.3	3.3	1.64	58.4	51.9	30.7	-16.0*	22.0	1.7
Cyprus	6.0	1.2	1.26	48.4	43.5	0.2	8.0*	25.8	-0.8
Czech R	7.0	0	1.03	89.6	89.1	80.8	4.6	20.6	-4.6
Denmark	8.5	0.3	1.00	84.1	83.6	---	-0.2*	8.5	-0.6
Estonia	5.2	-0.8	0.82	79.2	76.9	70.9	-6.7	25.7	5.3
Finland	7.5	0	1.00	81.1	76.5	17.0	2.2*	16.3	0.3
France	10.5	1.1	1.01	92.6	79.1	75.7	1.7	18.5	0.9
Germany	10.5	0.1	1.00	86.2	77.2	66.7	-0.6	16.0	0.3
Greece	7.7	0.1	0.98	53.5	51.3	28.7	-0.7	17.2	1.5
Hungary	8.3	0.8	1.10	75.6	72.8	67.4	0.2	25.5	0.5
Iceland	9.5	1.1	1.02	83.6	83.6	31.2	-0.3*	16.6	-0.1
Ireland	7.3	0.6	1.01	87.0	80.6	0.6	9.0*	14.2	3.8
Italy	8.7	1.5	1.02	81.0	11.0	0.1	3.9*	20.3	-0.8
Latvia	7.2	1.5	1.30	54.2	51.9	43.4	7.5	21.9	-1.8
Lithuania	6.3	0.7	1.13	74.4	74.3	55.8	43.0	34.4	6.1
Luxembourg	8.1	2.5	1.46	93.6	90.8	73.3	-3.7	12.7	0.8
Malta	7.4	0.6	1.32	81.4	76.4	52.1	4.4	36.8	1.2
Netherlands	8.9	0.6	1.11	92.7	62.2	61.5	-4.2	18.2	7.2
Norway	9.2	1.3	1.16	84.3	83.0	13.4	-0.6*	8.9	-0.1
Poland	6.2	0.6	1.14	74.2	69.8	56.9	0.6*	27.9	0.3
Portugal	10.3	2.1	1.21	79.1	72.8	1.0	10.1*	21.9	1.7
Romania	5.1	1.6	1.05	68.3	66.0	56.4	-4.2*	28.6	11.3
Slovakia	7.1	1.1	1.24	80.0	72.4	64.4	-16.1	38.0	12.4
Slovenia	8.7	1.5	1.20	90.3	75.3	68.8	-1.4	20.6	1.7
Spain	8.1	0.7	1.01	76.3	70.2	5.0	-2.0*	25.0	3.4
Sweden	9.0	0.9	1.11	86.1	84.9	---	-1.7*	12.1	-0.4
Switzerland	11.8	2.1	1.21	68.2	58.7	41.8	4.2	10.3	0.3
United Kingdom	8.4	1.4	1.02	88.1	87.1	---	3.2*	12.4	-2.9

Notes :

1. *OECD Health Data 2006* released series through 2004. The 2005 levels are estimates prepared for the purposes of this report. They are based on partial national updates consistent with the 1995-2004 series accessed. The elasticity for the first 9 years results from the series accessed, for the 10th year is estimated for this report. A similar procedure has been applied for the 8 non-OECD European Union States: WHO NHA data through 2003/2004 + partial updates accessible on the Internet files maintained by these countries. The 2005 levels have been estimated at a more disaggregate level than that shown. These projected figures are a “likely outcome of data to be released in the second half of 2007”, not an early release of official figures.

2. For the *Beveridgian* countries *, and for Bulgaria* – Poland* – Romania* where the social insurance was introduced after 1995, changes in the public expenditure ratio are used instead of changes in social security pooled financing.

3. The pharmaceutical concept retained is, to the extent possible, “final use” (comprising consumer purchases in pharmacies and retail outlets plus medicines consumed in hospitals). Gaps in hospital-acquired medicines may result in level underestimates shown in the 9th column; the downward bias is then smaller in the 10th column.

Higher spending countries

- Estonia's lower profile results more from one of Europe's highest growth rate of GDP than a strong restraint of the nominal rate of expansion of health expenditure, respectively % and % in the period 1995-2005
- the continued high fast rate of health spending should preferably have been calculated against trend GDP (or at constant prices, potential GDP) as the period covered still includes years of declining GDP and the health insurance coverage, started in 1998, reflects in addition to huge intrinsic needs a drive to catch up with minimum European Union standards
- measured against Gross National Income, the elasticity rate for Luxembourg would be (the return on the high level of financial assets held in the Grand Duchy by non-residents inflates the GDP more than it does the numerator)
- Switzerland experienced during most years and still in the period projected a high level of prices of its medical and para-medical care, the volume of services and goods provided (measured independently) exhibiting a less extravagant rate. During much of the decade under review, the rate of economic growth has been rather sluggish. The absence of detailed volume and price indicators in SHA 1.0 constitutes a major weakness of the approach, particularly when a health system's behaviour deviates somewhat from the experience of its partners
- the United Kingdom's recent performance, further accentuated during 2005, reflects a policy decision to augment between 2002 and 2010 the level of expenditure up to the average of the European Union. Much of the increase has been directed towards investment in medical facilities (included in the numerator of the ratio shown in the first column of table 2-2) and in higher unit payments for medical and paramedical professionals, not in substantially higher volumes of services
- the trends towards the privatisation of health care finance has been strong and, on the basis of the projected 2005 financing and spending levels, remains strong only in Estonia (see above), Finland, Hungary, Poland (.....), Romania, .Slovakia (seemingly a consequence of aggregate tax and expenditure policy changes, halted in 2006 according to preliminary projections embracing a year subsequent to 2005)
- the intensity of pharmaceutical consumption has continued unabated (higher prices as well as high volumes, though this requires indicators not highlighted in Table 2-2) .

This introduction to uses of NHA indicators designed for Indian audiences is not the appropriate place to extend the discussion on strengths and weaknesses of the European environment, which is radically different from that found in most Asian countries. Table 2-2 served to indicate that administrative records and projections of behavioural patterns revealed by household surveys can lead to a rapid update of NHA matrices previously constructed and tested, and though not very rich in detail, contribute to the understanding of the health system reviewed. One of the purposes – and lessons in the Indian context – is the desirability when starting an NHA construction process to consider institutionalization and to verify that selected indicators represent plausible trends.

COUNTING THE BEANS IN ORISSA, KARNATAKA, MAHARASHTRA*

3.1 Till the creation of the Indian Union in 1947, activity and consumption, the contribution of the various segments of the population to national output and the distribution of the wares produced was not systematically, nor exhaustively and consistently monitored. Extremes, like famines and poverty or bountiful harvests and break points in social mobility, were the object of sporadic reports but government – industry and the other pillars of society were not rigorously accountable. Though countries of the world then as now implemented the principles of governance and human rights with different shades of commitment, prior to the creation of India as an independent State, the instrumentation and the rod to gauge departures from imprescindible rights and the drive towards sustainable economic and social performance did not exist. Light forms of accountability have pre-existed in empires, kingdoms and other forms of political organisation as the rulers needed a tally of people who might be enrolled in their armies, as they needed indicators on forms of activity susceptible to be taxed, as deviations from ethical and moral codes needed to be sanctioned. But, even the most sophisticated states were not equipped to comprehensively, consistently and accurately measure the income and wealth of their nation, the level of activity or the distribution of the commodities produced. The tradesmen and landlords' curiosity had long been in alert to satisfy their managerial concerns in matters of inventory management or valuation of their enterprise on the Stock Exchange. Much a similar numeration in money terms of the State's assets and liabilities, tax intake and disbursements had taken place over the centuries, arrayed in a similar T format as that of tradesmen and companies; for lack of an ability to aggregate zillions of T-accounts, the records on the product of harvests, on the costs of hired labour, on the acquisition of commodities in bulk and their disposition in retail batches, on food -, clothes -, school services -, ... purchases, of donation to charities, of tax collected, public services assured, could not be assessed properly. That intelligibility, the ability of better performance in public accountability made great strides coincidentally at the time India organised

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itself as an independent State. The new Union endowed itself with that power to account for economic activity. The Central Statistical Office, the Reserve Bank of India and other institutions at the Union level or at State level may pride themselves to have accompanied accounting standards established during the second half of the 20th century. More is still required but failure to move is more the result of insufficient funding – measurement too requires resources – and other forms of societal neglect in the search for behavioural relationships and other determinants of economic and social activity.

- 3.2 The bookkeeping T-accounts convenient for one agent and to record large numbers of fairly homogeneous transactions, adapted for use at State and Union level, survive in the conventional budget procedures. Matrices cross-classifying clusters of less homogeneous transactions (though maintaining the distinction between resources entering and systemic outputs) have boosted the power of the zillion T-accounts in providing teeth to a descriptive analysis of the national household. The intelligibility exercise started in the late 1940s - early 1950s has rapidly trespassed the confines of macro-economic bookkeeping. From descriptive, the accountability models have evolved towards a more analytical status. The future of many businesses, as well as that of elaborate systems – the economy – depends on the right choice. The assignments attached to national accounting include since decades an explanation of past behaviour, a monitoring of the present, (nation-income accounting) scenarios of the period ahead, the financing and spending patterns, the observation of an aggregate production function and the costs entailed, the uses and benefit of the national product, the economic and financial relationships with the rest of the world. The approach has been developed downstream for agriculture, for manufacturing, for transport, for government finance, for human resources management and capacity building, for social protection and for other functions of government. India has in most domains of economic and social accounting emulated with only a modest time lag the drivers in accountability. There are lags and the menu to catch up with the frontrunners is large but the will and the ability to forge ahead are intact. Society awoke fairly late to the usefulness of monitoring comprehensively, consistently and rigorously the activity deployed to restore a lost health status, the efforts to maintain that status, the initiatives to enhance that status. Pilot exercises developed four decades ago, the higher per capita income countries

began to pay attention thirty years ago but it is only a decade ago that Health Accounts have entered on the formal agenda of the Organisation for Economic Cooperation and Development (OECD) and the first *Guidelines to produce National Health Accounts with special application for low- and middle income countries* carries the date 2003. India released its first National Health Accounts three years later.

- 3.3 Is the ability to account for high productivity gains in manufacturing, for numbers acceding the Internet or owning a cellular telephone, for the capacity of the railways to transport flocks desirous to visit relatives at the time of religious festivals, for the achievements of youth in their quest for a high school degree, for people living below subsistence level, a sufficient test that activity in health care services has been properly measured in India, that known disfunctioning in maternal and infant mortality, in iron deficiency and anaemia, in tuberculosis – malaria – sexually transmitted diseases – diabetes – leprosy and in other disabling conditions have been adequately attended given the generalised poverty level of the nation? Is the knowledge of the resources marshalled by the Indian society to reduce the risks of disabling conditions adequate because a National Health Accounts' cell has produced a first report and actively pursues efforts to report on a recurrent basis? Without any indictment of the achievement first released in June 2006, the answer is negative on three grounds.
- 3.4 The fabric of the Indian health system is foremost one of individual or household financial responsibility. Whether the gauge "share in total financing of health" marks four fifths, three quarters or two thirds for household matters obviously but is overwhelmed by the huge size of individual responsibility. That size is so overwhelming that it is neglected in the policy debate, as illustrated by a Cabinet member's statement that "expenditure on health in India should be raised from below 1 percent of GDP to nearly 3 percent" [the estimated level of what the Union government and the State governments channel through the health budgets and a projected level based on a sizeable allocation of the fiscal dividend – the expected tax intake under conditions of rapid economic growth – to health care]. The national instrument to assess the size of what households pay for health care – the global Consumer Expenditure survey of 1995/96, and the same survey in 2003, which

measure the purchase of food, of clothes, of other household necessities, of transportation requirements, of spending on education and other – is not very sensitive to “count the beans”, to assess what goes to hospital care, to ayurvedic medicine, to diagnostic laboratories, to medicines, to prevention and promotion. In what regards spending at State level – the Constitution entrusts States to channel much of the public money, not the Union – the achievements have been to allocate public budgets in the 30 States and territorial entities of the Union, which comprise several thousand entries, to broad functions like the administration of the States, like education, like health and family welfare of lines; the over 3,300 budget line entries found to make up the health sub-total in total public finance have yet to be coded [that has been one the first tasks in the this project for the three States of Orissa, Karnataka, Maharashtra but remains a duty for most other entities in the Union]. The third ground is more diffuse still: public administration in most countries is conducted at a pace and in an environment that does not permit a thorough assessment of the requirements monitoring and evaluation instruments should fulfil, a tailoring of these instruments to the specific environment. Accounting instruments are no exception: the articulation of the parameters to observe may be universal, the classifications may be universal, there remains a uniqueness in each construction, an ability to “triangulate” [to infer missing values from partially observed vectors], in a nutshell there remains a creative task once mountains of observation have been collected. Exerting a judgement on the plausibility of health accounting estimates is a challenge under any circumstances, it is a quasi impossibility when a large number of Union and State officials without prior health accounting experience congregate for a first attempt at “counting the beans”.

3.5 The Orissa – Karnataka – Maharashtra health accounting exercise has consisted in addressing the three concerns of:

- generating (with very modest means) a more accurate measure of household spending
- a more rigorous tabulation of public spending
- a genuine reflection on the questions that perhaps the three health systems (and the other systems in India) must address.

Admittedly, neither could be fulfilled optimally. Household surveys conducted with small samples always leave some bitter state, though an innovation in the representativeness of the samples in the three States earned in open discussions on the state-of-the-art a sizeable credit. A rigorous coding of the State budget lines was implemented but could not be cross-checked with budget officials. The systemic issues raised suggest that the range to address in India warrants adaptations of the pilot model proposed by OECD and WHO/the World Bank without there being resources to fully test out a model Health Account template addressing the Indian environment. These methodological facets sets are further addressed in the following chapters, as the limited ambition of this study comprises a stone to the construction of genuine Health Accounts in India and for India, its States and their populations. The budgetary coding issues and the estimation of what it is that people consume are more amply discussed in Chapters 4 – 5 and 6. The boundary issue and the structure of the Health Accounts are dealt with in some depth in the remainder of this chapter as a methodological challenge since it has not been possible to translate all proposals of the original blueprint, the *Guide to Produce National Health Accounts*, and the further elaboration in this exercise.

What is it that Health Accounts purport to highlight?

3.6 Health Accounts are fundamentally a cross-classification of information on the (monetised) flows of resources that lead to the consumption of goods and services satisfying a *health need*, i.e. a commodity which restores a lost health status, which contributes to the maintenance of that health status, which enhances that status. Many policy analysts would readily be satisfied if Health Accounts supplied two sets of figures: the commodities delivered by the health system (actually consumed) and the relationship of that actual usage to *perceived needs* (often expressed as *priorities*). As the needs are typically presented by Burden of Disease classes or by clusters of interventions (frequently referred to as case-mix classifications) while the commodities delivered originate from records kept by institutional or product classes, a divorce between demand and supply can easily be projected. The resource information can be arrayed by disease classes but, typically this breakdown is possible after the conventional resource flows have been robustly estimated and often consolidated through several runs. Epidemiological -, activity- and other sets data may be reconciled but, as this requires time and effort, many policy makers

(and policy analysts) when not obtaining instant answers, altogether throw the water and the baby in the tub, losing patience with their technical accountants.

3.7 Other stakeholders seek in the Health Accounts a *production function* type answer, notably Ministries of Health and their likes which exert a budgetary monitoring over what it is health establishments do, a concern for the supply of services more than the demand, a concern for running costs that does not exclude a monitoring of recurrent revenue as well as sources to maintain or to augment the capacity in the future. Finance Ministries and other stakeholders insist on a synthesis of what a health systems spends, not only what it costs, who purchases and where the resources the purchasers mobilize come from, including the income distribution impact of the system in place. These illustrations constitute only some of the most vocal ones in the demand of Health Accounts.

3.8 The generic questions preceding the construction of Health Accounts – at the centre with epidemiology or a form of expression of the health status of the population, of a global Health Information System – turn around the pursuit of four objectives:

- greater operational efficiency (productivity)
- greater effectiveness (outcome-oriented)
- greater equity in delivery as in financing
- greater empowerment.

They focus on the three dimensions considered:

- purchasing or financing
- provision
- consumption

a bi-facial process as each dimension has a revenue side and a disposition side :

- who purchases or who pays?
- which producer?
- how did the purchaser / payer marshal funds?
- what does the producer spend resources on?
- what is consumed in the health system?
- by whom?

3.9 Several approaches may address these concerns, complex equations or – the accountants’ preference – a sequence of tables weighting the composition of the three dimensions and their dual facets and of matrices cross-classifying two dimensions: a Financing Agent purchases from a Provider, a Provider supplies commodities (goods and services) to a Consumer or end-user, the value of the consumption equates the value released by the purchaser.

3.10 Matrices may also distribute the commodities consumed according to at least four classes of criteria :

- health spending reaches in different proportions specific socio-demographic groups (infants, children, youth, adults, elderly; men or women; urban dwellers or city dwellers; or groups combining several of these criteria)
- expenditure on health accrue differentially to specific socio-economic classes, proxied by income strata such as deciles or low income groups (those above the poverty level, in poverty, in dire poverty)
- the benefits of health spending are directed preferentially towards those with greater epidemiological or nosological needs (priorities determined by a burden of disease criterion)
- health care facilities and programmes are allocated according to geopolitical criteria, compensating or aggravating other income distribution criteria.

As may be deduced, heavy loads of information are demanded to address just the distributive extension of the health accounts – information that could not be all collected and processed in the Orissa – Karnataka – Maharashtra studies but that were important to design the household survey and to code the State expenditure as some light is shed on the three States spending that are not found in the *National Health Accounts of India* publication released in 2006. When the survey, administrative records and special studies which underpin the construction and the

populating of health accounts matrices are abundant, the value of the benefits distributed equal total consumption. It is, however, more realistic to assume some lacunae and expenditure that cannot be properly allocated; a matrix or table with an n.s.k.(not specified by kind) entry in relation to the criterion selected constitutes a substantial increase in the usefulness of Health Accounts for policy analysis (as well as an additional test of plausibility of the central tables in the Accounts).

- 3.11 The Provider records accessible in Orissa – Karnataka – Maharashtra are all but comprehensive and consistent [in no way does this observation incriminate the three State administrations: on the WHO scale of 193 countries, those with sizeable business registries, economic censuses and similar forms of basic information accessible to health accountants are few]. The experience of a number of countries which have constructed and populated health accounting matrices has been one of access to information on the cost of provision: the wages and salaries paid, the depreciation charged or capital consumption, the supplies purchased from other producers, and other costs entering the health production function.
- 3.12 The sixth table or matrix (only prefigured in the three States study, not fully compiled) corresponds to the National Accounts' Flow-of-Funds table, described in its early incarnation as "measurement without theory". A health system operates by design or by default as an implicit tri-axial flow: someone purchase (or payment) corresponds to someone's production and to someone's consumption. To verify the comprehensiveness, consistency and accuracy of the health financing – spending estimates, two of the three dimensions need to be measured autonomously. A purchase specifically affected to a production may result in a production that is not directly consumable or whose quality does not meet the standards on raises the costs. Examples in India include the distribution of condoms under a health promotion programmes, that were found unfit for the purpose, or a high nosocomial infection rate that raises the average length-of-stay and thus the effective cost of hospitalisation. A three-way measurement is also useful to "triangulate" missing information, to populate a few cells for which information is accessible under one (or two) dimension(s) but not under another (or the other two) dimension(s), information considered reliable on the basis of the quality criteria developed at data collection and data processing stage. The Financing Sources or Flow-of-funds

estimates yield valuable information corroborating the Financing Agents or Purchaser / Payers estimates and provide details on information consolidated in the Purchasing / Payment transactions, notably in respect of the origin of funds. The health system of Orissa, for instance, benefits from external resources that help in the eradication and/or treatment of leprosy, tuberculosis and other diseases; once merged into the State budget, the external funds cannot be further identified in the accounting process, though this knowledge is important for policy analysis.

- 3.13 Though the design of a health accounting system borrows from a standard framework proposed by the WHO, which is as yet only partially implemented in a number of Asian countries, at the design stage of the surveys underpinning the Orissa – Karnataka – Maharashtra pilot health accounting stage, and even though it was known that a full health account blueprint could not be implemented with the resource constraints faced, leave alone the entirety of the central identities, it has been necessary to design a full accounting system and to conceive some modifications from the OECD / WHO scheme on the assumption that the accounts for these States may in the future be repeated and expanded.
- 3.14 Chart 3-1 attempts to track the fuller model developed during the exploratory study for the three States.

Elements of differentiation embedded in the Orissa – Karnataka – Maharashtra Health Accounts

- 3.15 The *System of Health Accounts* (SHA) and the *Guide to Produce National Health Accounts* (PG) assume a large accessibility to providers' estimates (referred to by HP codes) and define many consumption estimates as analogous to the provision value (referred to by HC codes), as illustrated by HC.5.1 entries – pharmaceutical products dispensed by medical stores. The *National Health Accounts for India* could only account for 0.4 % of health care consumption occurring in retail pharmacies, whereas a measure of the expenditure in the Dharwad district (Karnataka) yields 39.8 % for medicines. As the mode-of-production approach contained in the SHA definitions yield implausible consumption estimates, the household surveys

conducted in Orissa, Karnataka and Maharashtra have been privileged as autonomous sources of data to estimate the consumption of medical care.

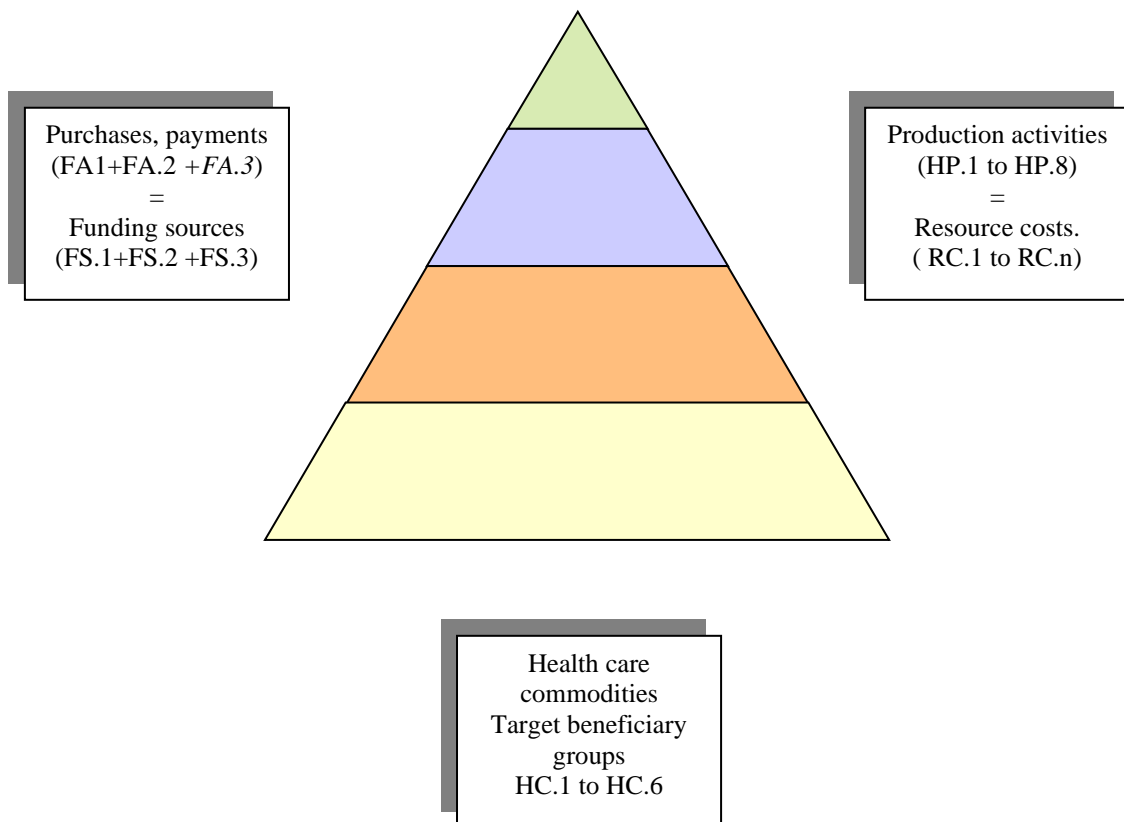
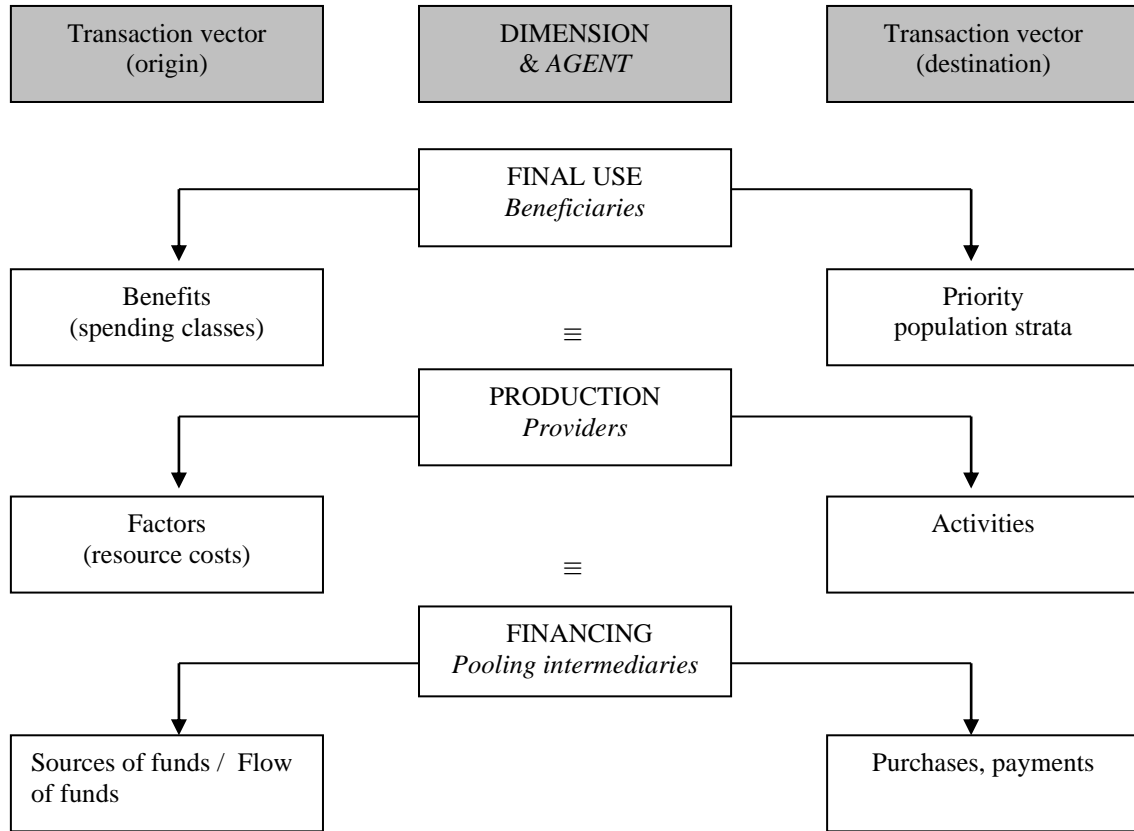
- 3.16 SHA and PG also present flows as exchanges between financing agents and provider agents. To the extent that the State expenditure have been coded at classes of transaction level and that consumption (also captured at transaction level) has been measured as transactions by beneficiary groups, the sum of transactions has been the aggregation parameter.
- 3.17 SHA and PG identify public and private administration (HC.7) as a *health care product*, which is obtained by equating the cost of these services (HP.6). As consumption in the pilot study for the three States was obtained from a household survey and not by assumption “a service provided is a service consumed” no independent verification was obtained of the product *administration*. The budget records provide an estimate of the administrative costs attributed to health and welfare which can be tagged to the consumption estimates obtained; is it wise?
- 3.18 The treatment of investment, a health-care related *product* in SHA and PG, has likewise been impossible to estimate from the consumption survey on which the principal empirical estimates for the three States are grounded. The budgetary estimates on the cost side do not emerge as totally functional, and the private investment data on medical care facilities could not be assessed as reliable. Though in the poor environment of the Indian States, investment is a key policy variable, there is a question as to whether the accrual adjustment required by SHA and PG accommodates expenditure entries which are not current cost data.
- 3.19 The original SHA does not integrate the beneficiary classes, the PG does so formally but no pilot study following the guidelines has been published. The household surveys have been designed by clusters based on a sample of geopolitical entities collecting information by age and gender class of the actual beneficiary. As the resources to conduct the survey were limited, the sample surveyed was determined on the basis of human settlements (villages / toluks) which in previous general household surveys exhibited a response pattern that approached the State average. Aside from the sample technique adopted, the survey integrated socio-

demographic-, socio-economic parameters in the measurement of consumption. No sociological and geopolitical parameters can also be included but less weight is given to these in the results, given the low weight of the relevant classes in the survey.

- 3.20 Resource cost questions included in the provider questionnaire demonstrate the usefulness of that information to the extent that the survey could only include a small sample and that the provider costs collected blown up to a fuller universe accessible independently provided a control over the total provision level.
- 3.21 In a setting in which household spending constitutes the dominant *pool* of resources mobilised, the skeleton development of a flow-of-funds table (previously not demanded by SHA) that includes intergovernmental transfers and transfers from Rest-of-the-world agents has emerged as an essential side-development for use by policy analysts. As that development parallels the recommendations in the PG but differs from it, the work undertaken for the three States suggests that more empirical and conceptual work is desirable distinguishing the pooling from the purchasing/payment function.
- 3.21 The contractual obligation to verify at the level of three States the international blueprint developed at OECD and somewhat modified and expanded by WHO has been respected, found to point to the key relationships in the analysis but difficult to respect without amendment. Some of the specific findings and/or amendments should perhaps be considered at the level of the Union.

Chart 3-1

THE TRIAXIAL INFORMATION CONCEPT APPLICABLE TO THE HEALTH ACCOUNTING SCHEME DEVELOPED FOR ORISSA – KARNATAKA -- MAHARASHTRA



HEALTH ACCOUNTS FOR ORISSA*

1. Introduction

The current state of India's health sector is the reflection of nature of health investment, programmes and policy presumptions adopted since independence. In spite of the concerted efforts of the government in this direction, the health sector of our country seems to perform relatively poor. The provision and utilization of health care facilities to the population of a country depends largely on the effective management of the flow of funds to this sector. For this purpose the understanding of the financial flows from different sources to the health sector, their utilization and the deliverables of the output assumes great significance. The critical areas in this connection are management of health care financing and a transparent accounting system of health sector which are in the domains of Health Accounts. In this background, the use of National Health Accounts (NHA)¹ assumes significance. Because NHA provides matrix framework to describe the various sources from where the funds come from, how they flow through various financial intermediaries and finally how different providers and socio economic groups use these funds. The present study aims at developing health accounts using NHA framework in three selected states i.e. Maharashtra, Karnataka and Orissa, in India. This chapter presents the Health accounts of Orissa. The chapter is organized as follows; Section 2 presents the socio economic profile of Orissa in brief and the health profile of the state is also discussed in this section. In the third section, we have presented the detailed methodology for developing the health accounts of Orissa. The fourth section presents the health accounts matrices for the state. The last section recapitulates the main findings of the study.

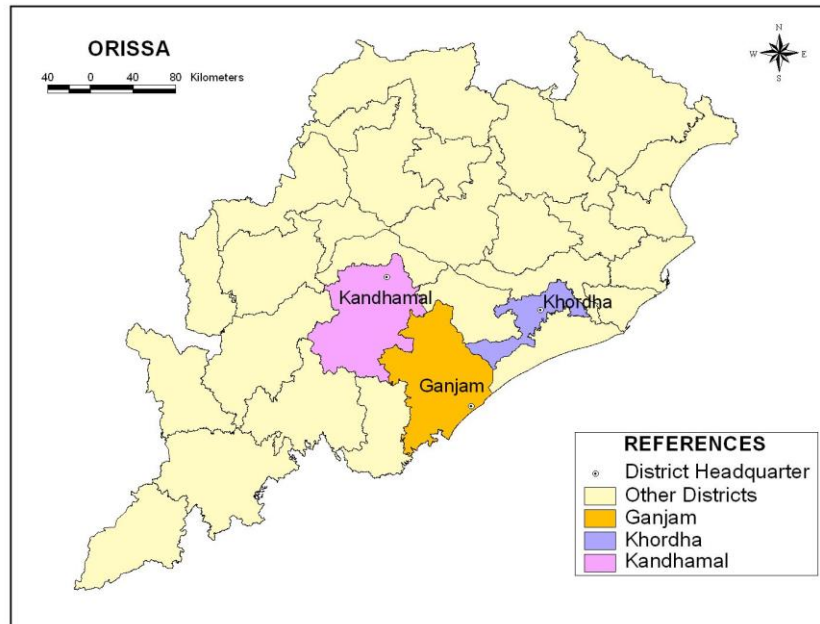
* Chapter Author/s : Dr.Sailabala Debi and Dr.A.R.Kulkarni

¹ NHA focus only on the financial dimensions of the health system and it does not distinguish between effective and ineffective expenditures of the health sector. Health sector includes not only financial data but also non financial information which can be collected from epidemiological studies, population surveys etc. Hence NHA must combine both the financial and non financial data with regard to health sector. In this background NHA needs to be understood and interpreted carefully.

2. The State of Orissa

2.1 Socio-Economic and Demographic Scenario

Orissa got the status of a separate state in April, 1936. The state of Orissa is located in the eastern coast of India and lies between 17⁰ 49' and 22⁰ 34' N latitudes and 81⁰ 29' and 87⁰ 29' E longitudes. It covers total geographical area of 15, 57,507 sq. km. which is about 4.7 % of the national geographical area. The map below shows the positions of different districts covered under the study.



Source: <http://www.mapsofindia.com/orissa/orissa.htm>

As per the administrative structure of Orissa, the state has been divided into 30 districts, 58 sub-divisions, 171 talukas and 314 CD blocks. Bhubaneswar is the capital of Orissa which belongs to the district of Khordha. For the purpose of constructing health accounts for Orissa we have chosen three districts with varying levels of development and these districts are shown in different colours in the above graph. The state has a population of 36.80 million which accounts for about 3.6 % of the India's population. The Census of 2001 has revealed a decline in the decennial growth of population from 20.06 % during 1981-91 to 16 % in the period 1991-2001. The density of population is 236 as against 313 for All India as per 2001 census. The urban population constitutes 14.9 % in the state. Orissa is considered as one of the most backward states of the country despite its abundant natural resources and rich cultural heritage. The literacy rate of the state was 63.08 % in 2001 census. The State ranks 24th in respect of literacy rate among the 35 States and Union Territories, with the mean years of schooling for males and females is estimated to be 5 years and 3 years,

respectively. The incidence of poverty, illiteracy and other indicators of socio-economic backwardness is particularly high among the population groups belonging to the scheduled caste (SC) and scheduled tribe (ST) categories, which constitute nearly 39% of the total population of the State and one-third of the population living below poverty line.

The per capita income of the State has been much lower than the national average over the past several decades and was Rs. 13601 as against the national average of Rs 23241 in 2004-05 at current prices (Orissa Budget 2006-07 at a glance, P-320). With about 47% of its population estimated to be living below poverty line, which is the highest in the country and much higher than the corresponding all-India average of 26.10 %.

In such a socio-economic scenario as above, it is perhaps not surprising that many of the pre-conditions required for effective implementation of any programme continue to remain unfulfilled even more than 5 decades after the planned economic development.

The details of Demographic characteristics are presented in Table 2.1.

Table 2.1
Demographic Characteristics of Orissa (2001 census)

Population	<ul style="list-style-type: none"> The population of Orissa is 36.80 million and the decadal growth rate has declined to 16 % in 2001 from 20.06 % in 1991. Ganjam district with more 3 million population has occupied the highest position and Deogarh has occupied the lowest position with 0.27 million population among the districts in the state.
Density of population	<ul style="list-style-type: none"> The density of population was 203 per sq.km in 1991 and it increased to 236 per sq.km in 2001. Khurda district has the highest density (667 per sq.km) and Kandhamal has the lowest (81 sq.km) density of population among the districts in the state.
Rural-Urban Distribution	<ul style="list-style-type: none"> The rural –urban breakup of population for the country is in the ratio of 2.6:1 and in Orissa it is 5.7:1 according to 2001 census. The decadal growth rate population declined from 20 % in 1991 to 16 % in 2001. The state has larger proportion of population living in rural areas (85%) than the country as whole (76 %). The concentration of urban population in the district of Khurda is the highest and lowest in the district of Boudh.
Sex Ratio	<ul style="list-style-type: none"> The sex ratio for total, rural and urban population of Orissa is 972, 987 and 894 respectively and the corresponding figures for India are 933, 946 and 901. There is no improvement in the sex ratio between 1991 and 2001 census The population in Nine rural districts in the state have sex ratio of exceeding 1000 showing in favour of females but no such case is found in urban areas.
Literacy Rate	<ul style="list-style-type: none"> The literacy rate of Orissa has gone up from 49.09 per cent in 1991 to 63.61 percent in 2001. The highest literacy rate in respect of male female and total is found in Khurda district (80.19%) while the lowest literacy rate for male and total population is found in Malkanagiri district (31.26%). Nawarangapur has the lowest female literacy rate among the districts of the state. The literacy rate of rural areas has gone up from 45.46 % in 1991 to 59.84 % in 2001 and that of urban increased 71.99 % to 80.84%. The literacy rate of males is always found to be higher than that of females in rural and urban areas of the state.

Source: Census of Orissa, 2001.

2.2 Politico-administrative Set Up

2.2.1 Political and Administrative Responsibility of Health Sector

Health care system in India is operationalized on a 3-tier system that involves central, state and local governments. Responsibilities relating to the health sector are divided into a Union List, a State List and a Concurrent List. The responsibility of the central government consists mainly of policy making, guiding, assisting, evaluating and coordinating the work of state health ministries. Subjects like public health, sanitation, hospitals and dispensaries come in the State List, while under the Concurrent List responsibilities are shared between the centre and the state with respect to subjects like population control, family planning, medical education, adulteration of food stuff and other goods, drugs and poisons, medical profession, vital statistics, etc.

The responsibility of the state includes management, supervision, monitoring and implementation of all types of preventive and curative health services at the primary and secondary levels. All types of health education, professional and in service training are also the responsibility of the state.

At the district level, District Health Societies (Zilla Swasthya Samittees) have been constituted in the state to look after all the aspects of health and sanitation programmes. These are integrated, viable and sustainable alternatives to achieve the goals of decentralization.

The constitutional amendments of 73rd and 74th (Panchayati Raj and Municipalities) provide opportunities and powers to improve health care services at the ground level. Improvement of all types of preventive measures, Family welfare activities, Immunisation and vaccination programmes, sanitation programmes etc are taken care at the block level.

The Gram Panchayats look after the implementation of all types of preventive measures, immunization and vaccination programmes etc.

2.2.2 Administrative Structure of Orissa Health Sector

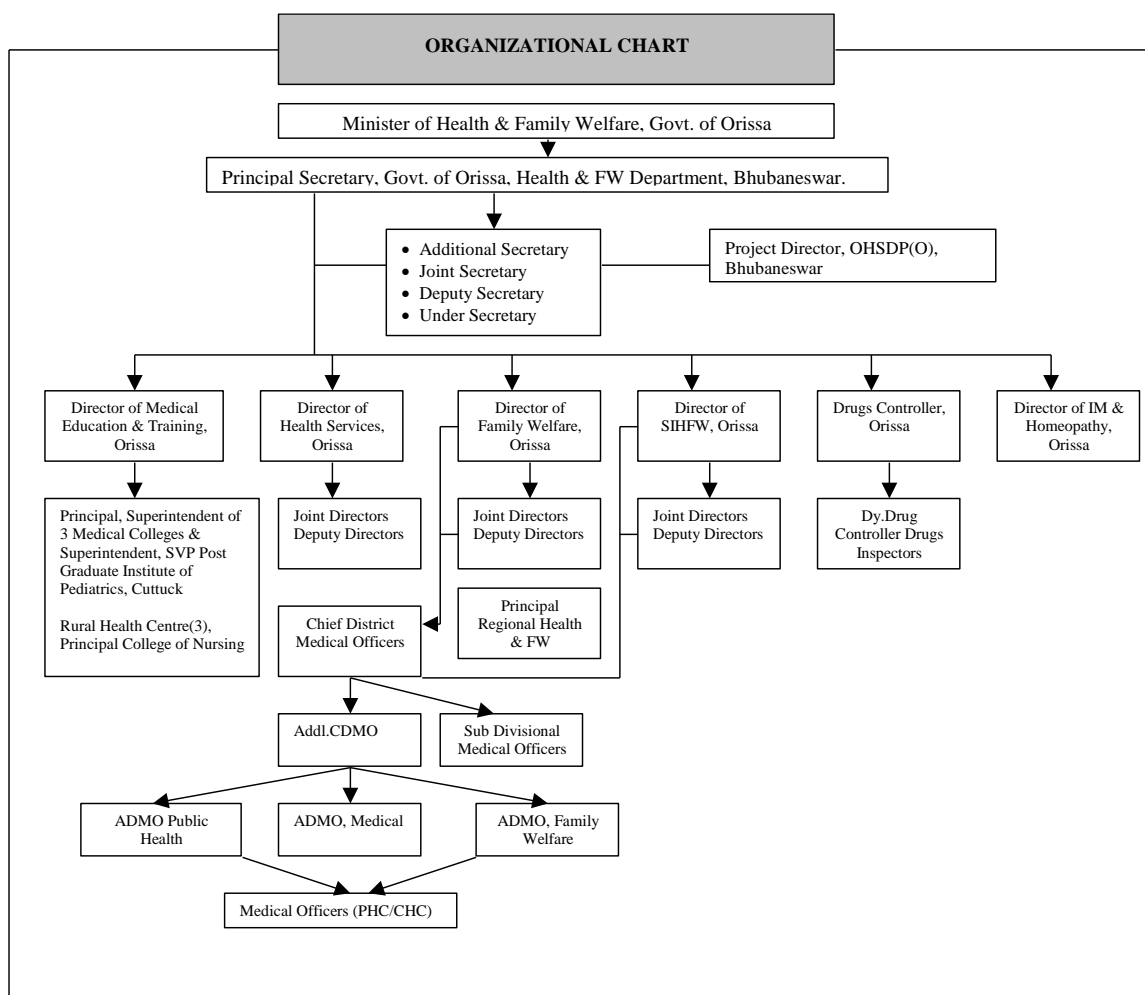
The Minister, Health and Family Welfare, is in overall charge of the State's health administration. The Secretary, Health and Family Welfare, is the Chief Executive of the Department. The Secretary advises and guides the Minister in all major policy and administrative decisions.

The Department is divided into six separate Directorates, each headed by a Director. The Directorates are Directorate of Health Services (DHS), Directorate of Family Welfare (DFW), the Directorate of Medical Education and Training, the State Institute of Health and Family Welfare (SIHFW), the Directorate of Indian Systems of Medicine and Homeopathy (ISMH), and the Office of the Drug Controller (DC). At present, medical professionals head all the Directorates, except the last two. The Director, ISMH, is a person with administrative background and the DC is a trained professional in Pharmacy.

The DHS is the 'Chief Technical Advisor' to the State government on matters relating to preventive and curative health services at the primary and secondary levels and is responsible for supervision, monitoring and implementation of all health activities in the State. The SIHFW imparts health education to all kinds of professionals and in-service training to paramedics.

At the District level, the Chief District Medical Officer (CDMO) is the head of the District health administration and is assisted by 3 Assistant District Medical Officers (ADMOs) and occasionally, by other Programme Officers.

At the Block level, the health care activities are looked after by the Community Health Centre (CHC) Medical Officer or the Medical Officer of the Block Primary Health Centre (PHC). She/he is assisted by a team of doctors, paramedical and ancillary staff. The CHC or the Block PHC is usually set up for a population of approximately 80,000 to 1,20,000. Below the CHC or Block PHC is the single doctor institution known as the Primary Health Centre (New). This is meant to cater to a population of 30,000 in plain areas and 20,000 in tribal and hilly areas. Below the PHC (New) there are several Sub-centres. Each Sub-centre, which is set up for a population of 5000 in plain areas and 3,000 in tribal and hilly areas, is staffed by paramedical professionals, viz. a female Multipurpose Health Worker (MHW) or Auxiliary Nurse Midwife (ANM) and a male MHW. The chart 2.1 presents the administrative structure of the state.



2.3 Health Profile of the State

2.3.1 An overview of Health Status

The health sector in Orissa has passed through various phases during the last couple of decades. No doubt, the economy has succeeded in checking some unhealthy trend to a large extent but there is enough scope for improvement. For instance, the respective decline in Crude Birth Rate (CBR) and Crude Death Rate (CDR) by about 10 points and 3 points has resulted in fall in natural growth by about 7 points during 1981-2002. The slow decline in death rate can be to some extent due to discouraging performance of the state in reducing both child mortality rate and Infant Mortality Rate (IMR). Of late, IMR in the state (87 per 1000 live births) is much higher than that of the major states and national level (63). This is noticed along with wide variation across the districts in Orissa and between rural and urban areas having respective figures of 99 and 65 per 1000 live births. Second, in some other aspects namely, morbidity rate and maternal mortality rate, the performance of the state is not quite encouraging. Concomitantly, elimination of various diseases namely, polio and leprosy and control of communicable diseases became some of

the crucial issues to be tackled effectively. Third, in both health infrastructure and manpower infrastructure, the state is lagging behind some other major states, implying an urgent need to go a long way to improve access to health care facility for the population in general and rural underprivileged segment of the population in particular. Fourth, equity in health care services does not seem to have been assigned adequate weight as evident from persistence of wide gap between the developed and backward districts in the health indicators, especially between the districts in the Coastal belt and undivided KBK districts.

An improvement in health status is determined to a great extent by pattern of health care expenditure and allocation of resources for water, sanitation and nutrition. But sustaining higher growth of social sector expenditure in the backdrop of unsustainable debt burden and growing fiscal imbalance remained one of the crucial issues to be tackled. Nevertheless, taking cognizance of the gravity of the problem, the government of Orissa has introduced a long term strategy for the health sector (Vision 2010) so as to achieve the desired goal in the given time frame. Against this backdrop, an attempt is made in this chapter to examine the performance of various health indicators in the state and across the districts during about previous couple of decades.

2.3.2 Key Indicators of Health Status

One of the crucial indicators that determine health status of an economy is the growth of population. In other words, higher growth of population can be due to failure of the state in checking birth rate death rate and therefore, ensuring access to health care services so as to improve health status can become a major issue. Normally the annual average growth of population in a decade is estimated by adopting exponential growth model. In the present context, the variation in growth of crude birth rate and crude death rate has been adopted to address this issue. Crude birth rate is the ratio of number of births in a year to the mid-year population while crude death rate is the ratio of number of deaths in a year to the mid-year population; both are expressed per 1000 population. The natural growth rate is the difference between crude birth rate and crude death rate estimated in the absence of migration. From Table 2.2 it is evident that growth of population in Orissa has gone down over the years but the extent of decline was relatively higher during the 1980s as compared to the 1990s, partly because of demographic transition. In other words, the economy has entered the state of low birth and low death.

Table 2.2
Health Indicators in Orissa vis-à-vis India

Year	C.B.R		C.D.R		I.M.R		N.G.R	
	Orissa	India	Orissa	India	Orissa	India	Orissa	India
1981	33.1	33.9	13.1	12.5	135	110	20.0	21.4
1982	33.4	33.8	13	11.9	132	105	20.4	21.9
1983	33	33.7	12.5	11.9	126	105	20.5	21.8
1984	32.7	33.9	14.4	12.6	131	104	18.3	21.3
1985	30.7	32.9	14	11.8	132	97	16.7	21.1
1986	32.5	32.6	13	11.1	123	96	19.5	21.5
1987	31	32.2	13.1	10.9	126	95	17.9	21.3
1988	31.9	31.5	12.3	11	122	94	19.6	20.5
1989	30.5	30.6	12.7	10.3	121	91	17.8	20.3
1990	30	30.2	11.7	9.7	122	80	18.3	20.5
1991	28.8	29.5	12.8	9.8	124	80	16.0	19.7
1992	27.8	29.2	11.7	10.1	115	79	16.1	19.1
1993	27.2	28.7	12.2	9.3	110	74	15.0	19.4
1994	28	28.7	11.2	9.3	103	74	16.8	19.4
1995	27.8	28.3	10.8	9	103	74	17.0	19.3
1996	27	27.5	10.8	9	96	72	16.2	18.5
1997	26.5	27.2	10.9	8.9	96	71	15.6	18.3
1998	25.7	26.5	11.1	9	98	72	14.6	17.5
1999	24.1	26.1	10.6	8.7	97	70	13.5	17.4
2000	24.3	25.8	10.5	8.5	96	68	13.8	17.3
2001	23.5	25.4	10.4	8.4	91	66	13.1	17.0
2002	23.2	25	9.8	8.1	87	64	13.4	16.9

Note: CBR: Crude Birth Rate, CDR: Crude Death Rate, IMR: Infant Mortality Rate and NGR: Natural Growth Rate

Source: Registrar General of India, *S R S Bulletin*, various issues.

A comparative analysis of growth of population in Orissa vis-a-vis India reveals that the performance of the state economy is better than that of the national economy (table 2.2). But there is enough scope to reduce crude death rate in Orissa as it is still higher (9.8) as compared to India (8.1) in 2002. Second, the percentage decline in mortality rate during the 1980s and 1990s is very low in Orissa as compared to some of the BIMARU states (HDR, 2004).² In other words, the crude death rate declined from 13.47 in 1980-82 to 12.7 during 1987-89; a fall by 5.69 per cent. Similarly, it fell from 12.07 in 1990-92 to 10.73 during 1998-2000; a decline by 11.05 per cent.

Third, there is a mismatch in birth rate and death rate in both rural and urban areas of Orissa (table 2.3). The difference is pronounced in death rate as compared to birth rate. Assuming poor health care services and low level of development in rural area, it may be safe to infer that birth rate and death rate are inversely related to level of development.

² Govt of Orissa (2004): Human Development Report-Orissa 2004.

However, a comparative analysis of birth rate in Orissa vis-à-vis India does not reflect much variation. In contrast, there is a wide gap in death rate between Orissa and India.

Table 2.3
Major Indicators of Health Status in Orissa: 1981-2002

Year	Rural				Urban			
	C.B.R	C.D.R	NGR	I.M.R	C.B.R	C.D.R	NGR	I.M.R
1981	33.4	13.5	19.9	140	29.3	7.9	21.4	69
1982	33.7	13.5	20.2	137	30.9	8	22.9	64
1983	34.4	12.8	21.6	131	30.5	9.1	21.4	73
1984	33	14.8	18.2	135	29.8	10.1	19.7	84
1985	30	14.6	15.4	137	28.3	8.1	20.2	84
1986	30.2	13.5	16.7	127	26.8	8.1	18.7	75
1987	31.6	13.7	17.9	131	25.7	7.8	17.9	75
1988	32.5	12.8	19.7	126	26.5	7.1	19.4	69
1989	31.1	13.2	17.9	125	25.3	8.1	17.2	78
1990	30.7	12.2	18.5	127	23.7	6.9	16.8	68
1991	29.6	13.5	16.1	129	21.6	6.5	15.1	71
1992	28.5	12.1	16.4	118	21.4	7.8	13.6	80
1993	27.8	13.1	14.7	115	23.2	5.8	17.4	69
1994	28.8	11.7	17.1	108	22.7	7.3	15.4	65
1995	28.5	11.2	17.3	107	22	7.5	14.5	65
1996	27.7	11.2	16.5	99	21.3	7.5	13.8	65
1997	27.2	11.3	15.9	100	21.3	7.5	13.8	65
1998	26.4	11.6	14.8	101	20.9	7.6	13.3	66
1999	24.6	11.1	13.5	100	20.3	7.1	13.2	65
2000	24.9	11	13.9	99	20.1	7	13.1	66
2001	24	10.8	13.2	94	19.7	6.8	12.9	61
2002	23.6	10.3	13.3	91	19.5	6.3	13.2	56

Note: C.B.R - Crude Birth Rate, C.D.R - Crude Death Rate, I.M.R - Infant Mortality Rate NGR: Natural Growth Rate
Sources (i): Government of Orissa (2001): Health Statistics of Orissa 2000-2001, State Bureau of Health Intelligence, Directorate of Health Services, Bhubaneswar p.7.

2. For 2000 to 2002: Government of Orissa, Statistical Abstract of Orissa - 2005, Directorate of Economics and Statistics, Bhubaneswar p.128.

3 For 2002 Rural and Urban: <http://orissagov.nic.in/health/directorates/dfw/Activities.htm>

4. For 2001: Sample Registration System, Registrar General of India: <http://cbhidghs.nic.in/HII2004/2.02.htm>

A number of factors are responsible for persistence of high death rate. Taking into account Registrar General's Survey of Causes of Death for Rural area and causes of death based on death certificates issued by the Physician in 2000, ten diseases have been identified (HDR, 2004). It is learnt that infectious and parasitic diseases account for about 22 per cent of total death followed by diseases of circulatory system (Anemia, Heart Attack etc.) and peri-natal deaths having respective share of 18 per cent and 13 per cent in total death. In other words, the above said three groups account for marginally higher than 50 per cent of total death while diseases of nervous system, respiratory system and digestive system together accounts for about 20 per cent of all death. Based on total death

certificate, it is learnt that intestine infection and parasitic diseases account for about 20 per cent of total death followed by problem in respiratory system (17 per cent) and conditions originating perinatal period (11 per cent). In other words, these three categories account for close to 40 per cent of total death (Table 2.4)

Table 2.4:
Diseases affecting overall Mortality Rate in Orissa

(percentage to total deaths)

Sl.No	Major diseases	Percentage to total deaths							
		1991	1992	1993	1994	1995	1996	1997	1998
1	Intest. Inf. & Parasitic diseases	22.22	19.97	21.4	18.83	19.44	20.85	18.69	20.36
2	Neoplasms	3.0	2.74	2.36	2.53	2.46	1.92	2.34	1.98
3	Endo, Nutri. Metab disorder	3.73	3.75	4.03	3.64	3.8	3.45	3.04	3.27
4	Blood & blood forming organs	3.58	3.12	3.4	3.35	3.2	3.35	3.22	3.69
5	Mental disorder	0.14	0.07	0.11	0.14	0.1	0.08	0.09	0.09
6	Nervous system & sense organs	8.45	8.32	7.96	8.47	9.11	9.16	8.32	9.21
7	Circulatory system	15.83	16.66	17.03	18.63	17.4	17.86	18.5	17.45
8	Respiratory system	7.58	6.95	8.75	6.63	7.72	7.74	7.49	7.68
9	Digestive system	5.82	6.14	5.8	5.05	5.4	5.43	5.5	5.15
10	Genito-urinary system	2.26	2.03	1.77	2.13	1.96	1.77	1.83	2.04
11	Pregnancy, Child birth puerperium	3.59	4.5	3.19	3.17	3.8	3.33	3.34	3.22
12	Skin & subcutaneous tissue	0.24	0.22	0.19	0.21	0.12	0.2	0.17	0.2
13	Musculoskeletal system	0.16	0.08	0.07	0.1	0.03	0.02	0.06	0.04
14	Congenital anomalies	0.57	0.61	0.6	0.75	0.51	0.47	0.62	0.43
15	Conditions orig-perinatal period	11.18	11.55	11.1	11.8	12.26	10.8	12.11	10.85
16	Ill-defined conditions	3.29	3.79	3.2	3.94	3.72	4.43	4.67	4.49
17	Injury & Poisoning	8.36	10.0	9.04	9.39	8.97	9.14	10.01	9.87
	Total	100	100	100	100	100	100	100	100
	Total death certificates analyzed	18705	17928	18697	18517	18820	20764	20812	23877

Source: State Bureau of Health Intelligence (2002): Health Statistics of Orissa 2000-01, Directorate of Health Services.

The classification of total death into under five mortality rate with further bifurcation of child mortality rate and infant mortality rate reflects somewhat disturbing trend. As regards under five mortality rate, Orissa outweighs national average considerably (Table 2.5). But it is interesting to note that the economy has performed well in reducing under five mortality rate during the 1990s.

Table 2.5
Child Mortality and Under Five Year Age Mortality in Orissa
and India (1992-93 & 1998-99)

Year	Orissa		INDIA	
	Child Mortality	Under Five Mortality	Child Mortality	Under Five Mortality
1992-93	21.3	131.0	33.4	109.3
1998-99	25.5	104.4	29.3	94.9

Source: Health Monitor 2003, Foundation for Research in Health Systems p.91.

In child mortality rate the performance of the state economy is not quite encouraging during the 1990s. Child mortality rate in Orissa is much higher than that of national average. Contrary to the expectation of fall in child mortality rate, it witnessed an increase of 5 points during 1992-99. This is noticed when there has been a decline by 4 points in the national level during the said period (Table 2.5).

A disaggregate analysis of total death reflects that infant and child death together constitutes about 36.5 per cent of total in 1992 while this age group (0-4) represent 11.4 per cent (in 1991) of total population. In other words, crude death rate in the 0-4 age group (36.5 per cent) is more than three times the crude death rate for the population as a whole (12.1 per cent) in 1991 (HDR, 2004). Therefore, it is rational to focus on Infant Mortality Rate (IMR).

2.3.3 Life Expectancy at Birth

The life expectancy at birth, defined as the number of years a person is expected to live at the time of birth, given the current mortality rate; went up in Orissa to about 62 during 1996-2001 (Table 2.6). The life expectancy of females in Orissa is lower than that of males while the reverse is the case with other two states and in the country. It is estimated that during 2001-06 life expectancy at birth of female and male will be 59.71 and 60.05 in Orissa while the respective figure for India will be much higher, i.e., 66.91 and 63.87.³

In this context, the crucial issue is that in life expectancy Orissa is lagging behind national level and some of the 15 major states especially Kerala (Male 71.67, Female:75 in 2001-06). Second, among the fifteen major states, female mortality rate is lower than that

³ Government of India (2005): *Economic Survey: 2004-05*, Government of India.

of male counter parts only in three states, namely, Bihar, Madhya Pradesh and Orissa during 2001-06. In other words, life expectancy of female is much higher than that of male for the remaining states and national level. This is also noticed in Karnataka and Maharashtra.

Table 2.6
Life Expectancy at Birth in Orissa vis-a-vis India (1971 to 2001)

Sex	1971-81	1981-86	1986-91	1991-96	1996-01
ORISSA					
Male	51.93	54.13	57.13	60.13	62.13
Female	49.59	51.90	55.15	58.40	61.15
Total	-	-	-	-	61.64
INDIA					
Male	50.90	55.60	58.10	60.60	62.80
Female	50.00	56.40	59.10	61.70	64.20
Total	-	-	-	-	63.50

-Not available

Sources (i): Government of Orissa (2005): Statistical Abstract of Orissa - 2005, Directorate of Economics and Statistics, Bhubaneswar p.129.

(ii) www. [http:// orissagov.nic.in](http://orissagov.nic.in)

2.3.4 Morbidity Burden in Orissa

The morbidity rate is defined as the number of persons reporting ailment during 15 days per 1000 persons (NSSO, 1998).⁴ This differs between rural and urban area and between male and female. As per NSSO 52nd round, the number of persons reporting acute ailment per 1000 persons turns out to be 56 in rural Orissa while it is 42 for rural India. The number of persons estimated to be 1, 44 64 in rural Orissa.

The morbidity in rural area is found to be higher than that in urban areas. In both rural and urban areas the morbidity rate shows a steady increase during 1980's and 1990's which could be the reflection of better designing of survey instruments to capture the information and the methodologies for morbidity reporting. The level of morbidity in Orissa was found to be higher than all India and this was more than double than all India during 1980's. Table 2.7 briefly presents the morbidity status of Orissa.

⁴ NSSO (1998): Morbidity and Treatment of Ailments, NSS Fifty Second Round, July 1995-June 1996, National Sample Survey Organization, Government of Orissa.

Table 2.7
Annual morbidity Rate (per 1000 population)

Year - rounds of NSSO survey	Orissa		All India	
	Rural	Urban	Rural	Urban
1973-74	657	657	605	612
1986-87	838	342	805	434
1995-96	1381	1291	1048	1032

Source: NSSO different rounds

It is often argued that an inverse relationship exists between overall mortality rate and overall incidence of disease rate (HDR, 2004). In other words, as mortality declines and life expectancy increases, the chances of survival improve considerably but the incidence to fall ill increases more or less proportionately. In other words, morbidity rate tends to be less when mortality rate is very high. From Table 2.6 it is also noticed that life expectancy at birth has consistently gone up in Orissa during 1971-2001. However, in identifying prevalence of morbidity some of the major diseases need to be taken into account include Malaria, Tuberculosis, gastroenteritis and vaccine preventable diseases.

2.4 Health Scenario: The Proximate Determinants

2.4.1 Demographic Issues:

The provision of better health care services is determined by growth of population. A high growth in population necessitates allocation of proportionately more resources for health care services. From table 2.8 it is evident that the annual average growth of population in Orissa is lower than that of the national level but still there is enough scope for further reduction. There is not much difference between the growth rate achieved during the 1970s (reported in 1981) and 1980s (1991).

A high growth in population is noticed with no substantial change in proportion of people living in rural and urban areas. Of late, around 85 per cent of total population lives in rural areas, implying there is need for allocation of more resources for them. But in health infrastructure and allocation of resources for water supply and sanitation, rural area is lagging behind than that of urban areas. Again, the socially backward community (Scheduled Caste and Scheduled Tribe population) constitutes around 39 per cent of total population and a majority of ST population lives in remote areas having inadequate access to health care services.

Table 2.8
Population of Orissa and its Rural/ Urban Classification (1951 to 2001)

Year	Population of Orissa	Share of Urban Population to Total (per cent)	Decadal Variation (In per cent)			Annual Average Exponential Growth (per cent)
			Persons	Rural	Urban	
1951	14645946	4.06	6.38 (13.31)	5.21 (8.79)	44.01 (41.43)	0.62 (1.25)
1961	17548846	6.32	19.82 (21.64)	16.99 (20.49)	86.79 (26.41)	1.81 (1.96)
1971	21944615	8.41	25.05 (24.80)	22.26 (21.86)	66.3 (38.23)	2.24 (2.20)
1981	26370271	11.80	20.17 (24.66)	15.73 (19.32)	68.54 (46.14)	1.84 (2.22)
1991	31659736	13.38	20.06 (23.86)	17.91 (20.01)	36.16 (36.47)	1.83 (2.14)
2001	36804660	14.99	16.25 (21.54)	14.08 (18.10)	30.28 (31.48)	1.52 (1.97)

Note: The figures in parentheses represent India

Source: Registrar General of India (2001): *Census of India, 2001 and various issues*

2.4.2 Level of Literacy:

Development of awareness about health is influenced by level of literacy rate, especially female literacy. In literacy rate, Orissa is lagging behind the national level and some major states including Kerala (Table 2.9). There is gender bias in literacy rate. For instance, the difference between male and female literacy is about 25 points in 2001. The literacy rate of the rural people and socially disadvantaged community is much lower as compared to their urban developed group. Overall this has a bearing on health status of the people in general and children in particular.

Table 2.9
Literacy Rate of Orissa and India
(Percent)

Year	Orissa			India		
	Persons	Males	Female	Persons	Males	Female
1961	25.24	40.26	10.12	24.02	34.44	12.95
1971	30.53	44.5	16.29	29.45	39.45	18.69
1981	40.97	56.45	25.14	43.67	56.5	29.85
1991	49.09	63.09	34.68	52.21	64.13	39.29
2001	63.08	75.35	50.51	64.84	75.26	53.67

Source: 1. For 2001: *Census of India 2001* (http://www.censusindia.net/t_00_006.html)

2. For 1961 to 1991 India: *Govt. of India, Selected Educational Statistics 1998-99, MHRD, New Delhi p.vii*

3. For 1961 & 1971 Orissa: *Govt. of India, Selected Educational Statistics 1998-99, MHRD, New Delhi p.150 &159.*

4. For 1981 & 1991: *Govt. of Orissa, Human Development Report 2004 Orissa p.103.*

2.4.3 Poverty Level:

The state has the dubious distinction of having one of the highest level of poverty among the major states and India (Table 2.10). This is even higher than the BIMARU states for several years (Table 2.11). The persistence of high poverty can have adverse impact on health status of the people. Of late, close to half of the total population live below the poverty line in Orissa. Besides, the state failed to perform well in this front. The extent of decline in poverty ratio in the 1990s is much lower as compared to the national level.

Table 2.10
Poverty Ratio in Orissa vis-à-vis India

(In per cent)

Year	Orissa			India		
	Rural	Urban	Combined	Rural	Urban	Combined
1973-74	67.28	55.62	66.18	56.44	49.01	54.88
1977-78	72.38	50.92	70.07	53.07	45.24	51.32
1983-84	67.53	49.15	65.29	45.65	40.79	44.48
1987-88	57.64	41.53	55.58	39.09	38.2	38.86
1993-94	49.72	41.64	48.56	37.27	32.36	35.97
1999-2000	48.01	42.83	47.15	27.09	23.62	26.1

Note: Figures in the parenthesis are based on official methodology while the other one is on the basis of Expert Committee methodology.

Source: Planning Commission and Economic Survey (2001-2002).

Table 2.11
Poverty Ratio in Orissa vis-à-vis Low Income States

States	Rural			Urban			Combined		
	1973-74	1993-94	1999-2000	1973-74	1993-94	1999-2000	1973-74	1993-94	1999-2000
Bihar	62.99	58.21	44.3	52.96	34.5	32.91	61.91	54.96	42.6
M.P	62.66	40.64	37.06	57.65	48.38	38.44	61.78	42.52	37.43
Orissa	67.28	49.72	48.01	55.62	41.64	42.83	66.18	48.56	47.15
Rajasthan	47.76	24.46	13.74	52.13	30.49	19.85	46.14	27.41	15.28
Uttar Pradesh	56.53	42.28	31.22	60.09	35.39	30.89	57.07	40.85	31.15
Rank of Orissa	1	2	1	3	2	1	1	2	1

Source: Economic Survey, Government of India, 2002-2003, p. 239.

The situation analysis of health sector of Orissa clearly indicates that the achievements in the health sector are significant but there are many pitfalls too to overcome in order to achieve the goal of 'Health for All'. The health policy of the state and the strategies in its health sector reform seem to be quite ambitious to achieve the required goal.

2.5 Providers of Health Care Services in Orissa

2.5.1 Public Health Care Delivery System in Orissa

The present three-tier system of rural health infrastructure all over India started to be set up in the 6th Five Year Plan period (80-81 to 84-85). Under this system, family welfare services are provided to the community through a network of Sub-centres, Primary Health Centres (PHCs) and Community Health Centres (CHCs) in the rural areas.

As regards Orissa, the number of allopathic Medical Institutions is 1701, implying about 57 allopathic medical institutions in each of the 30 districts or 91 institutes per 1,000 square kilometer in 2003-04 (table 2.12). The number of hospital beds available in those institutes turns out to be 13, 886 in 2003, indicating bed-population ratio of 1:2,685. Similarly, population served per medical institution is 21, 923 and doctor population ratio is as high as 1:7560.

Among the Medical College Institutions, PHCs constitute the major part of it. The Medical College Hospitals are located in few centres, namely, Cuttack, Ganjam (Berhampur) and Burla (Sambalpur) and therefore, access to those institutes for proper diagnosis of major diseases is confined to limited number of people.

The health care facility is not uniform across the districts. The provision of health care services is alarming in some of the backward districts. In 118 **ITDA** blocks of 12 tribal districts, there are 567 medical institutions having 3,152 beds. Therefore, on an average each medical institution serve 123 sq km.

As part of **RLTAP** (Revised Long term Action Plan for KBK districts) Programme, 90 Mobile Health Units (MHUs) are functioning in all 80 blocks of the undivided Kalahandi Bolangir and Koraput districts (divided 8 KBK districts) so as to improve access to basic health care. It needs to be mentioned that each MHU comprises of 4 people (one Medical Officer, one Pharmacist, one female Health worker and one Attendant) and it provides medicine worth Rs 1000 per camp during the visit (GOO, 2004-05)⁵.

⁵ Government of Orissa (2004-05): Economic Survey, 2004-05, Government of Orissa.

Table 2.12
Number of Allopathic Medical Institution in Orissa (under state government)

Year/Name of the District	Medical Colleges District Hospitals	Sub-Divisional Hospitals	Other Hospitals	Community Health Centre	Primary Health Centre	Primary Health Centre (New)	Mobile Health Unit	Total
1996-97	34	21	125	157	185	1105	13	1640
1997-98	34	21	125	157	184	1110	14	1645
1998-99	34	21	125	157	184	1168	14	1703
1999-00	34	21	125	157	184	1168	14	1703
2000-01	34	21	126	158	183	1166	13	1701
2001-02	34	21	125	158	183	1166	13	1701
2002-03	34	21	125	158	184	1166	13	1701
2003-04	35	22	117	231	120	1162	14	1701

Note: Dispensaries, Additional PHCs, Subsidiary Health Centres and Medical Aid Centres were amalgamated and recognized as PHC (New) since 1996-97.

Source: Government of Orissa (2005): Statistical Abstract of Orissa-2005

The health manpower position in Orissa differs between rural and urban areas. It is evident that there is mismatch between number of posts sanctioned and number of people working (table 2.13). For instance in 285 PHCs doctors are not available in 2001. In some other cases, the number of posts sanctioned is less than the number of people required. This is pronounced in case of Health Worker, Nurse, Mid wife at PHCs and CHCs and Health Assistant (female). This can very well affect health care services in different hospitals.

Table 2.13
Health manpower in Rural Orissa as on 31.03.2001

Health Care Providers	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Doctors at PHCs	1352 (1 per PHC)	2636	2351	285	Surplus
OB & GY specialists at CHCs	157 (1 per CHC)	294	143	151	14
Paediatricians at CHCs	157 (1 per CHC)	81	77	4	80
Physicians at CHCs	157 (1 per CHC)	255	142	113	15
Surgeons at CHCs	157 (1 per CHC)	77	73	4	84
Health Assistant (Male) at PHCs	1352 (1 per CHC)	176	168	8	1184
Health Assistant (Female)/LHVs at PHCs	1352 (1 per PHC)	1023	998	25	354
Health Worker (Male)/MPW (M) at Sub Centre	5927 (1 per Sub Centre)	628	337	291	5590
MPW (Female)/ANM at Sub centers and PHCs	7279 (1 each per Sub Centre and PHCs)	7004	6944	60	335
Pharmacists at PHCs and CHCs	1509 (1 each per PHC and CHC)	1822	1735	87	Surplus
Lab technicians at PHCs and CHCs	1509 (1 each per PHC and CHC)	351	338	13	1171
Nurse midwife at PHCs and CHCs	2451 (1 each per PHC and 7 per CHC)	394	386	8	2065

OB & GY- Obstetricians & Gynaecologists, LHVs- Lady Health Visitors

MPW- Multipurpose Workers, ANM- Auxiliary Nurse-midwives

Source: Central Bureau of Health Intelligence, 2002

2.5.2 Indian Systems of Medicine & Homeopathy (ISM & H)

A large part of the State's population uses the Indian Systems of Medicine (Ayurveda, Unani, Yoga, Siddha, Nature Cure), Homeopathy and other systems of healing (such as the Tibetan System of Medicine, Reiki, Acupuncture and Acupressure, etc) to meet health needs. The rise in dependence on homeopathy, Ayurvedic and Unani system is partly due to absence of Allopathic medical institutes in every part of the country. Besides, the price of homeopathy medicine is relatively cheap as compared to Allopathic or Ayurvedic Medicine. It is also believed the Homeopathic or Ayurvedic Medicine is relatively safe as it does not adverse effect on health or any other organ of the body. Recently this term ISM and H has changed its name as **AYUSH** which includes Ayurveda, Unani, Siddha and Homeopathy. Table 2.14 presents the details of hospitals and manpower in this regard.

Table 2.14
Number of Homoeopathy & Ayurvedic Colleges and Patient-Doctor Ratio in Orissa (1997 to 2003)

Year	Homoeopathy						Ayurvedic					
	Hospitals	Dispensaries	Beds	Doctors	Patients (in lakh)	Patients per Doctor ('000)	Hospitals	Dispensaries	Beds	Doctors	Patients (in lakh)	Patients per Doctor ('000)
1997	4	460	125	469	71.64	15	5	528	203	550	49.03	9
1998	4	460	125	470	74.38	16	5	528	203	551	56.37	10
1999	4	460	125	470	76.93	16	5	528	203	550	60.94	11
2000	4	460	125	470	78.37	17	5	528	203	550	72.36	13
2001	4	460	125	460	74.93	16	5	528	203	543	69.16	13
2002	4	460	125	444	70.88	16	5	528	203	515	61.9	12
2003	4	480	125	485	67.68	14	5	528	203	545	60.51	11

Source: Government of Orissa, Statistical Abstract of Orissa - 2005, Directorate of Economics and Statistics, Bhubaneswar p.125 & 126.

There are 4 homeopathic hospitals and 5 Ayurvedic Hospitals in the state in 2003. Similarly, 9 Unani dispensaries are functioning in the state in 2003. The number patients served per homeopathy doctor (14,000) is higher than that of Ayurvedic doctors (11,000) in 2003 partly because of increase in number of patients visiting homeopathy hospitals and due to less number of doctors working in those hospitals as compared to Ayurvedic hospitals. However, the number of beds available in Ayurvedic hospital is relatively more (203) as compared to Homeopathic hospitals (125). It is interesting to learn that the state government has proposed to establish 60 Ayurvedic dispensaries in non-tribal areas and 40 dispensaries in tribal areas of the state during 2004-05.

2.5.3 Role of Private/Corporate Sector and Voluntary Organizations in the Provision of Health Care Services

There are many studies in the Indian context, which have highlighted the significant presence of non-government sector in the delivery of health care services. Studies relating to utilization pattern of health care services have documented that nearly 60 to 65 per cent of the people depend on private health care facilities in general with greater dependence on public health care facilities in rural areas. A comparison of the all-India results of the NSS 52nd Round (1995-96) with that of 42nd Round (1986-87) reveals a sharp decline in the share of public facilities in so far as hospitalized treatment is concerned.

When one considers the role played by the non-government sector, the need is felt to make a distinction between for profit private/corporate sector and non-profit private sector that includes voluntary organizations. In the present report, while the actors belonging to for profit category are referred to as belonging to the private sector, organizations operating with a not for profit motive are termed as Non Governmental organizations (NGOs). As in most parts of India, in Orissa also the dividing line between public and private providers is thin as the majority of public providers do private practice both officially and unofficially. Relative size of the Private Providers in Health System of Orissa is small.

2.5.3.2 Private sectors (for profit) initiative in health care in Orissa

Private health care service dates back to the long past in a poor state like Orissa where government provision of the service is very scanty and a large chunk of the population live in inaccessible hilly terrains. The quacks and private practitioners were the main health service providers in the rural and tribal areas. In the urban areas, state government and medical college doctors also retained private clinics to provide health care services to the people during their off hours. Usually these clinic operators had no facility for in-patients.

In the private sector, there were nursing homes generally in the urban and semi-urban areas to provide indoor facilities to the patients. The rich only can afford for the cost of these nursing homes. One illustrative case is cited here as the provider of health care by private for profit organization as shown in Box -2.1.

BOX: 2.1

KALINGA HOSPITAL

A Role model of private sector in health care delivery in Orissa

Very recently a few private hospitals led by Kalinga Hospital have been set up in the state. There are proposals to establish a few medical colleges immediately under private management.

With the initiative of a few NRIs, the first private hospital i.e Kalinga Hospital was set up in 1991 in Bhubaneswar, the capital city of the state. It is the first super specialty hospital in the state and one of the few such hospitals in the Eastern India. It provides high quality health care to both the people of Orissa and also the outsiders.

The hospital has accommodation for 200 in door patients with provision of AC & Non-AC beds to cater to the needs of people from different income groups. Different types of medical care provided by the hospital ranges from cardiology and cardio thoracic, neurology and neonatal treatment etc. The hospital is known for its cardiological treatment and surgery, and ultra modern diagnostic services. It has the distinction of conducting the first successful open heart surgery in the state.

2.5.3.3 Role of Voluntary Organizations (NGO sector-Private not for profit)

The Non Governmental organizations have been playing a vital role in promoting health care services to the people. As per latest data available there are 46 NGOs working in different parts of Orissa have considered improvement in health sector as one of the thrust areas.

The activities relating to the health care delivery to the weaker sections of the population in the state have been worth mentioning. One such NGO is Orissa Voluntary Health Association (OVHA) which has been working exclusively for different dimensions of health care delivery in the state. Box below provides information of OVHA.

Box 2.2

OVHA health care to the unreached in Orissa

Orissa Voluntary Health Association (OVHA) is one of the oldest Federation of Health working constantly for the development of Health of the Weaker sections of the state since 1974. Upto 1987 it was a networking of Charitable hospitals and dispensaries and after 1987 other voluntary organizations were inducted in the net work to help facilitate the process of promotive and preventive health care for the people of Orissa. The mission of OVHA is to promote the community health, social Justice and human rights related to the provision and distribution of health care services to the under privileged and economically weaker sections of the community. Some of the important activities undertaken by OVHA include capacity building of the NGO members in different areas of health, tobacco control activities, Aids control programmes, prevention and control of malaria, information and documentation etc. The activities OVHA have been spread over all the districts of the state with the motivation to reach the unreached.

2.5.4 Other Providers

2.5.4.1 Quacks

In rural areas of the state, quacks (unqualified health practitioners) constitute an important category of health care providers, particularly in the context of performing abortions and treatment of STDs. However, there are no exact estimates available regarding the number of quacks operating in the state.

2.5.4.2 Traditional Birth Attendants (TBAs)

Traditional Birth Attendants are regarded as the frontline workers to take care of maternal health in rural India, especially in areas where facilities for modern treatment are either still absent or not immediately and easily available. Realizing their importance in the field of maternal health care, the National Health Policy 2002 also recognizes their role and accordingly makes a provision for their skill improvement through training.

3. Methodology for Developing Health Accounts for Orissa

There are mainly two methods on the basis of which the Health Accounts System has developed. These are the System of Health Accounts (SHA) which generally was promoted by OECD countries and the National Health Accounts (NHA) which is an extension of SHA that targets the needs of low and middle income countries. The NHA methodology starts with SHA classification but goes beyond the SHA classification by allowing further desegregations of categories to accommodate the pluralistic nature of developing countries health care systems. The SHA classification scheme was developed by OECD known as ICHA (International Classification of Health Accounts). It covers three dimensions of health care: *Financing Agents, Providers and Functions*. The NHA has added one more sub category to SHA classification. The NHA has a fourth dimension i.e. *financing sources*. Hence NHA covers four dimensions of health care : ***Financing Sources, Financing Agents, Providers and Functions***. In this study we have used the four dimensions as per the NHA classification. The present study is largely based on the Guide Book of National Health Accounts developed by WHO, World Bank, and USAID (2003) and OECD methodology (2000) with some changes specific in the context of the state of Orissa in the Indian Union.

Steps taken for Preparatory Work for Orissa Health Accounts (OHA) Estimates

- Constitution of Steering Committee to guide and advice in HA process
- Review of available HA methodologies
- Finalising the boundaries for national health accounts
- Identifying data sources
- Developing health accounting

Constitution of High Powered Steering Committee

This Committee consists of Health economists: both national and international, Social scientists, Statisticians, Senior academics, WHO officials in India office and Geneva, Govt. officials including Key fuctionaries, Social activists, NGO personnel etc. (List Annexed)

Defining and finalisation of the boundaries of Health Accounts

In case of HA the boundaries need to be defined clearly as one may not be in a position to include all the peripheral expenditures of health care and health care related activities into the domain of health care within a stipulated period of time. Only the expenditure that go directly to health care services are included under health care services. In order to define the boundaries clearly and specifically one has to concentrate on the following issues:

What is health Care?

What are Health Care activities?

What is health care expenditure?

The boundaries are broadly of three categories i.e. space boundary, time boundary and functional boundary

➤ **Space boundary:**

We have included the health expenditure by the residents who are temporarily outside the place of residence. The study includes donor spending by cash whose primary purpose is the production of health and health related goods and services in the state.

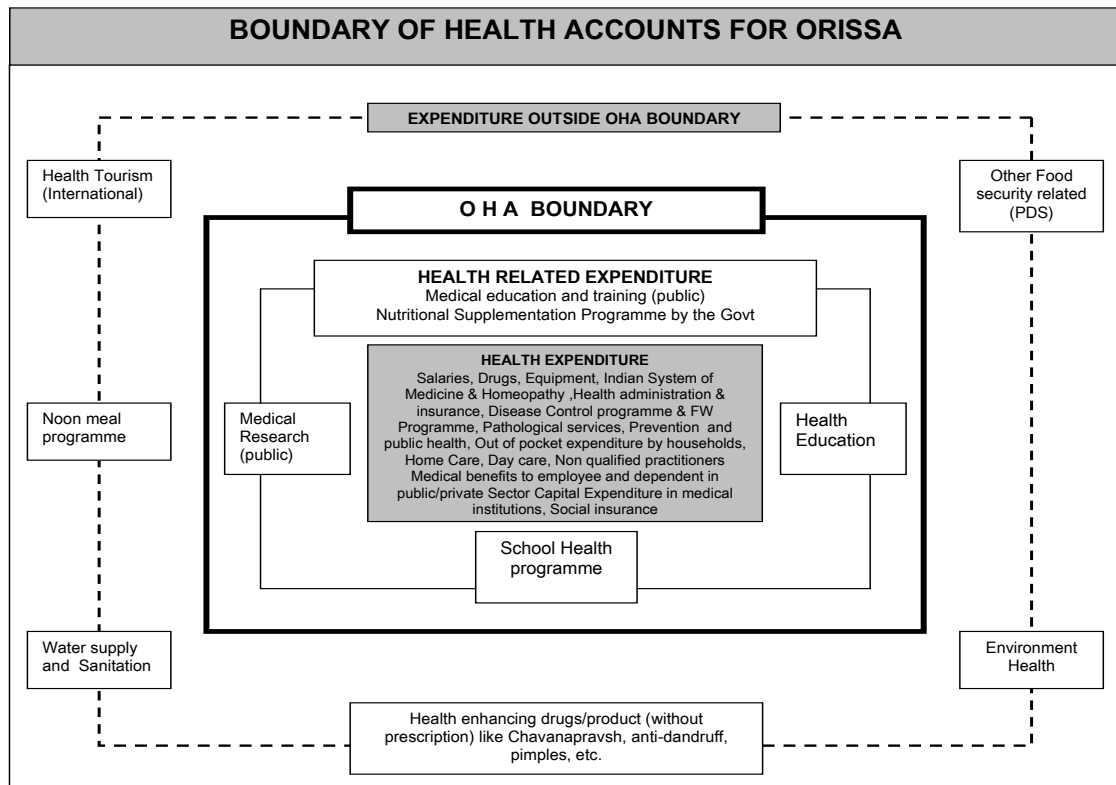
➤ **Time boundary:**

Under Health Accounts the accrual method is generally adopted under which the goods and services are accounted for in the same year they were provided rather than when they are actually paid for. **We have used the accrual method for estimating the expenditure on health during the fiscal year 2004-05.** The fiscal year followed in our study is mainly due to the fact that (i) the public expenditure data on health care is based on fiscal year and (ii) the entities like NGOs, corporate sector, parastatals and insurance companies etc. maintain their financial data following a fiscal year for the purpose of audit of their accounts, tax calculation etc. But the data on expenditure on health incurred by households' and other informal providers are not maintained on the basis of fiscal year. These data generally refer to the calendar year while reporting their data. In the present study we have adopted the methodology as per WHO Guide (2003) to convert the calendar year data into the fiscal year in order to make the data on health expenditure of all the entities for one uniform year (the fiscal year .i.e 2004-05). This particular fiscal year is selected for the present study mainly due to the availability data relating to actual expenditure on health from the budget documents.

➤ **Functional boundary:**

We have included all the expenditures made on health care directly which include the items on curative care, preventive care, promotive care, reproductive and child health, administrative expenditure on health services. In addition to this we have included the items related to health care services which are medical education and training, research and capital investment for health care services. But the expenditure like food subsidies, water supply and sanitation, dandruf treatment, cosmetic surgery, etc are kept outside the boundary of the present study. The chart 3.1 depicts clearly the boundaries we have used for the present study.

Chart 3.1
Boundary of Health Accounts of Orissa



Data Sources

- The study has used both primary and secondary data for the purpose of estimating the health accounts for the state of Orissa. Public expenditure data used in the study is based on the fiscal year from 1st April, 2004 to 31st March, 2005 at current prices collected from the budget documents of different depts, Govt of Orissa. In addition to the budget documents we also referred to Finance and Accounts, Plan documents, economic survey, statistical abstract, 11th and 12th Finance Commission report, Appropriation of Accounts, CSO and NSSO reports, and NHA report of Govt of India.
- The private expenditure data on health care services used in the study are collected from Households, NGOs and Corporate sector/firms for estimating private expenditure of health care services. The sample survey was conducted by CMDR to collect the data of health care expenditure during the same period keeping in view the fiscal year of 2004-05. The data relating to the expenditure on in-patient care, out-patient care and other related services of health was obtained from the

household survey. The expenditure on health care incurred by different NGOs, Firms, Charitable trusts, private practitioners, pharmaceuticals, insurance companies etc was collected through in house field survey conducted by CMDR with help of relevant schedules specially constructed for the purpose.

The details of data sources are provided in Table 3.1

Table:3.1:
Data Sources used for Health Accounts of Orissa

Sector	Entities	Sources
Public	Central Govts	<ul style="list-style-type: none"> • Budget documents of Health dept and FW, other depts. (urban development, Rural development, Works, labour and employment) • NHA study of Govt of India
	State Govt	<ul style="list-style-type: none"> • Finance accounts of state govt, • 11th and 12th Finance Commission reports, • Annual Plans reports, Economic survey, Statistical Abstract • NSSO report, CSO report
	Local Bodies	<ul style="list-style-type: none"> • State Finance Commission Reports • Department of Panchayat Raj and Rural Development • State Audit Report by the CAG • Statistical Abstract • Annual Administrative Report of Panchyats • District Panchayat Office • Department of Urban Development • Administrative report of Municipal corporation • State Finance Commission Report • State Audit Report • Statistical abstract • Income & Expenditure Statement of Municipal Corporations
Private	Households (Out of pocket expenditure)	<ul style="list-style-type: none"> • Insurance of govt Health scheme documents, ESIC, Bhubaneswar, Orissa • NSSO report on health expenditure on households • CMDR study on expenditure on health by the households
	Corporate Firms(for profit)	<ul style="list-style-type: none"> • National Commission on Macro Economics & Health, • Administrative reports of the corporate firms • Annual report of Other Insurance companies • CMDR study on expenditure on health by the Firms
	NGOs (not for profit)	<ul style="list-style-type: none"> • Government Grant-in-Aids (Central Government & State Government) • Budget documents (Demand for Grants) • State level/District level Societies for HIV/AIDS, RCH activities: Annual Report/Half yearly Reports • External Assistance Report by the Ministry of Finance & FCRA-Report on Contributions to Voluntary Organizations • NSS data (52nd Round) on health expenditure on charitable hospitals • CMDR study on expenditure on health by the NGOs
External Aid	Foreign Agencies Financing for health	<ul style="list-style-type: none"> • Demand for grants of State govt H & FW dept, • Independent studies.

In order to prepare the health accounts of any region one has to consider the health expenditure on the basis of some identified entities as specified by SHA and NHA. These are

- Financing Sources
- Financing Agents
- Providers

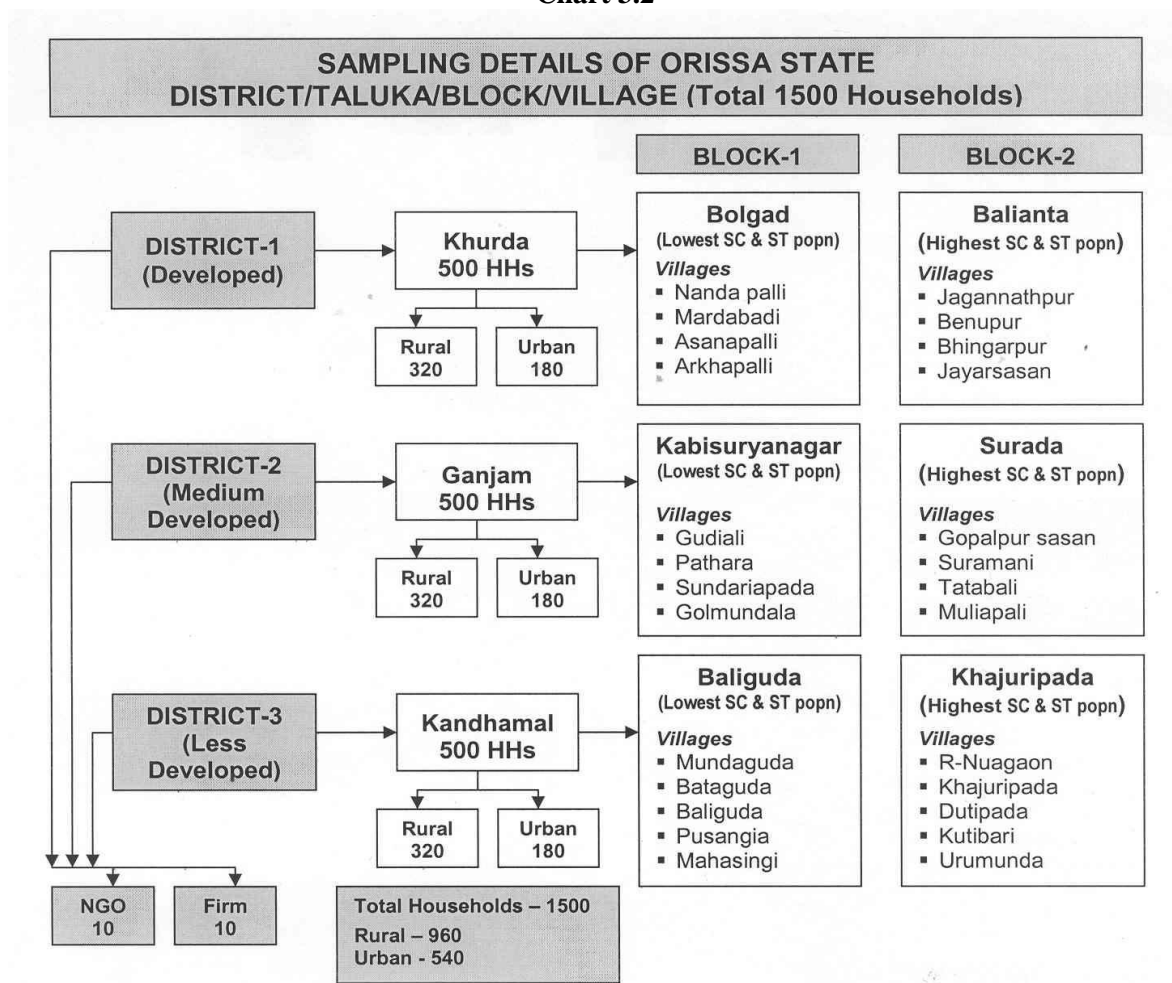
These entities are playing very crucial roles in providing the **health care services** to the population. The entities may be government, households, individuals, firms, NGOs and external agencies etc. Each category of entities is mutually exclusive and exhaustive. The classification of these entities ensures that transaction of each category should have placed only once. The codes used for Orissa Health Accounts are on the basis of ICHA code. The details of code description is presented in appendix tables.

Sampling Design

We selected three districts of thirty districts of Orissa on the basis of HDI (Human Development Index). The districts were selected keeping in view their development status. The districts are (i) Khorda, the developed district, (ii) Ganjam, the medium developed district and (iii) Kandhamal (less developed district). In the next stage of sampling we selected two blocks from each district on the basis of SC/ST population. One block with highest proportion of SC/ST population and other one with lowest SC/ST population were selected. The next stage of sampling was the selection of villages. We selected 4 villages from each block following the same criteria as in case of block selection. Thus a total of 8 villages was selected from each district and from three districts 24 villages were selected. From each village, 40 households were randomly selected and the total number households from three districts were 960 which constituted the households from rural area. In order to capture the urban households, we took the capital city from the developed district of Khorda and the district head quarters from other two districts. From each urban centre we selected 180 households randomly and from three districts we took 540 households. Thus a total of 1500 households from the three districts were selected for the final survey. We selected 10 NGOs and 10 firms from the state to capture their expenditure for health care provision. Besides, these 50 providers of health care constituting private and public sector

providers from rural and urban areas were also contacted for the collection of data on the provision of health care services. The details of sampling size are presented in Chart 3.2.

Chart 3.2



➤ **Methods used for estimation of health care expenditure to develop OHA**

The expenditure on health by the households was collected from the sample survey conducted for this purpose. Following the WHO guidebook (2003) the expenditure on health was classified as per the ICHA classification. The expenditure on health by the households, firms and NGOs is estimated on the basis of field survey conducted by CMDR. The estimation procedure of health accounts for all these entities is discussed as follows:

• **Household's out of pocket expenditure on health**

The data on health care expenditure by financing sources, financing agents, providers by functional classification was collected from rural and urban areas in three

districts of Orissa. In order to arrive at the total household expenditure on health for the state we adopted the procedure as follows:

The average expenditure on health care incurred by the households was estimated on the basis of data collected through the sample survey for the selected villages. Taking the average expenditure of the population of the households of the selected villages we estimated the expenditure for all the households of the villages. Then we multiplied this expenditure by the total number of populations in the blocks. The household expenditure of the blocks was multiplied by the population in the talukas and then by the population in the districts. Thus we got the total expenditure on health incurred by the households in the district. The next step was to multiply the expenditure of the households of the district by the total number of population in the state. Thus we got the total expenditure incurred by the households on health care for the state as whole.

Total Expenditure on Health incurred by the HHs in the state are summarized as follows:

- (i) $\text{Average HH}_{\text{exp}} * \text{POPn in village} = \text{total exp on health by the HHs in the villages}$
(TEHHV)
- (ii) $\text{TEHHV} * \text{POPn in the Block} = \text{Total expenditure on health by the Households in the blocks}$ (TEHHB)
- (iii) $\text{TEHHB} * \text{POPn in the Taluka} = \text{Total Expenditure on health by HHs in the talukas}$
(TEHHT)
- (iv) $\text{TEHHT} * \text{POPn in the dist} = \text{Total Expenditure on health by the HHs in the dist}$ (TEHHD)
- (v) $(\text{TEHHD}) * \text{POPn in the State} = \text{Total expenditure on health incurred by the households in the state}$

In the households many times the care and nursing are provided by the family members to a sick individual. For example home based care for the elderly or people living with TB/leprosy, HIV etc. Since to estimate the money value of these care is not only difficult but also time consuming, it is usually excluded from the framework of NHA. *We have excluded these expenditures from the framework of the present study.*

- **Expenditure on health by the NGOs**

On the basis of our sample survey we collected the expenditure incurred by the NGOs for providing health care services. We estimated the expenditure per NGO and multiplied the average expenditure by the total number of NGOs providing health care services. Since it was difficult to estimate the per patient/beneficiary expenditure on health incurred by the NGOs we estimated the total health care expenditure provided by the NGOs working for health services in Orissa.

- **Expenditure on Health Care by the Firms**

Following the sample survey conducted by CMDR for the firms, we estimated the expenditure on health per worker incurred by the firms. This expenditure was multiplied by the number of workers in the firms providing medical benefit to its employees. We arrived at the total health expenditure of the state by summing up the expenditure incurred by households, NGOs, firms, and government.

Maximum care was taken to avoid double counting at all the levels while estimating the expenditure on health.

On the basis of the data collected from both secondary and primary sources we constructed the matrices for health accounts for Orissa following the SHA and NHA methods. Through the matrices one can verify that the value of consumption of the use of health care corresponds to the value of the purchases (finances) of health care and their provisions (products) that is purchased corresponds to the provision. This may be written in terms of identity as follows:

$$[USE \equiv FIN \equiv PROD] = [(HC \times HF) \equiv (HC \times HP) \equiv (HF \times HP)]$$

The following matrices are developed for the state of Orissa.

Financing Sources	—————▶	Financing Agents	(FS X FA)
Financing Agents	—————▶	Providers	(FA X HP)
Providers	—————▶	Functions	(HP X HC)
Financing Agents	—————▶	Functions	(FA X HC)

In other words these are as follows:

1. Financing sources by financing agents (FS X FA)
2. Financing Agents by Health Providers (FA X HP)
3. Health care providers by Health care function (HP X HC)
4. Financing Agents by Health Care Functions (FA X HC)

4. Health Accounts for Orissa

4.1. Profile of the selected districts: The districts selected for the sample study are unique in their nature. The district Khurda is the developed district of the state pocketing the Capital city of Orissa i.e. Bhubaneswar. Ganjam district is considered as the medium developed district situated in the coastal belt of Orissa and Kandhamal district is less developed district of the state enveloping the largest proportion of SC/ST population as compared to the other two districts. The literacy rate of Khurda being the highest and it is the lowest in Kandhamal district. But most interestingly the sex ratio in Kandhamal district is found to be the highest favouring the female population while it is the lowest in Khurda. Table 4.1 presents some of the important features of the districts selected for collection of household, NGO and other relevant information for the present study.

Table 4.1
Demographic and Social Indicators of Selected Districts

Sl No	Indicators	Ganjam	Kandhamal	Khurda	Orissa
1	Geographical Area in Sq Kms	8206	8021	2813	155707
2	Total Population (2001)	3160635	648201	1877395	36804660
5	Sex Ratio (Females per '000 Males)	998	1008	902	972
6	Density per Sq Km (2001)	385	81	667	236
7	Decadal Growth Rate (1991-2000)	16.88	18.66	24.99	16.25
8	Rural Population (2001)	82.40	93.20	57.08	85.01
12	Urban Population (2001)				
16	SC/ST Population (%)	17.60	6.80	42.92	14.99
17	% of SC Population	18.57	16.89	13.54	16.53
18	% of ST Population	2.88	51.96	5.18	22.13
19	Child Population (Age Group0-6) %				
20	Persons	15.04	18.1	12.28	14.56
21	Male	15.5	18.44	12.13	14.71
22	Female	14.59	17.75	12.44	14.41
23	Literacy Rate (All Classes, 2001) %				
24	Persons	60.77	52.68	79.59	63.08
25	Male	75.22	69.79	87.9	75.35
26	Female	46.44	35.86	70.36	50.51
27	Literacy Rate (Rural, 2001) %				
28	Persons	56.54	50.11	74.12	59.84
29	Male	72.19	67.83	84.98	72.93
30	Female	41.25	32.81	63.01	46.66
31	Literacy Rate (Urban, 2001) %				
32	Persons	79.66	85.39	86.71	80.84
33	Male	88.24	93.6	91.36	87.93
34	Female	70.56	76.57	80.92	72.87

Source: Statistical Abstract of Orissa, 2005

4.2: Socio-Economic Background of the Selected Households

4.2.1 Religion of the Households

Table 4.2 shows distribution of households according to religion. It shows that majority of the households belong to Hindu (i.e. 99.1 percent) and only less than 1 percent (0.9 percent) of the households belong to Muslim, Christian and Sikh religions.

Table 4.2
Socio Economic Indicators of Households in the selected districts

Socio economic indicators	Khurda	Ganjam	Kandhamal	All dist
Religion				
Hindu	98.9	99.2	98.7	99.2
Muslim	0.6	0.4	0.6	0.5
Christian	0.4	0.4	0.3	0.2
Sikh	0.1	0.0	0.4	0.1
Caste				
SC/ST	53.8	7.4	67.2	42.8
OBC	18.8	29.8	12.4	20.3
General	27.4	62.8	20.4	36.9
Population (%)				
Male	51.1	50.1	49.3	50.2
Female	48.9	49.9	50.7	49.8
Sex Ratio (per 1000 male)	956	994	1030	992
BPL HHs (as per BPL cards)	58.6	25.6	62.8	49.0

Source : CMDR Survey

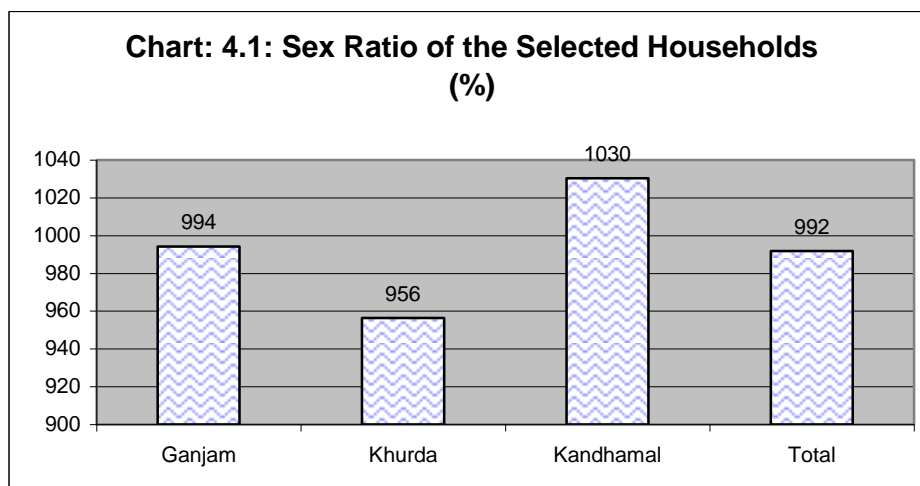
4.2.2 Social Category of the Households

The distribution of households according to social category shows that the households belong to the general category constituted 37 percent. The households belong to the Scheduled caste and Scheduled Tribe communities constituted 43 per cent of the total households. The other backward class community households constitute slightly higher than one fifth of the total households. General category households are more in Ganjam district whereas SC/ST population is found to be more in Kandhamal district (table 4.2).

4.2.3 Total Population and sex ratio of the sample households

The sample households consist of 8025 family members i.e. on average 5 persons in the family. In Ganjam and Khurda districts the family size of the sample households is more i.e. 6. The demographic features of the selected districts shows that females are behind the males with exception to Kandhamal district.

The number of females per 1000 males indicates that on an average, the sample households in the selected district of Orissa have 992 females for 1000 males. The sex ratio is lower in Khurda and it is higher in Kandhamal district. The chart 4.1 shows the sex ratio of the sample population.



4.2.4 Population reported illness by Age

The sample population reported sick was more than half of the total population. Across districts it was noticed that the reported illness in the district of Khurda was the highest and lowest cases were found in Ganjam. Across age group, it was found that the highest incidence of illness was found among the age group of 15-35 and the lowest illness was among the population above 60 years of age which is quite interesting. Table 4.3 presents the age wise population reporting illness.

Table 4.3
Age wise Distribution of Population reported illness (%)

Districts	Age groups					Total
	0-14	15-35	36-50	51-60	>60	
Ganjam	21.0	40.9	21.0	10.2	6.9	37.2
Khurda	23.5	44.0	21.2	6.1	5.2	69.6
Kandhamal	24.9	42.8	19.5	8.1	4.7	65.9
All Dist	23.4	42.9	20.5	7.7	5.5	57.0

Source: CMDR Survey

The probability of sickness among the sample population was 0.6 for males and 0.5 among females. Across districts it was higher in Khurda and lower in Ganjam district. The communicable disease in the backward district of Kadhamal is the highest (43%) while it is the lowest in the medium developed district of Ganjam. The public facility of health care available in the backward district of Kandhamal is the highest and the private facility is higher in other two districts. The provision of free medicine by the government hospitals shows that majority of the households do not get medicines free and this

proportion of households is the highest in the backward district of Kandhamal. The paradox here is that in the backward district with more public facility, people do not get free medicine.

4.2.5 Per Capita Income of the sample households

The per capita income by social category in the selected districts shows that on an average the per capita income of the households was Rs. 7976 per annum. The per capita income of the ST category of households is found to be the lowest. Across districts the per capita income of Kandhamal is the lowest and it is the highest for Ganjam district which is considered as the medium developed district. This brings out clearly the fact that the development status of the districts is not determined by per capita income alone. Table 4.4 presents the per capita income of the selected households.

Table 4.4
Per Capita Income by Social Category (Rs/Annum)

District	SC	ST	OBC	General	Total
Ganjam	10908	6818	9449	9085	9285
Khurda	5915	3432	9447	11557	7585
Kandhamal	5274	4791	7134	13558	6947
TOTAL	5793	4438	9039	10452	7976

Source: CMDR Survey

The percentage of households having BPL cards in the selected districts in Orissa. It shows that on an average 49 percent (Table (4.2)). Across districts Ganjam has the lowest BPL proportion of population which conforms to the status of Ganjam in respect of per capita income.

4.2.6 Health Expenditure

Table 4.5 shows percentage of health expenditure to total income and total household expenditure during the reference year. It shows that households spend 8.15 percent of their income and 11 percent of their total household expenditure on health. The proportion of health expenditure is high in Khurda district and it is low in Kandhamal district.

Table 4.5
Health Expenditure as a % of Total Income & Total Household Expenditure

District	% of Health Expenditure to Total Income	% of Health Expenditure to Total Household Expenditure
Ganjam	6.44	8.66
Khurda	12.84	15.37
Kandhamal	5.45	8.30
TOTAL	8.15	11.00

Source: CMDR Survey

Table 4.6 shows district wise percentage of health expenditure by the selected households. It shows that the households spend 32.58 percent for outpatient, 62.41 percent for inpatient, 3.52 percent for Day care and 1.48 percent of the total health expenditure on ISM & H services. Across districts, it is found that the proportion of expenditure on in-patient care is higher in Khurda district and the proportion of out patient care is higher in Kandhamal district.

It is noticed that the proportion of expenditure in Kandhamal district is higher in respect of ISM and Homeopathy as compared to the other two districts. This may be largely due to the fact the people in the lower income brackets and in tribal areas prefer to go for herbal medicine which is either free or very cheap as compared to allopathy medicine. So far as the travel cost for the health care facility is concerned, the households in the backward district spend about 8 percent of the total health expenditure on travel to reach the nearest hospital/dispensary etc. It was also noticed that relatively more proportion of households in the backward district of Kandhamal travel more than 10 kilometers to reach the nearest hospitals. The travel cost incurred in this district may be more on account of lack of proper public transportation and the hilly and terrain area.

Table 4.6
Districtwise Percentage of Health Expenditure (health exp as % to total exp)

District	Type	Outpatient	Inpatient	Day care	ISM & H	TOTAL
Ganjam	Average	37.94	55.40	6.03	0.63	100.00
Khurda	Developed	26.42	68.81	3.54	1.23	100.00
Khandhamal	Backward	40.86	55.68	0.29	3.18	100.00
Total		32.58	62.41	3.52	1.48	100.00

Source: CMDR Survey

4.3. Orissa Health Accounts: Results

4.3.1 Summary Statistics

Overall Expenditure on Health

Table 4.7 shows that the total health expenditure in Orissa was Rs.24021.39 millions during the year 2004-05. The share of total health expenditure in SDP is 4.45 per cent. Of the total expenditure, 20.55 per cent was public expenditure, 72.92 per cent was private expenditure and remaining 6.53 per cent was from external sources. The private expenditure includes household expenditure, expenditure by NGOs and firms. Per capita health expenditure in Orissa during the reference year was Rs. 647.63 of which public expenditure amounted to Rs. 133.09, private expenditure was Rs. 472.26 and external support was Rs. 42.29. In the year 2001-02 the per capita expenditure on health was Rs. 582 and it increased to Rs. 648 showing an annual compound growth rate of 2.7 percent during the period i.e. 2001-02 to 2004-05.

Table: 4.7

Total Health Expenditure in Orissa, 2004-05 (Rs. In millions)

Expenditure	Expenditure in Rs. Millions	Per Capita Expenditure (in Rs)	Distribution of Total Health Expenditure (%)	Total Health Expenditure as a % of SDP
Public Expenditure	4936	133.09	20.55	0.91
Private Expenditure	17517	472.26	72.92	3.24
External Support	1568	42.29	6.53	0.30
Total.	24021	647.63	100.00	4.45

Note: + = Included Expenditure by H & FW and Other Departments

++ = Reimbursement of cost of medicine provided by H & FW has been deducted in the Household Expenditure

Expenditures on Health from different sources

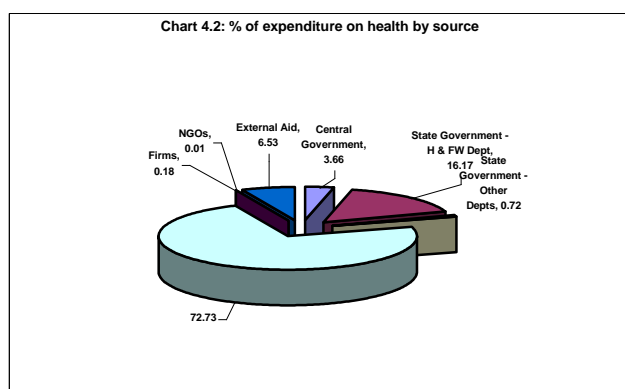
Table 4.8 provides the details of sources of health care expenditure incurred in Orissa during the year 2004-05. It shows that Central government contributed only 3.66 per cent, state Health and Family Welfare Department (H & FW) contributed slightly higher than 16 per cent and other departments of state government (i.e. Revenue, Works, Housing & Urban Development, and Labour & Employment Departments) contribution is very negligible i.e.0.72 per cent.

Table: 4.8

Sources of Health Care Expenditure in Orissa, 2004-05 (Rs. Millions)

SI No	Sources of Funds	Expenditure	% to Total
1	Central Government	878.83	3.66
2	State Government -H & FW Dept	3884.89	16.17
3	State Government -Other Depts	172.57	0.72
4	Households	17471.10	72.73
5	NGOs	2.42	0.01
6	Firms	43.18	0.18
7	External Aid	1568.40	6.53
8	Total	24021.38	100.00

Chart 4.2 below clearly shows the percentage share of each entity for health care services.



The out of pocket expenditure incurred by households constitutes about 3/4th (72.73 %) of the total expenditure on health and also it is the highest in respect of private sector expenditure on health care. The NGOs and firm's share are 0.01 per cent and 0.18 per cent respectively which tend to be very negligible. The total external aid received for providing health activities is about 7 per cent which is reflected in the state government Health and Family Welfare Department budgets.

Table 4.9 shows a comparison of health expenditure estimates of CMDR-Orissa study (2004-05) with estimates of India by National Health Accounts (NHA) Cell, National Commission of Macroeconomics and Health (NCMH) and Central Statistical Organization (CSO) available for the year 2001-02.

Table: 4.9

Comparison with Other Available Estimates of Health Expenditure in India with CMDR Study- Orissa (% to Total Health Expenditure)

Source of Funds	Estimates of All India (2001-02)			CMDR -Orissa Study (2004-05)
	NHA Cell	NCMH	CSO	
PUBLIC FUNDS				
Central Government	6.35	7.36	18.24	3.66
State Government	12.55	14.65		16.89
Local Government	1.37	2.25		
Total Public Funds	20.28	24.26	18.24	20.55
ALL OTHER FUNDS				
Firms (Public enterprises, Public sector Banks, Private Firms)	5.33	5.19		0.18
Households	71.97	70.00	81.76	72.73
Foreign Agencies	2.35	0.21		6.53
NGOs	0.08	0.34		0.01
Total All Other Funds	79.72	75.74	81.76	79.45
Total Health Expenditure	100.00	100.00	100.00	100.00

Source: *National Health Accounts*, Ministry of H & FW, Govt of India, P-8

The comparative estimates show that households spend major portion of the health expenditure and it varies from 70 percent to 73 percent in almost all the cases. The public fund's share is around 20 percent of the total health expenditure. In Orissa, foreign agencies contribute more than the National average of foreign agencies' contribution.

4.3.2 Govt Expenditure on Health by types of Health care (Dept of Health and FW)

The health expenditure by health and family welfare department, government of Orissa during the year 2001-02 and 2004-05 is presented in Table 4.10. About 83 per cent of the total expenditure of the health and family welfare department is on medical and public health and about 14 per cent on family welfare services in 2004-05. During the reported period the total health expenditure has increased by 27.52 percent if one considers the overall expenditure.

Table 4.10

Health Expenditure by Govt of Orissa, 2001-02 & 2004-05 (Rs. In millions)

Health Expenditure Head	2001-02		2004-05		Increase(+)/decrease(-)
	Amount	%	Amount	%	
(A) Medical and Public Health	3867.75	77.9	5254.63	83.0	5.1
(B) Family Welfare	627.85	12.6	908.39	14.3	1.7
(C) Other expenditure heads	469.84	9.5	169.09 *	2.7	-6.8
Grand total (A+B+C)	4965.44	100	6332.11	100	27.52 (% change)

* = Aid materials and equipment & Secretariat Social Services

The details are provided in appendix table A1 which shows that *within the medical and public health department a little more than 40 percent of the expenditure is devoted to urban health services under allopathy while exactly half of this share i.e. 20 percent goes to rural health services under allopathy.* In respect of family welfare one can have some solace that highest share goes to rural family welfare services. The share allocated for other systems of medicine is very low but within this system, rural area gets more share than the urban areas. *It is interesting to note that allocation to urban health services has increased substantially as compared to all other categories which gives the impression that the allocation of our health care is urban biased.* Almost all the categories have got less share in 2004-05 as compared to the earlier year of 2001-02.

4.3.2.1 Health expenditure by systems of medicine-Public

Table 4.11 shows that department of health and family welfare; government of Orissa spends about 96 per cent on allopathy and only 4 per cent towards Indian system of medicine.

Table: 4.11
Health Expenditure by System of Medicine in Orissa, 2004-05 (Rs. Millions)

SI No	System of Medicine	Expenditure	% Distribution	NHA India Estimate (%)
1	Allopathic	5928.48	93.63	95.50
2	Indian System of Medicine	341.19	5.39	4.00
3	Non-classifiable*	62.45	0.99	0.50
	Total	6332.12	100.00	100.00

Source: Demand for Grants, H & FW Dept, Vol 1 and Vol-2, 2006-07

* = Health Statistics & Evaluation and Secretariat-Social Services

4.3.2.2 Expenditure on health by provider classification- Public

Public Provider: Government of Orissa (Health and FW department): The health expenditure by H & FW department of the government of Orissa as provider of health care is given in table 4.12. *It shows that major share of expenditure goes to hospitals and health administration (i.e. 33.80 and 31.58 % respectively).* About 5 per cent of the total expenditure is spent on education and training institutions of allopathic doctors.

Table: 4.12
Health Expenditure by H & FW Dept, Govt of Orissa by Provider, 2004-05
(Rs Millions)

Sl No	ICHA Code	Providers	Sum	Table %
1	HP1.1.2	Hospitals Owned by State Government	2140.27	33.80
2	HP1.3.1	Speciality Hospital for Cancer	17.50	0.28
3	HP1.4.1ism	Hospitals Owned by State Government ISM	266.09	4.20
4	HP3.4.1.1	Maternity Homes	26.28	0.42
5	HP3.4.1.2	Post Partum Centres	95.90	1.51
6	HP3.4.1.3	Sub Centre/Health Posts	536.19	8.47
7	HP3.4.1.5	Family Planning- Compensation, Assignments, Services & Supplies	192.14	3.03
8	HP3.5.2	Medical Pathological Labs	8.15	0.13
9	HP3.9.1.1	Ambulance Services by Govt Departments	6.64	0.10
10	HP3.9.2.1	State Branch of IRCS	1.40	0.02
11	HP5	Provision and Administration of Public Health Programmes	0.16	0.00
12	HP5.1	Prevention of Communicable Diseases	449.06	7.09
13	HP5.2	Prevention of Non-Communicable Diseases	160.94	2.54
14	HP6.1.2	State Govt Administration on Health	1999.97	31.58
15	HP6.1.2 ism	State Govt Administration on Health	22.00	0.35
16	HP8.1.1	Health Research Institutions in Public Sector	0.10	0.00
17	HP8.2.1.2	Education & Training Institutions by State- For Doctors	296.79	4.69
18	HP8.2.1.2ism	Education & Training Institutions by State- For Doctors ISM	52.73	0.83
19	HP8.2.2.3	Education & Training for Nurses and Paramedics by State Dept	59.29	0.94
20	HPnsk	Provider not Specified by Kind	0.16	0.00
21	HPnsk ism	Provider not Specified by Kind	0.37	0.01
22		Total	6332.12	100.00

4.3.2.3 Expenditure by functional classification of health care - Public

Table 4.13 shows classification of public health expenditure for the year 2004-05 by different types of health care. The classification of public health expenditure for the year 2004-05 by functional classification indicates that 35.40 per cent has been utilized for services of curative care, 18.13 per cent on prevention and public health services, 10.18 per cent for capital formation and 18.84 per cent of expenditure is HC expenditure not specified by kind. ***This high proportion of unspecified expenditure needs to be properly identified and classified for better allocation of resources to the health sector.*** The details of breakup of the functional classification are presented in Table A.2

Table 4.13
Health Expenditure by Function (Public): CMDR Estimates & NHA India Estimates

SI No	Function Description	CMDR Estimates (2004-05) (%)	NHA India Estimates (2001-02) (%)
1	Services of Curative Care	35.40	47.6
2	Rehabilitative or long term nursing care	--	0.2
3	Ancillary Services to Medical Care	0.50	1.9
4	Medical good dispensed to outpatients	2.83	--
5	Prevention and public health services	18.13	20.5
6	Health Administration & Health Insurance	6.80	8.4
7	HC Expenditure not specified by Kind	18.84	--
8	Capital Formation for Health Care Provider Institutions	10.18	4.7
9	Education & Training of Health Personnel	6.31	9.2
10	Research and Development in Health	0.61	0.2
11	Food, Hygeine and Drinking Water Control	0.36	0.2
12	HCR Expenditure Not Specified by Kind	0.05	--
13	Function from other sources		7.1
14	Total	100.00	100.00

4.3.2.4 Expenditure by type of health care – Public sector (Health and FW Dept)

It is found that the highest proportion of expenditure is allocated to direction and administration i.e more than 25 percent. So far as different types of health care facilities are concerned, tertiary care of health receives the highest share and secondary sector receives less than 5 percent of the total share. In the context of a less developed state like Orissa, it is interesting to note that the sector which needs to get priority do not get it in practice. Table A3 presents the details of it.

Table 4.14
Health Expenditure by Classification (Public): CMDR Estimates & NHA India Estimates

Sl No	Health Care Service	CMDR Estimate (2004-05) (%)	NHA India Estimate (2001-02) (%)
1	Primary Care Services (PHC/Dispensaries/Clinics)	15.35	15.50
2	Secondary Care Services	4.86	19.40
3	Tertiary Care Services	21.64	21.10
4	Public Health.	7.34	8.90
5	Family Welfare	11.62	12.90
6	General Expenditure		
7	Direction and administration (all D & A) & Travel	25.42	8.40
8	Health statistics, research, evaluation & training	0.61	0.10
9	Medical stores depot & Drug manufacture	2.82	1.70
10	Capital expenditure	10.18	4.70
11	Medical reimbursements	0.17	0.00
12	Function not specified in the budget		7.30
13	Total	100.00	100.00

4.3.2.5 Expenditure on health care by other Depts., Govt of Orissa

The health expenditure by other departments i.e. department of Revenue, Works, Housing and Urban Development, Labour & Employment and Rural development spend on health as presented in Table 4.15 shows that the Department of labour and employment spends around 2/3rd of the total expenditure (for employees state insurance scheme) by other departments (Table 4.16). Under the circumstance of drought, flood and other natural calamities, the department of revenue spends 16 percent of the expenditure by other departments. Department of Works, Housing & Urban development and rural development undertake construction of buildings and they spend around 16.20 percent of the total expenditure by the 'other departments'.

Table: 4.15
Health Expenditure by 'Other Departments', 2004-05 (Rs. Millions)

Department	Expenditure	%
Revenue	26.93	15.60
Works	6.22	3.60
Housing & Urban Development	0.50	0.29
Labour & Employment	117.68	68.19
Rural Development	21.25	12.31
Total	172.57	100.00

One can also notice that the expenditures borne by other departments are also spent for particular type of functions. These are mainly spent for public health, capital expenditure items like construction of hospitals and such other capital formation activities.

The insurance premium paid for the employees under ESIS is found to the highest i.e. 68 % of the total budget of other depts. (Table 4.16).

Table 4.16
Health Expenditure by 'Other Departments', by Function in Orissa, 2004-05 (Rs. Millions)

Code	Code Description	Amount	%
HC6	Public Health	26.93	15.60
HC7.2.1	Employees State Insurance Scheme	117.68	68.19
HCR1	Capital Outlay	21.89	12.68
HCR1 ism	Capital Outlay (ism)	6.07	3.52
Total		172.57	100.00

4.3.2.6 Expenditure on health care in Orissa by External Agencies

In Orissa, total external support received during the year 2004-05 accounts 24.77 percent of the state health and family welfare department budget. DFID and World Bank provide support to carry out health activities in the state. Major share of expenditure by external sources (about 3/4th of total exp) is not specified by kind. This expenditure is incurred on the budget head 'Other Charges' under World Bank Assisted Orissa Health System Development .Project. The share of DFID is 0.86 per cent which is largely spent for medicines. The World Bank provides more than 90 percent of the total external support of which about 17 percent is meant for purchase of materials and equipment. Table 4.17 presents the external support by functional classification.

Table: 4.17
External Support to Health Sector in Orissa by Health Care Functions, 2004-05 (Rs. In Millions)

ICHA Code	Activities	Amount	% to Total
HC5.1.1	Prescribed medicines	13.53	0.86
HC6.1	RCH & FP Services	0.50	0.03
HC7.1	Health Administration	131.26	8.37
HC9	HC Expenditure not specified by kind	1161.03	74.03
HCR1	Capital Expenditure (Materials & Equipments)	262.08	16.71
Total		1568.40	100.00

4.3.3 Expenditure on Health by Households

4.3.3.1 Expenditure of Households by Providers

Table 4.18 shows household expenditure by type of provider during the reference year. About 70 percent of the total health expenditure by household is for the purchase of

drugs, optical glasses, hearing aid etc. Table A.4 details the household expenditure by provider category.

Table: 4.18
Household Health Expenditure by Provider in Orissa, 2004-05, (Rs. Millions)

Sl.no	ICHA code	Description of the code	Rs in millions	% distribution
1	HP1	Hospitals	1321.36	7.65
2	HP3	Providers of Ambulatory health care	3896.68	22.56
3	HP4	Retail sale and other medical goods store	12017.14	69.57
4	HP7.2	Providers of home health care services	10.30	0.06
5	HP8.2.1.2	Teaching Hospital	4.31	0.02
6	HPnsk	Provider not specified by Kind	22.52	0.13
7		TOTAL	17272.31	100.00

Source: CMDR survey

4.3.3.2 Expenditure of Households by health care functions

Table 4.19 presents the out of pocket expenditure on health by the households. It is observed that purchase of drugs, patient travel cost and surgical treatment are the major expenditure items of the households. It is noticed that households do not put much emphasis on the preventive care of health which is less than 2 percent. The detail breakup of the providers is presented in Table A5.

Table 4.19
Household Health Expenditure by Function in Orissa, 2004-05,
(Rs. Millions)

SI No	ICHA Code	Description	Expenditure	%
1	HC1	Curative care	2596.16	15.03
2	HC4	Ancillary services to medical	2382.48	13.79
3	HC5	Medical goods dispensed to outpatients	11954.93	69.21
4	HC6	Prevention and public health services	314.59	1.82
5	HCnsk	Any other (OP)	24.15	0.14
6		Total	17272.31	100.00

Source: CMDR survey

Further breakup of household out of pocket expenditure indicates that more than 80 percent of the total out of pocket expenditure incurred by the households goes to purchase of medicines, tests, X- rays etc and the rest goes for other types of care. Across different types of care little more than 10 percent is spent for in patient care and about 3 percent is spent for out patient and day care services. The insurance premium paid by the households is found to be the minimum. Table 4.20 presents the details of out of pocket expenditure of the households. Appendix tables A6 to A9 present the details of household expenditure on different types of health care expenditure.

Table 4.20

Household Expenditure on Health Care (% to Total)	
Items	% of exp
Out Patient Health Expenditure	3.0
In Patient	10.3
Day Care	3.5
Medicines and ancillary services	82.0
Insurance Premium	1.2
Total	100.00

Source:CMDR survey

4.3.4 Expenditure by NGOs on health Care

Table 4.21

Health Care Expenditure by NGOs in Orissa, 2004-05 (Rs.Millions)

Sl No	HC Code	Health Care Services	Total Expenditure	% to Total
1	HC1.1.2	Surgical Treatment	0.01	0.49
2	HC1.2	General Medical Services	0.06	2.32
3	HC1.2.4	Physiotherapeutic Services	0.01	0.49
4	HC1.3.2	Dental Services	0.07	2.92
5	HC1.3.3.1	Eye Care Services	0.50	20.77
6	HC1.3.3.2	ENT Services	0.01	0.49
7	HC4.1	Pathological Services	0.05	2.09
8	HC5.2.3	Hearing Aids	1.39	57.35
9	HC6.1	MCH & Family Planning Counselling	0.20	8.22
10	HC6.1.1	Child Health Services	0.00	0.02
11	HC6.3	Communicable Disease Control	0.02	0.88
12	HC6.6	Immunization	0.10	3.97
13		Total	2.42	100.00

Source: CMDR survey

During the year 2004-05, NGOs in Orissa spent around Rs. 2.42 millions for health. Major share of the expenditure is on hearing aids and eye care services i.e. about 78 per

cent. Around 18 percent of the expenditure is on maternal health, immunization, dental services, general medical services and pathological services.

4.3.5 Expenditure by Insurance companies on health Care

Table: 4.22
Health Expenditures under Insurance Schemes in Orissa,
2004-05 (Rs Millions)

Sources	Amount	%
Employers Contributions	9983.74	95.92
Employees Contribution	49.96	0.48
Insurance Claim by Household	47.61	0.46
State Government Contribution (ESIS)	117.68	1.13
Household Premium	209.40	2.01
Total	10408.38	100.00

Source: CMDR survey

The health expenditure under insurance schemes in Orissa during the reference year shows that around 96 percent of the total health expenditure under insurance schemes is from employers' contribution. During the year households paid a very small proportion towards the insurance premium i.e less than 3 %.

4.3.6. ORISSA HEALTH ACCOUNTS ESTIMATES

4.3.6.1 Health Expenditure by financing sources

The sources of health care expenditure are summarized in table 4.8 and chart 4.2 earlier shows that the highest share is met from the households and the least share is coming from the NGOs in the state of Orissa. *We are not repeating the discussion as it is already presented in the earlier section.*

4.3.6.2 Health Expenditure by Financing Agents

Financing Agents are the entities that channel the funds provided by the financing sources to pay for the health care activities within the boundary of health care activities in the state. Only the out of pocket money channelised by the households' for health constituted more than 60% of the total expenditure followed by 24 percent by the state govt. Table 4.23 presents the health expenditure by agents.

Table 4.23
Health Expenditure by Financing Agents, Orissa, 2004-05 (Rs.Millions)

ICHA Code	Financing Agents (FA)	Total	%
HF1.1.1.1	Central Government	886.79	3.69
HF1.1.2.1	H & FW Dept	4273.16	17.79
HF1.1.2.2	Other State Departments	54.89	0.23
HF1.2.1	ESIS	132.70	0.55
HF2.2	Other Private Insurance	209.40	0.87
HF2.3	Private/Household' Out of Pocket Payment	16841.98	70.11
HF2.4	NGOs	3.95	0.02
HF2.5	Firms	50.12	0.21
HF3	Rest of the World (External Aid)	1568.40	6.53
	Total	24021.39	100.00

Source: CMDR survey

4.3.6.3 Health Expenditure by Health Care providers

If one examines the pattern of sharing the provision of health care in Orissa, one observes that of the total expenditure, the share of public providers is 29 per cent and the share of private expenditure constitutes 71 per cent of the total expenditure on health care. Table 4.24 presents the details of health expenditure by public and private providers.

Table 4.24
Health Expenditure by Health Care Provider, Orissa, 2004-05 (Rs. Millions)

ICHA Code	Health Care Providers (HP)	Expenditure	%
	A) Public Providers		
HP1	Hospitals	2967.79	12.35
HP3	Providers of Ambulatory health care	873.59	3.64
HP5	Provision & Administration of Public Health Programmes	637.08	2.65
HP6	General Health Administration & Insurance	2021.97	8.42
HP7	Providers of Home Health Care Services		0.00
HP8	Teaching Hospital	414.98	1.73
HPnsk	Not Specified by Kind	0.53	0.00
	Total (A)	6915.94	28.79
HP1.1.6	B) Providers in NGO sector	3.95	0.02
HP6.4	C) Private insurance	209.40	0.87
HP1.1.5	D) Private provider of health services	16841.98	70.11
HP1.1.4	E) Firms	50.12	0.21
	Total Expenditure	24021.38	100.00

4.3.6.4 Health Expenditure by Health Care

It is found that of the total expenditure little higher than 19 percent is spent on curative care. More than half of the total expenditure is spent on purchase of medicines and related products. The purchase of medicine and other ancillary services are generally used for the curative care. If these are included under curative care, the total of curative care will be more than 70 percent of the total expenditure which is also similar incase of NHA estimates of 2001-02. Table 4.25 presents the expenditure by health care functions in Orissa.

Table 4.25
Health Expenditure by Health Care Functions, Orissa 2004-05

Sl No	ICHA Code	Health Care Function (HC)	Expenditure (Rs in millions)	%
1	HC1	Services of Curative Care	5036.89	20.97
2	HC2	Services of Rehabilitative Care	0.00	0.00
3	HC3	Services of Long-term Nursing Care	0.00	0.00
4	HC4	Ancillary Services to Medical Care	2413.92	10.05
5	HC5	Medical good dispensed to outpatients	12135.21	50.52
6	HC6	Prevention and public health services	1489.67	6.20
7	HC7	Health Administration & Health Insurance	548.53	2.28
8	HC9	HC Expenditure not specified by Kind	1193.24	4.97
9	HCR1	Capital Formation for Health Care Provider Institutions	665.71	2.77
10	HCR2	Education & Training of Health Personnel	399.79	1.66
11	HCR3	Research & Development in Health	45.27	0.19
12	HCR4	Food, Hygeine and Drinking Water Control	22.73	0.09
13	HCRnsk	HCR Expenditure Not Specified by Kind	27.26	0.11
14		Not Classified (Firm data)	43.18	0.18
15	Total		24021.38	100.00

4.3.7 HA Matrices

The following matrices have been generated. They are as follows;

1. Financing source by financing agent (FS X FA)
2. Financing Agent by Health Provider (FA X HP)
3. Health expenditure by health care provider and health care function (HP X HC)
- 4 Financing Agent by Health Care Function (FA X HC)

Table: 4.26
Health Expenditure by Source of Finance and Financing Agents, Orissa, 2004-05
(FS X FA) Rs.Millions

ICHA Code	Financing Agents (FA)	Financing Source (FS)							Total
		MoHFW	H & FW Dept	Other Departments	Firms	Households	NGO	External Aid	
		FS1.1.1	FS1.1.2.1	FS1.1.2.2	FS2.1	FS2.2	FS2.3	FS3	
HF1.1.1.1	Central Government	878.83	0.00	0.00	0.00	7.97	0.00	0.00	886.79
HF1.1.2.1	H & FW Dept	0.00	3884.89	0.00	0.00	388.27	0.00	0.00	4273.16
HF1.1.2.2	Other State Departments	0.00	0.00	54.89	0.00	0.00	0.00	0.00	54.89
HF1.2.1	ESIS	0.00	0.00	117.68	0.00	15.02	0.00	0.00	132.70
HF2.2	Other Private Insurance	0.00	0.00	0.00	0.00	209.40	0.00	0.00	209.40
HF2.3	Private/Household' Out of Pocket Payment	0.00	0.00	0.00	0.00	16841.98	0.00	0.00	16841.98
HF2.4	NGOs	0.00	0.00	0.00	0.00	1.53	2.42	0.00	3.95
HF2.5	Firms	0.00	0.00	0.00	43.18	6.94	0.00	0.00	50.12
HF3	Rest of the World (External Aid)	0.00	0.00	0.00	0.00	0.00	0.00	1568.40	1568.40
	Total	878.83	3884.89	172.57	43.18	17471.11	2.42	1568.40	24021.39

Table: 4.27
Health Expenditure by Source of Finance and Financing Agents, Orissa, 2004-05 (FS X FA) Percentage

ICHA Code	Financing Agents (FA)	Financing Source (FS)							Total
		MoHFW	H & FW Dept	Other Departments	Firms	Households	NGO	External Aid	
		FS1.1.1	FS1.1.2.1	FS1.1.2.2	FS2.1	FS2.2	FS2.3	FS3	
HF1.1.1.1	Central Government	3.66	0.00	0.00	0.00	0.03	0.00	0.00	3.69
HF1.1.2.1	H & FW Dept	0.00	16.17	0.00	0.00	1.62	0.00	0.00	17.79
HF1.1.2.2	Other State Departments	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.23
HF1.2.1	ESIS	0.00	0.00	0.49	0.00	0.06	0.00	0.00	0.55
HF2.2	Other Private Insurance	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.87
HF2.3	Private/Household' Out of Pocket Payment	0.00	0.00	0.00	0.00	70.11	0.00	0.00	70.11
HF2.4	NGOs	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02
HF2.5	Firms	0.00	0.00	0.00	0.18	0.03	0.00	0.00	0.21
HF3	Rest of the World (External Aid)	0.00	0.00	0.00	0.00	0.00	0.00	6.53	6.53
	Total	3.66	16.17	0.72	0.18	72.73	0.01	6.53	100.00

Table 4.28

Total Health Expenditure by Financing Agent and Provider, Orissa, 2004-05, (FA X HP), Rs. Millions

ICHA Code	Providers	Financing Agents									
		Public			ESIS	Other Private Insurance	Private/Household' out-of-pocket payment	NGO	Firms	External Agencies	Grand Total
		MOHFW	H & FW Dept	Other depts of State							
		HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3	
HP1	Hospitals	16.67	2783.93	21.89	131.78	209.40	897.01	1.53	6.94	13.53	4082.67
HP3	Providers of Ambulatory health care	734.97	137.70	0.00	0.92	0.00	3890.70	0.00	0.00	0.00	4764.30
HP4	Retail Sale and Other Providers of Medical Goods	0.00	0.00	0.00	0.00	0.00	12017.14	0.00	0.00	0.00	12017.14
HP5	Provision & Administration of Public Health Programmes	65.29	537.08	26.93	0.00	0.00	0.00	0.00	0.00	7.78	637.08
HP6	General Health Administration & Insurance	27.90	446.98	0.00	0.00	0.00	0.00	0.00	0.00	1547.09	2021.97
HP7	Providers of Home Health Care Services	0.00	0.00	0.00	0.00	0.00	10.30	0.00	0.00	0.00	10.30
HP8	Teaching Hospital	41.97	366.94	6.07	0.00	0.00	4.31	0.00	0.00	0.00	419.29
HPnsk	Not Specified by Kind	0.00	0.53	0.00	0.00	0.00	22.52	0.00	0.00	0.00	23.05
	Providers Not Classified	0.00	0.00	0.00	0.00	0.00	0.00	2.42	43.18	0.00	45.60
		886.79	4273.16	54.89	132.70	209.40	16841.98	3.95	50.12	1568.40	24021.38

Table 4.29

Total Health Expenditure by Financing Agent and Provider, Orissa, 2004-05, (FA X HP), Percentage

ICHA Code	Providers	Financing Agents									
		Public			ESIS	Other Private Insurance	Private/Household' out-of-pocket payment	NGO	Firms	External Agencies	Grand Total
		MOHFW	H & FW Dept	Other depts of State							
		HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3	
HP1	Hospitals	0.07	11.59	0.09	0.55	0.87	3.73	0.01	0.03	0.06	17.00
HP3	Providers of Ambulatory health care	3.06	0.57	0.00	0.00	0.00	16.20	0.00	0.00	0.00	19.83
HP4	Retail Sale and Other Providers of Medical Goods	0.00	0.00	0.00	0.00	0.00	50.03	0.00	0.00	0.00	50.03
HP5	Provision & Administration of Public Health Programmes	0.27	2.24	0.11	0.00	0.00	0.00	0.00	0.00	0.03	2.65
HP6	General Health Administration & Insurance	0.12	1.86	0.00	0.00	0.00	0.00	0.00	0.00	6.44	8.42
HP7	Providers of Home Health Care Services	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
HP8	Teaching Hospital	0.17	1.53	0.03	0.00	0.00	0.02	0.00	0.00	0.00	1.75
HPnsk	Not Specified by Kind	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.10
	Providers Not Classified	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.18	0.00	0.19
	Total	3.69	17.79	0.23	0.55	0.87	70.11	0.02	0.21	6.53	100.00

Table 4.30
Health Expenditure by Health Providers and Health Care Functions (HP X HC), Orissa
2004-05 Rs. Millions

ICHA Code	Health Care Functions	Health Care Providers									Grand Total
		HP1	HP3	HP4	HP5	HP6	HP7	HP8	HPnsk	Not Classified by provider (NGO & Firm data)	
		Hospitals	Providers of Ambulatory Health Care	Retail Sale and Other Providers of Medical Goods	Provision & Administration of Public Health Programmes	General Health Administration & Insurance	Providers of Home Health Care Services	Teaching Hospital	Not Specified by Kind		
HC1	Services of Curative Care	3630.64	1315.93	62.21	0.00	0.00	1.10	4.75	21.61	0.66	5036.90
HC2	Services of Rehabilitative Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC3	Services of Long-term Nursing Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC4	Ancillary Services to Medical Care	4.58	2403.66	0.00	2.59	2.61	0.00	0.43	0.00	0.05	2413.92
HC5	Medical good dispensed to outpatients	85.82	0.00	11954.93	0.19	92.11	0.00	0.77	0.00	1.39	12135.21
HC6	Prevention and public health services	132.07	865.34	0.00	420.06	51.57	9.19	10.96	0.16	0.32	1489.67
HC7	Health Administration & Health Insurance	124.28	4.64	0.00	0.67	418.25	0.00	0.71	0.00	0.00	548.53
HC9	HC Expenditure not specified by Kind	0.00	10.00	0.00	21.09	1161.78	0.00	0.00	0.37	0.00	1193.24
HCR1	Capital Formation for Health Care Provider Institutions	57.82	156.36	0.00	190.71	257.12	0.00	3.71	0.00	0.00	665.72
HCR2	Education & Training of Health Personnel	11.15	0.00	0.00	0.00	0.00	0.00	388.64	0.00	0.00	399.79
HCR3	Research & Development in Health	0.64	0.00	0.00	0.00	38.45	0.00	6.17	0.00	0.00	45.26
HCR4	Food, Hygiene and Drinking Water Control	20.82	0.00	0.00	1.78	0.09	0.00	0.04	0.00	0.00	22.73
HCRnsk	HCR Expenditure Not Specified by Kind	14.86	8.37	0.00	0.00	0.00	0.00	3.11	0.92	0.00	27.26
	Not Classified by function (Firm data)									43.18	43.18
	Total	4082.67	4764.30	12017.14	637.08	2021.97	10.30	419.29	23.05	45.60	24021.38

Table 4.31
Health Expenditure by Health Providers and Health Care Functions (HP X HC), Orissa 2004-05
Percentage

ICHA Code	Health Care Functions (HC)	Health Care Providers (HP)									Grand Total
		HP1 Hospitals	HP3 Providers of Ambulatory Health Care	HP4 Retail Sale and Other Providers of Medical Goods	HP5 Provision & Administration of Public Health Programmes	HP6 General Health Administration & Insurance	HP7 Providers of Home Health Care Services	HP8 Teaching Hospital	HPnsk Not Specified by Kind	Not Classified by provider (NGO & Firm data)	
HC1	Services of Curative Care	15.11	5.48	0.26	0.00	0.00	0.00	0.02	0.09	0.00	20.97
HC2	Services of Rehabilitative Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC3	Services of Long-term Nursing Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC4	Ancillary Services to Medical Care	0.02	10.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	10.05
HC5	Medical good dispensed to outpatients	0.36	0.00	49.77	0.00	0.38	0.00	0.00	0.00	0.01	50.52
HC6	Prevention and public health services	0.55	3.60	0.00	1.75	0.21	0.04	0.05	0.00	0.00	6.20
HC7	Health Administration & Health Insurance	0.52	0.02	0.00	0.00	1.74	0.00	0.00	0.00	0.00	2.28
HC9	HC Expenditure not specified by Kind	0.00	0.04	0.00	0.09	4.84	0.00	0.00	0.00	0.00	4.97
HCR1	Capital Formation for Health Care Provider Institutions	0.24	0.65	0.00	0.79	1.07	0.00	0.02	0.00	0.00	2.77
HCR2	Education & Training of Health Personnel	0.05	0.00	0.00	0.00	0.00	0.00	1.62	0.00	0.00	1.66
HCR3	Research & Development in Health	0.00	0.00	0.00	0.00	0.16	0.00	0.03	0.00	0.00	0.19
HCR4	Food, Hygiene and Drinking Water Control	0.09	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.09
HCRnsk	HCR Expenditure Not Specified by Kind	0.06	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.11
	Not Classified by function (Firm data)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18
	Total	17.00	19.83	50.03	2.65	8.42	0.04	1.75	0.10	0.19	100.00

Table 4.32
Health Expenditure by Financing Agents and Health Care Functions (FA X HC),Orissa 2004-05 Rs. Millions

(ICHA Codes)	Health Care Functions (HC)	Financing Agents(FA)									
		Public			ESIS	Other Private Insurance	Private/House hold' out-of pocket payment	NGOs	Firms	External Agencies	Total
		MoHFW	H & FW	Other Dept							
		HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3	
HC1	Services of Curative Care	12.49	2562.82	0.00	2.45	209.40	2240.60	2.20	6.94	0.00	5036.89
HC2	Services of Rehabilitative Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC3	Services of Long-term Nursing Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC4	Ancillary Services to Medical Care	11.42	19.96	0.00	0.00	0.00	2382.48	0.05	0.00	0.00	2413.92
HC5	Medical goods dispensed to outpatients	0.00	165.37	0.00	0.00	0.00	11954.93	1.39	0.00	13.53	12135.21
HC6	Prevention and public health services	595.97	611.73	26.93	0.31	0.00	253.92	0.32	0.00	0.50	1489.67
HC7	Health Administration & Health Insurance	5.85	293.74	0.00	117.68	0.00	0.00	0.00	0.00	131.26	548.53
HC9	HC Expenditure not specified by Kind	0.00	9.89	0.00	12.26	0.00	10.05	0.00	0.00	1161.03	1193.24
HCR1	Capital Formation for Health Care Provider Institutions	225.63	150.04	27.96	0.00	0.00	0.00	0.00	0.00	262.08	665.71
HCR2	Education & Training of Health Personnel	35.44	364.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	399.79
HCR3	Research & Development in Health	0.00	45.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.27
HCR4	Food, Hygiene and Drinking Water Control	0.00	22.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.73
HCRnsk	HCR Expenditure Not Specified by Kind	0.00	27.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.26
	Not classified								43.18		43.18
	Total	886.79	4273.16	54.89	132.70	209.40	16841.98	3.95	50.12	1568.40	24021.38

Table 4.33
Health Expenditure by Financing Agents and Health Care Functions (FA X HC), Orissa
2004-05 Percentage

(ICHA Codes)	Health Care Functions (HC)	Financing Agents (FA)									
		Public			ESIS	Other Private Insurance	Private/Household' out-of-pocket payment	NGOs	Firms	External Agencies	Total
		MoHFW	H & FW	Other Dept							
HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3			
HC1	Services of Curative Care	0.05	10.67	0.00	0.01	0.87	9.33	0.01	0.03	0.00	20.97
HC2	Services of Rehabilitative Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC3	Services of Long-term Nursing Care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC4	Ancillary Services to Medical Care	0.05	0.08	0.00	0.00	0.00	9.92	0.00	0.00	0.00	10.05
HC5	Medical good dispensed to outpatients	0.00	0.69	0.00	0.00	0.00	49.77	0.01	0.00	0.06	50.52
HC6	Prevention and public health services	2.48	2.55	0.11	0.00	0.00	1.06	0.00	0.00	0.00	6.20
HC7	Health Administration & Health Insurance	0.02	1.22	0.00	0.49	0.00	0.00	0.00	0.00	0.55	2.28
HC9	HC Expenditure not specified by Kind	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.00	4.83	4.97
HCR1	Capital Formation for Health Care Provider Institutions	0.94	0.62	0.12	0.00	0.00	0.00	0.00	0.00	1.09	2.77
HCR2	Education & Training of Health Personnel	0.15	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66
HCR3	Research & Development in Health	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
HCR4	Food, Hygiene and Drinking Water Control	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
HCRnsk	HCR Expenditure Not Specified by Kind	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	Not classified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.18
	Total	3.69	17.79	0.23	0.55	0.87	70.11	0.02	0.21	6.53	100.00

Table 4.34
Total Health Expenditure by Type of Financing Agent and Function (HF X F)
(Rs. Millions)

Health Care Function (F)	Financing Agents (HF)									Total
	MoHFW	H & FW Dept	Other Depts	ESIS	Other Private Insurance	Private/Ho usehold' Out of Pocket Payment	NGOs	Firms	Rest of the World (External Aid)	
	HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3	
Tertiary care services	25.98	1322.64		14.10	209.40	334.52	1.59	6.94		1915.16
Secondary care services	3.28	602.88				566.80	0.60			1173.57
Primary care services	0.00	972.13		0.92		1484.50	0.06			2457.61
Public Health.	19.84	444.97	26.93			1101.79	1.41			1594.94
Family Welfare	0.00	0.00				0.00				0.00
FW Training	23.50	1.53				0.00				25.03
Rural/urban FW services, maternity or child welfare	45.14	237.65				4.78	0.29		0.49	288.34
Sub centres	506.49	0.00				0.00				506.49
Compensation	35.81	0.00				0.00				35.81
Other family welfare	4.22	0.00				0.00				4.22
Direction and administration (all D & A)	5.85	295.97				0.00			1292.20	1594.02
Health statistics, research, evaluation & training	0.00	38.42				0.00				38.42
Capital expenditure	209.00	173.39	27.96			0.00			262.08	672.43
Medicines & Ancillary Services	0.00	165.33				12284.02			13.53	12462.88
Medical reimbursements	0.00	10.49				0.00			0.11	10.60
Employees State Insurance Scheme	0.00	0.00		117.68		0.00				117.68
Patient travel cost	7.69	7.77				1043.05				1058.50
HC Expenditure not specified by kind	0.00	0.00				22.52				22.52
Function Information not Available	0.00	0.00				0.00		43.18		43.18
Total	886.79	4273.16	54.89	132.70	209.40	16841.98	3.95	50.12	1568.40	24021.39

Table 4.35
Total Health Expenditure by Type of Financing Agent and Function (HF X F)
(Percentage)

Health Care Function (F)	Financing Agents (HF)									Total
	MoHFW	H & FW Dept	Other Depts	ESIS	Other Private Insurance	Private/House hold' Out of Pocket Payment	NGOs	Firms	Rest of the World (External Aid)	
	HF1.1.1.1	HF1.1.2.1	HF1.1.2.2	HF1.2.1	HF2.2	HF2.3	HF2.4	HF2.5	HF3	
Tertiary care services	0.11	5.51	0.00	0.06	0.87	1.39	0.01	0.03	0.00	7.97
Secondary care services	0.01	2.51	0.00	0.00	0.00	2.36	0.00	0.00	0.00	4.89
Primary care services	0.00	4.05	0.00	0.00	0.00	6.18	0.00	0.00	0.00	10.23
Public Health.	0.08	1.85	0.11	0.00	0.00	4.59	0.01	0.00	0.00	6.64
Family Welfare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW Training	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Rural/urban FW services, maternity or child welfare	0.19	0.99	0.00	0.00	0.00	0.02	0.00	0.00	0.00	1.20
Sub centres	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11
Compensation	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Other family welfare	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Direction and administration (all D & A)	0.02	1.23	0.00	0.00	0.00	0.00	0.00	0.00	5.38	6.64
Health statistics, research, evaluation & training	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Capital expenditure	0.87	0.72	0.12	0.00	0.00	0.00	0.00	0.00	1.09	2.80
Medicines & Ancillary Services	0.00	0.69	0.00	0.00	0.00	51.14	0.00	0.00	0.06	51.88
Medical reimbursements	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Employees State Insurance Scheme	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.49
Patient travel cost	0.03	0.03	0.00	0.00	0.00	4.34	0.00	0.00	0.00	4.41
HC Expenditure not specified by kind	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.09
Function Information not Available	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.18
Total	3.69	17.79	0.23	0.55	0.87	70.11	0.02	0.21	6.53	100.00

5. Summary and Concluding Observations

The main findings of the health accounts for Orissa are:

- The total health expenditure of Orissa was Rs.24021.38 millions which is 4.45 per cent of GDP of Orissa. The per capita health expenditure was Rs. 648. The private expenditure is more than 80 percent and the public expenditure is less than 20 percent despite the fact that health is a state subject.
- The out of pocket expenditure incurred by households was about 3/4th (72.73 %) of the total expenditure on health. Health and Family Welfare Department (H & FW) contributed slightly higher than 16 per cent, the Central government contributed only 3.66 per cent and other departments of state government contributed 0.72 percent. The NGOs and firm's share are 0.01 per cent and 0.18 per cent respectively.
- The major share of expenditure of H & FW department of the government of Orissa goes to hospitals and health administration followed by capital expenditure. For education and training institutions of allopathic doctors, it spends around 5 per cent. So far as different types of health care facilities are concerned, tertiary care services of health receives the highest share and secondary sector and primary sector receives respectively 15 % and less than 5 percent of the total share. In the context of a less developed state like Orissa, it is interesting to note that the sector which needs to get priority does not get it in practice. Further it may be noted that the expenditure by the state government is found to be more urban biased in respect of medical and public health. The expenditure under other items in the budget of Health and FW department is found to be very much disturbing as it constitutes more than 18 percent of the total expenditure of the government.
- Other departments like department of Revenue, Works, Housing and Urban Development, Labour & Employment and Rural development also spend on health. Department of labour and employment spends around 2/3rd of the total expenditure (for employees state insurance scheme).

- The household expenditure by type of provider shows that around 66 percent of the total health expenditure by household is for purchase of drugs and medicines. One of the most interesting findings is that higher incidence of communicable diseases is found in the backward district of Kandhamal which is similar to Maharashtra state. The tribals in Kandhamal district do suffer mostly from malaria and malnutrition which affect them severely. The travel cost for the households in the backward district of Kandhamal is the highest which implies that the medical facilities are far away.

Recommendations

In the background of the above findings it may be suggested that (i) The items in the budget under 'other charges' may be clearly identified as per the international classification for better allocation of resources and easier comparability; (ii) the burden of expenditure on households needs to be reduced to a considerable extent. Since the major proportion of households expenditure goes to purchase of medicines and such other expenditure, the government initiatives in this direction is much needed to provide the essential drugs free of cost to the lowest strata of population in the backward region. (iii) Since the allocation to maternity and child health is very low, it needs adequate attention to enhance the budget on this head. (iv) As prevention is better than cure, Preventive care which is found to be negligible calls for immediate attention by the government. (v) Administrative expenses at the government level appear to take away a major proportion of expenditure out of the total expenditure. This needs to be relooked at the governmental level. More resources may be allocated for safe drinking water supply, sanitation, counseling for health care (IEC) etc.

Table A1
Health Expenditure by Govt of Orissa, 2001-02 & 2004-05 (Rs millions)

Health Expenditure Head	2001-02		2004-05		Increase(+)/ decrease(-)
	Amount	%	Amount	%	
(A) Medical and Public Health					
Urban Health Services: Allopathy	1581.37	31.85	2653.77	41.91	10.06
Urban Health Services: Other Systems of Medicine	57.56	1.16	64.29	1.02	-0.14
Rural Health Services: Allopathy	1077.34	21.70	1273.57	20.11	-1.58
Rural Health Services: Other Systems of Medicine	184.26	3.71	224.17	3.54	-0.17
Medical Education, Training and Research	371.71	7.49	368.95	5.83	-1.66
Public Health	562.00	11.32	631.33	9.97	-1.35
General	33.52	0.67	38.55	0.61	-0.07
Total (A)	3867.76	77.89	5254.63	82.98	5.09
(B) Family Welfare					
Direction and Administration	26.42	0.53	27.67	0.44	-0.09
Training	17.12	0.34	21.00	0.33	-0.01
Research and evaluation	0.00	0.00	0.00	0.00	0.00
Rural Family Welfare Services	333.39	6.71	382.91	6.05	-0.67
Urban Family Welfare Services	19.37	0.39	26.21	0.41	0.02
Maternity and Child Health	0.29	0.01	10.00	0.16	0.15
Transport	5.25	0.11	6.64	0.10	0.00
Compensation	22.33	0.45	35.81	0.57	0.12
Mass education	-0.03	0.00	0.00	0.00	0.00
Selected area programmes	0.00	0.00	0.00	0.00	0.00
<i>Tribal areas sub-plan</i>	203.72	4.10	241.83	3.82	-0.28
Assistance to public sector and other undertakings	0.00	0.00	0.00	0.00	0.00
Asst to local bodies	0.00	0.00	0.00	0.00	0.00
Other services and supplies	0.00	0.00	156.33	2.47	2.47
International cooperation	0.00	0.00	0.00	0.00	0.00
other expenditure	0.00	0.00	0.00	0.00	0.00
Total (B)	627.85	12.64	908.39	14.35	1.70
Total (A + B)	4495.61	90.54	6163.03	97.33	6.79
(C) Other expenditure heads	469.84	9.46	169.089*	2.67	-6.79
Grand total (A+B+C)	4965.45	100.00	6332.12	100.00	27.52 (% change)

Source: 1. Demand for Grants, Health & Family Welfare Department, govt of Orissa, 2006-07

2. National Health Accounts, India, 2001-02, Govt of India, p-57

Table A2
Health Expenditure by H & FW Dept, Govt. of Orissa, by Function 2004-05 (Rs. Millions)

SI No	ICHA Code	Function Description	Total Health Expenditure (H & FW Dept, Orissa)	Table %	NHA India Estimates
1	HC1 (IP & OP)	Services of Curative Care (IP & OP)	4.95	0.08	
2	HC1 ism (IP & OP)	Services of Curative Care (IP & OP) ISM	251.00	3.96	
3	HC1.1	Inpatient Care Services	1006.93	15.90	
4	HC1.2	Outpatient care services	978.33	15.45	
5	HC1.3.3ism	Specialized medical services ISM	0.06	0.00	
6	HC1	Services of Curative Care	2241.27	35.40	47.60
7	HC2	Rehabilitative or long term nursing care			0.20
8	HC4.1	Clinical Laboratory	8.12	0.13	
9	HC4.3	Ambulance services	17.68	0.28	
10	HC4.3 ism	Ambulance services ISM	0.46	0.01	
11	HC4.4	All other miscellaneous ancillaries	5.12	0.08	
12	HC4	Ancillary Services to Medical Care	31.38	0.50	1.90
13	HC5.1	Pharmaceuticals and other medical non-durables	16.10	0.25	
14	HC5.1.1	Prescribed medicines	150.68	2.38	
15	HC5.1.1 ism	Prescribed medicines ISM	12.12	0.19	
16	HC5	Medical good dispensed to outpatients	178.90	2.83	
17	HC6.1	RCH & FP Services	734.54	11.60	12.20
18	HC6.2.1	Nutritional programme of state dept of health			0.10
19	HC6.3	Prevention of communicable diseases	258.85	4.09	6.20
20	HC6.4	prevention of non-communicable diseases	151.78	2.40	0.40
21		Drugs control			0.30
22	HC6.9	All other miscellaneous public health services	2.67	0.04	1.30
23	HC6	Prevention and public health services	1147.84	18.13	20.50
24	HC7.1	Health Administration	402.32	6.35	
25	HC7.1 ism	Health Administration ISM	22.36	0.35	
26	HC7.1.3	Maintenance of Hospital building	5.16	0.08	
27	HC7.1.3 ism	Maintenance of Hospital building ISM	1.02	0.02	
28	HC7	Health Administration & Health Insurance	430.86	6.80	8.40
29	HC9	HC Expenditure not specified by kind	1192.79	18.84	
30	HC9 ism	HC Expenditure not specified by kind ISM	0.45	0.01	
31	HC9	HC Expenditure not specified by Kind	1193.24	18.84	
32	HCR1	Capital Expenditure (Bedding, Clothing & linen)	5.37	0.08	
33	HCR1 ism	Capital Expenditure (Bedding, Clothing & linen) ISM	0.21	0.00	
34	HCR1.1	Capital Expenditure (Equipments)	436.98	6.90	
35	HCR1.1 ism	Capital Expenditure (Equipments) ISM	4.73	0.07	
36	HCR1.2	Capital Expenditure (Materials & Equipment)	190.63	3.01	
37	HCR1.3	Capital Expenditure (Construction of Building)	6.55	0.10	
38	HCR1	Capital Formation for Health Care Provider Institutions	644.47	10.18	4.70
39	HCR2	Education and Training of Health Personnel *	353.43	5.58	9.20
40	HCR2 ism	Education and Training of Health Personnel ISM	46.36	0.73	
41	HCR2	Education & Training of Health Personnel	399.79	6.31	9.20
42	HCR3	Research and Development in Health	38.55	0.61	0.20
43	HCR4	Food, Hygeine and drinking water control	22.32	0.35	
44	HCR4 ism	Food, Hygeine and drinking water control ISM	0.41	0.01	
45	HCR4	Food, Hygeine and Drinking Water Control	22.73	0.36	0.20
46	HCRnsk	HCR Expenditure not Specified by Kind	1.10	0.02	
47	HCRnsk ism	HCR Expenditure not Specified by Kind ISM	2.01	0.03	
48	HCRnsk	HCR Expenditure Not Specified by Kind	3.11	0.05	
49		Function from other sources			7.10
50		Total	6332.12	100.00	100.00

Note: * Included Public health or RCH Education/training & medical education and training of health personnel

Table A3
Health Expenditure by H & FW Dept, Govt of Orissa by Type of Health Care Services,
2004-05 (Rs. Millions)

Sl No	Health Care Service	Expenditure	CMDR Estimate (2004-05) (%)	NHA India Estimate (2001-02) (%)
1	Primary Care Services (Curative Care)			
2	PHC/Dispensaries/Clinics (excluding exp in head 2211)	972.13	15.35	15.5
3	Secondary Care Services		4.86	19.4
4	District Sub district/ Speciality hospitals	255.48	4.03	
5	Community health centres (CHC)	3.72	0.06	
6	Medical education; ayush	48.24	0.76	
7	Others	0.37	0.01	
8	Tertiary Care Services		21.64	21.1
9	Hospitals attached to teaching institutions	282.14	4.46	
10	Major/General hospitals	727.93	11.50	
11	Medical education, Allopathy	359.89	5.68	
12	Public Health.	464.81	7.34	8.90
13	Disease control communicable diseases	274.99	4.34	
14	Disease control non-communicable diseases	155.67	2.46	8.9
15	Food Adulteration	22.73	0.36	
16	Drugs control	0.06	0.00	
17	Public health labs	8.10	0.13	
18	Miscellaneous public health	3.25	0.05	
19	Family Welfare	735.60	11.62	12.90
20	FW Training	1.10	0.02	
21	Rural/urban FW services, maternity or child welfare	187.98	2.97	12.9
22	Sub centres	506.49	8.00	
23	Compensation	35.81	0.57	
24	Other family welfare	4.22	0.07	
25	General Expenditure	2481.82	39.19	22.20
26	Direction and administration (all D & A) & Travel*	1609.48	25.42	8.4
27	Health statistics, research, evaluation & training	38.42	0.61	0.1
28	Medical stores depot & Drug manufacture	178.86	2.82	1.7
29	Capital expenditure	644.47	10.18	4.7
30	Medical reimbursements	10.60	0.17	0
31	Function not specified in the budget			7.3
32	Total	6332.12	100.00	100

* Travel exp = Rs. 15.46 Millions

Table:A4

Household Health Expenditure by Provider in Orissa, 2004-05, (Rs. Millions)

	HP1	Hospitals	Rs in millions	% distribution
1	HP1.1.1	General hospitals (allo) of Central Government ministries/Departments	7.97	0.05
2	HP1.1.2	General Hospitals-govt	2.51	0.01
3	HP1.1.2.1	State Government's Department Hospital	2.33	0.01
4	HP1.1.2.2	District Hospital	290.41	1.68
5	HP1.1.2.3	CHC / Taluk Hospital	7.95	0.05
6	HP1.1.2.4	PHC Urban	22.49	0.13
7	HP1.1.2.5	PHC/PHU Rural	67.19	0.39
8	HP1.1.3	ESIS Hospital	14.10	0.08
9	HP1.1.3.1	ESIS Dispensaries	0.92	0.01
10	HP1.1.4	Dispensaries / clinic / Hospitals run by Corporate sector	6.94	0.04
11	HP1.1.5	General hospitals (allo)-private	330.21	1.91
12	HP1.1.6	Dispensaries / clinic / Hospitals run by NGOs	1.53	0.01
13	HP1.1.6.1	Dispensaries / clinic / Hospitals run by Co-operatives	0.00	0.00
14	HP1.3.3	Speciality hospitals	566.80	3.28
15	HP3.4.1	Family planning welfare centres	2.91	0.02
16	HP3.4.1.3	ANM centres	3.06	0.02
17	HP3.4.5.4.1	Dispensaries and clinic (allo)	71.14	0.41
18	HP3.4.5.4.2	Dispensaries and clinic (ISM & H)	1403.06	8.12
19	HP3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)	497.84	2.88
20	HP3.5.2	Clinical laboratories	603.95	3.50
21	HP3.5.9	Other ancillary services	32.98	0.19
22	HP3.7	Patient travel cost	1040.53	6.02
23	HP3.9.1.1	Ambulance services / Ambulatory care	2.51	0.01
24	HP3.9.2	Blood Banks	233.91	1.35
25	HP3.3.13	Traditional Birth Attendent	4.66	0.03
26	HP3.3.13.1	Traditional healer	0.12	0.00
27	HP4.1.1	Supplies of pharmaceuticals and medical goods (Medical shop)	11369.76	65.83
28	HP4.1.3	Medicines received from doctor	267.50	1.55
29	HP4.2	Retail sale and other suppliers of Optical glasses & other vision products	50.35	0.29
30	HP4.3	Hearing Aids	7.32	0.04
31	HP4.4	Retail sale and other suppliers of medical appliances (Wheel chair)	24.85	0.14
32	HP4.9	Supplies of all other miscellaneous pharmaceuticals & medical goods	297.34	1.72
33	HP7.2	Providers of home health care services	10.30	0.06
34	HP8.2.1.2	Teaching Hospital	4.31	0.02
35	HPnsk	Provider not specified by Kind	22.52	0.13
36		TOTAL	17272.31	100.00

Table A5
Household Health Expenditure by Function in Orissa, 2004-05,
(Rs. Millions)

SI No	ICHA Code	Description	Expenditure	%
1	HC1.1	Inpatient Care services	430.53	2.49
2	HC1.1.1	Surgical treatment	936.85	5.42
3	HC1.1.2	Emergency care	106.79	0.62
4	HC1.1.9	Any other (IP)	33.47	0.19
5	HC1.2	Day cases of Curative care (general)	29.74	0.17
6	HC1.2.1	Ambulatory surgery	2.45	0.01
7	HC1.2.2	Chemo therapy	176.83	1.02
8	HC1.2.3	Radio therapy	205.33	1.19
9	HC1.2.4	Physio therapy	24.52	0.14
10	HC1.2.5	Dialysis services	3.37	0.02
11	HC1.2.9	Other treatment	172.84	1.00
12	HC1.3	Out patient curative care	433.70	2.51
13	HC1.3.2	Dental Services	15.17	0.09
14	HC1.3.4	ENT Services	5.50	0.03
15	HC1.3.5	Eye Care Services	19.08	0.11
16	HC4.1	Pathological services	603.34	3.49
17	HC4.2	Diagnostic imaging services	472.80	2.74
18	HC4.3	Patient's travel	1040.53	6.02
19	HC4.4	Blood Banks	232.83	1.35
20	HC4.9	Other ancillary services	32.98	0.19
21	HC5.1.1	Prescribed medicines	11307.55	65.47
22	HC5.1.2	Drugs-Received from Doctor	267.50	1.55
23	HC5.2.1	Glasses and vision products	50.35	0.29
24	HC5.2.3	Hearing Aids	7.32	0.04
25	HC5.2.4	Wheel chairs	24.85	0.14
26	HC5.2.9	Any other MGD	297.34	1.72
27	HC6.1	MCH Services	6.41	0.04
28	HC6.1.1	Delivery & Maternal Health	284.61	1.65
29	HC6.1.2	Child Health Services	9.29	0.05
30	HC6.4	Immunization	14.28	0.08
31	HCnsk	Any other (OP)	24.15	0.14
32		Total	17272.31	100.00

Table A6
Household Out Patient Health Expenditure (Excluding Medicines & Ancillary Services) (% to Total Household Health Expenditure)

ICHA CODE	Providers	HC1.3	HC1.3.2	HC1.3.4	HC1.3.5	HC6.1	HC6.1.1	HC6.4	HCnsk	Total
		General Medical Services	Dental Services	ENT Services	Eye Care Services	MCH Services	Delivery at home	Immunization	Any other (OP)	
HP1.1.2.1	District Hospital	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.05
HP1.1.2.2	CHC / Taluk Hospital	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
HP1.1.2.3	PHC Urban	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
HP1.1.2.4	PHC/PHU Rural	0.11	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.14
HP1.1.2.5	ESIS Hospital	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.08
HP1.1.2.6	ESIS Dispensaries	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
HP1.1.2.7	General Hospitals-govt	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP1.1.2.8	State Government's Department Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP1.1.4	Dispensaries / clinic / Hospitals run by Corporate sector	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04
HP1.1.5	General hospitals (allo)-private	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
HP1.1.6	Dispensaries / clinic / Hospitals run by NGOs	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
HP1.3.3	Speciality hospitals (allo)	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.10
HP1.4.4	Speciality hospitals (ISM & H)	0.05	0.00	0.01	0.03	0.00	0.00	0.02	0.00	0.10
HP3.3.6	Traditional Birth Attendent	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
HP3.3.6.1	Traditional healer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP3.4.1.2	Family planning welfare centres	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP3.4.1.3	ANM centres	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.02
HP3.4.4.1	Dispensaries and clinic (ISM & H)	1.83	0.03	0.01	0.06	0.02	0.00	0.03	0.04	2.03
HP3.4.5.4	Dispensaries and clinic (allo)	0.25	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.28
HP7.2	Providers of home health care services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP8.2.1.2	Teaching Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HPnsk	Provider not specified by Kind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	TOTAL	2.51	0.08	0.03	0.11	0.04	0.03	0.08	0.14	3.02

Table A7
Household In Patient Care Expenditure (Excluding Medicines & Ancillary Services)
(% to Total Household Health Expenditure)

ICHA CODE	Providers	HC1.1	HC1.1.1	HC1.1.2	HC1.1.3	HC1.3.2	HC6.1.1	HC6.1.2	Total
		Consultancy charges	Surgical treatment	Emergency care	Any other (IP)	Dental care	Maternal Health	Child Health Services	
HP1.1.2.1	District Hospital	0.32	0.42	0.01	0.00	0.00	0.13	0.02	0.90
HP1.1.2.2	CHC / Taluk Hospital	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP1.1.2.3	PHC Urban	0.02	0.00	0.00	0.00	0.00	0.04	0.00	0.06
HP1.1.2.4	PHC/PHU Rural	0.06	0.03	0.00	0.00	0.00	0.13	0.00	0.22
HP1.1.2.5	ESIS Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP1.1.2.8	State Government's Department Hospital	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
HP1.1.5	General hospitals (allo)-private	0.06	1.83	0.00	0.00	0.00	0.00	0.00	1.89
HP1.3.3	Speciality hospitals (allo)	0.60	1.23	0.37	0.02	0.00	0.29	0.01	2.51
HP1.4.4	Speciality hospitals (ISM & H)	0.08	0.08	0.03	0.03	0.01	0.00	0.00	0.23
HP3.4.1.2	Family planning welfare centres	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP3.4.4.1	Dispensaries and clinic (ISM & H)	1.31	1.79	0.19	0.02	0.00	0.97	0.02	4.31
HP3.4.5.4	Dispensaries and clinic (allo)	0.00	0.03	0.01	0.01	0.00	0.01	0.00	0.06
HP3.9.1.1	Ambulance services / Ambulatory care	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01
HP7.2	Providers of home health care services	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
HP8.2.1.2	Teaching Hospital	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
HPnsk	Provider not specified by Kind	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.11
	TOTAL	2.49	5.42	0.62	0.19	0.01	1.62	0.05	10.41

Table A8
Household Day Care Expenditure (Excluding Medicines & Ancillary Services)
(% to Total Household Health Expenditure)

ICHA CODE	Providers	HC1.2	HC1.2.1	HC1.2.2	HC1.2.3	HC1.2.9	HC 5.1.2	HCnsk	Total
		Ambulatory surgery	Chemo therapy	Radio therapy	Physio therapy	Dialysis services	Other treatment	Curative care	
HP1.1.1	General hospitals (allo) of Central Government ministries /Departments	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05
HP1.1.2.1	District Hospital	0.00	0.25	0.39	0.00	0.00	0.08	0.01	0.73
HP1.1.2.3	PHC Urban	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
HP1.1.2.4	PHC/PHU Rural	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
HP1.1.2.7	General Hospitals-govt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP1.1.2.8	State Government's Department Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP1.3.3	Speciality hospitals (allo)	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
HP1.4.4	Speciality hospitals (ISM & H)	0.01	0.00	0.00	0.00	0.00	0.27	0.04	0.32
HP3.4.4.1	Dispensaries and clinic (ISM & H)	0.00	0.75	0.80	0.05	0.00	0.20	0.00	1.79
HP3.4.5.4	Dispensaries and clinic (allo)	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.08
HP3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)	0.00	0.03	0.00	0.03	0.02	0.05	0.01	0.14
HP3.5.2	Clinical laboratories	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP3.9.2	Blood Banks	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
HP4.1.1	Supplies of pharmaceuticals and medical goods (Medical shop)	0.00	0.00	0.00	0.01	0.00	0.34	0.01	0.36
HPnsk	Provider not specified by Kind	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
	TOTAL	0.01	1.02	1.19	0.14	0.02	1.00	0.17	3.56

Table A9
Household Ancillary Service Expenditure (for Out Patient, In Patient and Day Care) (% to Total Household Health Expenditure)

ICHA CODE	Providers	HC 4.1	HC 4.2	HC 4.3	HC 4.4	HC 4.9	HC 5.1.1	HC 5.1.2	HC 5.2.1	HC 5.2.3	HC 5.2.4	HC 5.2.9	Total
		Pathological services	Diagnostic imaging services	Travel cost	Blood Banks	Any other	Drugs- Received from Doctor	Drugs- Purchased	Glasses and vision products	Hearing Aids	Wheel chairs	Any other MGD	
HP3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)	0.00	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
HP3.5.1.1.1	Other ancillary services	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.19
HP3.5.2	Clinical laboratories	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.49
HP3.7	Patient travel cost	0.00	0.00	6.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.02
HP3.9.2	Blood Banks	0.00	0.00	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35
HP4.1.1	Supplies of pharmaceuticals and medical goods (Medical shop)	0.00	0.00	0.00	0.00	0.00	0.00	65.47	0.00	0.00	0.00	0.00	65.47
HP4.1.3	Medicines received from doctor	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.00	0.00	0.00	0.00	1.55
HP4.2	Retail sale and other suppliers of Optical glasses & other vision products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.29
HP4.3	Hearing Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
HP4.4	Retail sale and other suppliers of medical appliances (Wheel chair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.14
HP4.9	Supplies of all other miscellaneous pharmaceuticals & medical goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	1.72
	TOTAL	3.49	2.74	6.02	1.35	0.19	1.55	65.47	0.29	0.04	0.14	1.72	83.01

Table A10
HP CODES: ORISSA HEALTH ACCOUNTS

Sl No	ICHA Codes	Description	HC codes used by CMDR (Orissa)
1		General hospitals (allo) of Central Government ministries/Departments	HP1.1.1
2		Hospitals owned by state government	HP1.1.2
3		State Government's Department Hospital	HP1.1.2.1
4		District Hospital	HP1.1.2.2
5		CHC / Taluk Hospital	HP1.1.2.3
6		PHC Urban	HP1.1.2.4
7		PHC/PHU Rural	HP1.1.2.5
8		Hospitals under social insurance	HP1.1.3
9		Hospitals owned by public or private firms	HP1.1.4
10		Private hospitals (private for profit entities)	HP1.1.5
11		Hospitals owned by Charitable institutions/NGOs	HP1.1.6
12		Hospitals run by Co-operatives	HP1.1.6.1
13		Speciality hospital for Cancer	HP1.3.1
14		Speciality hospital for other diseases	HP1.3.3
16		Hospitals owned by private for profit entities (ISM)	HP1.4.4
17		Traditional Birth Attendent	HP3.3.13
18		Traditional healer	HP3.3.13.1
19	HP3.4.1	Family welfare centres	Same
20		Maternity homes	HP3.4.1.1
21		Post partum centres	HP3.4.1.2
22		Subcentre/health posts	HP3.4.1.3
23		Family Planning- Compensation, Assignments, Services & Supplies	HP3.4.1.5
24		ESIS Dispensaries	HP3.4.5.1.1
25		Dispensaries and clinic (allo)-Private	HP3.4.5.4.1
26		Dispensaries and clinic (ISM & H)	HP3.4.5.4.2
27		X Ray /CT Scan/other diagnostic scanning centres	HP3.5.1
28		Medical pathoogical labs	HP3.5.2
29		Other ancillary services	HP3.5.9
30		Patient travel cost	HP3.7
31		Ambulance services / Ambulatory care	HP3.9.1.1
32	HP3.9.2	Blood Banks	Same
33		State Branch of IRCS	HP3.9.2.1
34	HP4.1	Medical shop	HP4.1.1
35		Medicines received from doctor	HP4.1.3
36	HP4.2	Retail sale and other suppliers of optical glasses and other vision products	Same
37	HP4.3	Retails sale and other suppliers of hearing aids	Same
38	HP4.4	Retail sale and other suppliers of medical applicances (other than optical glasses and hearing aids)	Same
39	HP4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods	Same
40	HP5	Provision and administration of public health programmes	Same
41		Prevention of Communicable Diseases	HP5.1
42		Prevention of Non-Communicable Diseases	HP5.2
43		State Govt Administration on Health	HP6.1.2
45	HP7.2	Private households as providers of home care	Same
46	HP8.1	Health Research Institutions in Public Sector	HP8.1.1
47		Education & Training Institutions by State- For Doctors	HP8.2.1.2
49		Education & Training for Nurses and Paramedics by State Dept	HP8.2.2.3
50	HPnsk	Provider not specified by kind	Same

Table A11
HC CODES: ORISSA HEALTH ACCOUNTS

SI No	ICHA Codes	Description	HC codes used by CMDR (Orissa)
1	HC1	Services of Curative Care	HC1 (IP & OP)
2	HC1.1	Inpatient care service	Same
3		Surgical treatment	HC1.1.1
4		Emergency care	HC1.1.2
5		Any other (IP)	HC1.1.3
6	HC1.2	Day cases of curative care	Same
7		Ambulatory surgery	HC1.2.1
8		Chemo therapy	HC1.2.2
9		Radio therapy	HC1.2.3
10		Physio therapy	HC1.2.4
11		Dialysis services	HC1.2.5
12		Other treatment	HC1.2.9
13	HC1.3	Outpatient curative care	Same
14	HC1.3.2	Outpatient dental care	Same
15	HC1.3.3	All other specialized medical services	Same
16	HC1.3.4	All other outpatient curative care	Same
17		Eye care services	HC1.3.5
18	HC4.1	Clinical laboratory	Same
19	HC4.2	Diagnostic imaging	Same
20	HC4.3	Patient Transport and emergency rescue	Same
21	HC4.4	All other miscellaneous ancillaries	Same
22		Any other	HC4.9
23	HC5.1	Pharmaceuticals and other medical non-durables	Same
24	HC5.1.1	Prescribed medicines	Same
25		Drugs-Received from Doctor	HC5.1.2
26	HC5.2.1	Glasses and vision products	Same
27	HC5.2.3	Hearing Aids	Same
28	HC5.2.4	Medico technical devices, including wheel chairs	Same
29	HC5.2.9	All other miscellaneous medical goods	Same
30	HC6.1	MCH and family planning counselling	Same
31		Delivery & Maternal Health	HC6.1.1
32		Child Health Services	HC6.1.2
33	HC6.3	Prevention of communicable diseases	Same
34	HC6.4	Prevention of non-communicable diseases	Same
35		Immunization	HC6.6
36	HC6.9	All other miscellaneous public health services	Same
37	HC7.1	Health administration and health insurance	Same
38		Maintenance of building	HC7.1.3
39	HCnsk	HC Expenditure not specified by Kind	Same
40	HCR1	Capital Formation for Health Care Provider Institutions	Same
41		Capital Expenditure (Equipments)	HCR1.1
42		Capital Expenditure (Materials & Equipment)	HCR1.2
43		Capital Expenditure (Construction of Building)	HCR1.3
44	HCR2	Education & Training of Health Personnel	Same
45	HCR3	Research & Development in Health	Same
46	HCR4	Food, Hygiene and Drinking Water Control	Same
47	HCRnsk	HCR Expenditure Not Specified by Kind	HCRnsk

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STATE HEALTH ACCOUNTS : KARNATAKA *

1. Introduction

As per the Constitution of India, the provision of health care by the public sector is a responsibility shared by State, Central and local governments, although it is primarily a State responsibility in terms of service delivery. A careful understanding of financial flows of the health sector seems to have emerged as an important policy tool in the recent times. The earlier attempts in developing countries were restricted to the estimation of health expenditures from the public sector only. This was obviously due to data limitations experienced in such countries. In the light of the limited availability of resources to the health sector a judicious use of resources assumes utmost significance. To have a comprehensive picture about health expenditure we must take into account not only public sector spending but also private sector contributions in this regard. This gives us a form of accounts for the health sector, which may be the national health accounts.

1.1. National Health Accounts:

National income and product accounts are the integral part of the framework having consistent estimates of aggregates and components of the economy as a whole and for the major 'economic' sectors of the economy. The sector tables are prepared on the accounting principles. These tables show the transactions among sectors and they also distinguish major forms of economic activity viz.

- Production
- Consumption
- Capital formation and its financing

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Economic accounting gives a comprehensive numerical estimate of economic stocks and flows within national or regional economies. Such estimates are useful to broaden our understanding of economic concepts. They also serve as a background for economic appraisals and projections, and make possible more effective public and private decision-making.

“Management of National Income And The Construction Of Social Accounts” published in 1947 by the League of Nations is considered to be a milestone in helping many countries which were trying to estimate national income. Major initiative in this regard was undertaken by United Nations in 1953, which published ***‘A System of National Accounts and Supporting Tables’ (popularly known as SNA)***. Around 1960s the work on preparation of national income estimates became universal around the globe.

After prolonged discussions and debate the new UN System of National Accounts (SNA) was accepted across the world. The SNA now accepts the need for flexibility and different approach by member countries suitable to them. The adaptation of this system may vary in accordance with the degree of sophistication of the statistical data available in each country.

Both national income accounts and national health accounts are similar, in the sense that what national health accounts describe for the health sector is being done by national income accounts for the economy as a whole. Both these estimates agree to the fact that money payments or transfers should not be double counted and a distinction to be maintained between capital and current expenditures. With regard to the health sector, the national health accounts is a recent addition and in most of the developing countries the efforts are still in infancy. Some studies have indicated that the methodology adopted for the estimation of national income accounts may not act as a useful tool for the national health accounts. (Foulon 1982, Petre 1983). It is argued that the categories adopted in the estimation of national income estimates may not be useful for health sector analysis. This may be due to the fact that it is difficult to define what the constituents of health sector. The confusion seem to be increasing due to the fact that the framework of national income accounts focuses mainly on tangible activities rather than on services like health.

Health Accounts have a methodology of their own and the attempts in estimating them have demonstrated that they are likely to be different from the central framework of SNA. NHA have developed independently for the most part from the SNA and satellite accounts. They have been compiled in response to the needs of health sector managers. The first set of NHA estimates was compiled in the United States only 35 years ago (Rice and Reed 1964). Only in recent years many countries have begun work in this direction.

Actors in an exercise to develop NHA will be classified in the same manner as institutional sectors and types of producers in the central framework as shown below:

- Market producers
- Non-market producers
- Government
- Households
- Rest of the world.

The basic function of the NHA is to show and link between the sources and uses of health care expenditures. Similar to SNA these are shown in a matrix format. Unlike NHA the previous health expenditure surveys have not considered both sources and uses of funds. The aim of NHA is to measure the total volume of financial expenditures and present them in such a way that the flows of resources between different units in a health care system are immediately visible to the managers of the health sector.

2. Justification and objectives of the study

In the Indian context, the concept of health accounts has emerged very recently. Though individual researchers had tried to develop health accounts for certain states and districts, there were no comprehensive attempts in developing health accounts. Only in the month of June 2006 one can note that the Ministry of Health and WHO in India have jointly developed National Health Accounts for the year 2001-02. The National Health Policy of India 2002 has categorically mentioned the need to develop Health Accounts in India. Thus the need of institutionalizing health accounts exercises in India has been well recognized and necessary action in this regard needs immediate attention.

On the methodological front, there are host of issues which need immediate attention. If one tries to implement the OECD methodology of developing health accounts in a developing country like India, there is every likelihood that one confront lot of operational difficulties. This may on account of lack of sophisticated statistical data base which would help in developing health accounts. The System of Health Accounts (SHA) as developed by OECD largely caters to the real world situation of the developed countries. In this background World Bank and WHO have tried to adapt this methodology to suit the requirements of developing countries. They have thus come out with a Producers' Manual for Developing Health Accounts in developing countries. This adapted version would come quite handy in addressing various issues of Health Accounts exercises in developing countries. Classifying various entities in health sector namely, sources of funds which finance health related activities, various agents who manage such funds, providers who provide various services of health care to the population and finally functions or uses which finally reach the people. Standards adopted for classifying these entities and functions need to be sketched out in the context of developing countries using the Producers' Manual.

After the entry of OECD and WHO's Producers' Manual there seem to be no serious effort in the Indian context to develop health accounts. The only exception could be the national level effort by MOHFW and WHO in India which have tried to produce the NHA for India for the year 2001-02. The scenario at the state level still remains unexplored. In a vast and varied country like India, the need is always felt to develop health accounts at the state level and from the lessons learnt as part of such exercises, one may proceed further to develop health accounts at the national level. This argument also assumes significance in the background of the federal framework that exists in the Indian context wherein the role and responsibility of the state governments is much bigger and dominant in the provision of health services to the community.

3. The State of Karnataka

3.1 Socio-economic and Demographic scenario

Karnataka, is in many ways, a typical Indian State. In natural regions, languages, faiths and culture, it exhibits almost as much variety as the sub-continent itself. In development attainments too, the state is at the median level in major sectors, including in the health sector.

Karnataka lies between latitudes 11.31 and 18.45 degrees north and longitudes 74.12 and 78.40 degrees east on the western part of the Deccan plateau. It has four natural regions extending over 700 kms, from the north to the south and 400 kms from the east to the west. The state is the eighth largest in the country in both area and population. Karnataka has an area of 191,791 sq. kms, having a population of about 52 million as per the 2001 census. It accounts for about 6 per cent of the country's population. About 51% of the population belongs to the male category. While the population density of the state at 235 persons per sq. km. is lower than the national level of 257, the state is more urbanized than India as a whole; 33% of its population is in urban areas against 26% in the entire country. The districts of Karnataka differ in terms of share of urban population. For example Bangalore has the highest urban population of about 88 per cent while Kodagu has the lowest urban population of 13 per cent. The following Table-1 gives us the total population and the rural and urban break up in the districts of the state.



Table 1
District wise Geographical Area, Population, SC Population, ST Population, Sex Ratio and Density of Population in Karnataka, 2001.

Sl. No.	District	Geo-graphical area (in sq km)	Population			SC Population		ST Population		Sex Ratio	Density of Population (Persons/Sq. Kms.)
			Persons	Males	Females	Population	%	Population	%		
1	Belgaum	13415.0	4,214,505	2,150,090	2,064,415	462,020	11.0	243,451	5.8	960	314
2	Bagalkot *	6575.0	1,651,892	834,247	817,645	250,604	15.2	80,181	4.9	980	251
3	Bijapur	10494.0	1,806,918	926,424	880,494	334,254	18.5	30,051	1.7	950	172
4	Gulbarga	16224.0	3,130,922	1,592,789	1,538,133	717,595	22.9	154,195	4.9	966	193
5	Bidar	5448.0	1,502,373	771,022	731,351	298,812	19.9	182,219	12.1	949	276
6	Raichur	6827.0	1,669,762	841,840	827,922	317,276	19.0	303,042	18.1	983	245
7	Koppal	7189.0	1,196,089	603,312	592,777	185,209	15.5	138,588	11.6	983	166
8	Gadag *	4656.0	971,835	493,533	478,302	137,414	14.1	54,410	5.6	969	209
9	Dharwad	4260.0	1,604,253	823,204	781,049	131,969	8.2	70,442	4.4	949	377
10	Uttara Kannada	10291.0	1,353,644	686,876	666,768	101,896	7.5	23,781	1.8	971	132
11	Haveri *	4823.0	1,439,116	740,469	698,647	175,360	12.2	127,163	8.8	944	298
12	Bellary	8450.0	2,027,140	1,029,714	997,426	374,218	18.5	364,638	18.0	969	240
13	Chitradurga	8440.0	1,517,896	776,221	741,675	336,487	22.2	266,235	17.5	955	180
14	Davanagere	5924.0	1,790,952	917,705	873,247	333,227	18.6	209,701	11.7	952	302
15	Shimoga	8477.0	1,642,545	830,559	811,986	269,519	16.4	55,997	3.4	978	194
16	Udupi *	3880.0	1,112,243	522,231	590,012	67,689	6.1	41,613	3.7	1130	287
17	Chikmagalur	7201.0	1,140,905	574,911	565,994	233,134	20.4	41,019	3.6	984	158
18	Tumkur	10597.0	2,584,711	1,313,801	1,270,910	474,044	18.3	193,819	7.5	967	244
19	Kolar	8223.0	2,536,069	1,286,193	1,249,876	671,692	26.5	205,711	8.1	972	308
20	Bangalore	2190.0	6,537,124	3,426,599	3,110,525	851,047	13.0	86,018	1.3	908	2985
21	Bangalore Rural	5815.0	1,881,514	962,183	919,331	377,679	20.1	61,555	3.3	955	324
22	Mandya	4961.0	1,763,705	888,034	875,671	247,213	14.0	17,193	1.0	986	356
23	Hassan	6814.0	1,721,669	859,086	862,583	311,726	18.1	26,451	1.5	1004	253
24	Dakshina Kannada	4560.0	1,897,730	938,434	959,296	131,160	6.9	62,936	3.3	1022	416
25	Kodagu	4102.0	548,561	274,831	273,730	67,422	12.3	46,115	8.4	996	134
26	Mysore	6854.0	2,641,027	1,344,670	1,296,357	467,640	17.7	271,351	10.3	964	385
27	Chamarajanagar *	5101.0	965,462	489,940	475,522	237,624	24.6	106,111	11.0	971	189
KARNATAKA		191791.0	52,850,562	26,898,918	25,951,644	8,563,930	16.2	3,463,986	6.6	965	276

Source : Census of India 2001

Karnataka is rich in mineral wealth with deposits of gold, manganese, chromites, bauxite and copper. It was one of the earliest states to electrify all its revenue villages. And today, the state capital Bangalore is known internationally as the hub of information technology and electronics in India.

Each of the four natural regions of the state has its distinctive characteristics. The coastal area covering Dakshina Kannada and Uttara Kannada districts is a narrow strip between the Western Ghats and the Arabian Sea. The region is characterized by heavy rainfall - 2500 mms. to 3000 mms. - the main occupations being fishing and the cultivation of rice,

coconut and areca nut. The coast on the east is covered by the Western Ghats; the Ghat or malnad region covers the districts of Chikmagalur, Hassan, Kodagu and Shimoga and the uplands of Uttara Kannada district. About 43% of the forests of the state fall within this area. Plantations of coffee, pepper, cardamom and rubber are interspersed with dense forests.

The maidan region falls into two broad sections. The south maidan has rolling hills and is drained by the Kaveri and its tributaries - (Harangi and the Hemavathy) as well as by the Tungabhadra. Rice, ragi, coconut and mullberry are the principal crops. The northern maidan is less developed, receives low rainfall and supports jowar, cotton, oilseeds and pulses. The Krishna and its tributaries - the (Malaprabha, Ghataprabha,) Tungabhadra and Bheema - are the principal rivers of the northern plateau.

If one looks at the socio economic profile of the population of the state vis-à-vis the national averages it seems that the state is doing well in certain respects. The following Table-2 gives us the levels of living, inequality and poverty in the state in comparison to the national scenario.

Table 2
Levels of Living, Inequality & Poverty by Social Categories: Karnataka & All-India (1999/2000)

Household type	Share in total population	Average per capita consumption (Rs./month)	Proportion of poor population (Lorenz ratio %)	Relative inequality in consumption distribution	Share in total population %	Average per capita consumption (Rs./month)	Proportion of poor population	Relative inequality in consumption (Lorenz ratio %)
	Rural Karnataka				Rural All-India			
SC	19.65	419.39	26.87	21.63	27.17	418.51	35.82	23.76
ST	7.83	404.28	24.78	17.71	6.7	387.69	45.12	24.81
OBC	39.15	507.45	16.15	23.42	6.77	473.65	27.46	24.97
Others	33.31	560.08	12.11	25.53	59.04	577.22	15.82	26.89
All	100	499.6	18.08	24.48	100	485.88	27.73	26.58
	Urban Karnataka				Urban All-India			
SC	10.79	592.72	47.5	27.95	14.35	608.79	38.12	27.86
ST	4.5	634.2	50.93	33.49	3.4	690.52	35.29	32.61
OBC	30.65	829.05	29.09	30.92	30.38	734.82	29.69	32.46
Others	54.02	1044.02	16.81	31.56	51.7	1004.75	16.15	34.46
All	100	910.78	25.83	32.75	100	854.7	24.58	34.68

Source: Government of Karnataka, Economic Survey, 2003-04

The above table shows that the poverty levels are somewhat better in the state especially in rural areas for different socio-economic groups. However the situation seems to be not so encouraging as far as urban areas are concerned. The average per capita consumption expenditure for socially backward groups seems to be on the lower side as compared to the groups belonging to the socially better off categories. Such a disparity is certainly reflected in the disparities with regard to the poverty levels as well. The inference that one can draw from such an analysis is that there is a need to focus the delivery of nutritional and other health care services which would benefit the socially vulnerable population groups.

4. Political Responsibility and Administrative Structure relating to Health Care Provisioning at Different Levels

4.1 Political Responsibility

Health care system in India is operationalised on a 3-tier system that involves central, state and local governments. Responsibilities relating to the health sector are divided into a Union List, a State List and a Concurrent List. The responsibility of the central government consists mainly of policy making, guiding, assisting, evaluating and coordinating the work of state health ministries. Subjects like public health, sanitation, hospitals and dispensaries come in the State List, while under the Concurrent List responsibilities are shared between the centre and the state with respect to subjects like population control, family planning, medical education, adulteration of food stuff and other goods, drugs and poisons, medical profession, vital statistics, etc.

In India the decentralization of political power has been effected through a three tier *Panchayat Raj* system with the 73rd Constitutional Amendment in 1992. It provides for a *Gram* (Village) *Panchayat*, *Taluk Panchayat* and *Zilla* (District) ***Panchayat (ZP)***. Similarly, the 74th Constitutional Amendment in 1992 gave statutory recognition to urban local governments. The District Panchayat has authority over the entire district, except the urban areas coming under municipal or city or town councils.

The Karnataka Panchayat Raj Act, 1993, which is now in force in the State, specifies the following functions to be performed by the Zilla Panchayat, in respect of Health and Family Welfare, at the district level:

1. Management of hospital and dispensaries, excluding the District hospital and other hospitals under the direct management of Government (above 50 beds).
2. Implementation of maternity and child health programmes;
3. Implementation of family welfare programmes; and
4. Implementation of immunization and vaccination programmes

The Taluka Panchayats deal with:

1. Promotion of Health and Family Welfare programmes;
2. Promotion of immunization and vaccination programmes at the Taluka level; and
3. Health and sanitation at fairs and festivals.

At the village level, the Gram Panchayats deal with implementation of family welfare programmes, preventive measures against epidemics and participation in immunization programmes.

4.2 Administrative Structure

Though 'Health' is a state subject under the Indian Constitution, it is the central government that formulates comprehensive health plans in line with the National Health Policy. The responsibility for implementing policies and programmes rests with the state government. The district is the basic administrative unit in the Indian context and the actual implementation of the health sector programmes takes place at the district level through an elaborate administrative structure.

Central Government: At the central government level, the official agencies are the Union Ministry of Health & Family Welfare (MoHFW), the Director General of Health Services (DGHS) and the Central Council of Health & Family Welfare. A Minister either of the Cabinet or State rank heads the Union Ministry of Health & Family Welfare. The Ministry has two Departments – Department of Health and the Department of Family Welfare (created in 1966). The DGHS is the principal advisory body to the government on medical and public health matters.

State Government¹: At the state government level there is the State Ministry of Health and a Directorate of Health and Family Welfare. Earlier, there was the Medical Department functioning with two Directors, viz., (1) Director of Public Health Services who was in charge of Sanitation Work and (2) Director of Medical Services. In 1956, the Medical and Public Health Departments of the State were amalgamated and the Director of Health Services was appointed as the head of the Department. In 1977, the phrase 'family planning' was amended as 'family welfare' and consequently the designation of officers concerned were also altered. In November 1978 the Department of Health and Family Welfare Services was bifurcated into two functional spheres at the level of the Director, namely Directorate of Health and Family Welfare Services and Directorate of Medical Education. The former was placed in charge of public health, medical institutions other than those under the Director of Medical Education, Family Welfare, Training of Auxiliary Nurse Midwives (ANMs), Lady Health Visitors (LHVs) and other para-medical staff, plan proposals and programmes (other than those connected with Medical Education), publicity, Red Cross and all other residuary work. He was also to deal with all other residuary matters and be the project coordinator of the India Population Projects. The Director of Medical Education is in charge of medical education in both the government and private sectors. The Department of Indian Systems of Medicine and Homeopathy (ISM & H), bifurcated from the Department of Health & Family Welfare in 1972, manages a network of hospitals, dispensaries and teaching hospitals that provide ambulatory and inpatient curative care in the systems of Ayurveda, Unani, Yoga, Siddha, Nature Cure and Homeopathy.

Local Government: Practically all the development programmes are transferred to the ZP and an officer of the rank of the District Collector is the Chief Executive Officer of the ZP. This district panchayat body functions through various committee structures and the Health Committee is one of the important committees to work for health development in the district.

¹ Karnataka has a strong history of government involvement in the provisioning of health care services to the population. In the 1930s, Rural Health Centers were established for the first time in the country and a Bureau of Maternal and Child Health was created by the erstwhile state of Mysore. Mysore State also occupies a unique position in the field of family planning programme: the world's first official family planning clinic was established in Mysore in 1930 (KARC, 2001).

The district administrative machinery has a chief planning officer to assist the panchayats in the formulation of health plans². The District Planning Committees (DPCs) are the only constitutionally mandated planning agency at any level of government. The development programmes are carried out by various departments, which are headed by specialists.

The District Health and Family Welfare Officer (DHO) is the administrative head of the health department at the district level and is responsible for the implementation of all programmes and the management of PHCs, CHCs and Taluk hospitals. The DHO is answerable to both the Zilla Panchayat and the State Health Directorate. The District Hospital does not come under the administrative purview of the DHO and is managed by the District Surgeon who functions directly under the control of State Headquarters and not under ZP³. The DHO is assisted by a number of other district programme officers (Family Planning, Reproductive & Child Health, Malaria, Leprosy, Surveillance, T.B., U.I.P., Health Education, etc).

Below the district level, the Taluk Health Officer (THO) is the supervisory authority for Medical Officers of PHCs. He is also responsible for the distribution of drugs, equipment and materials as supplied by the district office. He represents the health department in Taluk Panchayat meetings. At the PHC level, the administrative responsibility is borne by a Medical Officer, whose responsibilities include managing outpatient section, allotment of duties to subordinate staff, supervision of subcenters and field level personnel, provision of basic MCH services including immunization and nutrition programmes. A few PHCs have a Lady Medical Officer to assist the Medical Officer in the overall management of the institution, while in certain areas Medical Officers may be having charge of neighbouring PHCs as well.

² In practice, the district officers take the expenditure figure for the past year, increase it by 10 percent and forward it as the 'budget' to their departmental heads; the state government, in turn, releases funds to local areas depending on its resource position (Indira and Vyasulu, 2001).

³ This is a big problem and creates unnecessary dichotomy between ZP and District surgeon.

5. Institutional Structure for the Delivery of Health Care Services:

The delivery of health care services is being carried out in the state by public, private (for profit and non profit) parastatals, and corporate agencies. However, the role and magnitude of these agencies differs with regard to the kind of health services offered by them. As is evident in the Indian context, the major player seems to be the private sector, which plays a significant role in the delivery of health services. In the following discussion an attempt is made to present the institutional structure that exists in the public domain for the delivery of health services.

At the outset the public health care institutional infrastructure would give us a broad overview of the role played by the public sector in the provision of health services. The following table would depict the health care institutions right from the sub center level to the referral hospitals that come under the jurisdiction of public administration.

Table-3
Public Health Care Institutions in Karnataka

No. of Hospitals	177
No. of CHCs	263
No. of PHCs	1679
No. of PHUs	581
No. of Sub-Centers	8143
No. of Urban PHCs	17
No. of Maternity Annex	304
No. of Beds	43158
No. of Govt. Medical Colleges	4
No. of Private Medical Colleges	26
Central Govt. Hospital & Dispensaries	26
ESI Hospital & Dispensaries	136
Local Body Hospital & Dispensaries	53
Rural Family Welfare Centers	269
Urban Family Welfare Centers	87
Urban Health Centers	124
Post Partum Centers	103
Medical Termination of Pregnancy (MTP) Centers	517
Health & FW Training Centers	4

Source: *Karnataka Health Profile 2004*, DoH&FW, GoK

6. Organization of Health and Family Welfare Department:

The state is following the National pattern of three-tier health infrastructure in rendering primary health care through Primary Health Centers (PHCs), Sub-Centers, and Community Health Center's to its people by way of implementing various National and State Health Programmes of public health importance through its network of various types of health and medical institutions. In the State, the Department of Health and Family Welfare plays a vital role in providing health care services. Following are the major initiatives in this regard.

- Rural Health Component of Minimum Needs Program,
- National Malaria Eradication Program
- National Filaria Control Program,
- National Program for Blindness Control,
- Prevention and Control of the communicable diseases like Diarrhea, Kyasanur Forest Diseases, Japanese Encephalitis etc.,
- School Health Program,
- Nutrition Program,
- Nutrition Education and Demonstration,
- Laboratory Services and Vaccine Production Units,
- Education and Environmental Sanitation,
- Health Education and Training Program
- Curative Services.

7. Administration and Direction

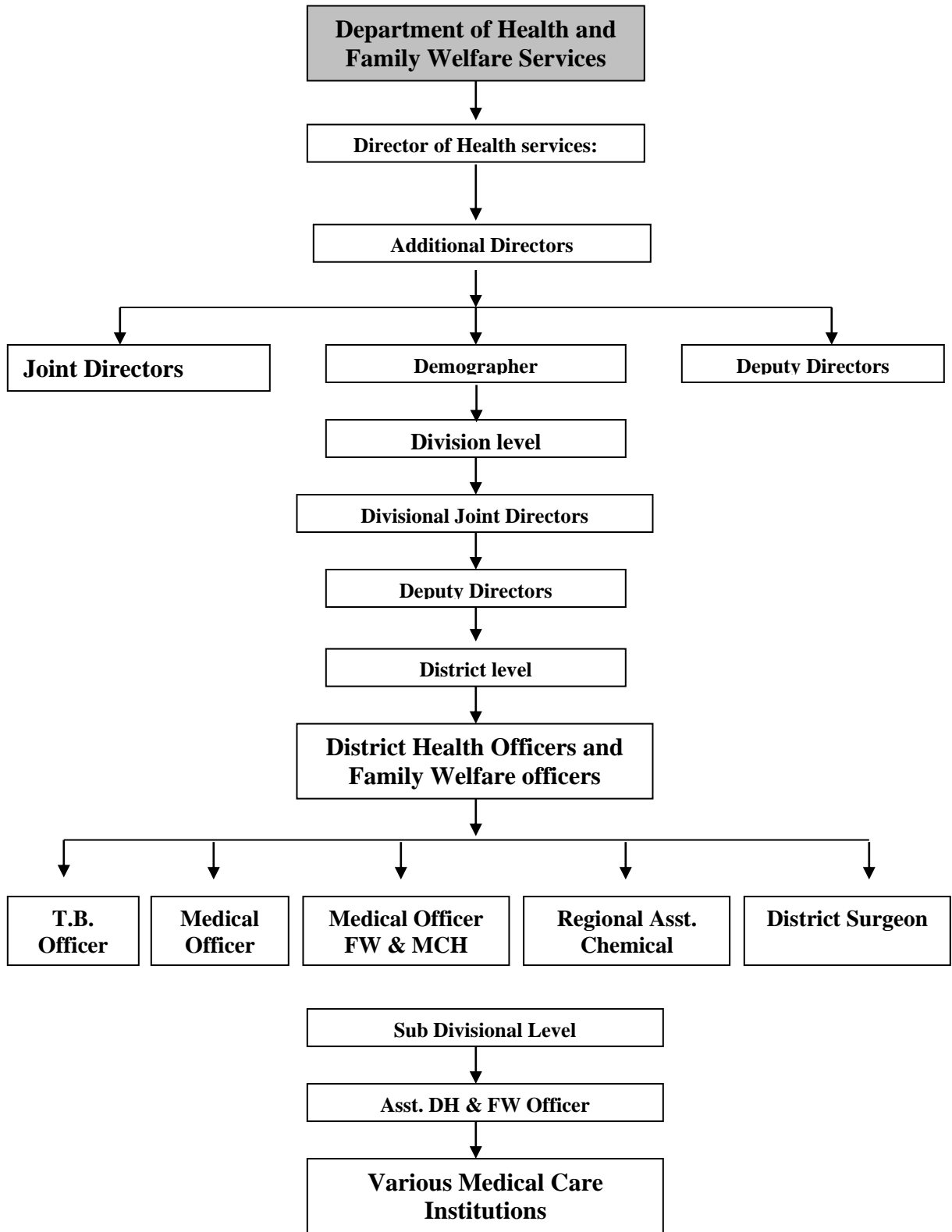
The Director of Health and Family Welfare Services is the Head of the Department and is responsible in providing the necessary health care services to the community by way of implementing various National and state health programs in the state. The detailed organizational Chart presented below explains the administration and direction of the health sector of the State. The Director of health and Family Welfare Service is assisted by one Additional Director, eleven Joint Directors, one Demographer and fourteen Deputy Directors. These officers act as technical advisors to the Director. Similarly, the Director is also assisted by a Chief Administrative Officer in all matters pertaining to Finance, Accounts and Administration of the Department.

At the **Divisional Level**, there are four Divisional Joint Directors of Health and Family Welfare Services stationed at Bangalore, Belgaum, Gulberga, and Mysore. Two Deputy Directors assist these Divisional Joint Directors.

The Divisional Joint Directors of health and family welfare services are responsible for supervision and effective implementation of various National and State health programs including family welfare program and MCH services in the districts coming under their jurisdiction.

At the **District Level**, the District Health and Family Welfare Officers are responsible for supervision, providing guidance, prompt and effective implementation of various National and State health programs including family welfare program and MCH services through the network of various types of health and medical Institutions in their respective districts. The district officers are assisted by District T B officers, medical officers of district laboratories, medical officers (FW & MCH) and regional assistant chemical examiners in the implementation of various national and state health programs. The district surgeons of district hospitals located at district health quarters are responsible for providing curative and promotive services including referral services. At the sub-divisional level, the assistant district Health & Family Welfare officers are responsible for supervision, providing guidance to the medical officers of primary health centers, primary health units and field staff for prompt and effective implementation of various National and State health programs. This is done through the network of various types of health and medical institutions other than major and specialized hospitals under their respective jurisdiction.

Chart -1



8. Delivery of Health Care Services: Public Institutions

Primary health care would be the key to the success of health for all by 2000 AD as the Declaration of Alma Ata stated in 1979. This has to be an integral part of the country's health system, of which it should be the central function and the main agent for delivering health care. In order to attain the desired level of health for all, every individual must have access to primary health care and all levels of comprehensive health system in the country. In this context, the State has adopted the primary health care approach with the National perspectives. So, the concept of **Primary Health Care Approach** is the driving force behind the policies and also a basis for formulating strategy and action plans in the health sector of the state. This vision has been carried out by the three main structures such as Primary Health Center, Sub-Centers and Community Health Centers.

At the **Primary Health Center level**, the medical officers of health care are responsible for supervision, providing guidance to the medical officers of primary health units and to the field staff coming under their jurisdiction for prompt and effective implementation of various National and State health programmes including Family Welfare Program and MCH services.

4.8.1 Primary Health Center

The primary health centers provide all the basic health services, which include curative, preventive and promotive health services. The state has laid down the policy as per the national norms that by 2004, there will be one primary health center for every 30,000 population and one PHC for every 20,000 population in Hilly and tribal areas, so that services can be provided to the rural people as nearer to their villages as possible. Every primary health center is supplied with drugs worth Rs.30, 000 annually.

In Karnataka, there is a chain of Institutions known as primary health units, which also provide curative, preventive and promotive health services. The government has decided to upgrade these institutions to primary health centers in a phased manner by providing minimum additional inputs rather than establishing new primary health center.

Each primary health unit covers approximately a population of 15-20 thousand. Drugs worth Rs.20, 000 are supplied to every primary health unit annually.

4.8.2 Health Sub-Centers

It is the intention of the Government of India and the state government to have one health sub-center for every 5000 population in plain areas and one sub-center for every 3,000 population in the hilly and tribal areas. Each sub-center is; managed by one female and one male junior health assistant and drugs worth Rs.2, 000 per annum are supplied for treatment of minor ailments.

The minimum needs program under the health sector lays down greater emphasis on promotive and preventive aspects of health care. However, the integrated approach is being followed at present to provide preventive, promotive and curative services in rural areas in Karnataka State.

4.8.3 Community Health Center

The norm of the Government of India and the state provide for the establishment of a community health center for one lakh population. This community center covers nearly 4 primary health centers. It is the policy of the government to upgrade all the taluk level institutions into 30-bedded hospitals and taluks located at sub-divisional headquarters into 50-bedded hospitals. These institutions will serve as rural referral hospitals for the population living in rural areas.

In the 30-bedded hospitals there will be minimum of 4 specialties viz., General Medicine, General surgery, Obstetric and Gynecology, and Dental surgeon. In the 50-bedded hospitals in addition to these specialties there is an ENT specialist and Pediatrician.

4.9 Health Care Activities in Karnataka

Public sector in Karnataka has initiated number of schemes for the benefit of the community. NGOs and Corporate bodies are also active in this regard and have many activities, which are focused as regard their intervention. Some of the major initiatives of the public health department are as indicated below.

4.9.1 Integrated Child Development Services (ICDS) Scheme

This programme has been implemented in the State since 1975-76 with the co-ordination of the Department of Health and Family Welfare and the Department of Social Welfare. The beneficiaries of the programme are children up to 6 years of age, pregnant women and nursing mothers.

The services are extended through the peripheral Health Institutions and Anganwadi Centers of the Social Welfare Department. The package of Services envisaged comprises:

- Supplementary Nutrition
- Immunization
- Health Checkup
- Referral Services
- Health and Nutrition Education and
- Non-formal Education of Children through Anganwadis.

So far 108 ICDS projects have been sanctioned, of which 94 are in functional stage and 14 in preparatory phase. Out of these 108 projects 4 are tribal, 6 are urban and 98 are rural projects.

4.9.2 Mental Health Programme

Mental Health Programme is being implemented in Bellary District since 1985. The implementation of this programme is likely to be extended to all the districts in a phased manner. The activities of the Mental Health Programme are:

- Training the Medical Officers and Para Medical Staff in Mental Health Programme.
- Identifying the mentally ill persons and assessing their nature of illness.
- Treating the patients with advice and required drugs

For effective implementation of the programme, the doctors as well as Para Medical Staff at the grass-root level i.e., at PHC and PHU's level have been given training in Mental Health Program. The training is being given at NIMHANS, Bangalore and Mental hospital, Dharwad. As on to-day about 308 doctors have been trained in this programme besides giving training to the Para Medical Staff of the PHCs and PHUs. Further, the drugs which are required for treating the mentally ill patients is being supplied and in case of some districts additional budget for drugs has also been provided.

4.9.3 Medical development programme

The District Hospitals are taking part not only in the curative aspect of diseases but also in the preventive and promotive aspects. Medical relief is rendered through various types of Institutions viz., District Hospitals, Major Hospitals and Epidemic Disease Hospitals.

Thirteen district hospitals, located at District Head quarters, come under non-teaching cadre. There are seven major hospitals, seven specialized hospitals and three epidemic diseases hospitals that also come under non-teaching cadre. Of the thirteen district hospitals except those hospitals in Dharwad, Karwar and Raichur all the other district hospitals have got a minimum of 250 beds. Each district hospital has almost got all the required specialties like Medicine, Surgery, Pediatric, Obstetric and Gynecology, Orthopedic, Ophthalmology, Ear, Nose and Throat, Skin and STD, Pathology and Bacteriology, Radiology, Anesthesia and Dental.

The Specialist Departments in the District Hospitals are catering to the needs of the patients coming directly as well as those referred from smaller peripheral rural centers and moffusil hospitals. The district hospitals serve as referral hospitals to the peripheral institutions.

- Burns and Casualty Wards have been established in the SC Hospital, Hassan, Mc.Gann Hospital, Shimoga, SNR Hospital, Kolar and District Hospital, Bijapur.
- STD (Sexually Transmitted Diseases) clinics are functioning in all the district hospitals and also in the General Hospitals of Udipi, KGF and Kollegal.
- Psychiatric clinics are functioning in the district hospitals at Shimoga, Hassan and Bidar and also in K C General Hospital, Bangalore.
- Physiotherapy Units are functioning in the district hospitals at Shimoga, Hassan, Tumkur, Chitradurga, Kolar, Mandya and Bijapur. Physiotherapy Unit is also functioning in K C General Hospital, Bangalore. All the teaching hospitals have got Physiotherapy Units.
- The Emergency and Casualty Departments work round the clock.
- Blood Bank services are being provided in all the district hospitals and all major hospitals of the State subject to the availability of funds.
- Radiology Services are existing in all the district and major hospitals
- Dental Clinics are established in all the district and major hospitals
- Epidemic Diseases Hospitals, which are functioning at Bangalore, Mysore and K G F, are special type of Institutions. These hospitals are meant for epidemic diseases like Cholera, Gastroenteritis, Diphtheria, Tetanus, Whooping Cough, Rabies, Measles, Chicken pox and other infectious diseases.

4.9.4 Hospital Pharmacy

Another important structural unit of the health sector are Hospital Pharmacies, which are functioning in many of the major hospitals. It not only manufactures the life saving I.V. fluids such as Dextrose Saline and normal Saline required for use in hospitals but also organizes a technically sound dispensing section, quality control system, central sterile supply division and store practice in the hospital. It is also developing a Drug Information Service for the benefit of the hospital staff and the patients/patients attendant.

As on 1991, there are about 17 Hospital Pharmacy Units in the State, of which 7 are under Plan and 10 under Non-Plan. Out of these 10 Units under Non-Plan, 9 Units are under

the control of the Director of Medical Education and one Unit under the control of the Director of Health and Family Welfare Services, Bangalore.

4.9.5 Department of Indian Systems of Medicine and Homeopathy

The Department of Indian Systems of Medicine and Homeopathy is headed by the Director of Indian Systems of Medicine and Homeopathy and is being assisted by a Deputy Director, an Administrative Officer and an Accounts Officer. There is another post of Deputy Director, Unani System who will also assist the Director of Indian Systems of Medicine and Homeopathy at the State Head Quarter. A Divisional Office is functioning at Gulberga.

At the District level, the District Health and Family Welfare officers of the Department of Health and Family Welfare Services continued to be the Administrative Controller for the Dispensaries of Indian Systems of Medicine and Homeopathy in the respective districts except districts of Gulberga Division.

There are 6 colleges (Ayurveda -3 Unani - 1, Homeopathy - 1 and Nature Cure - 1), 23 hospitals and 407 dispensaries functioning in the State under Indian Systems of Medicine and Homeopathy as **on 1991**.

There are 12 Ayurvedic hospitals in the State, out of which 7 are at district level and (of which 3 serve as teaching hospitals) the remaining 5 hospitals render services in rural areas. There are 360 Ayurvedic dispensaries functioning in the State.

There are 4 Unani hospitals and 32 Unani dispensaries in the State. The Unani wing attached to Sri Jayachamarajendra Institute of Indian Medicine, Bangalore serve as a teaching hospital for Government Unani Medical College, Bangalore. The Government College of Indian Medicine, Mysore and other two Mini Hospitals at Ramanagaram, Bangalore District and Raichur are providing facilities to the inpatients. There are 32 dispensaries in the State under Unani System of Medicine.

There are two homeopathic hospitals, one at Bangalore and the other at Somwarpet, Kodagu District and 10 homeopathic dispensaries functioning in the State to provide treatment

under homeopathic System of Medicine. There is also one Nature Cure Hospital and five Nature Cure Dispensaries functioning in the state. Yoga wings have been established to provide treatment in Yoga Therapy in the hospitals at Bangalore, Mysore and Bellary. A Siddha wing and Nurses training courses are being provided at Sri Jayachamarajendra Institute of Indian Systems of Medicine, Bangalore.

4.9.6 Department of Drugs Control

Another important structural unit of health sector is the Department of Drugs Control. The main function of this department is to protect and take care of consumers' health. This is done; by exercising strict control and vigilance on the drugs which are being manufactured and marketed for sale in the state so that drugs of standard quality are made available at control prices. The Drugs Control Department of the State discharges the statutory functions involved in the enforcement of the following drugs and allied legislation.

- The Drugs and Cosmetics Act, 1940 and Rules there under
- The Drugs (price control) order, 1987
- The Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 and Rules there under
- The Pharmacy Act, 1948 and Educational Regulations there under
- The import Trade Regulation for the grant of Essentiality Certificates to the Pharmaceutical Industries
- The Poisons Act, 1919 and Karnataka Poisons Rules, 1966
- The Narcotics and Psychotropic substances Act, 1985

The Drugs Controller is the Head of the Department and one Additional Drugs Controller, two Deputy Drugs Controllers and two Assistant Drugs Controllers at the State Head Quarter assist him. They are in-charge of licensing, manufacturing, intelligence, price control, hospital inspection and advertisement wing duly assisted by the Drugs Inspector. A separate Assistant Drugs Controller is in-charge of the Board of Examining Authority for the purpose of conducting examinations in Diploma in Pharmacy. For effective functioning of the department the entire state has been divided into six divisions. Each division is under the charge of an Assistant Drugs Controller and he is assisted by Drugs Inspectors of the districts.

Apart from these the following schemes are also in vogue in the state of Karnataka.

- Rural Health Component of Minimum Needs Program,
- National Malaria Eradication Program
- National Filaria Control Program,
- National Program for Blindness Control,
- Prevention and Control of the communicable diseases like Diarrhea, Kyasanur Forest Diseases, Japanese Encephalitis etc.,
- School Health Program,
- Nutrition Program,
- Nutrition Education and Demonstration,
- Laboratory Services and Vaccine Production Units,
- Education and Environmental Sanitation,
- Health Education and Training Program
- Curative Services.

5. Health Profile of the state

5.1 Indicators of Health Status in Karnataka

A bird's eye view of where the state of Karnataka stands today as far as health status components (some of which, are also considered as indicators of **human development**) with the country as a whole would give us the performance of the state vis-à-vis other states. A look at three indicators should give us an idea of how far Karnataka has gone in providing basic health facilities to its people. These are the infant mortality rate, the maternal mortality rate and life expectancy at birth.

The **infant mortality rate** indicates the number of babies out of a thousand born alive who die within the first year. It is a pointer not only to the health status of the population but also to the social and cultural factors that have an effect on health. Throughout the country the IMR has declined in the eighties and nineties. In Karnataka about 50 out of 1000 infants born die every year (NFHS-2 shows IMR as 51.5 while SRS, 1998 as 58). This is more than the numbers in Kerala, Gujarat, Maharashtra, Punjab, Tamilnadu and West Bengal. Decline in the

infant mortality rate between 1988 - 90 and 1993-95 was also higher in Andhra Pradesh, West Bengal and Tamilnadu than in Karnataka.

The **maternal mortality rate** is the statistic of the number of women who die of causes linked to pregnancy and childbirth. Data are not readily available for making comparisons among states. The computation of the ratio also suffers from serious deficiencies. Anemia, hemorrhage, eclampsia, obstructed labour, infection and abortion account for 80 percent of the maternal deaths in India. A 1993 survey of the Registrar General of Births and Deaths indicates that hemorrhage alone may account for 23 percent of these deaths. UNICEF had made a comparison of maternal health statistics throughout the country and pointed out that 450 out of 100000 women die of causes connected to pregnancy and childbirth in Karnataka. (See Figure) This is higher than the average for the fifteen major states; it is also worse than the figures for Andhra Pradesh, Gujarat, Haryana, Maharashtra, Punjab, Tamilnadu and West Bengal. A recent estimate of MMR for Karnataka by SRS (1988) shows that the indicator had a value of 195.

Finally, we may place Karnataka on the all India scale in respect of the **life expectancy at birth** of its citizens (see [Table-4 below](#)). The International Conference on Population Development (ICPD) had resolved in 1994 to target a life expectancy of 70 by 2005 and f 75 by 2015. Against this, Karnataka has achieved a life expectancy at birth of 62 which is slightly higher than the national level of 60. Kerala, Maharashtra, Haryana, Tamil Nadu and Punjab are among the Indian states that are ahead of Karnataka in this respect.

Table-4
Life expectancy at birth in major states

State	1983	1993
Andhra Pradesh	58.4	61.8
Assam	51.9	55.7
Bihar	52.8	59.3
Gujarat	57.6	61
Hayana	60.3	63.4
Karnataka	60.6	62.5
Kerala	68.4	72.9
Madhya Pradesh	51.6	54.7
Maharashtra	60.6	64.8
Orissa	53	56.5
Punjab	63.1	67.2
Rajasthan	53.5	59.1
Tamil Nadu	56.9	63.3
Uttar Pradesh	50	56.8
West Bengal	57.4	62.1
INDIA	55.4	60.3

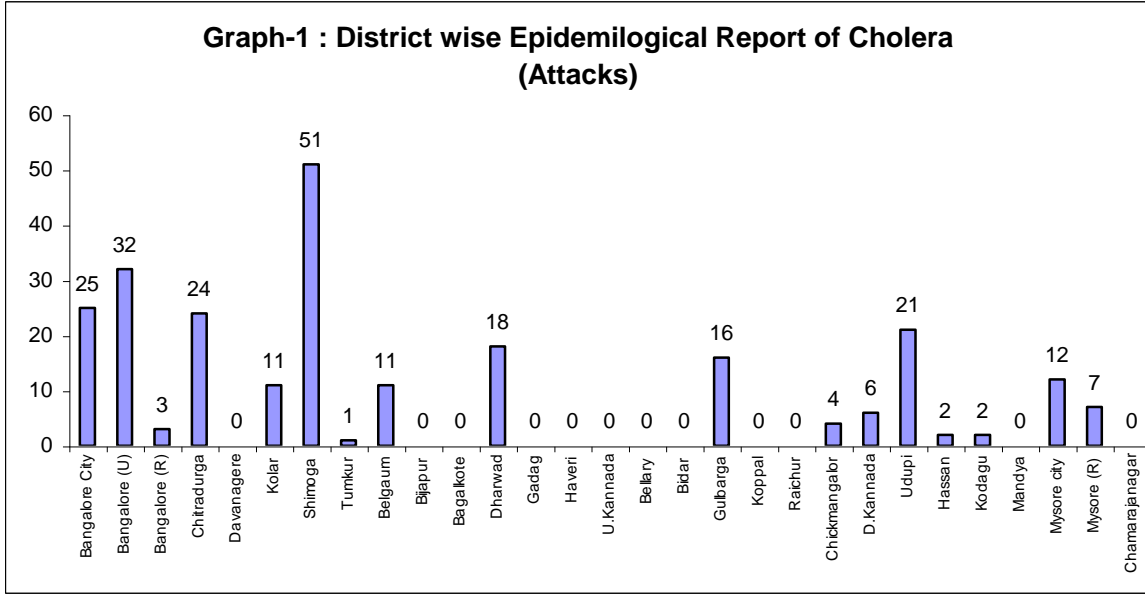
Source: Directorate of Health Services, Ban galore

The changing demographic and epidemiological scenario in the state has posed many challenges for the health sector. For example the challenge of HIV with the combination of TB in the state needs immediate attention. The recurrence of malaria in the state prove that there is need to control and eradicate communicable diseases, especially high incidence of diseases like tuberculosis, malaria and filariasis.

If we look at the burden of diseases in the state in terms of number of cases and deaths for which the data is available, the following picture emerges.

5.2 Cholera

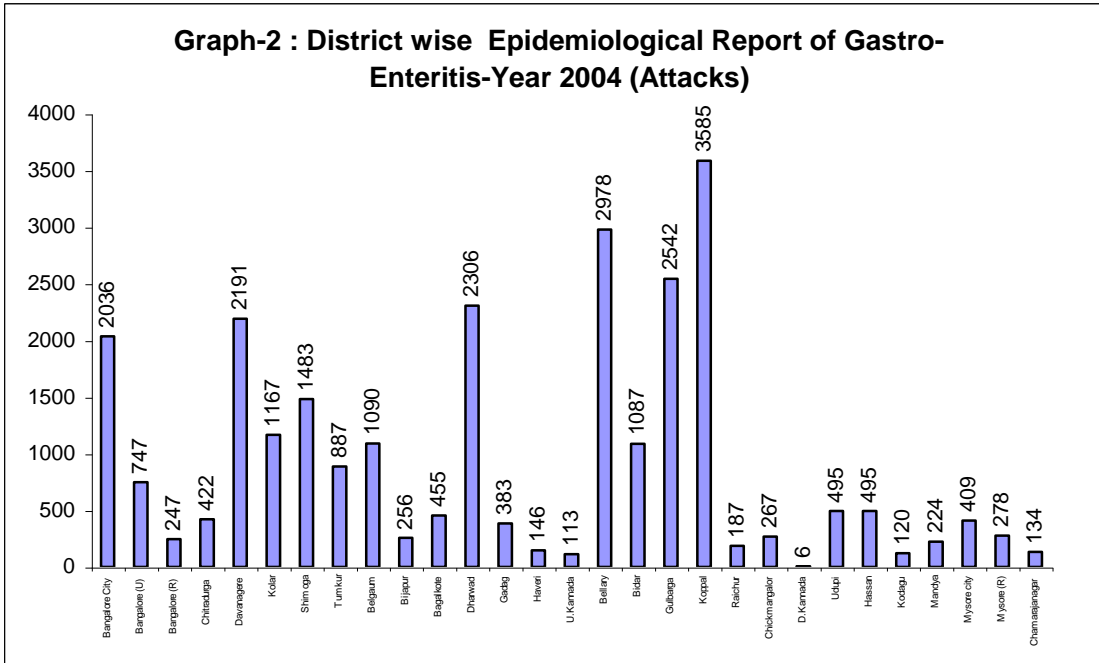
There were 246 cases of cholera in the state with one death on account of the disease. Shimoga, Chitradurga and Bangalore Urban districts had the highest number of cholera cases. Dharwad and Gulbarga in the northern part of the state also experienced the bouts of cholera to some extent. The following Table-4 shows the number of attacks and deaths on account of cholera in the state.



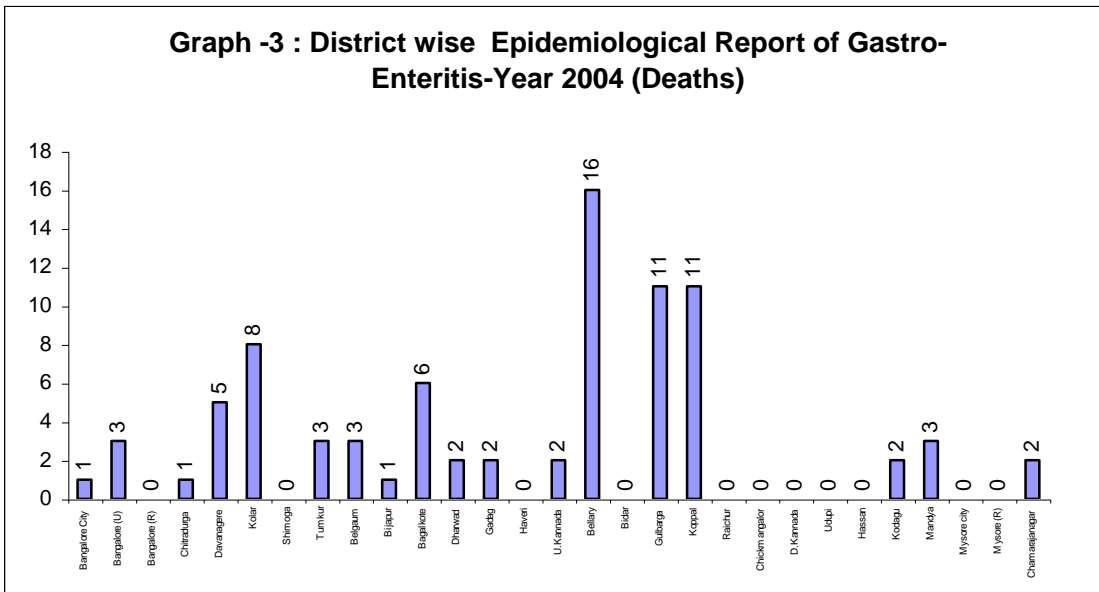
Source: Directorate of Health Services, Bangalore

5.3 Gastro Enteritis:

Gastro enteritis seems to be the major cause of worry in the state. The district wise number of cases and deaths on account it in the state reveals that for the state as a whole there were 26,736 GE cases and which resulted in 82 deaths. There was considerable variation across the districts, which is depicted, in the following graph.



Source: Directorate of Health Services, Ban galore

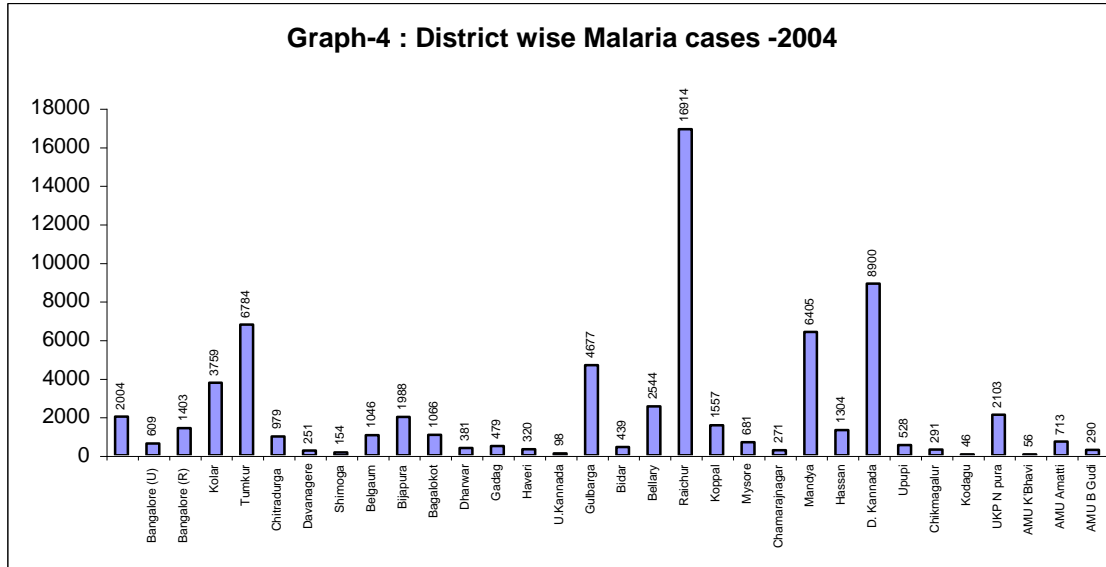


Source: Directorate of Health Services, Ban galore

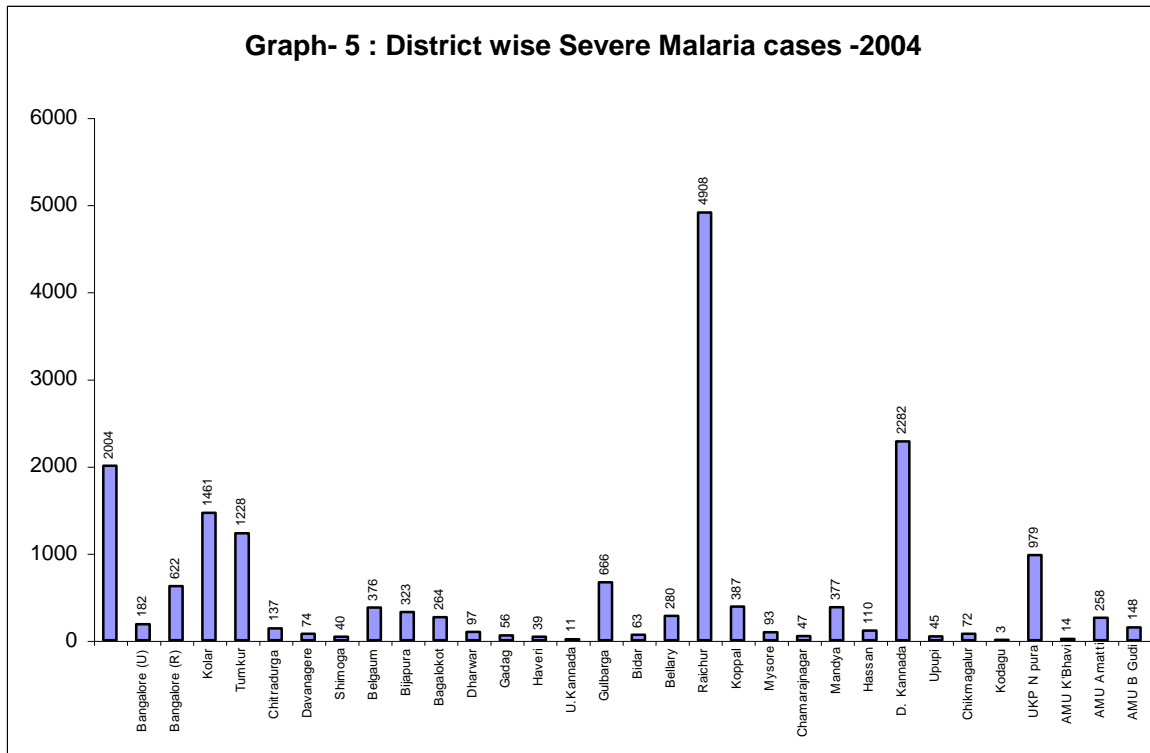
5.4 Malaria:

Malaria also seems to be the major public health concern in the state. For example there were about 67000 cases of Malaria and about 15000 severe Malaria cases in the state during 2004. Death on account of the disease was to the extent of 22 for the state as a whole.

Prevalence of the disease varied across the districts and the graph below would highlight the districts with greater degree of its presence.



Source: Directorate of Health Services, Ban galore



Source: Directorate of Health Services, Ban galore

5.5 Filaria:

Filaria seems to be prevalent in the selected pockets of the state. Districts of Bidar and Gulbarga have the highest prevalence of the disease. However, over the period of time there seems to be marginal decline in the number of cases in the state as a whole. The following table presents the occurrence of the disease for the period from 2001 to 2005.

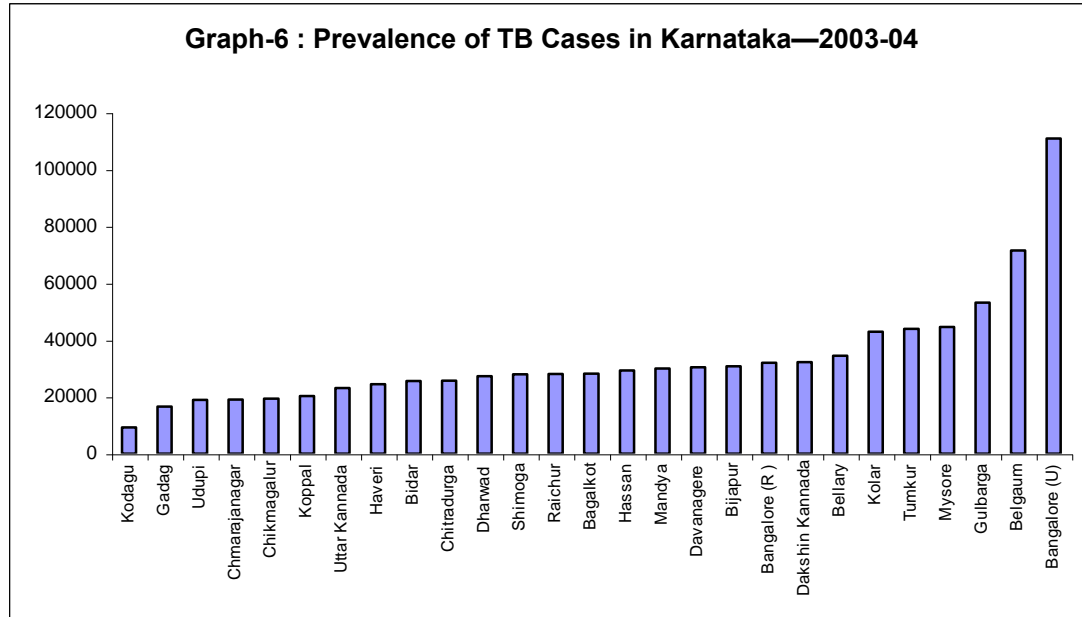
Table-5
Filaria Incidence in Karnataka from 2001 -2005

District	2001	2005
	Persons with disease manifestation	Persons with disease manifestation
Bidar	1244	330
Bagalkot	496	501
D. Kannada	140	809
Gulbarga	4022	2789
Raichur	60	27
U. Kannada	380	90
Udupi	54	585
Total	6396	5131

Source: Directorate of Health Services, Ban galore

5.6 Tuberculosis:

T.B. is another disease of concern in the state. Rapid urbanization could be the major cause for the fast spread of the disease. It is found in almost all the districts of the state though there is variation across the districts. Following chart depicts the number of T.B. cases across districts of Karnataka state.



Source: Directorate of Health Services, Bangalore

It can be observed that the Bangalore urban district is topping the list as far as prevalence of TB cases are concerned followed by Belgaum and Gulbarga. There seems to be no clear pattern as far as the distribution of TB cases across the districts. However, the magnitude of the disease can be understood in each district based on the information that is currently available. Similarly the positive cases of HIV have also been increasing in the state. The following graph gives us HIV positive cases across the districts.

5.7 HIV/AIDS:

Globally HIV/AIDS is currently perceived as a developmental issue rather than a mere public health problem. This is because HIV/AIDS affects adults in the reproductive age group thereby changing the demographic structure of the community. Consequently, many African countries have experienced sharp decline in their National Income. HIV/AIDS is also increasingly associated with poverty and is inseparable from issues such as unemployment and migration. Women are especially vulnerable to HIV infection due to biological, social and economic reasons. During the past decade HIV has also not spared children who are increasingly affected and infected by this virus, leading to increase in infant/child mortality and morbidity.

Implications / Significance of the HIV/AIDS trend in Karnataka

- ❖ The number of HIV infected individuals is showing a steady increase in the last 11 years.
- ❖ The number of HIV infected women is on the rise. 1% to 6% of women attending antenatal clinics are infected. This is indicative of HIV infection in the “general population”. Most of these women report sexual contact with a single partner –their husbands. This points to the urgent need for adoption of safer sex practices among all sections of the society.
- ❖ The rate of infection among STD (Sexually Transmitted Diseases) clinic attenders is also increasing. This indicates high rate of infection.

Table-6
Modes of transmission in Karnataka:

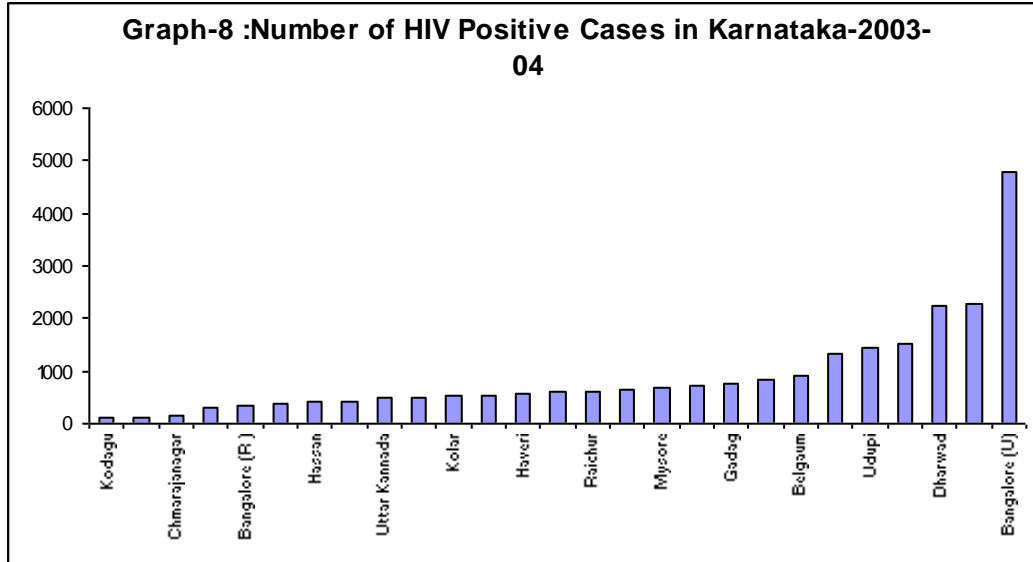
Route of Transmission	Sero-Positive	Percent
Sexual	34,206	85.69
Through Blood and Blood products	886	2.57
Through infected syringes and Needles	249	2.24
Perinatal Transmission	1327	2.72
Others (Not known / not specified)	4492	6.78
As on 31-12-2004 Total	41,160	100

Source : Karnataka State AIDS Prevention Society Reports

Table-7
District-wise HIV +ve cases, AIDS cases, Death due to AIDS in
KARNATAKA

Sl. No.	Division / Districts	1987 to December 2004		
		HIV +ve	AIDS cases	Death due to AIDS
BANGALORE DIVN.				
1	Bangalore (U)	5665	670	73
2	Bangalroe (R)	539	32	7
3	Tumkur	998	55	3
4	Shimoga	844	119	7
5	Chitradurga	655	25	3
6	Davanagere	920	452	38
7	Kolar	831	59	8
MYSORE DIVN				
8	Mysore	1344	26	8
9	Chamrajnagar	436	3	0
10	Mandya	1176	78	9
11	Mangalore	1675	836	65
12	Udupi	2027	938	35
13	Madikeri	183	6	1
14	Chikmagalur	546	46	5
15	Hassan	762	27	2
16	Belgaum	2130	810	71
17	Bijapur	1853	5	0
18	Bagalkot	3436	20	7
19	Dharwad	3298	317	62
20	Haveri	1033	45	10
21	Gadag	1253	43	3
22	Karwar	711	129	10
GULBARGA DIVN				
23	Gulbarga	1169	24	3
24	Raichur	1210	41	8
25	Bidar	218	2	2
26	Bellary	3200	61	0
27	Koppal	1379	16	2
KARNATAKA TOTAL		39491	4885	442
1	Other States	1651	193	17
2	Foreigners	18	5	4
GRAND TOTAL		41160	5083	463

Source : Karnataka State AIDS Prevention Society Reports



Source: Directorate of Health Services, Ban galore

It can be noted that, the Ban galore urban district is again in lead position as far as number of HIV positive cases are concerned. Next to follow are the districts of Bellary, Dharwad and Bagalkot. With regard to both TB and HIV the district Kodag is the least affected one. Majority of districts in north Karnataka are having comparatively larger cases of HIV. Recently, the deadly combination of TB and HIV has been considered to be a major threat and more attention needs to be paid by the authorities in understanding this dimension of the disease scenario for effective design and implementation of intervention strategies.

5.10 Nutritional Status:

The state also seems to be suffering from the burden on undernourishment and nearly 55 per cent of the children suffer on account of being undernourished. The data on different districts in the state also shows that there are certain pockets where the level undernourishment is higher than the state average. Thus, the challenge of eradicating undernourishment especially among children needs immediate attention of policy makers and administrators. Following table gives the nutritional status of children in different districts of the state.

**Table :-8
Nutrition Status 2005**

SL NO	District	Percentage of children to Total children weighed		
		Normal	Below normal	Malnourished
1	Bagalkot	42	58	0
2	B_lore(U)	53	47	0
3	B_lore(R)	54	46	0
4	Belgaum	44	55	0
5	Bellary	33	66	1
6	Bidar	30	70	0
7	Bijapur	37	63	0
8	Chamarajnarar	47	53	0
9	Chickmagalur	54	46	0
10	Chitradurga	42	58	0
11	D K	57	43	0
12	Davanagere	42	57	1
13	Dharwad	45	54	1
14	Gadag	41	59	0
15	Gulbarga	38	61	1
16	Hassan	52	47	0
17	Haveri	40	60	1
18	Kodagu	64	36	0
19	Kolar	47	53	0
20	Koppal	34	64	2
21	Mandya	56	44	0
22	Mysore	47	53	0
23	Raichur	31	68	1
24	Shivamoga	45	54	0
25	Tumakur	55	45	0
26	Udupi	60	39	0
27	Uttara Kannada	53	46	0
	State Total	44	55	0.40

Source: Directorate of Health Services, Bangalore.

On the whole it can be stated that the state of Karnataka has high prevalence of communicable diseases and the threat of HIV/AIDS seems to quite alarming. The inter district variation in the incidence and prevalence of different types of diseases shows that different types and magnitude of interventions are required meet the needs of the community in this regard. In this background provision additional resource for combating them deserves immediate attention.

6. Health Accounts in Karnataka: Methodology

6.1 Boundaries and Classifications

6.1.1 Time Boundary

Setting the time boundary of Health Accounts requires that a choice be made about the period (fiscal/calendar year) for which the expenditure data would be presented in the accounting matrices and, secondly, the accounting practice (cash/accrual accounting) to be followed. The present study focuses on the financial year of 2004-05 and all the money transactions relating to health in this year have been considered.

Government expenditure data are usually available for fiscal years. It is expected that the legally recognized entities (NGOs, Private Practitioners, Corporate Health Care Facilities, etc) would also be maintaining records on a fiscal year basis to comply with tax and audit related regulations. For households and the informal private providers, however, the survey data collected from them about health care spending would be referring to the last calendar year. In such cases, we have converted the calendar year data to fiscal year data following the methodology outlined in the WHO *Guide* (2003) so that the final Health Accounts matrices are presented for the chosen fiscal year. The choice of the fiscal year as the accounting period is justified because of its relevance to policy making in the Indian context.

Accrual accounting is the preferred method in the construction of health accounts and accordingly the present study has generated data on expenditure actually made for health care activity that took place during the chosen accounting period.

6.1.2 Space Boundary:

At the outset, it would be better to know the broad activities which are covered under the System of Health Accounts (SHA). If one goes by the OECD standard, the following activities would be considered while attempting health accounting exercise. One should consider the following as a broad pointer and there is a scope to redefine and fine tune it.

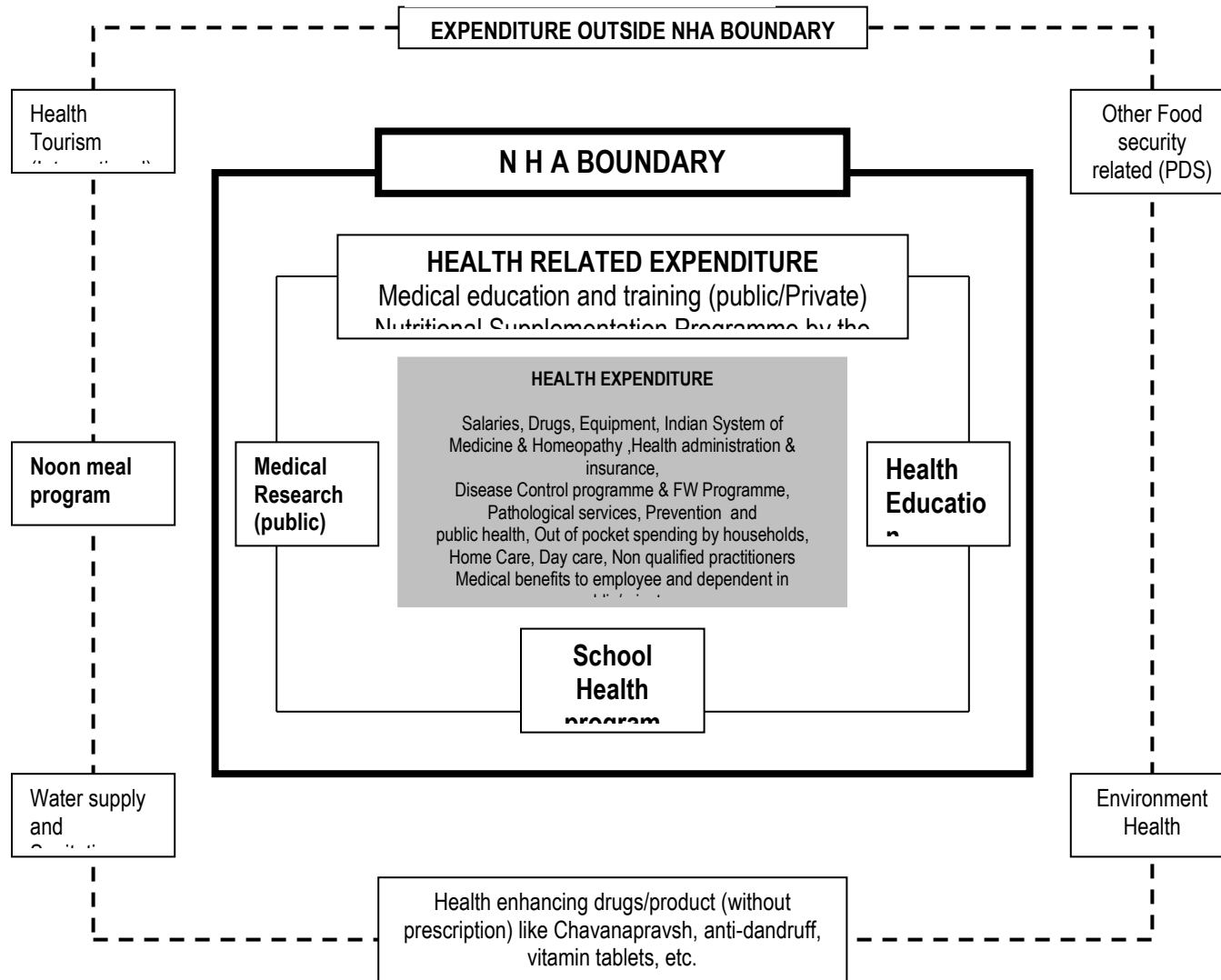
- Promoting health and preventing disease.
- Curing illness and reducing premature mortality.
- Caring for persons affected by chronic illness who require nursing care.
- Caring for persons with health related impairment, disability and handicaps who require nursing care.
- Providing and administering public health.
- Providing and administering health programmes, health insurance and other funding arrangements.

The above categories would broadly indicate the health per se activities that need to be considered while developing health accounts. Based on this broad list the boundaries considered for the present study are presented graphically as noted below.

6.1.3 Functional Boundaries

Following the framework of the space boundary, the functional boundaries in the health care are considered as indicated in the chart below.

Chart-9



Source : Adapted from *National Health Accounts, 2001-02*, MOH, Government of India

Chart-10

Functions / Uses of Health Accounts
Consultancy – General
Surgical Treatment
Maternal Health (including Delivery cases)
Family Planning Services
Drugs and Medicines
Patient Transport and Emergency Rescue
Pathological Services
Diagnostic Services
Blood Banks
Palliative Care
VCTCs
Preventive Care
Other
Day Care (Includes) <ol style="list-style-type: none"> 1. Ambulatory Surgery 2. Physio therapy 3. Dialysis services 4. Others
Home Care
Health Administration and Health Insurance
Education and Training
Research and Development
Capital Formation
Policy Advocacy
Other Functions

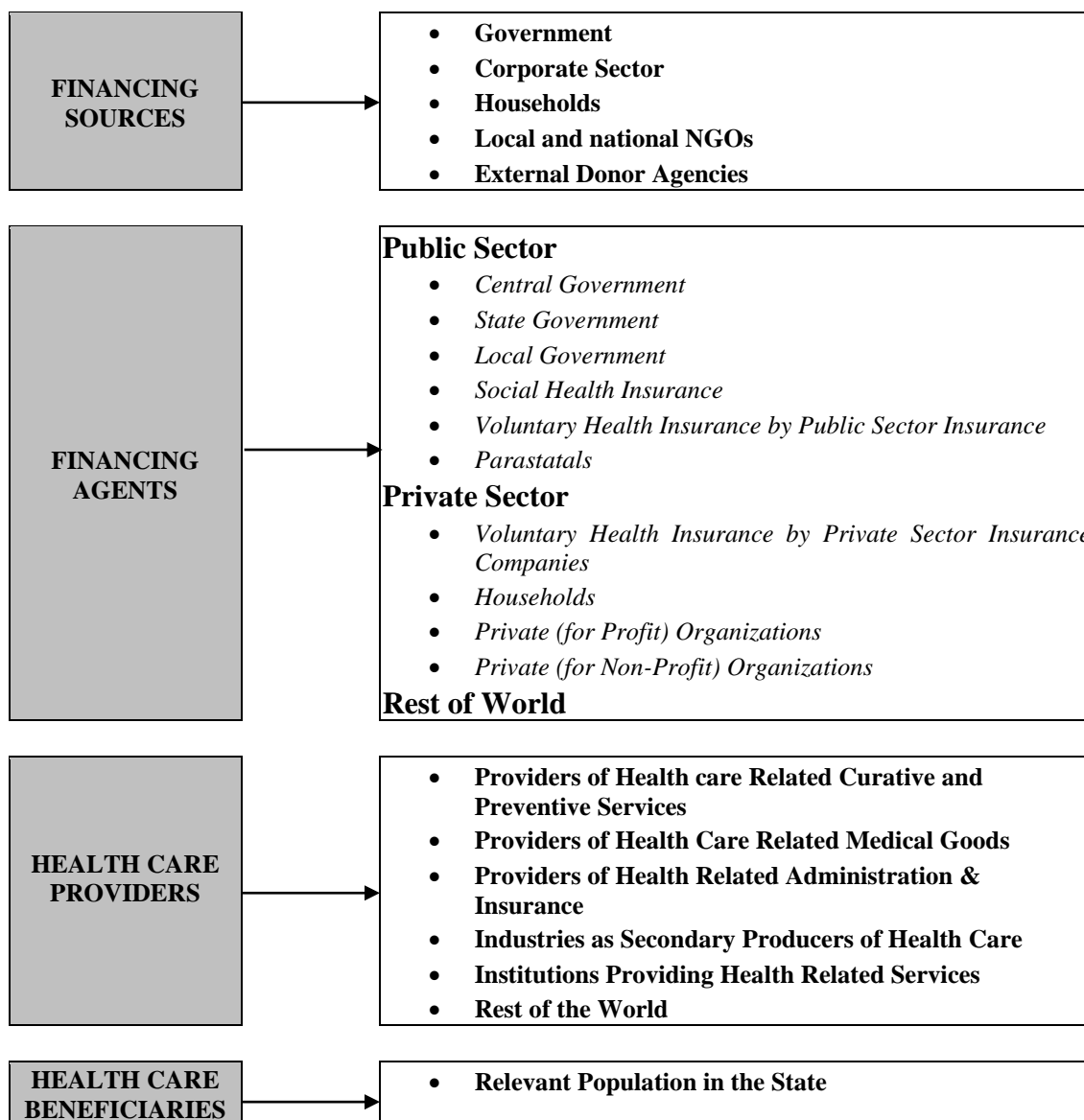
6.2 Actors

Following the WHO (2003) classification, the actors associated with the health care activities may be categorized as:

- (a) Financing sources
- (b) Financing agents;
- (c) Health care providers and
- (d) Health care beneficiaries.

The following chart gives in detail different entities that exist in the health care system of Karnataka state.

Chart-11



Note: A detailed description of actors is presented in the appendix.

6.3 Data Sources, Surveys and Secondary sources

Keeping in view the focus of the study, an attempt was made to identify the data sources as part of the mapping report which tried to sketch the health care system in the state of Karnataka. Various secondary sources were used to get the existing scenario about the financial and non financial segments of the health system in the state.

Apart from various secondary sources, the study tried to collect the relevant information from different surveys. The primary focus of these surveys was to elicit information on actors, activities and transactions in the health care system of the state. Following surveys were conducted as part of the study.

- Household survey – to estimate Out of Pocket Spending (OOPS) by Households
- Survey of NGOs
- Survey of Corporate Bodies
- Survey of Public and Private Health care institutions

A detailed sampling frame for different survey is presented at the end of the report in Appendix

Apart from these primary sources, the study tried to elicit information from various official sources which have been listed below.

Chart-12

Name of the Financing Sources/Agents	Documents Which served as Source of Data / Information
Government 1. Central 2. State	I. Budget Documents II. Annual Reports III. Audit Reports
Local Bodies Panchayati Raj and Rural Development Institutions	I. Consolidated Data for the State 1. State Finance Commission Reports 2. Department of Panchayat Raj and Rural Development 3. State Audit Report by the CAG 4. Statistical Abstract II. District Level Data by Line items 1. CEO Zilla Parishad : Income & Expenditure Statement 2. Regional/District Fund Audit Report 3. Annual Administrative Report of Panchayats 4. District Panchayat Office
Municipalities	I. State Level Consolidated Data 1. Department of Municipal Administrator 2. State Finance Commission Report 3. State Audit Report II. District Level Sub-head wise Accounting 1. Regional/District Audit Fund 2. Income & Expenditure Statement of Corporations 3. Hand Book of Municipal Statistics
Employees State Insurance Scheme	1. Regional office, Employees State Insurance Corporation (ESIC) 2. Director of ESI Medical Services
Central Government Hospital Services (CGHS)	1. Central Office 2. Demand for Grants-Ministry of Health & Family Welfare
Private Insurance	1. Regional office of Insurance Companies 2. Annual Report of IRDA - for National Figures
Corporate Bodies	1. Annual Reports of respective Corporate Bodies 2. Department of Industries and Commerce, Government of Karnataka 3. Employees State Insurance Corporation, Regional office, Bangalore
NGOs	1. Government Grant-in-Aids (Central Government & State Government) – Budget documents (Demand for Grants) 2. State level/District level Societies for HIV/AIDS, RCH activities: Annual Report/Half yearly Reports 3. External Assistance Report by the Ministry of Finance & FCRA- Report on Contributions to Voluntary Organizations 4. NSS data (52 nd Round) on health expenditure on charitable hospitals
Drug Expenditure	1. Central and State Govt. Expenditure on drugs 2. Budget documents - Other departments/MOHFW/Other Ministries 3. Commissioner of Commercial Taxes 4. NSS data for Household Drug Expenditure

6.4 Estimation Procedures

The sample data was analyzed and presented in the health accounting format using the WHO / OECD standards. The expenditures were grouped according to the

functional classifications of the internationally accepted criterion. Similarly the classification for Sources, Agents of funds and Providers of Health Care were arranged in the format of System of Health Accounts (SHA). As far as the household survey was concerned, the data was collected from different villages in the selected taluks of the chosen districts. At the first level of aggregation, the village average for the household expenditure was worked out. Taking into account the number of villages surveyed in a taluk, the taluk level household expenditure was arrived using the average expenditure in a taluk. In the second level of aggregation, the average for different taluks was used as the basis to arrive at district specific averages. Using the average household expenditure on health for different districts, the overall average household expenditure was calculated for the total surveyed households.

Taking this grand average as the basis, the household expenditure was blown up for the state as a whole.

With regard to the expenditure incurred by the NGOs, again the average for all the NGOs surveyed was worked out and using this as the basis the state level expenditure was worked out taking into account the number of NGOs operating in the state.

As far as the corporate expenditure is concerned, the survey data was used to calculate the average expenditure per industrial worker. Taking this average as the basis, the total contributions from the industrial sector was worked for the state as a whole.

7. Karnataka Health Accounts: Results

7.1 Summary statistics of the Population Surveyed:

Here an attempt is made to present the profiles of the households that were surveyed as part of the study. As indicated in the sample frame, three districts were selected in the state and in each district two taluks were chosen to select the group of villages for conducting the HH survey. Totally 1500 HHs were surveyed and the district wise distribution of these HHs is presented in the table below.

Table-9
No of Households in the selected Sample of Karnataka

District	Rural	Urban	Total
Dakshin Kannada	320	180	500
Dharwad	320	180	500
Raichur	320	180	500
Total	960	540	1500

Source : CMDR Survey

If one looks at the households dwelling areas, only about six per cent of the households are slum dwellers and majority of them reside in non slum areas which is indicated in the table below.

Table-10
Households Dwelling in Slums in the Selected Sample of Karnataka

Area	Slum	Non Slum	Total
Rural	0.10	99.90	100.00
Urban	15.37	84.63	100.00
Total	5.60	94.40	100.00

Source : CMDR Survey

Table - 11
Religion wise Distribution of Households in the Selected Sample of Karnataka

Religion	Total HHs
Hindu	88.93
Muslim	10.02
Christian	0.78
Sikh	0.09
Budh	0.00
Jain	0.18
Others	0.00
Total	100.00

Source : CMDR Survey

The distribution of HHs according to religion shows that greater percentage of them belong to the Hindu category (about 89 per cent). This followed by Muslim category, which is to the extent of about 10 per cent. Such a distribution may be on account of the demographic profile of the population of the state. Table above shows the religion wise distribution of the surveyed households.

In the table shown below, the status of poverty is depicted. BPL and APL respectively show the Below Poverty Line and Above Poverty Line HHs. One can note that on an average about 52 per cent of HHs belonged to the below poverty category. Share of poverty households considerably varies among the selected districts and the highest share is recorded in the district of Dharwad.

Table-12
Status of Poverty in the Selected Sample of Karnataka

District	BPL	APL	No Card	Total
Dakshin Kannada	44.40	37.20	18.40	100.00
Dharwad	59.60	22.40	18.00	100.00
Raichur	53.40	20.40	26.20	100.00
Total	52.47	26.67	20.87	100.00

Source : *CMDR Survey*

As part of the HH survey a total of 8438 members were surveyed. Out of this, females constituted about 51 per cent and about 49 per cent were the males. The morbidity and other health related expenditure were collected from these many people. One can observe from the table below that there is not considerable variation in the percentage of males and females among the districts.

Table-13
Members in the households in the Selected Sample of Karnataka

District	Male (%)	Female(%)	Total Members
Dakshin Kannada	48.28	51.72	2409
Dharwad	50.17	49.83	2990
Raichur	47.81	52.19	3039
Total	48.78	51.22	8438

Source : *CMDR Survey*

The following table shows the distribution of HHs according to the social groups. One can note from the table that on an average about 22 per cent of the HHs belong to the Scheduled Caste (SC) category, about 11 per cent belong to the Scheduled Tribe (ST) group, about 30 per cent belong to the other backward categories and 35 per cent belong to the general or forward social categories. Thus, the backward communities have a higher share which could be true as per the census figures as well.

Table-14
Distribution of Households by Social Group in Karnataka

	SC	ST	OBC	General	Don't know	Group Total
Dakshin Kannada	21.80	12.00	43.60	22.20	0.40	100.00
Dharwad	19.60	5.00	25.60	49.20	0.60	100.00
Raichur	26.20	16.60	22.60	34.60	0.00	100.00
Group Total	22.53	11.20	30.60	35.33	0.33	100.00

Source : CMDR Survey

The age wise sickness profile is an important information which tells us about the incidence as well as prevalence of the disease among different age groups of the population. The following table shows the age wise population who reported illness in our HH survey. One can observe from the table that the age groups between 15 to 50 reported higher proportion of illness followed by the age groups between 0-14 and 51-60.

Table-15
Age wise Distribution of Population who Reported illness

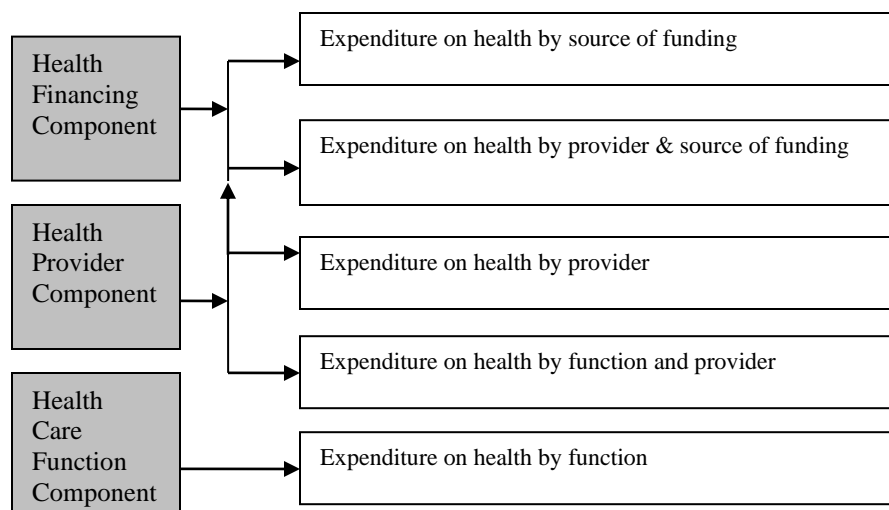
District	0-14	15-35	36-50	51-60	>60	Total
Dakshin Kannada	24.47	39.51	18.54	8.84	8.64	100.00
Dharwad	27.36	41.10	17.27	7.57	6.70	100.00
Raichur	30.94	37.85	19.57	7.08	4.57	100.00
Total	27.72	39.63	18.35	7.76	6.54	100.00

Source : CMDR Survey

7.2 Description of flows and expenditures

Based on the above information one can attempt to identify the various actors, activities and transactions in the health care system of any given region. Following chart would broadly indicate the flow of funds between different entities in the health care system.

Chart-13



Source: A System of Health Accounts for International Data Collection Version 1.0 OECD, Health Policy Unit

7.3 Overall Health Expenditure in Karnataka:

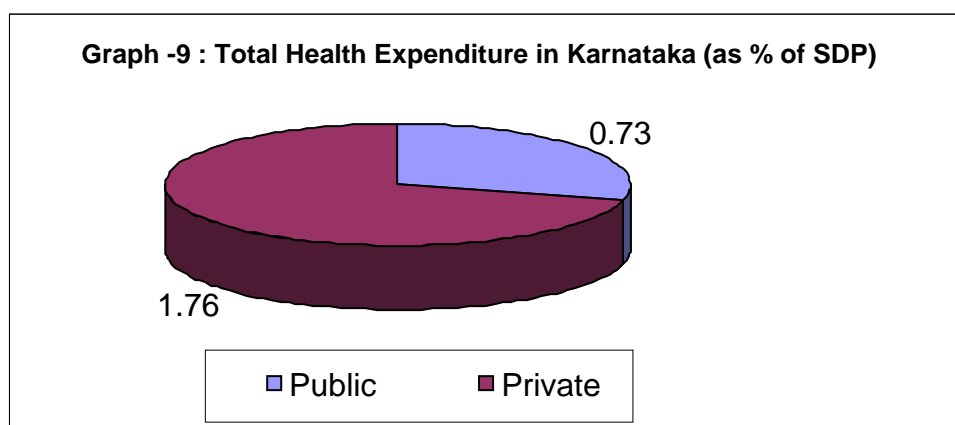
In the following table, the details of sources that financed the health care expenditure incurred in the state of Karnataka is presented. It can be noted that health expenditure was to the extent of Rs. 36,937 million out of which public expenditure accounted for about 29 per cent and private expenditure shouldered 70 per cent of the share. External funds seem to be very insignificant as far as their share in the total health expenditure. The state spends about 2.49 per cent of State Domestic Product (SDP) on health care. On an average the per capita expenditure on health in the state amounted to Rs. 675.

Table - 16
Total Health Expenditure in Karnataka 2004-05

Expenditure	Rs in Million	Per capita (in Rs)	%	THE* as%of SDP
Public	10794.86	197.35	28.2	0.73
Private	26098.69	477.12	70.6	1.76
External	43.83	0.80	0.1	0.00
Total	36937.37	675.27	100.0	2.49
SDP at Market prices	1485210.00			

*THE=Total Health Expenditure.

Source : 1. Central and State Government Budgets
2. CMDR Surveys



In the table (Table 17) shown below, the source wise health expenditure in the state has been presented and the graph indicates the share of these different sources in percentage terms.

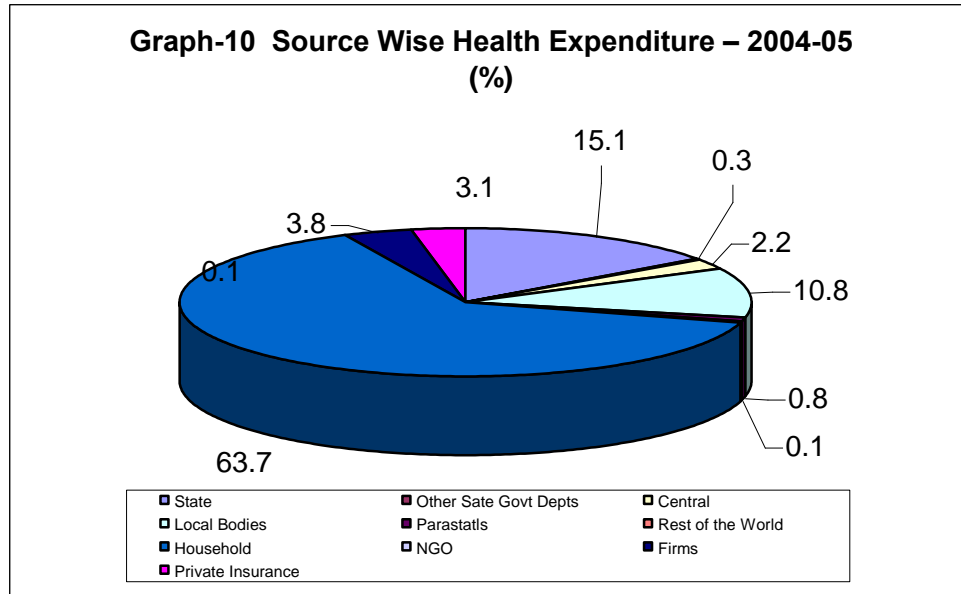
Table-17

Source Wise Health Expenditure – 2004-05 (Rs. Mlns.)

Source	Expenditure	%
State	5587	15.1
Other State Govt. Departments	98	0.3
Central	817	2.2
Local Bodies	3994	10.8
Parastatls	299	0.8
Rest of the World	44	0.1
Household	23526	63.7
NGO	38	0.1
Firms	1389	3.8
Private Insurance	1146	3.1
Total	36937	100.0

Source : 1. Central and State Government Budgets
2. CMDR Surveys

One can observe from Table 17 that households contribute about 63 percent of the total expenditure on health. Next major contributors are State Government and Local Bodies with respective shares of 15 and 10 percent. Other sources do not significantly contribute to the health care expenditure in the state.



7.4 Household Transactions:

In the following discussion, an attempt is made to present the kind of transactions that the households make in seeking health care in the state. Functional boundaries have been clubbed under the four broad categories as shown below to know the household transactions.

- Inpatient care
- Outpatient care
- Day care and
- Ancillary services

At the outset if one looks at the overall spending by the households on different types care, the following emerges. Greater proportion of household expenditure goes to the medicines and ancillary care which is to the extent of about 76 per cent in the total. Inpatient care accounts for about 18 per cent of the expenditure while outpatient care receives about 4 per cent. Table 18 depicts this for the state as a whole.

Table-18**Overall spending by the households on different types care**

Type of Care	Rs in Million	%
Out Patient	861.52	3.49
In Patient	4397.28	17.82
Day Care	272.55	1.10
Medicines & Ancillary services	17994.63	72.93
Insurance Premium	1146.47	4.65
Total	24672.45	100.00

Source : CMDR Survey

If one looks at the household expenditure by provider category, it is evident that households spend more on medicines and medical goods which were to the extent of about 65 per cent. Hospitals consume about 17 per cent of the household expenditure and about 12 per cent goes to providers of ambulatory health care. This is shown in Table 19.

Table-19**Household Expenditure by Provider, Karnataka, 2004-05**

SI No	ICHA Code	Providers	Rs. Millions	%
1	HP1	Hospitals	4295.22	17.41
2	HP3	Providers of Ambulatory health care	2983.97	12.09
3	HP4	Retail Sale and Other Providers of Medical Goods	16197.52	65.65
5	HP6	General Health Administration & Insurance	1146.47	4.65
7	HP8	Teaching Hospital	14.37	0.06
8	HPnsk	Not Specified by Kind	34.89	0.14
9		Total	24672.45	100.00

Source : CMDR Survey

In table 20 household expenditure is looked at from the view point of expenditure on different health care functions. Once again medicines consume about 65 per cent of the expenditure and services of curative care got about 14 per cent of the expenditure. It is interesting to note that households spend very insignificant proportion of money on preventive health care.

Table-20

HH Expenditure on Health Care Functions

ICHA CODE	Function Description	Rs in Million	%
HC1	Services of curative care	3581.79	14.52
HC4	Ancillary services to medical care	2261.70	9.17
HC5	Medical good dispensed to outpatients	16153.36	65.47
HC6	Prevention and public health services	624.61	2.53
HC7	Health Administration	0.00	0.00
HC9	HC Expenditure not specified by Kind	904.53	3.67
Insurance Premium		1146.47	4.65
Total	Total	24672.45	100.00

Source : CMDR Survey

In table 21 household expenditure is analyzed taking into account the level of care that they have utilized. One can note that ancillary services have consumed the bulk of the expenditure with about 60 per cent of the share in the total household expenditure. Secondary care was the next prominent item for the households with about 21 per cent of the expenditure in the total. Tertiary care got about 10 per cent. The major message that emerges is that households spend very little on primary health care.

Table-21

HH Expenditure on Level of Health Care Functions

Function Description	Rs in Million	%
Primary Care Services	643.10	2.61
Secondary Care Services	5351.11	21.69
Tertiary Care Services	2565.56	10.40
Ancillary services	14966.20	60.66
Insurance Premium	1146.47	4.65
Total	24672.45	100.00

Source : CMDR Survey

7.4.1 Inpatient Care: Households while seeking inpatient care spent greater proportions of resources on surgical treatment (58.4 %), maternal health (11.3%) and on certain items not specified by kind (21.8 %). Insignificant proportions of expenditure were made on consultancy, emergency care, child health, family planning services and dental care. One can draw the broad conclusion that as far inpatient care is concerned, surgical treatment and maternal health matter most for the households. It is also interesting to note that majority of the expenditure was incurred in the Specialty Hospitals – Allopathy (56.7 %) and General Hospitals – Allopathy (32.8 %). Following table (Table 22) shows the household expenditure on different items of inpatient care as a percentage of total household expenditure.

Table -22
Household Expenditure by Health Care Functions and Providers (HCXHP) For In Patient Care as a Percentage of Total

ICHA Code	Providers	HC1.1	HC1.1.1	HC1.1.2	HC6.1.1	HC6.1.2	HC6.1.3	HC1.1.3	HCnsk	Total
		Consul tancy	Surgical Treatment	Emergency Care	Maternal Health	Child Health services	Family planning services	Dental Care	Any other	
HP 1.1.2.1	PHC/PHU Rural	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.016
HP 1.1.2.3	CHC / Taluk Hospital	0.044	0.750	0.001	0.036	0.000	0.000	0.000	0.038	0.870
HP 1.1.2.4	District Hospital	0.018	0.557	0.000	0.001	0.000	0.000	0.000	0.054	0.630
HP 1.1.2.5	State Government's Department Hospital	0.003	0.004	0.000	0.014	0.000	0.036	0.000	0.046	0.103
HP 1.1.3.3	General Hospitals owned by Local body	0.004	0.107	0.000	0.016	0.000	0.000	0.000	0.036	0.164
HP 1.1.5	General hospitals (allopathic)	1.267	18.367	0.450	4.305	0.422	0.000	0.286	9.362	34.459
HP 1.1.6.1	Charitable hospital	0.042	0.215	0.000	0.171	0.014	0.000	0.000	0.307	0.750
HP 1.3	Specialty hospitals (allopathic)	3.623	36.290	0.000	6.590	0.936	0.093	0.593	8.655	56.780
HP 1.4	Specialty hospitals (ISM & H)	0.014	0.143	0.000	0.000	0.000	0.000	0.000	2.395	2.552
HP 3.4.5	Dispensaries and clinic allopathic)	0.146	1.022	0.000	0.179	0.018	0.143	0.000	0.229	1.736
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	0.002	0.107	0.000	0.000	0.000	0.000	0.000	0.086	0.195
HP 8.2.1.2	Teaching Hospital	0.035	0.111	0.000	0.001	0.000	0.000	0.000	0.115	0.261
HPnsk	Provider not specified by kind	0.022	0.275	0.000	0.036	0.000	0.000	0.000	0.407	0.740
Total		5.231	58.412	0.452	11.390	1.533	0.272	0.879	21.832	100.000

Source : CMDR Survey

7.4.2 Outpatient Care: Pattern of spending on outpatient care by households is useful information because it is the most frequently incurred expenditure and would reflect upon the needs of the community. One can observe here that households spent about 78 per cent of the money on General Medical services which usually caters to the ordinary diseases and ailments. About 9 per cent of the expenditure was made on MCH services and about 4 per cent were spent on Dental services. The utilization part of expenditure reveals that the households concentrated on Dispensaries and Clinics-Allopathy (58.8 %), followed by Specialty Hospitals – Allopathy (27.1 %) and about 13.3 per cent of the expenditure was made on General Hospitals – Allopathy. Following table (Table 23) shows the household expenditure on different items of outpatient care as a percentage of total household expenditure.

Table-23
Household Expenditure by Health Care Functions and Providers (HCXHP) For Out Patient Care (%)

ICHA Code	Providers	HC1.3	HC1.3.2	HC1.3.4	HC1.3.5	HC6.1	HC6.1.1	HC6.4	HCnsk	Total
		General Medical Services	Dental Services	ENT Services	Eye care Services	MCH Services	Delivery at home	Immunization	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
HP 1.1.2.1	PHC/PHU Rural	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.42
HP 1.1.2.2	PHC Urban	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
HP 1.1.2.3	CHC / Taluk Hospital	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
HP 1.1.2.4	District Hospital	0.11	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.13
HP 1.1.2.5	State Government's Department Hospital	0.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.07
HP 1.1.3.2	ESIS Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP 1.1.3.3	General Hospitals owned by Local body	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
HP 1.1.4	Dispensaries / clinic / Hospitals run by Corporate sector	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP 1.1.5	General hospitals (allopathic)	9.10	1.46	0.46	0.34	2.44	0.00	0.34	0.91	15.04
HP 1.1.6	Dispensaries / clinic / Hospitals run by NGOs	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
HP 1.1.6.1	Charitable hospital	0.08	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.27
HP 1.3	Specialty hospitals (allopathic)	16.50	2.70	0.72	1.24	3.93	0.00	0.20	1.85	27.14
HP 1.4	Specialty hospitals (ISM & H)	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP 3.3.13	Traditional Birth Attendant	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
HP 3.4.1	Family welfare/ANM centers	0.02	0.00	0.00	0.00	0.11	0.05	0.00	0.00	0.19
HP 3.4.5	Dispensaries and clinic (allopathic)	46.11	0.31	0.16	0.19	2.19	0.42	1.36	0.11	50.86
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	2.61	0.00	0.00	0.00	0.02	0.00	0.00	0.00	2.62
HP 3.4.5.4	RMP (Quacks)	1.88	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1.89
HP 8.2.1.2	Teaching Hospital	0.27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.29
HPnsk	Provider not specified by kind	0.20	0.00	0.00	0.00	0.02	0.00	0.00	0.11	0.33
	Total	77.89	4.49	1.34	1.78	8.93	0.68	1.89	3.00	100.00

Source : CMDR Survey

7.4.3 Ancillary Services: Out of the total expenditure incurred on ancillary services by the households, the following were the major services utilized by them.

- Purchase of medicines and drugs – 59.6%
- Medicines and drugs supplied by the Doctors-26%
- Patient travel cost-5%
- Diagnostic imaging services-4.4%

One can note that in the household expenditure as far as ancillary services are concerned, drugs and medicines constitute the major items of expenditure. Following table (Table 24) shows the household expenditure on different items of ancillary services as a percentage of total household expenditure.

Table 24
Household Expenditure by Health Care Functions and Providers (HCXHP) as a Percentage of Total For Ancillary Services

ICHA Code	Providers	HC 5.1.2	HC 5.1.1	HC 5.2	HC 5.2.1	HC 5.2.3	HC 5.2.9	HC 4.1	HC 4.2	HC 4.3	HC 4.4	HC 4.9	Total
		Drugs & Med-Doctor	Drugs & Med-Purchased	Appliances & other Durables	Glasses and vision products	Hearing Aids	Any other medical goods dispensed	Pathological services	Diagnostic imaging services	Patient Travel Cost	Blood Bank	Any other ancillary services	
HP 3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)								4.40				4.40
HP 3.5.2	Clinical laboratories							2.56					2.56
HP 3.5.9	Any other ancillary services											0.36	0.36
HP 3.7	Patient Travel Cost									5.03			5.03
HP 3.9.2	Blood Banks										0.60		0.60
HP 4.1	Drugs and Med-Purchased		59.62										59.62
HP 4.1.1	Drugs and Med-Doctor	26.05											26.05
HP 4.2	Glasses and vision products				0.17								0.17
HP 4.3	Hearing Aids					0.19							0.19
HP 4.4	Appliances and other Durables			0.90									0.90
HP 4.9	Any other medical goods dispensed						0.12						0.12
Total		26.05	59.62	0.90	0.17	0.19	0.12	2.56	4.40	5.03	0.60	0.36	100.00

Source : CMDR Survey

7.4.4 Day Care Services: Day care services are in a way different from inpatient and outpatient care and involve the presence of the patient for longer hours at the institution but not involving overnight stay. The households have spent about 76.7 per cent of the expenditure on curative services under this type of care. Other treatment / surgery account for about 20.5 per cent. Thus day care usually caters to the curative care and the households spent more for utilizing these services from Dispensaries and clinics (59.8%), Suppliers of Medical Goods (Drug Stores) 14.3 % and from General Hospitals-Allopathy which was to the extent of about 13.8 per cent. Following table (Table 25) shows the household expenditure on different items of ancillary services as a percentage of total household expenditure.

Table-25
Household Expenditure by Health Care Functions and Providers (HCXHP)
For Day Care as a Percentage of Total

ICHA Code	Providers	HC1.2	HC1.2.1	HC1.2.2	HC1.2.3	HC1.2.9	Total
		Curative care	Ambulatory surgery	Chemo therapy	Dialysis services	Other treatment or surgery	
HP 1.1.2.3	CHC / Taluk Hospital	0.26	0.00	0.00	0.00	1.04	1.29
HP 1.1.5	General hospitals (allopathic)	9.38	0.85	0.00	0.92	2.69	13.85
HP 1.3	Specialty hospitals (allopathic)	1.21	0.00	0.00	0.00	0.52	1.73
HP 3.4.5	Dispensaries and clinic (allopathic)	58.11	0.69	0.14	0.00	0.89	59.84
HP 3.4.5.4	RMP (Quacks)	2.44	0.00	0.00	0.00	1.10	3.53
Total		76.75	1.63	0.14	0.92	20.56	100.00

Source : CMDR Survey

In sum one can say that households spend greater proportion of resources on curative care and drugs & medicines. They also spend more on General Hospitals, Clinics under the allopathic system of medicine.

7.4 Public Expenditure on Health:

In the following discussion, an attempt is made to present the public expenditure pattern on health in the state. Before doing so we need to know the way in which the health budget is presented in the state and the broad items on which the expenditure is made. The following table gives us the structure of health expenditure by broad categories.

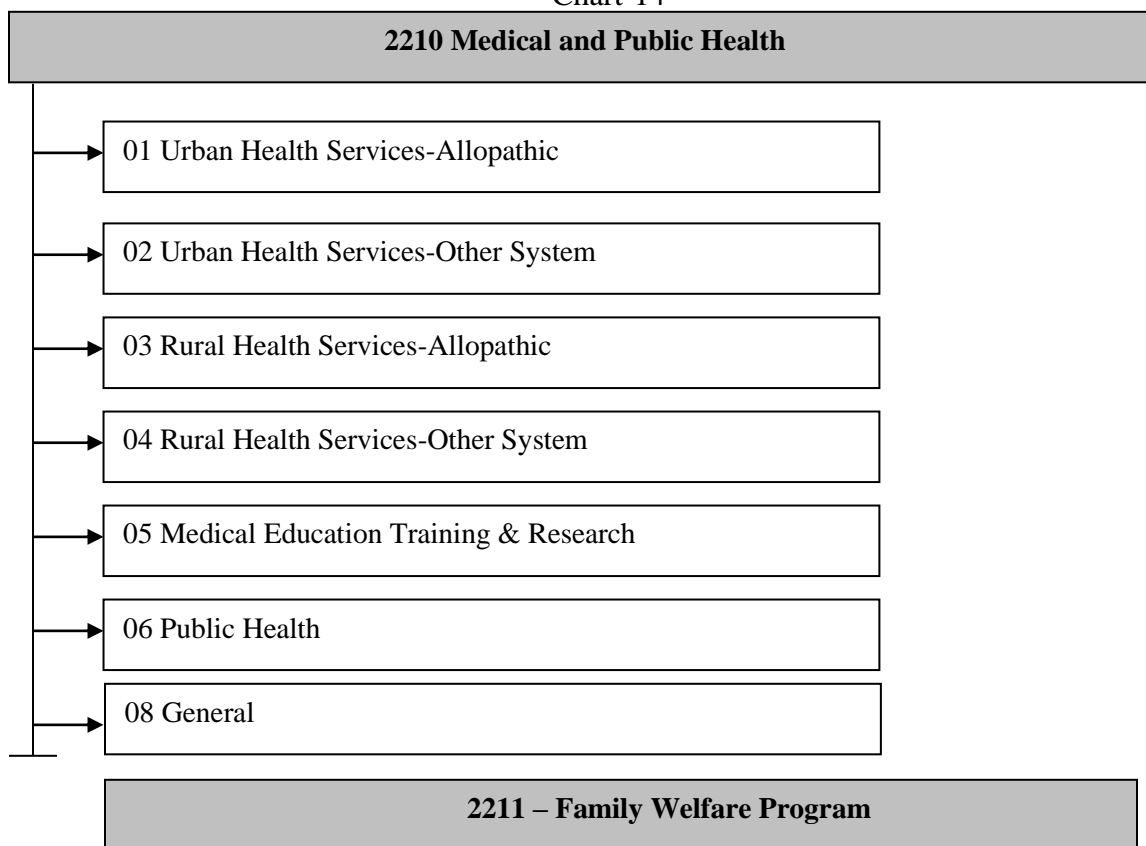
Chart-13
Public Expenditure Pattern On Health In The State

Account Number	Heads of Account (Main Items of Expenditure)
2210	Medical and Public Health
2211	Family Welfare
2215	Water Supply and sanitation
4210	Capital outlays on Medical and Public Health (including capital outlay on urban water supply schemes and proportionate establishment and machinery and equipment charges relating to such works are transferred from 2215 i.e. water supply and sanitation to this head)
4211	Capital Outlay on Family Welfare
6215	Loans for Water Supply and Sanitation

Source : *Government of Karnataka Health Budgets*

Within the broad category of Medical and Public Health the further break up of expenditure is made as shown below.

Chart-14



Source : Government of Karnataka Health Budgets

The following table (Table 26) gives the public expenditure on health by broad categories. It can be noted that Urban Health Services – Allopathic accounted for about 36 per cent of the total expenditure. General expenditure got about 34 per cent and Medical Education, Training and Research received about 16 per cent. Thus, one can infer that greater proportion of resources are catering to the needs of the urban sector and the need is felt to fine tune the allocation pattern to cater to the needs of the other rural regions as well.

Table-26
Budgetary Expenditure on health in Karnataka

Heads of Account (M & PH 2210)	ICHCA - Code	Expenditure	%
Urban Health Services - Allopathic	HC.1.1-1.3	3149.87	36.38
Urban Health Services - Other System of Medicine (Ayurveda)	HC.1.1-1.3(ISM)	53.16	0.62
Rural Health Services -Allopathic	HC.1.1-1.3	509.10	5.93
Rural Health Services - Other System of Medicine (Ayurveda)	HC.1.1-1.3(ISM)	31.53	0.37
Medical Education Training and Research	HC.R.2	1344.99	15.66
Public Health	HC.6.3	558.93	6.51
General	HC.nsk	2940.01	34.24
Total		8587.58	100.00

Source: Budget, Govt. of Karnataka 2004-05

As far as the expenditure on Family Welfare is concerned, greater emphasis is laid on the Maternal and child health (Table 27). The gross allocation to the Zilla Panchayats accounted for about 60 per cent of the resource. In this background, as part of the present study an attempt was made to decompose this expenditure on different functional heads. To do so the Link Documents of the state were collected which would give the break up of the allocations made to the districts. Based on the information of the link documents, the detailed expenditure pattern of health is presented in the ensuing discussion which gives the break up of the total public health expenditure.

Table-27

Family Welfare (2211) Expenditure for 2004-05 (Rs. In Millions)

Heads of Account	Expenditure (04-05)	%
Direction and Administration	17.66	1.00
Training	33.77	1.91
Urban Family Welfare Services	54.57	3.09
Maternity and Child health	423.93	23.97
Transport	10.37	0.59
Compensation	37.86	2.14
Mass Education	0.61	0.03
Selected Area Program Including IPP	77.62	4.39
Assistance to Zilla Panchayats	1053.51	59.57
Other Services and Supplies	58.61	3.31
Total	1768.50	100.00

Source: Budget, Govt. of Karnataka 2004-05

In the following table (Table 28) the expenditure pertaining to health on the capital account is presented. It can be observed that capital outlay on Medical and Public Health got the highest proportion of resources with about 93 per cent of the share. However, the Family Welfare program got insignificant proportion of resources.

Table-28

Capital Account of Social Services for 2004-05 (Rs. In Million)

Heads of Account	Expd.	%
Capital Outlay on Medical and Public Health 4210	79.71	93.25
Capital Outlay on Family Welfare 4211	3.31	3.87
Loans for Family Welfare 6211	2.46	2.88
Total	85.474	100.00

Source: Budget, Govt. of Karnataka 2004-05

The public expenditure on health has also been examined from the point of view of level of care and other related functions. The following table (Table 29) indicates that tertiary care services received about 19 per cent of the resources followed by secondary care with about 11 per cent of the expenditure. Primary health care which happens to be the undercurrent of the philosophy of public health care system received lesser proportion of the expenditure with about 8 per cent of the total. Greater emphasis seems to be placed on the Family Welfare Program which is understood in the background of population control measures.

Table-29

Expenditures by Level of Health Care Functions

Level of Health Care	Expd. Rs. In Mlns.(04-05)	%
Primary Care Services	841.74	8.06
Secondary Care Services	1172.78	11.23
Tertiary Care Services	2079.80	19.92
Capital Expenditure.	458.64	4.39
Public Health & Administration.	2031.23	19.45
Family welfare	1768.50	16.94
General Expenditure	2088.88	20.01
Total	10441.55	100.00

Source: Budget, Govt. of Karnataka 2004-05

In the following table (Table 30) the public expenditure is analyzed taking into account the expenditure for different types of providers of health care. It can be noted that government spends greater proportion of resources on providers of ambulatory health care which was to the extent of 33 per cent. This is followed by expenditure on Hospitals which accounted for 22 per cent of the expenditure in the total. Health administration and insurance got about 10 per cent and teaching institutions received 5 per cent of the expenditure.

Table -30
Budget Expenditure on Health by Provider, Karnataka, 2004-05

Sl No	ICHA Code	Providers	Rs in Million	%
1	HP1	Hospitals	2352.50	22.53
2	HP3	Providers of Ambulatory health care	3454.00	33.08
3	HP4	Drugs, Medicines and Other Medical Goods	415.10	3.98
4	HP5	Provision & Administration of Public Health Programmes	963.20	9.22
5	HP6	General Health Administration & Insurance	1069.00	10.24
7	HP8	Teaching Hospital	587.50	5.63
8	HPnsk	Not Specified by Kind	1600.20	15.33
9		Total	10441.50	100.00

Source : *Government of Karnataka Health Budgets*

8. Health Account Matrices of Karnataka:

After having understood the household transactions and expenditure by the public, in the ensuing discussion the health accounts matrices produced as part of the Karnataka State Health Accounts are presented to know the overall financial component of the state's health system.

Though NHA is said to be having many benefits, we need to be careful in understanding and reading the information supplied by the NHA which is in the form of State Health Accounts in the present study. This is because, though NHA is considered as useful tool to organize and present financial information about the health system, it may

not be effective in answering many questions related to health policy. This is because; health accounts focus on the financial dimension of the health system. The health accounts themselves do not distinguish between effective and ineffective expenditures. **Hence in this background the NHA information must be combined with non-financial data from sources such as epidemiological studies, population surveys and the like. The study team feels that such an exercise must be undertaken soon to have a holistic view of the health system's functioning and to bring in corrective changes for the better governance of the health sector of the state.**

The Guide to Producing National Health Accounts (WHO 2003) has relied on the SHA of the OECD to help the developing countries in evolving the National Health Accounts. The guide has set out the following tables to be produced as part of the exercise to evolve the NHA.

- Health expenditure by type of financing agent and type of provider
- Health expenditure by type of provider and type of function
- Health expenditure by type of financing agent and type of function
- Health expenditure by financing source and type of financing agent
- Cost of resources used to produce health goods and services
- Health expenditure by age and sex of the population
- Health expenditure by socio-economic status of the population
- Health expenditure by health status of the population
- Health expenditure by geographic region

In the present study the following tables have been attempted. The process of health accounts development is in infancy in most of the developing countries. At this stage due to the difficulties in data reporting in the Indian context the following tables seem to be the best possible combinations and which have been produced as part of the study.

- Health expenditure by Financing Source and type of Financing Agent
- Health expenditure by type of Financing Source and type of Provider
- Health expenditure by type of Provider and type of Function
- Health expenditure by type of Financing Source and type of Function

Health Accounts basically tries to address three questions namely

Who pays?

How Much? And

For What

In our discussion on the boundaries of health accounts we have discussed who pays in the state of Karnataka. Different entities under the sources of finance are the ultimate providers of funds for the delivery of health care services in the state. On the issue of total quantum of resources flowing into the health sector of the state it can be noted that health expenditure was to the extent of Rs. 36,937 million out of which public expenditure accounted for about 29 per cent and private expenditure shouldered 70 per cent of the share. External funds seem to be very insignificant as far as their share in the total health expenditure. The state spends about 2.49 per cent of State Domestic Product (SDP) on health care. On an average the per capita expenditure on health in the state amounted to Rs. 675.

The overall expenditure on health incurred on different providers in Karnataka which includes expenditure from all sources indicates that the major proportion of expenditure goes to retail sale of medicines and medical goods which to the extent of about 44 per cent. The other major players to follow were Hospitals and Providers of Ambulatory Health care with about 18 per cent of the expenditure. Health administration got about 6 per cent and teaching hospitals received about 4 per cent. Thus on the whole the expenditure concentrated on the medicines and drugs and then followed by expenditure within the institutions. Following table (Table 31) depicts this information.

Table-31**Health Expenditure by Provider, Karnataka, 2004-05**

SI No	ICHA Code	Providers	Rs in Million	%
1	HP1	Hospitals	6647.72	18.00
2	HP3	Providers of Ambulatory health care	6437.97	17.43
3	HP4	Retail Sale and Other Providers of Medical Goods	16612.62	44.98
4	HP5	Provision & Administration of Public Health Programmes	963.20	2.61
5	HP6	General Health Administration & Insurance	2215.47	6.00
6	HP8	Teaching Hospital	601.87	1.63
7	HPnsk	Not Specified by Kind	1635.09	4.43
8		Provider wise not available	1823.37	4.94
		Total	36937.37	100.00

Source : CMDR

In the following table (Table 32) the overall expenditure is produced as per the functional classification of health care. It shows that again the medicines and drugs consumed the bulk of the expenditure (46 %) and services of curative care got about 14 per cent. In the overall expenditure analysis, the ancillary services received only about six per cent of the resources. Thus, the medicines and drugs have been dominating the overall expenditure as well.

Table-32**Health Expenditure by Health Care Functions, Karnataka 2004-05**

Sl.No	ICHA CODE	Function Description	Rs in Million	%
1	HC1	Services of curative care	5264.90	14.25
2	HC4	Ancillary services to medical care	2347.15	6.35
3	HC5	Medical good dispensed to outpatients	17139.82	46.40
4	HC6	Prevention and public health services	3630.89	9.83
5	HC7	Health Administration	1404.09	3.80
6	HC9	HC Expenditure not specified by Kind	2539.83	6.88
7	HCR1	Capital Expenditure	1218.50	3.30
8	HCR2	Education and Training of Health Personnel	378.34	1.02
9	HCR3	Research and Development in Health	0.19	0.00
10		Function wise data not available	3013.67	8.16
	Total	Total	36937.37	100.00

Source : CMDR

8.1 Health Account Matrices:

In the following discussion an attempt is made to present the Health Account Matrices which describe in what way the funds are used to provide health services to the

people of the state. As we have known from our earlier discussion that greater proportion of health expenditure is financed from Out of Pocket Spending (OOPS) by the households, the provider wise flow of finances is also on the similar pattern.

The sources and agents matrix as presented below (Table 33) shows that about 66 per cent of the expenditure on health is financed by households. State government contributes about 25 per cent and MOHFW of the Central government spends about 2 per cent. Within the other entities of private sector corporate sector seems to be the major player with about 3 per cent of the resources. Though much is talked about external support to the health sector of the state its contribution in financial terms to the total health spending is very insignificant.

Table-33

Expenditure to Total by Source of Finance and Financing Agents, Karnataka, 2004-05 (FS X FA) %

Sl No	ICHA Code	Financing Agents (FA)	Financing Source (FS)								Total
			MoHF W	H & FW Dept	Other Depart ments	Parastatals (Rail & Road Transport.)	HHs (Rs)	NGO	Firms	Extern al Aid	
			FS 1.1.1	FS 1.1.2.1	FS 1.1.2.2	FS 1.1.2.3	FS 2.2	FS 2.3	FS 2.1	FS 3	
1	HF1.1.1.1	Central Government	2.21								2.21
2	HF1.1.2	State Government		15.13			0.28				15.41
3	HF1.1.3	Local Government		10.81			0.02				10.83
4	HF1.1.2.3	Parastatals (Rail & Road Transport.)				0.81					0.81
5	HF2.3	Private/ Household Out of Pocket					63.39				63.39
7	HF1.1.2.2	Other State Departments			0.26						0.26
9	HF2.2	Other Private Insurance					3.10				3.10
10	HF2.4	NGO						0.10			0.10
11	HF2.5.2	Firms							3.76		3.76
12	HF3	External Aid								0.12	0.12
13		Total	2.21	25.94	0.26	0.81	66.80	0.10	3.76	0.12	100.00

Source : CMDR

We can note from the table below (Table 34) that about 44 per cent of the expenditure is made on the retail sale and other providers of medical goods and the share of the households alone is to the extent of 43 per cent. This indicates the higher degree of household expenditure is on the purchase of medicines and other goods from the retail sector. Hospitals get about 18 per cent of the expenditure followed by providers of

ambulatory health care which is about 17 per cent. The share of other providers is not so significant and the details of health expenditure by sources and providers are presented in the table below.

Table-34
Percentage of Health Expenditure to total by Source of Finance and Provider, Karnataka, 2004-05, (FS x HP),

Sl No	ICHA Code	Providers	Public			Total HH Exp	Total NGO	Total Firms	External Agencies	Total
			H & FW Dept	Other depts	Parastatals					
			FS1.1.1	FS1.1.2.2	FS1.1.2.3	FS2.2	FS2.3	FS2.1	FS3	
1	HP1	Hospitals	6.37			11.63				18.00
2	HP3	Providers of Ambulatory health care	9.35			8.08				17.43
3	HP4	Retail Sale and Other Providers of Medical Goods	1.12			43.85				44.98
4	HP5	Provision & Administration of Public Health Programmes	2.61							2.61
5	HP6	General Health Administration & Insurance	2.78			3.10			0.12	6.00
7	HP8	Teaching Hospital	1.59			0.04				1.63
8	HPnsk	Not Specified by Kind	4.33			0.09				4.43
9	Provider wise Data not available			0.26	0.81		0.10	3.76		4.94
Total			28.15	0.26	0.81	66.80	0.10	3.76	0.12	100.00

Source : CMDR

In the table below (Table 35) the percentage share of resources spent on health in terms of providers and health care functions shows that majority of the resources were spent on Medical goods dispensed to patients. Services of curative care accounted for about 14 per cent of the resources. Prevention and public health services received resources to the extent of about 10 per cent while health administration got about 7 per cent of the resources. If one looks at the expenditure from the point of view of providers also, the resources towards Retail sale and providers of other Medical Goods were to the extent of 45 per cent. Hospitals and Providers of Ambulatory Care got about 18 per cent of the expenditure respectively. General Health Administration received about six per cent of the funds.

Table-35
Expenditure by Health Providers and Health Care Functions (HP x HF), Percentage Karnataka 2004-05

ICHA Code	Function Description	HP1	HP3	HP4	HP5	HP6	HP8	HPnsk	Function information not available				Total
		Hospitals	Providers of Ambulatory health care	Retail Sale and Other Providers of Medical Goods	Provision & Administration of Public Health Programmes	General Health Administration & Insurance	Teaching Hospital	Not Specified by Kind	Other Dept	Parastatals	Total NGO	Total Firms	
		Public & Household											
HC1	Services of curative care	11.53	1.78	0.11	0.72	0.01	0.06	0.04	0.00	0.00	0.00	0.00	14.25
HC4	Ancillary services to medical care	0.04	6.25	0.00	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	6.35
HC5	Medical good dispensed to outpatients	1.01	0.09	44.83	0.07	0.39	0.02	0.00	0.00	0.00	0.00	0.00	46.40
HC6	Prevention and public health services	1.58	7.54	0.02	0.59	0.16	0.06	0.00	0.00	0.00	0.00	0.00	9.95
HC7	Health Administration	0.29	0.09	0.00	1.10	5.35	0.08	0.00	0.00	0.00	0.00	0.00	6.91
HC9	HC Expenditure not specified by Kind	2.34	0.04	0.01	0.00	0.00	0.11	4.38	0.00	0.00	0.00	0.00	6.88
HCR1	Capital Expenditure	1.21	1.63	0.00	0.08	0.07	0.30	0.00	0.00	0.00	0.00	0.00	3.30
HCR2	Education and Training of Health Personnel	0.00	0.02	0.00	0.01	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.86
HCR3	Research and Development in Health	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HCR7	Administration and Provision of health related cash benefits	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.16
	Function information not available	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.81	0.10	3.76	4.94
Total		18.00	17.43	44.98	2.61	6.12	1.63	4.43	0.26	0.81	0.10	3.76	100.00

Source : CMDR

Table-36
Health Expenditure by Financing Source and Health Care Functions (FS x HF) Percentage

ICHA CODE	Function Description	Financing Source								Total
		H & FW Dept (Rs. 000s)	Other Departments	Parastatals	HHs		NGO Sector	Corporate Sector	External Agencies	
					OOPS	For Insurance				
FS1.1.2.1	FS 1.1.2..2	FS 1.1.2.3	FS 2.2	FS 2.2.1	FS 2.3	FS 2.1	FS3			
HC1	Services of curative care	4.56	0.00	0.00	9.70	0.00	0.00	0.00	0.00	14.25
HC4	Ancillary services to medical care	0.23	0.00	0.00	6.12	0.00	0.00	0.00	0.00	6.35
HC5	Medical good dispensed to outpatients	2.67	0.00	0.00	43.73	0.00	0.00	0.00	0.00	46.40
HC6	Prevention and public health services	8.14	0.00	0.00	1.69	0.00	0.00	0.00	0.00	9.83
HC7	Health Administration	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.80
HC9	HC Expenditure not specified by Kind	4.43	0.00	0.00	2.45	0.00	0.00	0.00	0.00	6.88
HCR1	Capital Expenditure	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
HCR2	Education and Training of Health Personnel	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
HCR3	Research and Development in Health	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Function wise data not available		0.00	0.26	0.81	0.00	3.10	0.10	3.76	0.12	8.16
Total	Total	28.15	0.26	0.81	63.69	3.10	0.10	3.76	0.12	100.00

Source : CMDR

In the table above (Table 36), the resources spent different functions through various financing agents is presented. One can observe that about 65 per cent of the expenditure is met out of HH expenditure and the public department of Health and Family Welfare spends about 28 per cent of the resources. Other entities have very small proportion of expenditures and the prominent one being the corporate sector with about 4 per cent of the resources. As regards the functional aspects, about 46 per cent of the expenditures were made on drugs and medicines. Curative services got about 14 per cent of the expenditure followed by ancillary services to medical care (6%). Prevention of diseases and other public health services received about 10 per cent of the expenditure.

If one looks at the level of expenditure by different financing agents, the following picture emerges. Unfortunately the primary health care received very little (4%) of the total spending. Ancillary services got the maximum share with about 40 per cent of the spending. Greater emphasis seems to be on secondary and tertiary levels within the curative health care domain. Public health got only about 4 per cent of the resources which is a cause for concern. Following table depicts this picture.

Table-37
Expenditure by Financing Source and Level of Health Care Functions (FS x F) to Total in Karnataka during 2004-05 %

Function Description	Financing Source							Total
	H & FW Dept FS1.1.2.1	Other Depart-ments FS1.1.2.2	Parastatals FS1.1.2.3	HHs		NGO Sector FS2.3	Corporate Sector FS2.1	
				Out of Pocket FS2.2	Insurance Premium FS2.2.1			
Primary Care Services	2.28			1.74				4.02
Secondary Care Services	3.18			14.49				17.66
Tertiary Care Services	5.63			6.95				12.58
Administration	0.54							0.54
Capital	1.24							1.24
Public Health	4.96							4.96
Family welfare	4.79							4.79
General Expenditure	5.66							5.66
Ancillary services	0.00			40.52				40.52
Function information not available	0.00	0.26	0.81	0.00	3.10	0.10	3.76	8.04
Total	28.27	0.26	0.81	63.69	3.10	0.10	3.76	100.00

Source : CMDR

9. Concluding Observations:

Higher degree of household expenditure is on the purchase of medicines and other goods from the retail sector. Hospitals receive the major chunk of the expenditure followed by providers of ambulatory health care. The share of other providers is not so significant. Majority of the resources were spent on Medical goods dispensed to patients. Majority of the spending is made for the curative services. The expenditure flows to retail sale of medicines and drugs seems to be the major provider of services to the community. Households are the prominent sources for spending on health care. This is followed by State and Central governments respectively. Though much is talked about external support to the health sector of the state its contribution in financial terms to the total health spending is very insignificant.

The present expenditure pattern seems to be shying away from other crucial elements of functions of health care like the following.

- Primary health care
- Prevention of diseases
- Public health
- Promotive care
- Maternal and child health
- Education and Training
- Research and development

Other important aspect which deserves attention is the absence of health insurance on a large scale in the state. Our survey results have shown that only about 2 to 3 per cent of the population would opt for the health insurance. In this background the health care spending seems to be quite unorganized and the need is felt to induct either social health insurance or to promote voluntary health insurance through the institutional structure of managed care and active participation of Health Management Organizations.

The present health accounts exercise should be considered as a modest beginning and the results should be considered as broad pointers of the financial segment of the

health care system of the state. They do provide information on how the resources are mobilized and utilized and based on this one can consider the option of bringing in certain policy corrections. However, the information from the exercise would not give us the effectiveness of the expenditures made for the benefit of the community. In this background the need is felt to initiate cost effectiveness studies as well. The fact that households are spending greater proportion of resources on curative care and medicines, the need is felt to strengthen these two elements in the public domain.

9. Limitations of the Study & Suggestions for Future:

The present exercise of developing Health Accounts for the state of Karnataka should be considered as a modest first step in the application of System of Health Accounts of OECD as well as Producer's Manual of Health Accounts of WHO. The study team confronted various challenges with regard to both conceptual and empirical aspects of the study. Some of the limitations of the study have been produced here which would act as pointers for further refinements for similar efforts in future.

The need is felt to have a consensus on comprehensive space boundaries of the health related issues. Though the study has tried to adapt the boundaries as elicited in the National Health Accounts of India 2001-02, the need is felt to modify the list to suit the Indian context. This needs to be chalked out for clearer understanding in this regard.

As far as the actors in the health system are concerned, the internationally accepted standards do not cover the locale specific indigenous providers of health care. For example, Faith Healers, Traditional Birth Attendants, Practitioners of Naturopathy, System of Yoga, Herbal Medicine Providers and the like do not get reflected in the international health providers' code. Such providers must figure in the system of Indian Health Accounts.

Another major issue that needs mention is about the way the health budgets are presented in the Indian context. If one tries to present the budgetary expenditures as per the functional classification of the Health Accounting framework, it would be very

difficult to do so. Various budgetary line items do not match the functional classification codes. Hence, the suggestion that that has emerged from the study is that the health budgets in the public domain should try to modify the line items to suit the functional classifications so that the tracking of resources as per the functional classification would be quite handy. This would probably be useful in fine tuning the expenditure pattern as well in the years to come.

The survey of NGOs and Corporate bodies has brought one more limitation of the study. These organizations do not have a system of maintaining the expenditures that they make on various health related activities. This is the reason for which the present study was not able to populate the health accounts matrices (for the expenditures of these organizations) as per various functional as well as provider classifications. The apex bodies of NGOs and Corporate units need to pay attention to such issues, and efforts in future need to be made on presenting the health related expenditures in a much detailed fashion so that the role played by these bodies gets reflected properly in the framework of health accounts.

At the national level, the NSSO data on household health expenditure is used to develop Indian Health Accounts. In this context the study team feels that the present method of NSSO on compiling health expenditures does not match the Health Accounts functional classification and hence in future it would be better if NSSO modifies its questionnaire accordingly.

Ideally one also should develop health account matrices for different socio-economic groups. But on account of the limitations of the data such an exercise is not carried out in the present study. Public expenditure for example is for the state as a whole and conceptually it would be difficult to decompose such expenditure for different population sub groups. **The present exercise has also brought out the need to develop disease specific health accounts and health accounts for different sub regions within the state. A micro level Health Accounts say for the district would be more**

meaningful and user friendly for the functionaries of the health sector due to the fact that most of the policy get implemented at the level of district.

The present exercise has tried to develop state health accounts but the need is also felt to link such accounts to the SNA framework of developing National Income Accounts. This can be attempted using the International Standard Industrial Classifications. We feel that this needs to be taken up in future exercises.

Appendix Tables

Table A-1
Household Expenditure by Health Care Functions and Providers (HCXHP) For Out Patient Care (Rs in Millions)

ICHA Code	Providers	HC1.3	HC1.3.2	HC1.3.4	HC1.3.5	HC6.1	HC6.1.1	HC6.4	HCnsk	Total
		General Medical Services	Dental Services	ENT Services	Eye care Services	MCH Services	Delivery at home	Immunization	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
HP 1.1.2.1	PHC/PHU Rural	3.37	0.01	0.00	0.00	0.04	0.00	0.02	0.19	3.62
HP 1.1.2.2	PHC Urban	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
HP 1.1.2.3	CHC / Taluk Hospital	3.00	0.01	0.00	0.01	0.04	0.00	0.00	0.00	3.05
HP 1.1.2.4	District Hospital	0.93	0.03	0.05	0.00	0.09	0.00	0.00	0.00	1.11
HP 1.1.2.5	State Government's Department Hospital	0.58	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.64
HP 1.1.3.2	ESIS Hospital	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP 1.1.3.3	General Hospitals owned by Local body	0.65	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68
HP 1.1.4	Dispensaries / clinic / Hospitals run by Corporate sector	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
HP 1.1.5	General hospitals (allopathic)	78.38	12.57	3.93	2.92	21.02	0.03	2.89	7.85	129.60
HP 1.1.6	Dispensaries / clinic / Hospitals run by NGOs	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
HP 1.1.6.1	Charitable hospital	0.72	0.00	0.00	0.00	1.57	0.00	0.00	0.00	2.29
HP 1.3	Specialty hospitals (allopathic)	142.19	23.28	6.19	10.68	33.84	0.00	1.70	15.93	233.81
HP 1.4	Specialty hospitals (ISM & H)	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
HP 3.3.13	Traditional Birth Attendant	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.68
HP 3.4.1	Family welfare/ANM centers	0.21	0.00	0.00	0.00	0.94	0.47	0.00	0.00	1.62
HP 3.4.5	Dispensaries and clinic (allopathic)	397.28	2.69	1.40	1.63	18.85	3.64	11.72	0.94	438.15
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	22.45	0.00	0.00	0.00	0.16	0.00	0.00	0.00	22.61
HP 3.4.5.4	RMP (Quacks)	16.20	0.00	0.00	0.03	0.09	0.00	0.00	0.00	16.32
HP 8.2.1.2	Teaching Hospital	2.30	0.06	0.00	0.03	0.09	0.00	0.00	0.00	2.49
HPnsk	Provider not specified by kind	1.76	0.00	0.00	0.00	0.16	0.00	0.00	0.94	2.86
Total		671.00	38.67	11.56	15.31	76.96	5.83	16.32	25.86	861.52

Table A-2
Household Expenditure by Health Care Functions and Providers (HCXHP) For In Patient Care (Rs in Millions)

ICHA Code	Providers	HC1.1	HC1.1.1	HC1.1.2	HC6.1.1	HC6.1.2	HC6.1.3	HC1.1.3	HCnsk	Total
		Consultancy	Surgical Treatment	Emergency Care	Maternal Health	Child Health services	Family planning services	Dental Care	Any other	
HP 1.1.2.1	PHC/PHU Rural	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.68	0.72
HP 1.1.2.3	CHC / Taluk Hospital	1.92	32.99	0.06	1.60	0.00	0.00	0.00	1.68	38.26
HP 1.1.2.4	District Hospital	0.80	24.51	0.00	0.05	0.00	0.00	0.00	2.36	27.71
HP 1.1.2.5	State Government's Department Hospital	0.13	0.16	0.00	0.63	0.00	1.57	0.00	2.04	4.52
HP 1.1.3.3	General Hospitals owned by Local body	0.19	4.71	0.00	0.72	0.00	0.00	0.00	1.60	7.23
HP 1.1.5	General hospitals (allopathic)	55.72	807.64	19.79	189.30	18.54	0.00	12.57	411.69	1515.25
HP 1.1.6.1	Charitable hospital	1.84	9.44	0.00	7.54	0.63	0.00	0.00	13.51	32.96
HP 1.3	Specialty hospitals (allopathic)	159.30	1595.79	0.00	289.80	41.16	4.08	26.08	380.58	2496.80
HP 1.4	Specialty hospitals (ISM & H)	0.63	6.28	0.00	0.00	0.00	0.00	0.00	105.32	112.23
HP 3.4.5	Dispensaries and clinic (allopathic)	6.43	44.93	0.00	7.85	0.79	6.28	0.00	10.05	76.33
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	0.09	4.71	0.00	0.00	0.00	0.00	0.00	3.77	8.58
HP 8.2.1.2	Teaching Hospital	1.52	4.87	0.00	0.03	0.00	0.00	0.00	5.06	11.48
HPnsk	Provider not specified by kind	0.97	12.10	0.00	1.57	0.00	0.00	0.00	17.91	32.55
Total		230.03	2568.56	19.86	500.83	67.39	11.94	38.65	960.02	4397.28

Table A-3
Household Expenditure by Health Care Functions and Providers (HCXHP) For Day Care (Rs in Millions)

ICHA Code	Providers	HC1.2	HC1.2.1	HC1.2.2	HC1.2.3	HC1.2.9	Total
		Curative care	Ambulatory surgery	Chemo therapy	Dialysis services	Other treatment or surgery	
HP 1.1.2.3	CHC / Taluk Hospital	0.70	0.00	0.00	0.00	2.83	3.53
HP 1.1.5	General hospitals (allopathic)	25.58	2.33	0.00	2.51	7.32	37.73
HP 1.3	Specialty hospitals (allopathic)	3.30	0.00	0.00	0.00	1.41	4.71
HP 3.4.5	Dispensaries and clinic (allopathic)	158.39	1.89	0.38	0.00	2.44	163.08
HP 3.4.5.4	RMP (Quacks)	6.65	0.00	0.00	0.00	2.98	9.63
Total		209.19	4.43	0.38	2.51	56.04	272.55

Table A-4
Household Expenditure by Health Care Functions and Providers (HCXHP) For Ancillary Services (Rs in Millions)

ICHA Code	Providers	HC 5.1.2	HC 5.1.1	HC 5.2	HC 5.2.1	HC 5.2.3	HC 5.2.9	HC 4.1	HC 4.2	HC 4.3	HC 4.4	HC 4.9	Total
		Drugs & Med-Doctor	Drugs & Med-Purchased	Appliances & other Durables	Glasses and vision products	Hearing Aids	Any other medical goods dispensed	Pathological services	Diagnostic imaging services	Patient Travel Cost	Blood Bank	Any other ancillary services	
HP 3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)								790.87				790.87
HP 3.5.2	Clinical laboratories							460.43					460.43
HP 3.5.9	Any other ancillary services											65.32	65.32
HP 3.7	Patient Travel Cost									904.96			904.96
HP 3.9.2	Blood Banks										107.20		107.20
HP 4.1	Drugs and Med- Purchased		10728.77										10728.77
HP 4.1.1	Drugs and Med- Doctor	4687.64											4687.64
HP 4.2	Glasses and vision products				30.68								30.68
HP 4.3	Hearing Aids					34.20							34.20
HP 4.4	Appliances and other Durables			162.12									162.12
HP 4.9	Any other medical goods dispensed						22.43						22.43
Total		4687.64	10728.77	162.12	30.68	34.20	22.43	460.43	790.87	904.96	107.20	65.32	17994.63

Table A-5

Health Expenditure by Source of Finance and Financing Agents, Karnataka, 2004-05 (FS X FA) (Rs in Million)

Sl No	ICHA Code	Financing Agents (FA)	Financing Source (FS)								Total
			MoHFW	H & FW Dept	Other Departments	Parastatals (Rail & Road Transport.)	HHs (Rs)	NGO	Firms	External Aid	
			FS1.1.1	FS1.1.2.1	FS1.1.2.2	FS1.1.2.3	FS2.2	FS2.3	FS2.1	FS3	
1	HF1.1.1.1	Central Government	816.72				0.40				817.12
2	HF1.1.2	State Government		5587.49			103.79				5691.28
3	HF1.1.3	Local Government		3993.52			6.59				4000.11
4	HF1.1.2.3	Parastatals (Rail & Road Transport.)				299.44					299.44
5	HF2.3	Private / Household Out of Pocket					23415.20				23415.20
7	HF1.2.2	Other State Departments			97.70						97.70
9	HF2.2	Other Private Insurance					1146.47				1146.47
10	HF2.4	NGO						37.63			37.63
11	HF2.5	Firms							1388.60		1388.60
12	HF3	External Aid								43.83	43.83
13		Total	816.72	9581.01	97.70	299.44	24672.45	37.63	1388.60	43.83	36937.37

Table A-6
Total Health Expenditure by Source of Finance and Provider, Karnataka, 2004-05, (FS X HP), (Rs in Million)

SI No	ICHA Code	Providers	Public			Total HH Exp	Total NGO	Total Firms	External Agencies	Grand Total
			H & FW Dept	Other department	Parastatals					
			FS 1.1.2.1	FS 1.1.2.2	FS1.1.2.3					
1	HP1	Hospitals	2352.50			4295.22				6647.72
2	HP3	Providers of Ambulatory health care	3454.00			2983.97				6437.97
3	HP4	Retail Sale and Other Providers of Medical Goods	415.10			16197.52				16612.62
4	HP5	Provision & Administration of Public Health Programmes	963.20			0.00				963.20
5	HP6	General Health Administration & Insurance	1025.17			1146.47			43.83	2215.47
7	HP8	Teaching Hospital	587.50			14.37				601.87
8	HPnsk	Not Specified by Kind	1600.20			34.89				1635.09
		Provider wise not available		97.70	299.44		37.63	1388.60		1823.37
9		Total	10397.67	97.70	299.44	24672.45	37.63	1388.60	43.83	36937.32

Table A-7

Health Expenditure by Financing Source and Health Care Functions (FS X HF)(Rs in Million)										
ICHA CODE	Function Description	Financing Source								Total
		H & FW Dept (Rs. 000s)	Other Departments	Parastatals	HHs		NGO Sector	Corporate Sector	External Agencies	
					OOPS	For Insurance				
FS1.1.2.1	FS1.1.2.2	FS1.1.2.3	FS2..2	FS2.2.1	FS2.3	FS2.1	FS3			
HC1	Services of curative care	1683.11	0.00	0.00	3581.79	0.00	0.00	0.00	0.00	5264.90
HC4	Ancillary services to medical care	85.45	0.00	0.00	2261.70	0.00	0.00	0.00	0.00	2347.15
HC5	Medical good dispensed to outpatients	986.46	0.00	0.00	16153.36	0.00	0.00	0.00	0.00	17139.82
HC6	Prevention and public health services	3006.28	0.00	0.00	624.61	0.00	0.00	0.00	0.00	3630.89
HC7	Health Administration	1404.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1404.09
HC9	HC Expenditure not specified by Kind	1635.30	0.00	0.00	904.53	0.00	0.00	0.00	0.00	2539.83
HCR1	Capital Expenditure	1218.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1218.50
HCR2	Education and Training of Health Personnel	378.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	378.34
HCR3	Research and Development in Health	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Function wise data not available		0.00	97.70	299.44	0.00	1146.47	37.63	1388.60	43.83	3013.67
Total	Total	10397.73	97.70	299.44	23525.98	1146.47	37.63	1388.60	43.83	36937.37

Table A-8
Expenditure by Financing Source and Level of Health Care Functions (FS X F) in Karnataka during 2004-05
(Rs in Million)

Function Description	Financing Source							Total
	H & FW Dept	Other Departments	Parastatals	HHs		NGO Sector	Corporate Sector	
				Out of Pocket	Insurance Premium			
FS1.1.2.1	FS1.1.2.2	FS1.1.2.3	FS2.2	FS2.2.1	FS2.3	FS2.1		
Primary Care Services	841.74			643.10				1484.84
Secondary Care Services	1172.78			5351.11				6523.89
Tertiary Care Services	2079.80			2565.56				4645.36
Administration	199.20			0.00				199.20
Capital	458.64			0.00				458.64
Public Health	1832.03			0.00				1832.03
Family welfare	1768.50			0.00				1768.50
General Expenditure	2088.88							2088.88
Ancillary services				14966.20				14966.20
Function information not available		97.70	299.44		1146.47	37.63	1388.60	2969.84
Total	10441.55	97.70	299.44	23525.98	1146.47	37.63	1388.60	36937.37

Table A-9
Expenditure by Health Providers and Health Care Functions (HP X HF),Karnatka2004-05 (Rs in Million)

ICHA Code	Function Description	HP1	HP3	HP4	HP5	HP6	HP8	HPnsk	Function information not available				Grand Total
		Hospitals	Providers of Ambulatory health care	Retail Sale and Other Providers of Medical Goods	Provision & Administration of Public Health Programmes	General Health Administration & Insurance	Teaching Hospital	Not Specified by Kind	Other Dept	Parastals	Total NGO	Total Firms	
		Public & Household											
HC1	Services of curative care	4258.33	658.03	40.27	266.53	3.15	23.12	15.47	0.00	0.00	0.00	0.00	5264.90
HC4	Ancillary services to medical care	14.78	2307.74	0.24	14.22	8.09	2.08	0.00	0.00	0.00	0.00	0.00	2347.15
HC5	Medical good dispensed to outpatients	373.69	32.06	16559.68	25.94	142.39	6.06	0.00	0.00	0.00	0.00	0.00	17139.82
HC6	Prevention and public health services	584.15	2784.16	6.65	218.24	57.48	22.39	1.63	0.00	0.00	0.00	0.00	3674.72
HC7	Health Administration	105.38	32.39	0.47	404.88	1977.52	29.93	0.00	0.00	0.00	0.00	0.00	2550.56
HC9	HC Expenditure not specified by Kind	863.31	14.34	3.89	0.00	0.00	40.31	1617.98	0.00	0.00	0.00	0.00	2539.83
HCR1	Capital Expenditure	448.11	602.52	1.25	29.50	26.48	110.64	0.00	0.00	0.00	0.00	0.00	1218.50
HCR2	Education and Training of Health Personnel	0.00	6.73	0.00	3.92	0.00	306.81	0.00	0.00	0.00	0.00	0.00	317.46
HCR3	Research and Development in Health	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
HCR7	Administration and Provision of health related cash benefits	0.00	0.00	0.00	0.00	0.35	60.54	0.00	0.00	0.00	0.00	0.00	60.88
	Function information not available	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.70	299.44	37.63	1388.60	1823.37
Total		6647.75	6437.98	16612.64	963.22	2259.29	601.87	1635.08	97.70	299.44	37.63	1388.60	36937.37

Chart : A-1
Classification System for Financing Sources of Health Care Activities in Karnataka

Code	Description
FS.1	Public funds
FS.1.1	Territorial government funds
	FS.1.1.1 Central government revenue
	FS.1.1.2 Regional and municipal government revenue
	FS.1.1.2.1 State government revenue
	FS.1.1.2.1.1 Health sector revenue
	FS.1.1.2.1.2 Other sources
	FS.1.1.2.2 Local government revenue
	FS.1.1.2.2.1 Health sector revenue
	FS.1.1.2.2.2 Other sources
FS.1.2	Other public funds
	FS.1.2.1 Return on assets held by a public entity
	FS.1.2.2 Other
	FS.1.2.2.1 Employer funds of Parastatals
	FS.1.2.2.2 Other sources
FS.2	Private funds
FS.2.1	Employer funds
FS.2.2	Household funds
FS.2.3	Non-profit institutions serving individuals
FS.2.4	Other private funds
	FS.2.4.1 Return on assets held by a private entity
	FS.2.4.2 Other
FS.3	Rest of the world funds
	FS.3.1 Private external funds
	FS.3.2 Public external funds
	FS.3.2.1 Bilateral and multilateral donors
	FS.3.2.2 Development banks

Chart : A-2

Classification System for Financial Agents of Health Care Activities in Karnataka						
Code	Description			Remarks/Examples	HF Code use by CMDR/ NEW cat.	
HF.A	Public sector				same	
	HF.1.1	Territorial government				same
		HF.1.1.1	Central government			same
			HF.1.1.1.1	Central health department		same
			HF.1.1.1.2	Other than health ministry/department	Railways, Defense, Space, Post & Telegraphs, etc	same
		HF.1.1.2	State government			same
			HF.1.1.2.1	State health department		same
			HF.1.1.2.2	Other than health ministry/department	Education, Police, Mines, etc	same
			HF.1.1.2.3	Societies set-up by the State government		same
				HF.1.1.2.3.1	State level	same
				HF.1.1.2.3.2	District level	same
		HF.1.1.3	Local government			same
			HF.1.1.3.1	Rural local bodies	Village/Taluka/Zilla (District) Panchayat	same
			HF.1.1.3.2	Urban local bodies		same
	HF.1.2	Social security funds				same
		HF.1.2.1	Central government		Welfare funds	same
		HF.1.2.2	State government		Welfare funds, Illness Assistance Funds	same
	HF.1.3	Social Insurance programmes				NEW
		HF.1.3.1	Employee insurance programmes (public)			2.1.1.
			HF.1.3.1.1	Central government	Central Government Health Scheme, Employee State Insurance	2.1.1.1
			HF.1.3.1.2	State government		2.1.1.2
			HF.1.3.1.3	Other	e.g. Group Health Insurance scheme	2.1.1.3
		HF.1.3.2	Other social insurance programmes (public)			2.1.3
			HF.1.3.2.1	Central government	e.g. Universal Health Insurance scheme	2.1.3.1
			HF.1.3.2.2	State government	e.g. Yeshaswani health insurance scheme of the state government	2.1.3.2
			HF.1.3.2.3	Other		NEW
	HF.1.4	Public sector insurance enterprises (other than social insurance)			Life Insurance Corporation of India, General Insurance Corporation of India	2.2.1
	HF.1.5	Parastatal companies			Central and State PSUs	2.5.1

Chart : A-3

Classification System for Financial Agents of Health Care Activities in Karnataka (Contd..)

Code	Description		Remarks/Examples	HF Code use by CMDR/ NEW cat.
HF.B	Non Public Sector			same
	HF.2.1	Social Insurance programmes (for profit enterprises)		NEW
		HF.2.1.1 Employee insurance programmes	e.g. Group Health Insurance scheme	2.1.2
		HF.2.1.2 Other social insurance programmes		2.1.2.2
	HF.2.2	Insurance enterprises (for profit enterprises)	Life Insurance Corporation of India, General Insurance Corporation of India	2.2.2.
	HF.2.3	Households' out-of-pocket payment (non profit)		same
		HF.2.3.1 social insurance contributions		
		HF.2.3.2 voluntary insurance contributions		
		HF.2.3.3 cost sharing payments		
		HF.2.3.4 others		
	HF.2.4	Institutions serving households (non profit)		same
		HF.2.4.1 Non-profit institutions serving households (social insurance)	Community-based health insurance services	same
		HF.2.4.2 Non-profit institutions serving households (other than social insurance)	e.g. Mother NGOs channelizing funds to local NGOs in the RCH Programme	same
	HF.2.5	Nonparastatal firms and corporations (other than health ins)		same
		HF.2.5.1 Non-profit firms and corporations		same
		HF.2.5.2 For profit firms and corporations		same
HF.3	Rest of the world			same
	HF.3.1	Multi-lateral organisations and agencies	e.g. UNFPA, Unicef, WHO, UNAIDS	NEW
	HF.3.2	International Non Governmental Organisations	e.g. IPPF, Mary Stopes International, Pathfinder International	NEW
	HF.3.3.	Development banks	e.g. WB, IDA, IDRB	NEW

Chart : A-4

Classification System for Health Care Providers in Karnataka			
Code	Description		Remarks / Examples
HP.1	Hospitals		
HP.1.1	General hospitals (allopathic)		
	HP.1.1.1	General hospitals (allopathic) in the public sector	
		HP.1.1.1.1 General hospitals owned by the Central government	General hospitals of Central government ministry/department (Defence, Railways, Post & Telegraphs, Space)
		HP.1.1.1.2 General hospitals owned by the State government	State Health Department and other-than-Health Departments of State government (Department of Education, Police, Mines, etc)
		HP.1.1.1.2.1 Primary	
		HP.1.1.1.2.1.1 Rural	Primary Health Centres (PHCs)
		HP.1.1.1.2.1.2 Urban	Urban Health Centres (UHCs), Urban Health Posts (UHPs), Urban Family Welfare Centres (UFWCs)
		HP.1.1.1.2.2 Referral (Secondary & Tertiary)	Community Health Centres (CHCs), Taluka/Sub-divisional/District Hospitals, major general hospitals and hospitals attached to autonomous institutions, KHSDP and KfW-assisted secondary care hospitals, Hospitals attached to Medical colleges and autonomous in
		HP.1.1.1.3 General hospitals owned by the Local government	Municipal hospitals
		HP.1.1.1.4 General hospitals owned by Social Insurance agencies	ESI hospitals and CGHS hospitals
		HP.1.1.1.5 General hospitals owned by Parastatals	PSU hospitals (Hindustan Aeronautics Limited, Bharat Electronics Limited, Indian Telephone Industries, etc)
	HP.1.1.2	General hospitals (allopathic) in the private (for profit) sector	
	HP.1.1.3	General hospitals (allopathic) in the private (not for profit) or NGO sector	
HP.1.3	Specialty hospitals (allopathic)		
	HP.1.3.1	Specialty (allopathic) hospitals in the public sector	
		HP.1.3.1.1 Central government	
		HP.1.3.1.2 State government	
		HP.1.3.1.3 Local government	
		HP.1.3.1.4 Social insurance agencies	
		HP.1.3.1.5 Parastatals	
	HP.1.3.2	Specialty hospitals (allopathic) in the private (for profit) sector	
	HP.1.3.3	Specialty hospitals (allopathic) in the private (not for profit) or NGO sector	
HP.1.4	Hospitals of non-allopathic systems of medicine (ISM & H)		
	HP.1.4.1	ISM & H hospitals in the public sector	
		HP.1.4.1.1 Central government	
		HP.1.4.1.2 State government	
		HP.1.4.1.3 Local government	
		HP.1.4.1.4 Social insurance agencies	
		HP.1.4.1.5 Parastatals	
	HP.1.4.2	ISM & H hospitals in the private (for profit) sector	
	HP.1.4.3	ISM & H hospitals in the private (not for profit) or NGO sector	
HP.2	Nursing and residential care facilities		
HP.2.1	Nursing care facilities		e.g Maternity Homes
	HP.2.1.1	Nursing care facilities in the public sector	
		HP.2.1.1.1 Central government	
		HP.2.1.1.2 State government	
		HP.2.1.1.3 Local government	
		HP.2.1.1.4 Social insurance agencies	
		HP.2.1.1.5 Parastatals	
	HP.2.1.2	Nursing care facilities in the private (for profit) sector	
	HP.2.1.3	Nursing care facilities in the private (not for profit) sector or NGOs	

Chart : A-5

Classification System for Health Care Providers in Karnataka (Contd..)			
Code	Description		Remarks / Examples
HP2.9	All other residential care facilities		
	HP.2.9.1	Other residential care facilities in the public sector	
		HP.2.9.1.1 Central government	
		HP.2.9.1.2 State government	
		HP.2.9.1.3 Local government	
		HP.2.9.1.4 Social insurance agencies	
		HP.2.9.1.5 Parastatals	
	HP.2.9.2	Other residential care facilities in the private (for profit) sector	
	HP.2.9.3	Other residential care facilities in the private (not for profit) sector or NGOs	
HP.3	Providers of ambulatory health care		
HP.3.1	Offices of physicians		
	HP.3.1.1	Offices of physicians (allopathic)	Dispensaries and clinics
		HP.3.1.1.1 Health care facilities in the public sector	
		HP.3.1.1.1.1 Central government	
		HP.3.1.1.1.2 State government	
		HP.3.1.1.1.3 Local government	
		HP.3.1.1.1.4 Social insurance agencies	
		HP.3.1.1.1.5 Parastatals	
	HP.3.1.1.2	Offices of physicians in the private (for profit) sector	
	HP.3.1.1.3	Offices of physicians in the private (not for profit) sector	
	HP.3.1.2	Offices of physicians (ISM & H)	
	HP.3.1.2.1	ISM & H Dispensaries in the Public sector	
		HP.3.1.2.1.1 Central government	
		HP.3.1.2.1.2 State government	
		HP.3.1.2.1.3 Local government	
		HP.3.1.2.1.4 Social insurance agencies	
		HP.3.1.2.1.5 Parastatals	
	HP.3.1.2.2	Offices of ISM&H physicians in the private (for profit) sector	
	HP.3.1.2.3	Offices of ISM&H physicians in the private (not for profit) sector	
HP.3.3	Offices of other health practitioners		Paramedics, Quacks
HP.3.4	Outpatient care centres		
	HP.3.4.3	Free-standing ambulatory surgery centres	
		HP.3.4.3.1 Sterilization camps of the government	
		HP.3.4.3.2 Other centres	
	HP.3.4.5	All other outpatient multi-specialty and cooperative service centres	
		HP.3.4.5.1 All other outpatient care centres in the secondary and tertiary level (allopathic) hospitals	
		HP.3.4.5.1.1 Public sector	
		HP.3.4.5.1.1.1 Central government	
		HP.3.4.5.1.1.2 State government	
		HP.3.4.5.1.1.3 Local government	
		HP.3.4.5.1.1.4 Social insurance agencies	
		HP.3.4.5.1.1.5 Parastatals	
		HP.3.4.5.1.2 Private (for profit) sector	
		HP.3.4.5.1.3 Private (not for profit) sector or NGOs	
	HP.3.4.5.2	Outpatient care centres in the ISM & H hospitals	
		HP.3.4.5.2.1 ISM & H hospitals in the public sector	
		HP.3.4.5.2.1.1 Central government	
		HP.3.4.5.2.1.2 State government	

Chart : A-6

Classification System for Health Care Providers in Karnataka (Contd..)				
Code	Description			Remarks / Examples
			HP.3.4.5.2.1.3	Local government
			HP.3.4.5.2.1.4	Social insurance agencies
			HP.3.4.5.2.1.5	Parastatals
		HP.3.4.5.2.2	ISM & H hospitals in the private (for profit) sector	
		HP.3.4.5.2.3	ISM & H hospitals in the (not for profit) sector	
HP.3.4.9	All other outpatient community and other integrated care centres			
	HP.3.4.9.1	Public sector		Sub-centres, Anganwadis, OP and outreach activities of PHCs
	HP.3.4.9.3	Private (not for profit) sector		Women Self Help Group Centers
HP.3.5	Medical and diagnostic laboratories			
	HP.3.5.1	Clinical laboratories		
		HP.3.5.1.1	Public sector	Lab facilities in public sector health facilities, Dedicated STD laboratories of the government, VCTCs
		HP.3.5.1.2	Private (for profit) sector	
		HP.3.5.1.3	Private (not for profit) sector	
HP.3.5.2	Diagnostic imaging			
		HP.3.5.2.1	Public sector	Diagnostic imaging facilities in public sector health facilities
		HP.3.5.2.2	Private (for profit) sector	
		HP.3.5.2.3	Private (not for profit) sector	
HP.3.6	Providers of home health care services			
	HP.3.6.1	Public sector		Mobile health clinics of the State Health Department, ANMs and other government paramedics
	HP.3.6.2	Private (for profit) sector		Traditional birth attendants (TBAs) or Dais, Private physicians and other private paramedics
	HP.3.6.3	Private (not for profit) sector		NGO Field Workers, motivators, etc.
HP.3.9	Other providers of ambulatory health care			
	HP.3.9.1	Ambulance services		
		HP.3.9.1.1	Public sector	
		HP.3.9.1.2	Private (for profit) sector	
		HP.3.9.1.3	Private (not for profit) sector	
	HP.3.9.2	Blood and Organ banks		
		HP.3.9.2.1	Blood banks	
		HP.3.9.2.1.1	Public sector	State government, Central government, Autonomous body, PSUs
		HP.3.9.2.1.2	Private (for profit) sector	Private blood banks, Private hospital blood banks
		HP.3.9.2.1.3	Private (not for profit) sector	Voluntary organization blood banks
	HP.3.9.3	Alternative or traditional practitioners		
	HP.3.9.4	All other RH-related ambulatory health care services		
HP.4	Retail sale and other providers of medical goods			
HP.4.1	Dispensing chemists			
	HP.4.1.1	Public sector health system		
		HP.4.1.1.1	Allopathic	
		HP.4.1.1.2	ISM & H	
	HP.4.1.2	Retail sellers in the private (for profit) sector		
		HP.4.1.2.1	Allopathic	
		HP.4.1.2.2	ISM & H	

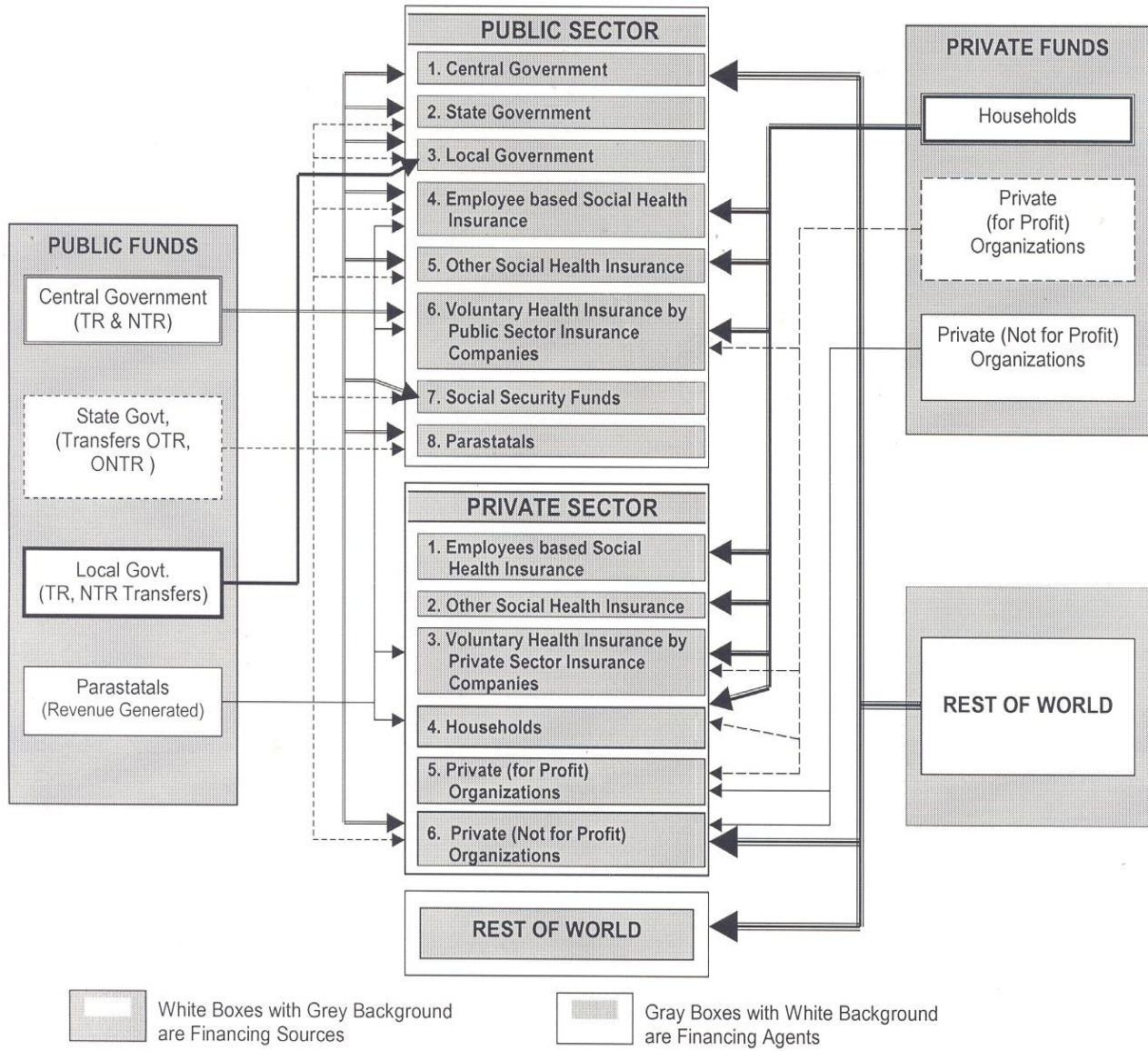
Chart : A-7

Classification System for Health Care Providers in Karnataka (Contd..)			
Code	Description		Remarks / Examples
HP.4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods		
	HP.4.9.1	Pharmaceuticals	
		HP.4.9.1.1 Public sector	Free distribution outlets
		HP.4.9.1.2 Private (for profit) sector	Private sellers
		HP.4.9.1.3 Private (not for profit) sector	Free distribution outlets
	HP.4.9.2	Contraceptives	
		HP.4.9.2.1 Public sector	Social marketing and free distribution outlets
		HP.4.9.2.2 Private (for profit) sector	Private sellers
		HP.4.9.2.3 Private (not for profit) sector	Social marketing and free distribution outlets
	HP.4.9.3	All other RH-related medical non-durables	
		HP.4.9.3.1 Public sector	Social marketing and free distribution outlets
		HP.4.9.3.2 Private (for profit) sector	Private sellers
		HP.4.9.3.3 Private (not for profit) sector	Social marketing and free distribution outlets
HP.5	Provision and administration of public health programmes		
	HP.5.1	Public sector	Central H&FW Ministry, other Ministries/Departments, Central PSUs, State Health Dept., State Other-than-Health Depts., State PSUs, Panchayats, Municipalities & Corporations, Autonomous organizations/Societies/Commissions/etc
	HP.5.3	Private (not for profit) sector	Mother NGOs involved in the National RCH Programme, NGO Partners of Karnataka State AIDS Prevention Society (KSAPS)
HP.6	General health administration and insurance		
HP.6.1	Government administration of health		
HP.6.2	Social security funds administration		
HP.6.3	Other social insurance administration		
HP.6.9	All other providers of health administration		
	HP.6.9.1	Public sector insurance (voluntary)	Public Sector Insurance Companies (LIC, GIC)
	HP.6.9.2	Private (for profit) sector	
		HP.6.9.2.1 General health administration	e.g., Private Corporate Hospitals
		HP.6.9.2.2 Insurance (voluntary)	Private insurance companies
	HP.6.9.3	Private (not for profit) sector	
		HP.6.9.3.1 General health administration	e.g. Charitable Hospitals
		HP.6.9.3.2 Insurance (community-based)	Community-based health insurance schemes
HP.7	All other industries (rest of the economy)		
HP. 7.2	Private households as providers of home care		Mostly non-monetized transactions; not considered in the present exercise
HP. 7.3	All other industries as secondary producers of health care		
	HP. 7.3.1	Producers of RH-related medical non-durables (Drug and pharmaceuticals, Contraceptives, delivery and personal hygiene kits, etc)	
		HP. 7.3.1.1 Public sector	e.g. Hindustan Latex Limited
		HP. 7.3.1.2 Private (for profit) sector	
	HP. 7.3.2	Producers of RH-related medical durables (lab and other equipment, capital assets)	
		HP. 7.3.2.1 Public sector	
		HP. 7.3.2.2 Private (for profit) sector	
HP. 7.4	Providers of RH-related IEC services, Policy advocacy, etc		
	HP. 7.3.3.1	Public sector	
	HP. 7.3.3.2	Private (for profit) sector	
	HP. 7.3.3.3	Private (not for profit) sector	

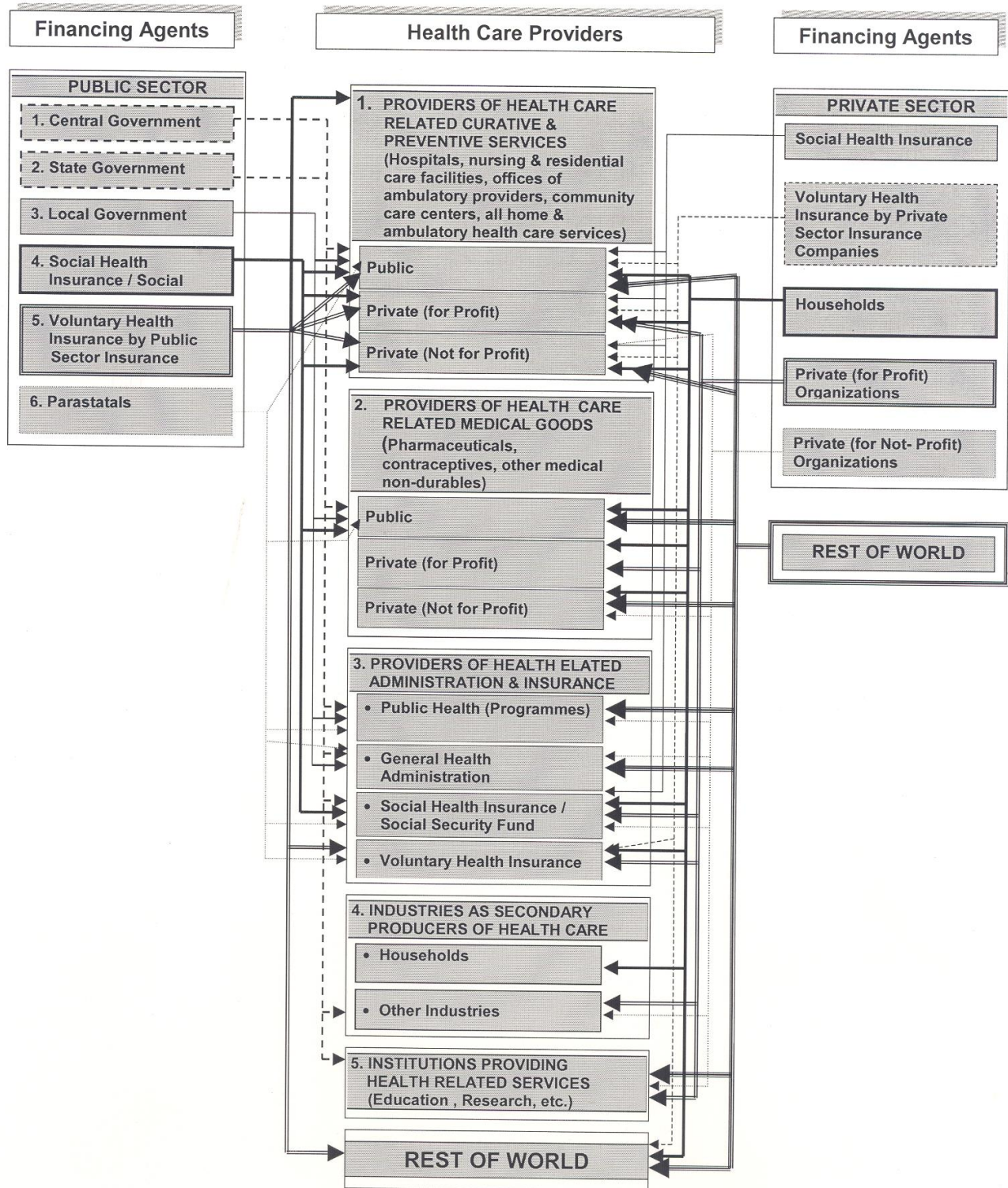
Chart : A-8

Classification System for Health Care Providers in Karnataka (Concl..)			
Code	Description		Remarks / Examples
HP.8	Institutions providing health-related services		
HP.8.1	Research institutions		
	HP.8.1.1	Public sector	
		HP.8.1.1.1 Allopathic	
		HP.8.1.1.2 ISM & H	
	HP.8.1.2	Private sector	Both for-profit and not-for-profit institutions
		HP.8.1.2.1 Allopathic	
		HP.8.1.2.2 ISM & H	
HP.8.2	Education and training institutions		
	HP.8.2.1	Education	
		HP.8.2.1.1 Public sector	
		HP.8.2.1.1.1 Allopathic	
		HP.8.2.1.1.2 ISM & H	
		HP.8.2.1.2 Private sector	Both for-profit and not-for-profit institutions
		HP.8.2.1.2.1 Allopathic	
		HP.8.2.1.2.2 ISM & H	
	HP.8.2.2	Training	
		HP.8.2.2.1 Public sector	
		HP.8.2.2.1.1 Allopathic	
		HP.8.2.2.1.2 ISM & H	
		HP.8.2.2.2 Private sector	Both for-profit and not-for-profit institutions
		HP.8.2.2.2.1 Allopathic	
		HP.8.2.2.2.2 ISM & H	
HP.8.3	Other institutions providing health-related services		
	HP.8.3.1	Public sector	
		HP.8.3.1.1 Drug testing laboratories	
		HP.8.3.1.2 Blood safety related centres	Blood testing centres, Blood component separation units, Blood storage centres
		HP.8.3.1.3 Others	
	HP.8.3.2	Private sector	Both for-profit and not-for-profit institutions
HP.9	Rest of the world		Imports of medical durables and non-durables, Technical services, Consultancy, etc
HP.nsk	Provider not specified by kind		

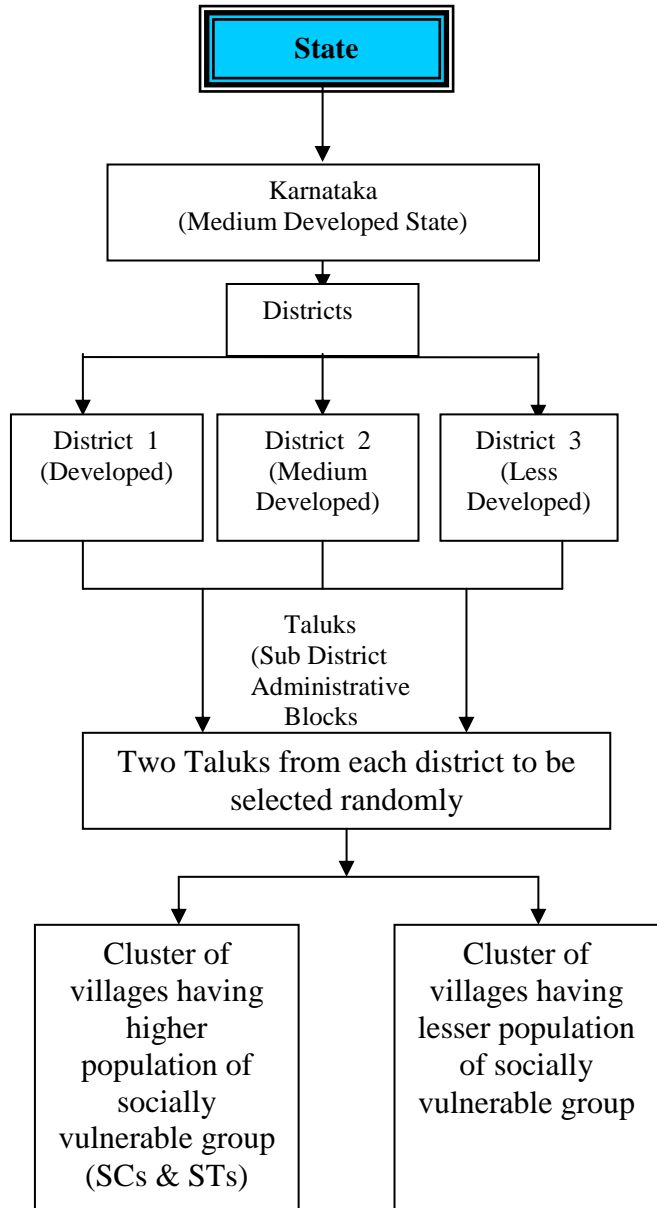
Flow of Funds to the Health System from Financing Sources to Financing Agents



Flow of Funds Model for Financing Agents to Health Care Providers of Karnataka



Sample Frame for the HH Survey



A- 10

Sampling frame for Public & Private Provider Survey						
Sl.No	Public Providers	Per District		State		State Total
		Rural	Urban	Rural	Urban	
1	PHC/PHU	2	-----	6	-----	6
2	Sub Centers	2	-----	6	-----	6
3	UFWC	-----	1	-----	3	3
4	CHC/Taluka Hospital	-----	1	-----	3	3
5	District Hospital	-----	1	-----	3	3
6	Local Body Hospitals	-----	1	-----	3	3
7	Teaching Hospital	-----	-----	-----	-----	1
					Total	25
Private Providers						
1	Indigenous Provider	1	-----	3	-----	3
2	RMP/Clinic	1	-----	3	-----	3
3	Clinic/Dispensary (ISM&H)	-----	1	-----	3	3
4	Clinic/Dispensary (Allopathic)	-----	1	-----	3	3
5	Hospitals/Nursing Homes	-----	1	-----	3	3
6	Teaching Hospital	-----		-----	-----	1
7	Medical Shops	1	2	3	6	9
					Total	25
					State Total	50

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STATE HEALTH ACCOUNTS : MAHARASHTRA *

1. Introduction

Health is one of the crucial components of human development indicator. Health and other socio-economic development indicators are mutually dependent on each other and hence, it is impossible to achieve one without the other. While India has witnessed a significant momentum as regards growth rate over the last decade, her health system is still at crossroads. It may be noted that, more often than not, health systems of developed countries also are prohibitively expensive. As regards India, Government initiatives in public health have recorded some noteworthy successes over the years. However, much remains to be done, as the Indian health system is ranked 118 among 191 WHO¹ member countries on overall health performance. Building health systems that are responsive to community needs, particularly for the poor, requires politically difficult and administratively demanding choices. The targets regarding health, *inter alia*, have been announced by the United Nations as a part of Minimum Development Goals (MDGs) to be achieved by the year 2015². These goals have been incorporated in the National health policy of 2002 that has been already adopted by the Indian Parliament. India has been spending its resources for the provision of public health. However, the assessment of the performance of health sector remains a major challenge for the researchers and policy makers. The major lacunae in assessing health sector performance in India are: (i) non-availability of useful data; and, (ii) the non-use of available data. These problems have not gone unnoticed by the policy makers. The National Health Policy (GoI, 2002)³ states, “The absence of a systematic and scientific health statistics data-base is a major deficiency in the current scenario. The health statistics collected are not the product of a rigorous methodology. Statistics available from different parts of the country, in respect of major diseases, are often not obtained in a manner which makes aggregation possible or

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¹ http://www.who.int/whr/2000/en/whr00_en.pdf

² <http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2006/MDGReport2006.pdf>

³ National Health Policy -2002 declared by Ministry of Health and Family Welfare, Government of India

meaningful.” In such a context, health sector accounting is visualized as a tool for efficient governance.

The ultimate objective of preparation of health accounts is to address the core issues related to transparency and efficiency of the government expenditure incurred on the health sector. The approach adopted here is the ‘bottoms-up approach’, *i.e.*, the national health accounts should be prepared after collection of data at sub-national levels. In a parallel move, the Ministry of Health and Family Welfare, GoI (2005)⁴ has also initiated preparation of ‘National Health Accounts’. In this study, Maharashtra has been selected as one of the three states for which the health accounts are to be prepared. Before analyzing the health accounts for Maharashtra and locating the policy thrusts, we will have a brief look at the demographic and socio-economic profile of the State.

2. Maharashtra State: A Profile

Maharashtra state is located on the west coast adjoining the Arabian Sea. As per the Census 2001, its population is 96.8 million or 9.42 per cent of the Indian population and is spread over 307,713 square kilometers. Thus, it is the second largest State/Union Territories of India in terms of population and the third largest in terms of area. It is located in the Western Plateau and Hill Regions, one of the 15 such zones into which India is divided on the basis of the agro-climatic features. Topography of Maharashtra’s is diverse. It has been classified into five broad regions that have historically evolved as socio-cultural units. These are: (i) Greater Mumbai; (ii) Western Maharashtra; (iii) Marathawada; (iv) Konkan; and, (v) Vidarbha. Mumbai is of crucial importance to the national economy, being the country’s prime metropolis. We present location of Maharashtra in the country map (Map 2.1).

⁴ GoI (2005), National Health Accounts: India, National Health Accounts Cell, Ministry of Health and Family Welfare, GoI

Map 2.1: Map of India



Source: <http://www.censusindia.net/results/2001maps/index.html>

Maharashtra (see Table 2.1) accounts for about 9.4 percent of area and population of the country. As regards, male and female populations, it accounts for about 9.5 and 9.4 percent of male and female populations, of the country, respectively. The extent of urbanization is much higher in Maharashtra in comparison to India. Maharashtra accounts for about 14.4 % of India's urban population, whereas, the respective figure for rural population is just about 7.5 %. It accounted for about 13 percent of India's GDP in 2005-06. Industrial sector and service sectors have been the driving force for the State's economy in the recent years. The share of primary sector has been consistently declining over the years and this has been picked up by service sector rather than by the industrial sector.

Table 2.1
Maharashtra in Comparison to India

Item	Units	Period	Maharashtra	India
Area ('000 sq kms)	'000 sq kms	2001	308	3287
Population in lakhs	Lakhs	2001	968.79	10286.1
Density of Population	persons per Sq km	2001	315	325
Percentage of Urban Population	%	2001	42.43	27.82
Decadal Population growth	%	1991-2001	22.73	21.54
Sex ratio	females per '000 males	2001	922	933
Literacy (total)	%	2001	76.88	64.84
Literacy (males)	%	2001	85.97	75.26
Literacy (females)	%	2001	67.03	53.67
Birth Rate	per '000 population	2001	20.3	25
Death rate	per '000 population	2001	7.3	8.1
Infant mortality rate	per '000 live births	2002	45	63
Life expectancy at birth (males)	Years	2001-06	66.75	64.11
Life expectancy at birth (females)	Years	2001-07	69.76	65.43
Per capita income at current prices	Rupees	2004-05	32979	22946
SDP/GDP at current prices	Rupees crore	2005-06	432413	3250932
SDP/GDP at 1999-2000 prices	Rupees crore	2005-06	339425	2604532
Share of Primary sector in SDP/GDP	%	2005-06	13	25
Share of Secondary sector in SDP/GDP	%	2005-06	26	22
Share of Tertiary sector in SDP/GDP	%	2005-06	61	53
Life expectancy at birth (females)	Years	2001-07	69.76	65.43
Per capita income at current prices	Rupees	2004-05	32979	22946
SDP/GDP at current prices	Rupees crore	2005-06	432413	3250932
SDP/GDP at 1999-2000 prices	Rupees crore	2005-06	339425	2604532
Share of Primary sector in SDP/GDP	%	2005-06	13	25
Share of Secondary sector in SDP/GDP	%	2005-06	26	22
Share of Tertiary sector in SDP/GDP	%	2005-06	61	53

Source: Economic Survey, Government of Maharashtra, 2006-07 and Economic Survey, GoI, 2006-07

In Table 2.1, we provide information about the birth, death, infant mortality and fertility rates of Maharashtra and a comparison of the same with India. These rates are based on Sample registration scheme.

Table 2.2.
Select Demographic Indicators: Maharashtra-India Comparison

Year	Rural				Urban				Combined			
	Birth Rate	Death rate	Infant mortality	Total Fertility	Birth rate	Death rate	Infant mortality	Total Fertility	Birth rate	Death rate	Infant mortality	Total Fertility
1971	33.7 (38.9)	13.5 (16.4)	111 (138.0)	4.9 (5.4)	29 (30.1)	9.7 (9.7)	88 (82.0)	3.9 (4.1)	32.2 (36.9)	12.3 (14.9)	105 (129.0)	4.6 (5.2)
1981	30.4 (35.6)	10.6 (13.7)	90 (119.0)	4 (4.8)	24.5 (27.0)	7.4 (7.8)	49 (62.0)	3 (3.3)	28.5 (33.9)	9.6 (12.5)	79 (110.0)	3.7 (4.5)
1986	31.7 (34.2)	9.7 (12.2)	73 (105.0)	4 (4.5)	27.4 (27.1)	6.1 (7.6)	44 (62.0)	3 (3.1)	30.1 (32.6)	8.4 (11.1)	63 (96.0)	3.6 (4.2)
1991 *	28 (30.9)	9.3 (10.6)	69 (87.0)	3.4 (3.9)	22.9 (24.3)	6.2 (7.1)	38 (53.0)	2.5 (2.7)	26.2 (29.5)	8.2 (9.8)	60 (80.0)	3 (3.6)
1996 *	24.9 (29.3)	8.7 (9.7)	58 (77.0)	3.2 (3.7)	21 (21.6)	5.4 (6.5)	31 (46.0)	2.4 (2.4)	23.4 (27.5)	7.4 (9.0)	48 (72.0)	2.8 (3.4)
2001	21.1 (27.1)	8.5 (9.1)	55 (72.0)	2.6 (3.4)	20.2 (20.3)	5.9 (6.3)	28 (42.0)	2.2 (2.3)	20.7 (25.4)	7.5 (8.4)	45 (66.0)	2.4 (3.1)
2002#	20.6 (26.6)	8.3 (8.7)	52 (69.0)	2.5 (3.3)	19.8 (20.0)	5.6 (6.1)	34 (40.0)	2.2 (2.2)	20.3 (25.0)	7.3 (8.1)	45 (63.0)	2.3 (3.0)
2003#	20.1 (26.4)	8.2 (8.7)	48 (66.0)	2.4 (3.2)	19.4 (19.8)	5.6 (6.0)	32 (38.0)	2.1 (2.2)	19.9 (24.8)	7.2 (8.0)	42 (60.0)	2.3 (3.0)
2004	19.9 (25.9)	6.8 (8.2)	42 (64.0)	2.4 (3.3)	17.9 (19.0)	5.4 (5.8)	27 (40.0)	1.9 (2.1)	19.1 (24.1)	6.2 (7.5)	36 (58.0)	2.2 (2.9)
2005	19.6 (25.6)	7.4 (8.1)	41 (64.0)	2.3 \$ (2.9) \$	18.2 (19.1)	5.7 (6.0)	27 (40.0)	1.9 \$ (2.1) \$	19 (23.8)	6.7 (7.6)	36 (58.0)	2.1 \$ (2.7) \$

Source: Economic Survey 2006-07, GoM

Note: Birth rates and Death rates are per thousand population and Infant mortality rates are per thousand live births. \$ indicates that data is based on the National Family Health Survey - III

2.1 Administrative Set-up of Maharashtra

Maharashtra state is also divided for administrative reasons, into revenue divisions. These revenue divisions consist of districts. The districts are composed of talukas (also known as tehsils), towns and cities. Talukas consist of villages. In **Table 2.3**, we provide the administrative set up of Maharashtra State. These six revenue divisions are Konkan division, Nashik division, Pune division, Aurangabad division, Amaravati division and Nagpur division. The Konkan division is spread from Raigad to Mangalore. It consists of Mumbai, Mumbai Suburban, Raigad, Ratnagiri, Sindhudurg and Thane district. Nashik Division is bound by Konkan Division and the state of Gujarat to the west, Madhya Pradesh state to the north, Amravati Division and Aurangabad Division to the east, and Pune Division to the south. The

division includes five districts namely, Ahmednagar Dhule , Jalgaon ,Nandurbar , Nashik. Nashik and Pune division together popularly known as Western Maharashtra. Amravati and Nagpur divisions make up the region of Vidarbha. Vidarbha region is rich in forest and mineral resources but one of the poorer regions of Maharashtra. The State is considered a progressive State as far as panchayats are concerned. The State has 19 municipal Corporations and 230 Municipal Councils. There are 35 Zilla Parishad., 355 Panchayat Samitis and 28318 Gram Panchayats.

Table 2.3.
Administrative Set up of Maharashtra State, 2005-06

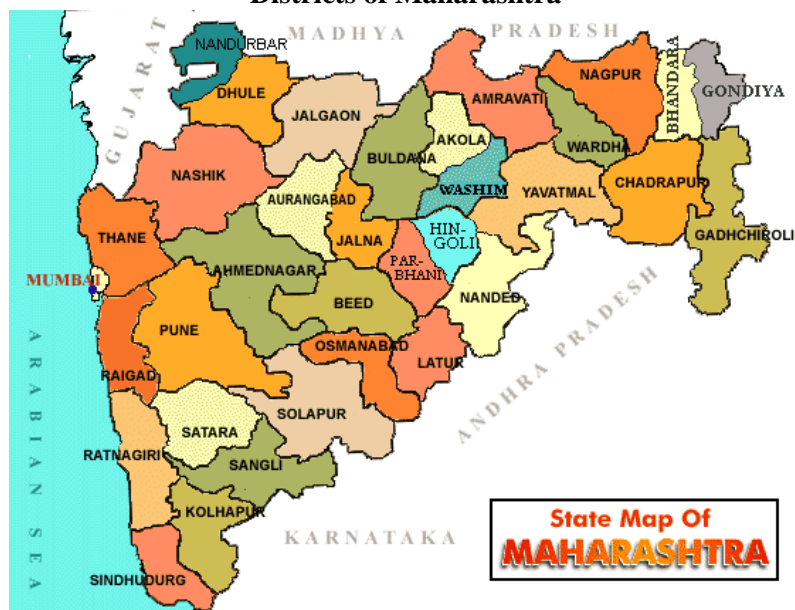
Item	Number
Revenue Division	6
Districts	35
Tehsils or Talukas	353
Inhabitated Villages	41095
Un-inhabitated Villages	2616
Towns#	178

Note: # including Census Towns.

Source: <http://www.maharashtra.gov.in/english/ecoSurvey/esmint06-07/glance.pdf>

The location of various districts of Maharashtra can be seen from Map 2.

Map 2.2
Districts of Maharashtra



Source: <http://des.maharashtra.gov.in/distlink.htm>

2.2 Demographic Profile of Maharashtra

In **Table 2.4** we provide the district-wise population of Maharashtra.

Table 2.4.
Population of Various Districts of Maharashtra: 2001

District Code	District	Population (%) of Maharashtra	Division	Population (%) of Maharashtra
1,2	Mumbai #	12.3	KONKAN	25.6
3	Thane	8.4		
4	Raigad	2.3		
5	Ratnagiri	1.8		
6	Sindhudurg	0.9		
7	Nashik	5.2	NASHIK	16.3
8	Dhule	1.8		
9	Nandurbar	1.4		
10	Jalgaon	3.8		
11	Ahmednagar	4.2	PUNE .	20.6
12	Pune	7.5		
13	Satara	2.9		
14	Sangli	2.7		
15	Solapur	4.0		
16	Kolhapur	3.6	AURANGABA D	16.1
17	Aurangabad	3.0		
18	Jalna	1.7		
19	Parbhani	1.5		
20	Hingoli	1.0		
21	Beed	2.2		
22	Nanded	3.0	AMRAVATI	10.3
23	Osmanabad	1.5		
24	Latur	2.1		
25	Buldhana	2.3		
26	Akola	1.7		
27	Washim	1.1	NAGPUR	11
28	Amravati	2.7		
29	Yavatmal	2.5		
30	Wardha	1.3		
31	Nagpur	4.2		
32	Bhandara	1.2		
33	Gondia	1.2	NAGPUR	11
34	Chandrapur	2.1		
35	Gadchiroli	1.0		

Source: Calculated from data provided in Census 2001, Government of India
Including Suburban Mumbai

It can be seen from Table 2.4 that Mumbai and Thane districts account for almost one-fifth of the population of the State. The other important districts which account for more than 5 per cent of population of the State are in each of the district of Nashik and Pune. In **Table 1.5**, we present the decadal growth of the population of the various districts of Maharashtra in the descending order. The decadal growth rate of population of Maharashtra was about 23 percent, whereas, the respective figure for Thane was 55 percent and for Sindhudurg it was even less than 4 per cent. It may also be noted that in the post 2001, it is expected that Sindhudurg's population will rise at a higher rate as it is being developed as a tourist place. Aurangabad, Pune and Nashik are the other districts where population growth has been higher than the state average and the medical facilities need to be improved especially in these areas.

Table 2.5
Decadal Growth Rate of Population of Maharashtra (District-wise)

District	Decadal Growth Rate of Population (%) 1991-2001
Thane	54.86
Aurangabad	31.93
Pune	30.58
Nashik	29.51
Latur	23.95
Nagpur	23.25
Gadchiroli	23.25
Nandurbar	23.21
Nanded	23.08
Maharashtra	22.57
Akola	21.51
Ahmednagar	21.20
Raigad	20.89
Mumbai #	20.03
Hingoli	19.76
Solapur	19.32
Beed	18.54
Yavatmal	18.46
Amaravati	18.45
Washim	18.25
Jalna	18.17
Buldhana	18.03
Kolhapur	17.59
Chandrapur	17.26
Sangli	16.85
Dhule	16.01
Jalgaon	15.44
Osmanabad	15.35
Parbhani	15.31
Wardha	15.30
Satara	14.10
Bhandara	11.20
Gondia	10.49
Ratnagiri	9.85
Sindhudurg	3.55

Note : # Including Suburban Mumbai

Source: Calculated from Census 2001, Government of India

In Table 2.6, we present the data regarding density of population (DoP) in the various districts of Maharashtra and also the ratio of the district DoP to that of the state. It can be seen from Table 2.6 that Mumbai is highly densely populated followed by Thane, Pune, Kolhapur, Nagpur and Nashik. These districts have DoP higher than that of the state. It is also interesting to note the difference in DoP of Mumbai in comparison to the other districts of Maharashtra.

Table 2.6
Density of Population in Maharashtra

District	Density	DD/ST	District	Density	DD/ST
Mumbai #	19759	62.93	Solapur	259	0.82
Thane	850	2.71	Ahmednagar	240	0.76
Pune	462	1.47	Buldhana	230	0.73
Kolhapur	457	1.46	Parbhani	229	0.73
Nagpur	413	1.32	Gondia	221	0.70
Nashik	321	1.02	Hingoli	218	0.69
Maharashtra	314	1.00	Amaravati	213	0.68
Jalgaon	313	1.00	Dhule	212	0.68
Raigad	308	0.98	Jalna	209	0.67
Sangli	301	0.96	Ratnagiri	207	0.66
Akola	300	0.96	Beed	202	0.64
Bhandara	292	0.93	Washim	198	0.63
Latur	290	0.92	Osmanabad	195	0.62
Aurangabad	289	0.92	Wardha	195	0.62
Nanded	272	0.87	Chandrapur	182	0.58
Satara	267	0.85	Yavatmal	181	0.58
Nandurbar	260	0.83	Sindhudurg	165	0.53
			Gadchiroli	67	0.21

Note: DD: District Density, SD: State Density, Density: persons per sq kms
Source: Based on data from Census 2001, Government of India

Maharashtra is also one of the most urbanized states of the country (Table 2.7). As per 2001 Census, the state had about 42 and 58 percent of the population of the state residing in urban and rural areas, respectively. Mumbai (including suburban Mumbai) which accounts for about 12 % of the state population has cent percent urban population. Other highly urbanized districts of the state are Thane, Nagpur and Pune. Thus, the concentration on health facilities for urban population is needed in these districts, whereas, in the areas, such as, Gondiya, Ratnagiri, Sindhudurg and Gadchiroli, it is the rural areas which deserve more attention as regards health facilities are concerned.

Table 2.7
Urbanization in Maharashtra's Districts

District/State	Rural	Urban
Ahmadnagar	80.1	19.9
Akola	61.5	38.5
Amravati	65.5	34.5
Aurangabad	62.5	37.5
Bhandara	84.5	15.5
Bid	82.1	17.9
Buldana	78.8	21.2
Chandrapur	67.9	32.1
Dhule	73.9	26.1
Gadchiroli	93.1	6.9
Gondiya	88.1	11.9
Hingoli	84.4	15.6
Jalgaon	71.4	28.6
Jalna	80.9	19.1
Kolhapur	70.2	29.8
Latur	76.4	23.6
Mumbai	-	100.0
Mumbai (Suburban)	-	100.0
Nagpur	35.7	64.3
Nanded	76.0	24.0
Nandurbar	84.5	15.5
Nashik	61.2	38.8
Osmanabad	84.3	15.7
Parbhani	68.2	31.8
Pune	41.9	58.1
Raigarh	75.8	24.2
Ratnagiri	88.7	11.3
Sangli	75.5	24.5
Satara	85.8	14.2
Sindhudurg	90.5	9.5
Solapur	68.2	31.8
Thane	27.4	72.6
Wardha	73.7	26.3
Washim	82.5	17.5
Yavatmal	81.4	18.6
MAHARASHTRA	57.6	42.4

Source: Calculated from Census 2001, Government of India.

In Table 2.8, we provide the sex-ratio for the various districts of Maharashtra. It can be seen from Table 2.7 that in districts, such as, Ratnagiri, Sindhudurg, Gondia, etc., where urbanization is rather low, sex ratio is high. The opposite is true of districts like Mumbai. In other words, migration seems to be one of the dominating factors in determining the

sex-ratio across districts of Maharashtra. It is pertinent to note that health care facilities need to be focused on females in the districts which have higher proportion of rural population.

Table 2.8
Sex Ratio in Maharashtra

District	Sex-Ratio (per thousand males)
Ratnagiri	1135
Sindhudurg	1077
Gondia	1005
Satara	995
Bhandara	982
Gadchiroli	976
Nandurbar	975
Raigad	975
Chandrapur	961
Sangli	957
Parbhani	957
Hingoli	953
Jalna	952
Kolhapur	949
Buldhana	946
Dhule	945
Nanded	943
Yavatmal	942
Ahmednagar	941
Amaravati	940
Washim	939
Akola	938
Solapur	937
Wardha	936
Latur	934
Nagpur	933
Jalgaon	932
Osmanabad	930
Beed	927
Nashik	924
Maharashtra	922
Aurangabad	919
Pune	917
Thane	857
Mumbai #	811

Source: Census 2001, Government of India.

In **Table 2.9**, we present literacy rates in various districts of Maharashtra. Nandurbar, Gadchiroli feature as the districts with lowest literacy and Mumbai, Nagpur and Thane emerge as districts with highest literacy. Literacy in Maharashtra seems to be governed not only by

urbanization, but to other historical factors as well, e.g., Sindhudurg has hardly 10 per cent of its population which is urbanized, yet the literacy level in this district is rather high. This region is known for its literary legacy.

Table 2.9
District-wise Literacy Rates in Maharashtra: 2001

Disticts	Literacy Rate (Age 7+)	
	Per Cent	Rank
Mumbai (Suburban)	87.14	1
Mumbai	86.82	2
Nagpur	84.18	3
Amaravati	82.96	4
Akola	81.77	5
Thane	81	6
Pune	80.78	7
Sindhudurg	80.52	8
Wardha	80.5	9
Bhandara	78.68	10
Gondia	78.65	11
Satara	78.52	12
Raigad	77.32	13
Maharashtra	77.27	-
Kolhapur	77.23	14
Sangli	76.7	15
Buldhana	76.14	16
Jalgaon	76.06	17
Ahmednagar	75.82	18
Ratnagiri	75.35	19
Nashik	75.1	20
Yavatmal	74.06	21
Washim	74.03	22
Aurangabad	73.63	23
Chandrapur	73.07	24
Latur	72.34	25
Dhule	72.08	26
Solapur	71.5	27
Osmanabad	70.24	28
Nanded	68.52	29
Beed	68.48	30
Parbhani	67.04	31
Hingoli	66.86	32
Jalna	64.52	33
Gadchiroli	60.29	34
Nandurbar	56.06	35

Source: Human Development Report Maharashtra, 2002.

In Table 2.9, we present the proportion of Scheduled Caste (SC) and Scheduled Tribe (ST) population in the various districts of Maharashtra. The total SC population in the State is about

10.2 percent and that of ST population is about 9 %, thus the total of SC and ST population is about 19 percent. Districts, such as, Nandurbar, Gadchiroli and Nashik have high proportion of SC/ST population, whereas, Mumbai, Sindhudurg and Ratnagiri have low proportion of SC/ST population. The proportion of SC/ST population in urban areas is lower than that in rural areas. Moreover, the proportion of ST population is more in rural areas than in urban areas.

Table 2.10
Percentage of SC and ST Population of Maharashtra

District/State	Rural			Urban			Total		
	SC	ST	SC+ST	SC	ST	SC+ST	SC	ST	SC+ST
Ahmadnagar	11.7	8.9	20.6	13.1	1.8	14.9	12.0	7.5	19.5
Akola	11.4	8.5	20.0	8.6	2.3	10.9	10.3	6.1	16.5
Amravati	18.6	18.9	37.5	14.3	3.8	18.1	17.1	13.7	30.8
Aurangabad	11.2	4.8	16.0	15.9	1.3	17.2	13.0	3.5	16.5
Bhandara	17.7	8.8	26.5	18.2	7.4	25.6	17.8	8.6	26.4
Bid	13.2	1.1	14.3	12.2	1.3	13.6	13.0	1.1	14.1
Buldana	11.1	6.0	17.2	9.7	1.9	11.6	10.8	5.2	16.0
Chandrapur	12.4	22.7	35.1	18.4	8.5	26.9	14.3	18.1	32.5
Dhule	6.0	33.3	39.3	7.5	5.3	12.8	6.4	26.0	32.4
Gadchiroli	10.8	40.4	51.2	16.5	10.6	27.1	11.2	38.3	49.5
Gondiya	13.2	18.0	31.2	19.8	4.3	24.0	14.0	16.4	30.3
Hingoli	10.4	9.8	20.3	9.0	3.1	12.2	10.2	8.8	19.0
Jalgaon	8.0	14.9	22.9	7.3	4.2	11.5	7.8	11.8	19.6
Jalna	11.7	2.0	13.8	9.0	1.8	10.8	11.2	2.0	13.2
Kolhapur	13.4	0.7	14.0	11.3	0.5	11.8	12.8	0.6	13.4
Latur	20.5	2.6	23.0	16.1	1.5	17.6	19.4	2.3	21.7
Mumbai	-	-	-	5.5	0.6	6.1	5.5	0.6	6.1
Mumbai (Suburban)	-	-	-	4.6	0.8	5.5	4.6	0.8	5.5
Nagpur	16.6	15.0	31.6	17.4	8.7	26.1	17.1	10.9	28.0
Nanded	18.6	10.2	28.8	13.4	4.5	17.8	17.3	8.8	26.1
Nandurbar	2.6	74.7	77.3	6.4	15.3	21.7	3.2	65.5	68.7
Nashik	7.0	35.5	42.5	11.0	5.6	16.6	8.5	23.9	32.5
Osmanabad	17.0	1.9	18.8	14.2	1.9	16.1	16.5	1.9	18.4
Parbhani	10.4	2.6	13.0	9.0	1.7	10.7	10.0	2.3	12.3
Pune	8.0	6.7	14.8	12.3	1.4	13.7	10.5	3.6	14.2
Raigarh	1.9	14.6	16.5	4.0	4.6	8.6	2.4	12.2	14.6
Ratnagiri	1.3	1.3	2.6	2.4	0.7	3.1	1.4	1.2	2.6
Sangli	11.9	0.7	12.6	13.0	0.6	13.6	12.1	0.7	12.8
Satara	8.4	0.8	9.2	11.1	0.8	11.9	8.8	0.8	9.5
Sindhudurg	4.5	0.6	5.1	4.1	0.4	4.5	4.4	0.6	5.0
Solapur	15.7	1.6	17.3	13.6	2.1	15.7	15.0	1.8	16.8
Thane	2.0	47.0	49.0	5.0	2.6	7.6	4.2	14.7	18.9
Wardha	12.3	14.6	26.9	14.3	6.7	21.0	12.8	12.5	25.3
Washim	16.8	8.1	24.8	11.9	1.8	13.7	15.9	7.0	22.9
Yavatmal	10.0	22.1	32.1	11.4	7.0	18.3	10.3	19.3	29.5
MAHARASHTRA	10.9	13.4	24.3	9.2	2.7	11.9	10.2	8.9	19.1

Source: Calculated from Census 2001, Government of India.

Table 2.11
District-wise Crude Birth Rates (CBRs) in Maharashtra: 2001

District/State	Crude Birth Rates
Ahmadnagar	21.8
Akola	22.3
Amaravati	21.2
Aurangabad	24.1
Bhandara	20.7
Bid	23.5
Budhana	20.9
Chandarpur	22.5
Dhule	25.8
Gondia	21.8
Hingoli	26.1
Jalgaon	21.8
Jalna	24.6
Kolhapur	19.3
Latur	24.1
Mumbai	14.6
Mumbai(suburban)	18.2
Nagpur	20.2
Nanded	25.5
Nandurbar	27.0
Nashik	25.0
Osmanabad	23.2
Parbhani	25.2
Pune	20.6
Raigad	21.8
Ratnagiri	20.5
Sangali	19.4
Satara	19.2
Sindhudurg	17.4
Solapur	22.2
Thane	23.4
Wardha	19.2
Washim	24.3
Yavatmal	23.7
Maharashtra	20.7

Source: Health and Healthcare in Maharashtra: A Status Report, Cehat, 2005

It can be seen from Table 2.11 that Nandurbar, Hingoli, Dhule, Nanded, Parbhani and Nashik are the districts with highest crude birth rates and Yawatmal, Washim, Wardha, and Thane are the districts with lowest crude birth rates.

Table 2.12.
District-wise variations in Infant mortality Rate (rate per 1000 live births:1991)

District/State	Persons	Males	Females
Ahmadnagar	47	52	42
Akola	101	103	96
Amaravati	94	101	88
Aurangabad	56	51	58
Beed	52	52	52
Bhandara	81	85	76
Budhana	82	84	68
Chandarpur	96	89	101
Dhule	73	56	78
Gadchiroli	106	95	117
Greater Mumbai	37	39	35
Jalgaon	71	72	42
Jalna	76	77	76
Kolhapur	55	61	47
Latur	57	59	50
Maharashtra	74	72	76
Nagpur	75	72	78
Nanded	68	76	66
Nashik	61	66	55
Osmanabad	70	61	83
Parbhani	50	52	48
Pune	52	59	44
Raigad	63	74	56
Ratnagiri	75	81	62
Sangali	41	44	31
Satara	51	52	49
Sindhudurg	70	74	61
Solapur	68	74	60
Thane	46	44	41
Wardha	88	91	86
Yavatmal	124	112	116

Source: Health and Healthcare in Maharashtra: A Status Report, Cehat, 2005

As can be seen from Table 2.12, Yavatmal, Gadchiroli, Akola, Chandarpur, Amaravati, Wardha are the districts which have highest incidence of IMR, whereas, Mumbai, Thane and Sangli are the districts with lowest incidence of IMR. This is pertinent from the point of view of developing health care facilities for expecting mothers and for infants in the respective regions, besides conducting awareness camps.

2.3 Socio-Economic Profile of Maharashtra

In Table 2.13, we present the income profile of the various districts of Maharashtra. Mumbai and Thane alone account for about 37 % of the state domestic product. Mumbai, Thane, Pune, Nagpur, Nashik and Kolhapur districts account for about 60 percent of the state NDP. In contrast to this, the bottom 5 districts account for just 3.2 percent of the NSDP. In other words, the income is extremely unevenly distributed in the State.

Table 2.13
Net District/ State Domestic Product in Maharashtra: 2004-05

District/ State	Net District/ State Domestic Product in Maharashtra: 2004-05			
	At Current Prices	As a % of Maharashtra	At Constant Prices	As a % of Maharashtra
Mumbai #	8716196	26.5	4965153	27.2
Thane	3358534	10.2	1879562	10.3
Raigad	871320	2.7	457267	2.5
Ratnagiri	466578	1.4	257367	1.4
Sindhudurg	247997	0.8	150259	0.8
KONKAN DIV.	13660625	41.6	7709608	42.3
Nashik	1500819	4.6	828882	4.5
Dhule	362118	1.1	194948	1.1
Nandurbar	253343	0.8	140925	0.8
Jalgaon	898204	2.7	509872	2.8
Ahmednagar	958246	2.9	532831	2.9
NASHIK DIV.	3972730	12.1	2207458	12.1
Pune	3115215	9.5	1763590	9.7
Satara	765233	2.3	424246	2.3
Sangli	755191	2.3	428636	2.4
Solapur	955092	2.9	517953	2.8
Kolhapur	1169653	3.6	663712	3.6
PUNE DIV.	6760384	20.6	3798137	20.8
Aurangabad	734813	2.2	402973	2.2
Jalna	268323	0.8	146320	0.8
Parbhani	280892	0.9	149880	0.8
Hingoli	182672	0.6	100937	0.6
Beed	456337	1.4	230072	1.3
Nanded	529813	1.6	288567	1.6
Osmanabad	263185	0.8	144017	0.8
Latur	376564	1.1	204523	1.1
AURANGABAD DIV.	3092599	9.4	1667289	9.1
Buldhana	420927	1.3	228347	1.3
Akola	374996	1.1	196274	1.1
Washim	221244	0.7	121790	0.7
Amravati	622202	1.9	324729	1.8
Yavatmal	512576	1.6	272541	1.5
AMRAVATI DIV.	2151945	6.6	1143681	6.3
Wardha	332717	1.0	176598	1.0
Nagpur	1625517	4.9	871850	4.8
Bhandara	270863	0.8	144604	0.8
Gondia	235164	0.7	128876	0.7
Chandrapur	594276	1.8	317759	1.7
Gadchiroli	148326	0.5	73010	0.4
NAGPUR DIV.	3206863	9.8	1712697	9.4
MAHARASHTRA	32845146	100.0	18238870	100.0

Source: Based on data in Economic Survey 2005-05, GoM

Table 2.16
Poverty Indicators for Maharashtra: (1957 to 1997)

NSS Round	Survey Period	Headcount Index			Poverty Gap Index		Squared Poverty Gap Index		Gini Index		Mean Consumption (Rs/per month)	
		Rural	Urban	Total	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
13	Sep 57-May 58	-	-	-	-	-	-	-	-	-	-	-
14	Jul 58-Jun 59	70.81	38.89	61.75	24.91	10.73	11.08	4.09	30.28	31.85	45.48	70.65
15	Jul 59-Jun 60	67.97	46.71	61.95	22.69	14.27	9.78	5.75	29.39	39.65	46.97	71.49
16	Jul 60-Aug 61	60	44.61	55.65	18.61	15.41	7.91	6.89	28.14	35.17	50.26	67.31
17	Sep 61-Jul 62	58.36	40.63	53.36	17.58	12.62	7.1	5.32	28.08	37.73	51.72	74.19
18	Feb 63-Jan 64	57.72	45.29	54.21	17.04	14.61	6.68	6.11	29.16	37.57	53.36	70.42
19	Jul 64-Jun 65	71.87	45.85	64.46	24.73	15.61	10.92	6.85	27.29	40.19	43.51	72.82
20	Jul 65-Jun 66	70.94	46.63	63.91	23.92	15.06	10.4	6.31	27.9	38.97	44.66	70.59
21	Jul 66-Jun 67	75.56	46.72	67.1	27.5	15.42	12.82	6.73	28.7	36.65	41.71	66.53
22	Jul 67-Jun 68	72.48	50.23	65.89	24.33	17.83	10.83	8.27	25.84	36.69	42.69	62.17
23	Jul 68-Jun 69	69.28	49.73	63.43	23.35	16.44	10.01	6.99	28.82	35.45	46.05	63.42
24	Jul 69-Jun 70	68.62	38.62	59.56	22.12	11.52	9.23	4.7	27.19	33.84	46.01	71.38
25	Jul 70-Jun 71	61.96	43.23	56.24	18.58	13.28	7.54	5.41	25.14	35.95	48.06	69.79
27	Oct 72-Sep 73	81.13	45.59	70.18	30.34	15.62	10	7.24	31.52	37.41	41.34	66.94
28	Oct 73-Jun 74	64.61	51.17	60.43	20.32	16.65	8.51	7.13	26.99	33.77	47.58	59.95
32	Jul 77-Jun 78	78.78	43.51	67.79	21.96	14.52	7.71	6.55	42.84	37.61	59.65	70.03
38	Jan 83-Dec 83	54.56	41.79	50.48	15.79	12.55	6.07	5.13	28.82	34.25	54.98	68.41
42	Jul 86-Jun 87	53.92	41.21	49.82	16.03	13.09	6.39	5.58	29.98	35.05	55.71	70.21
43	Jul 87-Jun 88	52.32	38.79	47.75	14.02	11.48	5.16	4.54	31.52	34.27	59.52	72.3
45	Jul 89-Jun 90	45.53	42.72	44.55	11.65	12.79	4.15	4.96	28.25	40.72	60.1	77.99
46	Jul 90-Jun 91	43.05	38.03	41.25	11.95	11.38	4.5	4.63	30.18	33.68	63.56	71.33
48	Jan 92-Dec 92	60.63	38.15	52.28	18.07	11.23	7.07	4.49	29.23	35.23	52.05	74.1
50	Jul 93-Jun 94	47.81	36.23	43.47	13.16	10.94	5.09	4.42	30.65	35.67	60.67	77.1
51	Jul 94-Jun 95	57.67			16.74		6.37		31.06		55.4	
52	Jul 95-Jun 96	50.99			13.91		5.21		27.94		56.4	
53	Jul 96-Jun 97	45.72			11.87		4.18		29.49		61.9	

In Table 2.17, we provide information about the Human Development Indices and Ranks for the various districts of Maharashtra. About 10 districts fall in high level of HDI, 6 in medium HDI and remaining 19 districts have recorded low HDI. This indicates that not only income is unevenly distributed, but a majority of districts in the state also lag behind in terms of other components of HDI, viz., education and health.

Table 2.17
Human Development in Various Districts of Maharashtra

Sr. No.	District	Human Development		
		Index	Rank	Level
1	Mumbai, High	1.00	2	High
2	Mumbai (Suburban)	1.00	1	High
3	Thane	0.83	3	High
4	Pune	0.76	4	High
5	Raigad	0.71	6	High
6	Nagpur	0.71	5	High
7	Sangli	0.68	7	High
8	Sindhudurg	0.64	9	High
9	Kolhapur	0.64	8	High
10	Satara	0.59	10	High
11	Ahmednagar	0.57	11	Medium
12	Aurangabad	0.56	12	Medium
13	Nashik	0.51	13	Medium
14	Jalgaon	0.49	14	Medium
15	Wardha	0.49	15	Medium
16	Amaravati	0.48	16	Medium
17	Ratnagiri	0.46	17	Low
18	Solapur	0.46	18	Low
19	Latur	0.46	20	Low
20	Bhandara	0.46	19	Low
21	Gondiya	0.46	21	Low
22	Beed	0.44	22	Low
23	Parbhani	0.42	23	Low
24	Hingoli	0.42	24	Low
25	Akola	0.42	25	Low
26	Chandrapur	0.41	26	Low
27	Buldhana	0.39	27	Low
28	Osmanabad	0.38	28	Low
29	Dhule	0.36	29	Low
30	Nanded	0.36	30	Low
31	Washim	0.34	31	Low
32	Jalna	0.26	32	Low
33	Yavatmal	0.21	33	Low
34	Nandurbar	0.20	35	Low
35	Gadchiroli	0.20	34	Low
	Maharashtra	0.58		

Source: Maharashtra Human Development Report, 2002 & MES 2005-06

2.4 Health Sector in Maharashtra

Maharashtra has been at the forefront of healthcare development in India. It was one of the first states to achieve the norms mandated for primary health centres, sub-centres and Rural Hospitals, under the Minimum Needs Programme. The state also has the largest private health sector in India whose reach is quite extensive. Although Maharashtra is one of the affluent states in India with the highest per capita income and has one of the largest industrial economies, in terms of the social infrastructure (schools, health care facilities, water supply, housing etc.) it no longer occupies the singular place of pride country. There are two areas of concern which plague Maharashtra: (i) one is food availability (rather access) which is the cause of unacceptable levels of malnourishment, and the other, the declining sex-ratio, especially in the 0-6 year age-group, which has clear linkages with sex-selective abortions linked to sex-determination. Further, there is a decline in public expenditure on health care from 1 per cent of NSDP in the eighties to 0.7 percent in 2001-02, and as a proportion to total government spending from over 6 per cent in eighties to a low of 4.6 per cent in 2001-02 and this declining expenditure has contributed to the adversities faced by the public health sector and consequently the health status of the citizens of the state (Duggal, et al, 2006).

2.4.1 Administrative Structure of Health Sector

Health care system in India is operationalized in a 3-tier framework that involves central, state and local governments. Responsibilities relating to the health sector are divided between the Central and the State Governments. The responsibility of the central government consists mainly in terms of policy making, guiding, assisting, evaluating and coordinating the work of health ministries at the state levels. Subjects like public health, sanitation, hospitals and dispensaries fall within the purview of the states, while under the Concurrent List responsibilities are shared between the centre and the state, in the areas such as, population control, family planning, medical education, adulteration of food stuff and other goods, drugs and poisons, medical profession, vital statistics, etc.

With the 73rd Constitutional Amendment of the Indian Constitution in 1992, the decentralization of political power has been effected through a three tier *Panchayat Raj* system that provides for a *Gram* (Village) *Panchayat*, *Taluk Panchayat* and *Zilla* (District) *Panchayat*. Similarly, the 74th Constitutional Amendment in 1992 gave statutory recognition to urban local governments. The District Panchayat has authority over the entire district, except the urban areas which are under the jurisdiction of municipal or city or town councils.

At the Central level, there is Ministry of Health and Family Welfare. There are three departments, under the ministry, viz., Health, Family Welfare and AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy). At the State level, secretaries of health and family welfare to the Cabinet and State health ministers are the apex administrative functionaries. Under these two secretaries, project director state AIDS society, project director health system development project and director general health services are working. In Box 1 and in Chart 1, we provide administrative structure, functions, programmes, etc. within the purview of Ministry of Health and Family Welfare.

Box 2.1:

Administrative structure, functions, programmes of Ministry of Health and Family Welfare

1. Administration

- * Minister for Health & Family Welfare
- * Minister of State for Health & Family Welfare
- * Secretary heads the Department of Family Welfare to the Government of India. The Secretary, Family Welfare is assisted by Joint Secretaries and Programme Officers who look after various programmes being implemented by the Department.

2. Divisions in the Department:

- i. Infrastructure - I
- ii. Infrastructure-II
- iii. Research Studies and Standards
- iv. Maternal Health
- v. Child Health
- vi. Statistics
 - Demographic Research & Survey
 - Monitoring and Evaluation
- vii. Information, Education & Communication(IEC)
- viii. Supply & Social Marketing
- ix. Policy
- x. Non-Governmental Organisations(NGO)
- xi. Area Projects
- xii. Rural Health Division
- xiii. Family Welfare Budget.
- xiv. AP Desk
- xv. Donor Coordination

3. Functions of Various Divisions

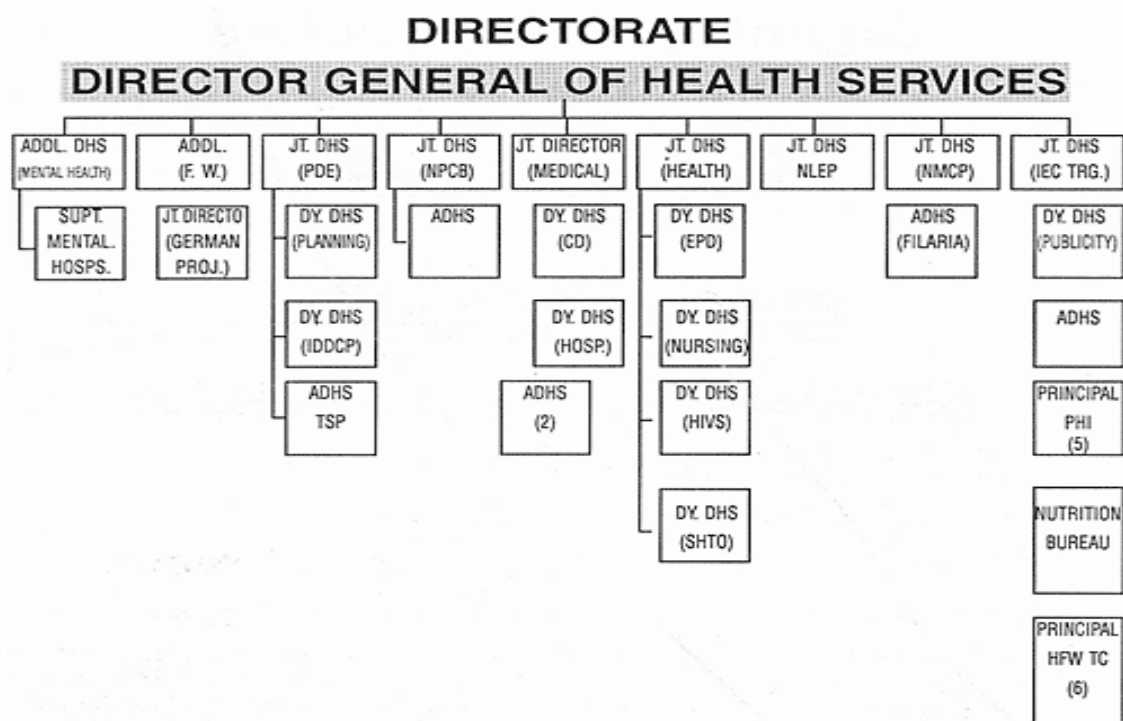
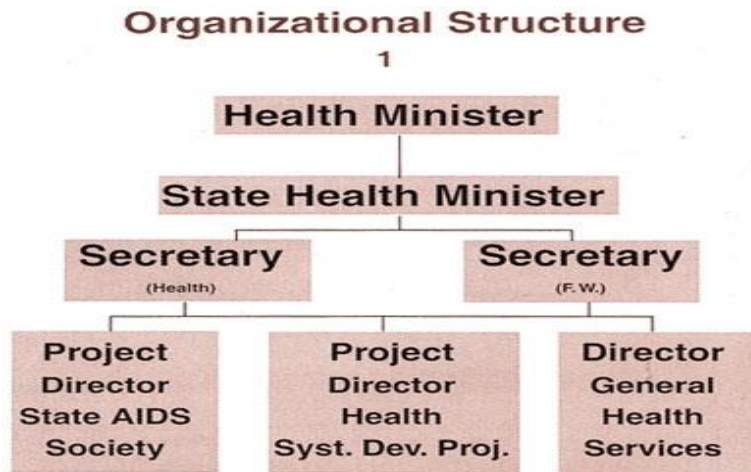
- Technical Divisions : Technical aspects of family welfare activities
- Statistics Division : Perspective planning and monitoring and evaluation of the performance of various family welfare programmes and co-ordination of demographic research.
- Rural Health Division : Health infrastructure at the peripheral level.
IEC Division: Communication, educational publicity and extension support to the programme through Mass Education and Extension Education with emphasis on inter-personal communication, population education activities.

4. Programmes:

- a. Maternal and Child Health Services; Information, Education and Communication; Rural Health Services; Non-Governmental Organisations sector and Technical Operations.
- b. Policy Formulation, Statistics, Planning, Autonomous Bodies and Subordinate Offices; Supply of Contraceptives International Assistance for Family Welfare and Urban Health Services.
- c. Administration and Finance for the Departments of Health, Family Welfare and ISM&H in the Ministry.

Source: <http://www.mohfw.nic.in/dofw%20website/about%20us/structure%20frame.htm>

Chart 2.1
Organization Structure of Health Ministry in India



The Director of Health and Family Welfare Services is the Head of the Department and is responsible for providing the necessary health care services to the community by way of implementing various National and State health programs in the state. The Director of health and Family Welfare Service are assisted by six Additional Director, eight Joint Directors, one Demographer and nine Deputy Directors. These officers act as technical advisers to the Director

At the district level, a special feature of Maharashtra's health system is the early devolution of primary health care implementation by the Zilla Parishad (District councils), right from 1961. The responsibility of Primary healthcare was assigned to the Zilla Parishads for. Zilla Parishads implement the health programmes through Primary Health Centers (PHCs), Sub-Centers, and Community Health Centers. The Zilla Parishad gets grants- in- aid as establishment and purposive grants under section 183 and 182 respectively, of the Maharashtra Zilla Parishad and Panchayat samiti Act, 1961 for implementing the following healthcare activities

- Vaccinations
- School health clinics
- Primary health centers
- Primary health units
- Allopathic dispensaries
- Construction and upgrade of PHCs and Sub-centres
- Examination of ashram school children
- District local board schemes

2.4.2 Health Facilities in Maharashtra

In Table 2.18, we provide the data on medical facilities available in Maharashtra. In Table 2.19, we provide district-wise facilities in Maharashtra so as to highlight the disparities in health facilities. In Table 20, we provide the data regarding availability of medical facilities in tribal and non-tribal areas of the various districts. Primary health centers provide all the basic health services, which include curative, preventive and promotive health services. These

health centers have one doctor with six beds and Para-medical personnel, providing the first contact care to villagers. It forms a link between individuals and the national health system. Each PHC is targeted to cover a population of approximately 30000 populations in rural areas and 20000 for tribal and hilly areas and sub-centers with two health workers per 5000 population are in place. The functions of a sub-centre are limited mainly towards mother and child health care, family planning and immunization, simple laboratory investigations. Presently there are 1818 Primary Health Centres, 10483 Sub- Centres. The rural hospitals play an important role in delivering health care services to villages and hence should be strengthen. There are currently 364 rural hospitals in the State. Community Health Centre mainly provides curative services and deals with more complex problems which cannot be dealt at Primary Health Centre, Sub-centre level.

Table 2.18
Medical Facilities Available in Maharashtra State (Public and Government aided)

Year	Hospitals (No.)	Dispensaries (No.)	PHCs (No.)	PHUs (No.)		T. B.	Beds in	Beds per
						Hospitals &	Institu-	Lakh of
						Clinics	tions	population
						(No.)	(No.)	(No.)
1971	299	1,372	388	1		72	43,823	88
1976	423	1,502	409	220		90	48,748	105
1981	530	1,776	454	400		90	71,385	114
1986	769	1,782	1,539	81	*	90	99,487	142
1991	768	1,896	1,672	81		1,977	1,09,267	144
1994	826	1,404	1,669	167		2,489	88,676	105
1995	828	1,404	1,672	167		2,494	88,143	101
1996	828	1,399	1,675	167		2,497	88,530	99
1997	839	1,388	1,683	167		2,516	89,155	97
1998	843	1,396	1,683	169		2,520	89,575	96
1999	887	1,396	1,762	169		2,520	91,273	98
2000	889	1,629	1,768	169		2,520	97,007	104
2001	981	1,629	1,768	169		2,520	1,01,670	105
2002	964	2,081	1,806	174		2,520	92,106	93
2003	945	2,019	1,807	177		2,520	92,472	92
2004	1028	2,058	1,807	177		2,520	96,464	93
2005	1047	2,072	1,809	177		2,520	95,762	92

Source: Economic Survey of Maharashtra 2006-07, Directorate of Economics and Statistics, Government of Maharashtra, Mumbai.

Table 2.19
Medical Facilities Across Various Districts of Maharashtra State

Sl. No.	District of Maharashtra	Geographical Area	Geographical Area (per Hectare)	Hospitals per hectare	Population	No. of Hospitals	Hospitals per 1000 population	Dispensaries	Dispensaries per 1000 population	PHC	PHC per hectare	PHCs per 1000 population	PHU	PHUs per 1000 population	PHU per hectare
1	Ahmednagar	17412	1741200	0.00001	4088	19	0.0046	11	0.0027	88	0.0001	0.0215	1	0.0002	0.0000
2	Akola	5417	541700	0.00004	1629	23	0.0141	136	0.0835	39	0.0001	0.0239	7	0.0043	0.0000
3	Amaravati	12212	1221200	0.00004	2606	43	0.0165	125	0.0480	63	0.0001	0.0242		0.0000	0.0000
4	Aurangabad	10107	1010700	0.00001	2921	13	0.0045	34	0.0116	55	0.0001	0.0188	1	0.0003	0.0000
5	Beed	10615	1061500	0.00001	1773	11	0.0062	27	0.0152	47	0.0000	0.0265	2	0.0011	0.0000
6	Bhandra	3717	371700	0.00002	1136	7	0.0062	41	0.0361	33	0.0001	0.0290		0.0000	0.0000
7	Dhondrapur	10695	1069500	0.00001	2078	16	0.0077	19	0.0091	58	0.0001	0.0279	8	0.0038	0.0000
8	Dhule	8063	806300	0.00001	1709	8	0.0047	26	0.0152	41	0.0001	0.0240	1	0.0006	0.0000
9	Gadchiroli	14412	1441200	0.00001	970	14	0.0144	22	0.0227	46	0.0000	0.0474	36	0.0371	0.0000
10	Gondiya	5641	564100	0.00002	1200	12	0.0100	41	0.0342	39	0.0001	0.0325		0.0000	0.0000
11	Jalgaon	11765	1176500	0.00003	2627	30	0.0114	41	0.0156	77	0.0001	0.0293		0.0000	0.0000
12	Jalana	7718	771800	0.00001	1612	11	0.0068	15	0.0093	39	0.0001	0.0242	2	0.0012	0.0000
13	Kolhapur	7746.4	774640	0.00003	3515	22	0.0063	25	0.0071	71	0.0001	0.0202	6	0.0017	0.0000
14	Latur	7372	737200	0.00002	2078	12	0.0058	19	0.0091	46	0.0001	0.0221	234	0.1126	0.0003
15	Nagpur	9892	989200	0.00002	4051	24	0.0059	124	0.0306	48	0.0000	0.0118		0.0000	0.0000
16	Naded	10545	1054500	0.00002	2868	16	0.0056	60	0.0209	63	0.0001	0.0220	11	0.0038	0.0000
17	Nandurabar	5034	503400	0.00003	1309	14	0.0107	22	0.0168	49	0.0001	0.0374	1	0.0008	0.0000
18	Nasik	15530	1553000	0.00004	4987	60	0.0120	113	0.0227	103	0.0001	0.0207	7	0.0014	0.0000
19	Osmanabad	7512.4	751240	0.00001	1472	8	0.0054	14	0.0095	42	0.0001	0.0285		0.0000	0.0000
20	Prabhani	6511	651100	0.00002	1491	11	0.0074	14	0.0094	30	0.0000	0.0201	5	0.0034	0.0000
21	Pune	15642	1564200	0.00002	7224	38	0.0053	80	0.0111	87	0.0001	0.0120		0.0000	0.0000
22	Raigad	7148	714800	0.00002	2206	16	0.0073	12	0.0054	53	0.0001	0.0240	4	0.0018	0.0000
23	Ratnagiri	8326	832600	0.00002	1696	13	0.0077	9	0.0053	66	0.0001	0.0389		0.0000	0.0000
24	Sangali	8572	857200	0.00002	2582	17	0.0066	70	0.0271	59	0.0001	0.0229		0.0000	0.0000
25	Satar	1084	108400	0.00012	2797	13	0.0046	22	0.0079	71	0.0007	0.0254	6	0.0021	0.0001
26	Sindhadurga	5207	520700	0.00002	862	11	0.0128	10	0.0116	38	0.0001	0.0441		0.0000	0.0000
27	Solapur	17878	1787800	0.00001	3855	14	0.0036	32	0.0083	68	0.0000	0.0176	1	0.0003	0.0000
28	Thane	9558	955800	0.00003	8129	28	0.0034	41	0.0050	90	0.0001	0.0111	470	0.0578	0.0005
29	Wardha	6309	630900	0.00004	1231	24	0.0195	48	0.0390	54	0.0001	0.0439		0.0000	0.0000
30	Yeotmal	13584	1358400	0.00001	2460	20	0.0081	41	0.0167	61	0.0000	0.0248		0.0000	0.0000

Source: Compiled from Maharashtra Government official website

Table 2. 20

District-wise Primary Health Centres and Sub-Centres in Tribal and Non-tribal Areas

Districts	Primary Health Centre			Sub Centres		
	Tribal	Non Tribal	Total	Tribal	Non Tribal	Total
<u>Thane</u>	55	24	79	343	144	487
<u>Raigad</u>	3	52	55	19	267	286
<u>Ratnagiri</u>	0	67	67	0	374	374
<u>Nasik</u>	54	52	106	299	272	571
<u>Dhule</u>	14	27	41	95	135	230
<u>Nandurbar</u>	56	2	58	259	16	275
<u>Jalgaon</u>	2	77	79	16	422	438
<u>Ahmednagar</u>	10	87	97	66	489	555
<u>Pune</u>	8	88	96	62	473	535
<u>Solapur</u>	0	77	77	0	428	428
<u>Satara</u>	0	71	71	0	397	397
<u>Kolhapur</u>	0	73	73	0	419	419
<u>Sangli</u>	0	59	59	0	317	317
<u>Sindhudurg</u>	0	38	38	0	246	246
<u>Aurangabad</u>	0	50	50	0	275	275
<u>Jalna</u>	0	38	38	0	211	211
<u>Parbhani</u>	0	31	31	0	214	214
<u>Hingoli</u>	0	24	24	0	131	131
<u>Latur</u>	0	46	46	0	250	250
<u>Osmanabad</u>	0	42	42	0	204	204
<u>Beed</u>	0	50	50	0	278	278
<u>Nanded</u>	15	49	64	81	293	374
<u>Akola</u>	0	30	30	0	177	177
<u>Washim</u>	0	25	25	0	153	153
<u>Amravati</u>	11	45	56	95	235	330
<u>Yeotmal</u>	15	48	63	118	314	432
<u>Buldhana</u>	0	52	52	0	278	278
<u>Nagpur</u>	5	44	49	23	278	301
<u>Wardha</u>	0	27	27	0	180	180
<u>Bhandara</u>	0	33	33	0	192	192
<u>Gondiya</u>	18	21	39	104	131	235
<u>Chandrapur</u>	8	50	58	51	285	336
<u>Gadchiroli</u>	45	0	45	374	0	374
TOTAL	319	1499	1818	2005	8478	10483

Source: <http://maha-arogya.gov.in/faqs/default.aspx>

2.4.3 Health Care Activities In Maharashtra: Major Government Programmes And Schemes

Primary Health Care: Rural, Urban and Referral Services

The public delivery system is organized on the basis of population and geographical entitlements. At the apex are the tertiary institutions or teaching hospitals, located in Mumbai and other larger cities like Pune, Solapur, Nagpur, Thane, Aurangabad, etc. Presently there are 11 such hospitals, owned and run by the State Government in addition to two run by the

Central Government and four by Municipal Corporations. District headquarters, at the next level, have Civil Hospitals, usually of 100-500 beds with most basic specialities and of late, some of the larger ones among them are used as teaching hospitals. There are 21 civil hospitals with 5910 beds. These hospitals are core centers for referral medical care for the rural areas, catering also to the district towns where they are located. Many taluka and other towns have smaller hospitals or sub-divisional hospitals run by local self-governments. In the rural areas, at the 30000-population level – it is 20000 for tribal and hill areas Primary Health Centres (PHCs) and sub-centres with two health workers per 5000 population are in place. These health centers have one doctor with six beds and Para-medical personnel, providing the first contact care to villagers. Presently there are 1762 PHCs, 169 PHUs, 61 mobile health units and 9725 sub-centres.

During the expansion of the rural health infrastructure, under the Minimum Needs Programme in the 1980s, Rural Hospitals were set up or some of the older PHCs upgraded as Community Health Centres, to make first referral care available to the rural population closer to where they live. These 30-bedded hospitals had four basic specialties-Medicine, Surgery, Obstetrics and Gynaecology and Paediatrics. Maharashtra has 350 Rural Hospitals, each reaching out to about 150000 population (one per 5 PHCs). In some cities, urban health centers on the pattern of PHCs are being set up under the India Population Project supported by the World Bank and other similar projects. Out of 350 rural hospitals, 123 have been considered for establishing as First Referral Units (F.R.U.) All the FRU's have been supplied with Kits E to P. To operationalise the FRU's - Posts of Specialists (Gynecologist/Surgeon, "Paediatritian or Physician" & Anaesthetist) have been created at every FRU. All FRU's have been provided with Rs. 10.00 Lakh for repairs & renovation of Labor Room & Operation Theatre, upgrading water supply and electrification, provision for using services of Gynecologist & Anaesthetist on contract basis.

There are teaching hospitals in the private sector as well, in addition to Government run teaching hospitals. Some of these private teaching colleges are dependent on public hospitals for infrastructure support. Most of these private large tertiary hospitals operate as non-profit making institutions while small private hospitals and nursing homes mostly operate on commercial basis. Their share in hospital is 87 per cent, in dispensary it is 88 per cent and in beds it is 47 per cent. The increasing number of private medical colleges being set up

reflects a greater commercialization of medical education facilities. Nine district hospitals have been allowed to be used by the private medical colleges on payment basis for performing the functions of the teaching hospitals, indicating a shift towards private-public partnership in providing medical education and health services.

Health Programmes

The Health Programmes are run by the State Government, some programmes are 100% supported by Government of India, whilst others are partly supported.

- 1) National Reproductive Health & Child Health Programme
- 2) National AIDS Control Programme
- 3) National Programme for Control of Blindness
- 4) National Iodine Deficiency Disorder Control Programme
- 5) National Cancer Control Programme
- 6) National Anti - Malaria Programme
- 7) National Filaria Control Programme
- 8) Revised National Tuberculosis Control Programme
- 9) National Leprosy Eradication Programme
- 10) National Mental Health Programme
- 11) National Surveillance Programme for Communicable Diseases
- 12) Minimum Needs Programme
- 13) Epidemic Control Programme

1.4.4 Expenditure on Health in Maharashtra:

Table 2.21 gives the public expenditure on health in Maharashtra. It can be seen that despite growing incidence of illnesses, such as, aids and malaria the public expenditure as a proportion of NSDP has been not only low but also fallen in the recent years as compared to that in the eighties. A large proportion of expenditure on health has to be incurred by people themselves. This also leads to impoverishment of poorer sections of society.

Table 2.21
Total Public Expenditure on Health

(Rs. millions)

Year	Public Expenditure	Health Expenditure (% of NSDP)
1981	1670	1.08
1987	5314.02	1.87
1991	4983.46	0.89
1996	9061.09	0.64
2001	16342.86	0.72
2003	17510	NA
2005	19180	NA

Source: Health and Healthcare Status of Maharashtra, Cehat, 2005

3. Health Accounts in Maharashtra: Methodology

3.1. Boundary of MHA (Maharashtra Health Accounts) and Classifications

In case of Health accounts the boundaries need to be defined clearly as one may not be in a position to include all the peripheral expenditures of health care and health care related activities into the domain of health care within a stipulated period of time. Only the expenditure that go directly to health care services are included under health care services. Since the boundaries for the three selected states are almost similar we have not explained in detail the boundaries here. The fiscal year of 2004-05 is used for the estimation of health accounts. The chart 3.1 depicts the boundaries of health for estimating the health accounts of Maharashtra state.

Table 3.1
Boundaries of Health Account

		Comments
Expenditure Excluded in Health Accounting	<ul style="list-style-type: none"> * Health Tourism International * Noon meal programme * Water supply and Sanitation * Health enhancing drugs/product (without prescription) like Chavanapravsh, anti dandruff, pimples, vitamin tablets, etc. * Other Food security related (Public Distribution System) * Environmental Health 	There are arguments that expenditure on health enhancing drugs, drinks and vitamins should be included in health related expenditure.
Expenditure Included in Health Accounting	<u>HEALTH RELATED EXP.</u>	Scholarships to medical students, stipends to medical apprentice, materials and supplies, salaries and office expenses, professional and special services, diet charges Livestock (HCR4 Food, Hygiene and Drinking water)
	<ul style="list-style-type: none"> * Medical education and training (public) * Nutritional Supplementation Programme of the govt. <ul style="list-style-type: none"> * Medical research (public) * Health Education * School Health Programme falls under health related expenditure, but not included in Maharashtra health accounts as information on this aspect was collected 	
	HEALTH EXPENDITURE	Since ISM & Homoeopathy are not coded under ICHA, we have extended the codes for classifying these services under relevant heads. Expenditure made by households, firms and NGOs mainly related to current expenditure (2004-05).
	NOT SPECIFIED BY KIND	Other expenditure (grant-in-aid, other charges/ miscellaneous items) constitutes major component of government health expenditure, but is not made explicit in the budget documents.

3.2 Data Sources, Surveys and Secondary sources

The study has used both primary and secondary data for the purpose of estimating the health accounts for the state of Maharashtra. Public expenditure data used in the study is based on the fiscal year from 1st April, 2004 to 31st March, 2005 at current prices collected from Civil Budget Estimates, Government of Maharashtra. Health related data were taken from various secondary sources viz. Health Monitors, Statistical abstracts, NFHS-1 and 2, NSSO

42nd and 52nd round, Man power Profile, Economic Surveys, Government of Maharashtra, Maharashtra Human Development Report, Sample Registration survey (S.R.S.), Directorate of Health and Family welfare Government of Maharashtra, etc.

The private expenditure data on health care services used in the study are collected from Households, NGOs and Corporate sector/firms for estimating private expenditure of health care services. CMDR conducted the sample survey to collect the details of health care expenditure during the same period keeping in view the fiscal year of 2004-05. The expenditure on health care incurred by different NGOs, Firms, Charitable trusts, private practitioners, insurance companies etc. was collected through field survey conducted by CMDR.

Table 3.2 Data Sources

Sl.No	Data	Source
1	Central Govt. Expenditure	Civil Budget Estimates 2006-07, Govt. of Maharashtra
2	State Govt. Expenditure	
3	External Agencies	
4	ESIS	
5	Other State Departments	Budgets of Other Departments
6	Insurance Premium	CMDR Survey 2006
7	Household	
8	NGO Sector	
9	Corporate Sector	

4. Household Survey

4.1 Sampling Design for Maharashtra

Three stages were involved in sampling of households. In the first stage, the three districts were selected, based on the criterion of per capita real income. In order to get a representative sample, one district each from high, medium and low income strata were selected. In the second stage, from one of the districts, viz., Mumbai, 4 clusters representing urban population of the state was selected and the sample consisted from Mumbai consisted of 36 % of the total sample size of 1500 households. The remaining two districts, viz., Nashik and Nanded were supposed to represent the rural population of the state. Hence, only rural locales were considered. Thus in the second stage of sampling, two talukas from each of these

two states were randomly selected. In the third stage, four villages from each of these talukas selected. Two villages from each taluka were supposed to have high proportion of SC/ST population and the remaining two were to represent low SC/ST population.

4.2 Selection of Districts

As per the decision communicated in the mapping report, we have chosen three districts in Maharashtra: one from high income level, another from middle income level and the third one from the low level of income. The real per capita net domestic product (PCNDP) of the various districts of Maharashtra is given earlier in Table 1.13. We have selected three districts, *viz.*, Mumbai, Nashik and Nanded. The ratios of PCNDP of Mumbai, Nashik and Nanded are 2.22, 0.87 and 0.53, respectively. The three districts selected (highlighted in red) belong to Konkan, Nashik and Aurangabad divisions, respectively.

In Table 1.4, we have given the details of district-wise population. As per the Census of India, 2001, the three selected districts, *viz.*, Mumbai, Nashik and Nanded account for 12.3, 5.2 and 3.0 percent of the population of the state. In other words, these districts together account for slightly more than one-fifth of the state population.

The selection of these districts is also justified from the angle of human development. The three districts belong to the three distinct categories representing high, medium and low levels of human development index (see Table 2.17).

As stated in the mapping report, in each state 1500 households were to be sampled, 500 from each district. In view of giving a higher representation to the urban population in Maharashtra as compared to Karnataka and Orissa, it was decided to include 540 households (36 % of the sample) from the urban areas of Maharashtra and 960 (74 % of the sample) from rural areas. For urban population, it was deemed to include Mumbai (city and suburban). Mumbai was included in the sample due to its importance in providing health care to people from other parts of the state, as also to people from other states. The state of art medical care in Mumbai is available to poor patients at reasonably low cost from various charitable hospitals, such Tata Memorial Hospital, Wadia Hospital (For Children and Maternity Care) and also from various government and local body hospitals. Rural population was included

from rural parts of Nashik and Nanded districts. From these districts, we included 480 households, each.

4.3 Selection of Sub-district Regions

Selection of Households from Mumbai

As mentioned earlier, we have included Mumbai City and Mumbai Suburban. This region is divided into 6 zones and each of these zones are divided into wards. In Table 22, we give zones and wards of Mumbai which are also indicated in Map 3. In Table 23, we provide a comparative view of the population and number of households in various zones and wards belonging to the various zones.

Table 3.3
Administrative divisions of Mumbai into Zones and Wards

Zone	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6
Ward	Ward A	Ward F/North	Ward H/East	Ward P/North	Ward L	Ward N
	Ward B	Ward F/South	Ward H/West	Ward P/South	Ward M/East	Ward S
	Ward C	Ward G/North	Ward K/East	Ward R/North	Ward M/West	Ward T
	Ward D	Ward G/South	Ward K/West	Ward R/South		
	Ward E			Ward R/Central		

Note: Cells highlighted in red indicate wards from which household sample was selected.

Table 3.4
Comparison of Zones

Zone/Ward	Population	% of Total Population of City	No. of Households	% of Total Households of City
Zone 1	1377578	11.5	270644	10.8
Ward A	210847	1.8	43661	1.7
Ward B	140633	1.2	27225	1.1
Ward C	202922	1.7	39657	1.6
Ward D	382841	3.2	79131	3.2
Ward E	440335	3.7	80970	3.2
Zone 2	1960453	16.4	406519	16.2
Ward F/North	524393	4.4	112574	4.5
Ward F/South	396122	3.3	80777	3.2
Ward G/South	582007	4.9	120643	4.8
Ward G/North	457931	3.8	92525	3.7
Zone 3	2428908	20.3	513317	20.4
Ward H/East	580835	4.9	114423	4.6
Ward H/West	337391	2.8	73874	2.9
Ward K/ East	810002	6.8	175859	7.0
Ward K/ West	700680	5.9	149161	5.9
Zone 4	2703415	22.6	595919	23.7
Ward P/North	798775	6.7	171009	6.8
Ward P/South	437849	3.7	95188	3.8
Ward R/North	363827	3.0	83433	3.3
War R/ South	589887	4.9	128995	5.1
Ward R/Central	513077	4.3	117294	4.7
Zone 5	1867118	15.6	372291	14.8
Ward L	778218	6.5	151964	6.1
Ward M/East	674850	5.6	133416	5.3
Ward M/West	414050	3.5	86911	3.5
Ward 6	1640978	13.7	351499	14.0
Ward N	619556	5.2	129228	5.1
Ward S	691227	5.8	148731	5.9
Ward T	330195	2.8	73540	2.9
Total	11978450	100.0	2510189	100.0

Source: Based on data provided at www.mcgm.gov.in

In most of the wards of Mumbai, one can find the coexistence of clusters of high-rise buildings occupied by economically better-off sections of with slums in close proximity. Hence, clusters from these wards were selected keeping in view the fact that slums of the city also need to be represented. We, therefore, included a slum cluster, viz., Phule Nagar (Ward S), which houses slum dwellers. It was also selected with a view that it would also represent

fairly a high SC/ST population. Another ward, *i.e.*, F/South Ward houses also the poorer sections of society. This ward was known for housing the labour class of Mumbai, especially the mill-workers. The cluster of low-income group living mainly in chawls was selected from this ward. However, the scene is changing now. From Wards K/West and T high rise building clusters were selected which represent higher income group and then from each of these clusters, the households were randomly selected. From each of these wards 135 respondents were selected. The four clusters selected from Mumbai are given below. The demographic indicators of selected wards are given in Table 3.5.

Table 3.5
Demographic Characteristics of Selected Wards

Ward	Area in sq.km	Density of population	No. of House-holds	Population (persons)			Literate Persons			Literacy Rate (%)
				Male	Female	Total	Male	Female	Total	
S	64.0	10800	148731	379474	311753	691227	316572	226173	542745	78.52
T	45.4	7270	73540	174380	155815	330195	147944	119825	267769	81.09
F/South	14.0	28294	80777	216366	179756	396122	182917	134479	317396	80.13
K/West	23.3	30085	149161	379291	321389	700680	309169	236067	545236	77.82

Map 3.1
Map of Mumbai



We now provide (Table 3.6) a profile of the availability of public amenities wards from which the sample of households was drawn for Mumbai.

Table 3.6
Profile of Areas selected for sample survey

Public Amenities	Ward S	Ward T	Ward F/South	Ward K/West
Eating Houses	178	188	286	306
Municipal Hospitals	1	2	2	1
Municipal Maternity Homes	2	1	1	1
Municipal Dispensaries	6	3	9	6
Other Private / Government Hospitals	212	86	Oth-1 / Govt-4	103
Municipal Cemeteries	2	NIL	1	6
Private Cemeteries	3	3	5	6
Municipal Primary School	63	44	50	59
Municipal Secondary Schools	-	1	4	2
Other Private Schools	36	50	16	Allied 14 Non allied 47
Municipal Markets	1	4	4	8
Private Markets	1	NIL	1	-
Public Sanitary Conveniences	236	151	41	BMC 44
	29	6	23+8=31	MHADA 59
	16288	7900	10630	Sulabh 29
	1926	1203	1369	NGO 09
Public Gardens & Playgrounds		14	17	23 & 24
Registered Shops & Establishments	1043/396	5	57	22212
Permitted Factories	-	1	1	954
Motor Garages	-	9	6	6
Pay & Park Stands	-		1050	5
Cinema Houses & Theaters	-	6	5	76
Fire Stations	-	3677	3409	1
Fire Hydrants	-	NIL	----	280
Traffic Islands	29	19	13	15
Street Lights	-	14	4	7973
Municipal Industrial Estates	-	1	----	1
Private Industrial Estates	2	NIL	2	19
Municipal Welfare Centers	2	NIL	----	3
Municipal Recreation Centers	-	1	----	1
Water Reservoirs				-
Sewerage Purification Plans				1
Government Welfare Centres				2

4.4 Selection of Households from Nashik District

As mentioned earlier, the rural sample of 480 households was drawn from Nashik. Two Talukas from this district were randomly selected and these turned out to be Sinnar and Trimbakeshwar. Location of these talukas is given in Map 4.

Map 3.2
Taluka Map of Nashik District



Source: <http://nashik.gov.in/htmldocs/distmaps.htm#talukamap>

In Table 3.7, we provide selected statistics, pertaining to Nashik district, two Talukas, viz., Trimbakeshwar and Sinnar and the 4 villages selected from each of these districts. In Nashik district, about 8.5 % and 24 % of population belongs to Scheduled Cast and Scheduled Tribes respectively. The respective figures for the rural areas of the district are 7.0 and 35.5 % respectively. Trimbakeshwar taluka is heavily populated with the ST population, especially in rural areas. In this taluka, we have selected Vadholi and Talwade Trimbak villages which have relatively lower percentage of SC/ST population and Beze and Mulegaon had high proportion of SC/ST population. In Sinnar Taluka,

Table 3.7: Sample Details of Nashik District

District	TRU	No_HH	TOT_P	P_SC	P_ST	P_SC+ P_ST	SC %	ST %	SC+ ST %
Nashik	Total	915137	4993796	426516	1194271	162078 7	8.5	23.9	32.5
Nashik	Rural	548027	3056240	212803	1086059	129886 2	7.0	35.5	42.5
Nashik	Urban	367110	1937556	213713	108212	321925	11.0	5.6	16.6
Taluka	TRU	No_HH	TOT_P	P_SC	P_ST	P_SC+ P_ST	SC %	ST %	SC+ ST %
Trimbakeshwar	Total	23296	136417	7399	106315	113714	5.4	77.9	83.4
Trimbakeshwar	Rural	21557	126613	6730	103191	109921	5.3	81.5	86.8
Trimbakeshwar	Urban	1739	9804	669	3124	3793	6.8	31.9	38.7
Villages in Trimbak	TRU	No_HH	TOT_P	P_SC	P_ST	P_SC+ P_ST	SC %	ST %	SC+ ST %
Talwade Trimbak	Rural	300	1773	180	408	588	10.2	23.0	33.2
Beze	Rural	206	1119	268	389	657	23.9	34.8	58.7
Vadholi	Rural	323	1901	204	131	335	10.7	6.9	17.6
Mulegaon	Rural	327	2194	457	1297	1754	20.8	59.1	79.9
Taluka	TRU	No_HH	TOT_P	P_SC	P_ST	P_SC+ P_ST	SC %	ST %	SC+ ST %
Sinnar	Total	52183	292075	20477	35456	55933	7.0	12.1	19.2
Sinnar	Rural	46066	260445	17892	33609	51501	6.9	12.9	19.8
Sinnar	Urban	6117	31630	2585	1847	4432	8.2	5.8	14.0
Villages in Sinnar	TRU	No_HH	TOT_P	P_SC	P_ST	P_SC+ P_ST	SC %	ST %	SC+ ST %
Sonari	Rural	364	2021	194	42	236	9.6	2.1	11.7
Patole	Rural	421	2430	62	35	97	2.6	1.4	4.0
Chas	Rural	768	5054	560	1160	1720	11.1	23.0	34.0
Nandur Shingote	Rural	968	5737	612	889	1501	10.7	15.5	26.2

TRU: Total, Rural and Urban, No_HH: Number of Households, TOT_P: Total Population, P_SC: Population of Scheduled Castes, P_ST: Population of Scheduled Tribes, SC %: % of SC population in the respective region, ST %: % of Scheduled Tribe population in the respective region.

4.5 Selection of Households from Nanded District

As mentioned earlier, Nanded district accounts for about 3 percent of the population of Maharashtra. The district is divided into three divisions, which consist of 16 talukas (see Table 3.9 and Map 3.3).

Table 3.8
Details of Nanded District

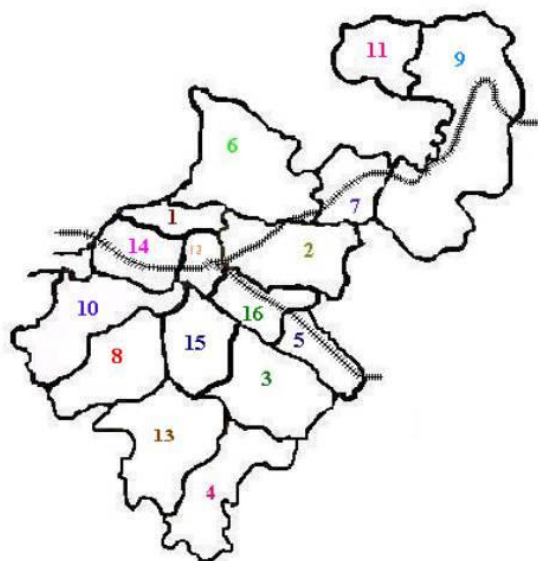
1	Geographical Area	10,422 Sq. KM
2	Sub Division	3
3	Talukas	16
4	Municipal Corporation	1
5	Municipal Councils	11
6	Panchyat Samiti	16
7	Gram Panchayat	1313
8	Revenue Villages	1572

Source: <http://nanded.nic.in/htmldocs/default1.htm>

Table 3.9
Divisions and Talukas of Nanded District

DIVISIONS	NANDED	DEGLOOR	KINWAT
TALUKAS	1. Nanded 2. Kandhar 3. Loha 4. Bhokar 5. Mudkhed 6. Umri 7. Ardhapur	8. Degloor 9. Biloli 10. Naigaon (kh) 11. Mukhed 12. Dharmabad	13. Kinwat 14. Mahur 15. Hadgaon 16. Himayatnagar

**Map 3.3
Taluka Map of Nanded District**



Correspondence of Talukas in Map 3.3

1. ARDHAPUR	9. KINWAT
2. BHOKAR	10. LOHA
3. BILOLI	11. MAHUR
4. DEGLOOR	12. MUDKHED
5. DHARMABAD	13. MUKHED
6. HADGAON	14. NANDED
7. HIMAYATNAGAR	15. NAIGAON (KH)
8. KANDHAR	16. UMRI

The two talukas selected randomly from Nanded District turned out to be Ardhapur and Dharmabad. From each of these two talukas, 60 household from each village were selected. From each taluka, two villages had low SC/ST population and the other two had high SC/ST population. This information is provided in Table 28.

Table 3.10
Details of Sample of Households from Nanded District

Ardhapur Taluka							
Village	Area	No_HH	TOT_P	P_SC	P_ST	P_SC_ST	Criterion
Shelgaon Bk	Rural	248	1530	2.0	0.4	2.4	Low SC_ST
Sawargaon	Rural	218	1323	5.1	0.9	6.0	Low SC_ST
Amrabad	Rural	122	679	18.7	9.7	28.4	High SC-ST
Ambegaon	Rural	271	1483	28.1	11.3	39.4	High SC-ST
Ardhapur Taluka Total		859	5015	13.3	3.4	16.8	
Dharmabad Taluka							
Village	Area	No_HH	TOT_P	P_SC	P_ST	P_SC_ST	Criterion
Sirajkhed	Rural	264	1558	9.8	0	9.8	Low SC_ST
Yetala	Rural	614	3178	15.3	5.3	20.6	Low SC_ST
Jarikot	Rural	735	3585	33.5	30.7	64.2	High SC-ST
Samrala	Rural	185	1027	27.7	47.4	75.1	High SC-ST
Dharmabad Taluka		1798	9348	23.3	17.1	40.4	

5. Provider Survey

The sampling procedure followed for provider survey is given in Table 3.11 below. Totally we covered 50 providers of health care including 25 private and 25 public providers. We could cover 22 providers from rural areas and 28 providers from urban area. For urban Maharashtra all the samples are from Mumbai. For rural Maharashtra the sample was 12 in Nashik and 9 in Nanded.

Table 3.11
Provider Survey -Maharashtra

Public	Rural	Urban	Private	Rural	Urban
PHC/PHU	6		Indigenous Provider	2	1
Sub Centres	6		RMP/Clinic	1	2
UFWC		3	Clinic/Dispensary (ISM &H)		3
CHC/Taluka Hospital		3	Clinic/ Dispensary (Allo)		3
District Hospital		3	Hospitals/Nursing Homes		3
Local Body Hospitals		3	Teaching Hospital		
Teaching Hospital		1	Medical Shops	6	3
Total	12	13		10	15

6. Employer Survey

Employer survey includes firms, which provide health care to their employees. We randomly selected 10 firms from the list of firms available for the state of Maharashtra. In case of the selected firm not providing any health care then we opted for the next firm in the list, which provided health care. This was the procedure followed in the case of firms not willing to provide information.

7. NGO Survey

For NGO survey we followed purposive sampling by selecting those NGOs, which mentioned health care as one of their activities. We could collect information from 10 NGOs located in different parts of Maharashtra.

8. Estimation Procedures

The methodology adopted for estimating the health accounts for Maharashtra is similar to the methodology adopted for developing health accounts for Karnataka and Orissa. Following the ICHA classification WHO guidebook (2003), codes were assigned to sources and agents of financing and to providers and health care functions. Wherever, the agents, providers or functions differed from ICHA or were not found in ICHA classification the codes have been extended under the same codes by putting additional numbers. Codes have been extended in the case of expenditure on traditional birth attendants, ISM & H, livestock in health care facility, stipends and scholarship in educational institutions, etc. The expenditure

on health by the households, firms and NGOs was estimated on the basis of field survey conducted by CMDR. Information on public expenditure was gathered mainly from government budget and other documents.

- ***Household's out of pocket expenditure on health***

The data on health care expenditure by financing sources, financing agents, providers by functional classification was collected from rural and urban areas in three districts of Maharashtra. In order to arrive at the total household expenditure on health for the state we adopted the procedure as follows:

The average expenditure on health care incurred by the households was estimated on the basis of data collected through the sample survey for the selected villages. Health expenditure for households was blown up for the state taking in to account average expenditure for the sample population and then propelling it for the sample village, sample district and finally for the state population.

- ***Expenditure on health by the NGOs***

On the basis of our sample survey we collected the expenditure incurred by the NGOs for providing health care services. We estimated the expenditure per NGO and multiplied the average expenditure by the total number of NGOs providing health care services in Maharashtra.

- ***Expenditure on Health Care by the Firms***

Following the sample survey conducted by CMDR for the firms, contribution of firms was estimated by taking the average health expenditure per employee and then multiplying it with the total number of employees in the firms in Maharashtra state.

We estimated the total health expenditure for Maharashtra state by summing up the expenditure incurred by households, NGOs, firms, and government.

Annexure 3.A.I
Shortfall of Health Infrastructure of Maharashtra

Particulars	Required	In position	Shortfall
Sub-centre	12153	10453	1700
Primary Health Centre	1984	1800	184
Community Health Centre	496	407	89
Multipurpose worker (Female)/ANM at Sub Centres & PHCs	12253	9598	2655
Health Worker (Male) MPW(M) at Sub Centres	10453	6097	4356
Health Assistant (Female)/LHV at PHCs	1800	1718	82
Health Assistant (Male) at PHCs	1800	1800	0
Doctor at PHCs	1800	1191	609
Obstetricians & Gynecologists at CHCs	407	202	205
Physicians at CHCs	407	52	355
Pediatricians at CHCs	407	106	301
Total specialists at CHCs	1628	448	1180
Radiographers	407	294	113
Pharmacist	2207	1976	231
Laboratory Technicians	2207	769	1438
Nurse/Midwife	4649	2774	1875

(Source: RHS Bulletin, March 2006, M/O Health & F.W., GOI)

4.1 Introduction

Health Accounts in simple term refers to the statement of resource flows from financing sources to agents reflected in actual expenditures made by different actors or entities in the health sector. In a health accounting system, the transactions made by different entities on various health services or health care functions are presented in the form of matrices so as to enable identification of the role of each entity in health care and the extent of inflow and outflow of resources for the provision of different services. The present exercise, which is developed as part of the research project undertaken by CMDR, Dharwad with the assistance from the European Union is a pioneering attempt made to present the health accounts for the state of Maharashtra for the year 2004-05. The methodology adopted for developing health accounts for Maharashtra is presented in detail in section three and the boundaries of health accounts are presented in appendix Table A-1.

The health accounts developed for the state of Maharashtra relate to fiscal or the financial year 2004-05 as the budgetary information i.e. the latest actual government expenditure data (during the time of our study) was available only for this year.

The mapping exercise taken up before plunging into collection of primary or secondary data helped in identifying the role of different entities in the provision of health care and health care programmes and facilities that are available to the population in Maharashtra. Based on this exercise we developed the sampling frame for undertaking survey of households, providers, NGO and firms and, collection of secondary data from government departments the details of which are provided in section three.

In this section we discuss in detail the socio-economic profile of households as well the health status of the sample population followed by description of the resource flows and health expenditure according to sources, agents, providers and health care functions (services).

4.2 Socio-economic and health profile of selected households

Distribution of households according to religion and social groups is presented in Tables 4.1 and 4.2 below. Majority of the households belong to Hindu followed by Buddhist and Muslim. This is in contrast to other selected states where the percentage of Muslims is higher next to Hindu religion. Among the social groups the sample is represented mainly by other backward castes (41%) followed by general categories. One percent of the households have not responded to the query on social group.

Table-4.1
Distribution of household according religion (%)

District	Hindu	Muslim	Christian	Sikh	Buddhist	Jain	Others	Total
Nanded	64.85	9.62	0.21	0.21	24.90	0.00	0.21	100.00
Mumbai	79.81	2.59	7.22	0.93	6.67	2.78	0.00	100.00
Nasik	96.69	1.66	0.00	0.00	1.45	0.21	0.00	100.00
Total	80.48	4.53	2.66	0.40	10.79	1.07	0.07	100.00

Table- 4.2
Distribution of households according Social Group (%)

District	SC	ST	OBC	General	No Response	Total
Nanded	27.62	8.16	14.02	49.79	0.42	100.00
Mumbai	15.93	2.78	52.22	26.67	2.41	100.00
Nashik	26.71	4.97	54.24	13.46	0.62	100.00
Total	23.12	5.20	40.71	29.78	1.20	100.00

Though Nanded is considered to be the backward district among the selected districts, the percentage of households Below Poverty Line (BPL) is very high in Nashik district as shown in Table 4.3 below. This could be because the percentage of ST population is higher in rural areas of Nashik district. As indicated by the figures in Table 4.3 the economic status of majority of the households in Mumbai appears to be better than the households in other districts.

Table-4.3
Distribution of households according BPL card holder (%)

District	BPL	APL	No Card	Total
Nanded	31.80	66.11	2.09	100.00
Mumbai	18.89	70.74	10.37	100.00
Nashik	75.57	17.18	7.25	100.00
Total	41.24	52.03	6.73	100.00

APL: Above Poverty Line

Table-4.4
Age –wise and Sex-wise reporting of illness by household members [%]

District	Male					Female				
	0-14	15-29	30-59	>=60	Total	0-14	15-29	30-59	>=60	Total
Nanded	11.72	28.67	40.96	18.66	100.00	10.92	26.87	47.27	14.94	100.00
Mumbai	31.35	21.98	38.33	8.35	100.00	24.50	26.36	40.78	8.37	100.00
Nashik	35.88	24.49	28.55	11.08	100.00	23.50	28.57	35.02	12.90	100.00
Total	24.54	25.53	36.45	13.48	100.00	19.43	27.26	41.16	12.15	100.00

Probability of sickness for the three selected districts is 0.50 and 0.52 in Nanded district, which is backward among the selected districts. The reporting of illness as presented in Table 4.4 is higher among the middle aged followed by the youth, children and aged (i.e. 60 and above) accordingly.

Table-4.5
Sex-wise distribution of household members according to reporting of illness [%]

District	Male							Female							
	Common diseases	Communicable	Non Communicable	Accidents	Others	Diseases of the reproductive organ	Total	Common diseases	Communicable	Non Communicable	Accidents	Gynecological problems	Others	HIV	Total
Nanded	5.01	82.71	11.26	0.91	0.11	0.00	100.00	3.02	89.51	6.18	0.57	0.43	0.29	0.00	100.00
Mumbai	68.99	6.47	20.44	2.04	2.04	1.53	100.00	62.02	4.50	26.51	0.47	4.50	1.86	0.16	100.00
Nashik	66.30	7.80	21.68	2.18	2.03	1.87	100.00	58.99	7.37	25.35	1.08	4.15	3.07	0.00	100.00
Total	41.48	38.68	16.99	1.61	1.24	1.00	100.00	40.41	35.14	19.03	0.70	2.96	1.71	0.05	100.00

Reporting of communicable diseases is higher in Nanded district both for male and female (see Table 4.5). **Since Nanded is one of the backward districts in Maharashtra the higher reporting of communicable diseases calls for state intervention because in the private sector treatment available for such type of diseases would be costlier as compared to treatment in public facility.** Though Maharashtra state records the highest

incidence of HIV in India accounting for about 50% of the cases in the country (Govt. of Maharashtra 2002), the reporting of HIV/AIDS was almost nil during the household survey. **Only one female case (0.05%) has been reported in Mumbai, which has highest incidence of HIV/AIDS in the state.** The incidence of communicable diseases appears to be significant in the state being more than 35% among the illness reported by male and female household members. Reporting of common diseases is higher because illnesses such as cold, cough, fever, pains and ache have been clubbed under this category. Reporting of non-communicable diseases is higher in Mumbai and Nashik

Table-4.6
Persons seeking medical treatment (%)

District	Yes	No	Total
Nanded	99.49	0.51	100.00
Mumbai	95.94	4.06	100.00
Nashik	95.74	4.26	100.00
Total	97.24	2.76	100.00

There appears to be increasing awareness about health among the public as 97% of those who reported illness during the reference period (2006) have consulted doctor for treatment. NSS 52nd round results revealed that 83% in rural areas and 91% in urban areas of the country consulted medical facility for treatment of their illness during 1995-96.

Table 4.7
Use of health care facility (%)

District	Public	Private
Mumbai	19.41	80.59
Nashik	23.48	76.52
Nanded	4.73	95.27
Total	15.03	84.27

Availability of public facilities appears to be lower in the backward district of Nanded (Table 4.7) as only 5% of the households have used public health facility. However it is encouraging to know that among those who used public facility the percentage of patients who received free medicine (see Table 4.9) is higher in Nanded (63%) as compared to Mumbai (31%) and Nashik (37%).

Table-4.8
Health care facility

District	Public Hospital	Public Health Clinic	Private clinic	Private Doctor	Private Nurse	Traditional healer	Others	Total
Nanded	4.03	0.70	32.01	62.75	0.00	0.13	0.38	100.00
Mumbai	18.73	0.68	29.79	49.79	0.00	0.17	0.84	100.00
Nashik	16.35	7.45	14.90	59.86	0.24	0.40	0.80	100.00
Total	12.23	2.80	26.01	58.00	0.08	0.23	0.65	100.00

Table-4.9
Availability of free medicine in public health facility

District	Fully Free	Partially Free	Total
Nanded	39	23	62
	62.90	37.10	100.00
Mumbai	73	165	238
	30.67	69.33	100.00
Nasik	115	192	307
	37.46	62.54	100.00
Total	227	380	607
	37.40	62.60	100.00

On an average 97% of the households required transportation facility (Table 4.10) to visit health care facility. But, the percentage of households depending on transport and those who travel more than 10 kms is higher in the backward district of Nanded.

Table-4.10
Use of transportation to approach health facility

District	Yes	No	Total
Nanded	99.49	0.51	100.00
Mumbai	95.94	4.06	100.00
Nasik	95.74	4.26	100.00
Total	97.24	2.76	100.00

Utilisation of health facility according to levels of health care given in Table 4.11 indicates that majority of the households have used primary health facility. When both public and private facilities are taken into consideration, the preferences are in the order of primary (60%), secondary (24%) and tertiary care (16%), which is generally the observed pattern in the country. But, if we take only public sector facilities there is change in the preferences. **Utilisation of public facilities for tertiary care is higher (47%), whereas it is 42% for primary and 11% for secondary care. Since tertiary care is costly in private**

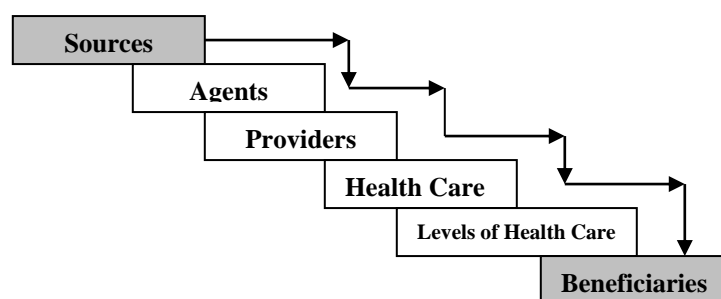
poor prefer public facility for inpatient and referral services. This is indicated by the results of 42nd and 52nd rounds of National Sample Survey (NSS) also.

Table-4.11
Utilisation of health facility according to levels of health care

Level of HC	Total	Public
Primary	59.82	41.68
Secondary	24.20	11.33
Tertiary	15.98	46.98
Total	100.00	100.00

4.3 Description of flows and expenditures

Resource flow to health care and subsequent health expenditure include different entities in the provision of funds, agents who facilitate movement of funds for supply of services, providers of services and final beneficiaries who get the health care services with or without making financial transactions (free or paid service).



In this section we present health expenditure for Maharashtra state based on household survey and budgetary expenditure taking in to account actual expenditure for 2004-05. The details of health expenditure are presented as follows.

- **Total health expenditure estimated for the state (public+private)**
- **Household expenditure (actual for the sample)**
- **Household expenditure (estimated for the state)**
- **Public Expenditure (actual)**
- **Flows and expenditures according to sources and agents of finance, providers of service and health care levels and health care functions**

4.3.1 Total Health Expenditure [THE] [Public +Private]

The overall source-wise expenditure presented in Table 4.12 for Maharashtra state indicates the significant and increasing use of private sector in health care provision. If we compare the Central Statistical Organisation's (CSO) estimates for 2001-02, there is decline in the share of public expenditure both in terms of per capita expenditure and its share in total health expenditure (see Table 4.12). **The Maharashtra State Human Development Report (2002) specifies that there is decline in the share of public expenditure in the revenue expenditure during 1980 to 1999. CMDR estimates also indicate there is decline in the share of public expenditure in healthcare in Maharashtra.**

Table-4.12 Source-wise Per capita Health Expenditure-Comparison

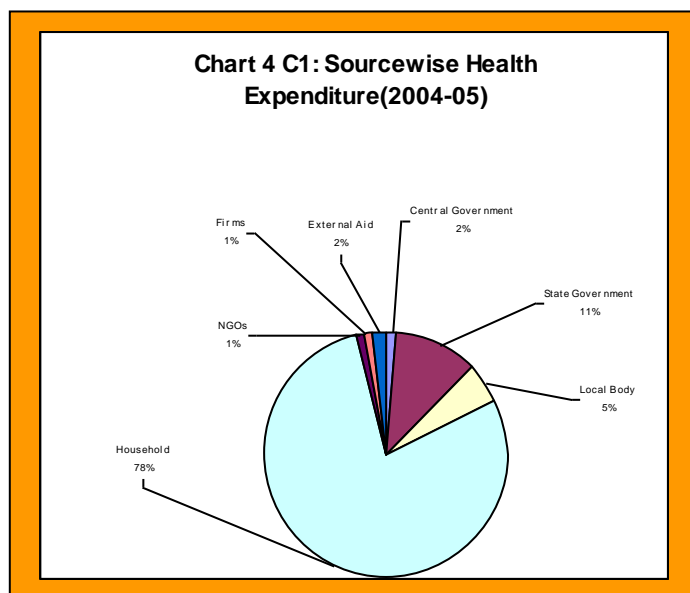
2001-02			2004-05		
Sources	Per capita (Rs.)	% to THE	Sources	Per capita (Rs.)	% to THE
Public	207	19.40	Public	142.62	17.69
Private	790	77.4	Private	647.74	80.32
External Aid	24	2.3	External Aid	16.06	1.99
Total	1021	100.00	Total	806.42	100.00
CSO, 2006(Compiled from NHA), 2001-02			CMDR, 2006		

The total overall expenditure on health care incurred by all public and private sources in Maharashtra state is estimated to be Rs.76482.58 million during the year 2004-05 (current expenditure). Table 4.13 and chart 4.C1 shown below indicate that in the private sector out-of-pocket expenditure by households is the major financing source in meeting health expenditure accounting for about 79%. Among public sources, state government has a major role to play as around 11% of the expenditure is met from state government finance. The share would be higher if we consider local government financing because the Zilla Panchayats and municipal bodies get financial assistance from state government. But, we consider local government as a source and agent in expenditure on health care functions for which funds are routed through local government bodies. **The 73rd and 74th Amendments to the Constitution have enabled transfer of many activities including health to local bodies. This is evident**

from the share of local government in health expenditure for Maharashtra (see Table 4.13 and matrix table 4.33 (FS X FA). However, the total health expenditure as share of State Domestic Product (SDP) 2004-05 at current prices is very low at 2.06%. The studies of CSO (2005) and NHA (2001-02) reveal total health expenditure to be more than 4% of Gross Domestic Product for the country.

Table 4.13 Source-wise Health Expenditure 2004-05

Sources	Rs in Million	%
Central Government	1197.61	1.57
State Government	8450.34	11.05
Local Body	3878.53	5.07
Household	60226.69	78.75
NGOs	679.84	0.89
Firms	526.48	0.69
External Aid	1523.09	1.99
Total SDP at current Prices (2004-05) & THE as % of SDP	76482.58	100.00
	37187.0080	2.06



The comparison of estimates developed by National Health Accounts (2001-02), National Commission on Macro Economics and Health (NCMH), CSO and CMDR for different periods for the country and for 2004-05 for Maharashtra is provided in Table 4.14.

Table-4.14
Total Health Expenditure of Maharashtra: Comparison with other
Estimates (%)

Sources of Funds	NHA (2001-02) India	NCMH (2005) India	CSO (2005) India	CMDR (2004-05) Maharashtra
Public				
Central Govt.	6.40	7.36	18.24	1.57
State Govt.	12.60	14.65	N.A.	11.05
Local Govt.	1.30	2.25	N.A.	5.07
Public Total	20.30	24.26	---	17.69
External Aid	2.30	0.21	N.A.	1.99
Private				
Households	72.00	70.00	81.76	78.75
Firms	5.30	5.19	N.A.	0.69
NGOs	0.10	0.34	N.A.	0.89
Private Total	77.40	75.53	---	80.32
Total	100.00	100.00	100.00	100.00

Table 4.14 shows that there is decline in public health expenditure over the years. It can be noted from the Table that that the share of local government expenditure is increasing.

4.3.2 Household Expenditure

Table 4.15 provides average treatment expenditure per sickness episode according to religion of the reporting sick person. Average expenditure incurred by sick persons belonging to Hindu religion is very high among sample households. And among Hindus it is higher for Scheduled Castes (SCs).

Table-4.15 Expenditure per sickness episode
by Religion

Religion	Expenditure per case (Rs.)
Hindu	964.35
SC	884.44
ST	147.52
Muslim	53.50
Christian	45.60
Sikh	1.53
Budhist	109.07
Jain	9.42
Others	0.02
Total	1183.50

Though the share of health expenditure in total household expenditure (given in Table 4.16) for the reference period is lower in the backward district of Nanded, the **expenditure per sickness episode according to social groups indicates that expenditure for SCs (household survey) is higher in Nanded as compared to other two districts.** Health expenditure constitutes a major item of household expenditure in Mumbai, which is one of the metropolitan cities in India. But, the per capita health expenditure is higher in Nashik district, which has higher percentage of ST population and very high percentage of BPL households (75%). The per capita income and per capita expenditure is also very low in rural Nashik (see Table 4.16). The burden of health expenditure for the household can be felt from the share of per capita health expenditure in per capita household income, which is 3% in Mumbai, but 5% in Nanded and 15% in Nashik.

Table-4.16
District-wise Household Health Expenditure

District	HH Health expd. as % to total income	HH Health expd. as % to total expenditure	Health Expenditure per sick case (Rs.)	Per capita HH income (Rs.)	Per capita HH Expenditure (Rs.)	Per capita HH Health Expenditure (Rs.)
Nanded	21.44	4.45	1284.92	12480.70	2587.57	582.06
Mumbai	29.47	20.34	1267.35	20650.72	14250.88	700.88
Nasik	6.56	4.43	888.31	4935.91	3337.59	752.89
Total	18.60	9.48	1183.50	12525.42	6381.87	673.53

Household Expenditure by Type of Health Care

Table 4.17 gives the details of sick cases according to the type of consultation opted by the reporting sick person. Outpatient constitutes 74% (59% +15%) including ISM & H, which is generally consulted for outpatient treatment. Outpatient treatment in ISM & H system is costlier compared to allopathic system. The cost of inpatient care is very high as it includes hospital rent, surgical treatment, diagnostic tests and medicines.

Table 4.17
Percentage of Sick Cases according to type of Consultation

District	Outpatient		Inpatient		Day Care		ISM & H		Total	
	% age to total cases	Per case cost (Rs.)	%age to total cases	Per case cost (Rs.)	%age to total cases	Per case cost (Rs.)	%age to total cases	Per case cost (Rs.)	%age to total cases	Per case cost (Rs.)
Nanded	52	918	16	3334	5	1932	27	649	26	1285
Mumbai	74	535	24	2135	1	859	1	519	33	968
Nasik	51	305	27	2189	4	483	18	690	41	888
Total	59	538	23	2435	3	1111	15	667	100	1016

Households incur major part of the health expenditure i.e. **around 59% on availing medicines and ancillary services** (see Table 4.18). **They spend 28% on inpatient care and negligible amount on health insurance (0.08%)**. Though outpatients constitute 74% (including ISM & H) (see Table 4.17 above) of the total reported cases, the expenditure incurred for outpatient care is 11% of total household health expenditure because it includes mainly consultation charges, which are lower compared to inpatient treatment cost.

Table 4.18
House hold Expenditure on Health in Maharashtra 2004-05 (Rs in Million)

Health Care	Rs in Million	%
Out Patient	6471.04	10.74
In Patient	17144.22	28.47
Day Care	1260.97	2.09
Medicines & Ancillary Services	35302.88	58.62
Insurance Premium	47.58	0.08
Total	60226.69	100.00

Source: Household Survey, CMDR

Outpatient care

Expenditure on general medical services constitutes major part of outpatient expenditure (See Table 4.18). ISM&H appears to be gaining popularity in rural Maharashtra as 18% and 27% of the sick have opted for treatment under these systems. But, the treatment is costly as 39% of the outpatient expenditure is incurred on these facilities. Since public referral services are generally cheaper, the expenditure on such facilities is less than 2% (1.9%) in outpatient expenditure.

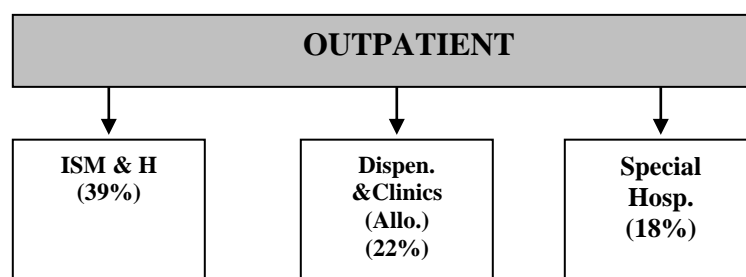


Table- 4.19
Percentage of Household Out Patient Expenditure By Health Care and Health Provider

ICHA Code	Providers	HC1.3	HC1.3.2	HC1.3.4	HC1.3.5	HC6.1	HC6.1.1	HC6.4	HCnsk	Total
		General Medical Services	Dental Services	ENT Services	Eye Care Services	MCH Services	Delivery at Home	Immunization	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP 1.1.2.1	PHC/PHU Rural	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.83
HP 1.1.2.2	PHC Urban	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
HP 1.1.2.3	CHC / Taluk Hospital	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
HP 1.1.2.4	District Hospital	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
HP 1.1.2.5	State Government's Department Hospital	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
HP 1.1.3	General Hospitals owned by Local Government	0.31	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.34
HP 1.1.4	Dispensaries / Clinic / Hospitals run by Corporate sector	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.26
HP 1.1.5	Private General Hospital (allopathic)	16.33	0.04	0.15	0.74	0.47	0.05	0.11	0.08	17.97
HP 1.1.7	Dispensaries / Clinic / Hospitals run by Co-operatives	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
HP 1.3	Specialty hospitals (allopathic)	15.83	0.18	0.79	1.14	0.25	0.02	0.00	0.00	18.20
HP 3.3.13	Traditional Birth Attendant	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
HP 3.4.1	Family planning welfare centers/ ANM centers	0.03	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.52
HP 3.4.5	Dispensaries and clinic (allopathic)	19.46	0.76	0.08	0.32	0.54	0.05	0.15	0.04	21.42
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	38.67	0.00	0.00	0.00	0.00	0.09	0.00	0.00	38.77
HP.3.4.9	All other outpatient multi specialty centers	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
HP 3.4.5.4	RMP /Quacks	0.44	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.45
HP 8.2.1.5	Private Teaching Hospital	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
HPnsk	Not Specified by kind	0.05	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.10
Total		92.98	1.25	1.04	2.24	1.79	0.33	0.26	0.12	100.00

Source: CMDR Survey 2006

Inpatient care

Major part of the expenditure on inpatient care shown in Table 4.20 is on surgical treatment (44%) followed by consultancy charges(10%). Dependence seems to be higher on charitable hospitals as 44% of the expenditure is incurred on services from these hospitals. This could be due to cheaper and quality service that is available in charitable hospitals, particularly in Mumbai.

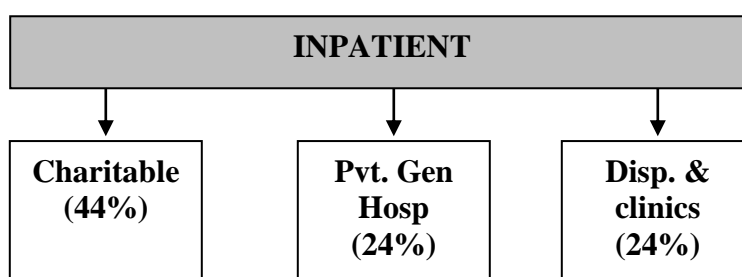


Table 4.20
Percentage of Household Inpatient Expenditure By Health Care and Health Provider

ICHA Code	Providers	HC1.1	HC1.1.1	HC6.1.1	HCnsk	Total
		Consultancy	Surgical Treatment	Maternal Health	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.005	0.000	0.000	0.000	0.005
HP 1.1.2.1	PHC/PHU Rural	0.001	0.000	0.000	0.000	0.001
HP 1.1.2.2	PHC Urban	0.004	0.000	0.000	0.021	0.026
HP 1.1.2.3	CHC / Taluk Hospital	0.005	0.079	0.000	0.060	0.144
HP 1.1.2.4	District Hospital	0.003	0.000	0.000	0.005	0.008
HP 1.1.2.5	State Government's Department Hospital	0.049	0.000	0.000	0.000	0.049
HP 1.1.3	ESIS Hospital	0.000	0.000	0.000	0.007	0.007
HP 1.1.3	General Hospitals owned by Local Government	0.090	0.653	0.235	0.250	1.228
HP 1.1.5	Private General Hospital (allopathic)	4.945	16.911	2.124	0.000	23.980
HP 1.1.6	Charitable hospital	0.000	43.755	0.000	0.000	43.755
HP 1.1.7	Dispensaries / clinic / Hospitals run by Co-operatives	3.096	0.000	1.483	0.301	4.880
HP 1.3	Specialty hospitals (allopathic)	0.142	0.000	0.000	0.000	0.142
HP 3.4.1	ANM centers	0.008	0.000	0.000	0.000	0.008
HP 3.4.9	All other outpatient multi specialty centers	0.391	0.070	0.000	0.009	0.470
HP 3.4.5	Dispensaries and clinic (allopathic)	0.791	22.550	0.000	0.880	24.220
HP 3.4.5 (ISM)	Dispensaries and clinic (ISM & H)	0.000	0.070	0.000	0.014	0.083
HP 3.4.5.4	RMP/Quacks	0.233	0.000	0.000	0.000	0.233
HP 7.2	Providers of home health care services	0.422	0.140	0.119	0.055	0.735
HP 8.2.1.5	Private Teaching Hospital	0.007	0.016	0.000	0.000	0.023
HPnsk		10.192	84.245	3.962	1.602	100.000

Source : CMDR Survey 2006

Daycare Service

Daycare services include admission of sick patients in to the hospital usually for prolonged hours of stay required on account of diagnostic tests, administration of saline, observation, etc. Household expenditure on day care is generally incurred on curative care (95%), while around 5% is spent on diet, travel, etc (see Table 4.21). Admission to day care treatment appears to be higher in private general hospitals, private clinics and specialty hospitals as around 75% of the day care expenditure is spent on services provided by these hospitals.

Table 4.21
Percentage of Household Day Care Expenditure By Health Care and Health Provider

ICHA Code	Providers	HC1.2	HC1.2.9	Total
		Curative care	Other treatment	
HP 1.1.2.1	PHC/PHU Rural	0.57	0.00	0.57
HP 1.1.2.2	PHC Urban	1.52	0.00	1.52
HP 1.1.2.3	CHC / Taluk Hospital	0.57	0.00	0.57
HP 1.1.2.4	District Hospital	0.96	0.00	0.96
HP 1.1.3	ESIS Hospital	0.19	0.00	0.19
HP 1.1.3	General Hospitals owned by Local Government	0.10	0.04	0.14
HP 1.1.5	Private General Hospital (allopathic)	27.42	4.53	31.95
HP 1.3	Specialty hospitals (allopathic)	15.10	0.00	15.10
HP 3.4.1	Family planning welfare centers	0.63	0.00	0.63
HP 3.4.5.2	Dispensaries and clinic (allopathic)	28.44	0.03	28.47
HP 3.4.5.2(ISM)	Dispensaries and clinic (ISM & H)	18.18	0.00	18.18
HP 3.4.5.3	RMP /Quacks	1.68	0.00	1.68
HP 8.2.1.5	Private Teaching Hospital	0.03	0.00	0.03
Total		95.39	4.61	100.00

Source: CMDR Survey 2006

Ancillary services

Drugs constitute 80% of the cost on ancillary services (see Table 4.22) of which 70% of the cost is on retail purchase. Out of this expenditure households incur 10% on supplies made by doctors or private clinics. The increasing use of diagnostic services is indicated by its substantial share, which is 12% in total expenditure on ancillary services.

Table 4.22
Percentage of Household Ancillary Services Expenditure by
Health Care and Health Provider

ICHA Code	Providers	Total
HP 3.5.1	Diagnostic imaging (lab facilities, STD laboratories, VCTCs)	7.15
HP 3.5.2	Clinical laboratories	4.56
HP 3.5.9	Any other ancillary services	1.00
HP 3.7	Patient Travel Cost	6.77
HP 3.9.2	Blood Banks	0.17
HP 4.1.1	Supplies of pharmaceuticals and medical goods (Medical shop)	70.35
HP 4.1.2	Drugs and Med- Doctor	9.79
HP 4.2	Glasses and vision products	0.15
HP 4.3	Hearing Aids	0.01
HP 4.4	Appliances and other Durables	0.05
Total		100.00

Source : CMDR Survey 2006

Household Expenditure by Provider of Service

Table 4.23 shows that households spend mainly on purchase of drugs and medical goods from retailers (49%) and on services provided by hospitals (27%). The other main expenditure is on ambulatory care. Around 23% of the expenditure on ambulatory care indicates three possibilities. One people can afford the cost of ambulatory care. Second the use of ambulances has become common due to its reduced cost on account of competition or social service. Thirdly, it indicates the need of emergency health services for the households, which could be on account of increasing cases of cardiac failure, acute diseases of circulatory system and accidents.

Table 4.23
Household Expenditure by Provider (Rs in Million)

Sl No	ICHA Code	Providers	Total HH Exp	%
1	HP1	Hospitals	16405.49	27.24
2	HP3	Providers of Ambulatory health care	13908.24	23.09
3	HP4	Retail Sale and Other Providers of Medical Goods	29662.75	49.25
5	HP6	General Health Administration & Insurance	47.58	0.08
6	HP7	Providers of Home Health Care Services	41.66	0.07
7	HP8	Teaching Hospital	150.38	0.25
8	HPnsk	Not Specified by Kind	10.58	0.02
Total			60226.69	100.00

Household Expenditure by Health Care Function

Households spending according to health care functions presented in Table 4.24 indicates that it is mainly on curative care. Expenditure on medical goods, which is 49% of health expenditure is also part of the curative care

Table 4.24
HH Expenditure by Health Care Functions (Rs in Million)

SI No	ICHA CODE	Function Description	HHs	%
1	HC1	Services of curative care	23377.84	38.82
2	HC4	Ancillary services to medical care	6115.77	10.15
3	HC5	Medical good dispensed to outpatients	29558.11	49.08
5	HC7	Health Administration	858.23	1.43
6	HC9	HC Expenditure not specified by Kind	269.16	0.45
7		Insurance Premium	47.58	0.08
		Total	60226.69	100.00

Household Expenditure by Levels of Health Care

Excluding the cost of medicines and ancillary services, which account for more than half of the health expenditure, households spend 17% of the expenditure on tertiary care (see Table 4.25).

Table-4.25
HH Expenditure on Health by Level of Health Care during 2004-05

Level of Health Care	Rs in Million	%
Primary	6790.68	11.28
Secondary	6146.62	10.21
Tertiary	10290.60	17.09
Family welfare	43.21	0.07
Medicines & Ancillary Services	34418.09	57.15
Insurance Premium	47.58	0.08
Patient Travel Cost	2489.91	4.13
Total	60226.69	100.00

4.3.3 Public Expenditure

Public expenditure generally includes curative care (hospitals and dispensaries), preventive care such as control of diseases, promotive care including family welfare (maternal and child health), immunization, medical education, social security (ESIS), food and drug

administration, capital expenditure on infrastructure and supplies, etc. Central, State and Local governments are the main sources of public expenditure. State government is a major source of public expenditure (see Table 4.26). But, it meets more than 70% of the public expenditure on health if we include its contribution in local government fund and ESIS. The share of local government expenditure in total budget, which is 27% indicates that Maharashtra government is involving local government in the provision of health care services. External funding is an important source of public expenditure in Maharashtra as it accounts for more than 10% of total budget expenditure (see Table 4.26).

Table-4.26
Source wise Budget Expenditure on Health during 2004-05

Sources	Rs in Million	%
Central Government	1197.61	8.38
State Government	6663.63	46.65
Local government	3878.53	27.15
External Fund	1523.09	10.66
ESIS	1020.86	7.15
Total	14283.73	100.00

The major budgetary heads of expenditure and their respective share in total health expenditure are presented in Table 4.27 below.

Table 4.27
Summary of Budgetary Expenditure by Major Heads 2004-05

Major Heads	Description	Rs in Million	%
2210	Medical and public health	12036.28	84.27
2211	Family welfare	1445.65	10.12
2235	Social security and welfare	51.26	0.36
2251	Secretariat social services	23.91	0.17
4210	Capital outlay on medical and public health	726.63	5.09
	Total	14283.73	100.00

Medical and Public Health [2210]

Medical and Public Health is a major item of expenditure under state government budgetary heads. Its major component is public health constituting 59% of its expenditure heads (see Table 4.28). Public health includes disease control programmes covering mainly rural areas. Urban health services under allopathy receive 40% of the expenditure on medical and public health. Here the expenditure is mainly on hospitals and dispensaries. Since

Maharashtra is an industrial state around 24% of the medical and public health expenditure on urban health services (i.e. Rs. 1139 millions) is spent on ESIS.

Table 4.28
Budget Expenditure on Medical and public health (2210)

Sub Heads	Description	Rs in Million	%
01	Urban health services-allopathy	4682.82	38.91
03	Rural health services-allopathy	195.85	1.63
06	Public health	7142.56	59.34
80	General	15.04	0.12
	Total	12036.28	100.00
Budget Expenditure on Urban health services-allopathy 01			
Sub Heads	Description	Rs in Million	%
001,	Direction and administration	506.05	10.81
102	Employees state insurance scheme	1139.00	24.32
110,	Hospitals and dispensaries	3037.78	64.87
	Total	4682.82	100.00

Family Welfare (FW) [2211]

Major component of FW budgetary expenditure is on Direction and Administration accounting for 32%. Other major head of expenditure amounting to 22% is on maternal and child health (MCH) -22%.

Table-4.29
Budget Expenditure on Family Welfare (2211)

Sub Heads	Description	Rs in Million	%
001	Direction and administration	456.06	31.55
003	Training	71.51	4.95
101	Rural family welfare services	236.37	16.35
102	Urban family welfare services	116.84	8.08
103	Maternity and child health	307.85	21.29
104	Transport	29.33	2.03
105	Compensation	188.56	13.04
200	Other services and supplies	39.13	2.71
	Total	1445.65	100.00

Source : Civil Budget Estimates 2006-07 Government of Maharashtra

Expenditure by levels of health care presented in Table 4.30 indicates that **major component of government expenditure is incurred on secondary care**, which includes hospitals and referral services at block level. Primary care is one-fourth of health expenditure.

Prevention of diseases and family welfare are other major two components of budgetary expenditure. Expenditure on tertiary care is very low being only 5% of budgetary expenditure.

Table-4.30
Budget Expenditure on Health by Level of Health Care during 2004-05

Level of Health Care	Rs in Million	%
Primary	3636.55	25.46
Secondary	5239.92	36.68
Tertiary	758.63	5.31
Public Administration	779.39	5.46
Prevention & Control of Diseases	1621.79	11.35
Family welfare	1445.65	10.12
Social security and welfare	51.26	0.36
Secretariat social services	23.91	0.17
capital outlay on medical and public health	726.63	5.09
Total	14283.73	100.00

Public hospitals are the main providers of health services receiving budgetary support accounting for about 45% of budgetary expenditure. **Expenditure not specified by kind (nsk) is very high (27%)** when we classify expenditure according to provider of services. Due to gaps in accounting system of government budget public is denied of the information on who is the provider of services for expenditure amounting to Rs.3879 million, which is more than one-fourth of total budget expenditure.

Table-4.31
Provider wise Budget Expenditure on Health During 2004-05

ICHA Code	Description	Rs in Million	%
HP1	Hospitals	6395.74	44.78
HP3	Providers of Ambulatory health care	1034.19	7.24
HP4	Retail sale and other providers of medical goods	2.88	0.02
HP5	Provision and administration of public health programmes	1744.23	12.21
HP6	General health administration and insurance	759.24	5.32
HP8	Teaching hospitals	468.91	3.28
HPnsk	Not specified by kind	3878.53	27.15
Total		14283.73	100.00

Table 4.32 indicates that not specified by kind amounts to 42% of total budget expenditure presented according to health care activities. Since the state budget does not provide details of these expenditures, which are classified as 'other expenditure' all such expenditures are clubbed against not specified by kind. This expenditure includes grants given to Zilla Panchayats. As the link documents for Zilla Panchayats were not available for

Maharashtra we could not trace final expenditure under these heads. Expenditure not specified by kind probably indicates the discretionary power given to ZPs for making health expenditure. **Curative services and capital expenditure are the major items of government expenditure on health.**

Table-4.32
Health Care wise Budget Expenditure during 2004-05

ICHA Code	Description	Total	%
HC1	Services of curative care	3297.19	23.08
HC4	Ancillary services to medical care	165.65	1.16
HC5	Medical goods dispensed to outpatients	2.82	0.02
HC6	Prevention and public health services	1288.37	9.02
HC7	Health administration	1347.48	9.43
HC9	Not specified by kind	6003.62	42.03
HCR1	Capital expenditure	2005.61	14.04
HCR2	Education and training of health personnel	75.84	0.53
HCR3	Research and development in health	14.36	0.10
HCR4	Food hygiene and drinking water control	82.80	0.58
Total		14283.73	100.00

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra

4.3.4 Health Matrices

To present the inflow and outflow of resources from source to agents, agents to providers and from providers to beneficiaries the health expenditure for Maharashtra has been presented in the form of following five matrices.

- **Source of Finance and Financing Agents (FS X FA)**
- **Source of Finance and Provider of Service (FS X HP)**
- **Source of Finance and Health Care Functions (FS X HC)**
- **Source of Finance and Level of Health Care Functions (FS X F)**
- **Health Providers and Health Care Functions (HP X HC)**

Table 4.33
Percentage of Health Expenditure by Source of Finance and Financing Agents to Total Expenditure, in Maharashtra, 2004-05 (FS X FA)

Sl No	ICHA Code	Financing Agents (FA)	Financing Source (FS)								Total
			MoHFW	H & FW Dept	ESIS	Other Departments	HHs (Rs)	NGO	Firms	External Aid	
			FS1.1.1	FS1.1.2.1	FS1.1.2.3	FS1.1.2.2	FS2.2	FS2.3	FS2.1	FS3	
1	HF1.1.1.1	Central Government	1.57								1.57
2	HF1.1.2.1	State Government		8.71			0.47				9.18
3	HF1.1.3	Local Government		5.07			2.80				7.87
5	HF2.3	Private/Households out of pocket payment					75.41				75.41
6	HF1.1.2.2	Other State Departments				1.00					1.00
7	HF1.2.1	ESIS			1.33						1.33
8	HF2.2	Other Private Insurance					0.06				0.06
9	HF2.4	NGO						0.89			0.89
10	HF2.5	Firms							0.69		0.69
11	HF3	External Aid								1.99	1.99
		Total	1.57	13.78	1.33	1.00	78.75	0.89	0.69	1.99	100.00

Source : Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Matrices on source-wise resource flow to financing agents in health care given in Table 4.33 (FSXFA) bring out clearly the fact that households are the major source as well the agent in financing total health expenditure, which is routed through out-of-pocket expenditure. In the public sector, Health and Family Welfare Department (H&FW) is the major source of financing health care. Though the finances to different departments flow from Centre, State and Local government, the departments are considered as sources in the matrices (FSXFA) and in health accounting, as they are the ultimate sources of expenditures for providing different health care services. While NGOs and firms account for about 2% of financing source and agent, insurance including ESIS accounts for less than 1.5%. **In an industrial state like Maharashtra the coverage of ESIS appears to be low if we consider the overall health expenditure.** As ESIS is a social security scheme and is subsidized by the government, private contribution to ESIS is negligible. With the decentralization of governance local bodies have a significant role in public health expenditure as indicated in Table 4.33, which shows around 8% (when local governments are considered as financing agent) of expenditure to be routed through local government bodies. World Bank and German

Aid are the two external sources of funding accounting for about 2% of total expenditure in Maharashtra.

Table- 4.34
Percentage of Health Expenditure to Total Expenditure by Source of Finance and Provider, Maharashtra 2004-05, (FS X HP)

SI No	ICHA Code	Providers	Sources of Finance							Grand Total
			Public		Total HH Exp		Total NGO	Total Firms	External Agencies	
			H & FW Dept	Other depts	Out Of Pocket	Insurance Premium				
			FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	FS3	
1	HP1	Hospitals	6.44	0.01	21.45				1.92	29.82
2	HP3	Providers of Ambulatory health care	1.35		18.18					19.54
3	HP4	Retail Sale and Other Providers of Medical Goods			38.78					38.79
4	HP5	Provision & Administration of Public Health Programmes	2.21						0.07	2.28
5	HP6	General Health Administration & Insurance	0.99							0.99
6	HP7	Providers of Home Health Care Services			0.05					0.05
7	HP8	Teaching Hospital	0.61	0.31	0.20					1.12
8	HPnsk	Not Specified by Kind	5.07	0.68	0.01					5.77
		Provider information not available			0.00	0.06	0.89	0.69		1.64
9		Total	16.68	1.00	78.68	0.06	0.89	0.69	1.99	100.00

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

As discussed earlier households and **H&FW department is the major source of expenditure on health care** (see Table 4.34). Out-of-pocket expenditure incurred by households is incurred mainly on the purchase of drugs and medical goods from retail shops where they spend around 39% of the total expenditure. 22% and 18% respectively is spent on the provision of services from hospitals and on ambulatory care. **NGOs and firms together meet around 2% of the health expenditure.** But, we do not know who ultimately provides the services under the finance from NGOs and firms, as provider-wise information is not available for these two sources.

Table 4.35
Percentage of Health Expenditure by Financing Sources and Health Care Functions (FS X HC)
to Total in Maharashtra during 2004-05

ICHA CODE	Function Description	Financing Source							Total
		H & FW Dept	Other Departments	HHs		NGO Sector	Corporate Sector	External Agencies	
				Out of Pocket	Insurance Premium				
		FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	FS3	
HC1	Services of curative care	4.31	0.01	30.57					34.88
HC4	Ancillary services to medical care	0.21		8.00				0.01	8.21
HC5	Medical good dispensed to outpatients			38.65					38.65
HC6	Prevention and public health services	1.64						0.05	1.68
HC7	Health Administration	1.47		1.12				0.29	2.88
HC9	HC Expenditure not specified by Kind	7.36	0.68	0.35				0.49	8.89
HCR1	Capital Expenditure	1.46	0.31					1.16	2.93
HCR2	Education and Training of Health Personnel	0.10							0.10
HCR3	Research and Development in Health	0.02							0.02
HCR4	Food, hygiene and drinking water control	0.11							0.11
Function information not available					0.06	0.89	0.69		1.64
Total		16.68	1.00	78.68	0.06	0.89	0.69	1.99	100.00

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Matrices on health expenditure by financing sources and health care functions (FSXHC) given in Table 4.35 also indicate **that major expenditure is by households, which is spent on medicines made available to outpatients, followed by curative services.** Health expenditure not specified by kind is more than 8% and these functions are met through state government departments. This amounts to Rs.6796 millions and we cannot trace where ultimately the money is spent and on what services under other expenditure.

The financing sources for capital expenditure are state government and external agencies. Capital expenditure accounts for 3% of total expenditure. Table 4.35 shows that external agencies have financed mainly the capital expenditure, which is towards the provision of machinery and equipment and materials and supplies.

Table 4.36
Percentage of Health Expenditure by Financing Sources and Level of Health Care Functions (FS X F) to Total in Maharashtra during 2004-05

Function Description	Financing Source (FS)						Total
	H & FW Dept	Other Departments	HHs		NGO Sector	Corporate Sector	
			Out of Pocket	Insurance Premium			
	FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	
Primary	4.75		8.88				13.63
Secondary	6.85		8.04				14.89
Tertiary	0.99		13.45				14.45
Public Administration	1.02						1.02
Prevention & Control of Diseases	2.12						2.12
Family welfare	1.89		0.06				1.95
Social security and welfare	0.07						0.07
Secretariat social services	0.03						0.03
capital outlay on medical and public health	0.95						0.95
Medicines & Ancillary Services			45.00				45.00
Patient Travel Cost			3.26				3.26
Function information not available		1.00		0.06	0.89	0.69	2.64
Total	18.68	1.00	78.68	0.06	0.89	0.69	100.00

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Household and budgetary health expenditures were codified according to the levels of health care on which the expenditures were made to know the flow of resources in to different levels of health care viz. primary, secondary and tertiary care. Since expenditure pattern does not reveal the utilization pattern or the extent of need for different levels of health care an attempt was made to find out utilization pattern from the household data to link it to total expenditure. The specific data on use of dispensaries, clinics, PHCs, general and specialty hospitals, private doctors and the nature of illness facilitated their coding according to levels of health care. Matrices (4.36) on health expenditure by financing sources and levels of health care indicate that public sector spending is more (6.85%) on secondary care, which includes hospitals and referral services. **Less than 1% is spent on tertiary care in Maharashtra. But, the household pattern shows that the use of public facilities in tertiary care is 47% and the household expenditure on tertiary care is more than the expenditure on primary and secondary care.** This is obvious as the cost of tertiary care generally includes inpatient

treatment, surgical cost, intensive and emergency care. But, utilization pattern indicates the preference of the public for tertiary care as well the need for it.

Table- 4.37
Percentage of Health Expenditure for Health Providers and Health Care Functions (HP X HC) to Total expenditure in Maharashtra during 2004-05

HP \ HC	HP1	HP3	HP4	HP5	HP6	HP7	HP8	HPnsk	Other Dept.	Insurance Premium by HHs	NGO	Firm	Total
HC1	24.62	9.94	0.09			0.05	0.16	0.01					34.88
HC4	0.06	8.12		0.02									8.21
HC5			38.65										38.65
HC6	0.99	0.17	0.04	1.54			0.06						2.81
HC7	1.08	0.02		0.05	0.61								1.76
HC9	0.97	1.01		0.45	0.24		0.46	5.07					8.20
HCR1	1.99	0.28		0.21	0.14		0.01						2.62
HCR2							0.10						0.10
HCR3							0.02						0.02
HCR4	0.11												0.11
Function information not available									1.00	0.06	0.89	0.69	2.64
	29.81	19.54	38.79	2.28	0.99	0.05	0.81	5.08	1.00	0.06	0.89	0.69	100.00

Purchase of medicines from retailers is the major component of health expenditure (see Table 4.37). The provider and health care function-wise health care expenditure indicates that hospitals are the main providers of health services where the expenditure is incurred on curative care. 20% of the expenditure is made on provision of ambulatory care and around 8% is spent on ancillary services, which include medical equipments, diagnostics, etc.

V. Conclusion

Health accounts for Maharashtra compiled for the period 2004-05 reveal that households are the major sources of financing health care expenditure followed by state government. Due to Constitutional Amendments, local governments have emerged as one of the main agents financing health services. Though the share of external agencies is lower in overall expenditure (1.99%), their contribution in government spending is significant amounting to 11%. The study reveals that households spend mainly on purchase of medicines and on curative services. Government also spends major part on curative services. Household expenditure and use of facility is higher in tertiary care, while government expenditure is more on secondary care. Household utilization of Public facilities for MCH is also higher, whereas government expenditure on MCH is just 2% of Family Welfare Expenditure. So it can be assumed that there is a mismatch between public need and public expenditure.

The backward district of Nanded has lower utilization of public facility, higher percentage of households traveling more than 10 kms to reach health facility, higher reporting of communicable diseases, higher probability of sickness and high per case treatment cost as compared to other sample districts. This suggests that there is uneven distribution of health care facility in Maharashtra state indicating the need for increasing public health expenditure in rural and backward districts of the state.

5.1 Major insights gained from the study

- Majority of the sample households belong to Hindu religion followed by Buddhist and Muslim. This is in contrast to other selected states where the percentage of Muslims is higher next to Hindu religion.
- Among the social groups the sample is represented mainly by other backward castes (41%) followed by general categories.
- Though Nanded is considered to be the backward district among the selected districts, the percentage of households Below Poverty Line (BPL) is very high in Nashik district (76%). This could be because the percentage of ST population is very high in rural areas of Nashik district.
- Availability of public facilities appears to be lower in the backward district of Nanded as only 5% of the households have used public health facility.

- Per capita household health expenditure is highest in backward district of Nanded among selected districts
- Expenditure on general medical services constitutes major part of outpatient expenditure
- Major part of household expenditure on inpatient care is on surgical treatment (44%) followed by consultancy charges (10%)
- Dependence seems to be higher on charitable hospitals as 44% of the household expenditure is incurred on services from these hospitals
- ISM&H appears to be gaining popularity in rural Maharashtra as 18% and 27% of the sick have opted for treatment under these systems in Nashik and Nanded respectively. But, the treatment is costly as 39% of the outpatient expenditure is incurred on these facilities and per case cost is Rs. 667, which is higher compared to other outpatient expenditure.
- The overall source-wise expenditure for Maharashtra state indicates the significant and increasing use of private sector in health care provision. If we compare the CSO estimates for 2001-02, there is decline in the share of public expenditure both in terms of per capita expenditure and its share in total health expenditure. CMDR estimates also indicate there is decline in the share of public expenditure in healthcare in Maharashtra.
- Private sector out-of-pocket expenditure by households is the major financing source in meeting health expenditure (79%). Among public sources, state government has a major role to play as around 11% of the expenditure is met from state government finance.
- In the public expenditure Medical & Public Health constitutes 84% followed by 10% expenditure on FWP. And 59% of Medical and Public Health is spent on public health (programmes), while in FWP 32% is on Direction and Administration and 22% is on MCH.
- Use of public facilities by households is more than 50% on MCH and immunization and 30% for inpatient care. When we look into utilization pattern of public facilities

by levels of care it is 42% for primary care, 11% for secondary care and 47% for tertiary care. The state budgetary expenditure on MCH is just 21% of the expenditure on family welfare. And, expenditure by levels of care indicates that government expenditure on tertiary level constitutes less than 1% of total health expenditure (public+private) and 5% of total budgetary health expenditure of the government. Government expenditure on inpatient care is not available. Since most of the inpatient care is in tertiary sector we may assume that the government expenditure is not in accordance with the preferences or need of the public for MCH and tertiary care.

- Dependence on private sector is increasing due to the need for tertiary care, which is absent in public sector.
- Higher incidence of communicable diseases in the backward district of Nanded indicates the need for increasing resource flow to prevention of diseases.
- Contribution of private insurance sector is negligible being just 0.06 percent.
- With the decentralization of governance local bodies have a significant role in public health expenditure
- Health expenditure by financing agent and health care functions indicates that health expenditure not specified by kind is around 9% of the total health expenditure.
- External agencies finance mainly capital expenditure, which is for machinery and equipment and for provision of materials and supplies. World Bank and German Aid are the two external sources of funding accounting for about 2% of total expenditure in Maharashtra.

5.2 Recommendations

- Attempt to develop matrices according to sub headings i.e. programmes and activities could help in linking requirements with expenditure and performance in health sector.
- If the public expenditure items in the budget documents are presented according to accepted codes of classification then it may be useful to compare and quickly identify

the sector-wise, source-wise, agent-wise, provider-wise and function wise expenditure and the role of each entity in health care provision.

- Maharashtra has highest incidence of AIDS cases (MHDR 2002) and reporting is higher for communicable diseases in rural areas. We have not linked expenditure to these diseases due to lack of expenditure information. The study indicates that there is need for increasing budgetary expenditure on prevention of these diseases.
- Health accounts for Maharashtra indicate that in household expenditure, around 49% is spent on medicines and medical goods. But, we could not present how much of this expenditure is incurred on outpatient and inpatient treatment.
- This is a pioneering exercise developed for three states in India. The information from households, NGOs and firms was collected through administration of schedule, the copies of which are presented in the Appendix. In any future initiatives we suggest that there is need for improving upon the questionnaire particularly, in terms of age wise details of family members, reported sick cases, reporting of health expenditure on pregnancy and delivery cases under separate heads, expenditure on treatment according to provider of service, type of illness, benefits received from government health schemes or corporate health schemes, purchased of medicines according to type of illness or preventive purpose, expenditure on vitamins, health enhancing drugs or drinks, collection of information from Firms according to health services provided and the number of beneficiaries, etc.

5.3 Limitations of the Study

- Health expenditure on sub heads such as salaries under each of the services is not bifurcated. This head accounts for major expenditure and its accounting could have thrown light on actual share of programmes and services in health expenditure.
- The study does not present accounting according to programmes, the absence of which excludes expenditure information according to sources, agents, providers and health care functions on immunization, communicable diseases, specific disease such as AIDS, etc.

- Details of health expenditure incurred by parastatal companies such as Railways, Maharashtra Road Transport Corporation (MSRTC) and Mumbai Metropolitan Transport Services were not available hence, not included in health accounting.
- NGOs, firms and other state departments have not supplied information on function wise break up of expenditure. Hence we could not identify the health care functions on which these entities have made the expenditure.

**Table A.4-1
Summary by Major Heads 2004-05**

Major Heads	Description	Sub Heads
2210	Medical and public health	Urban health services-allopathic
		Rural health services-allopathic
		Public health
		General
2211	Family welfare	Direction and administration
		Training
		Rural family welfare services
		Urban family welfare services
		Maternity and child health
		Transport
		Compensation
		Other services and supplies
2235	Social security and welfare	Social Welfare
		Child Welfare
		Nehru Bal Kalyan Yojana (22352332)
		Savitribai Phule Kanya Kalyan Yojana (22352386)
		Women Welfare
		Dr. Anandibai Joshi Gaurav Award (22353186)
		Deposit linked insurance schemes
2251	Secretariat social services	Secretariat
		Public Health Department
		Family Welfare Cell in Secretariat (22510187)
4210	capital outlay on medical and public health	Urban Health Services
		Hospitals and dispensaries
		Construction of District Hospital and Residential quarters at oras, district -Sindhudurga (42100355)
		World Bank Assisted District Health System Project Construction of Hospitals (42100426)
	Total	

Table A.4.2
Health Care Programmes in Government Budget

ICHA	Description	Rs in Million	%
HC1.1	Services of Curative Care	2060.88	14.43
HC1.2	Day Cases of Curative Care	836.945	5.86
HC1.3.3	All Other Specialized Medical Services	399.367	2.80
HC4.1	Public Health Laboratories	60.725	0.43
HC4.3	Travel Expenses	104.927	0.73
HC5.2.9	Manufacture of Sera / Vaccine -	2.815	0.02
HC6.1	Family Welfare	166.177	1.16
HC6.3	Prevention of Communicable diseases	940.227	6.58
HC6.4	Prevention of non Communicable diseases	174.343	1.22
HC6.9	All other miscellaneous Public Health Services	7.621	0.05
HC7.1	General Govt. Administration on Health	1183.032	8.28
HC7.1.3	Maintenance Work	12.306	0.09
HC7.2.1	Health Administration & Health Insurance	152.142	1.07
HC9	Other Expenses & Grants in Aid	6003.615	42.03
HCR1	Machinery and Equipment/ Material and Supplies	2005.607	14.04
HCR2	Education and Training of Health personnel	72.177	0.51
HCR3	Research and Development in Health	14.36	0.10
HCR4	Food, Hygiene and drinking water Control	82.8	0.58
HCR7	Scholarships and Stipends	3.66	0.03
	Total	14283.726	100.00

Table A-4.3
Household Outpatient Expenditure By Health Care and Health Provider (Rs in Million)

ICHA Code	Providers	HC1.3	HC1.3.2	HC1.3.4	HC1.3.5	HC6.1	HC6.1.1	HC6.4	HCnsk	Total
		General Medical Services	Dental Services	ENT Services	Eye Care Services	MCH Services	Delivery at Home	Immunization	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80
HP 1.1.2.1	PHC/PHU Rural	53.60	0.00	0.00	0.00	0.40	0.00	0.00	0.00	54.00
HP 1.1.2.2	PHC Urban	17.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.23
HP 1.1.2.3	CHC / Taluk Hospital	17.09	0.00	0.00	0.00	0.20	0.00	0.00	0.00	17.29
HP 1.1.2.4	District Hospital	8.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.95
HP 1.1.2.5	State Government's Department Hospital	2.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68
HP 1.1.3	General Hospitals owned by Local Government	19.85	0.00	0.32	0.08	1.84	0.00	0.00	0.00	22.08
HP 1.1.4	Dispensaries / clinic / Hospitals run by Corporate sector	0.00	16.95	0.00	0.00	0.00	0.00	0.00	0.00	16.95
HP 1.1.5	Private General Hospital (allopathic)	1057.01	2.40	9.99	47.82	30.38	3.20	6.80	4.96	1162.56
HP 1.1.7	Dispensaries / clinic / Hospitals run by Co-operatives	0.80	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81
HP 1.3	Specialty hospitals (allopathic)	1024.19	11.91	50.85	73.56	15.99	1.20	0.00	0.00	1177.71
HP 3.3.13	Traditional Birth Attendant	0.00	0.00	0.00	0.00	0.00	7.20	0.00	0.00	7.20
HP 3.4.1	Family planning welfare centers/ANM centers	1.80		0.00	0.00	31.98	0.00	0.00	0.00	33.78
HP 3.4.5	Dispensaries and clinic (allopathic)	1259.50	49.41	4.96	20.87	35.18	3.20	9.99	2.88	1385.99
HP 3.4.5(ISM)	Dispensaries and clinic (ISM & H)	2502.60	0.00	0.16	0.00	0.00	6.00	0.00	0.00	2508.76
HP.3.4.9	All other outpatient multi specialty centers	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
HP 3.4.5.4	RMP /Quacks	28.43	0.00	0.80	0.00	0.00	0.00	0.00	0.00	29.22
HP 8.2.1.5	Private Teaching Hospital	17.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.83
	HPnsk	3.20	0.00	0.00	2.56	0.00	0.40	0.00	0.00	6.16
	Total	6016.59	80.68	67.09	144.89	115.98	21.19	16.79	7.84	6471.04

Source: CMDR Survey 2006

Table A.4.4
Household Expenditure on Inpatients By Health Care and Health Provider

ICHA Code	Providers	HC1.1	HC1.1.1	HC6.1.1	HCnsk	Total
		Consultancy	Surgical Treatment	Maternal Health	Any other	
HP 1.1.1	General hospitals (allopathic) of Central Government ministries/Departments	0.80	0.00	0.00	0.00	0.80
HP 1.1.2.1	PHC/PHU Rural	0.16	0.00	0.00	0.00	0.16
HP 1.1.2.2	PHC Urban	0.64	0.00	0.08	3.68	4.40
HP 1.1.2.3	CHC / Taluk Hospital	0.80	13.59	0.00	10.31	24.71
HP 1.1.2.4	District Hospital	0.60	0.00	0.00	0.80	1.40
HP 1.1.2.5	State Government's Department Hospital	8.48	0.00	0.00	0.00	8.48
HP 1.1.3	ESIS Hospital	0.00	0.00	0.00	1.28	1.28
HP 1.1.3	General Hospitals owned by Local Government	15.47	112.02	40.22	42.86	210.57
HP 1.1.5	Private General Hospital (allopathic)	847.72	2899.30	364.21	0.00	4111.23
HP 1.1.6	Charitable hospital	0.00	7501.40	0.00	0.00	7501.40
HP 1.1.7	Dispensaries / clinic / Hospitals run by Co-operatives	0.08	0.00	0.00	0.00	0.08
HP 1.3	Specialty hospitals (allopathic)	530.77	0.00	254.27	51.57	836.61
HP 3.4.1	ANM centers	24.31	0.00	0.00	0.00	24.31
HP.3.4.9	All other outpatient multi specialty centers	1.44	0.00	0.00	0.00	1.44
HP 3.4.5	Dispensaries and clinic (allopathic)	67.01	11.99	0.00	1.60	80.60
HP 3.4.5 (ISM)	Dispensaries and clinic (ISM & H)	135.53	3866.00	0.00	150.85	4152.38
HP 3.4.5.4	RMP /Quacks	0.00	11.99	0.00	2.32	14.31
HP 7.2	Providers of home health care services	39.98	0.00	0.00	0.00	39.98
HP 8.2.1.5	Private Teaching Hospital	72.28	23.99	20.39	9.44	126.09
HPnsk		1.20	2.80	0.00	0.00	4.00
Total		1747.26	14443.09	679.17	274.71	17144.22

Source: CMDR Survey 2006

Table A.4.5: Household Day Care Expenditure By Health Care and Health Provider (Rs in Million)

ICHA Code	Providers	HC1.2	HC1.2.9	Total
		Curative care	Other treatment	
HP 1.1.2.1	PHC/PHU Rural	7.20	0.00	7.20
HP 1.1.2.2	PHC Urban	19.19	0.00	19.19
HP 1.1.2.3	CHC / Taluk Hospital	7.20	0.00	7.20
HP 1.1.2.4	District Hospital	12.07	0.00	12.07
HP 1.1.3	ESIS Hospital	2.40	0.00	2.40
HP 1.1.3	General Hospitals owned by Local Government	1.20	0.56	1.76
HP 1.1.5	Private General Hospital (allopathic)	345.74	57.17	402.91
HP 1.3	Specialty hospitals (allopathic)	190.46	0.00	190.46
HP 3.4.1	Family planning welfare centers	8.00	0.00	8.00
HP 3.4.5.2	Dispensaries and clinic (allopathic)	358.60	0.40	359.00
HP 3.4.5.2(ISM)	Dispensaries and clinic (ISM & H)	229.20	0.00	229.20
HP 3.4.5.3	RMP /Quacks	21.19	0.00	21.19
HP 8.2.1.5	Private Teaching Hospital	0.40	0.00	0.40
Total		1202.84	58.13	1260.97

Source: CMDR Survey 2006

Table A.4.6
Health Expenditure by Source of Finance and Financing Agents, in Maharashtra,
2004-05 (FS X FA) Rs in Million

Sl No	ICHA Code	Financing Agents (FA)	Financing Source (FS)							Total	%	
			MoHF W	H & FW Dept	ESIS	Other Departments	HHs (Rs)	NGO	Firms			External Aid
			FS1.1.1	FS1.1.2.1	FS1.1.2.3	FS1.1.2.2	FS2.2	FS2.3	FS2.1			FS3
1	HF1.1.1.1	Central Government	1197.61				1.67				1199.28	1.6
2	HF1.1.2.1	State Government		6663.63			358.38				7022.00	9.2
3	HF1.1.3	Local Government		3878.53			2144.00				6022.53	7.9
4	HF2.3	Private/Households out of packet payment					57675.06864				57675.069	75.4
5	HF1.1.2.2	Other State Departments				765.85					765.85	1.0
6	HF1.2.1	ESIS			1020.86						1020.86	1.3
7	HF2.2	Other Private Insurance					47.58				47.58	0.1
8	HF2.4	NGO						679.84			679.84	0.9
9	HF2.5	Firms							526.48		526.48	0.7
10	HF3	External Aid								1523.09	1523.09	2.0
		Total	1197.61	10542.16	1020.86	765.85	60226.69	679.84	526.48	1523.09	76482.58	100.0
		%	1.6	13.8	1.3	1.0	78.7	0.9	0.7	2.0	100.0	

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Table A.4.7
Total Health Expenditure by Source of Finance and Provider, in Maharashtra 2004-05, (FS X HP) Rs. in Million

Sl No	ICHA Code	Providers	Sources of Finance							Grand Total
			Public		Total HH Exp		Total NGO	Total Firms	External Agencies	
			H & FW Dept	Other depts	Out Of Pocket	Insurance Premium				
			FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	FS3	
1	HP1	Hospitals	4929.14	4.59	16405				1466.60	22805.83
2	HP3	Providers of Ambulatory health care	1034.19		13908					14942.44
3	HP4	Retail Sale and Other Providers of Medical Goods	2.88		29663					29665.63
4	HP5	Provision & Administration of Public Health Programmes	1687.74						56.49	1744.23
5	HP6	General Health Administration & Insurance	759.24							759.24
6	HP7	Providers of Home Health Care Services			42					41.66
7	HP8	Teaching Hospital	468.91	237.56	150					856.86
8	HPnsk	Not Specified by Kind	3878.53	523.70	11					4412.81
		Provider information not available				47.58	679.84	526.48		1253.90
9		Total	12760.64	765.849	60179	47.58	679.84	526.48	1523.09	76482.58
		%	16.68	1.00	78.68	0.06	0.89	0.69	1.99	100.00

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Table A.4.8
Health Expenditure by Financing Source and Health Care Functions (FS X HC) in
Maharastra during 2004-05 Rs in Million

ICHA CODE	Function Description	Financing Source							Total
		H & FW Dept	Other Departments	HHs		NGO Sector	Corporate Sector	External Agencies	
				Out of Pocket	Insurance Premium				
FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	FS3			
HC1	Services of curative care	3297.19	4.59	23377.84					26679.62
HC4	Ancillary services to medical care	160.59		6115.77				5.07	6281.42
HC5	Medical good dispensed to outpatients	2.82		29558.11					29560.92
HC6	Prevention and public health services	1253.85						34.52	1288.37
HC7	Health Administration	1125.61		858.23				221.87	2205.71
HC9	HC Expenditure not specified by Kind	5631.45	523.70	269.16				372.17	6796.47
HCR1	Capital Expenditure	1116.15	237.56					889.46	2243.17
HCR2	Education and Training of Health Personnel	75.837							75.837
HCR3	Research and Development in Health	14.36							14.36
HCR4	Food, hygiene and drinking water control	82.80							82.80
Function information not available					47.58	679.84	526.48		1253.90
Total		12760.64	765.85	60179.11	47.58	679.84	526.48	1523.09	76482.58

Source: Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Table A.4.9
Health Expenditure by Financing Source and Level of Health Care Functions
(FS X F) in Maharashtra during 2004-05 (Rs in Million)

Function Description	Financing Source (FS)						Total	%
	H & FW Dept	Other Departments	HHs		NGO Sector	Corporate Sector		
			Out of Pocket	Insurance Premium				
FS1.1.2.1	FS1.1.2.2	FS2.2	FS2.2.1	FS2.3	FS2.1	FS3		
Primary	3636.55		6790.68				10427.23	13.63
Secondary	5239.92		6146.62				11386.54	14.89
Tertiary	758.63		10290.60				11049.22	14.45
Public Administration	779.39						779.39	1.02
Prevention & Control of Diseases	1621.79						1621.79	2.12
Family welfare	1445.65		43.21				1488.85	1.95
Social security and welfare	51.26						51.26	0.07
Secretariat social services	23.91						23.91	0.03
capital outlay on medical and public health	726.63						726.63	0.95
Medicines & Ancillary Services			34418.09				34418.09	45.00
Patient Travel Cost			2489.91				2489.91	3.26
Function information not available		765.85		47.58	679.84	526.48	2019.75	2.64
Total	14283.73	765.85	60179.11	47.58	679.84	526.48	76482.58	100.00
%	18.68	1.00	78.68	0.06	0.89	0.69	100.00	

Source : Compiled from Civil Budget Estimates 2006-07 Govt of Maharashtra and Household Survey done by CMDR

Table A.4.10
Health Expenditure for Health Providers and Health Care Functions (HP X HC)in Maharashtra
during 2004-05 Rs in Million

HP .. ↓ HC	HP1	HP3	HP4	HP5	HP6	HP7	HP8	HPnsk	Other Dept.	Insurance Premium by HHs	NGO	Firm	Total
HC1	18830.65	7601.93	71.32	0.00	0.00	41.66	119.31	10.16					26675.03
HC4	47.53	6209.92	0.03	19.09	3.13	0.00	1.72	0.00					6281.42
HC5	0.00	0.00	29560.92	0.00	0.00	0.00	0.00	0.00					29560.92
HC6	753.91	130.41	33.33	1181.25	0.00	0.00	47.29	0.00					2146.18
HC7	828.70	11.79	0.02	37.54	467.50		1.93						1347.48
HC9	738.87	774.84	0.00	344.27	181.35	0.00	354.91	3878.53					6272.77
HCR1	1520.65	213.33	0.01	160.19	107.27		4.17						2005.61
HCR2		0.22					75.62						75.84
HCR3							14.36						14.36
HCR4	80.91			1.89									82.80
Function information not available									765.85	47.58	679.84	526.48	2019.75
Total	22801.24	14942.44	29665.63	1744.23	759.24	41.66	619.29	3888.70	765.85	47.58	679.84	526.48	76482.58

Reference

Civil Budget Estimates 2006-07 Government of Maharashtra

Government of Maharashtra 2002 Human Development Report, 2002, Mumbai

SUMMARY AND CONCLUSIONS

7.1 The present study aims at developing health accounting in three selected states of India with varying levels of development. The basic objectives of the study are: (i) to develop the methodology for developing health accounts in three states of Indian Union and (ii) to disseminate the results and to train the functionaries of health dept, NGO personnel, persons from corporate sector, academics and researchers through capacity building workshops in the three states. In order to fulfill the objectives the present study made a modest attempt to develop health accounts for Maharashtra, Karnataka, and Orissa which are developed, medium developed and less developed respectively. By applying the methodology of WHO and OECD, we have estimated the health accounts for the fiscal year 2004-05. The chapter is organized as follows: In the first section the objectives are briefly discussed. The second section has produces the major findings of the three states with some commonalities. In the third section we have discussed the state specific findings and some recommendations with policy relevance. In the final section we have discussed the main limitations of the study and scope for further research in the area.

7.2 Summary of Major findings: Inter state comparison

7.2.1 The proportion of expenditure on health to SDP is found to be the highest in Orissa (4.45 %) while the corresponding proportion in Karnataka and Maharashtra is 2.49 and 2.06 respectively. The percapita expenditure on health care is Rs 806, Rs 675 and Rs 648 respectively for Maharashtra, Karnatka and Orissa.

The source wise expenditure on health care services for the three states indicates that the share of the household expenditure is the highest in all the states. Across states, it is noticed that the households spend more in Maharashtra followed by Orissa while the expenditure in Karnataka in this respect appears to

be the lowest. Table -7 presents the summary of these results for three states. The external financing of health sector is found to be higher in Orissa compared to other two states which is in order in view of the extent of poverty and backwardness of the state. The local govt's role in Orissa is not at all visible while the role of local govt in case of Karnataka is found to be very significant as it contributes more than 10 percent of the total resources of health.

Table 7.1
Sources of Health Care Expenditure in Orissa, Karnataka and Maharashtra(2004-05)

SI No	Sources of Funds	% of exp on health to Total		
		Orissa	Karnataka	Maharashtra
1	Central Government	3.66	2.2	1.57
2	State Government -H & FW Dept	16.17	15.1	10.05
3	State Government -Other Depts	0.72	0.3	1.00
4	Local govt	-	10.8	5.07
5	Parastatls	-	0.8	-
6	Households	72.73	66.8	78.75
7	NGOs	0.01	0.1	0.89
8	Firms	0.18	3.8	0.69
9	External Aid	6.53	0.1	1.99
10	Total	100.0	100.0	100.0
	% of exp on health to SDP	4.45	2.49	2.06

7.2.2 The classification of budgetary data on health expenditure shows that Maharashtra is giving topmost priority to secondary¹ care while Orissa and Karnataka are spending more on tertiary care. The tertiary² care for Orissa is the highest as compared to other two states. It is surprising to notice in the context of a less developed state the primary³ and secondary care get relatively less importance while it is required for such states to provide primary and secondary care to its

¹ The Secondary tier at the block level consists of CHCs –I with 30 and 16 bedded with six and two specialists respectively, in addition to block PHCs (Upgraded PHCs). CHC –I / Block PHCs headed by a team of medical officers, assisted by a team of doctors, paramedical and ancillary staff. Almost all the units of CHC –I serve as referral units. The secondary tier includes (i) Sub divisional hospitals and (ii) district head quarters hospitals. The apex unit in the secondary tier is district head quarters hospitals and these hospitals function as first referral units.

² The tertiary units of health care consist of medical college hospitals and specialised hospitals which provide backup support to the secondary and primary level institutions.

³ Primary care constitutes the PHCs or new PHCs and CHCs at the sub block level with a six beds, single doctor, but no specialists. Below the PHCs there are several sub centers at the Gram Panchayat level staffed with a female Multipurpose Health worker or Auxiliary Nurse Midwife (ANM) or a male multi purpose Health Worker. The sub centers provide preventive and promotive health care and family planning services.

population on massive scale. Similar pattern is observed for the NHA study of India. In Karnataka Family welfare is getting a good share of resources as compared to other states. The general expenditure which includes mostly the administrative expenses is found to be on the higher side in Orissa followed by Karnataka. The unspecified amount in the budget varies from 5 Percent in Karnataka to 42 percent in Maharashtra which distorts the pattern of allocation of resources in the health sector (details are found in state specific sections).

Table 7.2 detailed the health care expenditure by respective state governments.

Table 7.2

Health Expenditure by Classification (Public): CMDR Estimates & NHA India Estimates

Sl No	Health Care Service	% of exp. (2004-05)			NHA India Estimate (2001-02) (%)
		Orissa	Karnataka	Maharashtra	
1	Primary Care Services (PHC/Dispensaries/Clinics)	15.35	8.06	25.46	15.50
2	Secondary Care Services	4.86	11.23	36.68	19.40
3	Tertiary Care Services	21.64	19.92	5.31	21.10
4	Public Health.	7.34	5.35	5.46	8.90
5	Family Welfare	11.62	16.94	10.12	12.90
6	General Expenditure	39.19	38.50	16.97	22.20
7	Total	100.00	100.00	100.00	100.00

7.2.3 The pattern of household expenditure on health care services for different states reveals very interesting insights. The burden of household expenditure in respect of medicine and on ancillary services is the highest for all the states. Most significantly across states, *the burden is the highest in Orissa (backward state) and the least in Maharashtra (developed state)*. Orissa being one of the poorest states in the country, the household burden need to be reduced considerably through state intervention.

Table 7.3

State wise Household Expenditure on Health (% to total exp)

Health Expenditure Head	% of expenditure		
	Orissa	Karnataka	Maharashtra
Out Patient Health Expenditure	3.0	3.5	10.74
In Patient	10.3	17.8	28.47
Day Care	3.5	1.1	2.09
Medicines and ancillary service	82.0	72.9	58.62
Insurance Premium	1.2	4.7	0.08
Total	100.00	99.99	100.00

Source: CMDR survey

7.3. State Specific Findings and recommendations

7.3.1 Orissa:

The socio economic background of the selected districts indicates that more than 98 % of the households are Hindu followed by Muslim and Christians. Caste wise distribution of the households shows that Kandhamal (backward district) records the highest proportion of SC/ST population (more than 67%) and the BPL (below poverty line) households in this district is also the highest. The availability of public facilities in the district of Khurda is found to be the highest mainly on account of the capital city which is in the district of Khurda. The proportion of expenditure on health is the highest in Khurda district and lowest in Kandhamal district. The households in the backward district of Kandhamal used more of public facilities while the households in the developed district of Khurda used more of private facilities of health care services. The major findings of the study are as follows:

- The total health expenditure of Orissa was Rs.24021.38 millions which is 4.45 per cent of SDP of Orissa. The per capita health expenditure was Rs. 648. The private expenditure is more than 80 percent and the public expenditure is less than 20 percent despite the fact that health is a state subject.
- Major source wise expenditure on health indicates that the out of pocket expenditure incurred by households was about 3/4th (72.73 %) of the total expenditure on health. Health and Family Welfare Department (H & FW) contributed slightly higher than 16 per cent, the Central government contributed only 3.66 per cent and other departments of state government contributed 0.72

percent. The NGOs and firm's share are 0.01 per cent and 0.18 per cent respectively.

- The major share of expenditure of H & FW department of the government of Orissa goes to hospitals and health administration followed by capital expenditure. The tertiary care services of health receive the highest share and secondary sector less than 5 percent of the total share. Further it may be noted that the expenditure by the state government is found to be more urban biased in respect of medical and public health and also for Family welfare. The expenditure under *other items* in the budget of Health and FW department is found to be very much disturbing as it constitutes more than 18 percent of the total expenditure of the government. Other departments like department of Revenue, Works, Housing and Urban Development, Labour & Employment and Rural development also spend on health which is less than 1 percent.
- The household expenditure by type of provider shows that around 66 percent of the total health expenditure by household is for purchase of drugs and medicines which is provided by the medicine shops, doctors and other suppliers of medicine. The travel cost for the households in the backward district of Kandhamal is the highest which implies that the medical facilities are far away. The insurance both private and public plays a very negligible role in health sector of Orissa. It is less than 1 % of the expenditure on health. One more interesting finding is that higher incidence of communicable diseases is found in the backward district of Kandhamal which is similar to Maharashtra state. The tribals in Kandhamal district do suffer mostly from malaria and malnutrition which affect them severely.

Recommendations

In the background of the above findings it may be suggested that (i) The items in the budget under 'other charges' may be clearly identified as per the international classification for better allocation of resources and easier comparability; (ii) the burden of expenditure on households needs to be reduced to a considerable extent. Since the major proportion of households expenditure goes to purchase of medicines and such other expenditure, the government initiatives in this direction is much needed to provide the

essential drugs free of cost to the lowest strata of population in the backward region. (iii) Since the allocation to maternity and child health is very low, it needs adequate attention to enhance the budget on this head. (iv) As prevention is better than cure, Preventive care which is found to be negligible calls for immediate attention by the government. (v) Administrative expenses at the government level appear to take away a major proportion of expenditure out of the total expenditure. This needs to be relooked at the governmental level. More resources may be allocated for safe drinking water supply, sanitation, counseling for health care (IEC) etc.

7.3.2 Karnataka:

Higher degree of household expenditure is on the purchase of medicines and other goods from the retail sector. Hospitals receive the major chunk of the expenditure followed by providers of ambulatory health care. The share of other providers is not so significant Majority of the resources were spent on Medical goods dispensed to patients. Majority of the spending is made for the curative services. The expenditure flows to retail sale of medicines and drugs seems to be the major provider of services to the community. Households are the prominent sources for spending on health care. This is followed by State and Central governments respectively. Though much is talked about external support to the health sector of the state its contribution in financial terms to the total health spending is very insignificant.

The present expenditure pattern seems to be shying away from other crucial elements of functions of health care like the following.

- Primary health care
- Prevention of diseases
- Public health
- Promotive care
- Maternal and child health
- Education and Training
- Research and development

Other important aspect which deserves attention is the absence of health insurance on a large scale in the state. Our survey results have shown that only about 2 to 3 per cent of the population would opt for the health insurance. In this background the health care spending seems to be quite unorganized and the need is felt to induct either social health insurance or to promote voluntary health insurance through the institutional structure of managed care and active participation of Health Management Organizations.

Recommendations

The present health accounts exercise should be considered as a modest beginning and the results should be considered as broad pointers of the financial segment of the health care system of the state. They do provide information on how the resources are mobilized and utilized and based on this one can consider the option of bringing in certain policy corrections. However, the information from the exercise would not give us the effectiveness of the expenditures made for the benefit of the community. In this background the need is felt to initiate cost effectiveness studies as well. The fact that households are spending greater proportion of resources on curative care and medicines, the need is felt to strengthen these two elements in the public domain.

7.3.3 Maharashtra:

Health accounts for Maharashtra compiled for the period 2004-05 reveal that households are the major sources of financing health care expenditure followed by state government. Due to Constitutional Amendments, local governments have emerged as one of the main agents financing health services. Though the share of external agencies is lower in overall expenditure (1.99%), their contribution in government spending is significant amounting to 11%. The study reveals that households spend mainly on purchase of medicines and on curative services. Government also spends major part on curative services. Household expenditure and use of facility is higher in tertiary care, while government expenditure is more on secondary care. Household utilization of Public facilities for MCH is also higher, whereas government expenditure on MCH is just 2% of Family Welfare Expenditure. So it can be assumed that there is a mismatch between public need and public expenditure.

The backward district of Nanded has lower utilization of public facility, higher percentage of households traveling more than 10 kms to reach health facility, higher reporting of communicable diseases, higher probability of sickness and high per case treatment cost as compared to other sample districts. This suggests that there is uneven distribution of health care facility in Maharashtra state indicating the need for increasing public health expenditure in rural and backward districts of the state.

- Majority of the sample households belong to Hindu religion followed by Buddhist and Muslim. This is in contrast to other selected states where the percentage of Muslims is higher next to Hindu religion.
- Among the social groups the sample is represented mainly by other backward castes (41%) followed by general categories.
- Though Nanded is considered to be the backward district among the selected districts, the percentage of households Below Poverty Line (BPL) is very high in Nashik district (76%). This could be because the percentage of ST population is very high in rural areas of Nashik district.
- Availability of public facilities appears to be lower in the backward district of Nanded as only 5% of the households have used public health facility.
- Per capita household health expenditure is highest in backward district of Nanded among selected districts
- Expenditure on general medical services constitutes major part of outpatient expenditure
- Major part of household expenditure on inpatient care is on surgical treatment (44%) followed by consultancy charges (10%)
- Dependence seems to be higher on charitable hospitals as 44% of the household expenditure is incurred on services from these hospitals
- ISM&H appears to be gaining popularity in rural Maharashtra as 18% and 27% of the sick have opted for treatment under these systems in Nashik and Nanded respectively. But, the treatment is costly as 39% of the outpatient expenditure is

incurred on these facilities and per case cost is Rs. 667, which is higher compared to other outpatient expenditure.

- The overall source-wise expenditure for Maharashtra state indicates the significant and increasing use of private sector in health care provision. If we compare the CSO estimates for 2001-02, there is decline in the share of public expenditure both in terms of per capita expenditure and its share in total health expenditure. CMDR estimates also indicate there is decline in the share of public expenditure in healthcare in Maharashtra.
- Private sector out- of- pocket expenditure by households is the major financing source in meeting health expenditure (79%). Among public sources, state government has a major role to play as around 11% of the expenditure is met from state government finance.
- In the public expenditure Medical & Public Health constitutes 84% followed by 10% expenditure on FWP. And 59% of Medical and Public Health is spent on public health (programmes), while in FWP 32% is on Direction and Administration and 22% is on MCH.
- Use of public facilities by households is more than 50% on MCH and immunization and 30% for inpatient care. When we look into utilization pattern of public facilities by levels of care it is 42% for primary care, 11% for secondary care and 47% for tertiary care. The state budgetary expenditure on MCH is just 21% of the expenditure on family welfare. And, expenditure by levels of care indicates that government expenditure on tertiary level constitutes less than 1% of total health expenditure (public+private) and 5% of total budgetary health expenditure of the government. Government expenditure on inpatient care is not available. Since most of the inpatient care is in tertiary sector we may assume that the government expenditure is not in accordance with the preferences or need of the public for MCH and tertiary care.
- Dependence on private sector is increasing due to the need for tertiary care, which is absent in public sector.

- Higher incidence of communicable diseases in the backward district of Nanded indicates the need for increasing resource flow to prevention of diseases.
- Contribution of private insurance sector is negligible being just 0.06 percent.
- With the decentralization of governance local bodies have a significant role in public health expenditure
- Health expenditure by financing agent and health care functions indicates that health expenditure not specified by kind is around 9% of the total health expenditure.
- External agencies finance mainly capital expenditure, which is for machinery and equipment and for provision of materials and supplies. World Bank and German Aid are the two external sources of funding accounting for about 2% of total expenditure in Maharashtra.

5.2 Recommendations

- Attempt to develop matrices according to sub headings i.e. programmes and activities could help in linking requirements with expenditure and performance in health sector.
- If the public expenditure items in the budget documents are presented according to accepted codes of classification then it may be useful to compare and quickly identify the sector-wise, source-wise, agent-wise, provider-wise and function wise expenditure and the role of each entity in health care provision.
- Maharashtra has highest incidence of AIDS cases (MHDR 2002) and reporting is higher for communicable diseases in rural areas. We have not linked expenditure to these diseases due to lack of expenditure information. The study indicates that there is need for increasing budgetary expenditure on prevention of these diseases.
- Health accounts for Maharashtra indicate that in household expenditure, around 49% is spent on medicines and medical goods. But, we could not present how much of this expenditure is incurred on outpatient and inpatient treatment.

- This is a pioneering exercise developed for three states in India. The information from households, NGOs and firms was collected through administration of schedule, the copies of which are presented in the Appendix. In any future initiatives we suggest that there is need for improving upon the questionnaire particularly, in terms of age wise details of family members, reported sick cases, reporting of health expenditure on pregnancy and delivery cases under separate heads, expenditure on treatment according to provider of service, type of illness, benefits received from government health schemes or corporate health schemes, purchased of medicines according to type of illness or preventive purpose, expenditure on vitamins, health enhancing drugs or drinks, collection of information from Firms according to health services provided and the number of beneficiaries, etc.

7.4 Limitations of the study and scope for further research

7.4.1 Limitations

The present exercise to develop health accounts is one of the pioneering but modest exercises developed at the state level. The study is largely of illustrative type. The main limitations of the study are;

- (i) The budget document followed for the study is for only one year which did not provide us the trend and pattern of health expenditure for the state over a period of time;
- (ii) There are many items in the budget which are not classified under any specific heads of expenditure but under 'other charges' which distorts the resource allocation pattern for health sector;
- (iii) The sampling size of the study for NGOs and Firms is very small which was taken as an illustrative exercise to estimate the health care expenditure for the state as whole. Also the classification of expenditure by health care functions is not by the firms and NGOs as per ICHA.
- (iv) The study could not estimate the health expenditure at the district level as budget document at the district level has not been developed by the state yet.

- (v) The role of local govt seems to be very negligible in case Orissa despite the 73rd and 74th Amendments to decentralize the process of administration.

7.4.2 Scope for further research

Despite the limitations it may be pointed out that in the absence of any exercise on health accounts the present study to develop health accounts at the state level may be regarded as one modest attempt in the direction of helping our understanding about the resource flows in the health care sector of the selected states of the country. Such sub regional level exercises are likely to provide better insights about the functioning of the sector rather than the macro exercises at the national level. One can appreciate the significance of such sub region level exercises keeping in mind the fact that health is the state subject according to the Indian Constitution and that the private sector plays quite a major role in contributing its resources to the development of the sector. In addition, the study would provide a very strong data base for the use of researchers and policy makers for further analysis in the area.