Personal
K Murthy

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India
A Comparative Review of Health Sector Reform in Four States: An Operational Perspective

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INDIA

A COMPARATIVE REVIEW OF HEALTH SECTOR REFORM IN FOUR STATES: AN OPERATIONAL PERSPECTIVE

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This report has been prepared by Tawhid Nawaz (Team Leader and Senior Economist), with major contributions from Shreelata-Rao-Seshadri (Sociologist) and Salim Habayeb (Senior Public Health Physician). Contributions were also made by Keith Hinchliffe (Senior Economist), Rani Tudor (Poverty Analyst) and Mark Schlagel (Health Sector Analyst). The new research carried out for the sector study was undertaken by the following individuals and institutions: The Administrative Staff College of India (Hyderabad); Professor D.B. Gupta, the Delhi Institute of Economic Growth; Operations Research Group (Calcutta); and S. Basu, the Foundation for Research and Development for Underprivileged Groups. The peer reviewers include D. Jamison, H. Saxenian and P. Berman. The report benefited from comments from Anthony Measham and Prabhat Jha. The report is endorsed by Richard Skolnik, Chief, Population and Human Resources Division and Heinz Vergin, Director, South Asia Country Department II (Bhutan, India and Nepal).

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EXECUTIVE SUMMARY

A. Sectoral Background

1. During the past two decades, the Government of India (GOI) has developed a health care system which finances and manages basic health care infrastructure. Government-provided services are the dominant source of preventive care, such as immunization, ante-natal care, infectious disease control and hospital-based care, and account for about 20% of overall health spending. The private sector, on the other hand, plays a dominant role in the provision of ambulatory health services, and accounts for about 80% of overall health expenditures. Nationwide health care utilization rates show that services provided by the private health sector is highest for primary health, and is financed almost entirely from out-of-pocket sources. This is in sharp contrast to the situation in industrialized countries, where hospitalization, secondary and tertiary health care services account for the largest share of health expenditure, little of which is financed directly by households. The reliance on such a high proportion of funds from out-of-pocket sources in India places a disproportionate burden on the poor. Private health services are inaccessible to large sections of the population and do not cover many of the diseases which are most common to the poorest and most vulnerable sections of society. As a result, substantial gaps remain in the effective delivery and quality of health care services provided to the population.

2. **National Health Policy**. India's health policy is based on the assumption that primary health care is a basic right to which people should not be denied access due to inability to pay or for other socio-economic reasons. Based on the principle that equitable allocation means equal access to health facilities on a per capita basis, nationwide population-size based norms determine the establishment of health facilities throughout the country. The National Health Policy (NHP, 1983) expanded this approach by specifying quantitative targets for health and fertility reductions and setting a timetable up to the year 2000 for meeting them. The NHP strongly emphasizes the reduction of preventable mortality and morbidity affecting mothers and young children. This is an appropriate policy given India's burden of disease and epidemiological profile. However, investment allocations only partially reflect the priorities highlighted in the Government's policy. Public sector spending on health is only about 1.3% of Gross Domestic Product (GDP), which is lower than in comparable Asian countries and not sufficient to provide an adequate and necessary package of health services.

3. **The Role of the Center and the States in the Health Sector**. The provision of health care is a responsibility shared by the state, central, and local government, although it is effectively a state responsibility in terms of delivery. The responsibility for health stands at three levels. *First*, health is primarily a state responsibility and about three-quarters of public spending on health is accounted for by the states. *Second*, the center is responsible for health in Union Territories without legislature. The center is also responsible for developing and monitoring national standards and regulations; providing the link between the state governments and international and bilateral agencies; and sponsoring numerous schemes through provision of finance and other inputs for implementation by state governments. *Third*, both the center and the states have joint responsibility for programs listed under the concurrent list. Goals and strategies for the public sector in health care are established in a consultative process involving these different participants through the Central Council of Health and Family Welfare. While each state can formulate its own health policy, in practice state governments

have to function within the parameters of the national health policy laid down by the Union Government. There is, however, sufficient scope for the states to administer health schemes in conformity with local conditions. As a result, any major initiative in financing and policy reform to increase efficiency and improve effectiveness of health programs needs to be targeted at the state level.

B. Scope and Purpose of the Report

4. **Scope**. This report accordingly focuses on the state level in the financing, provision and implementation of health care services. It is a follow-up to the earlier sector report: "India Policy and Finance Strategies for Strengthening Primary Health Care Services", Report No. 13042-IN, May 1995. This report elaborates what states can do to strengthen institutional capacity and implement a program of health reform in selected areas in order to develop an effective and sustainable health system which will carry India forward to the next century. It draws upon analyses on the changing epidemiology and burden of disease, rationalization of service norms at the various tiers of the health care system, public/private partnerships in the provision and financing of health care, center-state health financing issues, adequacy of finance and finance strategies, the cost-effectiveness of health interventions and institutional and management issues related to decentralized initiatives at the state level. It also draws upon previous analyses of shifts in technical paradigm, incentives for the workforce and some aspects of the management of health care in the public sector, but does not explicitly address them in the context of this report. These analyses help to define a publicly-provided and financed health care system, providing an adequate and necessary package of services that would be affordable for the vast majority of India's population.

5. **Purpose**. The report provides a comparative review of the experience of the four states of Andhra Pradesh, Karnataka, Punjab and West Bengal, which are being assisted by the World Bank in the strengthening of their health systems. The review will help to develop action plans in several key areas of health reform for other states that want to improve the performance of their health care services, such as improved health status of the population, greater access and equity, improved efficiency in the allocation of resources, and greater effectiveness of existing programs and consumer satisfaction. The agenda proposed in this report is incremental and modest, but is critical for setting the stage for India and its states to address improvements in health care services without substantially escalating costs.

6. **Dissemination**. The report continues the on-going dialogue on state level health sector development issues between the Bank, GOI and state Governments which was initiated four years ago. The report has also benefited from collaboration and substantial discussion with WHO, ODA and KfW. It is intended to widely disseminate the report within India and among the donor community, especially those agencies that have been actively involved in discussions on the development of the health sector. The report will help to continue the series of workshop and seminars that the Bank has been jointly conducting with the Union Ministry of Health and Family Welfare (MOHFW) and will be used as an instrument to invigorate the public debate on health sector development and reform issues in India. As such, the report and related dialogue will provide, over the next three to five years, a clear assessment of state level health sector strengthening and reform that will be needed to be undertaken to promote an effective, efficient and sustainable health system.

C. Challenges and Opportunities at the State Level

7. States in India are making progress in pursuing more efficient approaches to addressing health care delivery. Nevertheless, states need to develop the essential components of a health care system that will provide a basic package of services to address the major health problems and the health transition currently underway. The development of a package of services would take into account state level variations in disease pattern, public expenditure considerations, the extent to which the private sector is providing some of these services, the extent to which poverty alleviation is part of the government's strategy in the health sector, the cost-effectiveness of health interventions, and programs that have large positive externalities. The major challenges faced by the states in delivering a package of health care services are summarized below:

8. **Key Aspects of the Health Care Strategy**. Three main issues with regard to the existing health care strategy at the state level need to be addressed. First, the government's health care strategy, which is anchored on population-size based norms, results in systemic inefficiencies. This strategy does not address the varied epidemiological profile at the community level. At present, in the four states included in this review, communicable diseases account for about 53%, non-communicable diseases about 30%, and accidents and injuries about 17% of the burden of disease on average. Epidemiological indicators in all states show that, not only is there a health transition underway with an increasing incidence of non-communicable diseases and injuries and accidents, but the disease pattern varies from community to community, and between rural and urban areas within states. Studies and data also show that the changing nature of the burden of disease at the block, district, state and regional levels necessitate a change in health care planning, including the provision of infrastructure and support services.

9. Second, the technical efficiency of key programs is seriously limited, as service functions are duplicated, and technical paradigms have become out-of-date. The mechanism for delivering public health services faces serious problems, including overlapping functions and duplication among the various tiers of the health care system; the lower tier institutions such as Primary Health Centers (PHCs) are underutilized due to a multitude of reasons, including lack of support from first referral institutions and inadequate incentives for the referral mechanism function. Service norms are not streamlined or rationalized, and yardsticks defining the sanctioned staff at facilities of various sizes do not fit current needs based on patient load and service norms. Technical paradigms in many national and other programs are outdated. Some changes are taking place in programs such as leprosy elimination, where paradigms are being updated by shifting to a multi-drug therapy approach; similar innovations are needed in other programs. Unless these factors affecting technical efficiency are simultaneously improved, additional resources would continue to be inefficiently used.

10. Third, incentives for the workforce are insufficient, and in-service training is limited. Overall, there is no shortage of doctors in the country but there is a shortage in remote and rural areas. There is a shortage of nurses nationwide. There are few incentives to encourage doctors in the public sector to remain in their rural posts. Problems related to the quality and availability of staff impede the technical efficiency of health programs and productivity is low. Training facilities are limited and there is little in-service training, and professional staff are not up-to-date in clinical and

management skills. A recent study by the All India Institute of Medical Sciences (AIIMS) confirms that the quality of basic medical education has deteriorated. although this is a topic which is beyond the scope of this report.

11. **Public-Private Partnership**. The role of the private sector in the overall health strategy is not clearly defined, although about 80% of health expenditures occur in the private sector. The vital role the private sector plays in the provision of selected aspects of health services, such as ambulatory care, and the opportunities which remain for greater private sector involvement in other areas have not been fully recognized in policy-making. The main challenges with regard to public-private roles include: enhancing the scope and importance of the private health sector, while improving the quality of services; encouraging private sector involvement in preventive and promotive aspects of health care rather than solely on individual curative care; finding the appropriate mix between provision versus financing of health care by the public sector; promoting partnership between the public, private, and voluntary sectors; and improving the existing arrangement for regulating health care.

12. **Complexity of Budgeting and Accounting Structures**. The existing fiscal and administrative structures for delivering health care services are complex and impede effective financing and accountability for local area management, programs, and health facilities. The structure of plan/non-plan budget categories, center-state financial transfers and jointly financed schemes, and administrative division between health and family welfare in some states are ineffective in assuring essential inputs for health programs; providing flexibility and accountability to local officials; and in addressing inter-state inequities in health expenditures.

13. **Resource Allocation and Efficiency in the Health Sector**. The overall fiscal situation in many states has deteriorated sharply, with a rising fiscal deficit, increasing interest payments as a share of total revenues, and an increasing share of debt outstanding as a share of state domestic product. The overall financial situation faced by the states affects health sector allocations. The share of health and family welfare in the total state revenue budgets has declined since the early 1990s, suggesting that past declining trends of health sector's share in the budget has been exacerbated, rather than reversed. The decline in health sector's share occurred despite rise in the real per capita expenditures in all states up to 1991, indicating that total government expenditures rose faster than health expenditures. The government currently provides about US$2-3 per capita for health. To achieve the government's objective of funding a basic package of health services, substantially more resources for health care are required, but the overall state finances pose a serious problem. Moreover, within the health sector in most states, resource allocation in the public sector is skewed in favor of tertiary care services relative to needs at the primary and secondary levels, particularly rural and community hospitals. Much of the resources are also absorbed by salary costs. The recurrent budget for operations and maintenance is chronically under-funded and the programs are thus not fully effective.

14. **Alternative Methods of Health Care Financing**. The resource constraints faced in the health sector will require alternative methods of health care financing to supplement budgetary allocations. Alternative methods of financing health care, such as cost recovery, insurance schemes, and participatory schemes, are not well developed, and result in low levels of revenue collection in the health sector. Some of the problems faced in this area include: lack of an appropriate

mechanism within the government to review user charges: weak administrative mechanism for collection of user fees: difficulty in targeting the poor for exemption from user fees: and constraints to greater retention of funds generated through user charges at the point of collection. In the long-run, issues such as private insurance and managed health care will need to addressed as in industrialized countries.

15. **Analytical Capacity for Health Care Planning**. Despite significant progress in recent years in the availability and use of information on health financing at the national or state levels, the capacity to undertake analytical work for health planning and policy analysis remains limited within the central and state governments. Some recent analytical work, such as the work undertaken by the Administrative Staff College of India on the burden of disease and cost-effectiveness of health interventions have been very useful in this regard.

16. **Health Care Management and Administration**. The health care management system at the state level is inefficient. Some of the problems include: weak overall management and administration in the implementation of health programs; overlapping functions of the different tiers of the health care system and lack of coordination and integration between them; and the lack of involvement of community level organizations in revenue collection, planning and budgeting.

17. The state governments also need to build the capacity and the management framework for health care administration in the decentralized panchayati system. The existing decentralized administration for health care suffers from inadequate coordination between different tiers of the panchayat structure, between the panchayat structure and technical departments, and between state level coordinating agencies. Furthermore, the panchayat structure's limited responsibilities do not allow for effective health care planning and implementation, particularly with regard to resource allocation and revenue collection, planning, policy making and supervision. The inter-tier and inter-agency coordination of decentralized administrative structures needs to be improved, and the responsibilities of panchayat structures need to be enhanced to support health functions.

D. Recommendations

18. In response to the challenges faced in the health sector at the state level in India, it would be important for state governments to undertake a series of measures to strengthen their health systems and initiate a process of reform. The report makes the following specific recommendations:

I. Reorienting the Health Care Strategy

19. ***Shifting to the Burden of Disease and Need Based Approach***. To enhance the effectiveness and efficiency of health care programs, there is a need to shift the health care strategy from the population-size based approach to an approach that would address the health care needs of the states based on the epidemiological profile at the community level. The health care strategy at the state level should involve local administration in the planning and implementation process to reflect the needs at the community level. States should develop the essential components of a health care system that will provide a basic package of services to address the major health problems and the health transition currently underway. The package of services would consist of: communicable disease prevention; limited clinical services; essential and emergency obstetric and pediatric care

within easy access to people living in rural areas: capacity for prevention and health promotion programs to cope with non-communicable diseases to be developed progressively; injuries, especially prevention; and limited treatment of non-communicable diseases which are very cost-effective, such as cataract operations and some medical treatment of heart attack, stroke and pain relief. The states should also play a more important role in other issues relating to health policy making at the national level as well.

20. ***Rationalizing Service Norms and Updating Technical Paradigms.*** Service norms at different level health facilities need to be rationalized and streamlined on the basis of demand and patient load to address the problems of duplication of functions and lack of efficiency. Analysis shows that substantial cost savings would be gained if an effective referral system was developed and services can be provided at the lower levels of the health care system before patients are pushed up to a higher tier. Incentives need to be provided to make the referral mechanism between the different tiers of the health system more effective. Once the service norms have been defined, yardsticks defining the sanctioned staff at health facilities of different size, infrastructure requirement, equipment, drugs and medicine and supporting services will logically follow. New technical paradigms also need to be adopted to strengthen the effectiveness of programs and packages of services.

21. ***Creating Incentives for Staff and Providing Training.*** Incentives need to be enhanced to address the issue of shortage of critical medical personnel, particularly doctors, in remote and rural areas. Such incentives could include monetary as well as non-monetary benefits such as suitable accommodation, preferential school admissions for children of doctors living in remote areas, transfer to an urban area after a stipulated length of stay, and training opportunities in clinical and management skills. A large pool of staff need retraining, and the public health functions of various personnel categories need to be strengthened. States need to consider alternative means of engaging key technical staff on contractual arrangements. Lessons could be learned from the experience of some state governments that are successfully utilizing staff through contractual arrangements in the implementation of some national disease control and other programs.

II. Coordinating and Integrating the Roles of the Public and Private Sectors in the Provision and Financing of Health Care Services at the State Level

22. ***Creating an Enabling Environment for the Private Sector.*** The overall strategy for the health sector should take into account the existing levels of private finance and provision of services at the state level. State governments should play an active role in creating an enabling environment for greater private sector participation in the health sector and fostering public-private partnership. There are several options for the government to ensure that the private health sector continues to play a vital role in the health sector and expand the scope of its activities.

23. ***Increasing Private Participation.*** To make more efficient use of total resources available in the health sector, state governments need to evaluate alternatives related to provision versus financing of health care services. State governments should promote the further expansion of the private sector in areas where it has a comparative advantage such as tertiary level health care, super-speciality and support services. Private sector participation in preventive and promotive care services could also be promoted by providing incentives and developing schemes to finance, train and

integrate private providers in case-findings, diagnostics, and treatment for priority health problems that are of public health significance.

24. ***Increasing Opportunities for Contracting Out***. There are no legal barriers inhibiting the use of contractual services for support functions, and the Contract Labor Regulation and Abolition Act (1970), which prohibits certain institutions from contracting out perennial services, exempts hospitals and health care facilities. Private contractual services are often more efficient and effective than directly hired labor. In view of the difficulties of employing government staff, such as slow recruitment procedures and poor attendance, contracting-out certain services, especially support services, is an attractive alternative. The state governments should, wherever economically attractive, contract out support services such as laundry, kitchen, landscaping, dietary services, sanitation, security and mainstream diagnostic and clinical services. In addition to economic considerations, state governments should also take into account the quality of services, as well as administrative viability. Administrative procedures and guidelines and adequate accountability functions will also need to be in place to facilitate the contracting-out of services.

25. ***Strengthening Linkages between Government and Non-Governmental Organizations (NGO)***. Government is the major provider of preventive and promotive health care services, but its coverage is very low. There should be a concerted effort by the states to involve NGOs in this area and provide them opportunities to work with PRIs. Support for NGOs should be increased in such areas as social marketing of essential drugs and contraceptives, and behavior changing health education activities. The government should actively seek the cooperation of NGOs in disseminating public health messages by involving them in information, education and communication (IEC) activities. NGO participation could be promoted in the delivery of primary health care and first referral services in remote and rural areas where outreach is limited. Contracting-out the delivery of primary health care in remote areas to the NGO sector, which has a comparative advantage in improving access to such health services for some disadvantaged groups, could also be promoted.

26. ***Expanding Capacity for Monitoring and Regulation***. The government's capacity to register, certify, regulate and monitor private health care provision, especially the qualifications of doctors and other medical personnel and the quality of their services, needs to be strengthened and implemented. State governments should enact legislation and issue guidelines to register nursing homes, private clinics/hospitals and ensure minimum standards of care. Some of these functions could be undertaken collaboratively by the central and state governments, while others could be undertaken by a professional body such as the Indian Medical Association in accordance with all-India standards.

III. Strengthening State Financing Arrangements

27. ***Reviewing Fiscal Structures and Developing Budgeting and Fiscal Tools***. In order to simplify the complex budgeting and accounting arrangements, the state governments should, through their Ministries of Health and Family Welfare and Finance: (i) review the fiscal structures and procedures in the health and family welfare sectors including the roles of the central, state and local government in financing the provision of basic inputs; (ii) develop program budgeting tools at the state and central levels to monitor and evaluate expenditure for important schemes; and (iii) develop fiscal tools to enable greater experimentation with resource allocation, alternative financing mechanisms, and provision versus financing of health care services.

28. ***Providing Supplementary Financing***. The mechanism for the transfer of central resources to the states is not addressing inter-state equity issues, especially for those states which are most in need. To alleviate the health care financing needs of poorer states, where socio-economic and health indicators remain depressed, supplementary financing could be provided through, for example, a health resources assurance fund. Priority could be given to those states which are most in need and are taking credible steps to improve their overall finances.

IV. Enhancing and Prioritizing State Expenditures on Health

29. ***Improving Overall State Financing***. To address the overall deterioration in state finances, state governments need to take credible steps such as: increase tax revenue as a share of state domestic product; increase the buoyancy of tax and non-tax revenue; and reduce overall public expenditures on subsidies, salaries, and poorly targeted welfare programs. By improving their overall financial situation, the states would be better equipped to address resource needs in the health sector.

30. ***Increasing Allocation to Health within the Overall Budget***. State governments, on average, need to provide 50% more resources to the present contribution of US$2-3 on an annual basis to fund their basic package of health care services. This amount may be difficult to provide in the present fiscal situation faced by the states. At a minimum, state governments should maintain the share of health sector allocation in the overall budget to redress the share of declining resources to the health sector in most states.

31. ***Re-evaluating Priorities within the Health Budget***. The state governments need to reevaluate the priorities within the health sector budget, especially with regard to resources between primary, secondary and tertiary levels. The primary and secondary levels of health care need more emphasis. This could be effected through reduction in allocation to medical education, including tertiary hospitals, and social insurance schemes such as the Employees State Insurance Scheme (ESIS) that are not appropriately targeted to the poor. The share of primary and secondary levels, which provide the basic package of public health and clinical services, should be increased within the overall envelope of state government resources for the health sector. Over the next 3-5 years, state governments would need to allocate 75% of incremental resources allocated to the health sector to the primary and secondary levels.

32. ***Increasing Allocations for Non-Salary Recurrent Costs***. The state governments also need to re-evaluate their priorities with regard to non-salary recurrent inputs such as drugs, essential supplies and maintenance budgets. With some minor variation between the states, it appears that about 75% of the health budget is absorbed by staff salaries and wages. Within these overall constraints, the state governments in the next 2-3 years need to allocate adequate resources for drugs, essential supplies and maintenance budgets in accordance with established norms. In addition, the health budgets of the PRIs should be enhanced in order to allow them to carry out their maintenance functions and newly provided responsibilities.

V. Implementing Cost-Recovery Mechanisms

33. ***Developing an Institutional Framework for Periodic Review of User Charges***. The states need to set up an institutional framework to review the structure of user fees and pricing policy periodically, and recommend revisions. The Strategic Planning Cells established in the health sector in the four states studied provide a viable institutional arrangement for this purpose.

34. ***Strengthening Collection Mechanisms and Targeting Vulnerable Groups for Exemptions***. Analysis shows that substantial increases in revenue can be gained by concurrently strengthening the mechanism for collecting user charges and periodically revising such charges. State governments need to increase cost recovery in the health sector from an average of about 3% to about 15-20% in the next 3-5 years. In addition, adequate targeting mechanisms to identify the poor should be implemented both in rural and urban areas. Due to the administrative costs involved, it is preferable to strengthen the existing system for targeting the poor rather than create a new mechanism.

35. ***Retaining Revenues at the Point of Collection***. Hospitals and health facilities should be allowed to retain 100% of the revenues collected, or, alternatively, district health committees or health systems corporations (e.g. as in AP and Punjab) could be empowered on their behalf to retain such revenues and redistribute them among hospitals within the district according to both need and level of collection.

36. ***Utilizing Revenue for Non-Salary Recurrent Expenses***. Revenue collected should be used for non-salary recurrent expenditure items such as drugs, essential supplies and record keeping; a nominal fee could be charged for out-patients, as is currently being done in West Bengal; and charges could be concentrated on diagnostic and other services, as well as on voluntary services such as private rooms or wards and on medical services with a relatively low cost-effectiveness. Increased charges should be introduced in a phased manner and matched with higher quality of service.

VI. Improving the Analytical Basis for Decision-Making

37. ***Using Cost-Effectiveness Analysis and other Issues to Fine-Tune Policy Planning***. The cost-effectiveness of health intervention is an important analytical tool to aid and fine-tune policy and better decision-making in the health sector, in terms of resource allocation for priority diseases, development of a basic package of services, rationalization of services by levels of health care institutions, and for establishing a basis for the charging of user fees. Cost effectiveness analysis should not, however, be viewed as the only tool for decision-making. As stated in the WDR (1993), the most justified public measures combine a rationale for public action with a cost-effective intervention. There are several factors which need to be considered jointly in developing resource allocation policies. These include: the presence of other interventions that might affect costs; the possibility of eliminating a disease as a public health problem, such as leprosy; those diseases that have large initial costs but permanent benefits; those interventions that have positive externalities beyond health such as family planning and girls' education; and those interventions that have high poverty reduction benefits.

38. ***Developing Institutional Capacity for Health Sector Planning***. States should strengthen their planning capacity in the health sector to (i) undertake analyses of their burden of disease regionally, at the community level: (ii) review the cost-effectiveness of key health interventions; and (iii) carry out other important analytical work, such as manpower planning needed to facilitate and improve policy-making. Developing local institutional capacity to undertake such analyses should remain an important priority.

VII. Strengthening Public Sector Management of Health Care in the Decentralized Administrative Structure

39. ***Strengthening Overall Management Authority***. Management arrangements at the state level and below need to be strengthened to ensure that health programs are implemented effectively. States need to strengthen the implementation and supervision capacity of the implementing agency. Andhra Pradesh and Punjab have established autonomous implementing agencies at the secondary level to improve management and administration, and provide financial and workforce related autonomy. Although, this is not the only approach to improving the implementation and supervision capacity of the states, the issue of management authority with regard to finance, personnel matters and effective implementation needs to be addressed. It is possible for the states' Department of Health and Family Welfare (DOHFW) to perform these functions, but they need to be given greater authority and flexibility with regard to finance, supervision and workforce related issues.

40. ***Enhancing the Responsibilities of PRIs***. Decentralized governance and local level participation can contribute importantly to improving the health care system, through better monitoring and supervision of the functioning of the health system at the local level, and by assisting in developing plans which take care of local perceptions and needs. In order for the PRIs to be more effective, more power should be given to them in the areas of budget allocation, resource use, revenue raising, planning, policy making, supervision, maintenance and training. The notion of decentralised governance would be more meaningful only when the PRIs' responsibilities are enhanced and their access to resources becomes more substantial. A process of consultation between the Department of Health at the state level and PRIs needs to be initiated on these aspects and structures and systems need to be worked out to facilitate implementation.

41. ***Increasing Coordination between Administrative Agencies***. Important features emerging from the study of the Panchayat Raj Acts of different states include: (i) linkages between the three tiers of the PRI need to be improved in order to enhance implementation of health care programs; (ii) co-ordination between PRIs and the technical departments needs to be improved in order to strengthen the implementation of health programs at the grassroots level; and (iii) coordination between PRIs and state level agencies needs to be strengthened by developing a viable mechanism which would facilitate the effectiveness and efficiency of program implementation.

D. Need for Further Analysis

42. This review has covered a number of major issues with regard to health sector reform at the state level. There still remain several health sector issues at the state level where further analysis is needed. These include incentives for workforce, alternative financing options such as health

Table on Main Findings and Recommendations

Issues	Actions
Key Aspects of the Health Care Strategy: • Three main issues with regard to the existing health care strategy at the state level need to be addressed: (i) inefficiencies of the population-size based approach; (ii) shortcomings in the technical efficiency of key programs with regard to duplication of functions and outdated technical paradigms; and (iii) insufficient incentives for the workforce.	Reorient the Health Care Strategy: • *Addressing the Epidemiological Needs at the Community Level:* The government needs to shift its health care strategy from the population-size based approach to an approach that would address the health care needs of the states based on the epidemiological profiles at the community level. The content of such a package is outlined in the report and may vary across states based on their burden of disease. The states should also play a more important role in matters of what constitutes a basic package as well as other issues relating to health policy making at the national level. • *Rationalizing Service Norms and Updating Technical Paradigms:* Service norms should be streamlined and rationalized; yardsticks defining the sanctioned staff at hospitals of different sizes need to be tailored to fit current needs based on patient load and service norms; new paradigms to strengthen the effectiveness and efficiency of programs and packages of service delivery should be created; and incentives need to be provided to make the referral mechanism between the different tiers of the health system more effective. • *Enhancing Incentives for Staff and Providing In-Service Training:* Incentives for staff should be enhanced in order to address the shortage of critical medical personnel, particularly doctors, in remote and rural areas. States also need to consider hiring key technical staff on a contractual basis.
Public-Private Partnership: • The health care strategy at the state level does not fully take into account the existing level of private and NGO sector provision of health care services.	Coordinate and Integrate the Roles of the Public and Private Sectors in Considering Provision versus Financing of Health Care Services at the State Level: • *Increasing Private Participation:* To make more efficient use of total resources available in the health sector, state governments need to evaluate alternatives related to provision versus financing of health care services. This would imply further expansion of the private sector in areas in which it has a comparative advantage, such as tertiary level health care, super-specialty and support services. Private sector participation in preventive and promotive care services could also be promoted by providing incentives and developing schemes to finance, train, and integrate private providers in case-findings, diagnostics, and treatment for priority health problems that are of public health significance. • *Increasing Opportunities for Contracting Out:* Where feasible, the state governments should contract out support services and diagnostic and clinical services. The decision to contract-out should take into account economic considerations without affecting the quality of services, as well as administrative viability. Administrative procedures and guidelines, and adequate accountability func-

Issues	Actions
• The states' capacity to register, certify, regulate, and monitor private health care provision is weak.	tions will also need to be in place to facilitate contracting-out. • *Strengthening Linkages between Government and NGO Sectors:* State governments should actively seek the cooperation of NGOs in disseminating public health messages, by involving them in information, education and communications activities. Where feasible, they should also involve NGOs in increasing access to primary health care and first referral services in remote and rural areas. • *Expanding the Capacity to Monitor and Regulate:* The states' capacity to register, certify, regulate, and monitor private health care provision needs to be strengthened and implemented by enacting legislation and issuing guidelines for ensuring minimum standards of care. Some of these functions could be undertaken by the government, while others could be undertaken by a professional body, such as the Indian Medical Association in accordance with All-India standards.
<u>Complexity of Budgeting and Accounting Structures:</u> • The existing financing arrangements and administrative structures for financing health care is complex and hinders effective management. • Center-state health care financing mechanisms do not adequately address inter-state equity issues. States which need funds the most are often least able to provide resources for health care programs.	<u>Strengthen State Financing Arrangements:</u> • *Reviewing Fiscal Structures and Developing Budgeting and Fiscal Tools:* The Ministries of Health, Family Welfare, and Finance of the center and state governments should: (i) carry out a substantial review of fiscal structures and procedures in the health and family welfare sectors with regard to the roles of the center, state, and local government in the financing of basic inputs; (ii) develop appropriate budgeting tools to monitor and evaluate expenditures for important schemes; and (iii) develop fiscal tools to enable greater experimentation with resource allocation and alternative financing mechanisms. • *Providing Supplementary Financing:* To achieve greater equity in the financing of health care between the states, the central government should consider supplementary financing through, for example, a health resources assurance fund, giving priority to those states which are most in need and are taking credible steps to improve their overall finances.
<u>Low Level of Resources and Efficiency in the Health Sector:</u> • Health sector financing issues need to be reviewed in the context of deteriorating overall fiscal situation in many states. This is indicated by a rising fiscal deficit, increasing interest payments as a share of total revenues and an increasing share of debt outstanding as a share of State Domestic Product (SDP). • State health and family welfare expenditures are: (i) well below	<u>Enhance and Prioritize State Expenditures on Health:</u> • *Improving Overall State Financing:* States must take credible steps to increase their overall finances by: increasing tax revenue as a share of state domestic product; increasing the buoyancy of tax and non-tax revenue; and reducing overall public expenditures on subsidies, salaries and poorly targeted welfare programs. By improving their overall financial situation, the states would be better equipped to address specific sectoral resource needs. • *Increasing Allocations to Health within the Overall Budget:* State governments, on average, need to provide 50% more resources to

Issues	Actions
the international norms considered adequate for low income countries to meet public health priorities as defined by the WDR (1993); and (ii) below the levels required to achieve the service norms set by GOI.	fund their basic health care package. This amount may be difficult to provide in the present fiscal situation faced generally by the states. At a minimum, state governments should maintain the share of health sector allocations in the overall budget to redress the share of declining resources to the sector in most states.
• Public expenditures in the health sector are skewed in favor of tertiary level facilities and medical education relative to secondary level hospitals, particularly rural and community hospitals.	• *Re-evaluating Priorities within the Health Budget:* The shares of primary and secondary-level health care, which provide the basic package of public health and clinical services, need to be increased within the overall envelope of state government resources for the health sector. Over the next 3-5 years, state governments would need to allocate 75% of incremental resources allocated to the health sector to the primary and secondary levels.
• State level health expenditures on drugs, essential supplies, and operations and maintenance services are low; the allocation of funds to the PRIs for health care are inadequate to carry out maintenance activities.	• *Increasing Allocations for Non-Salary Recurrent Costs:* Within the next 2-3 years, state governments should allocate adequate funds for drugs, essential supplies, and maintenance budgets in accordance with established norms. Supplemental funds from user charges could also be targeted for non-salary recurrent cost items. Moreover, the health budgets of the PRIs should be enhanced in order to allow them to carry out their maintenance function and newly provided responsibilities.
<u>Alternative Methods of Health Care Financing:</u>	<u>Implement Cost-Recovery Mechanisms:</u>
• There is no appropriate institutional framework for reviewing user charges; the level of cost recovery is minimal due to the low structure of fees and inadequate collection mechanisms; targeting mechanisms for exempting the poor from user charges are difficult to implement; and there is no adequate mechanism to ensure that funds collected would be used at the point of collection.	• *Developing an Institutional Framework for the Periodic Review of User Charges:* The states need to set up an institutional framework for reviewing user charges such as through the Strategic Planning Cells established in the health sector in the four states studied. • *Strengthening Collection Mechanisms and Targeting Vulnerable Groups for Exemptions:* State governments need to increase cost recovery in the health sector from an average of about 3% to about 15-20% in the next 3-5 years. This can be achieved by concurrently strengthening collection mechanisms at the facility level and by reviewing and periodically revising user charges. At the same time, adequate mechanisms to target the poor for exemptions from user charges also need to be implemented. • *Retaining Revenues at the Point of Collection:* Hospitals should be allowed to retain 100% of the revenues collected, or, alternatively, district committees and state level health systems corporations (e.g. as in AP and Punjab) should be empowered on behalf of the hospitals to retain such revenues and redistribute them among hospitals within the district according to both need and level of collection. • *Utilizing Revenue for Non-Salary Recurrent Expenditures:* Increased charges should be introduced in a phased manner and matched with higher quality of service. Revenue collected should be used primarily for non-salary recurrent expenditure items and charges should be concentrated on diagnostic and other services, as

Issues	Actions
	well as on voluntary services such as private rooms or wards.
Analytical Capacity for Health Care Planning: • The states and the center have limited capacity to undertake analytical work for health care planning. Yet, analyses such as the Burden of Disease and Cost-Effectiveness analyses undertaken in Andhra Pradesh have proven to be very useful in helping the state with its health care planning.	Improve the Analytical Basis for Decision-Making: • *Using Cost-Effectiveness Analysis to Fine-Tune Policy Planning:* The burden of disease and cost-effectiveness analyses of health interventions should be viewed as analytical tools to fine-tune policy and achieve better decision-making in the health sector with respect to resource allocation for priority diseases, development of a basic package of services, rationalization of services by levels of health care institutions, and for establishing a basis for the charging of user fees. • *Other Factors Which Should Also be Considered in Decision-making:* The presence of other interventions that might affect costs, the possibility of eliminating a disease as a public health problem, those diseases where interventions have large initial costs but permanent benefits, those interventions that have positive externalities beyond health, and those interventions that have high poverty reduction benefits should also be considered. • *Developing Institutional Capacity for Health Sector Planning:* States should strengthen their planning capacity in the health sector to: undertake analyses of their burden of disease regionally and at the community level; review the cost-effectiveness of key health interventions; and carry out other important analytical work such as manpower planning needed to facilitate and improve policy-making.
Health Care Management and Administration: • Management of health care at the top is diffused, as the Department of Health of the state governments often lack the authority on matters related to finance, flow of funds and personnel matters. • The PRIs' limited responsibilities and problems in coordination are adversely affecting the planning process at the lower levels of the Panchayati Raj bodies.	Strengthen Public Sector Management of Health Care in the Decentralized Administrative Structure: • *Strengthening Overall Management Authority:* The issue of management functions with regard to finance, flow of funds, personnel matters and effective implementation in the health sector needs to be strengthened, and the management authority needs to be given greater autonomy in these key areas. The management structure could be a corporate entity or a strengthened DOHFW -- both approaches are viable. • *Enhancing the Responsibilities of PRIs:* In order for the PRIs to be more effective, more power should be given to them in the areas of budget allocation, resource use, and revenue raising, planning, policy-making, supervision, maintenance, and training. A process of consultation between the DOHFW at the state level and PRI needs to be initiated on these aspects, and structures and systems need to be worked out to facilitate implementation. • *Increasing Coordination between Administrative Agencies:* Linkages between the three tiers of the PRI need to be improved in order to enhance implementation of health care programs. The coordination between the PRIs and the technical departments and state-level coordinating agencies also needs to be improved.

CHAPTER 1

INTRODUCTION

A. Background

1.1 The Government of India (GOI) and the World Bank have been engaged in a dialogue on health sector development policy since 1992. The focus of that dialogue has been on helping India address the most burdensome diseases in a cost-effective manner, while moving toward the establishment of health systems at the state level that are efficient and effective. A more sustainable health system at the state level will reduce the financial demands on the state in the future and address poverty issues in a key sector of the economy. The focus on health reform and financing at the state level is consistent with the recent Country Assistance Strategy (CAS)[1], which reiterates the Bank's strategy to make health systems more effective and sustainable in India. The first part of the strategy in the health sector is to reduce the most significant diseases through the support of priority programs. The second is to strengthen the performance of the health system of the states by providing more efficient and effective health care, especially for the poorer segments of society who have limited access to basic health care services. This sector work is in line with the emphasis on private sector initiatives and the importance of focusing on state level issues such as reform of sectoral expenditures and decentralized administration.

B. Purpose and Scope of the Study

1.2 The report analyzes health care strategy and reform in the four states of Andhra Pradesh (AP), Karnataka, Punjab and West Bengal that provide valuable lessons for other states. It provides a comparative review of the experience of these four states and assists in developing action plans in several key areas of health reform for other states that want to improve the performance of health care services. Such performance indicators include improved health status of the population, greater access and equity, improved efficiency in the allocation of resources, and greater effectiveness of existing programs and consumer satisfaction. The review continues the on-going dialogue on state level health development issues between the Bank, GOI and state Governments which was initiated four years ago. The report has also benefited from collaboration and substantial discussion with WHO, ODA and KfW. The report and related dialogue will, over the next three to five years, provide a clear assessment of state level health sector strengthening and reform that would be needed to be undertaken to promote an effective, efficient and sustainable health system. The agenda proposed in this report is incremental and modest, but is critical for setting the stage for India and its states to come to grips with what will be required to improve health care services, without substantially escalating costs.

1.3 This study elaborates what states can do to implement a program of institutional strengthening and health reform in selected areas, drawing on analyses of the changing epidemiology and burden of disease, public/private partnerships in the provision and

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[1] India: Country Assistance Strategy-Progress Report, Report No. IDA/R96-154/1, September 5, 1996

financing of health care, center-state health financing issues, adequacy of finance and finance strategies and institutional and management issues related to decentralized initiatives at the state level. It does not, however, analyze financing issues such as health insurance or community financing, efficiency and effectiveness analyses of technical paradigm shifts related to specific health interventions, incentives for the workforce or all aspects of management and administrative arrangements, some of which have been covered in other reports or need to be further addressed.

1.4 Linkage with Previous Sector Work on Health Financing. This sector work builds upon an earlier study "India: Policy and Finance Strategies for Strengthening Primary Health Care Services", Report No. 13042-IN, May 1995. While the earlier study focused primarily on health care at the level of the central government, this sector work extends the discussion on the center-state relationship and focuses on health care reform issues at the state level. Subsequent to the earlier sector work, further studies, workshops and seminars on health reform at the state level were undertaken during the preparation of two state health systems projects and this sector work. The information garnered through this further work on the health sector provides some of the information and database for the report. A review was undertaken on public expenditures on health in the four states of Andhra Pradesh, Karnataka, Punjab and West Bengal; a burden of disease and cost effectiveness study was undertaken in Andhra Pradesh; a burden of disease study was undertaken in Karnataka, Punjab and West Bengal; and a study analyzing the decentralized panchayat administration system to assess their new capacities to manage and supervise health programs was undertaken. Extensive discussions were held with central and state level policy makers in the health sector through workshops and seminars. The bibliography provides a listing of reports used as background material for this study. The detailed terms of reference for the study are discussed below.

C. Terms of Reference for the Study

1.5 An Initiating Memorandum (IM) was issued on July 19, 1995, with the following objectives: (a) review the evolving burden of disease and cost-effectiveness of interventions at the state level; (b) analyze the role of the private sector in health service delivery, clarify the roles of the public and private sectors in the financing and provision of health services, and explore the opportunities for enhancing the scope and importance of the private sector at the state level; (c) analyze state level health expenditure data in the four states; (d) estimate the cost-effectiveness of contracting out selective services to the private sector; (e) analyze different scenarios of user-charges implemented at state level institutions; (f) investigate the practical implications of decentralizing administrative authority on health related issues to the panchayat level of administration; and (g) analyze selected aspects of the beneficiary assessments to identify the most needy populations, assist in targeting such populations and estimate the costs of delivering adequate and necessary health care to such populations.

1.6 Dissemination. The background work for the report has been conducted in a collaborative fashion with the Union Ministry of Health and Family Welfare (MOHFW) and several state Governments. Three important seminars, held in Jaipur (February 1995), Shimla (June 1995) and Pune (October 1995) have contributed extensively to sharpening the issues to reflect the priorities and to operationalizing the recommendations. Collaborative work has also been conducted with local institutions, who have provided inputs to this report.

These include the Administrative Staff College of India (ASCI), the Delhi Institute of Economic Growth, Operations Research Group (ORG), and the Foundation for Research and Development of Underprivileged Groups, in addition to those who contributed to the previous health sector report. It is intended to widely disseminate the report within India and among the donor community, especially those who have been actively involved in discussions on the development of the health sector in India. This report will help to continue the series of workshop and seminars that the Bank has been jointly conducting with the Union Ministry of Health and Family Welfare (MOHFW). The report will be used as an instrument to invigorate the public debate on health sector development and reform issues in India.

D. Structure of the Report

1.7 The chapters in this report are organized as follows:

1.8 Chapter 2 provides a discussion of the unfinished agenda in the health sector at the state level in India and the challenges and opportunities that are presented. The key issues highlighted are: health care strategy, epidemiology and burden of disease; public/private roles in the provision and financing of health care; allocative efficiency of health care resources; supplementary mechanisms for augmenting health care financing through user charges; cost-effectiveness of key health interventions; and health care management and administrative issues related to decentralized administration.

1.9 Chapter 3 provides a comparative overview of the health sector in the four states including the sectoral background and demographic features in Andhra Pradesh, Karnataka, Punjab and West Bengal; the evolving burden of disease and epidemiology; and the major challenges arising from the epidemiological polarization in India.

1.10 Chapter 4 summarizes the role of the private sector in the delivery of health care services at the state level, covering the availability and cost of private health services; access to private health services; provision vs. financing of health services by the public and private sector; and public/private/voluntary sector partnerships in providing health services.

1.11 Chapter 5 discusses center-state financing issues; central, state and local government responsibilities in health finances; inter-state equity issues; government health expenditures in all states; patterns of health expenditures across states; and mechanisms of adjustment effects on center-state resource transfers.

1.12 Chapter 6 analyzes public sector health expenditures in the four states included in this review; trends in state level public expenditures on health and family welfare; per capita expenditures on health; the effects of fiscal adjustment on health budgets; the share of budgetary resources devoted to health; the composition of health budgets; and future trends in public sector health financing.

1.13 Chapter 7 analyzes supplementary financing mechanisms related to user charges; existing practices relating to user fees in the four states; and the potential for raising revenues from user fees at the state level.

1.14 Chapter 8 discusses the cost-effectiveness of health interventions, using the Andhra Pradesh Burden of Disease and Cost Effectiveness of Interventions study as a basis for drawing lessons for other states.

1.15 Chapter 9 discusses the opportunities to improve implementation of health care delivery by decentralizing management and administration to the panchayati raj institutions (PRIs) at the state level; key linkages between the state health administration and PRIs; and the role of PRIs in health care delivery.

CHAPTER 2

THE UNFINISHED AGENDA IN THE HEALTH SECTOR

A. Sectoral Background

2.1 During the past two decades the government has developed a health care system which finances and manages a basic health care infrastructure. Government-provided services are the dominant source of preventive care, such as immunization, ante-natal care, infectious disease control, as well as hospital-based care, and account for about 20% of overall health spending. The private sector, on the other hand, provides ambulatory care services for acute illnesses or illnesses not requiring hospitalization, and accounts for about 80% of overall health expenditures. Nationwide health care utilization rates show that the services provided by the private health care is highest for primary health care, such as visits to general practitioners, and is financed almost entirely from out-of-pocket sources. This is in sharp contrast to the situation in industrialized countries, where hospitalization, secondary and tertiary health care services account for the largest share of spending, little of which is financed directly by households. The reliance on such a high proportion of funds from out-of-pocket sources in India places a disproportionate burden on the poor. Private health services are inaccessible to large sections of the population and do not cover many of the diseases which are most common to the poorest and most vulnerable sections of society. As a result, substantial gaps remain in the effective delivery of health care services provided to the population.

2.2 The Government's long-term strategy, as enunciated in the National Health Policy (1983), gives high priority to the control of fertility, infectious diseases of public health importance and preventable causes of maternal and childhood mortality and morbidity. This is an appropriate policy given India's burden of disease. However, investment allocations only partially reflect the priorities highlighted in the Government's policy. Public spending on health is about 1.3% of GDP which is lower than in comparable Asian countries. The bulk of public spending on health, about three-quarters, is accounted for by the states, which are primarily responsible for implementing health programs. As a result, a major area of financing and policy reform to increase efficiency and improve effectiveness of health programs needs to be targeted at the state level.

B. Looking to the Future: Challenges and Opportunities at the State Level

2.3 States in India are making progress in pursuing more efficient approaches to addressing health care delivery. Nevertheless, the states need to develop the essential components of a basic package of health services to address the health transition underway and the major health problems which will face them in the coming years. At present, in the four states included in this review, communicable diseases account for about 53%, non-communicable diseases about 30%, and accidents and injuries about 17% of the burden of disease on average. There are, however, variations by states, with states more advanced in the health transition having a higher proportion of non-communicable diseases and injuries and accidents.

2.4 A basic health care package should take into account these state level variations in epidemiology and burden of disease. The package of services would consist of: communicable disease prevention: limited clinical services: essential and emergency obstetric and pediatric care within easy access to people living in rural areas; capacity for prevention and health promotion programs to cope with non-communicable diseases to be developed progressively; injuries. especially prevention; and limited treatment of non-communicable diseases which are cost-effective, such as cataract operations and some medical treatment of heart attack, stroke and pain relief. Within this framework, the development of the package of services would take into account public expenditure considerations, the extent to which the private sector is providing some of these services, the extent to which poverty alleviation is part of the government's strategy in the health sector, the cost-effectiveness of health interventions, and programs that create large externalities. The package of services needs to be developed through a consultative and collaborative process, involving leading health practitioners and policy makers from the different levels of the health system. private and NGO sectors for social input, and the Finance Department of the state government to assess the financial ability of the state to provide the recommended package of services.

2.5 In order for the states to provide a basic package of services, which would be targeted to the needy sections of society, state governments would need to undertake a series of measures to reorient their health care system by strengthening institutional capacity and initiating a process of policy reform . These are discussed below.

2.6 Key Aspects of the Health Care Strategy: Three main issues with regard to the government's health sector strategy include:

(i) The need to shift the government's health care strategy from one that is anchored on population-size based approach to an approach that addresses the health care needs of the state based on the epidemiological profile and the burden of disease at the community level. The government's current health care strategy is based on a network of primary health care centers that are more or less uniformly interspersed across the country on the basis of a given population. This approach is neither an efficient nor an effective way to address health care needs of different sections of the population because of the variation in the epidemiological profile across communities, block, districts, states and regions in the country. There is a need to revisit the health care strategy, fine-tune it based on epidemiological data available at the grassroots level, and involve the local administration increasingly in the planning and implementation process. The panchayat administration provides an excellent basis for greater community level participation in the planning process for health care services, but the structures and systems linking the panchayat administration with health administration will need to be more clearly defined;

(ii) The need to improve technical efficiency of key programs which are seriously limited, rationalize service norms at various health facilities, improve staffing norms to better address need, and patient load, improve effectiveness of the referral mechanism and update some of the technical paradigms. For example, the

mechanism for delivering public health services faces serious problems, including overlapping functions among the various tiers of the health care system. Services provided at different tiers of the system are often duplicated and there is no clear delineation of services at each type of facility -- the lower tier institutions such as primary health centers (PHCs) are underutilized due to a multitude of reasons, including a lack of support from first referral institutions. The same applies for national disease control programs. A few positive trends are noted. The leprosy control program, for example, has shifted to a multi-drug therapy approach from the ineffective Dapsone monotherapy that was used in the past; other inadequacies in coverage, insufficient disability and ulcer care, inadequate detection of female patients, low public awareness and associated social stigma are also being addressed. Similar paradigm shifts are needed for TB, cataract blindness, malaria and other national programs that are implemented at the state level.

(iii) The need to provide better incentives for the workforce and address training needs. Problems related to the availability and quality of staff impede the technical efficiency of health programs and affect productivity. Overall, there is no shortage of doctors in the country but there is a shortage in remote and rural areas. There is also a shortage of nurses nationwide. Incentives need to be provided to medical professionals to encourage them to remain in their rural posts, thereby decreasing absenteeism. Training facilities and in-service training are limited, and professional staff are not up-to-date in clinical and management skills. A better understanding of the shortage of critical medical personnel and manpower needs are required.

2.7 Public-Private Partnership in the Delivery of Health Care Services: Despite accounting for 80% of overall health expenditures, the role of the private sector in the overall health care strategy is not clearly defined. The vital role the private sector plays in the provision of selected aspects of health services, such as ambulatory care, and the opportunities which remain for greater private sector involvement in other areas have not been fully recognized in policy making. The main challenges with regard to strengthening the public-private partnership in the delivery of health care services include: enhancing the scope and importance of the private health sector, while improving the quality of services; encouraging private sector involvement in preventive and promotive aspects of health care rather than solely on individual curative care; finding the appropriate mix between provision versus financing of health care by the public sector; promoting partnership between the public, private, and voluntary sectors; and improving the existing arrangement for regulating and monitoring private health care.

2.8 Resource Allocation and Efficiency in the Health Sector: The overall fiscal situation in many states has deteriorated sharply, with arising fiscal deficit, increasing interest payments as a share of total revenue, and an increasing share of debt outstanding as a share of state domestic product. The overall financial situation faced by the states has affected health sector allocations. The public sector currently provides about US$2-3 per capita for health.. The amount recommended by the World Development Report (1993) to provide a basic package of public health and clinical services for low income developing countries is about US$12 per capita annually. In the context of the Indian states, this may be a high estimate. Nevertheless, a sizable increase over present allocation will be required to finance a

broadly defined package of services. Moreover, within the health sector at the state level, resource allocation is skewed in favor of tertiary relative to primary and secondary services, and this imbalance needs to be corrected.[2] In addition, since much of the resources are absorbed by salary costs, the recurrent budget is chronically underfunded. Recognizing that overall state finances pose a serious problem, the state governments' objective of funding a basic package of health service will require more resources for health care, especially for primary and secondary health care services.

2.9 Alternative Methods of Health Care Financing: Since cost recovery mechanisms in the health sector are not well developed in India, revenue collection remains low. Some of the problems faced in this area include, inter alia: lack of an appropriate mechanism to review user charges: weak administrative mechanism for the collection of user fees; difficulty in targeting the poor for exemption from user fees, and constraints to greater retention of funds generated through user charges at the point of collection. The resource constraints faced in the health sector will require development of alternative methods of health care financing, such as cost recovery, insurance and participatory schemes to supplement budgetary allocations.

2.10 Health Care Management and Administration: The health care management system at the state level is inefficient. Some of the problems that need to be addressed include: weak overall management and health planning capacity; overlapping functions of the different tiers of the health care system and lack of coordination and integration between them; uncertainties associated with the decentralization of authority to the panchayat system on the administrative operations of health care provision and financing; and the lack of involvement of community level organization in revenue collection, planning and budgeting. Health care management at the state will need to be strengthened by addressing these issues.

2.11 The key issues in the unfinished agenda are inter-linked. The dynamics between the health care strategy, public-private roles, efficiency of resources in the public sector, alternative financing mechanisms and management issues will continue to affect the quality, provision and performance of the health care system. The improvements in the health sector will be measured by the improved health status of the population, greater access and equity, improved efficiency in the allocation of resources, and greater effectiveness of existing programs and consumer satisfaction.

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[2] The terms first referral and secondary level hospitals are used synonymously in this report. They denote community/rural hospitals that have a bed strength of about 30-50 beds; area/taluka hospitals that have about 75-100 beds; sub-divisional/State General hospitals that have about 100-350 beds; and district hospitals that have about 300-550 beds. The level of services offered increase from community to area to sub-divisional to districts hospitals.

CHAPTER 3

BACKGROUND TO HEALTH POLICY AND PLANNING: DEMOGRAPHIC FEATURES AND THE BURDEN OF DISEASE IN THE FOUR STATES

A. Introduction

3.1 The challenge faced in the health sector of each state varies to some extent depending on the burden of disease, existing public health programs, past pattern of investment in the health sector, the involvement of the private sector and the level of poverty. While resource allocation, institutional weaknesses and management issues are themes common to the health care system in all states, the demographic characteristics, epidemiological features and the burden of disease determine the nature of the health problems faced by each state. This chapter provides a brief outline of the basic demographic features, the epidemiological profile and the comparative burden of disease in the four states included in this review. The findings of the Andhra Pradesh Burden of Disease and the BOD estimates for Karnataka, Punjab and West Bengal are presented to illustrate the main differences between the states. These differences show the varying pace of the health transition across states -- the differences are especially marked between rural and urban areas.

3.2 The states of AP, Karnataka, Punjab and West Bengal are included in this analysis because of the richness of the data that was generated during the preparation of the state level health systems projects and through subsequent analysis of the BOD in these states. They provide an opportunity to study states that are at different levels of health and overall development, and have diverse geographical, cultural and socio-economic features. West Bengal, for example, is a state with large pockets of poverty and an underdeveloped private sector in health care provision; Karnataka and AP are states with a per capita income which are about the national average, but with large regional variations; and Punjab is a state with a high per capita income, which requires a somewhat different emphasis in the type of health package proposed. Together, they represent sufficient diversity among states in India to draw lessons that are applicable at the state level generally.

3.3 These four states also represent different stages in the health transition -- ranging from a high incidence of communicable disease, with relatively lower levels of non-communicable disease and injuries to a situation of high levels of non-communicable disease, with relatively lower incidence of communicable disease and injuries. The poorer and more populated states, such as West Bengal, still face a large incidence of communicable diseases. More prosperous states, such as Punjab, are further along in the health transition and are seeing a sharply increasing incidence of non-communicable diseases, especially in urban areas. There are states that are poorer than West Bengal and less advanced in the health transition process (such as Orissa) and others that are further along in the health transition (such as Kerala or Maharashtra), but the four states included in this review generally represent the main spectrum of health care issues faced by the Indian states.

B. Demographic Features of the States

Table 3.1: Health Status and Epidemiology in India and the Four States

	India	Andhra Pradesh	Karnataka	Punjab	West Bengal
Population (millions in 1995)	919	66.5	47.9	20.3	72.4
Crude Birth Rate	28.7	24.2	25.9	25.0	25.5
Crude Death Rate	10.1	9.1	8.5	8.2	7.3
Infant Mortality Rate	78.5	70.4	65.4	53.7	75.3
Expectation of Life at Birth a) Male b) Female	60.6	59.1	62.1	66.6	62.0
Percentage of Currently Married Women 13-49 Using any Contraceptive Method	40.6	47.0	49.1	58.7	57.4
Annual Growth Rate of Population	2.1	-	1.9	2.1	2.2
Pregnant Mothers Receiving Ante-natal Care	78.1	-	84.0	85.1	80.0
Deliveries by Trained Birth Attendants	69.8	-	-	-	70.0
Immunization Status -- Percent Coverage					
a) T.T. (for preg. mothers)	78.1	-	70.0	91.3	80.0
b) D.P.T. (infants)	51.7	66.1	70.7	73.6	51.9
c) Polio (infants)	53.4	68.0	71.4	73.4	56.0
d) B.C.G. (infants)	62.2	73.9	81.7	77.4	63.1

Figures, unless otherwise noted, are from National Health Survey, 1991.

- **Andhra Pradesh:** The population of Andhra Pradesh was about 72 million in 1995 and a population density of 242 people per square kilometer, which was lower than the all India average of 270. The percentage of Scheduled Castes (SCs) and Scheduled Tribes (STs) is slightly lower than the all India average, while the sex ratio of 972 females per 1,000 males is higher than the Indian average of 927. The state has become more urbanized, with 27 percent of the population living in urban areas in 1991.

- With a crude birth rate of 24.2 per 1,000, a crude death rate of 9.1 per 1,000 and an infant mortality rate of 70 per 1,000 live births, Andhra Pradesh's demographic indicators are similar to the all India average. The state's total fertility rate of 3.0 children per woman is lower than the all India rate of 3.6 children per woman. The annual exponential growth rate of the population (1981-91) at 2.17 is slightly higher than the all-India average of 2.14.

- **Karnataka:** The population of Karnataka was about 48 million in 1995, with urban areas accounting for about 31 percent of the population. SCs and STs constitute about 16.4 and 4 percent of the state's population respectively. With 40 percent of its population living below the poverty line compared with about 33 percent for India as a whole, the state has a comparatively large percentage of people living in poverty.

- With a crude birth rate of 25.5 per 1,000, death rate of 8 per 1,000, and infant mortality rate of 67 per 1,000 live births, health indicators are comparable to the average for Indian states. However, neonatal and post neonatal mortality and still birth rates have increased over the past two decades and are high. In the last decade, the number of patients admitted to government hospitals has increased by 60 percent, putting significant pressure on hospital facilities.

- **Punjab:** With a population of 22 million in 1995 and an annual population growth rate of about 2.1 percent, Punjab is one of India's more affluent states. Its population density of 403 per square kilometer in 1991 is high compared to the Indian average of 273, as is the percentage of the population living in urban areas (29.6 percent as compared to 23.9 percent for India). Punjab's 1991 per capita income at $554 ranked it first among Indian states in terms of income. Yet 12 percent of the state's population is living below the poverty line. Also, as in other states, there is substantial regional variation in per capita income, with the northwest corner of the state having 40 percent of its population below the poverty line.

- Punjab's crude birth rate of 27.1 births per 1,000 is lower than the all India average, as is the crude death rate of 8.2 deaths per 1,000 and the infant mortality rate of 55 per thousand live births. While social indicators have improved on many fronts, the female-male sex ratio at 882 females per thousand males, is still a matter of grave concern.

- **West Bengal**: With a population of about 72 million, West Bengal is the fourth most populated Indian state. Around 40 percent of the population is below 15 years of age, and only 27.5 percent live in urban areas. The large rural population is mainly agricultural, with a predominance of small and marginal farmers. It is estimated that more than 30 percent of the rural population lives below the poverty line. STs constitute 5.6 percent of the population and 23.6 percent belong to SCs.

- High population density and poverty are mirrored in the state's morbidity profile. With an infant morality rate of 58, a crude birth rate of 25.6, and a death rate of 7.3, there is still much room for improvement.

C. The Health Transition

3.4 Key health indicators in India show that the health status of its population remains low. Communicable diseases continue to be major health problems; maternal mortality is high; acute respiratory and diarrheal diseases account for a large proportion of childhood mortality; and preventable mortality and morbidity especially among the poor, exact a high toll. Health indicators in India, when compared with other countries in the region that started with a similar resource base several decades ago, show that India has not fared as well as some of its neighbors. The gains in life expectancy over the past three decades, for example, have been 23% in India compared to 60% in China and 28% in Indonesia (World Development Report, 1993).

3.5 In addition, India is moving into an epidemiological transition. Communicable diseases and maternal and perinatal causes currently account for a large number of deaths in

India (about 470 per 100,000 population, standardized for age, compared to only 117 in China and 187 in the world as a whole)[3]. At the same time, the gains achieved in life expectancy have resulted in proportional increases in mortality from chronic and degenerative diseases of adulthood, such as heart ailments and cancers. These trends are likely to persist. As fertility declines, the age structure of the Indian population will shift and the proportion of people above the age of 60 years will increase. As a result, the burden of non-communicable diseases will rise further. At the same time, the challenge of communicable diseases of the young, middle-aged, and poor will persist. The central and state governments, therefore, will need to deal with both a high level of communicable diseases and a rising incidence of non-communicable diseases and injuries and accidents.

3.6 This dual burden of communicable and non-communicable diseases is likely to result in an "epidemiological polarization" in which one part of the Indian population will successfully complete a demographic and epidemiological transition while another part remains in the pretransition phase. Indeed, this situation is already present in India, especially in terms of the differences between rural and urban areas, and accounts for much of the dilemma of its publicly provided health care system. The demands of the rural and urban middle and upper classes for accessible, technologically advanced, and free clinical services compete with the still pressing need for coverage with basic disease control interventions in rural areas. As a result, the conflict over public resources is likely to be exacerbated by the on-going epidemiological and demographic changes and poses a major future challenge for primary health care policy at the state level in India. Moreover, the competition for scarce resources has the potential to worsen the unequal quality of health care among the states, as the poorer states are unable to provide the matching funds required to qualify for some federal monies.

D. Epidemiology and the Evolving Burden of Disease in the Four States

3.7 For a long time, mortality was the predominant indicator in assessing the health status of populations (Lopez and Murray, 1996). The burden of disease has traditionally been based on the number of deaths different diseases cause and has relied on mortality data. This approach served the purposes of development planners for a long time, since cause specific mortality used to correlate well with morbidity and disability, particularly in many infectious and parasitic diseases. Over time, with the decline of mortality rates, morbidity measures have come to assume greater importance in quantifying the burden of disease, and the inadequacy of mortality as a measure of health status is increasingly recognized. For example, there is now evidence that low child mortality levels can be maintained even in the presence of sustained high levels of under-nutrition and morbidity. There has also been an accompanying shift from assessing causative factors to assessing risk factors. While it is possible to identify causative factors in the case of communicable diseases, the etiology of non-communicable diseases is so complex that it is usually not possible to point to a single dominant cause. Therefore, sets of risk factors become important.

3.8 This calls for indicators that can simultaneously combine the load of morbidity, disability and risks with the level of mortality. Burden of disease estimates provide a mechanism of aggregating and comparing the size of various health problems through a

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[3] World Development Report, 1993; Table A.7.

single indicator, which is the Disability-Adjusted Life Years (DALY).[4] The World Health Organization together with the World Bank developed a methodology and presented estimates of the full loss of health life due to different causes in terms of DALYs lost in the 1993 World Development Report, which has been updated by Murray and Lopez, 1996. According to these estimates, India accounted for 288 million DALYs lost in the year 1990, which is over 21 percent of the global burden of disease, even higher than its share of overall mortality.

3.9 Methodology. The Andhra Pradesh BOD study and subsequent analyses in Karnataka, Punjab and West Bengal form the basis of the discussion of BOD in this chapter. These studies were commissioned by the Bank and undertaken by the Administrative Staff College of India (ASCI), with the objective of (i) estimating the BOD caused by common diseases including accidents and injuries; and (ii) comparing the disease burden in urban and rural areas of the four states. The cost-effectiveness of selected health interventions using DALYs as a measure of effectiveness was also undertaken, but only for AP and is discussed in Chapter 8. The BOD part of the study analyzed the following data: (i) demographic estimates, including age-specific mortality, preliminary disease lists, and survey of cause of death; (ii) information gathered from expert opinion and field inquiry; and (iii) literature review of existing epidemiological studies and available data.

3.10 The methodology of the AP BOD study was repeated in the other three states included in this review. Estimates of disease burden for 1992 were used, since this is the latest year for which Sample Registration System data on age and sex specific mortality rates are available. Population projections for 1992 were made using the exponential method. In the three states, original data was used for the urban areas, which was obtained from the Medically Certified Causes of Death Register. In rural areas, sample cause of death was used based on verbal autopsy. For disability, epidemiological information from the national programs at the state level were used to get at the state-specific prevalence data. Incidence data in each state was modified from the AP data on the basis of state-specific disease patterns (e.g. kala-azar exists in West Bengal, but not in AP) and on the basis of existing empirical evidence in each state. The incidence rates in each state were calculated based on the prevalence rate, general mortality and remission data, using the standard "Dismod" model.

3.11 Findings of the BOD Estimates. The data are summarized in Tables 3.2, 3.3, 3.4 and 3.5. It is broken down according to DALYs lost in rural and urban populations, in absolute numbers, as well as DALYs lost per thousand population. Diseases are categorized as follows: category I denotes communicable diseases, including TB, sexually transmitted diseases, diarrheal disease, meningitis, hepatitis, malaria, tropical cluster, childhood cluster, leprosy, trachoma, intestinal helminths, respiratory infections, maternal causes and perinatal causes. Since nutritional deficiency disorders predominate in the pretransition phase, they were also included in this group; category II denotes non-communicable diseases, including malignant neoplasms, diabetes, neuropsychiatric disorders, sense organs, cardiovascular,

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[4] The WDR (1993) defines Disability-Adjusted Life Years (DALYs) gained as a unit used for measuring both the global burden of disease and the effectiveness of health interventions, as indicated in the reduction in the disease burden. It is calculated as the present value of the future years of disability-free life that are lost as a result of the premature death or cases of disability occurring in a particular year.

respiratory, digestive, genitourinary, and musculoskeletal disorders, as well as dental health: category III denotes accidents and injuries.

Table 3.2: DALYs Estimated to be Lost During the Year 1992

State	Area		
	Rural	Urban	All
Andhra Pradesh	14,037,909	3,619,609	17,657,518
Karnataka	8,945,778	2,616,910	11,562,687
Punjab	3,942,743	1,268,929	5,193,672
West Bengal	14,032,832	3,274,114	17,306,947

3.12 A major finding of the BOD estimates in the four states is that the distribution of the BOD between categories I, II and III is different from the distribution presented in the WDR (1993), but similar to the updated version presented by Murray and Lopez (1996). The *first* difference is with regard to the contribution of non-communicable disease (category II) to the overall BOD. In AP, Karnataka, Punjab and West Bengal, the contribution of category II amounted to about 30%, 28%, 29%, and 28% respectively. This compares to 41% estimated in the WDR (1993), but more in line with the 29% estimated by Murray and Lopez (1996) and for India overall. A small percentage of this difference could be explained by the exclusion of nutritional deficiency disorders from category II in the BOD estimates for the four states and in the Murray and Lopez estimates (1996). The *second* difference is with regard to the contribution of injuries and accidents (category III) to the overall BOD. In the four states, the contribution of category III to the total BOD ranges from between 15% and 19%, whereas the WDR (1993) estimate, for all of India, was about 9% and the Murray and Lopez (1996) estimate is about 14.6%. The difference between the BOD estimate in the four states and the WDR (1993) estimate with regard to the contribution of communicable disease (category I) is not significant. If these results were to apply to all of India, they would imply that the contribution of non-communicable diseases to the BOD, which has been growing quite rapidly, has however been overestimated in the past: and that of injuries and trauma has been underestimated.

3.13 As shown in Table 3.2, Andhra Pradesh had the highest total of DALYs lost in 1992, at about 17.7 million, followed by West Bengal, at 17.3 million. Karnataka and Punjab followed, with about 11.6 million and 5.2 million respectively. The DALYs lost are roughly in proportion to their overall population. The total DALYs lost in rural areas accounted for 80 percent of the total number of DALYs lost in Andhra Pradesh and West Bengal, but was slightly lower for Punjab at 76 percent and Karnataka at 77 percent. Data elsewhere also indicates that the relative burden of disease seems to be higher among the residents of rural areas.

3.14 The data also show that the DALYs lost per 1,000 population in rural areas of Andhra Pradesh, Karnataka, and Punjab are similar at approximately 289, 288 and 272 DALYs lost per 1,000 respectively. The figure for West Bengal was lower at about 276 DALYs lost per 1,000, largely because of the lower DALYs lost per 1,000 in urban areas. Punjab and AP are estimated to have a higher disease burden in urban areas relative to the other states, at about 205 and 202 DALYs lost per 1,000, respectively, as against only about 171 and 184 DALYs lost per 1,000 in West Bengal and Karnataka. As shown in Table 3.3,

the greatest difference between urban and rural areas was found to be in the state of West Bengal and Karnataka, with a difference of about 105 and 103 DALYs lost per 1,000 respectively, indicating relatively poorer access to health care in the rural areas in these two states.

Table 3.3: DALYs Lost per 1,000 Population

State	Rural	Urban	Total	Urban-Rural Differences
Andhra Pradesh	289	202	266	87
Karnataka	288	184	253	103
Punjab	272	205	252	67
West Bengal	276	171	248	105

Table 3.4: DALYs Lost per 1000 Population by Major Cause Groups in Rural and Urban Areas

State	DALYs lost per 1000 Rural			DALYs lost per 1000 Urban		
	I	II	III	I	II	III
Andhra Pradesh	160.0	81.5	47.2	97.7	74.3	30.5
Karnataka	168.0	72.2	43.6	86.5	66.7	30.3
Punjab	153.2	72.5	45.9	93.8	71.8	39.7
West Bengal	164.4	68.6	44.4	71.0	71.1	28.7

3.15 Communicable diseases (category I in Table 3.4) still predominate in the rural areas of all four states. The total DALYs lost per 1,000 in rural areas in this category in AP, Karnataka, Punjab and West Bengal were about 160, 168, 153 and 164 respectively. The total DALYs lost per 1,000 in category II and III combined in rural areas was much less at about 129, 116, 119 and 113 respectively. Moreover, the magnitude of the disease burden caused by communicable diseases closely corresponds to the total burden, following a trend in all developing countries. This trend, however, was reversed in urban areas, where in all states, the total of DALYs lost per 1,000 in category II and III was higher than that of category I, indicating that the urban areas are in a more advanced state of demographic transition. The predominance in Punjab of DALYs lost per 1,000 due to diseases in category III, especially in urban areas, can partly be explained by the political disturbances in the state during that period.

Table 3.5: Total DALYs Lost per 1,000 Population and by Major Cause Groups

State	Population in Thousands	DALYs lost			DALYs lost per 1,000		
		I	II	III	I	II	III
A.P.	66,508	9,528,102	5,288,635	2,840,781	143.26	79.52	42.71
Karnataka	45,781	6,529,396	3,227,299	1,805,992	142.62	70.49	39.45
Punjab	20,628	2,793,402	1,491,451	908,818	135.41	72.30	44.06
West Bengal	69,692	9,684,410	4,829,643	2,791,562	138.96	72.30	40.06

3.16 DALYs Lost by Age Group. The overall distribution of DALYs lost per 1,000 population in different age groups indicate that the pattern is more or less similar in all the states. The highest burden was estimated in the 0-4 years age group, while in the 5-14 years age group the burden was least. In the 15-44 years age group the burden of disease was relatively higher among females due to maternal disorders.

3.17 The distribution of the DALYs lost in each age group by major cause category (categories I, II and III) indicate that among the 0-4 years age group, category I disorders were dominant as expected. Punjab had a relatively lower burden due to category I disorders among males in this age group. The differences between both sexes with regard to category I diseases were more marked in Punjab (a difference of 85 DALY per 1,000 between male and female children) as compared to the difference in other states, thereby indicating higher vulnerability of female children in Punjab.

3.18 In the 5-14 years age group, the burden caused by category I diseases was close to that of total burden caused by categories II and III together. In fact, the burden caused by category III in most states was responsible for a third of the burden among males. This is quite plausible, considering the higher vulnerability of this age group to injuries and accidents. The corresponding proportion in case of females was less than 25%, suggesting that female children are less prone to injuries in this group.

3.19 In the 15-44 years age group, the epidemiological transition is quite evident in males. The total of category II and category III disorders was nearly double that of group I. However, in case of females the trend observed in the 5-14 years (category I burden being equivalent to total of categories II and III) still continued, essentially due to higher burden caused by maternal conditions. Thus, the analysis clearly indicates that there is an urgent need to address maternal health problems on a priority basis. Surprisingly, Punjab had the highest burden due to category I among females in this age group. This has implications related to access for essential and emergency obstetric services.

3.20 In the 45-49 years age group, the epidemiological transition is quite evident as degenerative disorders (category II) are dominant. However, in the case of women, the burden caused by all the major cause categories was estimated to be relatively less compared to males. This trend was especially marked in the case of degenerative disorders (difference of 40-60 DALYs per 1,000).

3.21 In the 60+ age group the degenerative disorders are the dominant cause of burden of disease in both sexes. Higher relative burden of category III disorders among females could be partly explained on the basis of higher vulnerability to injuries due to osteoporotic changes and hormonal imbalances.

3.22 Data on Hospital Visits. Another issue of interest related to the BOD is the number of hospital visits, both inpatient and outpatient, and their distribution between the different categories of diseases. In Punjab, for example, the overwhelming number of patients presenting themselves at health care institutions belong to the non-communicable disease category (category II). Hospital level data indicates that category II cases account for about 76% of all outpatient hospital visits and about 86% of all inpatient visits in Punjab. In Karnataka, comparable data indicates that category I and category II diseases contribute almost equally to outpatient visits -- about 36% and 38% respectively. With regard to inpatient visits, however, there is a significant difference, with category I diseases contributing only 27% of hospital visits as compared to 49% by category II diseases. This could be used as one indication that the health transition is well underway in Punjab, with category II diseases clearly placing a heavy burden on the health care system, even though in terms of DALYs lost, category II diseases in Punjab appear not to evince a pattern different from the other states. Karnataka seems to be lower on the transition curve, with category I diseases not too far behind category II diseases, although category II diseases seem to be gaining predominance, particularly for inpatient care.

E. Recommendations

- The comparison of the demographic features in the four states and their evolving burden of disease highlights the continuing need to address those diseases which contribute the most to the BOD, in a cost-effective manner. As seen in Table 3.5, communicable disease (category I) still accounts for the majority of DALYs lost in all four states. The focus of health care policy in the short run should, therefore, continue to address the large burden of communicable diseases.

- The emphasis on addressing communicable disease, however, should not overlook the marked difference in demographic indicators and disease burden at the state level. As seen in the case of Punjab, which has a highly urbanized population and a high incidence of category I and category II diseases, the situation varies from state to state. The policy should, therefore, be flexible in addressing the evolving burden of disease.

- The data indicate that in the case of urban areas, the emphasis should be in moving towards improving lifestyle and behavior patterns due to the predominance of category II and III diseases. Since the cost of health care in such situations is quite high, the state governments should seriously consider the option of cost sharing for such services, with exemptions for the poor. This issue will be elaborated in later chapters.

CHAPTER 4

THE PRIVATE SECTOR IN HEALTH CARE AT THE STATE LEVEL

A. Introduction

4.1 Total health spending in India accounted for about 6% of GDP (1991), which is about Rs. 320 or about US$13 per capita in 1991 prices. While the level of spending per capita on health is low in absolute terms, the health sector's contribution to national income in India is higher than in most developing countries at similar levels of per capita income. Despite the historical and legal emphasis on the Government's role in the health sector in India, expenditure data clearly indicates the dominance of non-government spending. Private sector expenditure in India is estimated to be about 78% of total health spending. This share of total private spending on health is comparable with Thailand, which has an absolute per capita spending four times greater than that of India. Government health spending in India, on the other hand, is in the middle of the range reported for lower income Asian countries -- it is higher than Indonesia and the Philippines; and lower than China and Sri Lanka.[5]

4.2 A 1991 national household expenditure survey carried out by the National Council for Applied Economic Research estimated that out-of-pocket spending on health accounts for almost all of private health spending; private and corporate insurance contributed only about 3.3% of private spending on health. Per capita out-of-pocket spending in India was Rs. 240, which is about 75% of total national health expenditure.[6] Other estimates also point to the conclusion that private out-of-pocket expenditure is the major contributor to financing health care in India.

4.3 The role of the private sector in the overall health strategy is not clearly defined. The vital role the private sector plays in the provision of selected aspects of health services, such as ambulatory care, and the opportunities which remain for greater private sector involvement in other areas have not been fully recognized in policymaking. The main challenges with regard to public-private roles include: enhancing the scope and importance of the private sector, while improving the quality of services; encouraging private sector involvement in preventive and promotive aspects of health care rather than solely in individual curative care; finding the appropriate mix between provision versus financing of health care by the private sector; promoting partnerships between the public, private and voluntary sectors; and improving the existing arrangement for regulating health care.

4.4 This chapter is based on the information provided by four separate studies of the role played by the private sector in the provision of health care services in the states of

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[5] India: Policy and Finance Strategies for Strengthening Primary Health Care Services. World Bank Report No. 13042-IN; 1995.

[6] ibid. pg. 66.

Karnataka, Punjab, West Bengal (WB) and AP.[7] It also draws upon the Gujarat Institute of Development Research study, "Utilization of and Expenditure on Health Care in India, 1986-87. A Study of Five States", which was undertaken as part of an earlier study on primary health care financing. This chapter assesses the scope of the private sector in the states, including the geographical and social spread of the sector and the types of services offered; assesses the quality of services provided at private sector institutions relative to the public sector, and compares the fee structure for different services at private vs. public institutions; the possibilities for expanding the scope of private sector involvement, including the voluntary sector; opportunities for contracting out; and analyzes the extent to which the state health Secretariat/Directorate regulates, accredits and monitors private sector institutions, with particular reference to the Consumer Protection Act.

B. Client Perceptions of the Role of the Private Sector

4.5 The following findings are based on the private sector and beneficiary assessment studies in the four states:

- The main advantage of the private sector health facility is its easy accessibility. Not only are private clinics better located in urban areas, there is also the facility of round-the-clock availability of a specialist on the premises, unlike in the case of a government hospital where doctors are available only for a fixed number of hours every day. In addition, due to better maintenance and sanitation, and more courteous treatment by the medical personnel, private hospitals are perceived to be providing better services than government hospitals.

- A majority of patients visiting private clinics belong to the middle and upper socio-economic classes, since the costs of private treatment are very high when compared to a government hospital. In West Bengal, for example, it was found that, of out-patients visiting a private practitioner, 58% spent about Rs. 100, 24% spent Rs. 100-300, and 7% spent more than Rs. 300 on medicines in the three months preceding the interview. By comparison, the figures for those visiting a government hospital are 28%, 12% and 5% respectively. In other words, only about 10% of out-patients were spending less than Rs. 100 in the private sector, as against almost 55% of out-patients visiting government hospitals.

- Of those belonging to the low-income and tribal groups, a majority were of the opinion that, although private hospitals offered modern equipment and convenient service, the costs of treatment were prohibitive, and few of them could afford to consistently visit a private practitioner. Moreover, it was felt that the private practitioners commitment to low-cost preventive care was minimal, and that in the case of emergencies a government hospital was much more likely to provide efficient service.

- The private sector in health care delivery is unorganized, and is operated by a mix of qualified and unqualified practitioners. In the four states studied, it is relatively better

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[7] The study in Karnataka was done by the Administrative Staff College of India; in Punjab, by the Foundation for Research on Underprivileged Groups; in WB by the Operations Research Group; and in AP by G. Kumara Swamy Reddy.

developed in Karnataka, Punjab and AP, particularly around urban centers, than in West Bengal. Services are provided mainly through small clinics and nursing homes. Most private practitioners dispense allopathic medicine, although homeopathy and ayurved are also widespread. Both preventive and curative services are provided, while emergency and medico-legal cases are generally referred to government first referral hospitals.

C. Scope of the Private Sector in Health Care Delivery

4.6 Relative Size of the Private Sector. The private health sector is fairly large in all the states, except in West Bengal, and is growing very fast, particularly in AP and Karnataka. At the primary care level, the private sector is pervasive and heavily used despite the vast network of primary health infrastructure developed by the government. At the secondary and tertiary levels, the private sector presence is less dominant, but is increasing its share of services in the tertiary sector. This is partly due to client perceptions of public health care services being more positive at the secondary and tertiary levels than at the primary level. In 1992 a survey conducted by the Institute of Health Systems indicated that in AP the bed strength in the private sector was larger than the public sector: the government accounted for 33,949 beds, while the private sector accounted for 42,192 beds, in 3,029 private health care institutions. In Karnataka, the total bed capacity of registered private and voluntary institutions was 40,900, in 1,709 private health care institutions as against a total of 31,840 beds in government hospitals. West Bengal is an example of a state where the contrary is true: only 10% of the total bed strength is in the private sector, with a total of only 6,912 beds. As a result, in the states studied, apart from West Bengal, the distribution of medical manpower is also skewed towards private institutions. In AP, for instance, of a total of 33,983 doctors registered with the Medical and Nursing Council, only 5,148 doctors (excluding those in administrative positions) are employed in the government sector. Almost 50% of registered nurses and auxiliary nurse midwives (ANMs) are employed in the private sector as well.

4.7 Due to various data problems, we may still have an incomplete picture of the size of the private sector. In recent years, the corporate sector has invested heavily in large and highly sophisticated facilities catering to the urban middle and upper class patients. Evidence suggests that the number of nursing homes, even in rural towns, has rapidly expanded. There is rapid and highly visible growth of for-profit hospitals in major urban centers. Private sector investment in secondary level hospitals has not increased rapidly.

4.8 Ownership and Management. With regard to ownership and management, the private sector facilities in the states studied can be classified as follows:

- Clinics owned and managed by single practitioners.
- Nursing homes/hospitals of varying sizes.
- Large corporate hospitals.
- Hospitals not-for-profit.
- Charitable/religious institutions.

4.9 The data indicates that in terms of bed strength, hospitals can be divided into those with less than 30 beds; 50 beds; 100 beds; and more than 100 beds. More than three-fourths

of private institutions have less than 30 beds. These small facilities are usually owned by single doctors or a family, and are generally attached to a medical shop. Very few hospitals have more than 100 beds, and these are usually attached to private medical colleges. Partnership firms constitute about 7% of private institutions, while charitable trusts and religious missions constitute about 5%. The pattern of ownership of private institutions in Karnataka, for example, is shown below:

Table 4.1: Distribution of Private and Voluntary Hospitals by Type of Ownership in Karnataka

Ownership	Bed Strength					
	<10	10-29	30-39	50-99	100 and above	Total
Charitable Trust	8	20	18	13	9	68
Religious Mission	3	10	2	4	8	27
Registered Society	6	10	6	1	19	42
Limited Company	1	5	3	5	5	19
Partnership	17	67	34	7	3	128
Individual	575	717	90	31	12	1425
Total	610	829	153	61	56	1709

4.10 In addition, the private contracting of health services, especially support services, by the government is becoming increasingly important since the state Governments can effect substantial cost-savings through such a mechanism. The changes in technology and manpower mix are affecting the services offered at specific government facilities.

4.11 Regional Variations. Neither the private institutions nor the hospital beds are evenly distributed across the states. They tend to be concentrated in densely populated urban centers. In AP, for instance, the bed-population ratio ranges from a low of 0.07 beds per 1,000 population in Mahbubnagar to a high of 1.41 in Krishna district. In WB, 21% of all hospitals and 47% of all hospital beds are concentrated in the Calcutta Metropolitan Area. In Karnataka, private sector institutions in three districts -- Dakshina Kannada, Bangalore and Belgaum -- contributed more than 1 bed per 1,000, while the districts of Raichur, Bellary and Chickamagalur had less than 0.5 beds per 1,000 contributed by the private sector. The principal contributing factor to this disparity is the relative affluence of a region, making it more profitable to establish and operate a private hospital. Other factors include higher population density, the presence of educated clientele, and the existence of pressure groups. There are also intra-regional disparities for many of the same reasons: rural vs. urban population, and level of socio-economic development.

4.12 Services Offered by the Private Sector. Government provided services are the major source of inpatient care. In contrast, non-government providers -- mainly for-profit, fee-for-service practitioners -- provide the bulk of outpatient and ambulatory care, the curative component of health care. Government providers are also the major source of preventive care in rural areas, although coverage remains low overall for several dimensions of routine preventive care for mothers and children. In urban areas, the coverage is higher, and there is a larger private sector role. Diseases for which mass public health outreach programs exist, such as TB control, malaria control, diarrheal disease control and safe motherhood/maternal and child health (MCH) make up a large part of the caseload for public hospitals. Most of

these public health programs have low coverage in terms of finding and treating patients on an outpatient basis. Publicly funded outpatient treatment of TB reaches only half of those reporting the disease, and coverage for other diseases is much lower. Private primary level treatment is the dominant source of care for a number of such diseases which have been targeted by public disease control programs in both rural and urban areas.

4.13 The studies in the four states indicate that the private health sector provides mainly diagnostic and curative health services, leaving the entire field of preventive health services to the government. For example, private nursing homes catering to delivery cases are very extensive. A high percentage of curative services offered are comprised of ambulatory services not requiring hospitalization. Intermediate patient care services, with short term hospitalization, are also provided by private institutions. On the other hand, very few private institutions offer intensive care. Most intensive and emergency care is provided by government teaching hospitals.

4.14 Allopathy is the predominant system of medicine practiced, especially at the hospital level. General medicine is the most common service offered by private institutions. Obstetrics and gynaecology comes next. The size of the hospital seems to have an influence on the range of services offered: most smaller hospitals offer general medicine, with very few surgical specialties. The number of surgical specialties seems to increase with size of hospital.

4.15 The support services available to private sector institutions is uneven. Based on data from Karnataka, about 55% of private institutions had attached diagnostic laboratories, while about 40% had x-ray plants. About 25% of the hospitals had ultrasound scanners, and 20% had attached pharmacies. The private/ voluntary sector in the whole state had 33 CT scanners, of which nearly half were located in the state capital. However, only 3% of the private hospitals had a blood bank, and in many districts, there was no blood bank listed in the private sector.

Table 4.2: Distribution of Private and Voluntary Hospitals by Range of Services Offered in Karnataka

	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Number of hospitals	610	100	829	100	153	100	61	100	56	100	1709	100
Health Edu.	236	38.7	320	38.6	60	39.2	30	49.2	39	69.6	685	40.1
Immunization	283	46.4	508	61.3	115	75.2	47	77.1	51	91.1	1004	58.8
Family Planning	269	44.1	587	70.8	126	82.4	46	75.4	46	82.1	1074	62.8
MCH	331	54.3	598	72.1	121	79.1	48	78.7	48	85.7	1146	67.1
G. Medicine	483	79.2	688	83.0	135	88.2	52	85.3	52	92.9	1410	82.5
Obstetrics	334	56.4	653	78.8	141	92.2	47	77.1	53	94.6	1238	72.4
Gynaecology	362	59.3	670	80.8	141	92.2	52	85.3	53	94.6	1278	74.8
Pediatrics	311	51.0	581	70.1	130	85.0	51	83.6	54	96.4	1127	65.9
Cardiology	59	9.7	240	29.0	83	54.3	42	68.9	49	87.5	473	27.7
General Surgery	143	23.4	467	56.3	118	77.1	51	83.6	55	98.2	834	48.8
Urology	23	3.8	131	15.8	61	39.9	29	47.5	36	64.3	280	16.4
Nephrology	18	3.0	64	7.7	26	17.0	16	26.2	27	48.2	151	8.8
Orthopedics	88	14.4	316	38.1	109	71.2	43	70.5	49	87.5	605	35.4
Oncology	16	2.6	42	5.1	26	17.0	21	34.4	29	51.8	134	7.8
Ophthalmology	88	14.4	185	22.3	74	48.4	35	57.4	45	80.4	409	23.9
ENT	80	13.1	276	33.3	95	62.1	41	67.2	47	83.9	539	31.5
Skin & VD	70	11.5	185	22.3	74	48.4	35	57.4	45	80.4	409	23.9
Dentistry	19	3.1	51	6.2	36	23.5	20	32.8	34	60.7	100	9.3
Psychiatry	18	3.0	101	12.2	58	37.9	22	36.1	40	71.4	239	13.0
Physiotherapy	15	2.5	65	7.84	43	28.1	21	34.4	41	73.2	185	10.8
Anesthesia	124	20.3	421	50.8	115	75.2	49	80.3	54	96.4	763	44.7

4.16 Access. The private sector studies in the four states also indicate that the access to services in the public and the private sectors in health varies widely between states. The factors which determine the access to health services include socio-economic status, the level of fees, availability of services and the nature of the illness.

- *Physical Access.* Clearly, hospital services provided by the government are inadequate in rural areas. Distance traveled to reach first referral hospitals seems to be an important factor in determining utilization. Community hospitals in tribal areas are located very far from tribal hamlets, with poor transportation and communication facilities, and often with no convenient residential arrangements for the medical personnel. Non-availability of staff, particularly doctors, is stated to be the most important reason for preferring private medical care over government hospitals. Especially in emergency situations, the easy accessibility and ready availability of quacks or underqualified doctors is a major determining factor of community preference for their services. Another important issue is the non-availability of necessary drugs and medicines at first referral hospitals, particularly for curative care, which has been identified as a major constraint to patient satisfaction. The community, however, seems to be willing to pay for the medicines provided by the hospital staff. In addition, areas such as the Sunderban region of West Bengal, for example, pose a special challenge since transport and communication networks are inadequate, and riverine transport between the network of 54 islands is

unreliable. In the case of Karnataka, the northern districts of Bidar, Bijapur, Gulbarga and Raichur have historically been neglected in terms of health sector development and health indicators tend to be poor in these areas. There is a special need to strengthen health care networks in these areas, and to encourage the development of the private and NGO sectors to provide outreach services which the public health services are unable to provide.

- *Social Access.* Results from the qualitative survey conducted in the three states indicate that tribals have a special set of social beliefs and practices which affect their health seeking behavior. In addition, in tribal areas, the insensitivity of medical personnel strongly influences the community's confidence in them. According to hospital sources, the proportion of hospital users belonging to SC/ST groups is commensurate with their proportion in the general population. However, considering the poor socio-economic condition of these groups, and their low nutritional level, the morbidity and mortality in this population is greater and warrants a higher utilization of primary care and secondary hospital services. An additional issue is the low utilization of health services by women. In Karnataka, for example, the National Sample Survey (NSS) indicates that the sex ratio among hospitalized cases is 786 females per 1,000 males, whereas the sex ratio in the population is 960 females per 1,000 males. There is therefore a need for special outreach efforts to improve the access of these groups to health care services as well.

- *Economic Access.* The data show that substantial costs -- on fees, drugs, tests and transport -- are being incurred by tribals and poor populations possibly because they postpone treatment until the problem has become more acute. In addition, due to the relative inaccessibility of government health care services, populations in rural and remote areas are approaching the private sector first for their health care needs.

4.17 Fee Structure. The data on fees charged in samples taken in Karnataka and AP are shown in Tables 4.3 and 4.4. It is evident that a wide variation in fee structure exists. Charges are highly subsidized in hospitals run by charitable organizations and religious missions. Some hospitals run by private medical colleges also offer subsidized services to the poor. Fees are charged generally for registration; consultation; investigative procedures; treatment; inpatient procedures; and use of support facilities. Fees charged vary from institution to institution, depending on the range of services provided; doctor's qualifications, experience and expertise; type of disease; location of hospital; equipment and facilities; local availability of alternatives (competition); availability of facilities like operation theater and surgery; availability of consumables and disposables; and the reputation of the hospital.

4.18 There is a wide difference in the cost of inpatient treatment between urban and rural areas: for similar illnesses, though not fully controlled for case-mix, rural patients at private institutions spent Rs. 225 per illness episode, while their urban counterparts spent Rs. 975, almost 4 times as much. Table 4.4 gives the use of services and cost of treatment in private and government hospitals. The data show that the cost per illness in private hospitals is nearly three times that in government hospitals for inpatient services (Rs. 600 vs. Rs. 208); while for outpatient services, the cost per illness in private hospitals is about double that in government hospitals (Rs. 96 vs. Rs. 47). Chapter 7 presents a more detailed discussion of user charges in the public sector.

Table 4.3: Cost of Treatment for an Illness Episode in Nellore District (AP) in Rs.

	Rural Areas			Urban Areas	
	Govt.	Individual Contributions	Private	Govt.	Private
Inpatient	1	123	225	12	975
Outpatient	1	32	71	1	120

Source: A Review of the Private Health Sector in Andhra Pradesh. G. Kumara Swamy Reddy; 1994.

Table 4.4: Comparison of the Cost of Treatment in Government and Private Hospitals

Type of Health Care Provider	Average Expenditure per Illness (Rs.)	
	Inpatient	Outpatient
Government Hospitals and PHCs	208	47
Private Hospitals, Nursing Homes, Non-Profit Organizations	600	96

Source: A Review of the Private Health Sector in Andhra Pradesh. G. Kumara Swamy Reddy; 1994.

D. Expenditures in the Private Sector: Emphasis on Out-of-Pocket Spending

4.19 The "sources and uses" matrix shown in Table 4.5 shows that household out-of-pocket expenditure accounts for about 75% of total national health expenditures. Corporate and third party insurance contributes an additional 3.3%. As a result, private health spending is about 78% of total health spending. Central, state and local government contributions account for the remaining 22%. Private spending accounts for 82% of primary care, 92% of curative care, 70% of secondary/tertiary care and only 27% of preventive and promotive care. In contrast, state governments account for only 10% of all primary care spending, 6% of curative care, 22% of secondary and tertiary care, and 30% of preventive and promotive care.

Table 4.5: National Health Spending: An Estimated "Source and Uses" Matrix (in percent of total expenditures)

	Sources				
Uses	**Central Government**	**State & Local Government**	**Corporate/ 3rd Party**	**Households**	**Total**
Primary Care	**4.3**	**5.6**	**0.8**	**48.0**	**58.7**
Curative	0.4	3.0	0.8	45.6	49.7
Preventive and Promotive Health	4.0	2.7		2.4	9.0
Secondary/Tertiary Inpatient Care	**0.9**	**8.4**	**2.5**	**27.0**	**38.8**
Non-service Provision	**0.9**	**1.6**	N/A	N/A	**2.5**
TOTAL	**6.1**	**15.6**	**3.3**	**75**	**100**

Derived from: India: Policy and Finance Strategies for Strengthening Primary Health Care Services. Report No. 13042-IN; 1995.

4.20 The Contribution of Out-of-Pocket Spending on Out-Patient Services. In industrialized countries, hospitalization accounts for the largest share of health expenditure and little of it is financed directly by households. In India, the pattern is reversed. About two-thirds of household out-of-pocket health spending in India is on ambulatory or outpatient services and one-third on inpatient care. This pattern is especially relevant to policy on primary health care, since private practitioners dominate in the provision of outpatient services, much of which substitutes for services which are supposed to be available through government providers as part of public sector primary health care programs.

4.21 An estimated 65% and 60% of household health spending in rural and urban areas respectively goes towards ambulatory illness treatment. Extrapolating from the national estimate that 75% of total health spending is direct household spending, these figures imply that household ambulatory care spending accounts for approximately one half of total national health expenditures.

4.22 Unfortunately, there is little basis for estimating spending on primary care from private firms, or estimating household out-of-pocket spending on preventive and promotive services. Both are likely to be modest. Thus, approximating primary care expenditures with the available evidence suggests that it accounts for about 60% of total national health expenditures and that four-fifths of that expenditure is from household out-of-pocket sources.

4.23 Out-of-pocket Health Spending and the Poor. Government primary care services do not appear to be well targeted to the poor.[8] Despite public subsidies for hospital care, out-of-pocket expenses for serious illnesses impact the poor disproportionately. In a serious illness episode, families might pay fully for private ambulatory care, then go to a public hospital where they might receive a free or highly subsidized day charge but still pay for other services as well as for items not available at a public hospital. After discharge, they may again pay fully for private follow-up treatment. The total costs of treatment are much higher due to the use of private health services.

4.24 The burden of out-of-pocket spending falls disproportionately on the poor even for primary illness care. On average, 5% of total household consumer expenditure in rural areas was health expenditure, while 2.3% of total household expenditures in urban areas was health expenditures.[9] In almost all cases, the percentage of household spending on health was highest in the lowest expenditure quintiles, reflecting the fact that the burden of out-of-pocket spending was regressive and imposed a heavier burden on the poor. This trend was even stronger when household spending on ambulatory illness care was examined separately. Ambulatory care accounted for a larger portion of household health spending in the lower expenditure quintiles in both rural and urban areas.

4.25 Approximately half of household out-of-pocket expenditure is payment to private ambulatory care providers. The figures are fairly similar in both urban and rural areas, despite

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8 India: Policy and Finance Strategies for Strengthening Primary Health Care Services. World Bank Report No. 13042-IN; 1995; pg. 76.

9 ibid, Tables 5.1 and 5.2.

the fact that one might expect higher percentages in cities accompanying the greater concentrations of private providers likely to be found there. Most illness care contacts in all expenditure quintiles are with non-government providers. These contacts generally involve out-of-pocket payments about 1.5-2.0 times higher than when contacted with government providers. These estimates suggest a consistent pattern that household health spending is mainly for private ambulatory care providers and that the burden of this cost falls disproportionately on the poorest households.

4.26 Private Expenditures on Inpatient Treatment. Overall inpatient care accounts for about one-third of total out-of-pocket spending. About 70% of in-patient care expenditure is attributable to household spending. Household health expenditure data show that hospitalization is a smaller part of household health spending than ambulatory care. This implies that poorer households may be much less likely to seek inpatient treatment, and when they do, they are much more likely to use public facilities which require lower out-of-pocket expenditures.

4.27 In fact, government facilities provide approximately 60% of all episodes of inpatient treatment in India, and out-of-pocket costs are well below those in non-government facilities. Average state-level out-of-pocket costs for hospitalization in government facilities ranged from 11-74% of the cost reported for hospitalized episodes in non-government facilities.

4.28 Contracting Out. Anne Mills (1995, 1996)[10] provides a rationale for contracting and summarizes the lessons from experience with contracting in six developing countries. The study notes that non-clinical contracting was usually justified in terms of lower costs, easier implementation and greater flexibility in the use of labor; the justification for clinical contracting was the unavailability of the service in the facility or area, a pragmatic response to the inability to expand the service and financial restrictions on capital investments. The study shows that the extent of contracting is relatively limited. For example, in Bombay, clinical contracting for hospital and primary care was done by agencies providing health services for civil servants and the compulsory social insurance scheme, but not for health services for the general public. Also, in the Bombay case, contracting for non-clinical services such as cleaning, catering, pharmacy, laundry, maintenance, printing and security, was more common, which seems to be consistent with practice in other urban areas of India.

4.29 Contracted out services are a small proportion of overall expenditures at the state level in India, but there appears to be considerable scope for the expansion of contracting out services, especially for non-clinical services. There are no legal barriers inhibiting the use of contractual services. The Contract Labor Regulation and Abolition Act (1970), which prohibits certain institutions from contracting out perennial services, exempts hospitals and health care facilities. In view of the difficulties of employing government staff, such as slow recruitment procedures and poor attendance, contracting out certain services, especially support services, is

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[10] Mills, Anne. "Contractual Relationship between Government and the Commercial Private Sector in Developing Countries: Are They a Good Idea in Health?" Private Health Providers in Developing Countries: Serving the Public Interest; 1996.

Mills, Anne. "Improving the Efficiency of Public Sector Health Services in Developing Countries: Bureaucratic versus Market Approaches." Departmental Publication No. 17; London School of Hygiene and Tropical Medicine; 1995.

an attractive alternative. However, Anne Mills (1996) points out that contracting out is not a solution to weak public sector management and is more demanding on managers than direct provision, requiring some new skills. The state governments should take into account lessons learned from past experiences in contracting out. In particular, where economically attractive, governments should consider contracting out support services such as laundry, kitchen, landscaping, dietary services, sanitation, security and mainstream diagnostic and clinical services. In addition to economic considerations, state governments should also take into account the quality of services, as well as administrative ability such as management capacity to supervise such contracts. Administrative procedures and guidelines and adequate accountability functions will also need to be in place to facilitate the contracting of services.

4.30 The Role of Health Insurance. Inpatient care is the predominant expenditure for private sources of financing, such as private firms, which make payments directly for their employees or pay for private insurance. There currently exists a government subsidized insurance plan, the ESIS, providing benefits to a narrow group of government workers and their dependents for sickness or employment injury covering about 27 million beneficiaries. ESIS maintains a sizable network of hospitals (111) and dispensaries (1,400). In addition, the CGHS provides medical care to central government employees and their dependents covering 3.8 million beneficiaries. Estimates of the composition of ESIS and CGHS expenditures were not available for this report. Overall, these insurance schemes do not cover private citizens and are subsidized for government workers.

4.31 For rural and urban areas, insurance coverage is only about 3.3% for the country as a whole. This is low compared to other Asian countries -- in Indonesia, for example, 9% of the population is covered by some type of insurance, mainly civil servants and the armed forces.[11] However, in India, the scope for private insurance remains limited at this time, but is likely to increase in the urban and industrial sectors with an increase in income levels, literacy and numeracy.

E. Quality of Services

4.32 Although private health services are easily accessible, the quality of medical services offered by the private sector is uneven. There is a need to monitor the clinical effectiveness and quality of services offered at different private facilities; to strengthen the referral system between private sector institutions and government first referral institutions to facilitate the treatment of poor patients; and to ensure that staffing and technical norms used in the private sector are within an acceptable range. In addition, the quality of medical practitioners varies greatly.

4.33 Data on the total number of "doctors" or "medical practitioners" are not available in India. Government figures indicate a national average of one privately practicing physician for every 3,500 people. These figures do not include the often-illegal private practices of publicly employed doctors, although these may not be as widespread as in other countries. Official data provide information only on the qualified, allopathic practitioners -- the MBBS or MD

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[11] Abel-Smith, Brian. Compulsory Health Insurance. Research project on Strategies and Financing for Human Development, Center for Development Studies, Thiruvanantapuram; 1995.

physician. "Registered" or "licensed" medical practitioners also exist with lower qualifications. However, there are no numbers available and in most states registration or licensing has not functioned for almost two decades.

4.34 Part of the reason why data on the number of doctors is unavailable is the long-standing uncertainty about what constitutes a "doctor" or "practitioner" and the quantities and types of practitioners available. Private providers include a wide array of qualified, less-than-qualified, and unqualified practitioners. Most of them practice an eclectic medical care, combining allopathic and one or several "traditional" forms of medical care. Most are unregistered, unlicensed, and unregulated, although there are numerous gradations of legal practice which vary from state to state.

4.35 There has been little change in the percent of physicians in full private physician practice over time. For the other components of private practice, information is very limited. A recent study of the "rural private practitioner" in Uttar Pradesh estimated that there may be as many as 1.25 million practitioners in India, or one for every 600 people in rural areas (IMRB, 1993). While this is a very tentative estimate, it highlights a fact that is obvious to a careful observer, i.e. there is widespread access to private, fee-for-service health care throughout India, although the quality of that care is likely to be very low. It may be that such practitioners are even more numerous in urban areas, serving the growing numbers of the urban poor.

4.36 The IMRB used an innovative technique to identify private practitioners -- asking village respondents to name the "doctors" they knew, then interviewing all those mentioned. The survey shows them to be young (under 40), male, and modestly educated. About half of the practitioners had received some formal health care training, but in most cases this was inadequate for a full qualification. They had on average more than 10 years of practical experience, saw 11 patients a day, and more than 90% of them used clinical methods from allopathy and at least one other system of medicine. The survey found these practitioners doing "fee-for-service" treatment, although they reported mainly charging for medicines plus a profit margin and not for "consultations." They both prescribed and dispensed medicines.

4.37 Most studies of health care utilization and spending in India have not adequately investigated the role of these private practitioners. The National Sample Survey results for private care provision reported in this chapter are a typical example of this problem, coding responses for "private doctor" without distinguishing between qualified and unqualified practitioners. More careful micro studies have found that these "less than fully qualified" practitioners account for the vast majority of treatment contacts and expenditures in both urban and rural areas.

4.38 Other Types of Providers. While little is known about the typical private practitioner, there may be other sources of private medical care even less well documented. Drug sellers and pharmacists commonly diagnose and prescribe as well as dispense drugs. It is unclear to what extent they are included in the response "private doctor" on surveys. In some parts of India, private diagnostic facilities such as radiology and laboratory testing are now appearing even in small rural towns. It is not known to what extent these are also increasingly functioning as private treatment facilities.

4.39 Monitoring and Regulation. As noted above, private fee-for-service providers are easily accessible to the rural and urban population and are heavily used by the poor for ambulatory care. However, many of these providers are unqualified, and they may cause substantial harm as well as good. In a society where it is mandatory to have a license to run a hotel, cinema theater or any commercial trade, it is strange that no permission or license is required to set up a nursing home/private hospital or operate a medical laboratory. The same is true for the monitoring and regulation of the drugs and pharmaceuticals industry.

F. Consumer Protection Act

4.40 More recently, as a result of the consumer movement in India, the government passed the Consumer Protection Act (CPA) in 1986. In order to make it more meaningful and effective, the Act was amended to bring medical services under its purview. It was clarified by the National Consumer Redressal Commission (1992) that services of any description which involve payment should be given consideration under the Act, and the Act should not be restricted in its interpretation only to services related to consumer transactions. This has raised concerns in the medical community with regard to the sanctity of the doctor-patient relationship, the spread of defensive medicine, and the fear of doctors being held responsible for problems caused by the lack of support services such as clean blood banks, ambulance services and para-medical services.

4.41 The issue is complicated by the fact that there is no standardized medical audit system which can provide patients and the legal community with information regarding acceptable procedures for diagnosis and treatment. The need for documentation with regard to standard medical care is urgent, not only for the benefit of the patient, but also for the appropriate regulation and accountability of the medical profession. As a result of the CPA, the Indian Medical Association (IMA) has recommended that the MCI Act be appropriately amended to ensure more complete accountability of doctors. While no doctor would be proof against human error, the medical profession would henceforth operate under the scrutiny and supervision of the amended MCI Act. The IMA also recommended, in order not to overburden the legal system, that only cases involving criminal dimensions be referred to the courts. A separate tribunal would be constituted in the place of a civil court, receiving the greatest priority and attention in disposing of cases expeditiously. In the state of Karnataka, for example, there are about 25 such cases pending judgment in the court system.

G. Recommendations

- Creating an Enabling Environment for the Private Sector. The overall strategy for the health sector should take into account the existing levels of private finance and provision of services at the state level. State governments should play an active role in creating an enabling environment for greater private sector participation in the health sector and fostering public-private partnership. There are several options for the government to ensure that the private health sector continues to play a vital role in the health sector and expand the scope of its activities.

- Increasing Private Participation. To make more efficient use of total resources available in the health sector, state governments need to evaluate alternatives related to provision versus financing of health care services. This would imply that state governments should

promote the further expansion of the private sector in areas where it has a comparative advantage such as tertiary level health care, super-speciality and support services. Private sector participation in preventive and promotive care services could also be promoted by providing incentives and developing schemes to finance, train and integrate private providers in case-findings, diagnostics, and treatment for priority health problems that are of public health significance.

- Increasing Opportunities for Contracting Out. Private contractual services are often more efficient and effective than direct labor. The state governments should, wherever economically attractive, contract out support services such as laundry, kitchen, landscaping, dietary services, sanitation, security and mainstream diagnostic and clinical services. In addition to economic considerations, state governments should also take into account the quality of services, as well as administrative viability. Administrative procedures and guidelines and adequate accountability functions will also need to be in place to facilitate the contracting-out of services.

- Strengthening Linkages between Government and Non-Governmental Organizations (NGO). States should increase efforts to involve NGOs in the area of preventive and promotive care and provide them opportunities to work with PRIs. Support for NGOs should be increased in such areas as social marketing of essential drugs and contraceptives, and behavior changing health education activities. The Government should actively seek the cooperation of NGOs in disseminating public health messages by involving them in information, education and communication (IEC) activities. NGO participation could be promoted in the delivery of primary health care and first referral services in remote and rural areas where outreach is limited. Contracting-out the delivery of primary health care in remote areas to the NGO sector, which has a comparative advantage in improving access to such health services for some disadvantaged groups, could also be promoted.

- Expanding Capacity for Monitoring and Regulation. The Government's capacity to register, certify, regulate and monitor private health care provision, especially qualifications of doctors and other medical personnel and the quality of their services needs to be strengthened and implemented. State governments should enact legislation and issue guidelines to register nursing homes, private clinics/hospitals and ensure minimum standards of care. Some of these functions could be undertaken collaboratively by the central and state governments, while others could be undertaken by a professional body such as the Indian Medical Association in accordance with all-India standards.

CHAPTER 5

CENTER-STATE FINANCING ISSUES IN THE HEALTH SECTOR

A. Introduction

5.1 Over the past two decades, state governments on average have directly provided about 73% percent of the total public resources for health, the central government about 25%, either directly or through grants for centrally sponsored schemes managed by the states, and the rest is provided by urban municipal bodies. This chapter focuses on center-state responsibilities for health in the public sector. It includes a discussion of the administrative set-up and budgetary processes in the health sector, inter-state equity issues in the transfer of central funds to the health sector; the levels, trends and patterns of health expenditures at the state level generally; and the mechanisms of adjustment effects on center-state transfers.

B. Center, State and Local Government Responsibilities in Health Financing

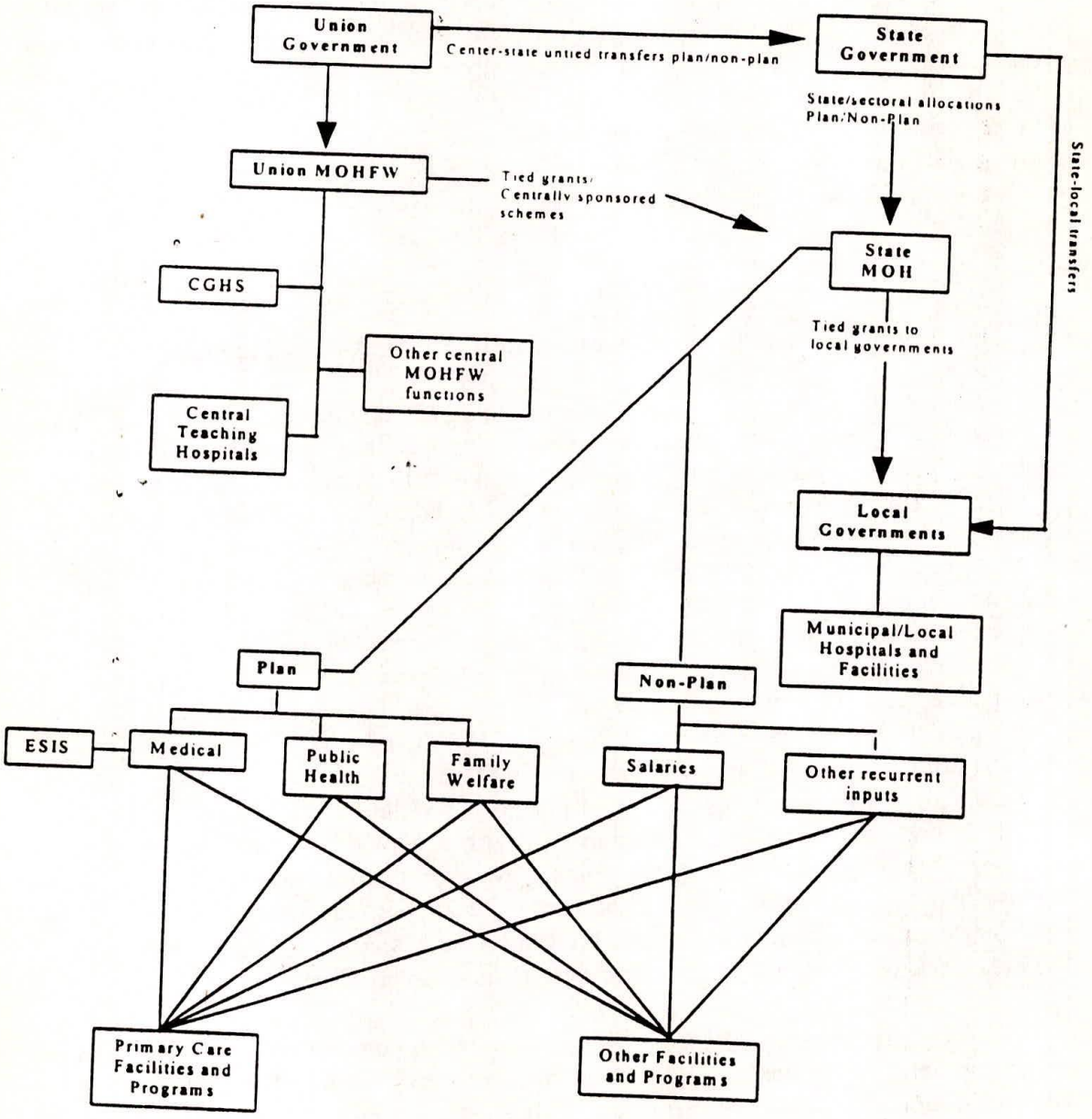
5.2 The provision of health care is a responsibility shared by the state, central, and local governments. Although it is effectively a state responsibility in terms of delivery, the responsibility for health stands at three levels. First, health is primarily a state responsibility. Second, the center is responsible for health in Union Territories without legislature. The center is also responsible for developing and monitoring national standards and regulations, providing the link between the state governments and international and bilateral agencies, and sponsoring numerous schemes through the provision of finance and other inputs for implementation throughout the state governments. Third, both the center and the states have joint responsibility for programs listed under the concurrent list. Goals and strategies for the public sector in health care are established in a consultative process involving these different participants through the Central Council of Health and Family Welfare. While each state can formulate its own health policy, in practice state governments have to function within the parameters of the NHP. Within the overall ambit of national policies, there is sufficient scope for the states to administer health schemes in conformity with local conditions. The mechanism used by the central governments to fund health programs at the state level has the potential to reduce disparities in resources among states, and even within states. However, as currently organized, these mechanisms are not designed to overcome inter-state inequities, and in some cases are exacerbating the problem.

5.3 Center-State Financing Responsibilities. The interaction between the center and the state governments in the health sector occurs at two distinct levels. The first involves the overall allocation of resources by the center's Planning and Finance Commissions to states, which constrains or provides opportunities for states' initiatives in new projects. The second level involves the intra-sectoral allocations of grants-in-aid and other earmarked funds from the center to the states.

5.4 The budgeting and accounting of government expenditures at the central and state levels are influenced by the planning process, which takes place within the framework of

central and state five-year plans. The plan budget refers to all expenditures, both capital and recurrent, incurred on programs and schemes that have been initiated in the current five-year plan. Once the five-year period of any particular plan is over, the recurrent expenditure associated with the continuation of that activity is generally transferred to the non-plan budget, except for the family welfare program.

Figure 5.1: The Structure of Government Health Financing



Source: "India: Policy and Finance Strategies for Strengthening Primary Health Care Services." Report No. 13042-IN, May, 1995.

5.5 Plan expenditure in the health sector accounts for about one-third of total government health spending. If the Family Welfare Program, which is financed almost

entirely out of the central plan budget is excluded, the ratio of plan to total health spending drops to less than 20%. In other words, more than 80% of government health spending, excluding family welfare, is made up of committed expenditure on maintaining existing level of services, financed out of the non-plan budget. In fact, the degree of flexibility that central and state governments have over their health budgets is even more limited than this 20% ratio would indicate, since a part of plan spending is also of a committed nature. Between the center and the states, the former enjoys relatively greater degree of flexibility; about 65% of central health spending and 99% of family welfare spending is in the plan budget, while 86% of state health spending in the aggregate is in the non-plan budget.

5.6 In the case of centrally sponsored programs (other than the Family Welfare Program), central financing ratios refer only to the plan component of expenditure. For example, the centrally sponsored National Tuberculosis Control Program is implemented as a 50% centrally funded program. This means that central grants finance half of plan expenditures under this program, while state governments have to bear the full amount of non-plan expenditures. This implies that central grants account for much less than 50% of total government spending on tuberculosis control. The same is true of other national programs where the states actually fund a greater share than the officially mandated ratio. The average share of central financing of communicable disease control programs is less than 25%. Thus, central leverage is limited in its power to assure adequate state funding of the non-plan inputs. These include field staff, drugs and other operational expenditures.

5.7 Center-State Contributions. Central and state Governments finance very different components of total expenditures. Table 5.1 breaks down the uses of funds in the 1991-92 budget by the center and state shares. States heavily finance primary health care facilities, hospitals, disease control programs and insurance. The center, on the other hand, emphasizes family welfare, and, to a somewhat lesser extent, education and research. Capital investment is shared equally by the center and the states. The central Department of Health allocates over 45% of its budget to the central teaching hospitals and research institutions, about 15% towards the Central Government Health Scheme (CGHS), a medical benefit scheme for its own employees, about 35% towards the disease control programs. The Department of Family Welfare allocates about 85% of its budget towards family planning and 15% towards maternal and child health and universal immunization.

Table 5.1: Center and State Shares in Different Components of the Government Health Budget (1991-92)

	Center's Share %	States' Share %
Hospitals	3.1	96.9
Public Health	0	100
Primary Care (Disease Control)	99.7	0.3
Family Welfare	22.6	77.4
Insurance (CGHS, ESIS)	18.2	81.8
Medical Education & Other	41.7	58.3
Administration & Other	11	89
Capital Investment	49.7	50.3

5.8 The family planning and immunization programs are fully centrally financed, while most of the disease control programs are partially financed by the center. The state governments are required to allocate matching funds from their budgets and bear staff costs. In either case, the concerned department of the central ministry is responsible for program design and monitoring, while the corresponding state level department is responsible for implementation. The entire expenditure on these national programs is recorded in the state budgets, while the centrally financed component is also recorded in the central budget as a grant to the states.

5.9 State Governments finance the bulk (97%) of curative hospital care, as well as a significant share of expenditure involved in operating the primary health care infrastructure in rural areas. Central grants partially finance the disease control programs and the centrally-financed "rural health" scheme under the public health head which provides some resources for operating primary care facilities. The state governments bear all other costs of non-hospital rural services.

5.10 Central intervention in the health sector is both through the design and operation of centrally-sponsored programs as well as through support for infrastructure development. A major vehicle for the latter is the National Minimum Need Program (NMNP), a mechanism that allows the center to influence and encourage states to spend on building up infrastructure for rural health, water supply and nutrition. The NMNP is part of each state government's own plan, but for each rupee that the state spends towards these minimum needs, it receives a matching rupee from the center as a grant. In other words, disbursements under one of the central national programs is tied to the states' own efforts to fulfill minimum requirements of rural health infrastructure.

5.11 Local Governments. Local bodies have no significant financial authority in India except in large cities. In some states, however, local bodies have a significant responsibility for managing services and implementing national or state government programs. The degree and pattern of decentralization in state-local relations exhibits wide inter-state variation. Transfer to local bodies, as a share of total state government budgets, for example, vary from over 40% (Gujarat and Maharashtra) to 15% or less (Haryana and Madhya Pradesh). For the 14 major states, the average share of transfers to local bodies was 30% of total expenditure in the second half of the eighties; the share of such transfers accounts for about 11% of state health spending.

5.12 While the federal structure of government in India is based on a significant devolution of taxing powers to the states, supplemented by a statutory right to their share in major central taxes, local bodies have very limited taxing powers or statutory rights. Decentralization has taken the form of delegation of implementing responsibility with minimal or no devolution of financial powers. Thus, even in the case of Gujarat or Maharashtra, where 40% of state government expenditures is transferred as grants to local bodies, the local bodies have little or no access to any financial resources on their own; their spending is totally dependent and determined by what is transferred from the state budget. The only exception to this general rule are municipal corporations of cities and towns, which raise their own resources on health and related services.

5.13 Of the total amount transferred as grants by the states to local bodies, over 95% consist of specific purpose grants to support social service facilities run by local bodies, such a grants to support salaries of Panchyat school teachers, and grants to support salaries of paramedical staff in rural health centers. Less than 5% consists of general purpose grants over which the local authority has flexibility of use. Such grants have remained more or less constant in nominal terms in all states, over the past four and half decades.

5.14 In sum, the existing fiscal and administrative set-up in the health sector is complex and hinders effective financing and accountability for decentralized management of health facilities. The center-state financial transfer mechanisms along with the plan and non-plan breakdown of the budget and the two separate structures for the Health and Family Welfare Departments is ineffective in providing essential inputs, correcting inequities between states, strengthening decentralized management and monitoring program performance. The central and state governments should consider: (i) a substantial review of the fiscal structures and procedures in the health and family welfare sectors including the roles of central, state and local government financing in the provision of basic inputs; (ii) the development of program budgeting tools at the central and state levels to monitor and evaluate expenditure for important schemes: (iii) the development of fiscal tools to enable greater experimentation with resource allocation, alternative financing mechanisms and with regard to choices between providing versus financing of health care services.

C. Inter-State Equity Issues

5.15 The mechanisms used by the central government to fund health programs at the state level have the potential to reduce disparities in resources among states, and even within states. As currently organized, however, these mechanisms are not designed to overcome inter-state inequities. Interstate disparities are manifest in the following ways in the health sector:

5.16 First, a few of the centrally-funded communicable disease programs, including the largest National Malaria Eradication Program are inequitable, since they are funded on a 50-50 matching basis by state and central budgets. Some poorer states are unable to raise sufficient matching funds to make optimum use of the program. Even 50-50 matching schemes often require more than a 50% contribution by the states, since overhead and some other recurrent costs borne by the states are excluded from the estimate of total program cost. Poorer states are least able to attract but most in the need of supplementary central allocation to these programs.

5.17 Second, since schemes revert to non-plan schemes after five years, states are wary of participating in projects initiated by the central government under plan budgets. Participating implies that the state will bear the responsibility for recurrent costs in subsequent plan periods. For example, extensive construction of primary health centers (PHCs) under one plan period can become a liability during the following period, when all operating costs must be found within the non-plan allocation, and the center completes its assistance. The integration of Indian Systems of Medicine doctors into PHCs, undertaken by the central government in many states in an earlier plan period, must now be supported by the states, which find themselves with additional personnel costs. Again, the better-off states

are better able to take advantage of plan projects than the poorer states, though their need for such projects may be smaller.

5.18 These factors point to the conclusion that central transfer of resources for the health sector has not been commensurate with the needs of poorer states where socio-economic and health indicators remain depressed. Moreover, because of the differential impact of stabilization policies on state resources for the health sector, some poorer states have suffered disproportionately from imbalances and cutbacks introduced into the system at the state level. There is, therefore, a growing need to provide increased supplementary central funding to the poorest states where alternative sources of revenue are limited for the health sector. Supplementary financing could be provided to those states most in need which are taking credible steps to improve their overall finances.

D. Government Health Expenditures: All States

5.19 In India, governments account for about 20% of total expenditures on health services, defined to include medical, public health and family welfare services. About 75% is funded by individuals directly from out of-pocket sources; indirect funding through health insurance schemes is limited (about 3.3%). It is important to stress that, apart from some services provided at teaching hospitals, the public sector caters largely to the poorest segment of Indian society. This is important for assessing the adequacy of government expenditure in providing health services, the pattern of allocations and the desirability and feasibility of increasing cost recovery for services. A second factor of some importance in analyzing publicly financed health expenditures is that the population's health is directly affected by several government programs outside of the departments of health. These include domestic water supply, sanitation, nutrition and housing in addition to those welfare programs which directly and indirectly increase the purchasing power of the poor and their ability to adopt a healthy and hygienic lifestyle. Most of the discussion in this chapter uses a narrow definition of government health expenditure -- that spent by the departments of health. Other expenditures are included only selectively.

5.20 Overall, health expenditures are a small share of total government expenditures and the trend over the past two decades has been downward. Whereas the share was 3.8 percent during the period 1974-78, it had fallen to 3.4 percent between 1986-90, with most of the reduction occurring during the later years (Tulasidhar 1996). However, publicly financed health expenditures broadly maintained their share of national resources at around 1 percent of GDP, since government expenditures have been increasing at a faster rate than GDP over the period. The fall in the share of government expenditure on health and the maintenance of its share of GDP does not imply that real resources did not increase. Over the period described, per capita health expenditures increased by over 60 percent. Relative to other government activities, however, health services were neglected. For instance, the share of total government expenditure allocated to education increased from 9.4 to 11.6 percent and the share of GDP allocated to education increased from 2.4 to 3.6 percent.

5.21 The fall in the share of health expenditures in total government expenditures has recently intensified: from 3.1% in 1991/92 to 2.6% in 1994/95 (budget estimates) (Duggal, Nandraj, Vadair 1995). Since the central government's share has been largely maintained (at

under 0.50 percent of its total expenditure). the reduction is due solely to falling expenditure shares in the states. The reduced share resulted in a lower level of real expenditure equal to about 4 percent less by 1992/93 compared to 1990/91. This was compensated for in the following two years. Real expenditures per capita in 1992/93 remained below the levels of 1990/91.

5.22 Not all categories of health activity have been subject to the same trends. Between the periods 1974-78 and 1986-90, the share of the mainly curative medical services decreased from 65 to 62 percent, and that of public health from 21 to 19 percent while the family welfare share increased from 14 to almost 19 percent. These changes in shares reflected differences in real percentage increases over the period of 49, 42 and 102 percent for medical services, public health and family welfare, respectively. In contrast, during the first two years of adjustment when real expenditures on health fell by 4 percent, both medical services and family welfare shared the major brunt, while the public health allocation remained virtually constant.

E. Patterns of Health Expenditure Across States

5.23 Public sector health budgets at the state level, which include all non-hospital primary health care as well as hospitals up to the district level, are financed out of three distinct budget sources: (a) the state's non-plan budget that finances the recurrent cost of maintaining the infrastructure and level of services established through previous plans; (b) the state plan budget that finances schemes initiated by the state during the current five-year plan, as well as the state's component of financing centrally sponsored programs; and (c) the central plan grants that finance the central component of national programs. Total spending in health and family welfare at the state level is financed out of these three different budget sources roughly in the ratio of 68:14:18 (1990/91). The corresponding ratio in the case of drinking water supply is estimated at 28:56:16.

5.24 The composition of the health budget of state governments by these different sources of funds is significant from the standpoint of protecting public health spending in the context of general fiscal contraction. The degree of financial constraint can be very different on these three different budget sources. Typically, the non-plan budget of each state is constrained by the overall revenue position of that state, supplemented by the statutory central transfers recommended by the Finance Commission. The state plan budget is constrained by the non-plan gap of the state and the untied central assistance to state plans, whose level is determined by the Planning Commission. Finally, the constraints on tied central plan grants are determined by the budget of the concerned central ministry. In the former two cases, inter-state differences in the degree of financial constraint can be considerable, whereas the constraint is uniform in the case of the budget services financed out of central plan grants.

5.25 Both the aggregate resources available to states and the commitment to provide health services differ between states. In 1994/95 in the 16 major states, the average share of state government revenue devoted to health was 5.8 percent. The range was between 4.7 and 7.4 percent (apart from Haryana where the share was much lower). In 11 of these 16 states, the share was lower than in 1991/92. The shares in 1994/95 compare to an average in

1985/86 of 7.3 percent and a range of 5.7 and 9.7. While the average share has fallen, the range has narrowed implying that expenditures in the more advanced states such as Kerala and Punjab have increased more slowly than in the backward states such as Bihar and Uttar Pradesh. This recent trend also reflects the medium term trend. Tulasidhar (1996) has calculated gini coefficients to describe inequalities in per capita expenditures across states over four time periods back to 1970-74. Overall, and for the individual categories of medical services and family welfare, the results indicate decreases in spatial inequalities over time while for public health they indicate an increase. The overall results contrast with those for expenditures on nutrition programs which describe a substantial widening of inequality between states. Despite the narrowing, differences in per capita health expenditures across states remain very wide. In 1994/95 they ranged from Rs. 59 in Bihar to Rs. 122 in Kerala.

F. Mechanisms of Adjustment Effects on Center-State Transfers

5.26 Several recent studies have attempted to document the effects of the adjustment process on public expenditure by different categories of states. For health, the most detailed is by Tulasidhar (1996). Table 5.2 describes part of this analysis, from 1988/89 to 1992/93 for all states and for three separate state income categories. The choice of base year influences the implications of the figures. With 1989/90 as the base year (as chosen by the author), the poor group of states witnessed a consistent fall in real expenditures while there were moderate increases in middle income states and a small increase in the richer states.

Table 5.2: Trends in Public Revenue Expenditures on Health 1988-1992
Constant Prices (1989/90 = 100)

	1988/89	1989/90	1990/91	1991/92	1992/93
All States	93	100	106	102	102
Poor	87	100	98	93	93
Middle Income	94	100	115	108	113
Rich	98	100	107	107	103

5.27 With 1990/91 as the base, expenditures fell slightly in the middle and richer states and more so in the poorer ones. Compared to 1988/89, however, each group of states in 1992/93 had higher real expenditures. Whatever the base year chosen, however, the peak year for expenditure was 1990/91 and falls of between 2 and 5 percent followed in the next two years.

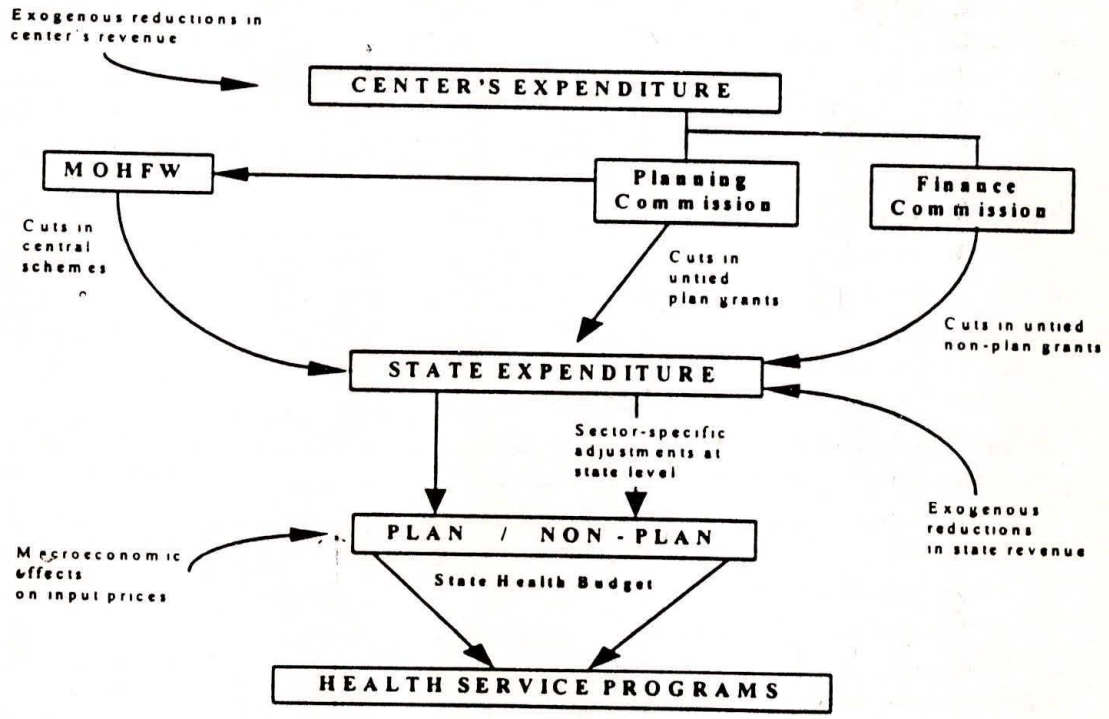
5.28 The responses to the overall constraint on expenditures during 1988/89 to 1992/93 varied by states according to income group. The rich states reduced expenditure in medical services and disease control, maintained them in public health and increased them in family welfare. The middle income group again reduced expenditures in medical services, maintained those for family welfare and disease control and significantly increased expenditures in public health. The poor states reduced expenditure in each of the four categories of service. Across all states, real expenditures on public health activities were maintained while those for all other activities were reduced. Since a large share of family welfare expenditures and a significant share of disease control expenditures are dependent on receipt of central government grants, the clearest message regarding the decisions of state health authorities is that with resource constraints, the attempt was made to defend public

health expenditures at the expense of medical services.

5.29 A separate study of the impact of adjustment by Gupta (1995) on public expenditures uses data to 1993/94 but includes water supply, sanitation, housing and urban development together with health expenditures. In that year, the growth in state 'social' expenditures was below the overall growth in state expenditures across all states and for the low income group was equal to only half the growth rate across all states. Further, in this low income group of states alone, the growth was below the rate of inflation. The study also notes that over the past two decades, government financing of health services across India has demonstrated a downward trend in relation to both total government expenditures and GDP. Within this trend there have been variations between individual states. Overall, the variations in expenditures across states has been narrowed in relative terms though the absolute differences in per capita expenditures remain very wide.

5.30 The process of adjustment can affect the output of government health spending by affecting: (a) the quantum of financial resources available with health ministries and departments; and (b) the unit costs of providing health care. Fiscal contraction by the central government is translated into tightening of budget constraints at the state level through different mechanisms, corresponding to the three different sources of financing health expenditures at the state level, namely by the non-plan budget of the start, the state's own plan budget and the budget of centrally sponsored programs. Figure 5.2 shows the different channels through which impact of adjustment is conveyed to the state level.

Figure 5.2: Channels Through Which Structural Adjustment Affects on Health Spending



Source: "India: Policy and Finance Strategies for Strengthening Primary Health Care Services." Report No. 13042-IN. May, 1995.

5.31 There are two kinds of pressure on the financial resources of state governments, namely: exogenous macroeconomics factors and contraction of central transfers to states. A deceleration or decline in domestic industrial output, for example, may lead to a reduction in tax revenues collected by both the center through excise duties and personal income taxes, and through sales taxes, since a statutorily fixed proportion of central excise duties and personal income taxes are shared with the states. Reductions in either of these types of tax revenue squeeze the revenue of both the center and state Governments.

5.32 In addition to revenue effects, the center can: (a) reduce the quantum of untied plan grants to states and/or (b) reduce the quantum of tied plan grants transferred under one or more centrally-sponsored programs. Reductions in allocations to centrally-sponsored health sector programs are the most obvious form of squeezing the health sector and have received attention in Bank-GOI dialogue. However, the other channels of pressure, though less visible, are likely to be more significant as the funds involved are much larger in magnitude.

5.33 Central transfers to the non-plan budget of states, consisting of tax sharing and gap filling grants, are statutorily determined by a quasi-judicial body called the Finance Commission; such transfers are therefore not at the discretion of the central government and hence not vulnerable to contractionary pressures by the center. On the other hand, central plan transfers to states, both tied and untied, are largely at the discretion of the center and hence more vulnerable to central policy.

5.34 Untied transfers from center to states, called "central assistance to state plan", consist of 30% grants and 70% loans in the case of the 14 major states, and of 90% grants and 10% loans in the case of the special category states, which are mainly hilly and predominantly tribal states plus the state of Jammu & Kashmir. The center is free to decide the quantum of assistance to each of the special category states, whereas the assistance to the 14 major states is distributed among them on the basis of an objective formula called the modified Gadgil formula. However, even in the case of the latter, only the inter-state distribution is formula driven; the total quantum of such assistance is at the discretion of the central Ministry of Finance.

5.35 States also have some discretion in how they use untied funds. For example, a reduction in central assistance to state plan may result in different levels of reduction to health spending in different states. Similarly, states exercise some discretion in their non-plan spending, and so can favor or disfavor the recurrent cost needs of the health sector.

5.36 In addition to the factors outlined above, there are also other macroeconomic pressures that operate, such as (i) reduction in small savings by households and (ii) the devaluation of the Rupee. A fixed proportions of collections from national savings schemes, operated by post offices and linked with tax incentives, are on-lent by the center to the states as a loan under the non-plan account; any decline in such collections would thus reduce the quantity of central loans available to the states. A major devaluation of the currency, by affecting the cost of imported inputs, especially drugs and pharmaceuticals, could affect the unit cost of health care financed by the government; even if financial allocations are maintained, the real value of such allocations could decline due to an abnormal rise in the unit costs.

G. Recommendations

5.37 The following recommendations are suggested to improve the existing complex structure of fiscal and administrative set-up in the health sector and the inter-state inequities in the transfer of funds from the center to the states, as well as to better prepare the states to address financing issues in the course of designing future strategy:

- The state governments should consider, through their Ministries of Health and Family Welfare and Finance, a substantial review of the fiscal structures and procedures in the health and family welfare sectors including the roles of the central, state and local government financing in the provision of basic inputs. Some of this is occurring at the state level in the four states where Bank-financed health systems projects are under implementation by undertaking more systematic planning of state and local level health sector related activities. For example, through planning cells in the DOHFW. This is also applicable to MOHFW.

- The state governments should develop program budgeting to monitor and evaluate expenditure for important schemes;

- The state governments should develop fiscal tools to enable greater experimentation with resource allocation, alternative financing mechanisms and with regard to choices between providing versus financing of health care services. A mechanism for coordination between the Departments of Health and Finance would be essential to work out the opportunities for such activities.

- To alleviate the health care needs of poorer states, where socio-economic and health indicators remain depressed, supplementary financing could be provided with a priority to states most in need which are taking credible steps to improve their overall finances. For example, a health resources assurance fund at the center could be established to mitigate some of the interstate inequities in allocation of central funds to the states.

- Greater sharing of responsibilities and coordination between the center and the states in the health and family welfare sectors is needed, especially with regard to sectoral planning, health strategy and policy reform. Involving the states more intensively and collaboratively will help to solidify their commitment to the overall development policy on health and family welfare. The modalities need to be discussed and worked out between the center and the states.

CHAPTER 6

PUBLIC SECTOR HEALTH EXPENDITURES IN THE FOUR STATES

A. Introduction

6.1 This Chapter provides an analysis that is complementary to the center-state financing issues in the health sector that were examined in Chapter 5. It focuses on health expenditures at the state level, which currently account for about 73% of public expenditures on health care in India. Illustrative case studies of trends and patterns of health expenditures in four states are presented to provide a comparative perspective of health expenditure patterns generally at the state level. A review of selected aspects of state level public finance in the states of Karnataka, Punjab, West Bengal and Andhra Pradesh is initially presented to provide some background against which to view the main concern of this section -- state government expenditures on the provision of health services. As part of the exercise, total health expenditures in the respective states have been disaggregated and re-classified by level of service.

6.2 This chapter reviews public financing of health care from the perspectives of the state governments. Public expenditure analysis provides several opportunities for examining priorities, evaluating government intentions, policies and implementation, particularly in times of economic austerity when resource choices are unavoidable. Sectoral expenditures over time measured against total expenditures or national income, provide a basis for evaluating the importance of the sector and changes in its importance in terms of pre-empting resources. Expenditures across states and disaggregations of expenditures by categories of activities also provide information with which policy-makers can re-think their own priorities. Efficiency aspects and effectiveness of public programs play an important role in such decisions of policy-makers. However, equity aspects in the provision of health services must also play an important role in a country like India where nearly a third of the population live below the poverty line. Eighty percent of health expenditures in India are borne directly by individuals; equity aspects should therefore remain important because government services in general are utilized by the poorest sections of the population.

B. State Finances

6.3 Trends in the level and composition of public expenditures on health and family welfare need to be seen against the backdrop of the overall developments in state government finances -- both prior to the economic and fiscal crises of 1991/92 and during the period of adjustment and including specific policies enacted by particular states outside of the context of adjustment. Through the 1980s, overall state government revenues grew at a slower rate than expenditures leading to the emergence of revenue deficits and the growth and changing composition of fiscal deficits. In the more recent period, state finances have been influenced both by the nature of macroeconomic adjustment, which affects overall tax revenues, and by fiscal adjustment by the Central government which has affected the size of the Central government's transfers to states, particularly the grant component.

6.4 The combined gross fiscal deficit (GFD) of the states was equal to 3.0 percent of GDP in 1986/87 and to 3.2 percent in 1993/94. Calculations of individual state deficits as a proportion of their own State Domestic Product (SDP) suggest that for the eleven most populated states the average increased slightly, from 4.2 to 4.3 percent between 1990/91 and 1994/95. Differences between states, however, are quite substantial. Table 6.1 presents the data for Andhra Pradesh, Karnataka, Punjab and West Bengal from 1990/91 to 1993/94. Apart from Andhra Pradesh, in each state the deficit has fallen as a share of state income. It remains the highest in Punjab.

Table 6.1: Gross Fiscal Deficit as Proportion of State Domestic Product Project States 1990/91 - 1993/94

	1990/91	1991/92	1992/93	1993/94
Karnataka	-5.2	-5.5	-4.7	-3.7
Punjab	-8.5	-6.5	-6.3	n/a
West Bengal	-6.0	-4.2	-3.4	-3.8
Andhra Pradesh	-3.3	-3.3	-4.2	-4.0

Note : Measurement of state domestic product may differ slightly between states. This may affect comparisons between states but not trends within states. No estimate of SDP for Punjab in 1993/94 is available.

6.5 The gross fiscal deficit largely reflects the combined balances in the revenue and capital accounts. Between 1980/81 and 1986/87 a deficit on the aggregate states' revenue account occurred in only one year. Since then, deficits have occurred in each year. Although trends in the revenue deficit are unfavorable for all states combined, the position of individual states again is far from uniform. Karnataka has had relatively small revenue deficits in recent years and a small surplus in 1993/94 (Table 6.2). As a percentage of net SDP, the revenue deficit/surplus was -0.6% in 1991/92 and +0.6% in 1993/94. In Andhra Pradesh, the deficit remained equal to 0.5 percent over this period, though it increased to 1.4 percent in 1994/95. Punjab has had more substantial revenue deficits, both in absolute terms and as a share of SDP. In 1991/92 and 1992/93, they were equal to -2.4% and -2.2% of SDP respectively. The revenue deficits of West Bengal have also increased since 1989/90 though not yet to the extent as in Punjab.

Table 6.2: Revenue Deficit as Proportion of State Domestic Product Project States 1980/81 - 1993/94

	1980/81	1985/86	1989/90	1990/91	1991/92	1992/93	1993/94
Karnataka	+1.0	-0.8	-0.8	-0.4	-0.7	-0.6	+0.6
Punjab	+0.4	+0.1	-1.5	-3.3	-2.4	-2.2	n/a.
W. Bengal	-0.3	+0.5	-1.8	-3.2	-1.8	-1.6	-2.1
Andhra Pradesh	--	--	-0.9	-0.5	-0.3	-0.3	-0.5

Note : SDP figures taken from State Directorates of Economics and Statistics; Karnataka SDP figures from 1990/91 onwards supplied by Govt. of Karnataka.
Source: Reserve Bank of India Bulletin (various issues).

Box 6.1: Financial Situation of the State and Implications for the Health Sector: The Example of Andhra Pradesh

Andhra Pradesh (AP) has been under considerable financial stress since the mid-1980s due to the declining tax revenue as a share of its gross state domestic product (GSDP), the extremely low buoyancy of tax and non-tax revenue, rising public expenditures especially on subsidies, salaries, poorly targeted welfare programs, and sharply falling longer term investments in infrastructure and social sectors, and non-wage O&M. The increase of the fiscal deficit to a level between 3 to 4 percent of GSDP, an average GSDP growth rate of 4.3% over the past 15 years, outstanding debt as a share of GSDP of 24%, and interest payments of 12% as a share of total revenue highlight the deteriorating financial situation. While the fiscal situation and its rate of deterioration have been somewhat worse in Andhra Pradesh than the average of 14 major states, the lessons are applicable to other states as well.

AP has also not been able to generate the amount of revenues needed to meet its budgetary requirements. It's tax revenue has been declining since the 1986/87 when the proliferation of rates and tax concessions made administration difficult and inefficient. The introduction of full liquor prohibition in 1995 aggravated the revenue situation and contributed to the decline in tax revenue from 9.5% of its GSDP in 1986/87 to 6.8% in 1995/96. The very low buoyancy of both tax and non-tax revenue is a critical weakness of the state's revenue system and one which has not been adequately addressed by the tax reform measures of the past two years.

The problem of the deteriorating fiscal situation and low level of revenue generation is compounded by Andhra Pradesh's expenditure priorities. There has been a proliferation of welfare programs; an increasing salary bill which has grown at an annual rate of 5.7% in real terms over the past 10 years and a rise in the shares of subsidies. The cost of these has been smaller allocations for investment in the social sectors and non-wage O&M. This has led to the share of health and family welfare in the total state revenue budget to decline since the early 1990s.

Andhra Pradesh must take credible steps to improve its overall finances through reprioritizing expenditures and enhancing revenues. This will help to better address health sector needs as well. Within the health sector, the state needs to address the issue of public expenditures which are skewed in favor of tertiary facilities and low expenditures on drugs, essential supplies and O&M. The state must also enhance and prioritize expenditures on health through increasing health allocations within the overall budget, allocating 75% of incremental resources in the health sector to the primary and secondary levels over the next 3-5 years, and increasing allocations for non-salary recurrent costs over the next 2-3 years. The government has initiated a move to this end through policy initiative in the ongoing Andhra Pradesh First Referral Health Systems Project. This project is helping improve efficiency in the allocation of health resources through policy and institutional development and performance of health care through improved quality, coverage, and effectiveness of health programs. Better sectoral resource allocation and enhanced cost recovery with exemptions for the poor will help improve provision of basic health care services and ensure improved health care services in the long run.

6.6 As a consequence of increased revenue deficits in general, the nature of the fiscal deficit, and hence the borrowing requirement, has changed. Whereas, previously, borrowing had been required only for covering deficits in the capital account, by 1994/95 over a quarter of the borrowing was to cover deficits in the revenue account. This indicator is particularly revealing of the financial health of state governments, since it represents the pre-emption of borrowed funds for meeting current expenditures. In Punjab, the revenue deficit contributed over 50% of the GFD in 1992/93 and was budgeted to be about 34% in 1994/95. In West Bengal, the revenue deficit was 43% of GFD in 1992/93 and was scheduled to rise to over

62% in 1994/95. A substantial increase also occurred in Andhra Pradesh where the share increased from 17 to 32 percent. In Karnataka, the revenue deficit was 12 percent of the GFD in 1992/93 but made no contribution to the fiscal deficit in the following two years.

6.7 Budget deficits have led to increased loans and indebtedness. At the same time, interest rates have increased. As a result, interest and capital repayments are high and growing. As a percent of total state revenue in 1985/86 and 1993/94 they doubled in many states and trebled in some. Across 11 major states in 1994-95, interest payments averaged 18.0 percent of revenues -- in Karnataka 14.7, Andhra Pradesh 14.8, West Bengal 19.1 and Punjab 22.4 percent. Interest payments are increasing at an unsustainable rate and are resulting in a falling share of development expenditures, including those in the health sector.

C. Trends in Expenditure in Health and Family Welfare.

6.8 In all four states, government health and family welfare expenditures are well below the level considered adequate to meet public health priorities (World Development Report 1993); and below the levels required to achieve the service norms set by the Government of India (India: Policy and Finance Strategies for Strengthening Primary Health Care Services). Punjab spends less than 0.9% of state SDP, Andhra Pradesh and West Bengal 1.1 percent and Karnataka around 1.3 percent (Table 5.3). In addition, compared to the early and mid 1980s the shares have declined in three of the four states. The decline has been especially steep in West Bengal, where health expenditures fell from around 1.5% of SDP in 1980/81 to 1.0% in 1992/93; and is estimated to be around 1.16% in 1993/94. In Punjab and Andhra Pradesh, the share fell also. In Karnataka, the share is back at the same level as in the early 1980s (at around 1.3% of SDP).

Table 6.3: Expenditures on Health and Family Welfare as % of SDP

	80/81	85/86	89/90	90/91	91/92	92/93	93/94 R.E.	94/95 B.E.
Karnataka	1.26	1.33	1.25	1.18	1.11	1.29	1.29	1.40
Punjab	1.09	1.00	1.04	0.99	0.91	0.88	n/a.	n/a.
W. Bengal	1.54	1.28	1.17	1.35	1.07	1.03	1.16	n/a.
Andhra Pradesh	--	--	1.19	1.05	1.00	1.07	1.13	0.96

Note: SDP figures taken from State Directorates of Economics and Statistics; Karnataka SDP figures from 1990/91 onwards supplied by Government of Karnataka.

D. Per Capita Expenditures on Health

6.9 Measures of aggregate resources devoted to public sector health programs do not convey the absolute levels of real expenditure per capita (Table 6.4). Despite the relatively low share of public resources devoted to health in Punjab, real per capita expenditures have been the highest of the three states and have been maintained at roughly the same level since 1980/81 (between Rs. 30-35 per year at 1980/81 prices). Per capita expenditures which were lowest in Karnataka -- between Rs 20-25 per year at constant prices during the 1980's have

risen since 1991-92 to around Rs. 30. West Bengal displays the most disturbing trend. The fall in real expenditures per capita has become pronounced in recent years. from Rs. 25 per year in 1980/81 and Rs. 26 in 1990/91 to Rs. 22 per year in 1993/94. the decline has been most serious for non-salary recurrent expenditures.

Table 6.4: Per Capita Expenditures on Health and Family Welfare (in 1980/81 Rupees)

	80/81	85/86	89/80	90/91	91/92	92/93	93/94 R.E.	94/95 B.E.
Karnataka	19.00	22.12	26.00	24.12	25.01	27.83	30.20	33.31
Punjab	29.13	31.95	38.06	36.18	34.12	33.60	33.30	31.16
W. Bengal	24.63	21.50	22.36	26.07	21.37	20.99	21.97	20.95

6.10 Despite these differences between the four states. the per capita expenditures in each is low. In 1993/94. per capita expenditure at current prices was Rs. 100 in Punjab. Rs. 90 in Karnataka. Rs. 72 in West Bengal and Rs. 65 in Andhra Pradesh (or between US$ 2-3 per capita). The expenditures are well below those required to fund the health provision norms set by GOI which. in total. would require a 50 percent increase in budgetary allocations over the current level.

E. Effects of Fiscal Adjustment on Health Budgets

6.11 Spending on health and family welfare grew at around 12-13% per annum in nominal terms in the four states between 1980/81 and 1990/91. At constant prices. annual growth rates were in the range of 2.8% to 4.4%. Expenditures grew most rapidly in Karnataka and Andhra Pradesh, followed by Punjab and West Bengal (Table 6.5).

6.12 The consequences of the economic and financial difficulties at the start of the 1990s and the resulting adjustment measures have differed across the three states. In West Bengal and Punjab, expenditures fell in real terms in the first year of adjustment. While there has been a partial recovery in Punjab, the level of expenditures previously attained in West Bengal have yet to be regained. Expenditures fell by 16% in real terms in 1991/92. Although the growth rate increased in subsequent years, the absolute level of real expenditures in 1993/94 was still below that of 1990/91. In Andhra Pradesh real expenditures in 1993/94 were around 4 percent higher in 1991/92. In Punjab, the nominal growth rate in 1991/92 was positive, but real expenditures fell by almost 4%. Real growth in subsequent years was very small so that again the level in 1993/94 was (slightly) below that in 1990/91. Karnataka has been the most successful in sustaining high real growth rates resulting in much higher real expenditures in 1993/94 when compared to those attained in 1990/91.

6.13 It would appear, therefore, that the effects of the fiscal crisis and the consequent adjustment measures on the overall budgetary position were handled in such a way in Karnataka that the health sector was not unduly affected. Conversely in Punjab and West Bengal there were declines in real expenditures. Given the relatively low level of expenditures on health particularly in West Bengal, these trends are of concern. Special

mechanisms will be required to protect and raise the level of real expenditures on health in these two states. While in Andhra Pradesh, real expenditures were initially maintained, the state's decisions to both increase the rice subsidy and reduce income from liquor taxes have led to a fall in health expenditures as a share of state GDP from 1.13 percent in 1993/94 to 0.88 percent in 1995/96 (budget estimates).

F. Share of Budgetary Resources Devoted to Health

6.14 Health and Family Welfare budgets in the four states generally absorbed less than 10% of the total state revenue budgets throughout the 1980's (Table 5.6). In each state the share has declined over time suggesting that during the period of adjustment past trends have been exacerbated, rather than reversed. This decline in shares occurred despite the rise in real per capita expenditures in all states up to 1990/91, indicating that total state government expenditures rose even faster than health expenditures. Since 1990, the budget share has increased in Karnataka (from 6.1 to 6.4%), but fallen further in West Bengal (from 8.4 to 7.2%), Punjab (from 6.6 to 5.3%) and Andhra Pradesh (from 5.9 to 5.4 percent).

Table 6.5: Real Growth Rates in Health Expenditures Project States 1980/81 -1993/94 (annual in %)

	Karnataka	Punjab	W. Bengal	Andhra Pradesh
1980/81-90/91	4.4	4.3	2.8	4.4
1991/92	5.7	-3.8	-16.2	-
1992/93	13.4	0.5	0.4	3.2
1993/94 R.E.	10.6	1.1	7.0	2.9

Table 6.6: Share of Health and Family Welfare Sector in Total State Revenue Budget (%)

	80/81	85/86	89/80	90/91	91/92	92/93	93/94 R.E.
Karnataka	7.87	6.53	6.51	6.12	5.96	6.44	6.43
Punjab	9.00	7.19	7.76	6.60	4.32	5.78	5.31
W. Bengal	12.05	8.90	8.01	8.44	7.32	7.55	7.15
Andhra Pradesh	6.42	5.95	8.79	5.87	6.40	5.60	5.38

G. Composition of the Health Budgets

6.15 The allocation of spending between primary, secondary and tertiary level facilities and services is not readily available in state budget documents. The approximate shares can be obtained only by reclassifying individual line items. This exercise has been undertaken in varying degrees for each state.

6.16 West Bengal. The total health budget in West Bengal for the years 1989/90 to 1994/95 has been re-classified under five heads: (i) primary health care (ii) rural hospitals and dispensaries (iii) urban health care facilities (iv) items of general expenditure and (v) medical education (Table 6.7). Primary care comprises expenditure on public health, family welfare, rural health services (allopathic and non-allopathic) and urban non-allopathic

services. Expenditure on Employee's State Insurance has been placed under urban health care facilities since the scheme covers workers in the organized sector of industry, which is mainly located in urban areas.

Table 6.7: West Bengal – Composition of the Health Budget (as % of total)

	89/90	90/91	91/92	92/93	93/94	94/95
I. Primary care	**39.66**	**38.19**	**40.30**	**38.55**	**40.53**	**39.24**
MNP	6.40	-	-	-	-	-
Subsidiary centers	1.73	-	-	-	-	-
Other	3.01	1.03	0.008	0.006	0.004	0.004
Rural health service. (non-allopathic)	1.42	1.02	0.009	0.009	0.009	0.009
Urban health service. (non-allopathic)	-	0.006	0.007	0.007	0.008	0.009
School health scheme	-	-	-	-	-	-
Public Health	12.42	13.77	13.02	12.25	12.48	12.28
Family Welfare	12.93	12.36	13.38	13.0	14.59	13.09
PHCs	1.73	9.32	11.33	10.92	11.15	11.40
II. Rural Hospitals & Dispensaries	**3.90**	**2.42**	**1.90**	**2.2**	**2.13**	**2.24**
III. Urban facilities	**40.00**	**40.12**	**43.16**	**43.16**	**42.52**	**43.50**
Urban hospitals & Dispensaries	32.49	33.38	35.40	36.67	34.20	34.96
Employees' State Insurance	7.5	6.74	7.75	6.98	8.32	8.54
IV. General	**10.34**	**12.23**	**8.15**	**8.62**	**7.46**	**7.48**
Direction & Admn.	3.15	3.58	3.75	3.85	3.25	3.32
Medical store depots	6.4	5.43	4.03	4.51	3.86	3.81
Other exp.	0.006	3.03	-	-	-	-
V. Medical Education and Training	**6.12**	**7.01**	**6.47**	**7.44**	**7.34**	**7.52**
Total (Rs. crores)	**322.77**	**445.2**	**386.96**	**426.55**	**502.11**	**539.46**

Source : Govt. of West Bengal, Budget Documents.

6.17 According to this reclassification, primary health care absorbed around 40% of the health budget in 1989/90 and this share has been maintained subsequently. The share for urban (secondary and tertiary) facilities increased from 40.0% to 43.5%, much of it going to tertiary level hospitals. The share for medical education and training also rose marginally from 6% to 7.5% in 1994/95.

6.18 By contrast, rural hospitals and dispensaries have received the lowest share of expenditures and this has been reduced almost by half since 1989/90, from 3.9% in 1989/90 to 2.2% in 1994/95. Recent sector work has demonstrated that there is considerable under-funding nationally of this segment of the health services in relation to both needs and prescribed norms (India: Policy and Finance Strategies for Strengthening Primary Health Care Services). Moreover, it appears that these services have been under the greatest pressure in recent years.

6.19 The share of general expenditures has also decreased, from 10% to 7.5%. This is almost entirely due to the reduction in the share for medical stores and depots, which declined from 6.4% to 3.8%. Thus, in addition to rural hospitals, expenditure on drugs and other consumable has also borne the brunt of expenditure contraction during the period of adjustment.

6.20 In order to determine the broad allocation of resources across different categories of inputs and different levels of hospital services, the composition of non-plan expenditures on hospitals and dispensaries in West Bengal during the last three years was examined. Urban hospitals were divided into two categories, tertiary and secondary. Hospitals in metropolitan centers and specialty hospitals were designated as tertiary, while all district urban hospitals were designated as secondary. The results are presented in Table 6.8. The level of expenditure on urban secondary and tertiary hospitals is broadly similar. Expenditure on rural secondary hospitals is only one ninth of that on urban secondary hospitals.

6.21 In urban tertiary hospitals, salaries and wages account for about two-thirds of revenue expenditure. Although there was a slight reduction in 1993/94 (to about 60%), the budgeted share rose to 65% in 1994/95. Expenditure on materials and supplies (including drugs) comprise around 9-10% of the total, although again there was a slight dip in 1993/94. Machinery and equipment absorbed over 5 % of the total in 1992/93 and 4.7% in 1993/94. Expenditure on diet rose from less than 6% to 9%. Expenditure on maintenance has been negligible, but this understates the overall maintenance expenditure on buildings which is included in the budget of the Public Works Department. The remaining share of expenditure is absorbed by overhead costs and by aid to non-government hospitals -- about 10% and 3-4% respectively.

6.22 The expenditure pattern is broadly similar in urban secondary hospitals, with about 75% going towards salaries. Apparently, expenditure on materials and supplies fell quite dramatically in 1992/93 (to less than 5%), rising to around 9% in subsequent years. Expenditure on machinery and equipment is 2%, while expenditure on diet has increased to about 7%. It would appear that in urban secondary hospitals, the share of salaries was protected with the budget cuts of 1992/93 which was borne by drugs and consumables.

6.23 In rural secondary hospitals, the share of materials and supplies fell to 1% of the total in 1992/93, while the share of salaries was 75%. In the following two years, however, the share of salaries and wages was brought down drastically to less than 60%; salary expenditure actually fell in absolute terms, probably indicating that vacancies were not filled. The share spent on materials and supplies rose to over 12%. However, since the absolute expenditures on rural hospitals hardly increased in this period, and real expenditures fell, the rise in the share does not indicate any significant improvement in availability of drugs and consumables though it does indicate an attempt to restore the levels of spending attained earlier.

Table 6.8: West Bengal -- Composition of Spending in Hospitals and Dispensaries 1992/3 - 1994/5

	Urban Tertiary			Urban Secondary			Rural Secondary		
	92-93	93-94	94-95	92-93	93-94	94-95	92-93	93-94	94-95
Salaries and Wages	66.1	60.1	65.0	74.9	74.5	74.1	75.3	58.3	59.8
Materials & Supplies	10.2	8.7	9.3	4.6	9.5	8.9	1.0	12.7	11.9
Machinery and Equipment	5.2	4.2	4.7	1.2	1.7	2.0	2.8	4.2	4.5
Motor Vehicles	0.2	8.0	0.1	0.3	0.3	0.3	1.0	0.4	0.4
Diet charges	5.9	7.1	8.0	3.2	6.6	6.7	7.9	15.8	15.0
Maintenance	0.03	0.06	0.06	0.02	0.02	0.02	-	-	-
Aid to non-govt. hospitals	2.7	2.8	3.0	0.9	0.9	0.9	-	-	-
Office Exp. & Oth.	9.7	9.1	9.9	14.9	6.5	7.1	11.9	8.5	8.5
Total (Rs. crores)	**74.49**	**87.58**	**88.30**	**76.82**	**83.85**	**91.82**	**8.43**	**9.48**	**10.06**

Note: Total refers to Non-Plan spending only. 1993/94 expenditures are revised estimates and 1994/95 expenditures are budget estimates.

Source: West Bengal, Budget Documents.

6.24 Karnataka. Budget allocations in Karnataka were disaggregated and re-classified into functional activities: primary health, family welfare, secondary and tertiary health, medical education and training, and administration. The percentage distributions from 1990/91 to 1994/95 are described in Table 6.9.

Table 6.9: Karnataka -- Distribution of Health Care Revenue Expenditures by Level of Care 1990/91-94/95

Function	1990/91	1991/92	1992/93	1993/94	1994/95
Administration	2.6	2.9	2.2	2.2	2.1
Medical Education	9.1	9.8	10.5	8.7	10.1
Secondary & Tertiary	34.3	34.8	32.5	35.9	33.0
Public Health	38.3	34.3	38.4	37.2	37.7
Family Welfare	15.7	18.2	16.4	16.1	17.1

6.25 Throughout the period, primary health care and family welfare have absorbed around 53 percent of the total health budget. Secondary and tertiary care combined have absorbed between 33 and 36 percent and medical education and training, around 10 percent. The most notable change in shares has been for family welfare. For this activity, nominal expenditures increased by 23 percent a year compared to the lowest growth rate of 16 percent for secondary and tertiary care and 18 percent for primary health care. It is of interest to note that family welfare is a 100% centrally sponsored scheme.

6.26 Complicating the disaggregation of allocations in Karnataka is the substantial degree of decentralization to the district councils or Zilla Parishads. While most of the health functions of the councils relate to primary health care and family welfare, they also include community and some district hospitals. From a review of the budgets of one Zilla Parishad from 1990/91 to 1994/95, the share for these facilities appears to have fallen from 23 percent to 5 percent. If this is typical, the rural hospitals in Karnataka have been under severe and increasing pressure similar to the apparent case in West Bengal.

6.27 Punjab. Health expenditures for Punjab were re-classified under primary, secondary and tertiary health care. Primary care was defined as including primary health centers, sub-centers, services from non-allopathic systems of medicine (apart from teaching), family welfare (apart from MCH, included at the secondary level), disease control programs, drug control, public health laboratories and paramedical training. Secondary care includes MCH, CHC and district hospitals. Tertiary care covers the teaching hospitals. The composition of health expenditures between these three levels of service is described in Table 6.10. According to the breakdown, an average of 61 percent of expenditures are allocated to primary care, 27 percent to secondary and 12 percent to tertiary. Over the five year period, however, some changes have occurred. The shares for primary and tertiary health care have fallen by 5 and 1.5 percentage points respectively while the share for secondary care has increased by 6.5 percentage points.

Table 6.10: Punjab -- Distribution of Health Revenue Expenditures by Level of Care 1990/91 - 1994/95

Function	1990/92	1991/92	1992/93	1993/94	1994/95
Primary	63.5	60.9	65. 9	56.9	58.4
Secondary	23.0	26.5	21.8	31.8	29.6
Tertiary	13.5	12.6	12.3	11.3	12.0

6.28 The data prepared for Punjab also allow for some analysis of items of expenditure. For each level of care, salary items dominate. In 1994, salaries absorbed 77, 70 and 67 percent of primary, secondary and tertiary care expenditures. Materials, supplies and equipment absorbed 10, 25 and 18 percent respectively. Over time, there are no clear trends in these distributions.

6.29 Andhra Pradesh. Mahapatra and Berman (1995) and Mahapatra (1996) have analyzed health service expenditures between 1980 and 1993. A number of conclusions emerge. First, the share devoted to public health increased from 48 to 57 percent while the share for hospitals fell from 39 to 30 percent. Within public health, the shares between the various activities have changed little. While the share for family planning is reported to have fallen substantially, this results from changes in definition. Second, while expenditures on secondary level hospitals were very slightly above those for tertiary hospitals in 1980, by 1993 the situation was reversed and tertiary hospitals share was higher by 6 percentage points. The combined share of both secondary and tertiary hospitals (at 30 percent) is low by international standards. In a survey by Barnum and Kutzin (1993) covering twenty-nine countries, only four countries spent less than 40 percent of their health budget on hospital services.

H. Future Trends in Public Sector Health Financing.

6.30 The level of government resources made available for health services depends to a large extent on the overall public finance situation facing each state. This issue of the overall developments in state government finances was discussed in Section B on state finances. With that as background and subsequent discussion on trends in expenditure on health, the share of resources to the health sector and the composition of the health budget, a brief discussion on the state level risk and sustainability of public health finance follow.

6.31 Karnataka: Is there any reason to expect that the high growth rates of health expenditures over the past fifteen years will be maintained despite the deterioration in the states overall financial position? The revenue account in 1993/94 was in surplus. The gross fiscal deficit is equivalent to 17 percent of revenues -- one of the smallest among the major states. Interest payments on debt accounted for 11.6 percent of total revenue expenditures in 1992/93 rising to 12.7 percent in 1994/95. Public debt was equal to 26.3 percent of state domestic product in 1990/91 and to 27.0 percent in 1994/95. The indicators of public finances in Karnataka show some slight deterioration over the past few years as a result of increased borrowing for capital expenditures but overall demonstrate a picture of reasonable strength.

6.32 Punjab: How feasible is the assumption of overall revenue growth in the state being equal to the level of the 1980s? The deficit on the revenue account was estimated at 13.5 percent of revenue receipts in 1994/95 and to 23 and 24 percent in the two previous years. The gross fiscal deficit has been equal to 40-45 percent of revenue receipts over the past three years - the highest for any state. Interest payments on the state government's debt as a share of total state revenue rose from 12.5 percent in 1985/86 to 37.2 percent in 1994/95 - the second highest among the eleven most highly populated states. Revenue growth from state taxes has been buoyant in recent years and well above that for all states combined. However, additional efforts will be required both to increase revenue receipts further and to restructure expenditures if growth in social sector real expenditures is to revive. The relative wealth of the state suggests that increased revenues should be possible to generate.

6.33 West Bengal: Real growth rates in health expenditure through the 1980s averaged 2.8 percent a year. In 1991/92 real expenditures fell by 14 percent. Since then they have risen by an average of 2.9% a year. The deficit on the revenue account was equal to 19 percent of revenue receipts in 1994/95, the highest ratio across the 15 major states. This has increased from 14 percent in 1991/92. The gross fiscal deficit is currently (1994/95) equal to 30 percent of revenue receipts. Interest payments on the state government's debts were equal to 19.1 of revenue expenditures in March 1995. This is slightly above the average across the major states (18.0 percent). Outstanding debt is equivalent to 22.6% of state domestic product which is slightly below the average. Efforts are underway to improve state public finances. The fiscal deficit in 1995/96 is anticipated to be below the previous year's and as a share of revenue receipts is planned to fall to 27%. Further efforts to increase revenues and to alter the structure of expenditure obviously will be necessary to reverse the relatively weak position of public finances in general and the deteriorating situation of finances for the health sector in particular.

6.34 Andhra Pradesh: The financial situation of the state has deteriorated considerably during the past 15 months, largely because of a drop in revenue receipts and new government subsidies on rice. In 1994/95 the revenue deficit was 1.2% of the state domestic product; the gross fiscal deficit was at 4% of the state's domestic product; and total outstanding debt stood at about 24% of the state domestic product. The interest payment on the debt was equal to about 16% of the total revenue expenditures, higher than Karnataka, but lower than West Bengal or Punjab.

6.35 What emerges as a lesson for other states is a mixed picture among the states for which this analysis was undertaken. Karnataka appeared better-off than the other states in terms of its overall financial situation, but by no means in a situation deserving complacency. Given the outstanding debt situation of each state, the interest payment on that debt and the still high expected fiscal deficit in coming years, it appears quite clearly that it will be difficult for the states in general to substantially increase their contribution to the health sector. Tulasidhar's (1996) analysis of health sector expenditures, which includes expenditures beyond those included by the Department of Health, provides a more positive picture than the one presented above for health services alone. Nevertheless, the increase in resources to the health sector would have to result from a diversion of resources from some other sector. Such a change will have to have strong political support and will on the part of each state government.

I. Recommendations

6.36 The public expenditure situation in the health sector facing individual states differs as does the response. Expenditure levels and patterns in the health sector, however, are sometimes not the most desirable. This may occur by default or through pressures outside of the sector. By making them explicit there is a greater possibility that decisions will be taken to increase the congruence. Despite the differences in the financial situation and public sector financing of the health sector among the states, the following general recommendations may be considered by most states.

- States must take credible steps to increase their overall finances by: increasing tax revenue as a share of state domestic product, increasing the buoyancy of tax and non-tax revenue; and reducing overall public expenditures on subsidies, salaries and poorly targeted welfare programs. By improving their overall financial situation, the states would be better equipped to address specific sectoral resource needs.

- State health and family welfare expenditures are well below the international levels that are considered adequate to meet public health priorities as defined by the WDR (1993) and below the levels required to achieve the service norms set by the Government of India. The size of the gap varies from state to state, but appears to be larger in the financially worse off states. State governments on average need to provide 50 percent more resources to fund their basic health care package. This amount may be difficult to provide in the present fiscal situation faced by the states. At a minimum, state governments should maintain the share of health sector allocations in the overall budget to redress the share of declining resources to the sector in most states.

- The state governments need to reevaluate the priorities within the health sector budget, especially with regard to resources for the primary, secondary and tertiary levels. Secondary level hospitals, particularly rural and community hospitals have received a low share of resources by comparison to tertiary hospitals. The share of primary and secondary level health care, which provide the basic package of public health and clinical services, needs to be increased within the overall envelop of state government resources for the health sector. Over the next 3-5 years, state governments would need to allocate 75 percent of incremental resources allocated to the health sector to the primary and secondary levels of care. This would imply a lower level of allocations for medical education and the existing social insurance schemes which are poorly targeted.

- The state governments also need to re-evaluate their priorities with regard to non-salary recurrent inputs such as drugs, essential supplies and maintenance budgets. With some minor variation between states and the level of health care services, it appears that 75 percent of the health budget is absorbed by staff salaries and wages. Within the next 2-3 years, state governments need to allocate adequate funds for drugs, essential supplies and maintenance budgets in accordance with established norms.

- The health budgets of the panchayats also need to be enhanced, in order to allow them to carry out their maintenance function and newly provided responsibilities.

CHAPTER 7

A SUPPLEMENTARY HEALTH FINANCING MECHANISM: USER CHARGES

A. Introduction

7.1 This chapter focuses on key aspects of supplementing state government budget allocations for financing health care services. It reviews user charges as a means of providing a supplement to enhancing budget allocations for the health sector, especially with respect to operating or recurrent expenditures. It does not, however, cover other financing options, such as health insurance or community financing, which were considered beyond the scope of the present study at the IM stage. The important questions on user charges raised in this chapter relate to mobilization of supplemental funds and their allocation within the health sector. These issues have taken on increasing significance due to the financial constraints faced by the states and the competition for budgetary resources from other sectors. The rationale for user charges arises from the difficulty in obtaining sufficient resources from the state budget and the need to provide additional funds to supplement the budget as well as to provide the correct incentives to address health care needs at lower level facilities.

B. User Charges: Operational Issues

7.2 A general observation is that the level of cost recovery in medical and public health services is very low in India. Table 6.1 below shows the percentage of cost recovery in the medical and public health budget in the 15 major states of India.

Table 7.1: Cost Recovery in Medical and Public Health Services (Non-ESIS) (in percent)

State	1975-6	1980-81	1984-85	1988-89	Average
15 Major States	6.4	4.1	3.04	1.6	3.8
Andhra Pradesh	2.9	3.4	3.8	0.8	2.7
Assam	3.9	3.5		1.6	2.2
Bihar	17.0	8.5	3.3		7.2
Gujarat	3.7	5.0	1.9	2.6	3.3
Haryana	6.4	3.9	7.7	1.5	4.9
Karnataka	11.0	3.2	2.7	6.6	5.9
Kerala	3.8	4.1	3.7	1.6	3.3
Madhya Pradesh	4.9	2.4	6.4	2.4	4.0
Maharashtra	12.9	3.5	1.7	1.7	5.0
Orissa	2.6	3.0	4.3	1.1	2.8
Punjab	15.6	5.6	4.3	5.4	7.7
Rajasthan	4.0	3.9	2.5	0.8	2.8
Tamil Nadu	4.0	9.5	3.2	1.6	4.6
Uttar Pradesh	5.3	1.9	1.3	0.5	2.3
West Bengal	2.2	2.1	2.1	-0.8	1.4

Source: Tulasidhar, 1992; p.85

7.3 Of the 15 major states, the average level of cost recovery for the period 1975-89 was the highest in Punjab at 7.7%, and was as low as 1.4% in West Bengal. In Karnataka it was 5.9% and in AP it was 2.7%. The average for India was about 3.8%. International experience in developing countries with somewhat higher per capita income than India, and where performance of the public health sector has been better, shows that revenue collected from user charges accounts for about 15-20% of the health budget. The low level of cost recovery implies that the state Governments will continue to depend for most of their resources from the government budget. A large portion of Government funds, in turn, are directed to salaries (75-80%) and little money is left to spend on investment and non-salary recurrent expenditures. As a result, health facilities face operational deficiencies, including under-funding of drugs, supplies, other consumables; shortages of diagnostic facilities and laboratory equipment; and general deterioration of the physical infrastructure. These factors have all added to the state Governments' inability to deliver health services of adequate quality. In this scenario, user charges are viewed as supplemental funds mainly for funding operational activities or non-salary recurrent costs. They are, however, not viewed as funds that would substitute or replace the state government's contribution to the health sector through the budget.

7.4 The low level of user charges in government facilities do not fully reflect the actual cost per illness episode. Beneficiary assessment studies in the states show that considerable costs are incurred by patients and their families per illness episode, such as for transportation, medicines, clinical tests, under the table expenses, special diets and rituals. Out-of-pocket expenditure, even among the poor and tribal populations, is an indication of the willingness to pay in times of acute illness. However, more detailed analysis is needed to obtain more precise estimates of the actual expenditures incurred by households, beyond the official fees charged.

7.5 The low level of income generated through cost recovery is due to the low structure of fees, the narrow range of services for which fees are charged and the inadequate mechanism for enforcing the collection of fees. These are discussed below.

7.6 Low structure of fees. The fees charged to out-patients and in-patients at various health care institutions are highly subsidized and do not reflect demand or user welfare. The cost of services provided and the demand for such services indicate that the structure of fees are significantly below the market rate or the fee structure in the private sector. As such, fees are not used as a pricing mechanism to improve allocative efficiency by reducing the use of hospital services, removing excess demand or providing appropriate incentives to providers and patients. Beneficiary analyses in the four states show that at the low level of the fee structure, the demand elasticity of services is not very responsive to changes in user fees. Patients using the public health care system incur significant transport costs and are quite often willing to increase their out-of-pocket spending. However, despite the willingness to spend more out-of-pocket funds, there are equity considerations and ability of patients and their families to pay for such services. The increase in the structure of fees can adversely affect access of health care services to the poorer sections of society, who are most frequent users of public hospital services.

7.7 Narrow range of services for which fees are charged. The Government's policy is not to charge for services provided at the primary level. This includes those services provided at subcenters, primary health care centers and community health care centers serving up to 100,000 people. Fees are charged for services at the level of the community hospital and above, including other secondary and tertiary hospitals. However, the range of services for which fees are charged are limited and many diagnostic and treatment services are not charged at all.

7.8 Inadequate mechanisms for collecting user fees. Although government orders are in place in most states specifying the level and range of eligible charges, it is observed that mechanisms to ensure that such charges are collected are weak. As a result, there are plenty of leakages constraining the collection of funds. The weakness are both at the institution level of the hospital as well as the level of the Department of Health. At the hospital level , the system of account keeping is outdated and the finance and audit wings of the Department of Health are poorly staffed to carry out this function. Analysis shows that the strengthening of the fee collection system could potentially contribute more to revenue than an enhancement of the fee structure in the short term. Moreover, all states are committed to exempting the poor from most of the fees for hospital services. However, adequate mechanisms are not in place to target the poor appropriately and there are leakages on both sides: those who should be eligible to receive free services are having to pay, while those who are not eligible to receive services benefit from the existing system. This is partly due to the administrative complexity of identifying and targeting the poor.

7.9 Retention and use of revenue collected at the institutional level. Administrative and financial responsibilities at the hospital or institutional level are diluted. The funds that are collected at the hospital level go to the Finance Department of the state Government, where they become part of the general revenue. They are not retained by the institution collecting the charges, nor are the revenues generated by them provided to these institutions by the Finance Department in proportion to the level of revenue collected. As such, there are no incentives for these institutions to collect such fees. In recent months, however, the state Governments of the four states have taken initiative to retain the funds collected at the institutional level or at the level of the district health committees, to be reallocated by the district committees within the district on the basis of need and level of revenue collection.

C. User Charges: Existing Practices

7.10 Current Government practice in India is to provide free services up to a specific income and service level in public health care institutions. This implies that user fees are not charged for primary health care services including preventive and promotive care services nor for people whose income level is below the poverty line. As a result, the impetus for adopting user charges in hospitals for those sections of the population above the poverty line has become increasingly important given the difficulty of securing adequate resources for the health sector from the general public revenue of the states. User charges are expected to provide additional revenue for under-funded public programs, while recognizing the patients' ability to pay and be targeted specifically for direct health care utilization. Implementation of these general guidelines is expected to improve access to health care services and strengthen the quality and efficiency of services provided.

7.11 While these general principles apply to all states, the policies on user fees do not go far enough and are unlikely to substantially increase supplemental revenue for the health sector. The state Government's policies need to take account of the quality of services to be provided; a significant enhancement in service quality would provide a strong rationale for enhancing the level of charges and broadening the services for which user fees can be charged. More importantly, each state has to create a suitable environment through adequate administrative arrangements and analytical work that would provide a framework for a continuous review of user fees. The involvement of the Bank has been catalytic in setting up a framework for review of users charge policies and practices in the four states where a health system project is in place. Opportunities for enhancing the level of these charges and the scope of services for which charges can be levied need to be reviewed within the newly established administrative mechanism. The existing policies and practices on user charges such as outpatient and inpatient charges, criteria for exemption for the poor and revenue administration, in the four states are described in Annex 4.

D. Potential Revenues From User Charges: Examples from Karnataka and AP

7.12 In each of the four states, review committees have been set up to consider the structure and implementation of user fees in hospitals. These review committees will be actively considering new proposals for both enhancing charges as well as widening the range of services for which fees will be charged as improvements in the services provided by the hospitals take place over the next few years. Here, indicative examples are developed of the potential revenue that would be generated through the implementation of the types of user charges now being discussed and implemented. Sets of alternative assumptions are used. The examples are based on information from Karnataka and AP.

Karnataka

7.13 *Paying beds and wards.* Currently, the total bed strength is 14,858 at secondary hospitals. Of these there are around 400 paying beds in the district hospitals and 200 in the tertiary, teaching, hospitals. The project will add 3,832 additional beds. Another 1,400 beds will be added through a planned KfW project. Of the additional beds it is proposed that 20 percent will be paying beds. In secondary level institutions, the total number of paying beds will increase from around 400 to almost 1,450. As was described above, there are different bed charges depending on the number of beds per room. Currently, the average charge is Rs. 6 per day. It is intended to increase the charges considerably. Assuming that charges for 2 and 1 bedded rooms average Rs. 50 per day and for 4 and 6 bedded rooms, Rs. 20 per day, that one quarter of the beds fall under the first category and two thirds under the latter and that occupancy rates remain at around the current level of 85 percent, the increase in revenue would be:

Table 7.2: Project Revenue from Paying Beds and Wards

Current:	400 beds	x	310 days x	Rs. 6 = Rs. 0.7 m.
Future:	362 bed	x	310 days x	Rs. 50 = Rs. 5.6 m.
	1088 beds	x	310 days x	Rs. 20 = Rs. 6.7 m.
			Total	Rs. 12.3 m.
			Increase	Rs. 11.6 m.

7.14 *Charges for Diagnostic Services and Surgery.* A proposal is currently being considered by the Government to charge a registration fee (Rs. 5) for each in-service case. The most recent estimate, for 1992, is of 900,000 cases a year. The fee (if applied with no exemptions) would raise Rs. 4.5 million. The charges being discussed for diagnostic services and surgery in Karnataka tend to vary according to whether the patient is in a special ward or the general ward. It is proposed that one set of charges would apply to all those in paying beds while those in general wards (but with an income of over Rs. 11,850 a year) would pay half that rate. Obviously, in setting charges for patients in special wards, care will need to be taken to ensure that the combined higher quality of room and services can justify the additional charge. Otherwise, patients will either opt for the general wards or for private sector treatment and the paying beds will be underutilized. Currently, while there is a schedule of charges, last revised in 1988, few are collected owing to the lack of institutional incentive previously described. The charges in Karnataka, similar to those being proposed in West Bengal, suggest a level of Rs. 45 for minor surgery and Rs. 100 for major surgery. Charges for some forms of diagnosis are higher but apart from scans etc. few are above Rs. 300.

7.15 Those inpatients below the defined poverty line and therefore to be exempted from charges are estimated at 30 percent of the total number on inpatient cases -- 270,000 patient cases. Of the remaining 600,000 or so cases, six percent or 36,000 will be in paying beds. The remaining 564,000 would be in general wards. Assuming that one-quarter of patients require major surgery and the rest require minor surgery, the annual revenue from the charges would be:

Table 7.3: Projected Revenue from Major and Minor Surgery

Patients	Major Surgery	Minor Surgery	Revenue
36,000 in paybeds	9,000 x Rs. 100+	27,000 x Rs. 45=	Rs. 1.3 m.
564,000 in general	141,000 x Rs. 50+	423,000 x Rs. 23=	Rs. 17.0 m. wards
		Total	Rs. 18.3 m.

7.16 Overall, increased revenues from inpatients might be around Rs. 11.6 million for bed charges, Rs. 4.5 million for registration fees and Rs. 18.3 million for diagnostic services and surgery: a total of Rs. 34.5 million.

7.17 *Outpatient charges.* A recommendation to charge a registration fee (covering a year or until the registration card is filled up) of Rs. 2 for outpatients without exemptions is being considered by Government. In 1992, roughly 10 million cases were registered. Revenue would be about Rs. 20 million.

7.18 *Other charges.* Forty percent of departmental revenues are currently generated through charges for health certificates. The charge is Rs. 5. A proposal to double the charge is being considered. This would increase revenues from this source from Rs. 41 million to Rs. 82 million a year.

7.19 *Potential revenue from user charges in Karnataka.* The measures described above could generate around Rs. 136 million. This would be equivalent to about 9 percent of the Rs. 1,560 million annual recurrent expenditures for secondary health services by the year 2002 or over 29 percent of all non-salary recurrent expenditures. This amount of additional resources could have a significant effect on the levels of service quality provided by secondary health care institutions. Revenues generated from these would provide only one quarter of all revenues and are much less than revenues arising from increased charges for certificates, etc. The charges of Rs. 45 and Rs. 100 for minor and major surgery respectively might be compared to the average private expenditures of an episode of hospitalization in a rural private hospital in 1986/87 of Rs. 733 (NSSO). There remains considerable opportunity to review and enhance charges for minor and major surgery, while making sure that appropriate mechanisms for protecting the poor are in place.

7.20 These calculations are mainly illustrative. However, the estimated revenues from user charges are at the low end of the potential range, as they include only existing charges for treatment. They indicate the potential which exists to augment supplemental resources for health services through a few relatively simple measures. The immediate priority is to implement the existing patterns of charges more effectively and to monitor the use and effects of the revenues on health services.

Andhra Pradesh

7.21 *Paying beds and wards.* The plan is to allocate 20% of all beds at district and area hospitals as paying wards. Currently, total bed strength is about 9,650 at secondary level hospitals. This is to be increased to 14, 000 beds by the year 2002. Three types of paying beds will be offered at district and area hospitals. Category A comprises single rooms with attached toilet; Category B shared rooms with or without attached toilets; and Category C comprises cubicles in general wards which provide some privacy to patients. Projected revenues calculated below are based on the assumption that 35 percent of paying beds are classified as Category A, 45 percent as Category B, and 20 percent as Category C. Patients opting for paying wards would have to pay bed charges; those opting for A and B categories would also have to pay for treatment costs for surgery and diagnostics.

7.22 Revenue collections from bed charges in paying wards under alternative assumptions of bed occupancy rates are presented in Table 7.4. The annual collection assuming 70% occupancy is expected to be about Rs. 17.2 million; assuming 80% occupancy, it is expected to be about Rs. 19.6 million.

Table 7.4: Annual Collections from Pay ng Beds

	Bed Charge (Rupees/day)	Number of beds	70% occupancy (Rs. mill.)	80% occupancy (Rs. mill.)
Category A	50	735	9.3	10.73
Category B	30	945	7.2	8.28
Category C	5	420	0.5	0.61
Total Revenue		2,100	17.1	19.62

7.23 Table 7.5 presents projected revenues generated by surgery for patients in paying wards. The total revenue generated by surgery charges, under the above assumptions, is expected to be Rs. 11.8 million for 70% occupancy and Rs. 13.4 million for 80% occupancy. Surgery charges have been assumed to be Rs. 700 for major surgeries and Rs. 200 for minor surgeries (data provided by APVVP) and are inclusive of expenditures on suturing material, anesthetics drugs and OT charges and routine pathology tests. Drugs, disposables, X-rays and ultrasonography tests are not included in this package and are expected to be charged separately.

Table 7.5: Projected Revenues from Surgical Procedures (Paying Ward Patients Only)

	Occupancy	Inpatients	Major Surgeries	Revenue (Rs. m)	Minor surgeries	Revenue (Rs. m)
Category A	70%	18,780	4,695	3.29	9,390	1.90
	80%	21,460	5,365	3.76	10,730	2.1
Category B	70%	24,145	6,035	4.22	12,070	2.41
	80%	27,590	6,897	4.83	13,795	2.76
Total	70%	42,925	10,730	7.51	21,460	4.31
	80%	49,050	12,262	8.59	24,525	4.86

Notes:

1. The number of inpatients has been calculated using a 70% or 80% of bed occupancy rate to get total number of bed-days in a year and dividing by an unexpected average length of stay of 10 days (which is the current average).

2. The number of major and minor surgeries has been calculated by assuming that 25% and 50% respectively of inpatients will undergo each type of surgery. Data provided by APVVP for recent years show that currently about 15% and 30% of inpatients undergo major and minor surgeries respectively. It can be safely assumed that the proportion of such patients will be higher in paying wards.

7.24 Additional revenue will be generated by charging for X-rays, ultra-sonography, and consumables. Since data are not available on the per patient use of these services and consumables, a rough estimate of prospective revenues can be made by assuming a flat rate of Rs. 200 per inpatient. A sum of Rs. 8.59 million for 70% occupancy and Rs. 9.81 million for 80% occupancy can be generated in this manner.

Table 7.6: Revenue Collection from Paying Beds (Rs. million)

	Bed Charges	Surgical procedures	Drugs and consumables	Total
80% Occupancy	19.6	13.4	9.8	42.8
70% Occupancy	17.2	11.8	8.6	34.5

7.25 Table 7.6 summarizes the recoveries from paying bed patients. These calculations, indicate that between Rs. 35-43 million can be recovered through paying room charges. The gross revenue collections are discounted for additional costs that would be incurred to provide higher quality service in these wards (such as higher nurse to bed ratio, additional attendants and extra amenities such as electricity and water). Assuming that extra costs for providing these services are 20% of gross collections, net revenues generated will be between Rs. 2.8 million and Rs. 3.4 million.

7.26 *Outpatient charges.* The number of new outpatient visits is currently about 10 million. Improvements in quality which are envisaged in the project and the normal growth in population would probably result in an annual turnover of about 12.5 million new outpatients. Data on the number of outpatients by gender, age, and type of case are not available. However, an estimate of the gross revenues can be made under different assumptions. Assuming an outpatient charge of Rs. 2 and that 30% of outpatients fall in the non-exempted categories, the gross revenues collection is Rs. 7.5 million. On the other hand, if only 50% of the outpatients are exempted, Rs. 12.5 million can be collected annually.

7.27 *Additional services.* APVVP proposes to set up special outpatient clinics and offer diagnostic services for the private sector. The market for the latter is estimated to be large. The decision to offer these services would have to follow a more precise estimate of demand. Preliminary estimates indicate that about as much as Rs. 10 million can be raised through the sale of these services.

7.28 *Potential revenue from hospital charges in AP.* The few simple measures outlined above can raise revenues to the order to Rs. 65 million, representing about 24% of the annual non-salary recurrent costs when the present phase of upgradation is completed. The assumption used in the above calculations are fairly cautious. Different pricing rules, for instance a larger differential between Category A and Category B charges, can lead to the generation of additional revenues and also create possibilities for a greater degree of cross-subsidization. The simple simulations indicate the possible levels of revenue collections. A details analysis would involve the effects of prices on efficiency, equity and revenue generation and their effects on the optimal level of user charges.

E. Recommendations

7.29 The existing system of user fees in each state is based on a combination of partial fee-for-service, voluntary payments and targeting of the poor for exemption. The level of user fees and the range of services for which fees could be collected are politically sensitive issues and the state governments need to sensitize the public to the need to increase user fees in order to improve quality of services at the secondary level and above. There is, however, willingness-to-pay for quality services and considerable opportunity exists at the state level to enhance revenue collection through user fees, especially to finance some of the non-salary recurrent cost expenditures such as drugs and supplies at the facility level. Full cost recovery at public health care facilities is neither feasible nor desirable. It is appropriate to recover a part of the costs of inpatient hospital services from those patients who can afford to pay, while protecting the poorest sections of society. As such, the setting of user charges should: consider ability-to-pay criteria; view user fees as a signal for allocative efficiency; reflect the quality of services provided; and take into account externalities.

7.30 Analyses in the four states show that increased revenue can be achieved through strengthening institutional mechanisms for revenue collection and preventing leakages, putting in place adequate targeting mechanisms, and revising the structure of fees periodically. User fees will be easier to implement politically once improvements in quality of services are provided and adequate targeting measures to protect the poor are put in place.

Therefore, collection mechanisms need to be strengthened concurrently with the revision of charges. Each of the four states -- Andhra Pradesh, Karnataka, Punjab and West Bengal -- has adopted a system of user charges at secondary level hospitals that subsidize the cost to the patients. This implies that patients pay only part of the costs of health care services. However, they will now pay more often than they have in the past, and revenue collected will be substantially higher. These states are also improving the mechanisms for revenue collection by strengthening the finance and audit wings of the implementing agencies, appointing finance personnel at the hospital level and implementing a more effective targeting mechanism. These present important lessons for other states to consider.

7.31 The following actions on policies and practices regarding the implementation of user charges at the state level are recommended:

- The states need to set up an institutional framework for periodically reviewing the structure of user fees and pricing policy. This could be one of the functions of the Strategic Planning Cell, established in the health sector in the four states studied.

- Collection mechanisms need to be strengthened. State governments need to increase cost recovery from an average of about 3 percent to about 15-20 percent in the next 3-5 years. This can be achieved by concurrently strengthening collection mechanisms at the facility level and by periodically reviewing and revising user charges.

- Adequate targeting mechanisms to identify the poor need to be implemented. It is preferable to strengthen the existing system for targeting the poor rather than create a new mechanism because of the administrative costs involved. The existing JRY system, identifying families below the poverty level, with minor adjustments appears to be the most efficient way to implement a targeting policy. However, there can be variation as in West Bengal.

- Revenue collected should be used for non-salary recurrent expenditure items such as drugs, essential supplies and record keeping; charge all outpatients a nominal fee (Punjab and West Bengal); concentrate charges on voluntary services such as private rooms or wards and on medical services with a relatively low cost-effectiveness such as those diseases under group II with appropriate targeting for exemption in urban areas.

- In the absence of quality improvements, new or increased charges could lead to reduced demand for hospital services with an overall reduction in revenues. Increased charges should, therefore, be introduced in a phased manner and matched to higher quality levels of services. Some would be appropriate immediately; others would need to await improvement in services and infrastructure.

- Hospitals should be allowed to retain 100 percent of the revenue collected, or district committees and state level health systems corporations (e.g., as in AP and Punjab) on their behalf should be empowered to retain such revenues and redistribute them among hospitals within the district according to both need and level of collection.

CHAPTER 8

THE COST EFFECTIVENESS OF HEALTH INTERVENTIONS

A. Introduction

8.1 This chapter extends the discussion on the allocation of resources for the health sector and the financing of health care at the state level by highlighting the cost effectiveness of some key health interventions and the implication this would have on policy-making. Understanding the cost effectiveness of alternative interventions, the relative burden of disease and health risk factors is critical for improving the allocation of resources and the planning of financial systems. Health policy analysts in India are increasingly aware of the inadequacies and the inertia of the existing system, the potential for improvements and the increasing costs of health care in an environment that is rapidly changing the manpower and technology used to provide health services. The challenge is to seek improvements by a more medically and economically rational approach to health service provision. As a result, there is a need to estimate the burden of disease and study the cost effectiveness of alternative health intervention strategies. Cost effectiveness of alternative strategies and formal economic analyses of health care programs are relatively new approaches facilitating policy-making in India. It is being increasingly recognized that economic analyses of health care issues and interventions can substantially contribute to improving health policy. As a complement to this analysis, Annex 2 provides a detailed analysis of unit cost at different levels of the health system, and shows how an intervention at a lower level facility can result in substantial cost savings.

B. Burden of Disease and Cost-Effectiveness Study

8.2 Following the Global Burden of Disease (GBD) analysis undertaken as part of the WDR (1993), which measured the combined losses from premature death and loss of healthy life resulting from disability, National Burden of Disease analyses were undertaken in Mexico, Columbia, South Africa and India. While in other countries these studies have been at the national level, in India, considering the vast population and reported diversity in disease pattern, the analysis was undertaken at the state level. Andhra Pradesh was chosen as the state where such an analysis would be undertaken to support the preparation of the first health systems project in India. The Andhra Pradesh Burden of Disease and Cost Effectiveness of Health Interventions study was undertaken by the Administrative Staff College of India (ASCI) in conjunction with the Harvard Center for Population and Development Studies, with support from the Bank. Detailed results and description of the methodology are available in the ASCI study which was undertaken as part of our state level health sector work in India. The BOD part of the study was repeated separately for the states of Karnataka, West Bengal and Punjab by ASCI. Some of the main findings with respect to interstate comparison of the BOD studies are summarized in Chapter 3. This Chapter focuses on the cost effectiveness part of the analysis.

C. Cost Effectiveness Analysis

8.3 Applications of economic analysis to resource allocations in the health sector must make the choice of whether to value outcomes in terms of economic benefits or in terms of some proximal measures of effectiveness. In the health sector since outcomes can be measured in deaths or disability averted, the challenge is to come up with a measure that will allow comparisons to be made across the sector. The cost effectiveness approach, by focusing on choosing between mutually exclusive health interventions, provides such a measure. The choice of interventions is a necessary condition for designing a delivery system and influencing government policy towards effective delivery. In India, as in other developing countries, much of the choice of intervention has not been based on rigorous analysis. The key elements of a health care delivery system, including the planning of human and physical infrastructure, logistics for drugs and supplies, appropriate management structures and financial instruments, depend in important ways on the composition of the mix of intervention. As a result, these are factored into the cost-effectiveness analysis reported in this chapter. The cost-effectiveness methodology, however, does not allow intersectoral comparisons which are possible when cost-benefit analysis is used. However, cost-benefit type analysis is not suitable for health interventions due to the difficulty in quantifying benefits and other data limitations.

8.4 The basic assumption of cost effectiveness analysis is that the health outcomes can be measured quantitatively allowing intrasectoral comparisons. Though several measures of effectiveness of health interventions such as deaths averted, years of potential life lost, quality adjusted life years lost, risks trade-offs and quantity of life trade-offs have been used by different researchers, the inherent difficulties in measurement of effectiveness still remain. Certain diseases may cause more disability, while other diseases may result in higher mortality. Recent efforts by Christopher Murray et. al. (1992) to develop a comprehensive indicator of BOD resulted in the genesis of the BOD approach. DALYs, defined earlier, are used as the specific cost effectiveness measures for the BOD analysis. DALYs combine duration of life lost due to premature mortality and duration of unhealthy life lived with disability; and express this as a single index, which can be used as a measure of effectiveness. This provides an unique opportunity not only to compare the effectiveness of different interventions for the same disease but also between interventions for different diseases.

D. Andhra Pradesh Burden of Disease and Cost Effectiveness Study

8.5 The Andhra Pradesh Burden of Disease and Cost Effectiveness of Health Interventions study used the BOD approach to estimate the burden caused for 96 diseases, including injuries and accidents. It undertook cost effectiveness analysis using cost per DALYs gained as a measure of effectiveness of interventions. Cost effectiveness of about 200 preventive, curative and promotive health interventions has been estimated. The specific situation and examples are exclusive to Andhra Pradesh, but with appropriate modifications, the analysis could be extended to other states in India. It presents an example of how health policy can be shaped and influenced as a result of the in-depth analysis that was undertaken, especially with respect to the choice of interventions.

8.6 Using the GBD approach and fine tuning the data to the specific situation in Andhra Pradesh, an innovative approach was used in the analysis in Andhra Pradesh to address some of the data problems.[12] The methodology involved: (i) analysis of input costs by fixed, variable and infrastructure categories: (ii) accounting for some non-tradable goods costs in non-monetary terms of a "full-time equivalent"; (iii) measurement of technical efficiency of different services by actual numbers or persons covered under the intervention and by units of time segregated by active and passive durations; (iv) use of data source depending on the type of intervention evaluated by program experience, rapid assessment and expert opinion; (v) extensive use of expert opinion in the disciplines of epidemiology, internal medicine, health economics and health policy to develop an exhaustive list of 200 interventions after reviewing the current state of clinical, epidemiological and technological information; and (vi) developing a typical course of event framework for undertaking detailed cost estimation of an intervention using the concept of entire population covered by an intervention rather than a specific group. An important assumption in the calculations is an evaluation of the effectiveness of the existing program with regard to the efficacy of the treatment. More detailed analysis in Tables 8.2 and 8.3 also consider the inefficiencies of the public programs.

8.7 Table 8.1 below gives a list of 70 interventions for which cost per DALY gained by intervention were estimated in the Andhra Pradesh study. The first column lists the disease for which the estimates were made. Sometimes, several interventions for a specific disease were estimated, which are shown in the second column. The third column gives the estimated total cost, which includes fixed, variable and infrastructure costs. It is calculated as the product of average cost per person covered by intervention and the population at risk. The fourth column on efficacy is the probability that a particular intervention will provide a 100% protection rate, i.e., it is a fraction denoting the protective value of a particular treatment. For example, if it is a vaccine, the number denotes the protective value of the vaccine; if it is a treatment or therapy, it denotes the therapeutic efficacy by taking into account the expected outcome.[13] The fifth column denotes DALYs lost in the absence of the specific intervention listed. It takes into account the epidemiological situation, general mortality and prevalence, incidence and remission of the specific disease. The sixth column denotes DALYs gained because of the specific intervention and is a product of DALYs lost and efficacy. The last column denotes the cost per DALY gained -- the lower it is, the more cost-effective is the intervention.

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[12] Details on the methodology are discussed in the ASCI study "Andhra Pradesh: :urden of Disease and Cost-Effectiveness of Health Intervention, (1996)"

[13] The efficacy of a prevention or treatment can vary because of a number of factors. For example, the efficacy of iron tablets is low in India because of the low absorption of iron which results from local dietary habits.

Table 8.1: Cost for DALY's Gained by Intervention (in Rupees)

S. No.	Disease	Intervention	Total Cost	Efficacy (%)	DALYs Lost	DALYs Gained	Cost/DALYs Gained
1.	Abdominal Surgery	Elective Abdominal Surgery	1,709,991,975	0.95	NA	NA	NA
2.		Emergency Abdominal Surgery	1,023,668,665	0.90	NA	NA	NA
3.	Asthma	Inhaler Therapy	342,389,567	0.75	135737	101803	3363
4.		OP Treatment for Asthma	157,794,926	0.25	135737	33934	4650
5.	Anaemia	Treatment for Mild, Moderate and Severe Anaemia	NA	NA	NA	NA	NA
6.		Treatment for Mild, Moderate and Severe Anaemia in Pregnancy	287,777,984	0.32	97980	31354	9178
7.		Iron and Folic Acid Supplementation for Pre-School Children	NA	NA	NA	NA	NA
8.	ARI	Treatment for ARI in Rural Areas	280,971,371	0.30	1363428	409028	687
9.		Treatment for ARI in Urban Areas	144,779,759	0.30	400927	120278	1204
10.		Treatment for ARI at Secondary Level (Rural)	396,530,742	0.37	1363428	504468	786
11.		Treatment for ARI at Secondary Level (Urban)	196,600,529	0.37	400927	148343	1325
12.	Cancer - Stomach	Hospitalization & Treatment for Stomach Cancer	73,359,030	0.05	59861	2993	24510
13.	Cataract	Camp Surgery with IOL	312,321,647	0.95	127164	120806	2585
14		Camp Surgery with Spectacles	186,110,331	0.85	127164	108089	1722
15.		Hospitalization with IOL	188,259,579	0.95	127164	120806	1558
16.		Hospitalization with Spectacles	63,940,930	0.85	127164	108089	592
17.	Cervix Cancer	Active Screening and Treatment for Cervix Cancer	1,162,553,859	0.80	84364	67491	17225
18.	COPD	Hospitalization and Treatment for COPD	1,342,749	0.05	155604	7780	173
19.		Domiciliary Treatment for COPD	14,793,009	0.05	155604	7780	1901
20.	CVA	Hospitalization for CVA	254,502,953	0.4	622440	248976	1022
21.		Antihypertensive & Antiplatelet to Prevent CVA	435,390,018	0.75	622440	466830	933
22.		Rehabilitation for CVA	103,716,746	0.70	622440	435708	238
23.	BAD	Treatment for Depression	173,998,034	0.50	17122	8561	20324
24.	Diabetes	Active Screening at Outreach, Diagnosis and Treatment at PHC	153,850,449	0.75	118907	89180	1725
25.		Hospitalized Treatment for Severe Diabetes	113,234,272	0.65	118907	77290	1465
26.		Treatment for Diabetic Foot	1,795,849	0.25	118907	29727	60
27.	Diarrhea	Hospitalization & Treatment for Diarrhea (above 4 years)	1,507,673,805	0.80	273820	219056	6883
28.		Hospitalization & Treatment for Diarrhea (less than 4 years)	1,761,793,173	0.60	934168	560501	3143
29.		ORT	1,548,905,068	0.65	1207987	785192	1973
30.	Diphtheria	Hospitalization & Treatment for Diphtheria	3,879,569	0.50	8503	4252	912
31.	Epilepsy	Hospitalization & Treatment for Epilepsy	34,580,172	0.28	152529	42708	810
32.		OP Treatment for Epilepsy	9,303,466	0.70	152529	106770	87
33.	Eclampsia	Treatment for Eclampsia	2,080,713	0.15	4623	693	3002
34.	Fiariasis	DEC for Fiariasis	2,185,467	0.70	39766	27836	79
35.		DEC Prophylactics for Fiariasis	424,805,781	0.50	39766	19883	21365
36.	Hepatitis A	Hospitalization and Treatment for Hepatitis A	42,737,967	0.60	152601	91561	467

Table 8.1 (continued)

S. No.	Disease	Intervention	Total Cost	Efficacy (%)	DALYs Lost	DALYs Gained	Cost/DALYs Gained
37	IHD	Hospitalization and Treatment for Acute MI with streptokinase	601,089,068	0.40	796479	318592	1887
38		Acute MI - ICCU	16,760,450	0.40	796479	318592	53
39		Aspirin Treatment for MI	248,872,783	0.25	796479	199120	1250
40		CABG for IHD	1,211,173,633	0.60	796479	477887	2534
41	Intestinal Helminths	Mass Chemotherapy for Intestinal Helminths	41,832,527	0.30	150564	45169	926
42		Screening & Treatment for Intestinal Helminths	31,485,512	0.30	150564	45169	697
43	Leprosy	Active Screening & Treatment for Leprosy	203,268,470	0.80	39510	31608	6431
44	Malaria	Active Screening & Treatment for Malaria	89,220,273	0.30	49654	14896	5989
45	Mania	Hospitalization & Treatment	3,851,091	0.05	49654	856	4498
46	Maternal	Attended Low Risk Deliveries in Rural Areas	91,463,888	0.60	41182	24709	3702
47		Attended Low Risk Deliveries in Urban Areas	30,865,306	0.60	86281	51769	596
48		Referral Care for High Risk Pregnancies	15,860,636	0.60	493540	296124	54
49	Measles	Hospitalization & Treatment	235,288,715	0.70	4498	348714	939
50	Meningitis	Hospitalization & Treatment (above 5 years)	2,141,905	0.50	207971	103986	21
51		Hospitalization & Treatment (less than 5 years)	43,751,202	0.30	207971	62391	701
52	Perinatal Conditions	Neonatal Care	2,407,775,889	0.60	1778021	1066813	2257
53	PEM	Hospitalization & Treatment of PEM	2,220,502,549	0.30	374260	112278	19777
54		Screening and Treatment for PEM	1,909,016,877	0.60	374260	224556	8501
55		Supplementary Feeding for Pregnant Women and children	2,164,297,528	0.60	374260	224556	9638
56	Peptic Ulce	Medical Treatment for Peptic Ulcer	1,940,911,468	0.75	94457	70843	27397
57		Hospitalization of GI bleeding cases for peptic ulcer	1,188,450,407	0.50	94457	47229	25164
58	RHD	Passive Screening & Treatment for RHD	17,078,818	0.50	16950	84752	202
59		Primary Prophylaxis for RHD	769,966,059	0.70	169503	118652	6489
60		Secondary Prophylaxis for RHD	5,491,938,001	0.80	169503	135602	40500
61		Surgical Valve Replacement for RHD	123,697,508	0.70	169503	118652	1043
62	TB	Active Screening, SCC for sputum + Ves and LCC for suptum - Ves	717,781,428	0.75	1370483	1027862	698
63		Active Screening, SCC for Sputum +Ves & -Ves	666,034,817	0.80	1370483	1096386	607
64		Passive Screening, SCC for Sputum +Ves & LCC for sputum - Ves	534,190,297	0.40	1370483	548193	974
65		Passive Screening, SCC for Sputum +Ves & -Ves	473,080,358	0.50	1370483	685242	690
66	Tetanus	Hospitalization & Treatment for Tetanus	61,632,355	0.05	2377060	11853	5220
67	Trachoma	Mass Treatment for Trachoma	619,293,214	0.30	24501	7350	84254
68		Screening & Treatment for Trachoma	72,994,191	0.30	24501	7350	9931
69	UIP	Universal Immunization Program	107,135,209	0.74	505394	372318	288
70	Vitamin-A	Vitamin-A Prophylaxis for Preschool Children	NA	NA	NA	NA	NA

8.8 Tables 8.2 and 8.3 also show the detailed costs for DALYs gained for vaccine preventable diseases for which more detailed information was available. It takes into account the coverage of the population under the existing program and the efficiency of the management of the public program.

Table 8.2: Detailed Cost for DALY's Gained - Vaccine Preventable Disease

Disease	Observed Coverage	Vaccine Efficacy	Program Effectiveness	At Risk	Estimated DALY's Gained (Rs.)
Pertusis	0.66	0.50	0.33	0.67	118, 387
Diphtheria	0.66	0.95	0.63	0.37	8,503
Polio	0.66	0.80	0.53	0.47	96,821
Measles	0.54	0.69	0.37	0.63	358, 030
Tetanus	0.66	0.95	0.63	0.37	237,065
Childhood TB	0.74	0.75	0.55	0.45	58,906
					877,712

Table 8.3: Detailed Cost for DALY's Lost - Vaccine Preventable Disease

Disease	Observed Coverage	Vaccine Efficacy	Program Effectiveness	At Risk	Estimated DALY's Lost (Rs.)
Pertusis	0.90	0.50	0.45	0.55	97,183
Diphtheria	0.90	0.95	0.86	0.13	2,987
Polio	0.90	0.80	0.72	0.28	57,680
Measles	0.90	0.68	0.62	0.38	215,955
Tetanus	0.90	0.95	0.86	0.14	89,701
Childhood TB	0.90	0.75	0.68	0.32	41,888
					505,394

8.9 The net DALY's gained are 372,318 (877,712-505,394). The cost per DALY gained for implementing the Universal Immunization Program (UIP) is therefore equal to about Rs. 288.

E. Results

8.10 As expected, the cost per DALY gained estimates vary considerably in range, depending on the incidence, prevalence, remission of the specific disease, the probability of dying from it, total costs associated with treating the disease, the efficacy of the program, etc. It provides an indicative cost per intervention for DALYs gained, which could form a basis for setting user fees or for making a deliberate choice regarding the subsidization of a specific intervention. The results shown in Table 8.1 - 8.3 are summarized below:

- The cost/DALY gained in general is lower for interventions related to most communicable diseases than it is for non-communicable diseases or for injuries and accidents.
- The cost/DALY gained is lower for early diagnosis and prevention than it is for

treatment of a more advanced stage of the disease.

- The cost/DALY gained is higher for hospital treatment than for ambulatory care; for example, treatment of diarrhea when hospitalization is involved is two to three times more costly than outpatient treatment per DALY gained.
- The cost/DALY gained for the universal immunization program at about US$8 confirms the high cost effectiveness of this intervention. The high degree of cost-effectiveness of UIP in India is due to the under-nourishment of children which increases the probability of dying with the intervention.
- The cost/DALY gained for treating infants (0-5 years) is generally higher for many interventions than it is for treating children above 5 years, especially for diseases such as diarrhea. In some cases, these differences in cost/DALY gained are very substantial because of the intensive care that below 5 year children need in the early years.
- The cost/DALY gained is considerably lower for specific interventions in urban areas compared to rural areas. This is largely because of factors relating to poor access to health care services in rural areas.
- A clear picture emerges regarding the interventions for diseases which have very low cost/DALY gained. These include diseases such as treatment of diarrheal conditions through ORT, eclampsia, referral care for high risk pregnancies, UIP, treatment of epilepsy, some conditions of ARI etc.
- Some treatment of non-communicable diseases are cost-effective, such as cataract operations and some treatment of heart attack and stroke.
- In general, the low cost/DALY gained should not necessarily dictate public spending and other factors should be considered. Interventions that are low in cost/DALY gained provide high returns and may be included in a basic package of services if they contribute heavily to the overall disease burden. However, many other interventions which have higher cost/DALY gained need also to be included in the basic package of services because they address the diseases faced by children, those living in rural and remote areas as well as represent a significant part of the overall burden of disease. In general, though, expenditures on diseases should be guided by those that contribute a large share of the disease burden and for which the cost/DALY gained is low.

F. Recommendations

- The cost-effectiveness of health intervention is an important analytical tool to aid and fine-tune policy and better decision-making in the health sector, in terms of resource allocation for priority diseases, development of a basic package of services, rationalization of services by levels of health care institutions, and for establishing a basis for the charging of user fees.
- As stated in the WDR (1993), the most justified public measures combine a rationale for public action with a cost-effective intervention. Cost effectiveness analysis should not, however, be viewed as the only decision making tool for government

policy. There are several factors which need to be considered jointly in developing resource allocation policies in the health sector. Low cost/DALY gained should not be the only criterion for allocating resources because of efficiency as noted above. Other factors that ought to be consider are: the presence of other interventions that might affect costs; the possibility of eliminating a disease as a public health problem, such as leprosy; those diseases that have large initial costs but permanent benefits; those interventions that have positive externalities beyond health such as family planning and girls' education; and those interventions that have high poverty reduction benefits (i.e.. public expenditure and sustainability analysis).

- A basic health care package should take into account these state level variations in epidemiology and burden of disease, public expenditure considerations, the extent to which the private sector is providing some of these services, the extent to which poverty alleviation is part of the government's strategy in the health sector, the cost-effectiveness of health interventions, and programs that create large externalities. The package of services needs to be developed through a consultative and collaborative process, involving leading health practitioners and policy makers from the different levels of the health system, private and NGO sectors for social input, and the Finance Department of the state government to assess the financial ability of the state to provide the recommended package of services.

- Based on the above, the package of services would consist of: communicable disease prevention; limited clinical services; essential and emergency obstetric and pediatric care within easy access to people living in rural areas; capacity for prevention and health promotion programs to cope with non-communicable diseases to be developed progressively; injuries, especially prevention; and limited treatment of non-communicable diseases which are cost-effective, such as cataract operations and some medical treatment of heart attack, stroke and pain relief.

- The Burden of Disease and Cost-Effectiveness of Health Interventions study undertaken in Andhra Pradesh has been a useful analytical exercise to fine-tune policy-making. The BOD part of the analysis in Karnataka, West Bengal and Punjab has allowed cross-state comparisons. It is the kind of exercise that ought to be repeated in several other Indian states, to take account of the regional variations and the differential health transition that is taking place in the Indian states.

- Developing local institutional capacity to undertake such an exercise has been key. The development of the institutional capacity in ASCI to undertake such analysis has been an important capacity building exercise.

CHAPTER 9

SPECIAL ISSUES IN MANAGEMENT ADMINISTRATION IN THE HEALTH SECTOR: DECENTRALIZED GOVERNANCE UNDER THE PANCHAYATI RAJ SYSTEM[14]

A. Introduction

9.1 In addition to a basic package of services, adequate resources and appropriate technical paradigms, strengthening overall management arrangements is a critical input towards the effective implementation of health programs. Concomitant with the change in disease pattern in India, noted in Chapter 3, is an increase in the diversity of the client populations, since the health transition is occurring at different rates in different regions of the country. Depending on environmental conditions, urbanization, and cultural and behavioral practices of different populations, the burden of disease is likely to vary from one community to the next, with poorer people in remote and rural areas bearing the heaviest burden.[15] The evolution of decentralized administration in India in this context is an appropriate mechanism that can potentially address the main health problems arising from the epidemiological transition. The effectiveness of decentralized administration would be considerably enhanced if financial and administrative authority were to be devolved to the grassroots level.

9.2 Three aspects of health management in the public sector need state level attention: the implementation and supervision capacities of state level implementing agencies; the increased emphasis on decentralization in the overall management of the health sector and the enhanced responsibilities of Panchayati Raj Institutions (PRIs); and increased coordination between different tiers of PRIs, technical departments and state level agencies. The first issue of management and administration in the health sector has been addressed in other reports. Apart from alerting the reader to the operational relevance of this topic within the health sector at the state level in India, this report will not address the overall management issue. It will, however, address the two latter issues noted above.

9.3 This chapter focuses on the implications of the decentralization process on the health sector, and provides an outline of the broad structure of health administration at the state level with particular focus on health administration at the district and lower levels. In this context, specific mention is made of the power and functions of decentralized administration vis-à-vis the health department. This is followed by a brief outlining of the experiences of some of the states studied in terms of the working relationship of the line departments with those of the PRIs at various levels of the administrative structure. The analysis is largely based on literature review and interviews with a cross-section of people associated with line departments and PRIs.

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[14] This chapter is based on a background study conducted by Dr. D. Gupta, Institute of Economic Growth, University of Delhi.

[15] Heaver, Richard. Managing Primary Health Care: Implications of the Health Transition. World Bank Discussion Papers, No. 276; 1995.

9.4 In the discussion of decentralized governance, it is also important to note the significance of strengthening overall implementation and supervision capacities in the health sector. First, states need to strengthen the implementation and supervision capacity of the implementing agency. Andhra Pradesh and Punjab have established autonomous implementing agencies at the secondary level to improve management and administration capacity and provide financial and workforce related autonomy. However, this is not the only approach to improving the implementation and supervision capacity of the states, the issue of management authority with regard to finance, personnel matters and effective implementation needs to be addressed. It is possible for the states' DOHFW to perform these functions, but they need to be given greater authority and flexibility with regard to finance, supervision and workforce related issues. Second, the planning process for the health sector also needs to be strengthened and better coordinated with the implementation and monitoring functions. For example, the four states of AP, Karnataka, Punjab and West Bengal have set up strategic planning cells to address planning issues in the health sector and provide management with policy options, undertake relevant research, organize relevant seminars, and monitor the overall development of the health sector. Streamlined service norms developed in each state throughout the different tiers of the health system will facilitate administrative functions and result in substantial improvements in management arrangements.

B. Rationale for Decentralization of Administration

9.5 The rationale for decentralization of administration is discussed below:

- One answer to the difficulty of *appropriate targeting of policies and programs*, which has important implications for the design and management of health service delivery in the future, is decentralization. Many governments, including GOI, have tried to devolve health planning, budgeting and spending authority to provincial and lower levels, in order to increase program responsiveness to local needs.[16] People from disadvantaged communities such as the Scheduled Caste and Scheduled Tribes (SC/ST), and women, have a forum to be heard, to speak out, and to act.

- Examples abound of local involvement improving both the *efficiency and effectiveness* of programs. One example is of the construction of a small bridge in Purulia, West Bengal, where involvement of the local population decreased the construction costs and time.[17] Similarly, a study of local self-government in West Bengal shows that Panchayats have helped, among other things, in efficient and cost effective implementation of several programs of rural development including the construction of local health centers.

- Decentralization offers an opportunity for communities to impose *greater transparency and accountability* to development administration. An example of community involvement

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16 ibid., pg. 10.

17 According to the documentation, the official estimates were that it would cost Rs. 21 lakhs and would take 2 years to construct. The project was handed over to the local population with the condition that would be constructed without any outside technical or other help. The local population agreed, and not only did they construct it in one year but it had cost only Rs. 6 lakhs.

(Dreze & Sen) concerns the provision of health care in Kerala. The involvement of local institutions has resulted in better attendance of health functionaries in rural hospitals, as well as their involvement in the construction of health centers has been beneficial. In a study on Karnataka, (Richard Crook and James Manor) it was noted that the creation of elected councils (at local levels) have helped in reducing absenteeism and in enhancing employees' work rate when they were on job, although they felt that these achievements sometimes tend to be exaggerated. The moral pressure from councils at both district and "mandal" levels have been more important than formal disciplinary action. Clearly, all evidence points towards a positive role which local level institutions can play in effective planning and implementation of programs.

- Decentralization acts as an effective political education campaign, leading *to the emergence of younger and more dynamic leadership* through the PRIs, and resulting in a fairly high degree of satisfaction among the people with the working of the PRIs. Undoubtedly, the PRIs have given a boost to the emergence of local leadership by creating new seats of power to be filled by the competitive mechanism of democratic elections. In addition, a large number of women have been elected into the PRIs. Elected women representatives have been drawn from a wide cross-section of society -- many rural administrators who had previously worked with NGOs and women's empowerment programs are now elected PRI representatives.

9.6 In India, the notion of local involvement was institutionalized with the establishment of a 3-tier panchayat raj (local self-government) system: the village panchayat as the lowest tier, the Panchayat Samiti at the block level as the middle tier, and the Zilla Parishad (ZP)/District Development Council at the top. Panchayats were established in all parts of the country by the mid-1960s. Though there were variations from state to state, broadly the functions entrusted to the Village Panchayats included village roads, community wells, maintenance of public parks, tanks, irrigation works, public hygiene, drainage, and other civic services. In some states the ZPs were made responsible for primary education and the functions relating to rural industries, primary health care, medical relief, women and child welfare, maintenance of common grazing grounds and other community lands and properties and provision of inputs for agricultural production. The extent and tempo of the involvement of the PRIs in basic planning and implementation of development projects was also subject to wide variations from state to state and even within the states.

9.7 The government introduced a comprehensive amendment bill and enacted the Constitution (73rd Amendment) Act, 1992, effective on April 24, 1993. As a result of the 73rd Amendment, there has been a proliferation of activity on the part of the state Governments with regard to modifying their existing Panchayati Raj acts, or in creating new ones. Among other things, the primary role of the panchayats is visualized in the area of development, planning and implementation of programs of economic development and social justice. It is expected that state governments will take appropriate steps to (a) complete legislative procedures for the creation of panchayats; (b) constitute panchayat bodies by conducting elections, while ensuring that 30% of panchayat members are women; and (c) take appropriate steps to entrust powers and functions, as well as necessary resources

so as to enable the PRIs to perform their assigned functions."

9.8 In order to analyze the issues with regard to the Indian experiment with local self-government the experiences of four major states of Punjab, Karnataka, Andhra Pradesh and West Bengal are relied upon. The varied social, political and economic environment in these states provides an unique opportunity for preparing a typology of the problems and solutions in different politico-economic environment. For instance, West Bengal has a strong Panchayat system with an active party cadre at the grass root level. It is also the state which has been politically stable for a long time. Karnataka, on the other hand, has essentially two major parties in the state both of which are more or less evenly balanced. It also has a long history and experience of having a decentralized system of administration since 1973. Andhra Pradesh has a non-communist Government. While Andhra Pradesh and West Bengal have both stable and efficient political system, they have different political ideologies. Punjab, on the other hand, is at the moment the most prosperous state in the country, with some experience of Panchayati raj.

C. Three Models of Decentralization

9.9 The legal framework establishing PRIs has been interpreted and implemented differently in different Indian states. Figures 9.1, 9.2 and 9.3 provide details of three dominant models of PRI in the country, from which useful lessons could be drawn by other states. A detailed description of the three models is provided in Annex 1. A common model for the country as a whole would not really be appropriate in the federal political system prevailing in India. In the first model presented, the Maharashtra-Gujarat model, the district, or ZP, is accepted as the main unit for devolution of powers. The administrative bureaucracy at the district level (the IAS) is kept out of the panchayat structure altogether. The District Rural Development Agency (DRDA) is an independent organization, but the ZP and the DRDA collaborate to implement rural development programs at the district level through the panchayat samiti and gram panchayats. In the West Bengal model, all levels of PRI have been appropriately staffed and empowered, and most development programs have been channeled through them. Another important feature of this model is that the DRDA is headed by the Chairperson of the ZP. As a result, the DRDA is an administrative arm for the implementation of the development programs of the ZP (the reverse of the previous model). All centrally sponsored programs and programs financed by international agencies are also implemented by the different tiers of PRIs. The third model, the Karnataka - AP model, is characterized by a proper devolution of powers and functions at each tier of the PRI, with a prime place given to the taluk (or sub-district) level panchayat. It has been strengthened both financially and administratively, and has assumed the lead in the planning and implementation of development programs.[19]

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[18] Jain, S.P. *et al.* Panchayati Raj Institutions in India: An Appraisal. National Institute of Rural Development, Hyderabad; 1995.

[19] Panchayat Raj Institutions in India: An Appraisal. National Institute of Rural Development, Hyderabad; 1995.

Figure 9.1: The Maharashtra - Gujarat Model

Zilla Parishad (ZP) – District Level

- Consists of 40 - 60 Councilors directly elected by the people
- Administrative leadership rests with CEO who is appointed by the state.
- Is divided into subject committees: Standing Committee, Finance Committee, Agricultural and Animal Husbandry Committee, Works Committee, Health Committee, and Education Committee.
- Has full executive authority with respect to development functions which were earlier discharged by the state government and has some revenue collection responsibilities.

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Panchayat Samiti - Block Level

- Functions as a link between the ZP and the Village Panchayats.
- Consists of elected, nominated, and coopted members.
- Chairperson is elected from among its members.
- Has a Block Development Officer who is sent on deputation by the state government. This person is also the Executive Officer of the Samiti.
- The Samitis have been given functions in the spheres of sanitation, rural health and communications, education and culture, social education, agriculture and animal husbandry, small industries, cooperation, and community development.
- The Samitis are responsible for primary education, running of dispensaries, maintenance of certain roads, and the Community Development Programs.

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Gram Panchayat - Village Level

- Consists of 7 to 15 directly elected members (include. 2 women and SC/ST).
- Is headed by a Sarpanch (Chairperson) who is elected from amongst the members. The Sarpanch is assisted in his work by a Gram Sewak (village level worker).
- Responsibilities include implementation of activities in agriculture, animal husbandry, education, sanitation, public works, and social welfare in addition to land revenue collections.

Figure 9.2: The West Bengal Model

Zilla Parishad – District Level

- The ZP consists of the presidents of the Panchayat Samitis within the District and two members to be directly elected from each block. Members of the State Legislature and the members of the Parliament within the districts are also members of the ZP.
- Chairperson and president is elected by members from amongst themselves.
- District Magistrate is the CEO of the ZP. Another senior officer of the State Civil Services serves as additional executive officer.

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Panchayat Samiti - Block Level

- Consists of all the chairpersons of the Gram Panchayats within the Block, persons elected from each Gram Panchayat within the Block based on population, and the members of the State Legislature from the Block area.
- As with the ZP, the government has the power to nominate two members each from SCs and STs and two women if their number in the Samiti does not come up to two each.

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Gram Panchayat - For a small group of villages

- Consists of: 5 - 25 members directly elected by the people.
- The chairperson is elected by the Gram Panchayat members from amongst themselves.
- As with the Samiti, the state government, on the recommendation of the Gram Panchayat, has the power to nominate to make up the number of SCs and STs and women members in the Panchayat to a minimum of two each .

Figure 9.3: The Karnataka - Andhra Model

Zilla Parishad – District Level

- Its members are all directly elected
- It functions as the head of the district development and welfare administration. It administers schemes and programs transferred to it or evolved by it, maintains cadres for manning the ZP and Mandal staff, formulates the district plan, and frames and approves its budget and that of the Mandals.
- Reservations are provided for women and vulnerable sections of the society.

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Block Panchayat Samiti - Block Level

- This is a nominated body which consists of all the chairpersons of the Mandal in the Block, all the member of the legislature from the Block, and any members of the Zilla Parishad representing any part of the block.
- It is entrusted with advisory, supervisory, and reviewing of the intra-Mandal coordination functions vis-à-vis the Mandals of the Block.

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Mandal Panchayat - Group of Villages

- Each Mandal covers a group of villages with a population of about 10,000 on average.
- One seat represents 400 people out of its population.
- 25% of the membership is reserved for women and 18% for the more vulnerable members of society.
- It is entrusted with all civic functions, powers, and responsibilities for development and welfare programs and has a inter-Mandal orientation.

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Gram Sabha - Village Level

- Consists of all eligible voters (i.e. all village members above the age of 18 years).
- Is required by law to meet no less than twice a year.
- Is responsible for reviewing all development problems/programs of the village, selecting beneficiaries, planning for local improvement, and constitutes the land army.

D. Key Linkage between State Health Administration and PRIs: District Level Organizational Structure of Health Administration

9.10 The district level is the most crucial in the chain of command of the public health department. Many of the decisions bearing on day to day operation of health centers are made at this level. The effective implementation of various health policies and programs, therefore, largely depends upon the supervision and control exercised by the district officers over the management of health centers in the district. It is also at this level that coordination and liaison with other departments and agencies of the Government takes place under the overall supervision of either the District Collector (DC) or ZP President. This is particularly necessary for ensuring the successful implementation of national health programs which require inter-departmental coordination.

9.11 In districts, in various states, the District Health Officer or Chief Medical Officer is in charge of managing medical and health services and family welfare. The district hospitals are usually under the charge of civil surgeons, while district family welfare officers look after family planning program.

9.12 In Andhra Pradesh, the District Medical Officer (DMO) is responsible for implementing all national and state health programs. The DMO is not concerned with the

management of the district hospitals and is assisted by one additional district medical and health officer exclusively in charge of family welfare programs and two deputy district medical and health officers. Separate district program officers are also appointed for such programs as the National Malaria Eradication Program.

9.13 In Karnataka, the district health and family welfare officers are responsible for supervision, guidance and prompt and effective implementation of various national and state health programs in their respective districts and all Primary Health Units (PHUs) and PHCs are under their control. At the district level all hospitals in the secondary level (i.e., district, sub-district and CHCs) report to the district surgeon. The district health and family welfare officers are assisted by the district leprosy officers, district malaria officers, district TB officers, medical officers of district health laboratories, medical officers (FW & MCH) and regional assistant chemical examiners in the implementation of various health programs. Further, in Karnataka, at the sub-divisional level, the Assistant District Health & Family Welfare Officers are responsible for the supervision and provision of guidance to the medical officers of the PHUs and the field staff for prompt and effective implementation of various national and state health programs including family welfare and MCH schemes through the network of various types of health and medical institutions other than major and specialized hospitals within their respective jurisdiction.

9.14 In West Bengal, the Chief Medical Officer (CMO) of health is the district level head and is assisted by Deputy and Assistant CMOs. The secondary level hospitals are all headed by superintendents from the medical cadre. For proper management of the hospitals and health centers, committees have been formed with representatives from all levels of the Panchayat System and the administration.

9.15 In Punjab, at the district level, the district civil surgeon is in charge of the district supported by functional officers such as assistant civil surgeon, senior medical officers (PHC/Hospitals), district family welfare officer, district MCH/Immunization officer, district health officer and district training officer.

9.16 At the district level and below, the Revenue Department and the Zilla Parishads play a crucial role in the provision of medical and health services to the citizens in several ways. As the Chief Coordinator at the district level, the DC or the Chief Executive Officer of the Zilla Parishad acts as the link between the Health Department and all other public agencies. As the Development Commissioner of the district, it is also the responsibility of the DC to ensure the Welfare of the rural masses. The DC also exercises considerable influence in the location of the primary health centers in the district. The Revenue Department plays an important role in helping the acquisition of land for PHCs. The Revenue Department is also concerned with the collection and transmission of vital statistics to the health department. They report the outbreak of the epidemics. Similarly, in case of famine relief works and at the time of fairs and festivals, the Revenue Department or the Zilla Parishad extend their cooperation the Health Department. The DC/CEO can also exercise authority in respect of public health as for example ordering mass inoculations and destruction of infected food or drugs.

9.17 Mechanisms for Strengthening Links between State Administration and PRIs. A mechanism that would bring the PRIs and health officials together at the district level and

below would significantly enhance the effectiveness of health programs. In the State Health Systems Development Project II, for example, District Health Committees/District Steering Committees have been created in each state, with both the chairperson of the ZP and the district level medical officers as members (among others). These District Health Committees would be responsible for planning and implementing several of the components of the project, such as referral and medical waste management; managing and supervising many activities such as equipment maintenance, collection of user fees and provision of consumables; and monitoring and evaluation of all activities at the district level. The ZP and district health officials would coordinate their activities in order to accomplish these goals.

9.18 Links at the sub-district/taluk level could also be considerably strengthened, as in Karnataka. The DOHFW in Karnataka intends to improve the access to health care of SC/ST populations in rural areas through a program of annual check-ups. The program would be implemented at the PHC level, and the Medical Officer of the PHC, with the assistance of the ANMs under his/her jurisdiction, would conduct health camps according to a timetable. In order to facilitate this process, the Government has proposed to set up a committee chaired by the CEO, ZP. Members of this committee would include not only district level medical officers, but also the newly designated taluk level medical officer, who will be responsible for overseeing the work of the PHC doctors. In this way, the grassroots involvement and commitment of the PRIs would be brought to bear on programs implemented at the village level.

E. Role of PRIs in Health Delivery: Two Examples

9.19 WEST BENGAL: The West Bengal government is trying to decentralize the functioning of the health department and involve the PRIs in health care delivery at various levels. The state Government disburses 50% of its developmental budget to ZPs, which in turn allocates 50% of their funds to Gram Panchayats (GP) through the Panchayat Samities (PS) for their own development project. The remaining 50% of the funds are spent by the state and where two or more ZPs and PSs are respectively involved. Thus the planning and its implementation are effected from the bottom.

9.20 To overcome the problems related to two parallel administrations, namely, the elected three-tier Panchayat and the other by the Secretariat/Directorate, the district magistrate (DM) and the block development officers (BDOs) are made the chief executive officers of the ZP and PS. These Panchayats function through several committees including the one concerned with public health. Since the Government of West Bengal is committed to a policy of running the administration in a non-bureaucratic manner, it has instituted a number of committees - consultative and advisory - to help the administration from the state to CHC board. For teaching departments, it set up the Managing Board.

9.21 Greater involvement of Panchayats in health administration is expected to result in better performance with smaller resources. It is suggested that financial, administration and decision making functions should be assigned to the Panchayats.

9.22 KARNATAKA: Unlike other states, the Panchayati Raj model of Karnataka is not just an administrative innovation aimed at improving the efficiency of program implementation

through administrative decentralization but has a much deeper goal concerned with the transfer of function of governance from state level to the district and lower levels. In Karnataka, PRIs are seen as units of government enjoying a great deal of autonomy but at the same time ensuring greater accountability through the proximity of elected representatives in these bodies. Also because of the intimate knowledge of local resources, these institutions are in a better position to create realistic development plans. In addition, an important externality is the possibility of a more efficient administration through clear supervision and accessibility of the local bureaucracy to the elected bodies.

9.23 The PRIs in Karnataka depend almost wholly on grant transferred by the state government through the annual budget voted by the legislature. The scale of transfer is considerable and is about one-third of the state budget. This shows a genuine effort on the part of the state government to make PRIs truly function as a viable unit of the government through transfer of both powers and functions with commensurate support of financial resources. Table 9.1 provides some idea of the extent of decentralization in rural health administration. It will be noted that about 4/5th of the health budget meant for the rural areas is now controlled by the ZPs.

Table 9.1: Karnataka – Share of Allocations to PRI to the Total Health Budget

Rs. crores	Plan	Non-Plan	Total
i) Total revenue budget for medical and public health:	40.69	174.93	215.62
ii) Provision for urban health services & medical education:	10.86	95.45	106.31
iii) Total provision for rural health services:	29.83	79.48	109.31
iv) Of which transfer to ZP:	20.71	65.63	86.34
	(69.4%)	82.6%	79.0%

9.24 While assessing the role of the PRIs in Karnataka, due allowance should be made to various unforeseen developments, such as, for example, the political situation and financial strategies. In the context of the performance of health sector in the districts, the report of Evaluation Committee (1989) on the working of the ZP and Mandal Panchayats mentioned the significant progress in the functioning of medical and public health facilities. It found a big improvement in the attendance of doctors and other medical personnel, similarly in the supply of drugs and medicine. Another significant achievement of the ZPs related to modifications effected by the State government in its medical stores purchase policy, enabling the ZPs to secure a larger proportion of their supplies locally in a timely manner and at lower prices. To summarize, PRIs were instrumental in (i) mobilizing local resources for strengthening the infrastructure for health services; (ii) greater accountability of the doctors and paramedical

workers; and (iii) improvement in the supplies of drugs and medicines.

9.25 Despite the positive role of the PRIs in Karnataka, there is ample evidence of transitional difficulties in rural health management owing to the nature of organization within the PR bodies.

i) As mentioned earlier there are instances of friction between the state government and ZPs over issues such as personnel management including recruitment, transfer and overall disciplinary control. These frictions impact negatively on the functioning of health department.

ii) Implementation of health program has suffered due to gaps in proper understanding between the officials and the elected representatives.

iii) Another major negative impact of Panchayat is that in some areas the ZPs have been excessively concerned with petty details and issues with transfers and postings making administration highly bureaucratic. This causes delays in the process of health improvement either by postponing implementation of health development plans and schemes or by delaying the training of health personnel.

iv) The Panchayat representatives (ZP, MP) are influenced by caste, clan and religious affiliations. These parochial affinities have a negative impact on development schemes including health development schemes.

9.26 The real aim of the establishment of Panchayat has been to take power to people and not to establish an elite rule in local areas parallel to the one in the state. Hence the role of the Panchayat has to be a positive one, with a positive impact on the implementation of health programs. For the moment, all what one can say is that the role of PRIs in the health sector has generally been positive as far as Karnataka is concerned, but there is a lot more potential of these PRIs in the health sector provided a serious attempt is made to identify and isolate factors obstructing the smooth functioning of the health department within the context of decentralization.

F. Recommendations

- **Strengthening Overall Management Authority**. Management arrangements at the state level and below need to be strengthened to ensure that health programs are implemented effectively. States need to strengthen the implementation and supervision capacity of the implementing agency. Andhra Pradesh and Punjab have established autonomous implementing agencies at the secondary level to improve management and administration capacity and provide financial and workforce related autonomy. Although, this is not the only approach to improving the implementation and supervision capacity of the states, the issue of management authority with regard to finance, personnel matters and effective implementation needs to be addressed. It is possible for the states' Department of Health and Family Welfare (DOHFW) to perform these functions, but they need to be given greater authority and flexibility with regard to finance, supervision and workforce related issues. Decentralized governance and local level participation can contribute importantly to improving

the health care system, through better monitoring and supervision of the functioning of the health system at the local level, and by assisting in developing plans which take care of local perceptions and local needs. There are many viable models for decentralized governance operating in India, in different states. Notwithstanding this, some general recommendations for strengthening the effectiveness of the PRIs in the health sector follow:

Table 9.2: Decentralization Matrix -- Scope for Change in Grassroots Administration in the Health Sector

Areas and Scope of Decentralization	Current Scenario	Proposed Scenario
Legislation	--	--
Revenue raising	Limited in most states/ dependent on state grants	Should be able to raise resources
Policy making	Very little at the moment	Scope should be expanded
Regulation/Supervision	Varies from one state to another - at present weak to average	Tremendous scope
Planning	Process has been set in motion - particularly in choice of location and construction of SC/PHCs	Should be given greater scope in some selected areas
Resource allocation	In some states, this is being done as part of the district planning exercise	Should have more freedom
Management - Personnel	Except recruitment, transfers outside districts, and punishment, PRIs are exercising control over line dept. personnel	For effective implementation, vast powers to PRIs are needed for personnel related matters
Budget allocation	Most PRIs doing it	More needs to be done
Supplies/Equipment	Limited operations	Greater involvement/freedom to order (local procurement is more cost effective)
Property maintenance	Hardly any funds - thus limited operations	More funds - greater scope - PRIs to put more effort
Intersectoral collaboration	At present very limited	Much greater need for best results
Interagency collaboration	Reasonably good	Greater scope
Training	No sustained effort	Highly desirable

- **Enhancing the Responsibilities of PRIs.** In order for the PRIs to be more effective, more power should be given to them in the areas of budget allocation, resource use, revenue raising, planning, policy making, supervision, maintenance and training. The notion of decentralised governance would be more meaningful only when the PRIs' responsibilities are enhanced and their access to resources becomes more substantial. A process of consultation between the Department of Health at the state level and PRIs needs to be initiated on these aspects and structures and systems need to be worked out to facilitate implementation.

- **Increasing Coordination between Administrative Agencies.** Important features emerging from the study of the Panchayat Raj Acts of different states include: (i) linkages between the three tiers of the PRI need to be improved in order to enhance implementation

of health care programs. An important feature emerging from the study of the Panchayat Raj Acts of different states is that not all the States have provided for inter-tier linkages between the three tiers of Panchayats. Moreover, various political parties will have to arrive at a consensus on the working of PRIs at different levels and the relationship of state government with the various tiers of PRIs; (ii) co-ordination between PRIs and the technical departments needs to be improved in order to strengthen the implementation of health programs at the grassroots level; and (iii) coordination between PRIs and state level agencies needs to be strengthened by developing a viable mechanism which would facilitate the effectiveness and efficiency of program implementation. Since the Panchayats have been entrusted with a number of development and other functions, better coordination of PRIs with different state agencies operating in the district would improve efficiency and effectiveness of various programs. This would necessitate developing a proper and viable coordination mechanism. This aspect is also important when, for instance, a scheme requires the interaction and cooperation of several line departments.

9.27 To conclude, there is a definite role of Panchayati Raj institutions in improving the quality of health care services, especially through ensuring better attendance of health care functionaries at the local level, as well as in putting moral pressure on the staff not to shirk from work. Also the watchful participation of local communities has helped in improving the supplies of drugs and equipment through assisting the local staff of health care centers in bringing the deficiencies in the supplies to the notice of higher authorities. Another crucial role which can be assigned to the PRIs concerns the supervisory and monitoring role in preventive health care. The PRIs can also contribute significantly to health education programs.

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DECENTRALIZED ADMINISTRATION IN THE HEALTH SECTOR

A. Decentralization in India: Recent Developments

1. In order to better understand the impact of decentralization on the health sector, it is useful to briefly review the development of PRIs as entities integral to the implementation of rural development programs in India. The village communities in India have been in existence for a long time. They were called 'panchayats"- a council of five persons in a village. Though the autonomy of these panchayats gradually disappeared owing to the establishment of local civil and criminal courts, revenue and police organization, increase in communications and the growth of individualism, the Constitution of India recognized the need to revive these institutions. Article 40 of the Constitution therefore states that "the State shall take steps to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self government".

2. The fate of PRIs was uncertain, with declining financial and political support at the central and state levels, until 1977, when the Government of India reaffirmed its commitment to the notion of local self-government. An awareness of the need for reforms in Panchayati Raj System was created at that time. In addition, attempts in Karnataka and Andhra Pradesh to create new PRIs pointed to the need for the revival of the PRIs all over the country, and highlighted the need to transfer power to democratic bodies at the local level. The Government of India then set up a committee to prepare a concept paper on the revitalization of PRIs. Among other things, the Committee recommended that local self-government should be constitutionally recognized, protected and preserved by the inclusion of a new chapter in the Constitution. It also recommended a constitutional provision to ensure regular, free and fair election for the PRIs and suggested that the task be entrusted to the Election Committee of India.

3. The Constitution (73rd Amendment) Act, 1992 has broken new ground. The PRIs that are being set up under this Act would serve as principal vehicles of rural development. However, both political will and administrative back up would be needed to ensure the success of PRIs. Much would depend upon the initiative of various state Governments, since the states are expected to take follow up action. It is significant to note that, while Article 243 G of the Constitution visualizes the panchayats as institutions of self-government, it subjects the extent of devolution of powers and functions to the decision of the state Legislature. With regard to the 73rd Amendment, the state Panchayat Acts have been amended within the prescribed time frame through a process of consensus. Many states are in the process of amending their Acts and also constituting various committees as required under the Act to carry out various tasks. Devolution of powers and assignment of functions are also under way. A new challenge has been posed in the on-going experiment with PRIs and in testing whether PRIs are indeed ideally suited for effective implementation of the programs entrusted to them.

B. Three Models of Decentralization

4. The legal framework establishing PRIs has been interpreted and implemented differently in different Indian states. The following section provides details of three dominant models of PRI in the country, from which useful lessons could be drawn which could be utilized by other states. It must be kept in mind that a common model for the country as a whole would not really be appropriate in the federal political system prevailing in India. In the first model presented, the Maharashtra-Gujarat model, the district, or ZP, is accepted as the main unit for devolution of powers. The administrative bureaucracy at the district level (the IAS) is kept out of the panchayat structure altogether. The District Rural Development Agency (DRDA) is an independent organization, but the ZP and the DRDA collaborate to implement rural development programs at the district level through the panchayat samiti and gram panchayats. In the West Bengal model, all levels of PRI have been appropriately staffed and empowered, and most development programs have been channeled through them. Another important feature of this model is that the DRDA is headed by the Chairperson of the ZP. As a result, the DRDA is an administrative arm for the implementation of the development programs of the ZP (the reverse of the previous model). All centrally sponsored programs and programs financed by international agencies are also implemented by the different tiers of PRIs. The third model, the Karnataka - AP model, is characterized by a proper devolution of powers and functions at each tier of the PRI, with a prime place given to the taluk (or sub-district) level panchayat. It has been strengthened both financially and administratively, and has assumed the lead in the planning and implementation of development programs. The appointment of a senior officer as the Executive Officer of the taluk panchayat has also improved its effectiveness. Interestingly, in Karnataka, a clause in the PRI Act has given Government officials the power to scrutinize resolutions passed by the PRIs.[1]

5. THE MAHARASHTRA - GUJARAT MODEL. Immediately after the inauguration of Maharashtra State on May 1, 1960, the Government of Maharashtra set up a Committee to suggest ways for the more efficient implementation of PRIs in the State. Following the enactment of the Panchayat Samiti and Zilla Parishad Act 1961, Panchayati Raj in Maharashtra was inaugurated on May 1, 1962. Following a similar pattern, the three-tier Panchayat structure under the Gujarat Panchayats Act, 1961, which was based on the recommendations of the Democratic Decentralization Committee, took office in Gujarat on April 1, 1963.

6. The Maharashtra Act provided for a three-tier system with the top tier, namely, the ZP, as the key level of decentralization. The ZP has a minimum of 40 and maximum of 60 Councilors directly elected by the people. There is also a provision for coopting representatives of co-operative societies in addition to members from the SCs, the STs and women. For the convenience of its day-to-day working the ZP is divided into several

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1 Panchayat Raj Institutions in India: An Appraisal. National Institute of Rural Development, Hyderabad; 1995.

subject Committees, namely, Standing Committee, Finance Committee, Agricultural and Animal Husbandry Committee, Works Committee, Health Committee, Social Welfare Committee and Education Committee. The ZP elects a president, vice-president and the chairperson of the Subject Committees from amongst its members.

7. The ZP has been entrusted with full executive authority with respect to development functions which were earlier discharged by the State Government at the District level. The ZPs have also been entrusted with some responsibilities in the sphere of revenue collections. The District Collector has been kept outside the ZP and another officer equal to the rank of the Collector has been assigned to head the ZP so that developmental activities may receive adequate attention. It is argued that the Collector is already overburdened and overworked and cannot be saddled with further work. The suggestion of the Naik Committee, namely that by keeping the Collector outside the local body, the Government will have in him an independent officer who can also evaluate impartially the functioning of the local body and can keep the Government informed on any matter which is of sufficient importance, was agreed to and the Collector was invested with certain controlling powers which he already enjoyed in regard to the then existing local bodies.

8. Administrative leadership of the ZP rests with the Chief Executive Officer (CEO). Generally, the CEO belongs to the state cadre of the Indian Administrative Service and is appointed by the State Government. The CEO exercises all the powers specifically vested in the person and attends the meetings of the ZP and all its Committees. The CEO can call for any information, returns, statement of account or report from any officer of the ZP. On request from two-thirds of the total number of ZP members, the CEO would be withdrawn from that ZP by the State Government.

9. The middle tier, namely, the Panchayat Samiti (at the block level), consists of elected, nominated and coopted members. It functions as a link between the ZP and the Village Panchayats. The members of the Panchayat Samiti elect a chairperson and a deputy chairperson from among the elected members. The chairperson of the Panchayat Samiti is given the power to call for any information or report from any officer or servant working under the Panchayat Samiti. The chairperson is also given powers to inspect any movable property in the block or any work or development schemes in progress in the block undertaken by the ZP or the Panchayat Samiti. He or she presides over the meetings of the Samiti and controls the discussions in the meeting. In fact he is the person on whose imagination and dynamism depends the development of the block. The post provides the chairperson with an opportunity to establish leadership in his or her area.

10. The Block Development Officer, who is an officer of the State Government sent on deputation to the Panchayat Samiti, is the Executive Officer of the Samiti. He or she also acts as the Secretary to the Committee. All important papers and documents connected with the proceedings of the Samiti meeting are kept in the Executive Officer's

custody. The officer draws and disburses money out of the grants. The Samitis have been given functions in the spheres of sanitation, rural health and communications, education and culture, social education, agricultural and animal husbandry, small industries, co-operation, and community development. They have been entrusted with responsibilities for primary education, of running dispensaries, maintaining certain roads and of carrying out the Community Development Program. They have also been entrusted with certain land revenue powers and functions and execution of relief work and other measures during natural calamities like scarcity and floods.

11. The lowest tier in the Panchayati Raj structure is at the village level, called Gram Panchayat. Each Gram Panchayat has a minimum of 7 and a maximum of 15 members, all of whom are directly elected. Generally 150-200 voters elect one representative. Each Gram Panchayat is required by law to have at least two women members and seats are reserved for the SCs and STs on the basis of their population. The members of the Gram Panchayat elect a Chairperson (who is called Sarpanch) from among themselves. The list of functions entrusted to the Gram Panchayat covers a wide range of activities relating to agriculture, animal husbandry, education, sanitation, public works and social welfare. The function of land revenue collections is also entrusted to the Gram Panchayats. The Sarpanch is made directly responsible for the fulfillment of the duties imposed upon the Panchayat. In his or her capacity as Sarpanch, he or she presides over the meetings of the Gram Panchayat. The Sarpanch keeps the records and registers in his or her custody and exercises supervision and control over the action taken by the officers and servants of the Panchayat. He or she is authorized to operate the village fund and issue receipts under his signature for monies received. The Sarpanch is assisted in his or her work by a Gram Sewak (village level workers) who acts as the secretary to the Panchayat office in the village. The District Collector has been given powers to suspend a Sarpanch against whom criminal proceedings are instituted.

12. THE WEST BENGAL MODEL. The West Bengal Panchayat Act, 1973 also provided for a three-tier system consisting of Gram Panchayat (for a small group of villages), Panchayat Samiti (at the Block Level) and ZP (at the District Level). The Gram Panchayat had between 5 and 25 members directly elected by the people. Though no constituencies were reserved for the SCs and STs or women, the State Government, on the recommendation of the Gram Panchayat, had powers to nominate to make up the number of SCs and STs and women members in the Panchayat to two each at least. The Chairperson of the Gram Panchayat was elected by the Gram Panchayat members from among themselves.

13. The Panchayat Samiti, under this Act, consisted of all the chairmen of the Gram Panchayats within the Block, such persons as may be elected from each Gram Panchayat within the block based on population, and the members of the State Legislature falling within the area of the Block. As in the case of the Gram Panchayat, the Government had the power to nominate two members each from SCs and STs and two women members, if

their number in the Samiti does not come up to two each. The President of the Samiti was elected by the members of the Samiti from amongst themselves.

14. The ZP consisted of the Presidents of the Panchayat Samitis within the District and two members to be directly elected from each block. There was a provision for nomination of up to two members from the SCs and STs and two women, as in the case of Panchayats and Panchayat Samitis. The members of the State Legislature and the Members of Parliament within the District were also members of the ZP. The President of the ZP was elected by the members from amongst themselves.

15. The Left Front Government in West Bengal, elected in 1977, decided to continue the three-tier structure as against the two-tier system proposed by the Committee. The Panchayat elections under the amended Act were conducted for the first time in June, 1978, on party basis. A number of changes were brought about at the organizational level most notably: (a) the merger of the community development department with the Department of Panchayats; (b) making the District Magistrate (who is the equivalent of the District Collector in other States) the Chief Executive Officer of the ZP and providing another senior officer of the State Civil Services to work as additional executive officer; (c) statutorily associating all the District-level and Block-level officers of the different Development Departments with the corresponding Standing Committees of the ZP and Panchayat Samitis respectively; (d) making the block Development officer, as the executive officer of the Panchayat Samiti, work under the Chairperson of the Panchayat Samiti; and (e) the creation of a new accounts and audit organization in the Department of Panchayats and Community Development to assist the new Panchayati Raj leadership in budgeting, accounting and audit work. The political will to increase the prestige of PRIs was reflected through various schemes of program devolution that followed. Most of the development programs with necessary financial resources were assigned to the PRIs; and in as early as 1978-79 the Gram Panchayats were on an average handling Rs.150,000 each (approximately $15,000 then) and the ZPs Rs. 45 million each (approximately $4.5 million then).

16. The financial positions of the PRIs also improved under this dispensation. To help the Panchayats build up their own funds, the State Government decided to give to the Gram Panchayats a matching grant equivalent to the total cess collected by them every year. In addition, the Government gave away a certain percentage of land revenue collected by the District administration to the Panchayat Samitis. It also agreed to empower the Panchayat Samitis to control haats (local markets), bazaars and ferry services, and levy rates upon them; to credit the entire collections of road cess, public works cess etc. direct to the funds of the ZP concerned without any deduction of collection costs; and to merge the Darjeeling Improvement Fund and such other area development funds with the funds of the ZP concerned. Through an amendment to the Act of 1973 the Panchayat Samitis and ZPs were empowered to borrow money from the

State Government or with the previous sanction of the State Government, from the Banks or other financial institutions on the basis of specific schemes.

17. THE KARNATAKA-ANDHRA MODEL. Karnataka's Panchayat Raj system has been recognized as the most far-reaching effort in democratic decentralization in the country. The Karnataka Zilla Parishads, Taluk Panchayat Samitis, Mandal Panchayats and Nyaya Panchayats Act, 1983 which came into effect on 2nd August, 1985, with the Gram Sabha or the Village Council as the basic tier of the system. The Gram Sabha comprised of eligible voters under the Panchayati Raj system, i.e. all members above the age of 18 years of that village. There was a Gram Sabha for each of the villages in the State and it is required by law to meet not less than twice in an year. It discusses and reviews all development problems/programs of the village; selects beneficiaries for all beneficiary-oriented programs transferred to the PRIs; plans for local improvement including minimum needs, welfare and production oriented programs including cropping pattern for the season for the village, and constitutes land army consisting of all able-bodied persons.

18. The Mandal Panchayat was the first elected tier of the system. It was entrusted with all civic functions and powers and responsibility for development and welfare programs with an inter-mandal orientation. The number of seats was one for every 400 population. 25% of the membership was earmarked for women and 18% for the weaker sections of the society. The mandal covered a group of villages with a population of about 10,000 on an average.

19. At the next higher level was the Block Panchayat Samiti which was a purely nominated body comprising ex-officio all the chairpersons of the Mandal in the block, all the members of the legislators representing any part of the block, members of the Zilla Parishad representing any part of the block etc. This body was entrusted with advisory, supervisory and reviewing and intra-mandal coordination functions vis-a-vis the Mandals of the Block.

20. The Zilla Parishad was the third directly elected tier of the Panchayat Raj system. Its functions, responsibilities and powers were formulated to render it unambiguously the head of the district development and welfare administration. It administered schemes and programs transferred to it or evolved by it; maintained cadres for manning the Zilla Parishad and Mandal staff; formulated the district plan; framed and approved its budget and also approved the budgets of the Mandal. Reservations were provided for women and the weaker sections as in the case of Mandals.

21. The system also provided for devolution of schemes to the PRIs. In deciding detailed devolution of schemes, the principle observed was that all the schemes with a Mandal orientation would have to be transferred to the Mandal, all schemes with an intra-mandal, intra-block or district orientation were transferred to the Zilla Parishad, schemes remaining in the State sector being strictly those with a pronounced inter-district

orientation and the externally assisted programs. The transfer of provisions/schemes to the Zilla Parishads and Mandals from the State Plan, and non-plan budget was, perhaps, the most massive sharing of the state budget by transfer to the PRIs. The transfer of staff to the complete control of the PRIs had been the unique feature of the Karnataka system.

22. Andhra Pradesh Model is also very similar to the Karnataka model except that the size of the Mandal was kept comparatively bigger in Andhra Pradesh. On the average a population of the mandal in Andhra Pradesh was kept at around 50,000 against 10,000 in Karnataka. It therefore, necessitated a three-tier system with an elected village panchayat for a group of villages, at the lowest level.

C. Organizational Structure of Health Care Administration at the State Level

23. This section provides a brief description of the organizational set up of health administration at the state level. The administrative set up at the district, Taluka/Block and village levels are also outlined. This system applies to items such as public health and sanitation, hospitals and dispensaries which are included in the state list; and items like population control, medical education, adulteration of food stuffs, medical profession, registration of births and deaths, and mental health which fall under the concurrent list. The report, 'India Policy and Finance Strategies for Strengthening Primary Health Care Services", provides a complimentary discussion of health administration in India at the Union level.

24. Organizational set up for Health at the State Level. The broad administrative structure for health in most states is more or less the same, with some minor variations. At the headquarters in a state capital, there are two levels, the secretariat and the Directorate of health services. *Secretariat level*: Generally at the highest level, there is a department of health and family welfare located in the Secretariat which is headed by a Minister, generally of Cabinet rank, as health is considered to be an important state subject. At the official level, the department is headed by a Secretary who usually belongs to the Indian Administrative Service. Assisting him are Additional Secretary/Joint Secretary (IAS), Deputy Secretaries, Under Secretaries and other office functionaries. The department of health at the secretariat level is concerned with the formulation of policies, besides dealing with all legislative matters including the making of rules and regulations on matters of health and administration. The secretariat also helps the health Minister in the discharge of his responsibilities to the legislature by providing necessary information and assisting in answering questions raised by the legislators.

25 All important proposals or schemes relating to health are submitted by subordinate agencies for approval and sanction of the Secretariat. It also broadly supervises, regulates and controls the activities of the notifications and the issue of circular memoranda and Government Orders. The Department, besides receiving periodic reports and returns, reviews the progress of work through inspection and other ways. The Secretariat exercises considerable authority both in personnel and financial matters. In some states there are separate Secretariat Departments for Health and Family Welfare (eg. Tamil Nadu and Karnataka) while in others

(as in Andhra Pradesh) they have a Health, Medical and Family Welfare Department as these subject are related.

26. *Directorate level*: The directorates function as technical wings of the state departments of health services. These directorates are responsible for implementing the health policies of the state Governments by maintaining proper technical standards. The precise administrative arrangement at the level of the directorate however varies slightly from state to state. For instance in some states (eg. Tamil Nadu) there is more than one directorate separating medical care and medical education from public health. Some states have even gone further by creating separate directorates for the primary health centers. The underlying rationale for moving away from one single directorate to more than one directorate is the expansion of health services in the country in the last couple of decades.

27. In Andhra Pradesh, for example, there were several instances of bifurcation and integration of medical and health services unit 1978 when a single directorate emerged, although with two directors, one each for Medical education and administrative and health and family welfare. In Karnataka until 1978, the directorate was looking after both medical and health and family welfare, but in order to improve the standards of medical education, two directors in charge of medical education, and health and family welfare services were appointed while retaining the system of single directorate. It is the Directorate of health and family welfare services in the state that is responsible for providing health care services to the community through implementation of various national and state health programs including family welfare and MCH services in the state.

28. In West Bengal, the Director of Health Services who is also the ex-officio Secretary heads the Directorate and is the Chief Technical Adviser in the State Government on all matters relating to medicine and public health. He is responsible for the organization and director of all health activities. The teaching institutions are however under the purview of the Director of Medical Education. The Director of Health Services in the state is assisted by an appropriate number of personnel as Additional Director, Joint/Deputy/Assistant Directors and other officer and staff.

29. Regional Organization: The field organization functions at the district, and the taluq/mandal/block levels. For administrative reasons the states are divided into a number of zones or regions through which the directorates supervise and control the field operations. For instance in Andhra Pradesh, there are six regional Directors for six zones. This came into effect in 1978. Each regional director has the responsibility for the management of health and medical programs in his jurisdiction. He also looks after the personnel and establishment matters in his assigned area. In Karnataka also there is decentralization of supervisory authority at the divisional level, with four divisional directors with Bangalore, Mysore, Belgaum and Gulbarga to look after all health and family welfare activities in the respective divisions. The large hospitals are excluded from their purview.

30. It should be noted that, in practice, decentralization to the regional level is inadequate in all the states. In several respects sanction or approval of the Directorates has to be obtained even for the decisions made by the Regional Directors. It is also true that the regional officers are reluctant even to exercise their limited authority. It appears to be more convenient for them to pass on the papers to the Directorate rather than take a decision and accept responsibility for the same.

D. Subdistrict, District and State Level Organization and Functions

31. The following charts, based on the analysis of the states of Andhra Pradesh, Karnataka, Punjab and West Bengal, provide information with regard to: (i) the composition of PRIs at the village level, intermediate level and district level; (ii) the functions of different levels of panchayats; (iii) the committees proposed, with their composition and functions at different levels of panchayats; (iv) obligatory and discretionary sources of revenue; (v) control exercised by the state governments over panchayats at different levels; (vi) composition of the state finance commission; and (vii) District Planning Committees. Also included are charts showing the organization of the government administrative structure for health at the state and district levels in West Bengal.

STATE-WISE POSITION OF PANCHAYATI RAJ: COMPOSITION

A. *PANCHAYAT AT THE VILLAGE LEVEL*

State	Nomen clature of the Pancha -yat	Minumum size for constituting a Panchayat area	Number of members to be elected	Chairperson		Reserva-tion for backward classes	No confidence motion against the Chairperson
				Nomen-clature	Mode of Election		
Andhra Pradesh	Gram Pancha-yat	A revenue village irrespective of its size	5-21	Sarpanch	Direct	One-third of the total seats	Notice by not less than half of the total members Motion carried by 2/3 members. No motion within first two years and it can be moved only once against the same person.
Karnata-ka	Gram Pancha-yat	Village(s) with a population between 5 & 7 thousand	One member for every 400 popula-tion	Adhyak-sha	Indirect	About one-third of the total seats	Notice by 1/3 members. Motion carried by 2/3 members.
Punjab	Gram Pancha-yat	A village having a population of 200 or more	5-13 (A Gram Sarpanch Sabha to be treated a multi-member single Consti-tuen-cy)	Sarpanch	Direct	One seat of member where the population of backward classes is over 20% in the Gram Panchayat area.	Notice by 2/3 of Panchas. Motion carried by majority of voters of the Gram Sabha. No notice within first two years.
West Bengal	Gram Pancha-yat	A mauza or of mauzas irrespective of its size	5-30	Pradhan	Indirect	No reservation	Motion carried by majority of total elected members. No notice within one year after its election. Not more than one resolution within six months.

STATE-WISE POSITION OF PANCHAYATI RAJ: COMPOSITION

B. PANCHAYAT AT THE VILLAGE LEVEL

State	Nomencla-ture of the Panchayat	Composition of the Panchayat	Nomencla-ture of the Chair-person	Reservation for Backward classes	No confidence motion against the Chairperson
Andhra Pradesh	Mandal Parishad	Directly elected members. Mps and MLAs One person belonging to minorities to be coopted. The Sarpanches of all Gram Panchayats shall be permanent invitees.	President	One-third of the total elected members.	Notice by not less than half of the total members. Motion carried by 2/3 members. No motion within first two years and it can be moved only once against the same person.
Karnata-ka	Taluka Panchayat	Elected Members (One for every 10,000 population) Mps, MLAs & MLCs. One-fifth of Adhyakshas of the Gram Panchayats by rotation.	Adhyak-sha	About one-third of the total seats	Notice by 1/2 of the elected members. Motion carried by a majority of the elected members.
Punjab	Panchayat Samiti	a) Directly elected members 6-10 (one for every 15 thousand population) b) Representatives of the Sarpanches to be elected (Ratio of a:b/40:60) c) MLAs and MLCs	Chairman	Only one seat in such Panchayat Samitis where the population of backward classes is not less than 20%.	Notice by one-fifth members. Motion carried by 2/3 elected members.
West Bengal	Panchayat Samiti	Directly elected members (not exceeding three from each Gram). All Pradhans of gram Panchayat MPs and MLAs.	Sabhapa-ti	No reservation	Motion carried by majority of total elected members. No notice within one year after its election. Not more than one resolution within six months.

STATE-WISE POSITION OF PANCHAYATI RAJ: COMPOSITION

C. PANCHAYAT AT THE VILLAGE LEVEL

State	Nomencla-ture of the Panchayat	Composition of the Panchayat	Nomencla-ture of the Chairperson	Reservation for Backward classes	No confidence motion against the Chairperson
Andhra Pradesh	Zilla Parishad	Directly elected members (one member from each Mandal Parishad) Mps & MLAs. Two coopted members belonging to minorities. All Presidents of Mandal Parishads shall be permanent invitees.	Chairman	One-third of the total elected members.	Notice by half of the total members. Motion carried by 2/3 members. No motion within first two years and it can be moved only once against the same person.
Karnata-ka	Zilla Parishad	Elected Members (at the rate of one for every 40 thousands people) Mps, MLAs & MLCs. All Adhyakshas of Taluka Panchayats.	Adhyaksha	One-third of the total seats.	Notice by 1/3 of the elected members. Motion carried by a majority of the elected members.
Punjab	Zilla Parishad	Directly elected (qo to 25) at the rate of one for every 50 thousand population. All chairmen of Panchayat Samitis Mps, MLAs & MLCs.	Chairman	One seat shall be reserved in Zilla Parishad where the population of backward classes is not less than 20%.	Notice by one-fifth members. Motion carried by 2/3 elected members.
West Bengal	Zilla Parishad	Directly elected members (not exceeding three from each block). All Sabhapatis of Panchayat Samitis. MPs and MLAs.	Sabhadhi-pati	No reservation	Motion carried by majority of total elected members. No notice within one year after its election. Not more than one resolution within six months.

FUNCTIONS OF DIFFERENT LEVELS OF PANCHAYATS IN WEST BENGAL - I

Head	Gram Panchayat	Panchayat Samiti	Zilla Parishad
Obligatory Functions	Gram Panchayat shall provide: 1. Sanitation, conservancy, drainage & prevention of public nuisance. 2. Prevention of epidemics 3. Supply of safe drinking water. 4. Maintenance, repair, construction and protection of public assets. 5. Management of public tanks, grazing grounds, burning ghats and public graveyards. 6. Supply of any local information to higher authorities. 7. Organising voluntary labour and community works. 8. Control and administration of Gram Panchayat fund. 9. Imposition, assessment and collection of taxes, rates and fees. 10. Maintenance and control of Dafadars and Chowkidars. 11. The constitution & administration of Nyay Panchayats.	1. To undertake schemes or adopt measures including the giving financial assistance relating to the development of agriculture, livestock, cottage industries, co-operative movements, rural credit, water supply irrigation, public health and sanitation, establishment of hospitals, and dispensaries, communication, primary and adult education, welfare of students, social welfare and other subjects of general public utility. 2. To undertake execution of any scheme, performance of any act or management of any institution or organization entrusted by Government. 3. Management of any work of public utility. 4. To make grants in aid to any school/institution of public welfare institution.	1. Same for Zilla Parishad. 2. Same for Zilla Parishad 3. Same for Zilla Parishad 4. Same for Zilla Parishad. 5. Undertake Schemes or adopt measures (including giving financial assistance) to the development of industries and secondary education. 6. Same for Zilla Parishad.

FUNCTIONS OF DIFFERENT LEVELS OF PANCHAYATS IN WEST BENGAL - II

Head	Gram Panchayat	Panchayat Samiti	Zilla Parishad
Other duties	If State Government may assign Gram Panchayat, shall perform: 1. To undertake primary, social, technical or vocational education. 2. Management of rural dispensaries health cares, maternity and child welfare centers. 3. Management of public ferry 4. Management of irrigation works. 5. Grow more food campaign. 6. Care of infirm and destitute. 7. Rehabilitation of displaced persons. 8. Animal husbandry. 9. Acting as a channel through which Government assistance should reach the village. 10. Wasteland/fallow land improvement. 11. Plantation 12. Assistance in implementation of land reform works. 13. Schemes entrusted by Government. 14. Field publicity of development works/welfare programmes undertaken by the State Government.	1. To make grants to Zilla 2. Parishad or Gram 3. Panchayats. 4. To adopt measures for the relief of distress. 5. To contribute sums towards the cost of water supply or anti-epidemic measures undertaken by a municipality within the Panchayat. 6. Coordination and integration of the development plans and schemes prepared by the Gram Panchayats. 7. Examination and sanction of budget estimates of Gram Panchayats.	1. Coordination and integration of the development plans and schemes prepared by the Panchayat Samiti. 2. Examination and sanction of the budget estimates of the Panchayat Samitis. 3. To contribute such sums as may be agreed upon towards the cost of maintenance of any institutions situated outside the district which are beneficial to inhabitants of the district. 4. Establishment of scholarship or award stipends for further more of technical or other special forms of education. 5. To make grants to Panchayats Samitis and gram Panchayats. 6. To advise State Government on all matters relating to development work among Panchayat Samitis and Gram Panchayats.

FUNCTIONS OF DIFFERENT LEVELS OF PANCHAYATS IN WEST BENGAL - III

Head	Gram Panchayat	Panchayat Samiti	Zilla Parishad
Discretionary Functions	1. The maintenance of lighting of public streets. 2. Plantation on public streets and public places. 3. the sinking of wells and excavation of ponds and tanks. 4. To introduce and promote cooperatives. 5. Construction and regulation of markets, melas, hats and exhibition of local produces. 6. Allotment of places for securing manures. 7. Sanitation work. 8. Managing the distribution of State loans. 9. Promotion of cottage industries. 10. Destruction of rabies and stray dogs. 11. disposal of unclaimed cattle, corps and carcases. 12. Construction and maintenance of Sarals, dharmasalas, rest houses, etc. 13. Establishing of libraries and recreation places. 14. Statistics. 15. Fire protection. 16. Prevention of burglary and dacoity. 17. Any other works of public utility.	1. A Panchayat Samiti may undertake or execute any schemes if it extends to more than one Gram Panchayat.	1. Zilla Parishad may undertake or execute any schemes if it extends to more than one block.

A. PANCHAYATS AT VILLAGE LEVEL: COMMITTEE SYSTEM

State	Name of the Committee	No. of Members incl. Chairman	Mode of Election of the Chairman	Major Functions	Remarks, if any
Andhra Pradesh	Beneficiary committee for the execution of works of the Gram Panchayat and functional committees for agriculture, public health, sanitation and communication in every Gram Sabha.	As may be prescribed		Execution of works of Panchayat Agriculture, Public Health, Water Supply, Sanitation, Family Planning, Education, etc.	
Karnataka	1. Production Committee	3-5	Adhyaksha	Agriculture Production, Animal Husbandry, Rural, Industries, Poverty Alleviation Programmes.	One representative from co-operative societies.
	2. Social Justice Committee	3-5	Upadhya-ksha	1.Promoting major interest of SCs/STs/BCs. 2.Protesting them from social injustice. 3.Welfare of women and children.	At least one member form SC/ST and one woman
	3. Amenities Committee	3-5	Adhyaksha	Education, Public Health, Public works.	
Punjab	I. Production Committee	3-5	Sarpanch	Agriculture production, Animal Husbandry, rural industries, Poverty Alleviation Programme.	A Representa-tive from cooperative societies shall be co-oped. (Farmer Clubs, Yuvak kendra & Mahila Mandals). At least one member form SC/ST One woman
	II. Social Justice Committee	3-5	Sarpanch	1.Promotion of major interests of SCs/STs/BCs. 2.Protecting them from social injustice and exploitation. 3.Welfare of women and children.	
	III. Amenities Committee	3-5	Sarpanch	Public Health, Education, Public Works.	
West Bengal	No mention in the Act				

B. PANCHAYATS AT INTERMEDIATE LEVEL: COMMITTEE SYSTEM

State	Name of the Committee	No. of Members incl. Chairman	Chairman	Major Function/ Functions	Remarks, if any
Andhra Pradesh	A Mandal Panchayat may and if so required by the Government shall, join with other local authority in constituting a joint committee for any joint purpose.				
Karnataka	1. General Standing Committee 2. Finance Audit and Planning Committee 3. Social Justice Committee	Not more than six Not more than six Not more than six	Adhyaksha Adhyaksha Upadhyaksha	1.Establishment matters, communications, rural housing, relief works, etc. 2.Finance, Budgets, Account Savings, etc. 3.Securing Social Justice to weaker Sections of the society	No member to serve on more than one committee
Punjab	• General Committee • Finance Audit and Planning Committee • Social Justice Committee	Not more than six Not more than six Not more than six	Chairman Chairman Vice-Chairman	•Establishment •matters, communication, Rural Housing Water Supply, etc. •Finance, Budgets, Accounts, Small savings, etc. •Securing Social justice to weaker sections	No member except chairman shall serve on more than one committee
West Bengal	1. Arth Sanstha, Unnayan, Parikalpana Sthayee Samiti 2. Jan Swasthya Stjayee Samiti 3. Purt Karya Sthayee Samiti 4. Krishi Seeh O Samataya Sthayee Samiti 5. Shiksha Sthayee Samiti 6. Khudra Silpa Tran Jankalyan Sthayee Samiti 7. Samanvay Samiti	7-9 7-9 7-9 7-9 7-9 7-9 7-9	Sabhapati Elected Elected Elected Elected Elected Elected	Finance, Establishment Development and Planning Public Health Public Works Agriculture, Irrigation and cooperation Education Cottage Industries, relief works and social welfare	1. Out of all members a) 3-5 shall be elected members b) Sabhapati shall be ex-officio member. Three members shall be from officers of State Govt. (not having right to vote) 2. No person shall be allowed to serve on more than three committees.

C. DISTRICT PANCHAYAT: COMMITTEE SYSTEM

State	Name of the Committee	No. of Members incl. Chairman	Chairman	Function (Other than delegated functions)	Remarks, if any
Andhra Pradesh	1. Standing Committee for Agriculture	As may be prescribed	Vice-Chairman	Agriculture, Animal Husbandry , Forestry, Soil Reclamation, Seri culture.	
	2. Standing Committee for Development	As may be prescribed	Chairman	Poverty Alleviation Programmes, Area Development Programmes, employment, Housing Cooperation, Small Industries, etc.	
	3. Standing Committee for Education and Medical Services	As may be prescribed	Chairman	Education, Social education, Medical services, drainage, Relief works.	
	4. Standing Committee for Planning & Finance	As may be prescribed	Chairman	Budget, Taxation, Finance, Co-ordination of works relating to other committees.	
	5. Standing Committee for Women Welfare	As may be prescribed	Chairman	Women and Child Welfare Welfare of SCs/STs BCs, Cultural activities.	
	6. Standing Committee for Social Welfare	As may be prescribed	Chairman	Communication, Water Supply, Power Irrigation.	
	7. Standing Committee for works.				
2. Karnataka	I. General Standing Committee	Not more than five	Adhyaksha	Establishment matters, communications, building rural housing, relief works, etc.	No member to serve on more than one committee
	II. Finance Audit and Planning Committee	Not more than five	Adhyaksha	Finance, Budget, Accounts, Expenditure and Revenue, Planning, Evaluation, etc.	
	III. Social Justice Committee	Not more than five	Upadhyaksha	Securing Social Justice to weaker Sections of the society	
	IV. Education and Health Committee	Not more than five	Elected	Education activities, development planning, survey, literacy programmes health services, etc.	
	V. Agriculture and Industries Committee	Not more than five	Elected	Agriculture production animal husbandry, cooperation, village industries and industrialization	

3. Punjab	I. General Committee	Not more than five	Chairman	Establishment matters, communication, building, relief works, etc.	No member shall serve on more than two commit-tees
	II. Finance Audit and Planning Committee	Not more than five	Chairman	Finance, Budgeting, Plan priorities, evaluation review programmes.	
	III. Social Justice Committee	Not more than five	Chairman		
	IV. Education and Health Committee	Not more than five	Elected	Securing interests of weaker sections of the society. Promotion of Education planning, survey and evaluation, literacy, health medical and welfare.	
	V. Agriculture and Industry Committee	Not more than five	Elected	Agriculture production, animal husbandry, cooperation, village, cottage industries and industrial development.	
4. W. Bengal	1. Arth Sanstha, Unnayan O Parikalpana (Finance, Establishment, Development and Planning)	9-11 3-5 elected 5 members nominated and one ex-officio member	Sabhapati	Finance, Establishment Development and Planning	1. Nominated (by state Govt.) member have no right to vote.
	2. Jan Swathya (Public Health)	same as above	Elected		
	3. Purt karya (Public works)	same as above	Elected	Public Health	2. Term of a member is 55 years.
	4. Krishi Sech Somabaya (Agriculture, Irrigation and Co-operation)	same as above	Elected	Public Works	
	5. Shiksha (Education)	same as above	Elected	Agriculture, Irrigation and Co-operation	3. The Secretary of Silla Parishad shall be ex-officio Secretary to all the Sthayee Samitis.
	6. Khudra Silpa, Tran Jankalyan (Cottage Industry, Relief and Social Welfare)	same as above		Education	
				Cottage industry, Relief and Social Welfare	

STATE-WISE POSITION OF PANCHAYATI RAJ: RESOURCES

A. PANCHAYATS AT VILLAGE LEVEL

State	Obligatory Sources		Discretionary Sources		Remarks
	Tax revenue	Non Tax revenue	Tax revenue	Nn. T.R.	
Andhra Pradesh	1.House Tax 2.Tax on village produce sold in the village. 3.A duty on transfer of property. 4.Tax on advertisement 5.Vehicle tax 6.Special tax on houses for providing facilities.	1.Payment by Market Committee 2.Payment made by Mandal Panchayat and Zilla Panchayat for share in income derived from markets and ferries. 3.Fees for temporary occupation of village sites, roads and other public places. 4.Income from endowments and trusts. 5.The net assessments on service income. 6.Income form village fisheries, woods, reeds. 7.Unclaimed deposits etc. 8.Income from lease of Govt. property. 9.Grants from Mandal Panchayat. 10.income from investment of amount taken from Panchayat Fund. 11.One-tenth of the gross income derived by Government from fines imposed by Magistrates in the village.	I. Vehicle tax. II. A tax on agriculture land for a specific purpose III. A land cess at the rate of two per cent. IV. A duty in the form of surcharge on the seigniorage fees on materials other than minerals. V. Surcharge on tax leviable on: a) education b) land.	A fee for use of com mu-nity land.	Taxes are yearly
Karna-taka	• Tax on buildings @ 10% of annual letting value. • Tax on lands (not subject to agricultural assessments) @ one Re per annum for every one hundred sq. km. of area.	• Transfer of amount by Govt. on account of collection from local cess levies on land revenue • Grant of one lakh RS. (annually) • Rent/Sales proceeds.	• Tax on entertainment other than cinematography (shows @ Rs.25 per show) • tax on vehicles other than motor vehicles. • Tax on Advt. and Hoarding • Pilgrim fee for management • Market fee on persons who expose their sales . • fee on registration of cattle • Surcharge on tax (as may be directed by Govt.)		•Water rate •Fee on buses, taxies, autostands for providing facilities •Fee on grazing cattle in grazing lands.

STATE-WISE POSITION OF PANCHAYATI RAJ: RESOURCES

A. PANCHAYATS AT VILLAGE LEVEL

Punjab	• Tax on lands and buildings • Tax on profession, trades, callings and employment other than agriculture • Duty in the shape of an additional stamps duty for all payments for admission to any entertainment. • Surcharge on stamp duty (not exceeding 2 %) by state Govt. for Gram Panchayats.	• Sale proceeds of produces, dust, dung etc. • income from village fisheries • Income from common land • Promotion of land revenue (not less than 10% of revenue realized related panchayat area) by State Government.	• Free on registration of vehicles • Special tax on adult male members for community work.		• Fee on sanitary arrange-ments • Water rate • Lightin g rate Conser-vancy rate.
West Bengal	1. Tax on Land and buildings (a) @ one percent of the value is less than Rs. one thousand 2. Tax on professions, trades callings (subject to a maximum of Rs. 250 per annum 3. A duty in the shape of additional stamp duty for transfer of property @ 2 %). 4. A duty in the shape of additional stamp duty for all payments for admission to any entertainment @ ten per cent.	1. Income form schools/hospitals/ other institutions and works under control of Panchayat 2. gifts and contribution and income from trusts and endowments.	1. Fees on registratio n of vehicles 2. Fees on complaints and petitions in suits and cases.		1. Fee for sanitary arrange-ments 2. Water rate 3. Ligh-ting rate 4. Conser-vancy rate

STATE-WISE POSITION OF PANCHAYATI RAJ: RESOURCES

B. PANCHAYAT AT THE INTERMEDIATE LEVEL

State	Obligatory Sources		Discretionary Sources		Remarks
	Tax Revenue	Non Tax Revenue	Tax Revenue	Non T. R.	
Andhra Pradesh		1. Share of the land revenue, state taxes or fees. 2. Donation and contribution from Gram Panchayats or from public 3. Annual grant @Rs.5/- per person (based on the last census) from Government. 4. Grants to cover expenses of establishment matters by Govt.	Proceeds from taxes, surcharge or fees which the parishad is empowered to levy under laws.		1.Such contributions as the parishad may levy from Gram Panchayat 2.Any other income from remunerations, enterprises and the like.
Karna-taka		• Grants to cover expenses of establi-shment matters by Government. • Rent • Sales Proceeds	Surcharge on stamp duty		
Punjab	Local rate @ 25 paise per Rs. of land revenue	Rent/profits from property managed by Samiti	• Tolls on persons, vehicles animals, etc. , for using road and bridge under Samitis control • Tolls on ferry • Fee for registration of vehicles other than those registered under motor Act, 1986 • Fee for licence for a market • Fee for any other licence		
West Bengal		1.Contribution and grants from Govt. including part of land revenue 2.Income from schools, hospitals & other institutions & work 3.Gifts and contributions 4.Income form trusts & endowments 5.Fines/Penalties	1.Toll on persons, vehicles and animals (for roads and bridges) 2.Toll on account of ferry 3.Fee on registration of vehicles.		1. Water rate 2. Lighting rate

STATE-WISE POSITION OF PANCHAYATI RAJ: RESOURCES

C. DISTRICT PANCHAYAT

State	Obligatory Sources		Discretionary Sources		Remarks
	Tax Revenue	Non Tax Revenue	Tax Revenue	Non T. R.	
Andhra Pradesh		1. Income from endowments for trusts administered by Parishad. 2. Income of Dist. board as Govt. may allocate to it. 3. Donations and contribution form Mandal Parishad or public. 4. Any income form remunerative enterprises. 5. Annual Gran @Rs. 2/ per person (based on last census data) from Government.	1. Share of the land cess, State taxes or fees as may be prescribed. 2. Taxes or fees which parishad may levy under any law.		Such contribution as the Zilla Parishad may levy from the Mandal Parishad with the previous approval of Govt.
Karnataka		• Grants to cover expenses of establishment matters, by Govt. • Grants, assignments, loans, contribution made by the Govt. • Fines/Penalties • Interests, profits, gifts, etc.			All fees, imposed, if any
Punjab	With the permission of the State Govt. on the recommendation of the SFC, the Zilla Parishad shall levy any tax, duty fee toll which has not been levied by any Panchayat.	• Contribution and grants by Central/State Govts. including the part of Land revenue. • Contribution and grant by Panchayat Samiti. • All receipts on account of taxes, rate tolls, etc. • All receipts in respect of schools/hospitals, building, institutions, works etc. • Gifts and contributions.	Road cess and public work cess.		
West Bengal	Proceeds of road cess	• Contribution and grants by Panchayat Samiti or other local authority. • Loans granted/raised • Income from management of schools hospitals and other institutions or work. • Gifts, contribution • Income from trusts and endowments • Fines/Penalties.	1.Tolls on persons vehicles 2.Tolls in respect of ferry 3.Fee for registration of vehicles.		1.Water rate 2.Fee for sanitary arrangements 3.Lighting rate

STATE-WISE POSITION OF PANCHAYATI RAJ --STATE CONTROL

A. *PANCHAYAT AT THE VILLAGE LEVEL*

State	Control Over Chairperson		Control Over Panchayat			Arrangement in Case of Dissolution
	Power of Suspension	Power of Removal	Power of Inspection	Power of Suspention	Power of Dissolution	
Andhra Pradesh	District Collector	District Collector	Commissioner/Government	Government	Government	Government
Karna-taka		Commis-sioner	CEO	CEO (with confirmation of Commissioner)	Commis-sioner	A person/ persons empowered by Zilla Parishat of Govt.
Punjab	Director (at any time) Dy. Commissioner /DDPO during enquiry	Director	Government	Director	Government	
West Bengal		Government	Government	Inspector of Panchayats	Government	

B. *PANCHAYAT AT INTERMEDIATE LEVEL*

Andhra Pradesh	Government	Government	Government	Government	Government	A person/ persons empowered by Govt.
Karna-taka		Government	CEO	Commissioner	Government	A person/ persons appointed by ZP or Govt.
Punjab	Government	Government	Government	Director	Government	A person/persons appointed by Govt.
West Bengal		Government	Inspector of Pancvhayat	Government	Government	A person/persons/authority appointed by Govt.

C. *DISTRICT PANCHAYAT*

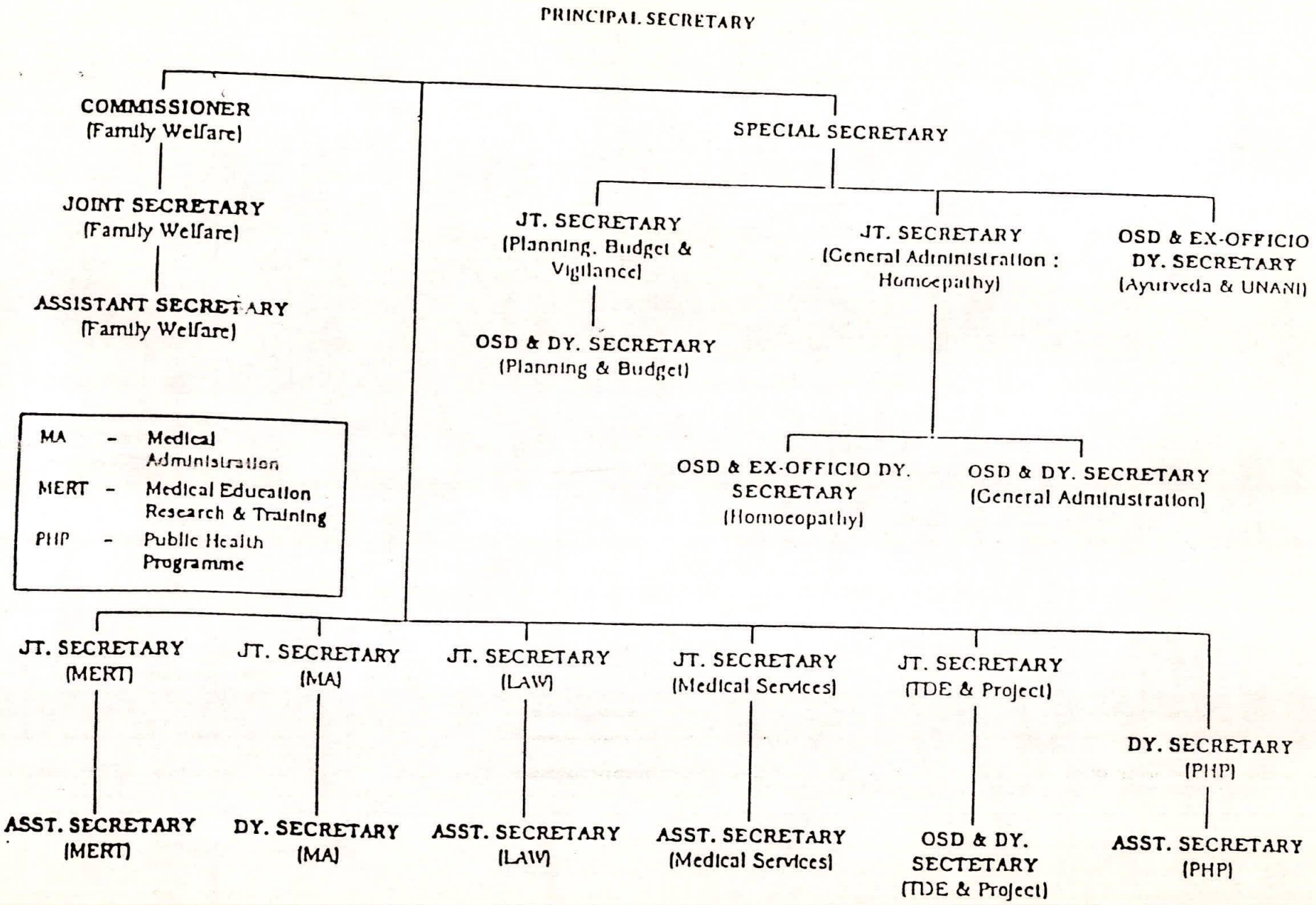
Andhra Pradesh	Government	Government	Government	Government	Government	A person/persons appointed by Govt. from time to time
Karna-taka		Government	Commissioner	Government	Government	A person/persons appointed by Govt.
Punjab		Government	Government	Director	Government	
West Bengal		Government	Inspector of Panchayats	Government	Government	

DISTRICT PLANNING COMMITTEE (DPC)

State	Whether the provision of the comm. (in the Act) is made or not	Composition	Secretary	Chairperson
Andhra Pradesh	No mention in the Act			
Karnataka	Provided	Mps, MLAs, MLCs. Adhyaksha, Zilla Parishad, Mayor/President of the Municipal Corporation/ Municipal council having jurisdiciton over the H.Q.s of the district Elected members as prescribed under the Amendment.	CEO	To be chosen as prescribed
Punjab	Provided	Details not mentioned in the Act.		
West Bengal	Provided	Details not mentioned in the Act.		

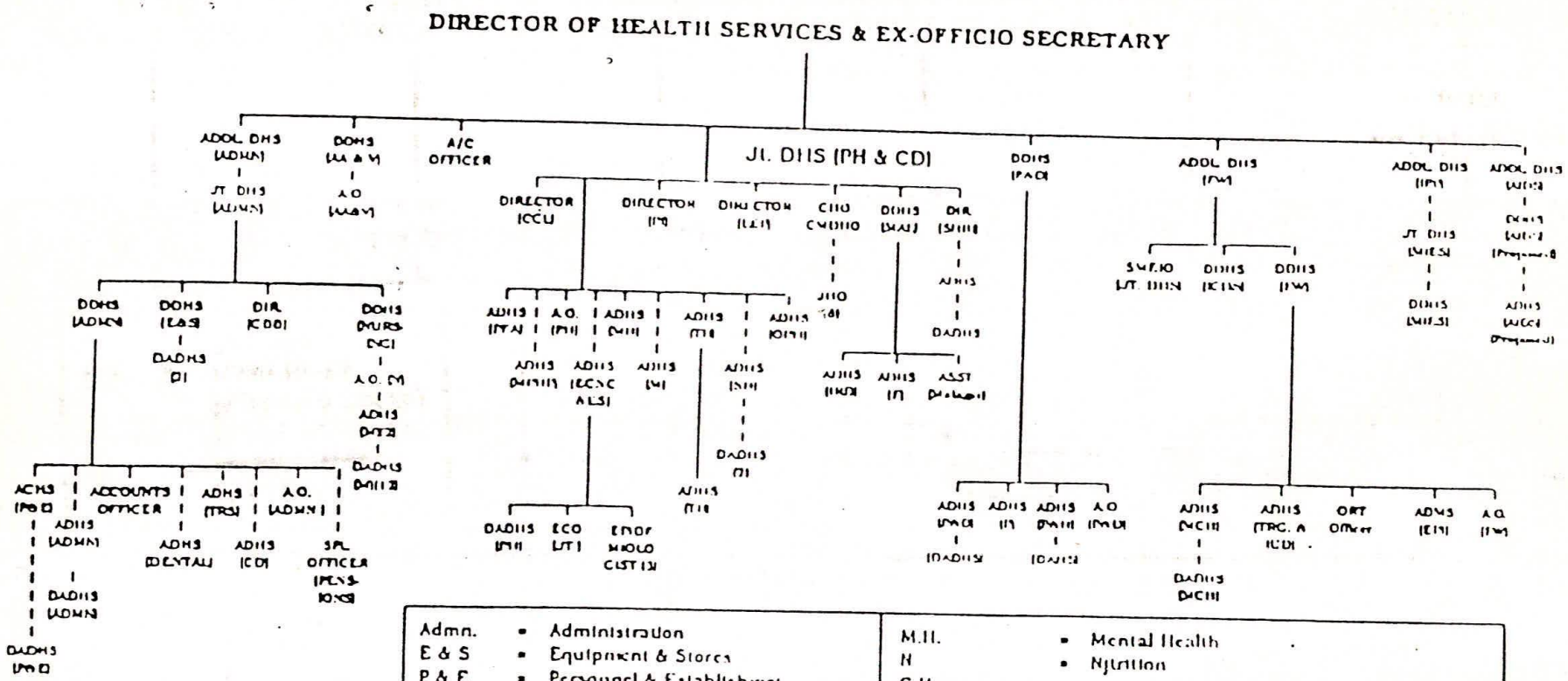
STATE FINANCE COMMISSION

State	Number of Members Including Chairman	Chairman	Qualifications Prescribed for Members
Andhra Pradesh	five	Experience in public Affairs	1. Special knowledge of finance and accounts in government or 2. Wide experience in financial matters/ administration or 3. Special knowledge of economics
Karnataka	three	As may be prescribed	As may be prescribed
Punjab		To be constituted in accordance with the provisions of Articles 2431 of the Constitution.	
West Bengal	Not exceeding five	Selected from justice, economics, administrators and social and political workers of eminence.	


PRINCIPAL SECRETARY
COMMISSIONER (Family Welfare)
JOINT SECRETARY (Family Welfare)
ASSISTANT SECRETARY (Family Welfare)
SPECIAL SECRETARY
JT. SECRETARY (Planning, Budget & Vigilance)
OSD & DY. SECRETARY (Planning & Budget)
JT. SECRETARY (General Administration : Homoepathy)
OSD & EX-OFFICIO DY. SECRETARY (Homoeopathy)
OSD & DY. SECRETARY (General Administration)
OSD & EX-OFFICIO DY. SECRETARY (Ayurveda & UNANI)
MA - Medical Administration
MERT - Medical Education Research & Training
PHP - Public Health Programme
JT. SECRETARY (MERT)
ASST. SECRETARY (MERT)
JT. SECRETARY (MA)
DY. SECRETARY (MA)
JT. SECRETARY (LAW)
ASST. SECRETARY (LAW)
JT. SECRETARY (Medical Services)
ASST. SECRETARY (Medical Services)
JT. SECRETARY (TDE & Project)
OSD & DY. SECTETARY (TDE & Project)
DY. SECRETARY (PHP)
ASST. SECRETARY (PHP)

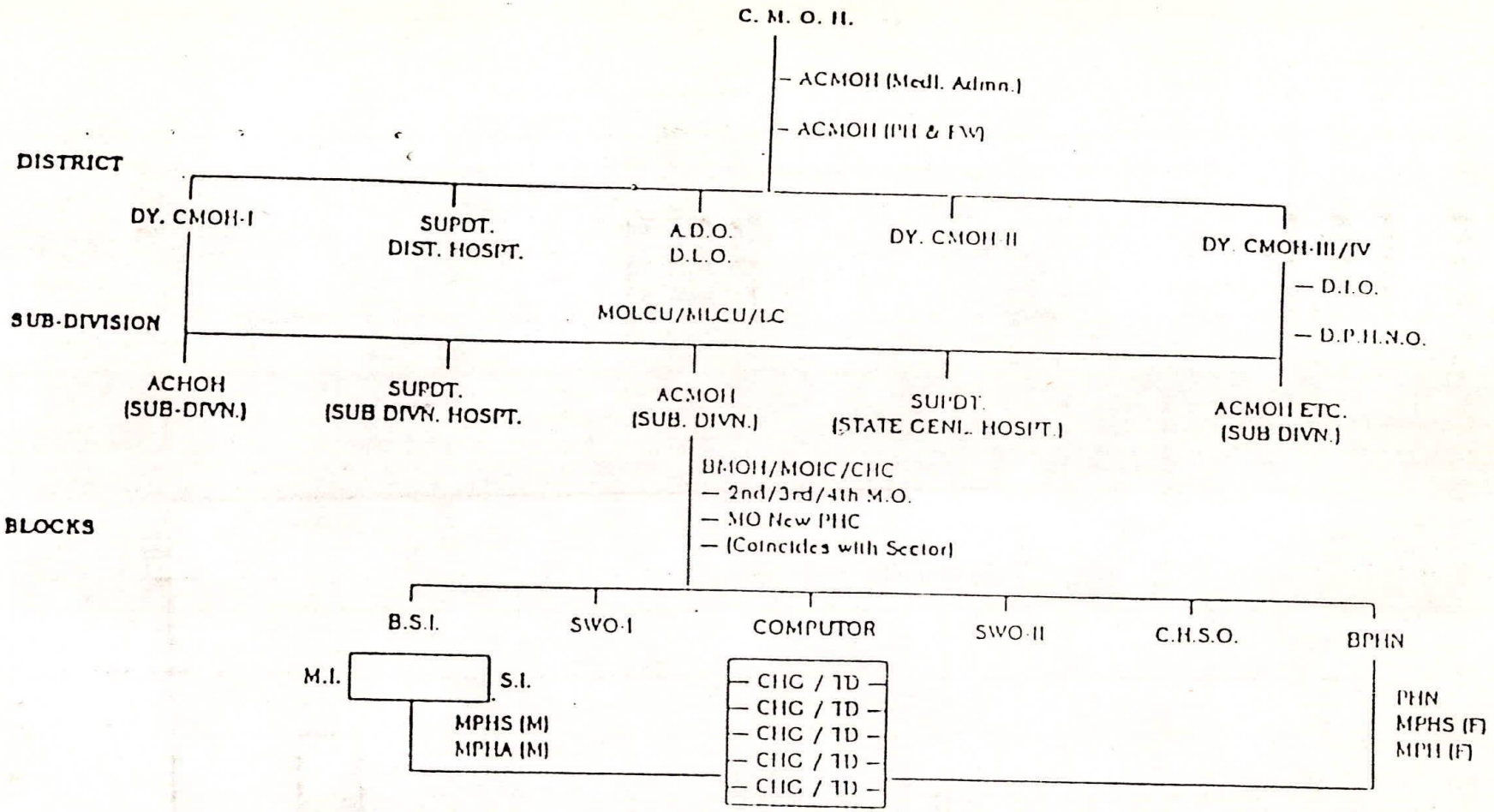
DIRECTORATE OF THE HEALTH SERVICES

(State Level Organisation Chart)



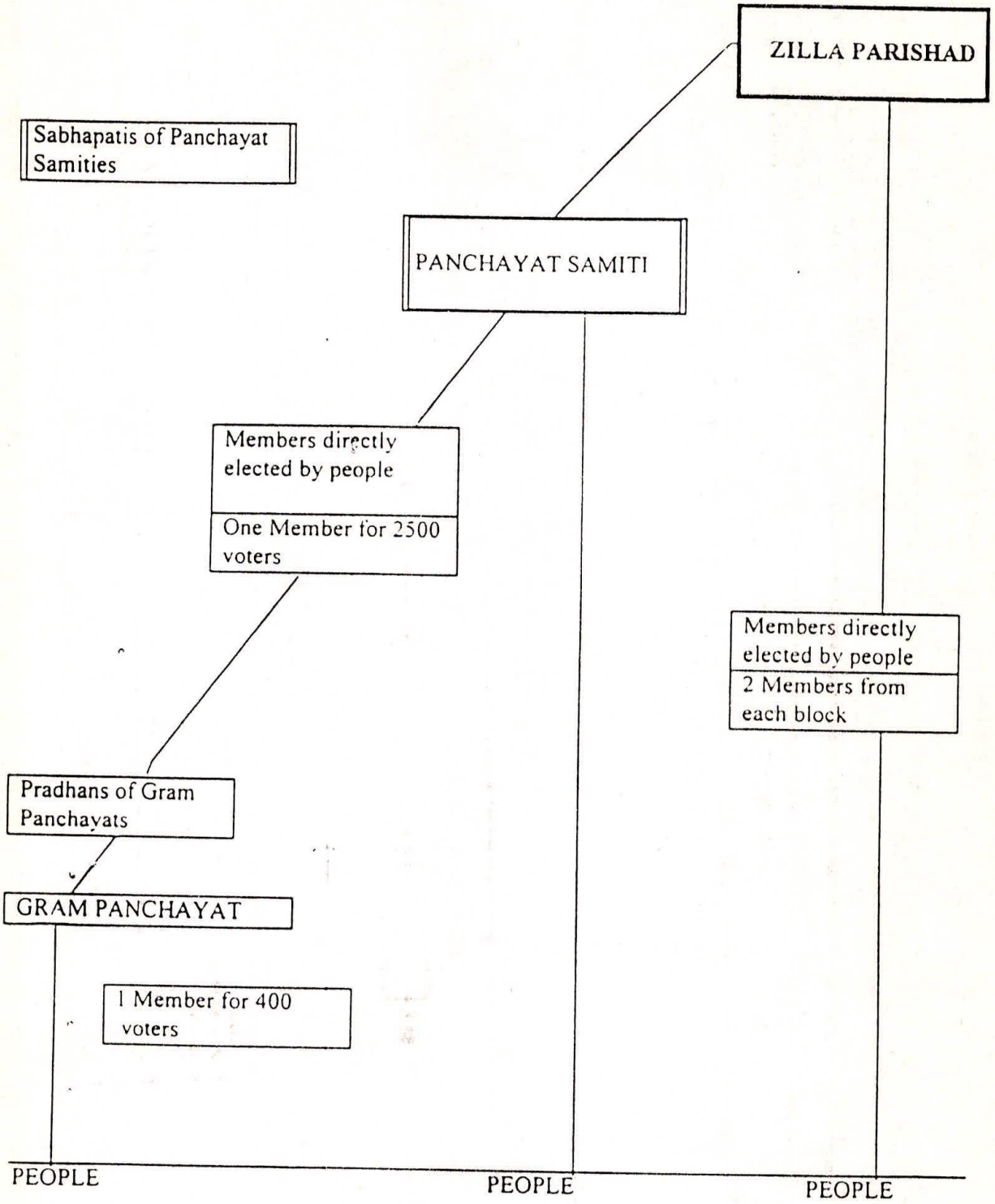
Admn.	=	Administration
E & S	=	Equipment & Stores
P & E	=	Personnel & Establishment
CD	=	Civil Defence
C.B.B.	=	Central Blood Bank
Trans.	=	Transport
A.A. & V	=	Audit, Accounts & Verification
N	=	Nursing
C.C.L.	=	Central Combined Laboratory
P.I.	=	Pasteur Institute
Lep	=	Leprosy
C.H.O.	=	Chief Health Officer
Mal	=	Malaria
Z.H.O.	=	Zonal Health Officer
SBHI	=	State Bureau of Health Intelligence
P.F.A	=	Prevention of Food Adulteratio
P.H.	=	Public Health
M.H.	=	Mental Health
N	=	Nutrition
C.H.	=	
M.P.E.P.	=	Multipurpose Health Programme
E.C.N.C.&E.S.	=	Epidemic Control, Natural Calamities & Environmental Sanitation
PL	=	Plague
IHD	=	Insect Borne Disease
F	=	Filaria
P & D	=	Planning & Development
P	=	Planning
P & I	=	Planning & Implementation
ICDS	=	Integrated Child Development Services
MCH	=	Maternity & Child Health
E.P.I.	=	Expandednisation Programme
MIES	=	Management Information Evaluation System

DISTRICT LEVEL ORGANIZATION CHART



D.I.O.	= District Immunisation Officer	M.P.H.S.	= Multipurpose Health Supervisor
D.P.H.N.O.	= District Public Health Nursing Officer	M.P.H.A.	= Multipurpose Health Assistant
B.S.I.	= Block Sanitary Inspector	B.P.H.N.	= Block Public Health Nurse
S.W.O.	= Social Welfare Officer	P.H.N.	= Public Health Nurse
C.H.S.O.	= Community Health Services Officer	C.H.C	= Community Health Grade
M.I.	= Malaria Inspector	T.D	= Trained Dai.
S.I.	= Sanitary Inspector		

STRUCTURE OF THE PANCHAYATI RAJ SYSTEM IN WEST BENGAL



COST EFFECTIVENESS ANALYSIS: UNIT COST ANALYSIS AT DIFFERENT TIERS OF THE HEALTH CARE SYSTEM

1. This annex estimates the cost effectiveness of treating patients at a secondary hospital compared to a tertiary hospital using different unit cost measures. These estimates are achieved by comparing the overall unit costs related to specific inputs for in-patients and out-patients at secondary versus tertiary hospitals and by giving cost and efficiency comparisons of secondary versus tertiary level hospitals in terms of costs per case equivalent. Section A estimates costs at a secondary versus a tertiary level hospital in Andhra Pradesh, in terms of cost per case equivalent, which is arrived at by taking into consideration the number of inpatient (IP) and outpatient (OP) services and recurrent and capital costs. Section B provides a more detailed analysis and summarizes a time-motion study in which 1 PHC, 7 secondary hospitals, and 2 tertiary hospitals in AP were compared in order to estimate unit health care costs in terms of bed day, OP, IP, Level I and II tests and x-rays.

2. Analysis comparing cost-effectiveness between different types of hospitals is limited in India, because of the non-availability of data and due to variations in the case-mix. Moreover, even when data is available, it is difficult to compare certain services because for example more serious and complicated cases are admitted at tertiary hospitals, and the length of stay and treatment costs tend to be higher at tertiary hospitals. Previous analysis has shown that between 25-40% of costs could be saved by treating patients at secondary facilities rather than at tertiary hospitals. The data used in such analyses have been more broad-based and have tended to overlook some of the problems noted here. Moreover, such analyses did not compare similar services.

3. One of the rationales for focusing on providing services at the secondary level, from an economic efficiency point of view, is that the unit costs of treatment can be reduced considerably by providing health care services at lower level facilities where unit costs for comparable services are lower. The analysis in this annex will approximate the magnitude of cost savings if diagnosis and treatment of conditions that could be addressed at secondary facilities are indeed taken care of at that level, rather than at the tertiary level.

Section A

4. In this section, a preliminary analysis is presented which estimates cost savings of treating patients at a secondary hospital compared to a tertiary hospital in Hyderabad. Hospitals in Hyderabad were chosen because of the availability of accurate cost data and the comparability of the services provided. The chosen hospitals were the Suraj Bhan hospital, a secondary facility, and the Sultan Bazaar Maternity hospital, a tertiary hospital attached to the Osmania Medical College in Hyderabad. Both hospitals provide

antenatal, intranatal and Family Planning Services in addition to gynecological care. The case-mix at the two hospitals is more or less similar: a large percentage of the in-patient facility is utilized by obstetric and family planning cases, which have constituted about 40% and 30% of in-patients, respectively during the past 2 years patients admitted for gynecological problems and procedures comprised about 11% of the in-patients; and a roughly equal proportion of in-patients had complicated obstetric care. One difference, however, was the higher utilization of out-patient services at Suraj Bhan (first referral) Hospital, with a much higher number of out-patients per in-patient (6 to 1) compared to the Sultan Bazaar Maternity Hospital (1.2 to 1).

5. Estimation of Costs. The recurrent costs for the Sultan Bazaar Hospital were taken from the budget books, and the recurrent costs of the Suraj Bhan Hospital were taken from hospital records and grants received from the government. The recurring expenditure, under different heads for three financial years for both the hospitals is presented in Tables 1 and 2. Since both hospitals come under different administrative systems, cost heads do not exactly match, and information on some heads is not being routinely compiled by these institutions. However, at an aggregate level, both data sets represent average recurring costs.

Table 1: Recurring Costs of Suraj Bhan Hospital (Rs.)

Head of Account	1992-93	1993-94	1994-95	Average 1993-95
Pay & Allowances	1,641,124	2,397,259	2,656,855	2,527,057
Rent rates and Taxes	50,263	80,419	69,214	74,817
Water and Electricity	23,776	17,514	17,534	17,524
Cleanliness Charges	5,274	3,624	2,650	3,137
Stationary, Imprest & other Contingents	13,687	15,496	12,111	13,803
Maintenance	10,869	9,935	19,143	14,539
Electrical Goods	73,709	65,037	57,247	61,142
Drugs and Medicine	1,326	1,973	5,632	3,803
Drugs & Supplies Provided from Headquarters	425,000	467,500	514,250	490,875
Diagnostic and Lab Material	2,812	2,532	4,999	3,765
Surgical Instruments	1,380	3,060	767	1,914
Uniform	48,648	40,855	39,578	40,216
Diet	0	91,250	91,250	91,250
Total	2,297,868	3,196,454	3,491,230	3,343,842

Table 2: Recurring Costs of Sultan Bazaar Hospital (Rs.)

Head of Account	1992-93	1993-94	1994-95	Average 1993-95
Pay & Allowances	5,055,000	5,862,000	7,110,000	6,486,000
Service Postage	0	0	3,000	1,500
Water and Electricity	0	0	597,000	298,500
Other Office Expenses	33,000	0	90,000	45,000
Rents and Taxes	70,000	29,000	112,000	70,500
Publications	15,000	50,000	15,000	32,500
Machinery and Equipment	172,000	1,546,000	150,000	848,000
Motor Vehicles and Other Expenses	0	157,000	0	78,500
Maintenance	0	581,000	9,000	295,000
Materials and Supplies	1,450,000	1,397,000	1,400,000	1,398,500
Diet	0	220,000	220,000	220,000
Total	6,795,000	9,842,000	9,706,000	9,774,000

6. Estimation of Capital Costs. Capital costs, however, were more difficult to estimate, since both hospitals are located in old residential structures that were converted several decades ago. In addition, the equipment is relatively old. Hence, it was not possible to arrive at precise capital costs. An approach suggested by WHO for estimating capital costs[1] was used. This included a detailed listing of existing capital resources of both hospitals, namely building (area), equipment (major, minor and surgical) and furniture. The current costs of these capital resources were applied to the existing facilities of both hospitals. For each capital facility the mean duration of utility was arrived at by obtaining expert opinion. Examples from the Indian context were taken to arrive at a capital facility with a mean duration of use and the annual capital cost component.

[1] Andrew Creese & David Parker; Cost Analysis in Primary Health Care: A Training Manual for Program Managers; WHO, Geneva 1994.

Table 3: Estimation of Annual Capital Costs (Rs.)

Capital Facility	Description	Current Costs		Mean Duration or Use in Years	Estimated Capital Costs per Annum	
		Sultan Bazaar	Suraj Bhan		Sultan Bazaar	Suraj Bhan
Equipment	Major	4,287,100	1,050,100	10	428,710	105,010
	Minor	187,000	90,000	5	37,400	18,000
	Surgical	230,000	67,000	1	230,000	67,000
Furniture	@ Rs. 8720/bed	1,395,200	436,000	10	139,520	43,600
Building Area	@ Rs. 400 per Sq. Feet	15,290,000 [2]	6,960,800 [3]	50	305,800	139,216
Total Capital Costs per Annum					1,141,430	372,826

1 Sultan Bazaar Hospital: Total Building Area 38,225 Sq. Feet

2 Sultan Bhan Hospital: Total Building Area 17,402 Sq. Feet

7. Estimation of Unit Costs. Since the hospitals studied provide both in-patient and out-patient services, a comprehensive index which captures both types of services was applied to arrive at a unit cost figure. The day equivalent method which equates the cost of one in-patient day with four out-patient visits was used. Using the case equivalent method, the unit cost for each hospital was calculated. The results are shown in Table 4.

[2] Andrew Creese & David Parker; Cost Analysis in Primary Health Care: A Training Manual for Program Managers; WHO, Geneva 1994.

[3] Howard Barnum & Joseph Kutzin; Public Hospitals in Developing Countries, published for the World Bank by The John Hopkins University Press.

Table 4: Estimation of Unit Costs for 1993-95 (Rs.)

Description	Sultan Bazaar Hospital	Suraz Bhan Hospital
Average IP	52,516	12,199
Average OP	62,150	79,962
Case Equivalents	68,054	32,190
Annual Recurrent Costs	9,774,000	3,343,842
Annual Capital Costs	1,141,430	372,826
Total Annual Cost	10,915,430	3,716,668
Cost per Case Equivalent	160	115

8. Since data on in-patients and out-patients were available only for two years (1993-94; 1994-95), the analysis applies only to this period. The results indicate that day unit cost equivalent at the Suraj Bhan secondary hospital is about two-thirds that of the Sultan Bazaar Maternity Hospital. The results are similar to other studies which found that services at secondary facilities can be provided more cost effectively than at tertiary hospitals if it is technically possible to provide these services at the secondary level. In other words, there can be considerable cost savings if services that can be provided at secondary level facilities are provided at those facilities rather than at tertiary hospitals. The main reason for the savings from our study of at the two hospitals was largely due to the greater unit costs of infrastructure and overheads at tertiary hospitals.

9. A review of several studies undertaken by Barnum et. al. also concluded that within a country tertiary hospitals tend to have higher average costs than the less technically complex district level hospitals. However, since they did not analyze unit costs for similar types of services provided, these results are merely indicative, and apply only for two hospitals. Nevertheless, they do illustrate the fact that streamlining and rationalization of services can result in considerable cost savings.

Section B: Time Motion Study -- Costing at Different Levels of Health Facility

10. Cost effectiveness can also be measured for specific interventions at the primary, secondary, and tertiary levels. This section summarizes the results from the Andhra Pradesh Burden of Disease and Cost Effectiveness Study.[4] This study is a time-motion study which used the BOD to estimate the burden caused by 96 diseases including injuries and accidents. It provides a unique opportunity to undertake cost effectiveness analysis using DALYs gained as a measure of effectiveness of interventions. While the data, specific issues, and examples presented are specific to the situation in Andhra Pradesh, with a few modifications the results are applicable to other Indian states. Level I

[4] Administrative Staff College of India. 1996. "Andhra Pradesh Burden of Disease and Cost-Effectiveness of Health Interventions." Report Volume II. Center for Social Services, Hyderabad.

in this study refers to blood picture, urine exam, and sputures for TB, while Level II refers to blood sugar, blood urea, electrolyte, and urine and blood culture and sensitivity.

Out Reach:

Health worker's Contact
A health worker (HW) on an average will visit 10 houses per day.
Salary/month =Rs. 2813
Salary/day = 2813/26
= Rs. 108.
Cost/Contact = 108/10
= Rs. 10. 82

Sub center:

Health worker's contact:
On an average a HW will contact 20 patients per day.
Cost/Contact = 108/20
= Rs. 5.4
Cost of building for one contact = 1.37
Cost of furnishing for one contact = 1. 63
Total Cost/Contact = Rs. 8.4

Primary Health Center:

Bed Day:

11. The cost per bed day at PHCs was determined by taking into account furnishing & other equipment, 40% cost of staff room, 60% cost of OT, 40% salary of staff (excluding MPHWs), 40% cost of Medical Officer Room, 40% cost of refrigerator, 50% cost of building.

OP Contact:

12. An ideal PHC on an average will have at least 50 OPs a day. The cost per OP contact included the cost of OT (40%), examination room, visiting hall, 60% cost of staff room, 60% salary of staff (medical officer, staff nurse, pharmacist, attendee), 60% cost of medical officer room dispensing room, ante natal check-up room, verandah dressing and injection room, 60% cost of refrigerator, 50% cost of building.

Level I Test:

13. The cost of lab equipment for 20 minutes was calculated. Salary for 20 minutes time of lab technician and an additional cost of Rs. 5 for reagents was taken.

X-ray:

14. 20 minutes time of equipment, salary for 20 minutes time of radiographer, dark room assistant and an additional cost of Rs. 30 for X-ray film was taken.

Vehicle:

15. The distance from PHCs to secondary level hospitals was assumed to be around 120 km, the time taken to cover this distance to be 3 hours, and the cost of one hour's time of the vehicle therefore turned out to be Rs. 3.42.

Casual Labor:

16. Here the driver's salary for 3 hours was taken.

Fuel:

To cover a distance of 120 km, 12 liters diesel will be needed.	
The cost of 12 liters of diesel	= Rs. 96
Operational costs	= Rs. 4
Total Cost	= Rs. 100
Cost/Km	= Rs. 100/120

Table 5: Costs at the PHC Level

	Cost/day	Cost/day/bed	Cost/hr
Furnishing and other equipment	12.23	2.04	
Lab Equipment			1.11
Minor OT	17.16	2.15	
Examination Room	1.45		
Visiting Hall	1.68		
Labor Room	6.06		
Staff Room	1.56		
Manpower	1,623.04		202.88
Medical Officer Room	3.55		
Dispensing Room	1.06		
A.N.Check Up Room	2.42		
Verandah	2.92		
Building	85.61	42.81	
Refrigerator	5.48		
Vehicle	82.19		3.42

Table 6: Final Costs at the PHC Level

	Unit Cost (Rs.)
Bed Day	73.18
OP Contact	9.65
Level I test	12.88
X-ray	48.45

Table 7: Final Costs at the PHC, Secondary, and Tertiary Levels (Unit Cost: Rupees)

	PHC	Secondary	Tertiary
Bed Day	73.18	69.52	52.7
OP Contact	9.65	2.45	14.24
Level I test	12.88	11.95	27.21
Level II test		24.86	38.28
X-ray	48.45	55.45	76.66
Major OT		55.67	125

Calculation of Manpower Component of Bed Day and OP Contact:

17. This was done by:

- Determining the staff involved in IP as well as OP care;
- Obtaining the salary devoted towards the staff;
- Find out the percentage of time devoted for IP and OP care;
- Multiplying the cost per day by percentage of time towards IP and OP care for finding out the total cost of the time devoted; and
- Dividing the cost per day devoted towards IP by number of beds in the hospital and OP by number of OPs for OP contact.

Calculation of the Equipment component of IP Day and OP Contact:

18. It was assumed that 80% of the time is devoted to IPs and 20% to OPs (collected from expert opinion). Multiplying the total day cost by the percentage of time devoted per IP and OP gave us the total cost per day devoted towards IP and OP. Then the cost by number of beds available in the hospital for IP and number of OPs was divided in order to arrive at the cost of the equipment devoted for their care.

Table 8: Cost of Different Equipment included in OP contact and in IP day

Bedded Hospitals	Furnishing & Hospital Equipment		Minor Equipment and Furnishing		Administrative Equipment		Hospital Plant (generators etc.)		Refrigerator and A/C	
30 CH	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
30 CH	4.04	0.25	1.31	0.08	0.19	0.012	1.24	0.08	1.19	0.07
50 CH	2.42	0.15	0.78	0.05	0.12	0.007	0.75	0.05	0.71	0.04
100 AH	3.82	0.24	0.81	0.05	0.40	0.025	0.59	0.04	0.96	0.06
200 DH	4.54	0.28	0.85	0.05	0.52	0.032	0.42	0.03	0.76	0.05
250 DH	3.63	0.23	0.68	0.04	0.41	0.026	0.33	0.02	0.6	0.04
300 + DH	2.79	0.17	0.53	0.03	0.32	0.02	0.26	0.02	0.46	0.03
50 MCH	2.42	0.15	0.80	0.05	0.12	0.007	0.75	0.05	0.71	0.04
100 MCH	3.82	0.24	0.82	0.05	0.40	0.025	0.59	0.04	0.98	0.08
50 Pediatrics	2.42	0.15	0.80	0.05	0.12	0.007	0.75	0.05	0.71	0.04

Table 9: Costs at Different Sizes of Secondary Hospitals

Components included	Bed day	OP Contact	Level I test	Level II test	X-ray	OT
30 Bedded Community Hospitals						
Man Power (excluding doctors)	47.52	1.38	7.25	18.98	38.98	
Building Space	4.53					
Minor Equipment & Furnishing	1.32					
Hospital Plant	1.24					
Refrigerator & AC	1.19	0.07				
Lab Equipment (Lab I & II, X-Ray)			0.24	0.48	3.88	
Administrative Equipment	0.2					
Total	**60.04**	**1.7**	**7.49**	**19.46**	**42.86**	
50 Bedded Community Hospitals						
Man Power (excluding doctors)	46.84	1.49	7.25	18.98	38.98	
Furnishing and Hospital Equipment	2.42	0.15				
Building Space	3.76					
Minor Equipment & Furnishing	0.79	0.05				
Hospital Plant	1.24	0.07				
Refrigerator & AC	0.71	0.04				
Lab Equipment (Lab I & II, X-Ray)			0.24	0.48	3.88	
Administrative Equipment	0.11	0.01				
Total	**55.87**	**1.81**	**7.49**	**19.46**	**42.86**	
100 Bedded Area Hospitals						
Man Power (excluding doctors)	46.12	1.28	9	18	38.98	10.52
Furnishing and Hospital Equipment	3.82	0.24				
Building Space	5.42					
Minor Equipment & Furnishing	0.82	0.05				
Hospital Plant	0.59	0.05				
Refrigerator & AC	0.96	0.06				
Lab Equipment (Lab I & II, X-Ray)			0.69	1.39	21.24	
Administrative Equipment	0.4	0.02				
Total	**58.13**	**1.7**	**9.69**	**19.39**	**60.22**	**10.52**

Table 9 (continued)

Components included	Bed day	OP Contact	Level I test	Level II test	X-ray	OT
200 Bedded District Hospitals						
Man Power (excluding doctors)	75.18	11.51	14.95	29.9	44.07	10.52
Furnishing and Hospital Equipment	4.53	0.28				
Building Space	4.79					
Minor Equipment & Furnishing	0.85	0.05				
Hospital Plant	0.42	0.03				
Refrigerator & AC	0.76	0.05				
Lab Equipment (Lab I & II, X-Ray)			1.26	2.53	25	
Administrative Equipment.	0.52	0.03				
Total	**87.05**	**11.95**	**16.21**	**32.43**	**69.07**	**10.52**
250 Bedded DH						
Man Power (excluding doctors)	74.88	12.56	14.95	29.9	44.07	10.52
Furnishing and Hospital Equipment	3.63	0.23				
Building Space	4.36					
Minor Equipment & Furnishing	0.68	0.04				
Hospital Plant	0.33	0.02				
Refrigerator & AC	0.6	0.04				
Lab Equipment (Lab I & II, X-Ray)			1.26	2.53	25	
Administrative Equipment.	0.41	0.03				
Total	**84.89**	**12.92**	**16.21**	**32.43**	**69.07**	**10.52**
300+ Bedded (325)						
Man Power (excluding doctors)	70.94	7.7	14.95	29.9	44.07	10.52
Furnishing and Hospital Equipment	2.79	0.17				
Building Space	3.91					
Minor Equipment & Furnishing	0.53	0.03				
Hospital Plant	0.26	0.02				
Refrigerator & AC	0.46	0.3				
Lab Equipment (Lab I & II, X-Ray)			1.26	2.53	25	
Administrative Equipment.	0.32	0.02				
Total	**79.21**	**7.97**	**16.21**	**32.43**	**69.07**	**10.52**
50 Bedded MCH						
Man Power (excluding doctors)	59.04	2.29	11.4	22.81	39.98	
Furnishing and Hospital Equipment	2.42	0.15				
Building Space	4.29					
Minor Equipment & Furnishing	0.8	0.05				
Hospital Plant	0.74	0.05				
Refrigerator & AC	0.71	0.04				
Lab Equipment (Lab I & II, X-Ray)			0.24	0.48	3.88	
Administrative Equipment.	0.12	0.01				
Total	**68.12**	**2.58**	**11.64**	**23.29**	**42.86**	
100 Bedded MCH						
Man Power (excluding doctors)	59.63	2.24	16.06	32.11	38.98	10.52
Furnishing and Hospital Equipment	3.82	0.24				
Building Space	4.3					
Minor Equipment & Furnishing	0.82	0.05				

Table 9 (continued)

Components included	Bed day	OP Contact	Level I test	Level II test	X-ray	OT
Hospital Plant	0.59	0.04				
Refrigerator & AC	0.98	0.08				
Lab Equipment (Lab I & II, X-Ray)			0.9	1.39	21.24	
Administrative Equipment.	0.4	0.02				
Total	**70.54**	**2.67**	**16.96**	**33.5**	**60.22**	**10.52**
50 Bedded Pediatrics						
Man Power (excluding doctors)	54.44	1.85	9.65	19.3	38.98	
Furnishing and Hospital Equipment	2.42	0.15				
Building Space	3.68					
Minor Equipment & Furnishing	0.79	0.05				
Hospital Plant	0.75	0.05				
Refrigerator & AC	0.71	0.18				
Lab Equipment (Lab I & II, X-Ray)			0.69	1.39	3.88	
Administrative Equipment.	0.12	0.01				
Total	**62.91**	**2.28**	**10.34**	**20.69**	**42.86**	

19. Costs which are not included in IP day or OP contact are given below.

Table 10: Electro Medical Equipment:
(Specifically the Cost of Specialists Equipment; expressed in terms of hours)

Type of Hospital	Community Hospital	Area Hospital	District Hospital
Cardiologist Equipment	0.19	1.15	2.63
ENT Equipment			0.97
Ophthalmic Equipment		0.49	0.66
Neonatal Equipment		0.75	1.43
AMC	0.23	0.46	4.39
GE		0.022	2.31
General OT	1.11	8.12	29.771

Table 11: Pneumatic, Hydraulic and Sterilization Equipment

	Community Hospital	Area Hospital	District Hospital
Cost Per Hour	7.95	8.58	13.44

Table 12: Vehicle time (expressed in hours)

Types of Vehicle	Community Hospital	Area Hospital	District Hospital
Ambulance	3.99	3.99	7.99
Pick Up Jeep	3.42	0	3.42
Total	7.42	3.99	11.42

Table 13: Costs of Specialists' Time (expressed in hours)

Specialist Category	Cost per hour
Civil Surgeon Specialists (Medicine, Surgery, Obst.. & Gyn. Pediatrics, Anesthesia, Orthopedics, Ophthalmology, Cardiology, Pathology, Radiology, etc.)	34.54
Civil Surgeon RMO	34.54
Deputy Civil Surgeon	31.49
Deputy Dental Surgeon	31.49
Civil Asst. Surgeon (Medicine, Surgery, Obst & Gyn., Pediatrics, Anesthesia, Orthopedics, Ophthalmology, Cardiology, Pathology, Radiology, ENT, and other category)	28.97

Operational Cost

20. These costs mostly include the recurrent expenditure of the hospital. The cost per day could be easily derived from the Table 14 below. The same-table can be used for secondary as well as tertiary level hospital.

Table 14: Recurrent Expenditure

	Total Cost (in Millions)
Contingency account (for soaps disinfectants etc.)	0.7
Diet (Patient/Food/Drinks)	19.9
Toilet maintenance and Supplies	1.8
Stationary	4.6
Electricity and Water Bills	4.6
Night duty meal allowance for MOs	0.2
Hospital POL and Servicing	4.4
Incinerator Fuel / Power	0.7
Library materials and Journals	0.58
Total	**38.59**
Telephone Bills	0.9
Telephone Bills for Consultants	1.1
Total	**2**

Table 15: Final Cost Estimates at Secondary level Hospitals

	Unit Cost
Bed Day	69.52
OP Contact	2.45
Level 1	11.95
Level II	24.86
X-ray	55.45
Major OT	55.67

Tertiary Level Hospitals

21. In order to arrive at different components of the infrastructure at a tertiary level hospital a survey was conducted at Gandhi hospital (1012 bedded), Secunderabad. Based on the information obtained from the survey the unit cost was derived for different components. The data is given in the following tables. The components are: bed day, OP contact, OT Hour, Level I test, Level 11 test etc. The costing procedure for the tertiary level hospital is same as secondary level hospital with the exception that in the case of tertiary level hospital the costs have been presented department wise.

A. Estimation of IP Day and OP Contact:

22. The following points were considered for calculating the IP day and OP contact:

- Staff (excluding doctors) time was calculated in the same way as secondary level hospital.
- First, the total salary of the staff for a each department was found.
- The percentage of time spent per day for IP and OP care depending upon the categories of staff was determined. For example some nurses are exclusively meant for IP care where as others are for IP and OP. For those nurses whose time is used for IP as well as OP we assumed that they spend 90% of their time for IP and 10% for OP.
- The result was then divided by the number of beds available in each department in order to find out the cost per day per bed.

B. Other staff involved in patient care:

23. Under this category, the staff included were security guards (100% IP), other clerical and official staff who work for IP and OP (90% IP, 10% OP), drivers and cleaners (90% IP, 10% OP), Dhobi, Mali and Electrician (90% IP, 10% OP), Cooks (100% IP), Pharmacist and Refractionist (50% IP, 50% OP), Staff on power supply (90% IP, 10% OP). The cost of the above staff for IP and OP care was calculated as follows:

- The cost of percentage of time devoted for IP and OP.
- All categories of staff time were then added separately (by taking into account the cost of percentage of time).
- The total cost of time devoted for IP was divided by the total number of beds to arrive at the cost per bed per day and time devoted per one OP contact by the total number of OPs.

C. Estimation of Building Space:

24. Taking cost per square feet as Rs. 300, Life expectancy as 20 years, and 400 square feet per bed, the cost of building space per bed per day was calculated as follows:

- Cost per Square feet = Rs. 300/-
- Given the life expectancy of 20 years the cost per square feet per year is Rs. 15
- Cost per day per square feet is Rs. 0.041
- Cost per day for 400 square feet is Rs. 16.44

D. Furnishing and Other Equipment:

25. This includes cots, mattresses, bed sheets, saline stands and other accessories in the ward which varyfrom department to department. The cost of ward furniture was calculated as *follows:*

- The total cost of the equipment was found.
- Assuming a life expectancy of 5 years, the total cost was divided by 5 in order to arrive at the cost per year.
- Cost per day = Cost Per Year / 365
- Cost per IP day = Cost per day / Number of beds in respective departments.

E. Generator & Lifts, Other Electrical Equipment, and Minor Equipment and Furnishing:

26. All the equipment were considered for inpatients only.

F. Furnishing and other Equipment for OP:

27. These equipments are exclusively meant for OP Services.

- The total cost of these equipment was obtained.
- Taking their life expectancy to be 5 years, the cost per year was obtained by dividing the total cost by 5.
- Cost per day = cost per year / 365 days

- Cost per OP contact = Cost per day / (No of beds in the hospital X 4)

28. In tertiary level hospital the Level II tests are done at different departments. They are Biochemistry, Radio Diagnosis, Microbiology, Serology and Pathology. For calculating the cost of Level II test the following components were considered.

1. The cost of equipment time used for the test.
2. The cost of man power involved.
3. Any additional expenditure on x-ray films, different chemicals etc.

Table 16: Costs of Different Departments at Tertiary Level Hospitals

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Radiology Department (IP)					
Staff					3.5
Machinery Cost					43.16
Operational Cost					30
Total					**76.66**
Radiology Department (OP)					
Staff					3.5
Machinery Cost					15.75
Operational Cost					30
Total					**49.25**
Biochemistry Department					
Staff				26.31	
Machinery Cost				1.42	
Operational Cost				10	
Total				**37.73**	
Microbiology Department					
Staff				18.67	
Machinery Cost				49.57	
Operational Cost				10	
Total				**78.24**	
Serology Department					
Staff					
Machinery Cost				13.14	
Operational Cost				10	
Total				**23.24**	
Clinical Pathology					
Staff			13.14		
Machinery Cost			9.08		

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Operational Cost			5		
Total			**27.22**		
Blood Bank					
Staff			8.01		
Machinery Cost			1.28		
Operational Cost			5		
Total			**14.29**		
Medicine					
Staff excluding Doctor	24.39	0.68			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	3.38				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**59.29**	**1.23**			
Acute Medical Care					
Staff excluding Doctor	94.21	2.08			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	2.21				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Total	**142.26**	**2.63**			
Neurology					
Staff excluding Doctor	23.56	0.65			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	2.55				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**57.66**	**1.2**			
Cardiology					
Staff excluding Doctor	35.37	0.98			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	6.94				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**73.86**	**1.53**			
Dermatology					
Staff excluding Doctor	5.83	13.13			
Other Staff	14.75	0.39			
Building Space	16.44				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Furnishing and other equipment	2.21				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**39.6**	**13.68**			
STD					
Staff excluding Doctor	131.26	3.65			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	2.79				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**165.6**	**4.2**			
GE					
Staff excluding Doctor	60.18	1.67			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other equipment	2.93				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**94.63**	**2.22**			
Pediatrics					
Staff excluding Doctor	14.84	0.41			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.1				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**48.45**	**0.96**			
Surgical					
Staff excluding Doctor	32.17	0.89			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.32				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**66.05**	**1.44**			
Orthopedics					
Staff excluding Doctor	36.78	1.02			

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.14				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**70.47**	**1.57**			
Urology					
Staff excluding Doctor	60.05	1.67			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.67				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**93.28**	**2.19**			
ENT					
Staff excluding Doctor	59.05	1.64			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.67				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**93.28**	**2.19**			
Neuro Surgery					
Staff excluding Doctor	39.37	1.09			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	8.2				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**79.12**	**1.64**			
Cardiothoracic					
Staff excluding Doctor	34.74	0.97			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	6.92				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**73.22**	**1.52**			
Pediatric Surgery					

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Staff excluding Doctor	44.67	1.24			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.54				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**78.76**	**1.79**			
Dental					
Staff excluding Doctor	268.75	14.93			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	1.64				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**301.94**	**15.48**			
Ophthalmology					
Staff excluding Doctor	134.37	3.73			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.56				
Generator and Lifts	0.01				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**168.49**	**4.28**			
Traumatology					
Staff excluding Doctor	134.37	3.73			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	9.8				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**133.33**	**0.55**			
Plastic Surgery					
Staff excluding Doctor	55.77	1.55			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.24				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Total	**89.57**	**2.1**			
Obst & Gyn					
Staff excluding Doctor	17.1	0.47			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.15				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**50.8**	**1.02**			
Family Planning					
Staff excluding Doctor	12.68	0.35			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	2.25				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**46.48**	**0.9**			
Paying Cubicles					
Staff excluding Doctor	74.44				
Other Staff	15.14				
Building Space	16.44				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Furnishing and other Equipment	2.62				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block					
Total	**109.1**				
Endocrinology					
Staff excluding Doctor	66.75	1.85			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	1.74				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**100.01**	**2.4**			
Nephrology					
Staff excluding Doctor	80.1	2.23			
Other Staff	14.75	0.39			
Building Space	16.44				
Furnishing and other Equipment	3.27				
Generator and Lifts	0.01				
Other Electrical Equipment	0.32				
Minor Equipment and Furnishing	0.04				

Table 16 (continued)

Salary Component	Bed/Day	OP Contact	Level I Test	Level II Test	X-Ray
Furnishing and Hospital Equipment. OP Block		0.16			
Total	**114.93**	**2.78**			
Causality					
Staff (including doctors)		2,242			
Building Space		16.44			
Furnishing and other Equipment		3.38			
Generator and Lifts		0.01			
Other Electrical Equipment		0.32			
Minor Equipment and Furnishing		0.04			
Total		**2,262**			
ICCU					
Staff	225.3				
Lab Equipment	4.48				
Ward Furnishing	176.12				
Total	**402.9**				

Calculation of Cost of Equipment used in Operation Theater by Different Departments

29. The method applied for arriving at these figures is same as for secondary level hospitals: The cost of the equipment per year is obtained by dividing the total cost of it by the life expectancy of the equipment used. The cost/day and cost/hour is then determined.

Table 17: Equipment used by the Specialists for different activities expressed in hours (Not included in IP or OP day)

OT	Cost Per Hour
General	46.72
Dental	16.75
ENT	64.37
Ophthalmology	49.39
Urology'	80.97
Gynecology OT	48.26
Cardio thoracic	425.14
Labor Room	6.48
Neonatal Equipment	166.54
Surgical Equipment Pack	37.58

Specialists Time:

30. In almost all the departments the specialists are professors and assistant professors. Their salary is the same for all the departments. In addition there are also specialists in ICCU. The results have been given in Table 18 below.

Table 18: Specialists Costs per Hour

Specialists	Cost per hour
Professors of all the Departments	34.54
Asst. Professors of all Departments	26.97
Medical officer in ICCU	26.92

Vehicle Hours:

31. There are 2 ambulances and 1 jeep in a tertiary level hospital. Assuming that the life expectancy of the vehicles to be 10 years and working hours as 24 hours the following are the hourly costs of vehicles available in a tertiary level hospital.

Table 19: Vehicle Cost per Hour

Type of Vehicle	Cost per Hour (Rs.)
Ambulance	7.99
Jeep	3.42

Table 20: The Final Cost Estimates at Tertiary Level Hospital

	Unit Cost (Rs.)
Bed Day	52.7
OP Contact	14.24
Level I Test	27.21
Level II Test	38.28
X-ray	76.66
Major OT	125

Summary Findings of Section B

32. The focus of this analysis was to show that substantial cost savings can result if health care services are provided at the lower tiers of the health care system. This is particularly true between the tertiary and first referral/secondary tiers where the range of services provided are similar. Comparisons between secondary and primary tiers are more difficult since the services offered at these two levels are quite different.

33. The summary table shows that except for bed day, where unit costs at tertiary facilities are somewhat lower, unit costs for all categories are considerably lower at the secondary level. For example: In terms of unit costs, the cost of outpatient contact at the tertiary level are almost six times more expensive than at the secondary level, level I tests are twice as expensive at the tertiary level compared to the secondary level, level II tests are 50 percent higher, x-ray costs are 40 percent higher, and major OT is more than twice as expensive as at the secondary level. Costs are higher at the tertiary level because infrastructure costs and some recurrent costs such as buildings and facilities are much higher at the tertiary level.

34. As noted above, it is not possible to compare unit costs between primary and secondary levels since the services provided at the PHCs are preventive in nature, while those at the secondary levels are often more curative. However, some comparisons are possible. These show that unit costs per bed day at the primary and secondary levels are similar, while the costs for outpatient contact and level I tests are lower at the secondary level.

Table 21: Final Costs at the PHC, Secondary, and Tertiary Levels (Unit cost: Rs.)

	PHC	Secondary	Tertiary
Bed Day	73.18	69.52	52.70
OP Contact	9.65	2.45	14.24
Level I test	12.88	11.95	27.21
Level II test		24.86	38.28
X-ray	48.45	55.45	76.66
Major OT		55.67	125.00

CLINICAL AND DIAGNOSTIC SERVICE NORMS

The analysis of cost savings as a result of streamlining and rationalization of service norms is shown in Annex 2. This Annex presents the clinical and service norms at the different tiers of the health system that were developed in each of the four states of Andhra Pradesh, Karnataka, West Bengal and Punjab through a participatory approach and based largely on the major disease burden. They provide examples of how decisions with regard to a basic package of services can be developed at the state level. The basis for rationalizing the range of clinical and diagnostic service norms appropriate for the primary, first referral and tertiary level of health care is based on the burden of disease (BOD) and the evolving epidemiological pattern in each state. Service norms for the four states in this study were arrived at through a consultative and collaborative process involving leading health practitioners and policy-makers from different levels of the health care delivery system, including the private and NGO sectors. Workshops were held to determine a specific set of service norms suitable for each state. These proposed norms were subsequently provided to the Department of Health and Family Welfare (DOHFW) in each state. The DOHFW reviewed the technical norms through a further consultative process and estimated the associated costs of providing these services. These were then reviewed by the Department of Finance to assess the financial implication of providing the package of services. The World Bank provided technical assistance and advice, particularly with regard to cost-effectiveness analyses and analysis of financial implications for the state. The final result was a specific set of service norms for each of the four states, as shown in Tables 1-4 below[2]:

Table 1: Andhra Pradesh Service Norms

Surgical Services

Condition / Procedure	Primary Health Care	SECONDARY			Tertiary level facilities
		Community Hospital	Area Hospital	District Hospital	
1. Basic techniques	Incision & Drainage	Incision & drainage Wound debridement	Same as CH	Split skin graft Biopsy of skin	N/A
2. Trauma & Life Support	Resuscitate, stabilise and refer	Same as PHC + securing airway; circulatory support, stabilisation of fractures	Same as CH + Investigate & manage **Exploratory laparotomy	Same as CH + follow up management, specialist orthopaedician	Severe head injuries & injuries of spinal cord

[2] For AP, service norms shown are for primary, first referral and tertiary level facilities. For Karnataka, Punjab and West Bengal, service norms are shown for first referral level facilities.

Table 1: Andhra Pradesh Service Norms
Continued

Surgical Services

Condition / Procedure	Primary Health Care	SECONDARY			Tertiary level facilities
		Community Hospital	Area Hospital	District Hospital	
3. Eye	Infections Community eye care programme	Removal of foreign bodies	Same as CH	Management of corneal abrasion, ulcer; * cataract & glaucoma surgery	Corneal grafting Retinal diseases Vitreous surgery Intra-ocular foreign bodies
4. Ear Nose & Throat		Removal of foreign bodies Epistaxis control	I & D of peritonsillar & retropharyngeal abscesses, tonsillectomy	As AH + Laryngoscopic removal of FB & drainage of mastoid abscess.	All requiring microsurgery
5. Teeth & Jaw	NA	Conservative dentistry Tooth extraction	same as CH	As AH + management of jaw fractures	N/A
6. Chest	Resuscitate & refer	Rib fracture Breast abscess	Same as CH + stabilise & refer mediastinal injuries Tracheostomy, Thoracocentesis	Same as AH	Mediastinal injuries and tumours. Heart & lung surgery
7. Gastrointestinal	N/A		All surgical procedures listed (incl. *appendectomy)	Same as AH	Abdominal malignancies. Hepatic surgery
8. Genito-urinary	Acute urinary retention	Same as PHC + cystotomy, hydrocele, circumcision, vasectomy	Same as CH + urethral dilitation	Same as CH + management of ruptured bladder & urethra. Urolithiasis, prostatectomy	GU malignancies
9. Musculoskeletal	N/A	Closed reduction of uncomplicated fractures, POP, traction	Same as CH	Open reduction of fractures	Spinal fractures Joint reconstructions

* If possible

** Training to be provided to general duty medical officers

Table 1: Andhra Pradesh Service Norms
Continued

Obstetrics and Gynaecology

Condition / Procedure	Primary Health Care	SECONDARY			Tertiary level facilities
		Community Hospital	Area Hospital	District Hospital	
1. Complicated deliveries	Refer	Forceps, vacuum extraction, evacuation of retained products, * Caesarean			
2. Threatened or incomplete abortion	Refer	Conservative management D & C			
3. Family planning	Tubectomy IUD	Same as PHC + laparascopic tubectomy			
4. Lower abdominal pain & ectopic pregnancy	Refer	Stabilise & refer	Exploratory laparotomy		
5. Vaginal diseases	Refer	Diagnosis & management	Exam under anaesthesia		
6. High risk pregnancy	Early diagnosis & timely referrral	Same as PHC	Investigate initiate management		
7. PID	Refer	Diagnosis & therapy			
8. Menstrual irregularities	Refer	Refer	Diagnosis & management		
9. Infertility	Refer	Refer	Diagnosis & management		
10. Cervical erosion	Refer	Refer	PAP smear & * biopsy	As AH + biopsy	Cancer surgery
11. Malignancies	Refer	Refer	Diagnosis		Surgery radiotherapy

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Condition / Procedure	Primary Health Care	SECONDARY			Tertiary level facilities
		Community Hospital	Area Hospital	District Hospital	
1. Basic technique		*Care of airway Intubation Equipment handling			
2. General & regional anaesthesia			Management		

* If possible

** Training to be provided to general duty medical officers

Table 1: Andhra Pradesh Service Norms
Continued

Clinical Services

CONDITION	PRIMARY HEALTH CARE	SECONDARY HEALTH CARE HOSPITALS			TERTIARY HEALTH CARE FACILITIES
		CH	AH	DH	
1. Convulsions	Symptomatic & refer	Symptomatic treatment & refer	Investigate, initiate, L.P., refer	Advanced investigation, manage, L.P., refer	CT scan, advanced neurological treatment
2. Loss of consciousness / coma	Symptomatic & supportive		Initiate treatment, manage, refer	Initiate treatment, manage, refer	CT Scan advanced neurological treatment
3. Encephalitics, meningitics, CNS infections	Symptomatic treatment, refer	Symptomatic treatment & refer	Manage, refer	Manage, support	CT Scan, advanced neurological treatment
4. Head injuries	First Aid, refer	Initiate, observe, refer	Manage, stabilise, refer for advanced management	Manage, stabilise, refer for advanced management	Advanced management with altered sensorium with fracture
5. Respiratory infections	Initiate, manage & refer	Investigate, manage complications	pH change, severe distress	pH change, severe distress	.
6. Asthma	Symptomatic, refer	Manage	Severe condition (status)	Severe condition (status)	.
7. C.O.P.D.	Supportive, symptomatic	Symptomatic treatment & refer	Investigate, manage, follow up	Investigate, manage, follow up	.
8. Ear infection	Manage	Manage	.	.	.
9. Cardio-vascular problems, hypertension	Mild moderate: manage	Mild moderate: manage, follow up	Accelerated and severe	Accelerated and severe conditions	.
10 C.V.A.	Symptomatic management, refer	Symptomatic management, refer	Manage, follow up	Manage, follow up	.
11 Angina, infarctions	Symptomatic management, refer	Investigation, management, refer	Investigate, manage, refer, follow up	Investigate, manage, refer, follow up	Complications
12 C.H.F.	Symptomatic management, refer	Initiate, manage, refer	Complicated, follow up	Complicated: follow up	.
13 Rheumatic fever and rheumatic heart	Symptomatic management, refer	Symptomatic ,management, refer, follow up	Investigate, manage, refer, follow up	Investigate, manage	Complications
14 GI bleeding, ulcers, Diseases	Symptomatic	Symptomatic	Endoscopic investigation, treatment	Endoscopic investigation, manage	Complications
15 G E.	Manage mild, moderate refer	Manage mild, moderate refer	Severe	Severe	.
16 Hepatitis	Symptomatic treatment	Initiate management, refer	Confirm diagnosis, manage	Confirm diagnosis, manage	.

Table 1: Andhra Pradesh Service Norms
Continued

Clinical Services

CONDITION	PRIMARY HEALTH CARE	SECONDARY HEALTH CARE HOSPITALS			TERTIARY HEALTH CARE FACILITIES
		CH	AH	DH	
17 Cirrhosis	Symptomatic	Symptomatic	Investigate, manage, follow up	Investigate, manage, follow up	Complications
18 Renal UTI	Symptomatic, refer	Symptomatic, refer	Diagnosis, manage	Diagnosis, manage	.
19 Acute Renal failure	Symptomatic, refer	Initiate, refer	Investigate, management, refer	Investigate, management	Dialysis and advanced management
20 Musculoskeletal	Symptomatic, refer	Symptomatic, refer	Manage	Manage	Recurrent: further evaluation,complications
21 Anaemia	Preventive and primary	Manage moderate	Manage severe	Manage severe	.
22 Tetanus	Symptomatic, initiate	Symptomatic, initiate	Manage	Manage	.
23 Malaria	Manage	Manage	Severe	Severe	.
24 AIDS			Diagnosis, initiate management	Diagnosis, initiate, management	Diagnose and manage
25 Psychiatric	Symptomatic management	Symptomatic management	.	.	Severe
26 Psychiatric disorder	Manage mild, moderate	Manage mild, moderate refer	.	.	Severe
27 Poisoning	Initiate, manage, refer	Initiate and manage, refer	Investigate, manage	Investigate, manage	.
28 Neonatal resuscitation	Initiate and refer	Initiate, refer	Manage	Manage	.
29 Neonatal cardio-pulmonary defects	Initiate and refer	Initiate, refer	Investigate, manage, follow up	Investigate, manage, follow up	Complications
30 Diabetes	Diagnosis, initiate	Diagnosis, initiate	Complications	Complications	.
31 Snake bite & dog bite	Manage	Manage	Complications	Complications	.
32 Skin disorders	Refer	Refer	Symptomatic, refer	Manage	.
33 S.T.D.s	Manage	Manage	Diagnose	Manage	.

Table 1: Andhra Pradesh Service Norms
Continued

Diagnostic Services

	X-RAY INVESTIGATIONS	CH	AH	DH
	PLAIN X-RAYS:			
1	Chest	Yes	Yes	Yes
2	Skull	Yes	Yes	Yes
3	Post Nasal Space (sinus etc)	Yes	Yes	Yes
4	Bones	Yes	Yes	Yes
5	Spines	Yes	Yes	Yes
6	Kidney, Ureter & Bladder	Yes	Yes	Yes
7	Abdomen	Yes	Yes	Yes
	CONTRAST:			
8	Barium swallow	No	Yes	Yes
9	Barium meal series	No	Yes	Yes
10	Barium enema	No	Yes	Yes
11	Cholecystogramme	No	Yes	Yes
12	Intra-Venous Pyelography	No	Yes	Yes
13	Retrograde pyelography	No	Yes	Yes
14	Hystero-salpingography	No	Yes	Yes
15	Sialogramme (sinus etc)	No	Yes	Yes
16	Myelography	No	No	Yes

	ULTRASONOGRAPHY	CH	AH	DH
1	Linear scanning : (with software) Ob/Gy., abdomen	No	No	Yes
2	Linear sector scanning : (with software) Ob/Gy., abdomen	No	Yes	No
3	Linear sector scanning : (with software) Ob/Gy., abdomen & cardiac	No	No	Yes

Table 1: Andhra Pradesh Service Norms
Continued

Diagnostic Services

	IMAGING STAFF REQUIRED	CH	AH	DH
1	Radiographer	1	2	3
2	Darkroom Assistant	1	2	3
	SPACE REQUIRED:			
1	X-Ray room	1	1	2
2	Darkroom	1	1	1
3	Changing room with W.C.	1	2	2
4	Office	No	1	1
5	Drying room / stores	No	1	1
	LAB INVESTIGATIONS	CH	AH	DH
1	Malaria parasite	Yes	Yes	Yes
2	Common parasites, incl. eggs, large cysts etc	Yes	Yes	Yes
3	Common bacteriology (stool examination)	Yes	Yes	Yes
4	Protein & glucose in urine	Yes	Yes	Yes
5	Urine deposits, crystals, casts & bacteria cells	Yes	Yes	Yes
6	Haemoglobin concentration	Yes	Yes	Yes
7	Erythrocyte Sedimentation Rate.	Yes	Yes	Yes
8	a) Differential count (WBC & RBC)	Yes	Yes	Yes
	b) Red cell morphology	No	Yes	Yes
9	a) Platelet count	No	Yes	Yes
	b) Total WBC	Yes	Yes	Yes
	c) Prothrombin	No	No	Yes
10	Reticulocyte count	No	No	Yes
11	Packed Cell Volume	No	Yes	Yes
12	Blood grouping & cross matching	Yes	Yes	Yes
13	Blood glucose & urea	Yes	Yes	Yes
14	Mantoux reaction (TB test)	Yes	Yes	Yes

Table 1: Andhra Pradesh Service Norms
Continued

Diagnostic Services

	Lab tests (cont'd)	CH	AH	DH
15	Pulmonary T.B. (Ziehl-Neelsen method)	Yes	Yes	Yes
16	Leprosy *(separate vertical programme)*	No	No	No
17	V.D.R.L. (syphilis)	No	Yes	Yes
18	Sickle cell	No	No	Yes
19	Leukemia	No	No	Yes
20	H.I.V. (AIDS - *separate national programme*)	No	No	Yes
21	C.S.F. (glucose & urea)	No	Yes	Yes
22	Blood-gas analysis	No	No	Yes
23	Blood cholestrol & creatinine	No	Yes	Yes
24	Liver Function Tests (enzyme levels)	No	Yes	Yes
25	Lipid profile	No	No	Yes
26	Electrolyte analyses	No	Yes	Yes
27	A.S.O. titre (antibody to strept. O)	No	Yes	Yes
28	Rosewaaler test (for rheumatoid factor)	No	No	Yes
29	Widal's reaction (test for typhoid fever)	No	Yes	Yes
30	Australian antigen (hepatitis B)	No	No	Yes
31	Specific gravity of urine	Yes	Yes	Yes
32	pH of urine	No	Yes	Yes
33	Cell culture tests - ID & sensitivity (eg. bacteria, fungi)	No	No	Yes
34	Skin allergy (patch testing - *tertiary level only*)	No	No	No
35	Serum electrophoresis *(tertiary level only)*	No	No	No
36	Hormonal estimation (Pap smear)	No	No	Yes
37	Sperm count	No	No	Yes
38	Lithium carbonate test *(tertiary level only)*	No	No	No
39	Blood alcohol concentration *(by forensic labs)*	No	No	No
40	Serum bilurubin	No	Yes	Yes
41	Histopathology (general) eg. carcinoma biopsies	No	No	Yes

Table 2: Karnataka Service Norms

I (a) : Medical conditions & procedures

Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
i) Upper respiratory infection	Manage	Manage	Manage	Manage
ii) Lower respiratory infection	Treat bronchitis & pneumonia	Treat bronchitis & pneumonia	Treat referred severe cases	Treat referred severe cases
iii) Asthma	Manage mild cases symptomatically. Refer severe cases	Manage mild cases symptomatically. Refer severe cases	Investigate & treat severe cases	Investigate & treat severe cases
iv) Tuberculosis *	Sputum test, X-ray and ESR, manage & treat	Sputum test, X-ray and ESR, manage & treat	Sputum test, X-ray and ESR, manage & treat	Sputum test, X-ray and ESR, manage & treat
v) Procedures i) Pleural aspiration ii) Plural biopsy iii) Bronchoscopy	Manage & treat No No	Manage & treat No No	Manage & treat No No	Manage & treat Manage & treat Manage & treat
COPD	Supportive & symptomatic treatment then refer	Supportive & symptomatic treatment then refer	Investigate, manage & follow-up	Investigate, manage & follow-up

I (b) : Paediatrics

ARI	Treat & refer if no improvement	Treat & refer if no improvement	Investigate & manage	Investigate & manage
LRI	Mild symptomatic treatment, refer if no improvement	Mild symptomatic treatment, refer if no improvement	Investigate & manage	Investigate & manage
Childhood asthma & allergic bronchitis	If no respiratory distress, manage	If no respiratory distress, manage	If no respiratory distress, manage	If no respiratory distress, manage
Tuberculosis *	Suspected cases to be referred (because of no sputum)	Without respiratory distress, manage	Investigate & treat	Investigate & treat

* No duplication of any facilities/equipment provided under National TB Programme

Table 2: Karnataka Service Norms *(continued)*

1 (c) : Medical conditions & procedures (cont'd)				
Condition/Procedure	**Community hospital 30 beds**	**Community hospital 50 beds**	**Sub-district hospital 100 beds**	**District hospital >250 Beds**
a) Procedures i) Pericardial tap ii) Foreign body removal iii) Lumbar puncture iv) Physiotherapy	No Do simple cases Yes (perform) No	No Do simple cases Yes (perform) No	Yes (perform) Do simple cases Yes (perform) Yes	Yes (perform) Yes (perform) Yes (perform) Yes
b) Malignancy / Neoplasm	Symptomatic treatment & refer	Symptomatic treatment & refer	Symptomatic treatment & refer	Symptomatic treatment & refer
c) Rheumatic fever including prophylaxis *	Treat	Treat	Treat	Treat
d) Essential hypertension	Treat	Treat	Treat	Treat
e) Malignant hypertension	Refer	Refer	Refer	Treat
f) Stable/unstable/post myocardial infarction angina	Refer	Refer	Refer	Refer to tertiary level if necessary
g) Acute myocardial infarction	Treat & manage	Treat & manage	Treat & manage	Treat & manage
h) Rheumatic heart disease with pregnancy	Refer Depending on advice, follow up at secondary level	Refer Depending on advice, follow up at secondary level	Refer Depending on advice, follow up at secondary level	Treat Refer if necessary to tertiary level Depending on advice, follow up at secondary level
i) Congenital heart disease	Symptomatic treatment and refer	Symptomatic treatment and refer	Symptomatic treatment and refer	Symptomatic treatment and refer to tertiary level
j) CCF	Symptomatic treatment and refer	Symptomatic treatment and refer	Symptomatic treatment and refer	Treat If necessary refer to tertiary level
k) Convulsions including epilepsy	Treat &manage	Treat &manage	Treat &manage	Treat & manage

Table 2: Karnataka Service Norms *(continued)*

1 (c) : Medical conditions & procedures (cont'd)

Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
i) Coma	Initial treatment and refer	Initial treatment and refer	Initial treatment and refer	Initial treatment and manage. If no improvement, refer to tertiary level
ii) Poisoning	Treat	Treat	Treat	Treat
iii) Encephalitis	Symptomatic treatment	Symptomatic treatment	Symptomatic treatment	Symptomatic treatment
iv) Meningitis	Symptomatic treatment	Symptomatic treatment	Symptomatic treatment Refer if complications	Symptomatic treatment Refer if complications

* *Refer rheumatic heart diseases to tertiary level*

1 (d) : Medical conditions & procedures (cont'd)

ondition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Head injuries	Initial treatment Observe & refer if necessary	Initial treatment Observe & refer if necessary	Investigate & manage	Investigate & manage
C V accidents	Initial treatment Observe & refer if necessary	Initial treatment Observe & refer if necessary	Investigate & manage	Investigate & manage
Psychosis *	Treat minor cases, refer others	Treat minor cases, refer others	Treat minor cases, refer others	Treat minor cases, refer others
Neurosis	Treat minor cases, refer others	Treat minor cases, refer others	Treat minor cases, refer others	Treat minor cases, refer others
Leprosy **	Treat & manage	Treat & manage	Treat & manage	Treat & manage

Table 2: Karnataka Service Norms *(continued)*

I (d) : Medical conditions & procedures (cont'd)

Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Scabies & fungal infection	Treat	Treat	Treat	Treat
Pemphigus	Initiate treatment & refer	Initiate treatment & refer	Treat	Treat
Collagen diseases	Refer	Refer	Refer	Investigate & treat
Skin allergy	Treat	Treat	Treat	Treat
Sarcoidosis	Refer	Refer	Refer	Investigate & treat
Psoriasis	Treat	Treat	Treat	Treat
STDs	Treat	Treat	Treat	Treat
Blood screening	Yes	Yes	Yes	Yes
HIV testing	No	No	Yes (perform)	Yes (perform)
Gastrointestinal bleeding	Resuscitation & conservative management if bleeding is minimum (about 100-200ml) with good vital signs If bleeding is more than 500ml, refer for endoscopy	Resuscitation & conservative management if bleeding is minimum (about 100-200ml) with good vital signs If bleeding is more than 500ml refer for endoscopy	Diagnostic investigation & treatment Refer if necessary	Endoscopy, treat & manage
Gastro-enteritis & dysentery	Treat & manage	Treat & manage	Treat & manage	Treat & manage
Hepatitis	Less than one month duration: treat with steroids	Less than one month treat with steroids	More than one month investigate & treat	More than one month, investigate & treat
Hepatic coma	Initiate treatment & refer	Initiate treatment & refer	Investigate, treat & manage	Investigate, treat & manage
Amoebiasis	Treat & manage	Treat & manage	Treat & manage	Treat & manage

Not under control with conventional anti psychotic drugs refer to tertiary for ECT etc
Supplementation of facilities equipment provided under National Leprosy Programme. Refer to tertiary level for reconstructive surgery.

Table 2: Karnataka Service Norms *(continued)*

I (c) : Medical conditions & procedures (cont'd)

ondition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Cholecystitis	Symptomatic treatment & refer	Symptomatic treatment & refer	Investigate & treat	Investigate & treat
Pancreatitis	Symptomatic treatment & refer	Symptomatic treatment & refer	Investigate & manage	Investigate & manage For therapeutic endoscopy or surgery refer to tertiary level
Cirrhosis	Symptomatic treatment & refer	Symptomatic treatment & refer	Investigate & manage	Investigate & manage Refer if complication
Procedures				
i) Abdominal tapping	Yes	Yes	Yes	Yes
ii) Liver biopsy	No	No	No	Yes
iii) Fibre-optic endoscopy	No	No	Yes	Yes
iv) Bone marrow assay	No	No	Yes	Yes
Diabetes	Manage	Manage	Manage	Manage with complications
UTI	Symptomatic treatment & refer	Symptomatic treatment & refer	Investigate & manage	Investigate & manage
Acute nephritis	Manage if no complication Otherwise refer	Manage if no complication Otherwise refer	Investigate & manage	Investigate & manage
Nephrotic syndrome	Initiate treatment & manage for one month If disease persists, refer	Initiate treatment & manage for one month If disease persists, refer	Investigate & manage	Investigate & manage
Renal failure	Stabilize & refer	Stabilize & refer	Stabilize & refer	Investigate and manage , using peritoneal dialysis if required Refer
Anaemia	Manage & treat Refer if no improvement	Manage & treat Refer if no improvement	Investigate and manage severe anaemia Refer if necessary	Investigate and manage severe anaemia Refer if necessary
Leukaemia	Refer suspect cases	Refer suspect cases	Investigate & manage Refer if no improvement	Investigate & manage Refer if no improvement
Thalassaemia	Give blood transfusion and refer	Give blood transfusion and refer	Treat & refer	Treat & refer

Table 2: Karnataka Service Norms *(continued)*

I (e) : Medical conditions & procedures (cont'd)

ondition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
I (f) : Neonatal				
Normal New Born	Manage	Manage	Manage	Manage
Premature >2kg	Manage Refer if any complications	Manage Refer if any complications	Manage	Manage
Premature < 2 kg	Refer	Refer	Manage	Manage
Jaundice within 24 hours	Refer	Refer	Investigate & manage	Investigate & manage
Convulsions	Initiate treatment and refer if not controlled	Initiate treatment and refer if not controlled	Diagnose & treat	Diagnose & treat

2 (n) : Surgical conditions & procedures

dition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Abscess including breast & perianal	Incision & drainage	Incision & drainage	Incision & drainage	Incision & drainage
Wound debridement	Simple wounds	Simple wounds	Major & compound wounds	Major & compound wounds
Trauma & life support	Resuscitate, stabilize & refer	Resuscitate, stabilize & refer	Investigate & manage, if needed refer	Investigate & manage
Musculo-skeletal	Simple manage Complicated refer	Simple manage Complicated refer	Manage, refer if necessary	Manage

Table 2: Karnataka Service Norms *(continued)*

2 (a) : Surgical conditions & procedures

Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Abdominal injuries (emergency)	Stabilize & refer	Stabilize & refer	Manage	Manage
Abdominal surgeries (planned)	Refer	Yes (if anaesthetist available)	Yes	Yes
Appendectomy	No	Optional	Yes	Yes
Haemorrhoids	Refer	Optional (if anaesthetist available)	Manage	Manage
Anal fissure	Manage	Manage	Manage	Manage
Acute retention of urine	Catheterise & refer	Catheterise & refer	Manage	Manage
Circumcision	Yes	Yes	Yes	Yes
Hydrocele	Yes	Yes	Yes	Yes
Herniorrhaphy	Refer	Yes	Yes	Yes
Urethral dilatation	Refer	Refer	Yes	Yes
Rupture of bladder & urethra	Refer	Refer	Refer	Manage
Major urological procedures	Refer	Refer	Refer	Manage if necessary
Fractured spine	Stabilize & refer	Stabilize & refer	Refer if necessary	Manage
Ophthalmic procedures *	Removal of foreign bodies	Removal of foreign bodies	Management of corneal aberration, ulcer & cataract	Management of corneal aberration, ulcer & cataract, and glaucoma surgery
Dental surgery	Conservative dentistry, tooth extraction, all types of fillings	Conservative dentistry, tooth extraction, all types of fillings	Conservative dentistry, tooth extraction, all types of fillings	All types of extractions, impactions & jaw fractures

* For corneal grafting, retinal detachment, vitreous surgery, intraocular foreign bodies, refer to tertiary level

Table 2: Karnataka Service Norms *(continued)*

Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
2 (b) : Surgical conditions & procedures				
a) Gastro-Enterology (endoscopy)	Refer	Refer	Sigmoidoscopy	Oesophago-gastroscopy, colonoscopy
b) Anaesthesiology	Care of airway equipment	Care of airway equipment Management of general & regional anaesthesia if possible	Management of general & regional anaesthesia	Management of general & regional anaesthesia
2 (c) : Thoracic surgery				
a) Simple fracture ribs	Manage	Manage	Manage	Manage
b) Intercostal under-water seal drainage	Yes *	Yes *	Yes *	Yes*
c) Flail chest	Resuscitate & refer	Resuscitate & refer	Resuscitate & refer	Manage with ventilatory support
d) Mediastinal injury	Resuscitate & refer	Resuscitate & refer	Resuscitate & refer	Manage, refer if thoracotomy needed
e) Acute empyema	Manage by intercostal drainage (ICD)	Manage by ICD	Manage by ICD	Manage by ICD
f) Chronic empyema	Refer	Refer	Refer	Rib resection & drainage Refer if decalcification present
g) Thoracotomy	Yes, only in emergency	Yes, only in emergency	Both emergency & elective	Both emergency & elective
h) Other elective thoracic procedures **	Refer	Refer	Refer	Manage, refer if necessary
i) Foreign bodies in the oesophagus and tracho-bronchial tree ***	Refer	Refer	Refer	Manage, refer if necessary

Table 2: Karnataka Service Norms *(continued)*

2 (d) : Ear, Nose & Throat

onditlon/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
) Foreign bodies in nose & ears	Nose remove Ear refer	Nose & ear remove	Manage if ENT specialist available	Manage
) Epistaxis	Manage	Manage	Manage	Manage
Peritonsillar abscess	Refer	Manage	Manage	Manage
Tonsillectomy	Refer	Refer	Manage	Manage
Tracheostomy	Yes (perform in emergency)	Yes (perform in emergency)	Yes	Yes
Mastoid abscess	Refer	Refer	Manage if ENT specialist available	Manage

2 (e) : Neurosurgery

Head Injury ****	Initiate, observe & refer	Manage, stabilize, refer for advanced management	Manage, stabilize, refer for advanced management	Manage, stabilize, refer for advanced management

* *If trained in thoracic surgery for one or two months*
** *Refer all major thoracic procedures to tertiary level*
*** *Refer to tertiary level*
**** *Refer to tertiary level for CT scan & advanced management*

Table 2: Karnataka Service Norms *(continued)*

3. : Obstetrics & Gynaecology				
Condition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
) High risk pregnancies including APH, PET, eclampsia	Early diagnosis & refer	Refer if necessary	Investigate & manage if possible	Manage
) Episiotomy	Repair	Repair	Repair	Repair
) Craniotomy (dead foetus, hydrocephalus)	Yes	Yes	Yes	Yes
) Low forceps delivery	Yes	Yes	Yes	Yes
) Vacuum extraction	Yes	Yes	Yes	Yes
) Breach delivery	Refer	Refer if complicated	Manage	Manage
) Manual removal of placenta	Refer	Manage (if anaesthetist available)	Manage	Manage
) Inversion of the uterus	Refer	Refer	Refer if complicated	Manage
) Rupture of the uterus	Refer	Refer	Manage	Manage
) Threatened or incomplete abortion	Conservative D&C	Conservative D&C	Conservative D&C	Conservative D&C
) Ruptured ectopic pregnancy	Stabilize & refer	Stabilize & refer	Laparotomy	Laparotomy
) Female sterilization, IUD	Yes Arrange special programmes	Yes Arrange special programmes	Yes Arrange special programmes	Yes Arrange special programmes
) Laproscopic sterilization	Yes Arrange special programmes	Yes Arrange special programmes	Yes Arrange special programmes	Yes Arrange special programmes
) Menstrual irregularities	Refer	Refer	Diagnosis & management	Diagnosis & management
) Infertility	Refer	Refer	Diagnosis & management	Diagnosis & management
) Planned surgery for prolapsed UT, DUB etc	Refer	Refer	Manage	Manage

Table 2: Karnataka Service Norms *(continued)*

3. : Obstetrics & Gynaecology

ondition/Procedure	Community hospital 30 beds	Community hospital 50 beds	Sub-district hospital 100 beds	District hospital >250 Beds
Cervical erosion	Refer	Refer	PAP smear, biopsy	PAP smear, biopsy, & manage
PID	Manage & refer	Manage & refer	Manage	Manage
Malignancy / Neoplasm	Refer for diagnosis; to tertiary level for surgery & radiotherapy	Refer for diagnosis; to tertiary level for surgery & radiotherapy	Diagnosis Refer to tertiary level for surgery & radiotherapy	Diagnosis & management Refer to tertiary level for surgery & radiotherapy
Colposcopy & hysteroscopy	Refer	Refer	Refer	Yes (perform)
Reconstructive surgery	Refer	Refer	Refer	Manage if possible

Table 2: Karnataka Service Norms *(continued)*

Specialty	4 (a) : Diagnostic services				
	Tests	Community Hospital		Sub-Dist	Dist-rict
	beds :	30	50	100	>250
Clinical Pathology :					
a) Haematology	Blood haemoglobin	Yes	Yes	Yes	Yes
	WBC, Differentials, ESR, BT & CT	Yes	Yes	Yes	Yes
	Peripheral blood smear	No	No	Yes	Yes
	Absolute eosinophil count	No	Yes	Yes	Yes
	Platelet count and PTT	No	No	Yes	Yes
	Clot retraction time	-	-	-	Yes
	PCV	-	-	Yes	Yes
	Blood Group and Rh typing	Yes	Yes	Yes	Yes
	Blood smear for malaria / microfilaria	Yes	Yes	Yes	Yes
	Reticulocyte count	-	-	Yes	Yes
	LE cell phenomenon	-	-	-	Yes
	Blood bank (cross matching) HIV, HbAg, VDRL, malaria paracytes	-	-	-	Yes
b) Urine analysis	Urine for sugar, albumin, micro, bile salt and bilirubin pigment	Yes	Yes	Yes	Yes
	Urine for ketone bodies	-	-	Yes	Yes
	Specific gravity and pH	-	-	Yes	Yes
c) Stool analysis	For parasites (ova and cysts)	Yes	Yes	Yes	Yes
	For occult blood	-	-	Yes	Yes
	Hanging drop (X Vib Cholera)	Yes	Yes	Yes	Yes
d) Semen analysis	Morphology, reaction and count	-	-	Yes	Yes
e) CSF analysis		-	-	Yes	Yes
f) Aspirated fluid analysis	(Pleural, peritoneal, etc) Cell count & sedimention cytology malignant cells.	-	-	Yes	Yes
Pathology					
a) PAP smear		-	-	Yes	Yes
b) FNAC & guides aspirated fluids		-	-	-	Yes
c) Sputum cytology	Malignant cells	-	-	-	Yes

Table 2: Karnataka Service Norms *(continued)*

Specialty	4 (b) : Diagnostic services (cont'd)				
	Tests	Community Hospital		Sub-Dist	Dist-rict
	beds :	30	50	100	>250
Haematology :					
a) Bone marrow aspiration		-	-	-	Yes
b) Immuno haematology		-	-	-	Yes
c) Coagulation disorder		-	-	-	Yes
d) Sickle cell anaemia		-	-	-	Yes
e) Thalassaemia		-	-	-	Yes
Histopathology of all specimens :		-	-	-	Yes
Microbiology	Direct smear exam (AFB, ZN, KLB)	Yes	Yes	Yes	Yes
	C/S of all specimens (blood, urine, pus, etc)	-	-	Yes	Yes
	Direct exam of specimen for fungal infections	-	-	Yes	Yes
	Bacteriological analysis of water	-	-	-	Yes
	Stool culture for V Cholera	-	-	-	Yes
	Preparation and supply of proper transport media for all peripheral levels (VR, Cary Blair)	-	-	-	Yes
Serology	VDRL	Yes	Yes	Yes	Yes
	WIDAL	Yes	Yes	Yes	Yes
	Also: C-Reactive protein, RA	-	Yes	Yes	Yes
	Brucella, Weilfelix, Coombs test HbsAg, HIV, Preg.test, ANA and DNA	-	-	-	Yes
Biochemistry	Blood sugar, BUN, urea creatinine total and direct bilirubin	-	Yes	Yes	Yes
	CSF analysis (protein & sugar)	-	-	Yes	Yes
	LFT, S cholesterol, GTT, lipid profile	-	-	-	Yes
	Blood gas analysis	-	-	-	Yes
	CPK, CPK-MB, SGOT, SGPT, Serum electrolytes, acid phosphatase, alk.phosphatase, lithium carbonate level in blood	-	-	-	Yes
	Estimation of residual chlorine in drinking water at all levels	Yes	Yes	Yes	Yes

Table 2: Karnataka Service Norms *(continued)*

Specialty	4 (c) : Diagnostic services (cont'd)				
	Tests	Community Hospital		Sub-Dist	Dist-rict
	beds :	30	50	100	>250
Cardiac Investigation	a) Stress - test system	-	-	-	Yes
	b) E C G	Yes	Yes	Yes	Yes
Ophthalmology	Snellen's Test Chart	Yes	Yes	Yes	Yes
Audiometer		-	-	-	Yes
Radiology	Chest, skull, PNS, bones, spine, KUB and abdomen	Yes	Yes	Yes	Yes
Contrast radiology	Barium swallow, barium meal, barium enema, cholecystogram, IVP, HSG, sialogram, sinogram, myelography, angiography	-	-	-	Yes
Endoscopy	Oesophagus, stomach, colon, duodenum	-	-	-	Yes
	Bronchial tree and cystoscopy	-	-	-	Yes
	Sigmoidoscopy	-	-	Yes	Yes
Ultrasonography	Ob.Gy and abdomen portable	-	Yes	-	-
Linear/Sectoral	Ob.Gy abdomen	-	-	Yes	Yes
	Ob.Gy., abdomen & cardiac	-	-	-	Yes

1. *Blood alcohol estimation, chemical analysis of water for fluoride, diagnosis of KFD, Rota, JE infection, C.S of Tub. bacilli at tertiary level only.*

2. *Facilities for collection of appropriate specimens and dispatching to the referral lab. in a methodical way should be available at all centres.*

Table 3: Punjab Service Norms

1. Diseases of Central Nervous System

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Coma/Cerebro vascular accident	Maintain vital signs & airway (Ambu bag, oxygen) Exclude diabetes & renal failure Have facilities for tracheostomy & laryngoscope for intubation Exclude head injury by doing X-ray skull Start medical decompression treatment Treat coma case caused by poisoning But if coma does not improve, refer to District hospital	Same as CHC	Carry on treatment and surgical decompression If required, investigate and confirm diagnosis of CV accident. Brain tumour cases refer to tertiary level if indicated
b) Meningitis	Initiate symptomatic treatment and refer to district hospital for further investigation	Do CSF examination start treatment But if no improvement after 48 hours, refer to District hospital	To do culture and sensitivity test, diagnose and treat
c) Epilepsy	Initiate medical treatment and first aid treatment, refer to District hospital for further investigation	Same as CHC	Manage, investigate, refer to tertiary level for EEG and surgery if required
d) Polio and other acute flaccid paralysis	Initiate medical treatment, maintain vital signs, remove discomfort Refer to District hospital for CSF examination and stool culture	Same as CHC	Investigate and treat

2. Psychiatric Ailments

a) Psychotic patients	Start crisis management & refer to psychiatrist at District hospital	Same as CHC	Treat
b) Depression & allied disorders	Sedate and refer to psychiatrist and follow up action on psychiatrist's advice	Same as CHC	Regular psychiatric treatment
c) Addiction problems	Sedate if patient is showing withdrawal symptoms, then refer to District hospital	Same CHC	Provide regular treatment
d) Mental retardation	Symptomatic treatment and counselling, and refer to psychiatrist and/or neurophysician	Same as CHC	Provide regular treatment

Table 3: Punjab Service Norms *(continued)*

3. Respiratory Diseases			
Diseases	**CHCs**	**Sub-Divisional Hospitals**	**District Level Hospitals**
a) Bronchial asthma	Initiate medical treatment, but if no relief, send to District hospital for further investigation	Same as CHC	Investigate & treat
b) Upper and lower respiratory tract infection	Initiate medical treatment & symptomatic treatment Observe for 48 hours, but if no relief, refer to District hospital	Same as CHC	Investigate & treat
c) Tuberculosis	Investigate by sputum examination and/or X-ray chest Initiate anti-tuberculosis treatment. Review after 15 days, but if no relief, refer to District hospital *(NB. Duplication of facilities and equipment provided under National TB Programme should be avoided.)*	Same as CHC	Investigate & treat
d) Lung cancer	Initiate symptomatic treatment & other supportive therapy, and refer to tertiary level institution	Same as CHC	Same as CHC
e) Pleural effusion	Initiate symptomatic treatment, do X-ray chest & diagnostic tap, start treatment & refer to district hospital, to confirm diagnosis	Same as CHC	To confirm diagnosis start treatment, if malignant refer to tertiary level hospital
f) Poisonous gas inhalation	Start first aid treatment, give respiratory support	Same as CHC	Same as CHC
g) Foreign body inhalation	Give first aid, refer to District hospital where bronchoscopic facilities are available	Same as CHC	Same as CHC

Table 3: Punjab Service Norms *(continued)*

4. Cardio Vascular Diseases			
Diseases	**CHCs**	**Sub-Divisional Hospitals**	**District Level Hospitals**
a) Hypertension	Initiate medical treatment of mild and moderate hypertension. Refer to sub-divisional level for treatment of accelerated hypertension	Investigate and treat	Investigate and treat
b) Coronary artery diseases	Initiate medical treatment on clinical suspicion of disease, refer to district hospital for other tests eg 'tread-mill stress'	Same as CHC	Investigate & maintain therapy Refer to tertiary level for more active intervention, if required (eg coronary angiography, angioplasty etc and by-pass surgery)
c) Myocardial infarction	Initiate treatment by sedation, vaso-dilator, thrombolytic therapy (Streptokinase) If within 24 hours there is no improvement or there are complications, refer to sub-divisional level	Manage myocardial infarction If evidence of heart block, refer to District hospital for pacemaker	Investigate and treat
d) Congestive heart failure	Initiate treatment and observe If decompensation persists, refer to District hospital	Same as CHC	Investigate and treat
e) Acute pulmonary oedema/cardiac asthma	Initiate treatment with broncho dilator, diuretics, oxygen If no improvement, refer to district hospital	Same as CHC	Investigate and treat
f) Rheumatic fever and rheumatic heart disease	Start initial medical treatment, and refer to district level for confirmation of diagnosis.	Same as CHC	Investigate and treat.
g) Dysrthymia	Maintain vital signs, and refer stable cases to sub-divisional hospital for cardioversion (with defibrillator)	Medical treatment including defibrillation	Medical treatment including defibrillation
h) Shock	Initiate treatment, maintain vital signs and functions, IV fluids, oxygen, and observe If no improvement within reasonable time, refer to District hospital	Same as CHC	Investigate and treat

Table 3: Punjab Service Norms *(continued)*

5. Gastro Intestinal Diseases

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Gastro-Intestinal bleeding and ulcer	Start medical treatment and supportive therapy If no improvement within reasonable time, refer to District level hospital for endoscopic investigation	Same as CHC	Investigate and treat
b) Jaundice / Hepatitis	Clinically diagnose and initiate medical treatment Refer to District hospital for investigation, especially if patient is in coma	Same as CHC	Investigate and treat
c) Gastroenteritis / Dehydration	Start oral rehydration therapy Systemic antibiotics if indicated Manage Grades 1 & 2 dehydration If condition does not improve, or if there is suspicion of cholera or other epidemic disease, case should be immediately referred to District hospital	Same as CHC	Investigate and treat
d) Amoebic infection	Intestinal infection to be investigated & treated If liver involvement suspected refer to Sub-Divisional Hospital for ultrasound scan	Investigate and treat	Investigate and treat

6. Renal Disorders

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Urinary tract infection	Initiate symptomatic treatment and refer to District hospital for further investigation	Same as CHC	Investigate and treat
b) Haematuria	Symptomatic treatment (alkaliser, pain reliever etc) and investigate. If cause is not identified, refer to District hospital	Same as CHC	Investigate and treat
d) Acute and chronic renal failure	Maintain vital signs, and refer to dialysis facility (at tertiary level)	Same as CHC	Investigate and treat by peritoneal dialysis Refer to tertiary level for haemodialysis
Arthritis	Start palliative therapy, refer to District Hospital for investigation and physiotherapy	Same as CHC	Investigate and treat (eg physiotherapy)

Table 3: Punjab Service Norms *(continued)*

7. Haematology

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Anaemia / Infestation	Treat nutritional anaemia Treat worms If no response, refer to District hospital for investigation	Same as CHC	Investigate and treat
b) Leukaemia and RE system disorder	Give symptomatic treatment, and refer to District hospital for investigation	Same as CHC	Investigate and treat
c) Bleeding disorder	Treat anaemia and give haemostatic agents Refer to District hospital for investigation	Same as CHC	Investigate and treat

8. Infections

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Malaria	Diagnose and treat malaria If complications develop, or fever does not respond, or G-G-PD deficiency is suspected, the refer cases to District hospital for investigation	Same as CHC	Investigate and treat
b) STDs	Give treatment for the symptoms If no response, refer to District hospital	Same as CHC	Investigate and treat
c) Leprosy	Give treatment for the symptoms; but if no response, refer to District hospital *(NB Duplication of facilities and equipment provided under National Leprosy Programme should be avoided)*	Same as CHC	Investigate and treat
d) HIV / AIDS	All patients suspected of HIV infection should be referred to District hospital and/or HIV Testing Centre for diagnosis and counselling *(NB Duplication of facilities and equipment provided under National AIDS Control Programme should be avoided)*	Same as CHC	Investigate and diagnose Manage as per NACO guidelines

Table 3: Punjab Service Norms *(continued)*

10. Paediatrics

Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
Acute respiratory infection	Treat & refer if no improvement	Same as CHC	Investigate & manage
Lower respiratory tract infection	Mild Symptomatic treatment, refer if no improvement	Same as CHC	Investigate & manage
Childhood asthma & allergic bronchitis	Manage cases without respiratory distress	Same as CHC	Same as CHC
Tuberculosis	Suspected cases to be investigated by sputum exam and radiography Manage *(NB Duplication of facilities and equipment provided under National TB Programme should be avoided)*	Same as CHC	Investigate & treat

Table 3: Punjab Service Norms *(continued)*

11. Neonatal Services			
Diseases	CHCs	Sub-Divisional Hospitals	District Level Hospitals
Resuscitation of New Born Babies			
a) Apgar score > 4	Resuscitation to be done & managed.	Same as CHC	Same as CHC
b) Apgar score < 4	Resuscitation to be done. If vitals maintained, manage; otherwise refer to District level.	Same as CHC	Manage in Special Care Nursery (SCN)
Uncomplicated low birth-weight babies			
a) More than 1.8kg	Manage with rooming-in service and observe	Same as CHC	Same as CHC
b) Less than 1.8kg	Resuscitation. Maintain vitals Refer to District level	Same as CHC	Manage in SCN
Uncomplicated premature babies			
a) Gestation less than 34 weeks	Resuscitate, maintain vitals and refer to District level	Same as CHC	Care in SCN
b) Gestation more than 34 weeks	Manage and keep under observation. If any problem, refer to District level	Same as CHC	Same as CHC
Complicated LBW and premature babies	Manage and observe. Refer if problem is unmanageable.	Same as CHC	Manage in SCN
Neonatal Jaundice			
a) Within 7 days and serum bilirubin less than 100mg (clinically)	Treat with phototherapy	Same as CHC	Same as CHC
b) Early deep jaundice	Phototherapy, then review. Refer to Sub-Divisional hospital.	Phototherapy and monitoring of serum bilirubin. If this increases by more than 5mg/hour requiring exchange transfusion, then refer to District hospital	Investigate and manage in SCN
Septicaemia	Clinically assess & start therapy If no response or condition deteriorates after 24 hours, refer to District hospital.	Same as CHC	Manage in SCN
For septicaemia associated with serious problem like meningitis	Initiate preliminary treatment, manage vitals, and refer to SCN at District level	Same as CHC	Manage in SCN
Congenital Defects			
a) Not life threatening	Manage and advise	Same as CHC	Manage & refer to tertiary level
b) Life threatening eg. defects like cardiac pulmonary	Try to maintain vitals, avoid hypothermia; then refer to SCN at District level.	Same as CHC	Manage in SCN. Refer to tertiary level

Table 3: Punjab Service Norms *(continued)*

12. Miscellaneous medical conditions and procedures			
Diseases	**CHCs**	**Sub-Divisional Hospitals**	**District Level Hospitals**
a) Pleural aspiration	Yes (perform)	Same as CHC	Same as CHC
b) Pericardial tap	No	Same as CHC	Yes (perform)
c) Foreign body removal	Undertake simple cases	Same as CHC	Yes (undertake operations)
d) Lumbar puncture	Yes (perform)	Same as CHC	Same as CHC
e) Neoplasm / Malignancy	Symptomatic treatment & refer	Same as CHC	Investigate and drug treatment. Refer to tertiary level for specialist services.
f) Organic brain syndrome	Treat symptoms as far as possible	Same as CHC	Investigate and refer to tertiary level facility.
e) Pemphigus	Initiate treatment & refer	Same as CHC	Treat.
g) Collagen diseases	Refer	Same as CHC	Investigate & treat.
h) Skin allergy	Treat	Same as CHC	Investigate cause & treat. Refer for specialist services
i) Sarcoidosis	Refer	Same as CHC	Investigate & treat.
j) Blood screening	Refer to testing centre at District level	Same as CHC	Perform tests
k) Cholecystitis	Symptomatic treatment & refer	Same as CHC	Investigate & treat.
l) Pancreatitis	Symptomatic treatment & refer	Same as CHC	Investigate & manage. For therapeutic endoscopy or surgery, refer to tertiary level.
m) Cirrhosis	Symptomatic treatment & refer.	Same as CHC	Investigate & manage. Refer if complications.
n) Abdominal tapping	Yes (perform)	Same as CHC	Same as CHC
n) Congenital heart diseases	Symptomatic treatment & refer	Same as CHC	Symptomatic treatment & refer to tertiary level for specialist investigation and treatment.
o) Head injuries	Initial treatment and observation. Refer if necessary	Same as CHC	Investigate & manage.

Table 3: Punjab Service Norms *(continued)*

13. General types of surgical services			
Problem Area	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Surgical procedures	Basic techniques	Same as CHC	Same as CHC
	Incise & drain	Same as CHC	Same as CHC
	Wound debridement	Same as CHC	Same as CHC
	Biopsy of skin and subcutaneous lesions	Same as CHC	Same as CHC
b) Split skin grafting	No, refer	No, refer	Yes (perform)
c) Trauma and life support	Resuscitation and stabilisation	Same as CHC	Same as CHC
	Securing airway	Same as CHC	Same as CHC
	Circulatory support	Same as CHC	Same as CHC
d) Reduction and stabilisation of fractures	No, refer	Yes (perform)	Same as Sub-Division level
e) Exploratory laparotomy	No, refer	No, refer	Yes (perform)
c) Chest	Tracheostomy	Yes	Yes
	Stabilisation of pneumothorax & refer	Yes	Yes
	Breast abscess	Yes	yes
d) Thoracocentesis	No, refer	Yes (perform)	Same as Sub-Division level
e) Management of haemothorax	No, refer	Yes (perform)	Same as Sub-Division level
f) Acute empyema	No, refer	Yes (perform)	Same as Sub-Division level
g) Management of rib fracture	No, refer	Yes (perform)	Same as Sub-Division level
h) Stabilise mediastinal injuries	No, refer	No	Perform and/or refer

Table 3: Punjab Service Norms *(continued)*

14. Summary of surgical procedures			
	CHCs	Sub-Divisional Hospitals	District Level Hospitals
a) Appendicectomy	Yes	Yes	Yes
b) Inguinal hernia	Yes	Yes	yes
c) Umbilical hernia	Yes	Yes	Yes
d) Rectal prolapse	Yes	Yes	Yes
e) Proctoscopy	Yes	Yes	Yes
f) Perianal abscess	Yes	Yes	Yes
g) Anal fissure	Yes	Yes	Yes
h) Cholecystectomy	No	Yes	Yes
i) Chest tube	No	Yes	Yes
j) Acute bowel rupture	No	No	Yes
k) Drainage of abdominal abscess	No	No	Yes
l) Acute intestinal obstruction	No	No	Yes
m) Intussusception	No	No	Yes
n) Volvulus	No	No	Yes
o) Vagotomy	No	No	Yes

15. Summary of uro-genital procedures			
a) Management of acute urinary retention	Yes	Yes	Yes
b) Cystotomy	Yes	Yes	Yes
c) Hydrocele	Yes	Yes	Yes
d) Varicocele	Yes	Yes	Yes
e) Vasectomy	Yes	Yes	Yes
f) Circumcision	Yes	Yes	Yes
g) Management of rupture urethra	No	Yes	Yes
h) Nephrectomy	No	No	Yes

16. Summary of anaesthetic procedures			
a) Maintenance of airway	Yes	Yes	Yes
b) Local anaesthesia	Yes	Yes	Yes
c) Use of drugs causing analgesia			
i) I/M	Yes	Yes	Yes
ii) I/V	Yes	Yes	Yes
d) Block anaesthesia	Yes	Yes	Yes
e) Endotracheal intubation	Yes	Yes	Yes
f) Regional anaesthesia			
i) Spinal	Yes	Yes	Yes
ii) Epidural	Yes	Yes	Yes
g) General Anaesthesia			
i) I/M	No	Yes	Yes
ii) I/V	No	Yes	Yes
h) Inhalation anaesthesia			

Table 3: Punjab Service Norms *(continued)*

Conditions / Procedures	17. Additional details of surgical activities and referrals			
	CHC	Sub-Dist. Hospital		District Hospital
	30 Beds	50 Beds	100 Beds	100 Beds & Above
1. Surgery				
a) Abscess including breast and perianal	Incision & drainage	Incision & drainage	Incision & drainage	Incision & drainage
b) Wound debridement	Simple wounds	Simple wounds	Major & compound wounds	Major & compound wounds
c) Trauma & life support	Resuscitate, stabilise & refer	Resuscitate, stabilise & refer	Investigate & manage, if needed refer	Investigate & manage, if needed refer
d) Musculo-skeletal	Simple, manage Complicated: refer	Simple, manage Complicated: refer	Manage, refer if necessary	Manage
e) Abdominal injuries	Stabilise & refer	Stabilise & refer	Manage	Manage
f) Abdominal surgeries (planned)	Refer	Yes, if anaesthetist available	Yes	Yes
g) Haemorrhoids	Refer	Optional, if anaesthetist available	Manage	Manage
h) Urethral dilation	Refer	Refer/yes	Yes	Yes
i) Rupture of bladder & urethra	Refer	Refer	Refer	Manage, if necessary
j) Major urological procedures	Refer	Refer	Refer	Manage, if necessary
k) Fracture of spine	Stabilise & refer	Stabilise & refer	Refer if necessary	Manage
2. Ophthalmology	Removal of foreign bodies	Removal of foreign bodies, manage corneal abrasions, ulcer	Management of corneal abrasions, ulcer & cataract	Management of corneal abrasions, ulcer & cataract, glaucoma surgery
3. Dental	Conservative dentistry, tooth extraction, all types of fillings	Conservative dentistry, tooth extraction, all types of fillings	Conservative dentistry, tooth extraction, all types of fillings	All types of extractions, impactions & jaw fractures

Table 3: Punjab Service Norms *(continued)*

Conditions / Procedures	17. (cont'd) : Additional details of surgical activities and referrals			
	CHC	Sub-Dist. Hospital		District Hospital
	30 Beds	50 Beds	100 Beds	100 Beds & Above
4. Gastro Enterology				
a) Endoscopy	Refer	Refer	Sigmoidoscopy	Oesophago-gastroscopy, colonoscopy
5. Anaesthesiology	Care of airway equipment	Care of airway equipment, management of general & regional anaesthesia	Management of general & regional Anaesthesia Pain Clinic	Management & general regional Anaesthesia, and blocks for pain relief
6. Thoracic				
a) Simple fracture ribs	Manage	Manage	Manage	Manage
b) Intercostal under-water seal drainage (ICD)	Yes *	Yes *	Yes *	Yes *
c) Flail chest	Resuscitate & refer	Resuscitate & refer	Resuscitate & refer	Manage with ventilatory support
d) Mediastinal injury	Resuscitate & refer	Resuscitate & refer	Resuscitate & refer	Manage, refer if thoracotomy needed
e) Acute empyaema	Manage by ICD	Manage by ICD	Manage by ICD	Manage by ICD
f) Chronic empyaema	Refer	Refer	Refer	Rib resection & drainage. Refer if decalcification present.
g) Thoracotomy	Yes, only in emergency	Yes only in emergency	Both emergency & elective	Both emergency & elective
h) Thoracotomy & procedures **	Refer	Refer	Refer	Manage, refer if necessary
i) Foreign bodies in the oesophagus and tracheo-bronchial tree **	Refer	Refer	Refer	Manage, if necessary
7. ENT				
a) Foreign bodies in nose & ears	Nose remove Ear remove refer	Nose & Ear remove	Manage	Manage
b) Epistaxis	Manage	Manage	Manage	Manage
c) Peritonsillar abscess	Refer	Manage	Manage	Manage
d) Tonsillectomy	Refer	Refer.	Manage, if ENT specialist available	Manage
e) Mastoid abscess	Refer	Refer	Manage, if ENT specialist available	Manage
8. Head Injury ****	Initiate & refer	Manage, stabilise, refer for advanced management	Manage, stabilise, refer for advanced management	Manage, stabilise, refer for advanced management

* If trained in thoracic surgery for one or two months

** Refer all major thoracic procedures to [illegible]

*** Refer to tertiary level

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Table 3: Punjab Service Norms *(continued)*

Conditions / Procedures	18. Details of Obs./Gynae problems, procedures and referrals			
	CHC	Sub-Dist. Hospital		District Hospital
	30 Beds	50 Beds	100 Beds	100 Beds & Above
a) High risk pregnancies, including APH, PPH, eclampsia	Early diagnosis & refer	Refer if necessary	Investigate & manage if possible	Manage
b) General obstetric procedures eg. episiotomies	Repair	Same as CHC	Same as CHC	Same as CHC
c) Craniotomy (dead foetus, hydrocephalus)	No	No	Yes	Yes
d) Forceps delivery	Yes (perform)	Same as CHC	Same as CHC	Same as CHC
e) Vacuum extraction	Yes (perform)	Same as CHC	Same as CHC	Same as CHC
g) Breach deliveries	Refer	Refer if complicated	Manage	Manage
h) Manual removal of placenta	Refer	Manage if anaesthetist available	Manage	Manage
i) Inversion of uterus	Refer	Refer	Refer if complicated	Manage
j) Rupture of uterus	Refer	Refer	Manage	Manage
k) Threatened or incomplete abortion	Conservative D&C	Same as CHC	Same as CHC	Same as CHC
l) Ruptured ectopic pregnancy	Stabilise & refer	Stabilise & refer	Laparotomy	Laparotomy
m) Female sterilisation, ILD	Yes: arrange special programmes	Same as CHC	Same as CHC	Same as CHC
n) Vasectomy, laparoscopic sterilisation	Yes: arrange special programmes	Same as CHC	Same as CHC	Same as CHC
o) Menstrual irregularities	Refer	Refer	Diagnosis & management	Diagnosis & management
p) Infertility	Refer	Refer	Manage	Manage
q) Planned surgery for prolapsed UT, DUB, etc.	Refer	Refer	Manage	Manage
r) Cervical erosion	Refer	Refer	PAP smear, biopsy, & manage	PAP smear, biopsy, & manage
s) Malignancies (NB. Refer to tertiary level surgery & radiotherapy)	Refer	Refer	Diagnose & refer	Diagnose, manage & refer
t) Colposcopy & hysteroscopy	Refer	Refer	Refer	Yes (perform)
u) Reconstructive surgery	Refer	Refer	Refer	Manage if possible

Table 3: Punjab Service Norms *(continued)*

18. (cont'd) : Gynaecological and obstetrical disorders

Problem	CHC	Sub-Divisional Hospitals	District Level Hospitals
omplicated deliveries bstructed labour, re-eclampsia, severe aternal foetal distress, etc	Normal deliveries Forceps delivery Vacuum extraction	Forceps deliveries, inducing labour LSCS Extraction of retained placenta Complicated cases to be referred	Forceps & vacuum extraction C-Section, induced labour, evacuation of retained placenta Refer all cases of eclampsia with complications, Rhesus incompatibility, uncontrolled diabetes, severe hepatitis
mily planning	IUD, tubectomy, laparoscopic tubectomy	Yes	Yes
topic pregnancy	Refer	Laparotomy	Laparotomy
ginal, external genitalia	Abscess drainage	Yes Excision of cysts, suture of vaginal vaults EUA	Yes
gh risk and complicated gnancy	Refer	Medical management and delivery Therapeutic abortion..	Yes and LSCS
lvic inflammatory disease	Diagnosis & drug therapy	Yes	Yes
nstrual irregularities	D&C Endometrial biopsy Drug treatment	Yes	Yes Myomectomy Hysterectomy
mary & secondary rtility	Counselling, drug treatment, refer complicated cases	Yes	Yes Proper treatment and diagnosis
rvical erosion	Cautery biopsy	Yes Refer for further diagnosis	Yes Refer for treatment of Cervical cancer treatment

Table 3: Punjab Service Norms *(continued)*

19. Laboratory investigations			
Tests	Community Health Centre	Sub-Divisional Hospital	District Hospital
a) Routine haematology	Yes	Yes	Yes
b) Routine urine and stool	Yes	Yes	Yes
c) Semen examination	Yes	Yes	Yes
d) Urine for pregnancy	Yes	Yes	Yes
e) Sputum examination	Yes	Yes	Yes
f) Basic biochemistry: Sugar, urea, creatine, cholesterol & bilirubin	Yes	Yes	Yes
g) Serology: ASO, CRP, VDL, HbAg, RA factor, Widal, etc.	No	Yes	Yes
h) Other biochemistry: Calcium, phosphorus, uric acid	No	Yes	Yes
i) Haemogram (complete)	No	Yes	Yes
j) Other serology: Toxoplasma, Coomb's test, etc	No	No	Yes
k) Coagulation studies	No	No	Yes
l) Advanced biochemistry: Lipid profile, liver function test, CPK, CPK-MB, electrolytes, etc	No	No	Yes
m) Culture and sensitivity	No	No	Yes
n) Histopathology including FNAC	No	No	Yes
o) Cytology eg. PAP smear	No	No	Yes

Table 4: West Bengal Service Norms

Clinical Services related to:	Rural Hospital (RH)	Sub-Divisional Hospital / State General Hospital	District Hospital
Gastro-Intestinal tract disorders	Gastroenteritis, bacillary dysentery, GI disorder (without complication), uncomplicated cirrhosis Viral hepatitis, malaria, enteric fever, alcoholic hepatitis, amoebic liver abscess	All cases referred from RH level and patients from catchment area, and GI disorders (with complication) Jaundice chronic active hepatitis, liver abscess, GI haemorrhage, hepato cellular failure	All cases referred from RH & SDH/SGH levels and patients from catchment area
Respiratory disorders	Pleural effusion, pneumothorax, hydro-pneumothorax, pulmonary TB, pneumonia, broncho-pneumonia, lung abscess, bronchial asthma	All cases referred from RH level and patients from catchment area and empyema chest, ruptured oesophageal varices, COPD	All cases referred from RH & SDH/SGH levels and from catchment area
Cardiovascular disorders	Hypertension, rheumatic fever, rheumatic valvular diseases	All cases referred from RH level and patients from catchment area and myocardial infarction, hypertensive encephalopathy, TIA	All cases referred from RH & SDH/SGH levels and from catchment area and cases to be managed in critical/recovery care unit
Haematological disorders	Deficiency, anaemia	All cases referred from RH level and from catchment area and purpura leukaemia, aplastic anaemia, haemolytic anaemia	All cases referred from RH & SDH/SGH levels and from catchment area

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital	Sub-Divisional Hospitals / SGH	District Hospital
Viral Disorders	Eruptive fevers - chickenpox, measles, mumps	All cases referred from RH levels and from catchment area	All cases referred from RH and SDH/SGH levels and from catchment area
Renal Disorders	UTI, pyelonephritis, acute glomerulonephritis, nephrotic syndrome	All cases referred from RH levels and from catchment area Refer acute renal failure cases to tertiary level for haemodialysis	All cases referred from RH and SDH/SGH levels and from catchment area - Refer acute renal failure cases requiring haemodialysis to tertiary hospital
Endocrine disorders	Diabetes (uncomplicated)	All cases referred from RH levels and from catchment area, and thyrotoxicosis, myxoedema, Addison's disease - to be treated at OPD after investigations at tertiary level hospital	All cases referred from RH and SDH/SGH levels and from catchment area
Psychological disorders	Acute psychosis, obsession, depression, phobia, anxiety, neurosis Crisis management due to poisoning, intoxication and drug withdrawal cases	All cases referred from RH level and from catchment area	All cases referred from RH and SDH/SGH levels and from catchment area
Musculoskeletal disorders	Osteo-arthritis Uncomplicated cases of rheumatic origin	All cases referred from RH level and from catchment area	All cases referred from RH & SDH/SGH levels and from catchment area and requiring physiotherapy

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital	Sub-Divisional Hospitals / SGH	District Hospital
Sexually Transmitted Diseases	Syphilis, gonorrhoea, AIDS (supportive)	All cases referred from RH level and from catchment area HIV testing	All cases referred from RH & SDH/SGH levels and from catchment area HIV testing
Dermatological disorders	Scabies, etc Drug induced allergy, fungal infection, etc	All cases referred from RH level and from catchment area	All cases referred from RH & SDH/SGH levels and from catchment area
Poisoning cases (organo-phosphorous etc.)	Refer complicated cases to SDH/SGH and tertiary level when haemodialysis is required	All cases referred from RH level and from catchment area Refer to tertiary level cases requiring haemodialysis	All cases referred from RH & SDH/SGH level and from catchment area Refer to tertiary level for haemodialysis
Environment related disorders	Heat stroke, chemical & other poison Snake bite, dog bite & other animal bite Electrical injury Cases requiring haemodialysis refer to tertiary level	All cases referred from RH level and from catchment area Refer cases for haemodialysis to tertiary level	All cases referred from RH & SDH/SGH levels and from catchment area Cases requiring haemodialysis refer to tertiary level

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital	Sub-Divisional Hospitals / SGH	District Hospital
Paediatric disorders	Gastroenteritis cases to be treated in Diarrhoea Treatment Unit (DTU) In-patient treatment/care for cases of ARI, low birth weight, malnutrition	All cases referred from RH level and from catchment area, and nephrotic syndrome, meningitis, encephalitis, poisoning, ARI (complicated with stridor, wheezing and inability to feed or drink), and unconscious patients	All cases referred from RH & SDH/SGH levels and from catchment area, and acute nephritis and gastroenteritis with renal failure

Medical cases to be referred for specialist diagnosis and treatment to tertiary level facility from secondary level hospitals

1. All cases of malignancy
2. Neurological cases which require sophisticated investigation and surgical intervention
3. Endocrine disorders requiring sophisticated investigations and then referred back to secondary level OPDs for follow-up
4. Stroke cases for patients below 40 years of age and unconscious
5. Terminal lung disease
6. Acute hepatic failure
7. Acute pancreatitis
8. Jaundice with unconsciousness
9. Secondary hypertension - endocrine, renal
10. Resistant cases of kalaazar
11. All cases requiring haemodialysis

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital (RH)	Sub-Divisional Hospital / State General Hospital	District Hospital
Basic Techniques	Incision & drainage, Excision & biopsy, emergency trauma patients etc for resuscitation and stabilisation	All cases referred from RH and from catchment area	All cases referred from RH and SDH/SGH levels and from catchment area
Gastro-Intestinal disorders	Hemorrhaphy, emergency appendicectomy. Surgery on fistula, piles, fissure, anorectal abscesses, rectal prolapse	All cases referred from RH and from catchment area, and exploratory laparotomy, obstructed hernia, chronic & acute appendicitis, peptic perforation intestinal obstruction, intussusception volvulus, gastro-jejunostomy, drainage of abdominal abscess, haemorrhoidectomy, cholecystectomy Surgery on pneumo-pyo and haemothorax Proctoscopy, sigmoidoscopy, endoscopy.	All cases referred from RH and SDH/SGH levels and from catchment area
Genito-Urinary disorders	Acute urinary retention, supra-public cystostomy, hydrocoele, urethral dilatation, circumcision, vasectomy	All cases referred from RH & from catchment area, and prostatectomy, hypospadias cases requiring cystoscopy	All cases referred from RH and SDH/SGH levels and patients from catchment area, and ruptured urethra & bladder, nephrectomy

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital	Sub-Divisional Hospitals / SGH	District Hospital
Chest disorders	Emergency tracheostomy Refer, if required, all penetrating injuries to SDH/SGH/DH or tertiary level facility	All cases referred from RH and from catchment area and pneumothorax, haemothorax, penetrating injuries refer to tertiary level	All cases referred from RH and SDH/SGH levels and in addition patients from catchment area, and mastectomy (Ca breast) Refer all penetrating injuries of chest to tertiary level hospital
Head injuries	Refer to tertiary level	Refer to tertiary level	Refer to tertiary hospital
Burn injuries	Treat if burns less than 20% of skin area; refer other cases to DH	As for RH	Treat (in Burns Ward) cases with >20%of skin area affected
Cancer cases	Refer	Refer	Surgery with chemotherapy Refer to tertiary level hospital for radiotherapy
Orthopaedic disorders	Simple fracture, plastering & reduction under general anaesthetic (GA) Shock resuscitation, finger amputation & dislocation under GA	All cases referred from RH and from catchment area; and lacerated injury of limbs, amputation, pin & plating and screw of both bone, leg and hands Prosthesis, open reduction of elbow, patellectomy, skeletal traction, needle aspiration of joint & synovial fluid	All cases referred from RH & SDH/SGH levels and in addition patients from catchment area Penetrating rib fracture refer to tertiary level hospital Spinal trauma (complete transection) managed at DH Incomplete transection, requiring surgery, refer to tertiary level

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital (RH)	Sub-Divisional Hospitals / State General Hospital	District Hospital
Dental Surgery	Constructive dentistry filling & preservation of all caries teeth Oral Surgery tooth extraction, impaction & other minor surgery e g I/D under local anaesthetic All periodontal diseases, scaling & curettage of ulcers of oral origin	As for RH, and jaw, diagnosis of oral cancer and other neoplasms Refer to tertiary level for radiotherapy	As for RH/SDH etc; and artificial prosthesis

Surgical cases to be referred to tertiary level from secondary level

1 All cases of malignancy

2 Spinal trauma requiring surgery

3 Head injury with S O L

4 Penetrating injuries of chest & brain

5 All ophthalmological cases if patients are at risk through complications associated with ageing, diabetes, respiratory disease, hypertension, enlarged prostate, retinal detachment Also vitreous humour haemorrhage, cases requiring cryoplasty, retinal hge ; and cases requiring fluoro-angiography, USG, intra-ocular, F B opthalmoplasty

6 Dental All malignant cases, complicated tumours of facial bone Orthodontic, endodontic and periodontic treatment (in children e g cleft lip, cleft palate)

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital (RH)	Sub-Divisional Hospital / State General Hospital	District Hospital
Basic services related to :	Care of ante-natal mothers, normal delivery, neonatal care	All cases referred from RH and from catchment area	All cases referred from RH & SDH/SGH levels and from catchment area
Complicated delivery : obstructed labour, pre-eclampsia, severe maternal & foetal distress, etc.	Emergency Caesarean section, forceps delivery, evacuation of retained products, induced labour, management of retained placenta	All cases referred from RH and from catchment area, and laparotomy for ectopic pregnancy & ruptured uterus	All cases referred from RH & SDH/SGH levels and from catchment area
Threatened & incomplete abortion	Conservative treatment, D & C	All cases referred from RH & from catchment area	All cases referred from RH & SDH/SGH levels and from catchment area
Vaginal & extra-genitalia	Abscess drainage, Excision of Bartholin's cyst. Repair of vaginal vault, E U A	All cases referred from RH & from catchment area	All cases referred from RH & SDH/SGH levels and from catchment area
High risk & complicated pregnancy including pre-eclampsia, eclampsia, diabetes & other medical problems	Refer to SDH/SGH level	Medical management with delivery, therapeutic abortion	All cases referred from RH & SDH/SGH levels and from catchment area
Menstrual irregularity (amenorrhoea, oligomenorrhoea, polymenorrhoea, menorrhagia, tumours of the reproductive organs, prolapse of uterus, ovarian tumour	Diagnosis, D&C, drug therapy, endometrial biopsy	All cases referred from RH and from catchment area, and myomectomy, hysterectomy, cervical polypectomy, ovariotomy, pelvic floor repair	All cases referred from RH & SDH/SGH levels and from catchment area

Table 4: West Bengal Service Norms *(continued)*

Clinical Services related to:	Rural Hospital	Sub-Divisional Hospitals / SGH	District Hospital
Primary & secondary infertility	Dilatation, insufflation, curettage (DIC)	All cases referred from RH and from catchment area, and laparoscopic investigation	All cases referred from RH & SDH/SGH levels and patients from catchment area
Cervical erosion	PAP smear, biopsy, cauterisation	All cases referred from RH level and from catchment area	All cases referred from RH & SDH/SGH levels and patients from catchment area
Pelvic Inflammatory disease (P.I.D.)	Management with drug therapy	All cases referred from RH level and from catchment area	All cases referred from RH & SDH/SGH levels and patients from catchment area
Family planning & welfare and reconstructive surgery	Tubal ligation (mini lap & laparoscopy) I U C D - Cu T	All cases referred from RH level and from catchment area	All cases referred from RH & SDH/SGH levels and patients from catchment area. Refer all cases requiring microsurgical reconstruction of Fallopian tube and vas deferns to tertiary level

Cases : Branch - Gyn. & Obst. to be referred to Tertiary Level Hospitals from Secondary Level Hospitals.

1 All cases of malignancy

2 Infertility - requiring sophisticated investigations and microsurgery to be referred to tertiary level

3 Reconstructive surgery

USER CHARGES: EXISTING PRACTICES IN THE FOUR STATES

1. Current Government practice in India is to provide free services up to a specific income and service level in public health care institutions. This implies that user fees are not charged for primary health care services including preventive and promotive care services nor for people whose income level is below the poverty line. As a result, the impetus for adopting user charges in hospitals for those sections of the population above the poverty line has become increasingly important given the difficulty of securing adequate resources for the health sector from the general public revenue of the states. User charges are expected to provide additional revenue for under-funded public programs, while recognizing the patients' ability to pay and be targeted specifically for direct health care utilization. Implementation of these general guidelines is expected to improve access to health care services and strengthen the quality and efficiency of services provided.

2. While these general principles apply to all states, the policies on user fees do not go far enough and are unlikely to substantially increase supplemental revenue for the health sector. The state Government's policies need to take account of the quality of services to be provided; a significant enhancement in service quality would provide a strong rationale for enhancing the level of charges and broadening the services for which user fees can be charged. More importantly, each state has to create a suitable environment through adequate administrative arrangements and analytical work that would provide a framework for a continuous review of user fees. The involvement of the Bank has been catalytic in setting up a framework for review of users charge policies and practices in the four states where a health system project is in place. Opportunities for enhancing the level of these charges and the scope of services for which charges can be levied need to be reviewed within the newly established administrative mechanism. The existing policies and practices on user charges in the four states are described below, followed by illustrative examples in two states that estimate the potential revenue that would be generated by implementing the types of user charges the state Governments will implement.

Karnataka

3. *Outpatient charges.* Currently, there is no charge for outpatient services. A recommendation is before the Government to implement an annual Rs. 2 registration fee. The intention is both to encourage patients to keep a record of their treatment and to raise revenues. There is a charge of Rs. 5 for issuing health certificates. Half the revenue raised as a result is retained by the doctor and half retained by the Government. Such charges represented 40 percent (Rs. 41 million) of total revenues collected by the Department of Health and Family Welfare during 1992-93.

4. *Inpatient charges.* The last revision of charges was made in 1988. A patient who is a member of a family with an annual income of above Rs. 8,000 a year is to be charged Rs. 2 per day for a bed in a general ward. Daily charges for four, two and single bedded rooms are Rs. 5, Rs. 7.5 and Rs. 15 respectively. Of total hospital beds, paying beds currently constitute only around 4 percent (600 out of 17,500). Fees for medical services are listed and they are also graded. Patients in special wards pay full fees while those in paying general wards pay 50 percent of the fee. Patients in general wards pay no fees. Average annual revenues from all charges over the period 1990-93 were Rs. 66 million -- equivalent to under 2 percent of total DOHFW expenditure. If all the charges were in practice being levied, revenues would be greater than those actually collected. Recommendations are before the Government to introduce a small registration fee (with no exemption), to revise the charges for paying beds and to increase their number through the designation of 20 percent of all additional beds as paying beds. Revisions of charges for treatment is to be undertaken shortly, but the immediate priority is to increase the collection of existing charges.

5. *Exemption for the Poor.* The Government has proposed a new criterion for exempting the poor. It proposes to use the existing green/tricolor card system within the Public Distribution System (PDS) in the state, which is used to provide nutritional support through issue of subsidized grain, as a basis for exemption from user fees. Green card holders are also entitled to subsidized cloth and kerosene. All poor families with an annual income level of Rs. 11,850 or below (i.e., the nationally accepted norm under the JRY program) are entitled to such green cards. Comprehensive surveys of the rural population were undertaken in the past for identifying the beneficiaries. As of now, the rural population with an annual income of Rs. 11,850 or below has been provided with green cards. This includes special categories of underprivileged populations like landless agricultural laborers, village artisans, small and marginal farmers, old-age pensioners, widowed pensioners as well as the urban poor. The green card facility has recently been extended to the non-notified slums. The number of green card holders in the state are about 5.3 million compared to the 9 million ration card holders of the PDS system. The Government proposes to carefully monitor the green card system as a basis for exemption from user fees and ensure that leakages are minimized.

6. *Revenue administration.* An important reason why charges are under collected at hospitals is that the revenues currently revert to the Government treasury, where they become part of general revenues. There is no direct incentive for collection at the institution level. The Government is taking necessary action to ensure that the receipts will be fully transferred to District Health Committees and be reallocated between hospitals in the district on the basis of both need and level of revenue collection.

Punjab

7. *Outpatient charges.* Currently, there is a charge of Rs. 2 for outpatients. A Government Order (GO) giving notification of (among other things) Rs. 5 registration fee

was prepared in early 1994, but is still pending. The Government proposes to implement the enhanced outpatient charges as quality improvements are effected through the World Bank funded State Health Systems Project. In addition, it has proposed to establish 'pay clinics' in Government hospitals to be operated after regular hospital hours by Government doctors. Of the fees, 50 percent would be retained by the doctor and 50 percent retained by the institution.

8. *Inpatient charges.* The GO also established sets of fees for in-service medical facilities. These included charges for special wards in district and sub-divisional hospitals, daily visiting charges by doctors and for laboratory investigations such as X-ray, diathermy, ECG, CT scan and ultra sound and for various categories of surgery. The proposed charges are higher than those proposed in some of the other states, but given Punjab's higher per capita income and lower incidence of poverty, these charges are not out of line; moreover, the coverage of treatment is wider.

9. *Exemption for the Poor.* Exemptions to the charges noted above include state Government employees and members of families holding yellow cards which signify a family income of below Rs. 11,850 based on the JRY norms. New lists of families eligible for these cards are under preparation. Total revenue raised by DOHFW in 1993/94 was Rs. 25 million or just over 1 percent of expenditure. According to the National Sample Survey 1987/88, almost 50 percent of hospitalized cases are in non public hospitals. The average payment per case in these institutions was Rs. 1,200, indicating a willingness to pay among the general population. Because of the higher income level in Punjab, the ability and willingness to pay for services is greater than in the other two states. As a result, there exists considerable opportunity to increase revenue collection through increased charges and better collection methods.

10. *Revenue administration.* The Government has determined that for secondary level hospitals, the Punjab Health Systems Corporation will ensure that revenues will be retained by the collecting institution and be used for the purpose of non-salary recurrent expenditures.

West Bengal

11. *Outpatient charges.* A structure of hospital charges was implemented with effect from November 1992. Among the changes implemented was an outpatient charge of Rs. 1 per prescription slip (an OPD ticket, which is used on average 3 times) for teaching and district hospitals. In 1995, a GO was issued to cover all subdivisional hospitals in the Calcutta Municipal Corporation and all polyclinics in Calcutta. There are no exemptions for these OPD charges. Charges for most tests and diagnoses exist -- in the range of Rs. 10 to Rs. 50 -- but few are collected. A review body is currently considering some new charges. The Government proposes to extend user fees to state general hospitals upon improvement of services under the State Health Systems Project.

12. *Inpatient charges.* The review of 1992 also resulted in an upward revision of charges for private beds, diagnostic services and surgery in district and sub-divisional hospitals. Fees are charged for 10 percent of beds (mostly in special wards). As a result of several perceived anomalies in the structure of fees, these were again revised and extended in early 1995. Paying bed charges in general wards are Rs. 10 a day in most tertiary teaching hospitals and Rs. 6 in state, district and sub-divisional hospitals. Separate room charges are Rs. 30 and Rs. 16 respectively. Charges are made for diagnoses and for surgery for those in private beds and wards. The majority of charges are below Rs. 50 apart from those for endoscopy and CT scan. More recently, another review has been initiated which, in addition to surveying the levels of charges, is attempting to rationalize them across both the secondary and tertiary sectors. Regarding paying beds, the Government proposes to enhance these to 30 percent of all beds at district, state general and sub-divisional hospitals. A further extension to rural hospitals will also be considered. Another avenue for the collection of user charges are the polyclinics in urban centers staffed largely by doctors of teaching hospitals. These provide mainly outpatient services and charge Rs. 16-20 per visit. In 1994/95, the largest of the polyclinics generated almost 15 percent of recurrent costs with a similar amount being paid to the doctors. Revenues generated by all charges are currently equal to just under 3 percent of total DOHFW expenditure.

13. *Exemptions for the Poor.* The existing system for exempting the poor in West Bengal is based on an 'Indigent Certificate' from the local elected representative, given to families with an income level below Rs. 1,500 per month. The West Bengal Government proposes to use this criterion rather than the JRY criterion because the latter does not apply to large portions of the urban population of West Bengal.

14. *Revenue administration.* Provisions exist for the Government, through the Finance Department, to reallocate 50 percent of the incremental funds collected through user charges to the collecting institution. The procedures, however, are said to be very tortuous and are rarely used. The Government has recently issued an order that it will take necessary actions to ensure that all revenues collected through user charges at the district, state general, sub-divisional and rural hospitals will be retained at the district level by District Health Committees, to be reallocated amongst hospitals in the district based on both need and level of revenue collection.

Andhra Pradesh

15. *Outpatient charges.* Currently, no fee is charged for outpatients, but there is a voluntary stamp which can be purchased at APVVP hospitals for outpatient registration. A recommendation is before the Government to implement an annual registration fee for those whose income are above the poverty line. If 50% of outpatient visits are exempted, and Rs. 1 is charged, an additional Rs. 12.5 million could be collected annually.

16. *Inpatient charges.* At the secondary level, APVVP has sets of charges for in-service medical services. For paying beds and wards, three types of services are offered, single rooms (category A), shared rooms (category B) and cubicles in general wards (category C). The Government of AP and APVVP are committed to dedicating 20% of all beds at district and area hospitals as paying bed by the year 2002. In addition, patients opting for paying beds in categories A and B are also charged for major and minor surgeries. Charges for drugs, disposables and x-rays and ultrasonography tests are not included in this package and are charged separately. The Government also proposes to set up special outpatient clinics and offer diagnostic services for the private sector for fees set at about the market rate.

17. *Exemption for the poor.* The Government has a system for exempting those below the poverty line on the basis JRY norms. There are some leakages in the system resulting from the inability of hospital management to determine the income status of patients. If these leakages are not addressed in a better manner by the Government's present criterion of targeting those below the poverty line, APVVP will then consider several options for exemptions such as women with high risk pregnancies and children under 5 years of age.

18. *Revenue Administration.* The Government has determined that for secondary level hospitals, the APVVP will ensure that 40% of revenue collected at the institution level will be retained by the collecting institution and be used for the purpose of non-salary recurrent expenditures. The remaining funds will go to APVVP, not the Finance Department, and be distributed by APVVP to remote hospitals where the needs are great but which are not able to collect fees because of localized poverty situation of the population.