

APPENDIX F

Appendix F

ENVIRONMENT AND POLLUTION

F-1 POLLUTION LEVELS

The growth in the industrial development in the country has produced its pressure on air, water and land resources. These pressures are reflected in the growing incidence of air and water pollution. The issues related to environmental pollution have become so critical that besides the legislature and executive wings at all levels of government, even judiciary is seized on the need for concrete and urgent actions.

The pollution load in respect of air is relatively of high order in the metropolitan cities of Delhi, Calcutta, Mumbai and Chennai. The following table gives the level of Suspended Particulate Matter (SPM) in 10 major cities of the country.

TABLE F-1 - LEVELS OF SUSPENDED PARTICULATE MATTER (SPM) IN 10 MAJOR CITIES

City	Conditions	SPM in mg/m ³
Delhi	With more vehicles than the other metros put together, emissions are out of control Power plants emit dangerous amounts of nitrogen di oxide	460
Calcutta	Much of the city's air pollution comes from foundaries and coal based industries Traffic Snarls send emissions soaring further	460
Kanpur	Despite closure of textile and leather units, pollution continues to be high Newer industries and a vehicle boom are responsible for high pollution	350
Nagpur	More vehicles and industries, especially in congested commercial areas Pollution volumes in greener areas are lower	230
Jaipur	Desert sands contribute to much of the load on pollution Diesel three-wheelers have pushed emission levels beyond safe limits	230
Mumbai	The sea soaks in pollutants, yet the danger marks are being crossed Industrial emissions from suburbs like Chembur are a major problem	220
Ahmedabad	Industries contribute to a major chunk of air pollution A large number of textile mills are also responsible for emissions	200
Bangalore	A two-wheeler boom is pushing emission to worrying levels. In certain pockets pollution is well above the danger mark Trees Keep overall levels down	190
Hyderabad	Pollution is a problem in the city's congested areas and old commercial centres Wealthier areas are clean, but the danger signs are present	150
Chennai	Rising levels of vehicles and choked streets are pushing up pollution levels An efficient public transport system checks pollutants	150

Seen in the context, of the maximum permissible limit for SPM at 200 micro gram/m³ as fixed by WHO, this table describes the menacing proportions air pollution has taken in the large cities.

The pollution problems of small towns in India basically relate to water. A water undertaken by the Central Pollution Control Board (CPCB) in respect of 241 Class II Towns in 17 states of India indicates that on an average, 90 percent of the water supplied is polluted. Only 1.6 percent of the polluted wastewater gets treated. The following table gives the statewide position of wastewater generation, collection and treatment in Class II towns in 1990-91.

TABLE F-2 - STATEWISE POSITION OF WATER SUPPLY WASTEWATER GENERATION, COLLECTION AND TREATMENT IN CLASS II TOWNS

State/UT	Per Capita Water Supply (LPT)	Wastewater (MLD)		Wastewater Treatment Capacity (MLD)	
		Generated	Collected	Primary only	Primary & Secondary
Andhra Pradesh	49	88.46	1.00	0.00	0.00
Bihar	49	34.46	0.00	0.00	0.00
Gujarat	79	121.23	8.65	4.50	20.25
Goa	82	10.60	1.00	0.00	-
Himachal Pradesh	282	18.88	0.00	0.00	0.00
Haryana	77	31.78	90.37	0.00	0.00
Karnataka	62	51.49	0.00	0.00	0.00
Kerala	182	70.98	0.00	0.00	0.00
Maharashtra	101	153.46	10.00	-	1.40
Madhya-Pradesh	82	130.27	5.82	0.00	0.00
Mizoram	16	1.74	0.00	0.00	0.00
Orissa	73	28.07	0.00	0.00	0.00
Punjab	129	90.01	16.33	0.00	0.00
Rajasthan	51	35.87	0.00	0.00	0.00
Tamil Nadu	64	160.74	3.20	-	0.00
Uttar Pradesh	99	191.75	6.60	0.00	0.00
West Bengal	64	7.73	0.00	0.00	0.00

Rivers in India are faced with increasing water quality deterioration. While some of rivers like Godavari, Krishna and Indus owe their pollution load predominantly to industrial activities, most other rivers like Ganga and its tributaries have both municipal/domestic and industrial wastes as pollution sources. According to the study of water pollution in the Ganga basin, it is estimated that 75 percent by volume of the waste water generated is from Municipal sources, 88 percent of the municipal sewage being from Class I cities.

The incidence of noise pollution has been on the rise especially in big cities of India such as Delhi. Ambient noise levels in different locations comprising sensitive, residential, commercial, and traffic areas of Delhi has been found to be far in excess of the permissible standards laid down for noise levels.

The environmental health of the country is quite precarious and does not conform to ambient air, noise and water quality standards. There are also effects on land and soil due to the increase in inorganic compounds and leaching and which also has effects on ground water resources.

F-2 LEGAL FRAMEWORK FOR ENVIRONMENT MANAGEMENT

Recognising the importance of environmental protection, State's commitment to it has been clearly stated in the Directive Principles of State Policy. Article 48-A of the Directive Principles

states: 'the state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.'

Environmental protection is also enshrined as a Fundamental Duty of the Citizen of India. Article 51-A (g) mentions that it shall be the duty of every citizen of India 'to protect and improve the natural environment, including, forests, lakes, rivers and wildlife, and to have compassion for living creatures'. The panchayats have been specifically assigned with the functions of soil conservation, water management, watershed development, social and farm forestry, drinking water, fuel and fodder, non-conventional energy sources and maintenance of community assets which are significant from the environmental management point of view. Similarly, the urban local bodies (ULBs) have been assigned the function of 'Protection of Environment and Promotion of Ecological Effects'.

Various environmental protection laws have been enacted to give the regulatory framework to these constitutional provisions. These are:

- Environment (Protection) Act, 1986
- Water (Prevention and Control of Pollution) Act, 1974
- Air (Prevention and Control of Pollution) Act, 1981

Similarly, specific natural resource protection acts include;

- Forest (Conservation) Act, 1980
- Wildlife (Prevention) Act, 1972

These have been extended to cover biosphere resources as well.

The acts to regulate storage, use, trade, transport and disposal of hazardous wastes include:

- Hazardous Wastes (Management and Handling) Rules, 1989
- Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
- Manufacture, Use, Import, Export and Storage of Hazardous micro-organisms and Genetically Engineered Organism or Cell Rules, 1989

The policy framework for environment protection comprises:

- National Forest Policy, 1988
- National Water Policy
- National Conservation Strategy and Policy Statement on Environment and Development, 1992
- Policy Statement for Abatement of Pollution, 1992
- Factory Act, 1948.

F-3 ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT PROGRAMMES

Based on the recommendations of the reports of the Committee for Recommending Legislative Measures and Administrative Machinery for Ensuring Environmental Protection, a Department of Environment was set up in 1980, within the GOI. Over the years this has expanded into a full fledged Ministry of Environment and Forests (MOEF). It has four divisions: Environment, Forests and Wildlife, Ganga Project Directorate, and National Afforestation and Eco-

development Board. In addition, there are various institutes and bodies under or working with the Ministry, for environment and natural resources protection and conservation.

A large proportion of the environmental tasks and strategies involve Ministries and Departments other than the MOEF.

Thus, India's programmes and achievements in the sphere of environment can be broadly categorised into two parts:

- programmes for environment protection and conservation of the Ministry of Environment and Forestry, and
- programmes having significance for natural resources conservation and protection initiated by sectoral Ministries/Department at the Central Government. The following two tables give the main programmes under the two categories, along with the organisational and non-organisational components of the programmes:

TABLE F-3 - PROGRAMMES OF THE MINISTRY OF ENVIRONMENT AND FOREST

Areas of Emphasis	Organisational	Non Organisational
Survey of Natural Resources	Establishment of • Environment Information System for Zoological Survey of India (ZSI)	<ul style="list-style-type: none"> • Floral/faunal survey by Botanical Survey of India (BSI)/ZSI • Environment Impact Assessment (EIA) on Ecolo & wildlife • Forest Survey by Forest Sur of India (FSI)
Conservation of Natural Resources	Establishment of • Central Zoo Authority • Nature interpretation centres for education on wildlife • Assistance for Tiger Reserve Monitoring and Evaluation	<ul style="list-style-type: none"> • Designation of Wetlands un Ramsar Convention • Management Action Plan fo Wetlands, Coral Reefs and Mangroves • Assistance to Botanical Gardens • National Forestry Action Programme • Forest Fire Control • Protected Area Network • Project Tiger • Assistance to Zoological Par
Environment Impact Assessm	• Training in EIA	<ul style="list-style-type: none"> • Environmental clearances • Regulatory notifications for fragile areas • Carrying capacity studies • Monitoring EIA conditions
Environment Education and Awareness	• Assistance to CPR Environmental Education Centre, Centre for Environment Education and National Museum of Natural History	• National Environment Awareness Programme

TABLE F-3 - PROGRAMMES OF THE MINISTRY OF ENVIRONMENT AND FOREST (CONT.)

Areas of Emphasis	Organisational	Non Organisational
Afforestation and Eco-development	<ul style="list-style-type: none"> • Support to regional centres for project preparation for afforestation and eco-development • Assistance to eco-task force 	<ul style="list-style-type: none"> • Conservation of non-wood forest produce • Development of forest and pasture seeds • Aerial seeding • Integrated Wasteland Development Project • World Bank assisted National Social Forestry Project • Afforestation schemes in Rajasthan and Haryana with OECF assistance • Fuelwood and fodder development projects • Seed Development • Grants in aid to OECF assisted NGO projects for afforestation and wasteland development • Mapping of wastelands and geographical information systems • Western Ghats forestry projects with ODA, U.K. assistance • Administration of National fund for afforestation
Management of Hazardous Substances	<ul style="list-style-type: none"> • Financial assistance for research projects to develop technologies for scientific handling and treatment of hazardous wastes • Training for household disposal of wastes and environmental sanitation of urban slumdweller • Financial assistance to State Pollution Control Boards (SPCBs) for setting up infrastructure for regulating management of hazardous substances 	<ul style="list-style-type: none"> • Financial assistance to states for conducting EIA studies for identification of sites for disposal of hazardous wastes

TABLE F-3 - PROGRAMMES OF THE MINISTRY OF ENVIRONMENT AND FOREST (CONT.)

Areas of Emphasis	Organisational	Non Organisational
Ganga Action Plan	<ul style="list-style-type: none"> • Public Awareness and education 	<ul style="list-style-type: none"> • Infrastructure for sewage an effluent treatment in towns • Monitoring of industries alo Ganga river • Epidemiological studies • Pollution abatement in Yam and Gomti • National River Action Plan
Monitoring/Prevention and Control of Pollution	<ul style="list-style-type: none"> • Strengthening Environmenta Protection, Training and Research Institute and Pollution Control Research Institute • Strengthening CPCB and SPCBs • Assistance to MOEF for evaluating environmental problems of pollution 	<ul style="list-style-type: none"> • Monitoring Air and water quality • Vehicular pollution control • Environmental standards • Action plans for polluting industries • World bank assisted industri pollution control project • Eco-labelling • Clean technology for small scale industries. • Bio-monitoring of River Yamuna • Monitoring water quality of Ganga
Research/Education and Training on Natural resources	<ul style="list-style-type: none"> • Support to Indian Council fo Forestry Research institution Ecological Research and Training Centre, Indian Institute of Forestry Management, Wildlife Instit of India, Salim Ali Centre fo Conservation of Nature, Indi Gandhi National Forest Academy and State Forest Service Colleges • Assistance to GB Pant Instit of Himalayan environment a development • Assistance to Paryavaran Vahini (volunteer environmental task force) • Assistance to SPCBs for strengthening manpower and procurement of equipment 	<ul style="list-style-type: none"> • Support for research projects under Man and Biosphere Programmes and Eastern an Western Ghat projects • Research projects for conservation and managemen of wetlands, mangroves and biosphere reserves • Support for plywood researc and wood substitution programmes

TABLE F-3 - PROGRAMMES OF THE MINISTRY OF ENVIRONMENT AND FOREST (CONT.)

Areas of Emphasis	Organisational	Non Organisational
International Co-operation	<ul style="list-style-type: none"> • Co-ordination Committee on externally aided projects • Ozone Cell for implementin the Montreal Protocol on Substances depleting the Ozone Layer • Inter-Ministerial Group for screening and selecting projects for assistance under Global Environmental Facili 	<ul style="list-style-type: none"> • Bilateral/Multilateral assiste projects in environment and forests • Global environmental issues viz. ozone depletion, climate change, bio-diversity conservation and trans-boundary movement of hazardous wastes • Agenda 21, Capacity 21 and Global Environmental Facili • Multilateral co-operation through South Asian Association for Regional Co operation and South Asian C operation for Environment Programme • International Centre for Integrated Mountain Development, Kathmandu

TABLE F-4 - PROGRAMMES OF OTHER MINISTRIES AND DEPARTMENTS OF GOI

Ministry / Department	Organisational	Non Organisational
Health and Family Welfare	<ul style="list-style-type: none"> • Establishment of Centre for Epidemiological Health Intelligence 	<ul style="list-style-type: none"> • Clinical Research on Drugs various systems and collecti cultivation and propagation medicinal plants
Urban Development	<ul style="list-style-type: none"> • Constitutional Status to ULB • Building materials and technology promotion coun 	<ul style="list-style-type: none"> • Environment Improvement o Urban Slums • Urban basic services • Integrated development of small and medium towns • Nehru Rozgar Yojna • Low Cost sanitation and sma towns water supply schemes
Water Resources	<ul style="list-style-type: none"> • Strengthening Peoples' participation in irrigation • Organisational Strengthenin for R&D in water resources planning 	<ul style="list-style-type: none"> • Command Area Developme Programme; focus on land improvement and developm of drainage facilities • National Water Management Project • Flood Control Programmes

TABLE F-4 - PROGRAMMES OF OTHER MINISTRIES AND DEPARTMENTS OF GOI (CONT.)

Ministry / Department	Organisational	Non Organisational
Rural Development	<ul style="list-style-type: none"> • Constitutional Status for Panchayati Raj Institutions • Training of Rural Youth for Self Employment 	<ul style="list-style-type: none"> • Jawahar Rozgar Yojna; cover soil and water conservation, wasteland development and Soil Forestry projects • Drought Prone Area Programme; undertakes landshaping and soil conservation, afforestation a pasture development, water resource and livestock development • Integrated Rural Energy Programme • Rajiv Gandhi National Drinking Water Mission for rural water supply • Waste land Development Projects of National Wastelands Development Board
Agriculture	<ul style="list-style-type: none"> • Accro-climatic Regional Planning Approach • Agriculture Research and Education • Fisheries Research Support • Support to Agriculture Colleges and Educational Institutions • Small Farmers Agri-business consortium • Schemes for women participation in agriculture • State Land use Boards 	<ul style="list-style-type: none"> • Watershed Development Programme • Rainfed agriculture in Natio Watershed Development Project • Western Ghats Development Project • Soil Conservation • Bio-Fertilizers • Integrated Pest Management
Industries		<ul style="list-style-type: none"> • Modernisation of Steel Industry • National Material Policy Project • UNDP assisted pesticides development project • R&D programme for Coir Industry; for finding new us of coir in improving soil stabilisation and erosion control and for cooling buildings
Labour	<ul style="list-style-type: none"> • Rural Workers Education Programme; includes educat in environment 	

TABLE F-4 - PROGRAMMES OF OTHER MINISTRIES AND DEPARTMENTS OF GOI (CONT.)

Ministry / Department	Organisational	Non Organisational
Energy and Coal	<ul style="list-style-type: none"> • Solar Energy Centre • Training for Environmental Management of Power Proje 	<ul style="list-style-type: none"> • IDBI scheme for energy conservation in industries • Indian Renewable Energy Development Agency assiste scheme for financing renewable energy developm • R&D for new and renewable sources of energy • National Projects on Biogas development, improved chullahs, solar photo voltaic wind energy, solar thermal energy and micro hydels • R&D for commercialisation waste disposal • R&D for battery powered vehicles
Science and Technology	<p>Establishment of</p> <ul style="list-style-type: none"> • Department of Bio-technolo • Technology Information, Forecasting and Assessment Council • National Centre for Medium Range Weather forecasting • Indian Vaccine Corporation Ltd. • Bio-Technology Consortium Ltd. • Training and HRD in Bio-Technology • 11 National facilities for ger plasm collection • Technologies absorption and adoption scheme • Transfer and trading in technology scheme 	<ul style="list-style-type: none"> • Assistance for National Technology/Societal Missio in vaccination and immunisation, drinking wate supply, wasteland developm livestock upgradation
Special Area Development Programmes		<ul style="list-style-type: none"> • Hill area development programme • Desert Development Programme

APPENDIX G

Appendix G

J. J. HOSPITAL

The Grant Medical College & Sir J. J. Group of hospitals are premier medical institutions of India under the government of Maharashtra, at successful completion of their 150 years. With a humble beginning, the institutions have grown over the last 150 years. Presently the GMC admits 200 undergraduate and 180 postgraduate students every year. At a given time the medical college has 1,000 undergraduates and 500 postgraduates. Apart from Sir J. J. group of hospitals, the college has additional learning hospitals as outlined in Table E.1.

TABLE G-1: PERIPHERAL HOSPITALS OF GRANT MEDICAL COLLEGE

Name of Hospital	Bed Strength
Sir J. J. Group of Hospital (Referral General Hospital)	1,352
Cama & Albless Hospital (Mother and Child Hospital)	560
St. George's Hospital (General Hospital)	467
G. T. Hospital (General Hospital)	521

Sir J. J. group of hospitals being the main hospital is the largest referral hospital in the state of Maharashtra. Sir J. J. hospital alone has more than 30,000 indoor admissions every year and more than 3,000 outpatients every day. The hospital provides service free of cost to all its patients for all services except for certain tests for which nominal fees are charged. Cama & Albless Hospital is a mother and child hospital located in the heart of the city of Mumbai. The hospital is next to the central railway station which makes access to the hospital excellent. Population requiring maternity care visit this hospital from all over the state of Maharashtra.

G-1 ORGANISATION STRUCTURE

The Grant Medical college is under the department of medical education and research of the ministry of health and family welfare as outlined in the figure below. The organisation structure of the Sir J. J. hospital is given in Figure E.1. The Dean of the GMC heads the J. J. hospital and is the final approving authority in all matters of the hospital as well as that of the college. He is the final approving authority for all important decisions of the Cama & Albless hospital also.

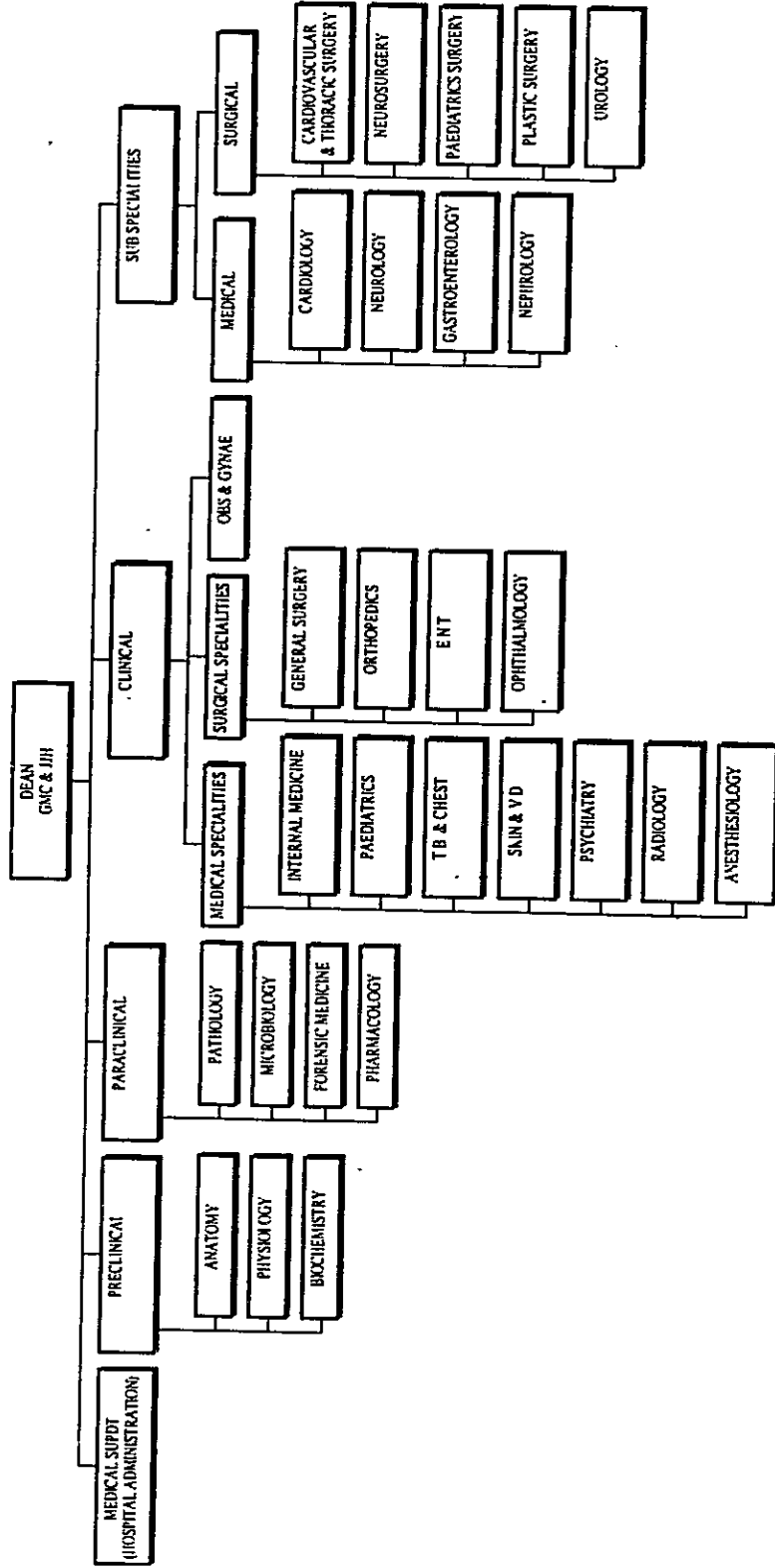


FIGURE G-1: ORGANISATION STRUCTURE OF SIR J. J. HOSPITAL

G-2 THE BUDGET

The Government of Maharashtra allocates the budget to the Grant Medical College and the J. J. Hospital. Figure E-2 gives the budget sanction and release of payments procedure.

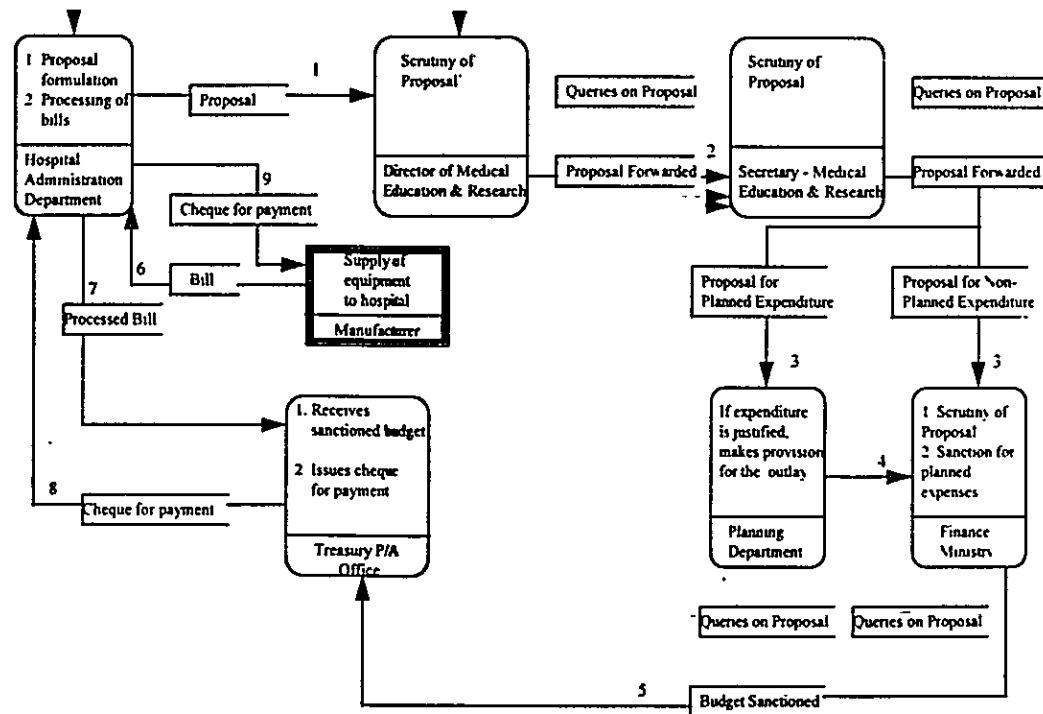


FIGURE G-2: BUDGET SANCTION AND RELEASE OF PAYMENTS - J. J. HOSPITAL

The hospital formulates its requirement for the next financial year by the end of the previous financial year's October. The proposal is formulated in accordance to a specified format. The proposal includes various heads, viz., salaries, wages, office expenses, travelling expenses etc. The proposal is formulated on the basis of the expenses incurred in the previous three financial years.

The administrative department of the hospital sends this finalised proposal to the Director of Medical Education and Research after the Dean of the hospital has approved the proposal. After the approval of the Director of Medical Education and Research, the proposal is sent to the Secretary of Medical Education and Research.

Next, from the office of the Secretary of Medical Education and Research, a copy of the approved planned expenses proposal is sent to the planning department of the Finance ministry, while the approved non-planned expenses proposal is sent to the finance ministry. The planning department when satisfied with the justification provided for planned expenses, makes a provision in the planned budget and intimates the finance ministry. The Finance ministry then sanctions the proposed planned expenses and informs the state treasury and the hospital of the sanction. For non-planned

expenses, the Finance ministry sanctions the expenses and once again, informs the state treasury and the hospital of the sanction.

Once the budget is sanctioned, the money is released through the treasury. All the bills of the hospital to which payments have to be made are processed by the administrative department of the hospital and then sent to the treasury. The treasury releases the cheque for payments to be made. It was reported that payments from the treasury did not take long and were made within a week.

The budget that is sanctioned to the hospital is not released at one time. Every 4 months, the hospital has to send an expenditure statement to the Finance ministry on the basis of which the next installment is released. The prescribed format for the expenditure statement is as outlined in figure E-3 below.

Total Sanctioned Grant	Expenditure up to end of _____	Expenditure required for remaining period	Reason for increase or decrease

FIGURE G-3: FORMAT FOR EXPENDITURE STATEMENT

As indicated above, the hospital needs to specify reasons for any increase or decrease in the sanctioned grant. It was reported that if there is a justifiable cause for an increase in the expenditure of the hospital, it is sanctioned by the Finance ministry.

The state budget that is sanctioned has two components:

- Budget for the Grant Medical College - All salary payments of the staff of the GMC (i.e., all doctors) are made from this budget.
- Budget for the Sir J. J. Hospital - All nurses, chemists, para-medical staff, technicians, ward boys, etc., are paid from this budget.

There is an increase of approximately 3-4 percent in the budget each year. This does not even take care of inflation.

Any portion of the grant that the hospital is unable to utilise in the particular financial year has to be surrendered by the 25th of March of that financial year so that it may be utilised by some other hospital or department in the state.

G-3 PERSONNEL

The GMC has 20 heads of department at present. The head of a department, on an average has about 20 years of experience. The minimum requirement to become a head of the department is 15 years of experience.

Under each head of department, there are staffs of 25-30 post graduate doctors each having a minimum experience of 5 years. The Medical Council of India (MCI) has laid down norms for

teaching staff of medical colleges in the country which specifies the number of years of experience that is required by the teachers at each level. Figure E-4 outlines the MCI norms.

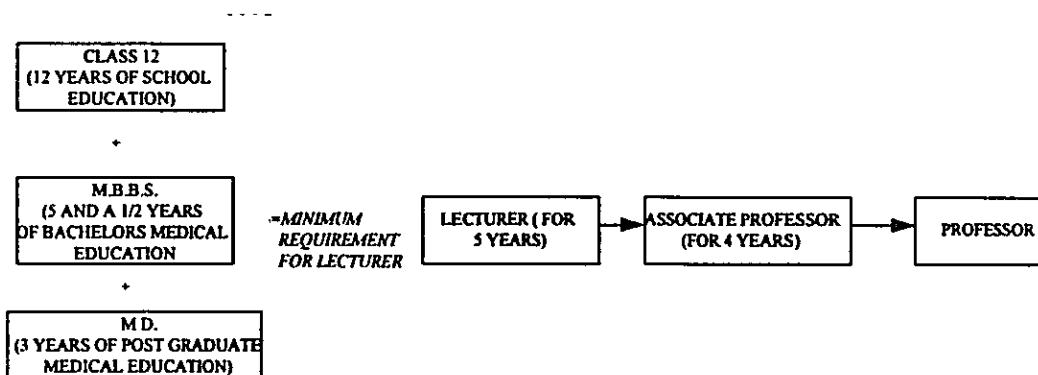


FIGURE G-4: MEDICAL COUNCIL OF INDIA NORMS FOR TEACHING STAFF OF A MEDICAL COLLEGE

The norms outlined in Figure E.4 are the minimum requirement standards that have been laid down by MCI. In reality however, due to lack of vacant positions it may even take 15-20 years for an eligible doctor to become a professor. An analysis of the number of doctors in the hospital department wise reveals that there are a lot of vacancies. The following reasons have been attributed for the vacancies:

- A majority of the vacancies are in the anatomy, physiology and pharmacology departments. Due to the absence of patient interface in these disciplines, students do not opt for these areas and hence the vacancies.
- Younger doctors are not interested in the teaching profession due to the remuneration not being attractive.
- Teaching staff in a medical college within a state are transferable. As a result when a new medical college is being set up transfers of faculty from an established medical college to the new one are effected. New medical colleges that have been set up in Maharashtra recently have been in remote and small towns, therefore acting as a disincentive for the young doctors.

All recruitment of teaching staff for the medical college is done by the state public service commission. For full time teaching there is an upper age limit. Any person above 32 years of age cannot enter as a lecturer. The medical college also has part time teachers who are not paid salaries, but given honorarium. Note that for a doctor who has been in continuous practice and is above 32 years of age, the teaching profession does not offer any opening. A very experienced doctor with no teaching experience cannot join the medical college as a professor. However, now there exists an opening for these doctors in private medical colleges.

It is mandatory for all the doctors of the GMC to work in the hospital. Their duties at the hospital includes in-patient care and out-patient department on specified days. The duties of the Dean of the college includes patient care, teaching, administration and research. As a result, research suffers due to lack of time that can be devoted to it. It is felt that there is a need to restructure the responsibilities of the Dean of the college.

The number of doctors of the medical college and paramedical staff of the hospital are given in the following table.

TABLE G-2: STAFFING PATTERN OF THE MEDICAL COLLEGE

Doctors	Sanctioned	Occupied	Vacant
Dean	1	1	-
Superintendent	1	1	-
Professor	35	27	8
Associate Professor	153	87	62
Lecturer	162	81	81
R.M.O./C.M.D.	22	22	-
Resident Doctors	491	491	-

G-4 THE MEDICAL COLLEGE & HOSPITAL IN ACCORDANCE TO THE MCI NORMS

The GMC admits 200 students each year at the under graduate level and 180 students at the post graduate level. The Sir J. J. hospital is the main hospital affiliated to the GMC. GMC also has 3 other peripheral hospitals attached to it. These are the St. George's hospital, Cama and Albless hospital and the G. T. hospital.

The MCI norms state that to be able to admit 100 students at the undergraduate level, a medical college should have a hospital with at least 700 beds attached to it. Thus to be able to admit 200 students the college should have at least a 1,400 bedded hospital. The J. J. , Cama & Albless, St. George's and the G. T. hospitals together have 2,900 beds.

Each department of the hospital is further divided into units. Every unit should have a minimum of 30 and a maximum of 50 beds and 3 teaching doctors. The composition of the doctors can vary and may be as follows:

- 2 Lecturers and 1 Associate Professor, or
- 1 Lecturer, 1 Associate Professor and 1 Professor, or
- 2 Lecturers and 1 Professor,

depending upon the requirement and the availability of the doctors. The service needs of the area around the hospital and the MCI norms serve as guidelines for deciding the number of units that each department of the hospital should have.

The number of units in the J. J. hospital is depicted in the following table.

TABLE G-3: UNITS IN THE SIR J. J. HOSPITAL

Department	No. of Units
Medicine	6
Surgery	6
Paediatrics, NICU & Paediatric Surgery	6 (4+1+1)
Obst. & Gynae (JJ & Cama)	3+4
Ortho	2

Eye	2
ENT	1
Skin & V.D.	1
Urology	1
Psychiatry	1
Dental	-
Physiotherapy	-
Others (TB, Plastic Surgery, Nephrology, CVTS, Neurology, Cardiology, Gastroenterology, Neurosurgery, etc.)	20

It is compulsory for all M.B.B.S. students to serve for one year in the hospital after they have passed out. However, if a student decides to pursue post graduation, he/she can serve for one year in the hospital after the completion of post graduation. For breaking the bond, a student is charged a penalty of Rs. 100,000.

Students and faculty from GMC go to the other 3 peripheral hospitals for their course requirements. The other 3 hospitals have their own non-faculty doctors, viz., full time and part time doctors. The technical staff (doctors) of the J. J. hospital are also the respective heads of department of the other 3 peripheral hospitals affiliated to GMC. For administrative purposes, each of the hospitals has a superintendent who looks after the day to day activities of the hospital. But for major policy decisions, the Dean of GMC is the final authority.

G-5 REFERRAL PATTERN

The intended structure of the public sector health delivery system is outlined in figure E.5 below. At the village level, each community should have at least one trained traditional birth attendant (Dai), and a community health guide (CHG), a local worker who receives a small monthly honorarium. For clusters of villages comprising on an average 5,000 population (3,000 in tribal and hilly areas), a health sub-centre (SC) is provided, staffed by one male and one female multi-purpose worker. The female multi-purpose worker is often referred to as an auxiliary nurse-midwife (ANM).

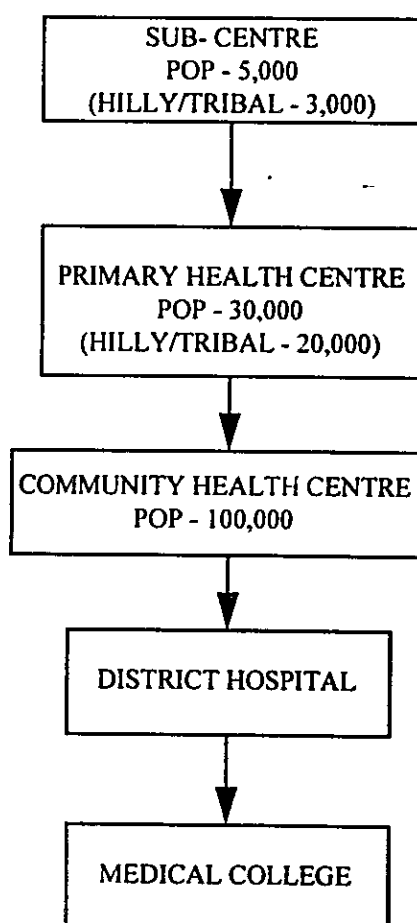


FIGURE G-5: PUBLIC SECTOR HEALTH DELIVERY SYSTEM

A primary health centre (PHC) is to be provided for every 30,000 population (20,000 in tribal and hilly areas), with staff to include one or more medical officers and other paramedicals. Community health centres (CHC) are to be developed to serve populations of 100,000 and would include some in-patient facilities. Higher level referral and inpatient facilities are provided at district level and in towns and urban centres.

Sir J. J. hospital in Mumbai serves as the top referral hospital of Maharashtra.

G-6 PROCUREMENT OF DRUGS

The hospital prepares a list of generic drugs that it would require in the next financial year and send it to the Director of Medical Education and Research (DMER). A tender is then floated by the DMER which consolidates the entire requirements of the state. There are 300 essential, vital and desirable categories of generic drugs on the rate contract list. The rate contract is finalised on the lowest quote mechanism and the hospitals are informed of the supplier for each drug. The rate contracts that are fixed are valid for one year.

The hospital then procures its requirement of a particular drug from the specified supplier. The supplier is required to submit a test certificate along with the supplies. The reorder point that is

maintained by the hospital is 3 months inventory. The pharmacists estimate the requirements of the hospital.

The Food and Drug Administration department (FDA), conducts random checks at the rate contractors premises, to collect samples of the drugs that are on the rate contract list which are then sent for testing. In case, it is discovered that a drug that has been supplied to the hospital is not resulting in the desired effects, the FDA is immediately informed. The follow-up action is then taken up by FDA.

For drugs that are not on the rate contract, procurement can be made from government of India or state government undertaking, or from the Bombay Municipal Corporation rate contracts.

G-7 PROCUREMENT OF EQUIPMENT

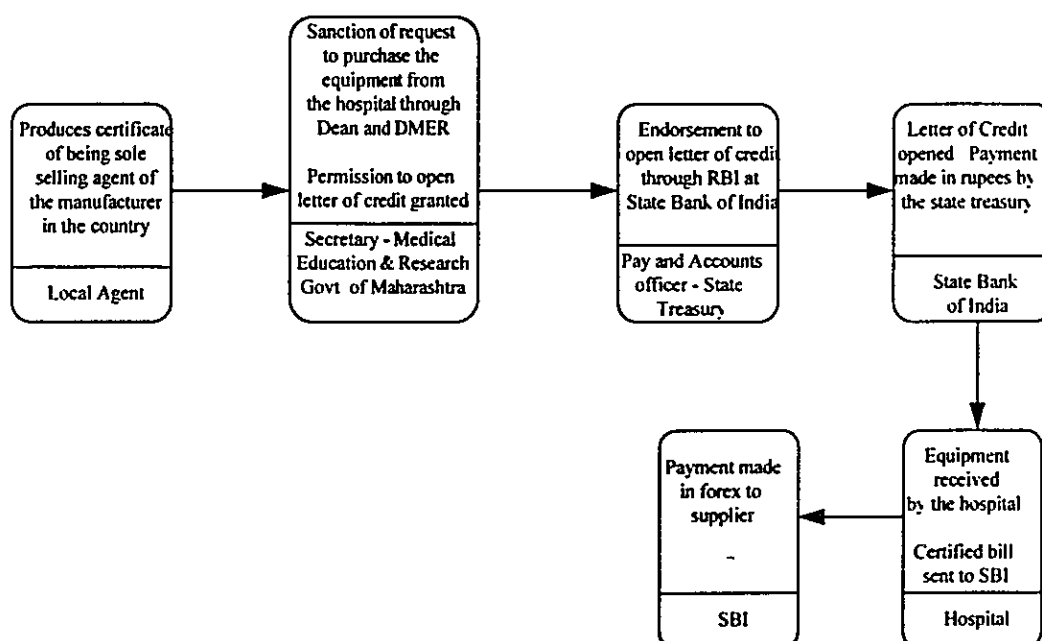


FIGURE G-6: PROCUREMENT OF EQUIPMENT THROUGH AN AGENT OF A FOREIGN MANUFACTURER

The purchasing power of the Dean of the college is limited to Rs. 12,500 for equipment and consumables. For a purchase between Rs. 12,500 to Rs. 50,000 the approval of the Director of Medical Education is required. The Health Secretary is the approving authority for purchases that exceed the Rs. 50, 000 limit.

For maintenance of equipment at the hospital, the hospital enters into a service contract with the manufacturer.

For purchases that have to be imported, a copy of the government sanction letter stating that the hospital has been permitted to purchase (*name of equipment*) from (*name of supplier*) at the cost of (*Rupees/Dollars*) needs to be sent to the Reserve Bank of India. The RBI opens a letter of credit in

the name of the hospital in the State Bank of India. After the equipment has been supplied, payment is made in forex to the supplier by the RBI.

The expenses of the annual maintenance contract that the hospital enters into with the supplier is met out of the hospital budget. There exists a restriction that the service contract of the equipment should not exceed 5 per cent of the cost of the equipment. If this limit is exceeded, permission from the DMER needs to be sought. Similarly, the spare parts for the equipment should not exceed 25 per cent of the cost of the equipment. The DMER is the permitting authority if this limit is exceeded.

G-8 DISEASE PATTERN THAT THE HOSPITAL CATERS TO

- Throughout the year
 - * Tuberculosis
 - * Hypertension
 - * Chronic Bronchitis
 - * AIDS
 - * Malaria
 - * Paralysis
- Seasonal (during monsoons)
 - * Gastroenteritis
 - * Typhoid
 - * Cholera
 - * Jaundice
 - * Hepatitis
- Emergencies disease pattern
 - * Accidents
 - * Sudden Paralysis
 - * Asthma
 - * Poisoning
 - * Acute abdomen pain
 - * Profuse Bleeding
 - * Tuberculosis patients with bouts of bleeding
 - * Small children - dehydration, foreign body in nostril/ear, tetanus, convulsions
 - * Burns

G-9 CATCHMENT AREA

The catchment area of the hospital is within a 5 km radius in the local area. Since the hospital is located close to the railway station, it also serves approximately a 40 km radius in the state of Maharashtra. The hospital is the top referral hospital of the state and thus caters to the entire state of Maharashtra and the neighbouring states for referral cases.

G-10 MISCELLANEOUS

- The hospital provides all the services free of cost to the public. The only tests that are charged for are:

- * CT Scan - Rs. 500 per test
- * Ecocardiography as per the following classification:
 - If income of the patient is below Rs. 1,000 per month, the rate is Rs. 150
 - If income of the patient is above Rs. 1,000 per month, the rate is Rs. 250
- The Dean of the college is the final authority on all matters of the college and the hospitals. This is inclusive of the Sir J. J. hospital and the other 3 peripheral hospitals.
- Any revenue that is generated by the hospital goes back to the state treasury.
- In case of requirement of funds in addition to the sanctioned grant, the State Development Board and the District Planning funds the requirement. The MRI and the CT Scan that was purchased by the hospital was funded through these boards. An additional budget of Rs. 170 million was provided by the two boards in the following manner: State Development Board - Rs. 10 million; District Planning - Rs. 160 million.
- The medical waste of the hospital is disposed in two ways. An incinerator which is located in the hospital premises is used for a part of the medical waste disposal, while the rest of it is through the Bombay Municipal Corporation's trucks which come on a routine basis to the hospital and carry away the waste. This is then disposed by the BMC.
- The source of drinking water in Mumbai are the four lakes that are located closely. The supply of water is done by the BMC. At present there is a 24 hour water supply at the hospital.
- The sewage of the hospital joins the general sewage of the city. It then undergoes treatment and is disposed off into the sea.
- The hospital is adequately equipped with generators which serve as a backup during power cuts.
- The J. J. hospital has two laboratories. One is located in the out-patient department while the other is located in the medical college. The OPD laboratory conducts the tests that can be conducted in a short while. Complicated and time consuming tests are conducted by the medical college laboratory.
- The difference between the hospital and the college is only with respect to the administration of the two. As far as patient care is concerned, the two are practically the same, and resources are shared equally between the college and the hospital.

G-11 DATA ON THE VARIOUS DEPARTMENTS IN THE J. J. HOSPITAL

TABLE G-4: THE STAFF AT THE J. J. HOSPITAL

Medical Staff	Number
Nurse	
Matron	1
Assistant Matron	2
Sister Tutor	15
Paed. Sisters	5
PHN	4
Psychiatric Sister	1
Sister I/C	88
Staff Nurses	663
House & Linen Keeper	7
Technical/Paramedical	
Pharmacist (JJ)	7
Radiographer (JJ/GMC)	6 + 15
Laboratory Tech (JJ/GMC)	38 + 67
Maintenance Tech	
- X Ray Assistant	5
Lab Assistant	34
Social Workers/Others	33

Total number of beds - 1352

Total number of department - 20

Total OPD/day - 1337

TABLE G-5: OPD NUMBER AND BED OCCUPANCY

Department	OPD No. (avg)	Bed Occupancy (avg)
Medicine	202	197
Surgery	140	180
Paediatrics, NICU & Paediatric Surgery	152	87
Obst. & Gynae (JJ & Cama)	55	100+349
Ortho	45	107
Eye	70	45
ENT	97	30
Skin & V.D.	120	24
Urology	25	25
Psychiatry	26	55
Dental	70	3 beds reserved
Physiotherapy	88	-
Others (TB, Plastic Surgery, Nephrology, CVTS, Neurology, Cardiology, Gastroenterology, Neurosurgery, etc.)	265	338

TABLE G-6: OPD ATTENDANCE

Item	Total for JJ (+ Cama)	Daily Avg
OPD Attendance	395,356	1,083
Casualty Attendance	50,103	137
Total Attendance	445,459 + 45,049	1,220
Routine OPD I	14,597	40
Emergency Admissions	17,414	46
Total Admissions	32,011 + 8,798	86
Discharges	29,969	82
Deaths (including still births, OPD/Casualty Deaths)	2,183 + 149	6
Bed Occupancy	430,372	1,179
Operations	13,098 +	6,176
Deliveries	1,975 + 3,664	5

TABLE G-7: OUT-DOOR PATIENTS TREATED AT SIR J. J. GROUP OF HOSPITALS, BOMBAY

Department	1991	1992	1993
Medical	99,750	99,692	69,516
Cardiology	15,229	10,744	6,174
Gastro-enterology	858	386	1,384
Haematology	109	171	12,420
Nephrology	4,968	6,095	4,092
Neurology	18,498	12,602	5,987
Psychiatry	14,144	13,263	5,358
Skin & s.t.o.	63,877	50,616	42,097
Tuberculosis	24,227	22,440	8,310
Aids	--	--	739
Surgical	87,878	81,559	85,992
Devital	17,925	13,300	13,222
E.N.T.	22,257	15,440	14,568
Neuro-surgery	3,659	3,667	4,357
Orthopaedic	26,890	26,279	12,905
Plastic-surgery	6,454	5,223	4,654
Urology	5,387	5,125	4,348
Physiotherapy	17,962	13,543	18,492
Occupational therapy	6,610	5,178	6,305
B. J. Medical	38,726	35,223	22,042
B. J. Surgical	19,994	20,737	17,190
C.J.O.H.	32,904	30,457	30,709
Eye bank	1,069	1,580	2,256
Gynaecology	12,342	12,877	8,647
Obstetrics	5,549	4,744	5,198
Thoracic surgery	3,129	3,502	3,545
Total	550,395	494,443	411,007

TABLE G-8: NUMBER OF IN-PATIENT ADMISSIONS IN J. J. HOSPITAL

Department	1992	1993	1994	1995
Medical	6,983	6,367	7,697	7,101
Cardiology	1,718	2,690	2,991	2,853
Haematology	10			
Nephrology	404	687	837	719
Neurology	495	607	647	591
Psychiatry	892	639	848	762
Skin and STD	329	361	399	386
Tetanus	13	6		
Tuberculosis	825	973	1,040	889
AIDS		2		
Gastroenterology	76	59	78	7
Surgical	6,632	6,146	6,828	6,227
Dental				
ENT	1,030	967	922	798
Neurosurgery	421	428	465	359
Orthopaedic	2,244	1,609	1,807	1,783
Thoracic Surgery	561	447	493	508
Plastic Surgery	699	719	688	675
Urology	371	426	364	331
Paediatric medicine	2,294	1,636	1,631	1,541
Infections	53	170	273	221
Neonatology	486	638	704	592
Paediatric Surgery	715	679	707	716
CJOH	1,209	977	1,072	1,337
Eye Bank	9	82	299	59
Gynaecology	677	873	891	791
Obstetrics	3,252	3,000	3,343	3,062
Total	32,398	31,188	35,024	32,308

TABLE G-9: DETAILS OF THE BUDGET SANCTIONED

Sr. No.	Sanctioned Grant	1994-95	1995-96	1996-97
1	Pay	88,695,000	103,200,000	105,061,000
2	Wages			
3	Travel Expenses	70,000	61,000	60,000
4	Office Expenses	10,000,000	24,560,000	8,330,000
5	Petrol, Oil & Lubrication	100,000	24,000	83,000
6	Rent & Taxes	213,000		237,000
7	Advertisement & Publicity	40,000	52,000	35,000
8	Professional & Special Services	35,000		18,000
9	Other Expenses			5,000
10	Maintenance	2,858,000	2,230,000	1,045,000
11	Vehicles	50,000		61,000

12	Machinery & Equipment	1,400,000	1,166,000	1,221,000
13	Materials & Supplies	78,827,000	107,422,000	87,437,000
14	Scholarship & Stipend			
15	Grants-in-Aid			
16	Diet	5,000,000	6,623,000	7,500,000
	Total	187,288,000	245,338,000	211,093,000

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B: Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: SIR J. J. GROUP OF HOSPITALS

Name of the Equipment	Department	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty			Total Qty	Remarks
					B	C	E		
Consumable & spare parts for blood gas analyser	Biochemistry	1992-93	Govt. of Maha.	M/s Corning Diagnostic Pvt. Ltd. Hong Kong			1		
Radial keratomy knife	Ophthalmology	1992-93	Govt. of Maha.	M/s Storz Instruments, West Germany			1		
Operating microscope	Ophthalmology	1992-93	Govt. of Maha.	M/s Inamy & Co. Ltd., Tokyo Japan			1		
Horizon 2000 Vital Sign Monitor	Medicine	1992-93	Govt. of Maha.	M/s Menen Medical Inc. Man Street, Clarence, USA			1		
Automated micro plate reader (Eliza plate reader)	Blood Bank	1992-93	Govt. of Maha.	M/s S.L.T. Lab Instruments GMBH Austria			1		
Servel Cell Washer	Blood Bank	1992-93	Govt. of Maha.	M/s E.I. Du Pent De Nemouses % Co. Wilmington			1		

Spares & Accessories for ICU Monitors	Cardiology	1993-94	Govt. of Maha.	Mountainview USA						
Cardiac Catheterisation Lab	Cardiology	1993-94	Govt. of Maha.	M/s Menon Medical Inc. New York, USA M/s Siemens AG. BMED Erlangon, Germany						1
Cine Angio Film Analyser (TAGARNO)	Cardiology	1993-94	Govt. of Maha.	M/s Siemens AG Erlangon, Germany						1
Computerised Stress test machine	Cardiology	1993-94	Govt. of Maha.	M/s Narquette electronics Inc Winsconsin USA						1
X Ray tube for CT Scan machine	Radiology	1993-94	Govt. of Maha.	M/s Varian International Inc Switzerland						1
Tetrode for CT Scan machine	Radiology	1993-94	Govt. of Maha.	M/s Hitachi Medical Corp. Japan						1
Blood gas analyser	Medicine	1993-94	Govt. of Maha.	M/s B. Braun Malaysia						1
Haemodialysis machine	Nephrology	1993-94	Govt. of Maha.	M/s Valley lab Australia Pvt. Ltd, Australia						1
Spare parts for ultrasonography machine	Radiology	1994-95	Govt. of Maha.	M/s Shimadzu (Asia pacific) singapore						2
Diapulse machine	Neuro surgery	1994-95	Govt. of Maha.	M/s Diapulse						2

6. Equipment Operation Maintenance Costs

	1992	1993	1994	1995
Purchasing of :				
Equipment				
Consumables				
Linen Deptt.	263,529	88,343	532,085	1,312,481
Drugs	4,210,000	45,000,000	57,500,000	43,162,088
Repair Parts				
Others				

DEPARTMENT OF PATHOLOGY**Brief history of the department:**

- One student per teacher per year is taken in the speciality
- M.D. (Pathology & Bacteriology) course started in 1960 and M.D. (Pathology) & M.D. (Microbiology) separated in 1973.
- Special facilities of Cryostat, Immunohistochemistry are available.
- Number of clinical autopsies done per year is around 8000.
- Number of routine clinical pathology tests done per day are -
 - CBC - 80 to 100
 - ESR - 40 to 60
 - P. S. - 25 to 30
 - Urine - 60 to 80
 - Sputum - 35 to 50
 - Stool - 20 to 50
- Other teaching aids including Pictoval, projectors - slide & over head autopsy video tapes, 5000 kodachrome transparencies.
- Training program consists of lectures, autopsy workshop, autopsy gross pathology, surgical slide seminar. etc.
- Staff position:

TABLE G-10: STAFFING PATTERN OF THE PATHOLOGY DEPARTMENT

Position	Sanctioned	Filled	Vacant
Professor	2	2	-
Associate Professor	16	12	4
Lecturer	18	14	4
Resident - I Year	6	6	-
Resident - II Year	10	10	-
Resident - III Year	8	7	1
Class III			
Stenographer	1	1	-
Store Keeper (Sr. Clerk)	1	1	-
Photographer	1	1	-
Lab. Tech.	26	21	5
Lab. Asst.	10	7	3
Jr. Clerk	3	1	2
Class IV			
Lab. Servant	20	20	-
Sweeper	3	3	-

- **Activities Services and Performance:**
 - A. Teaching - undergraduates: 200 + 50 + 200 students (Lect., Pract., Tutorials)
Training - postgraduates: T.P.C. 24 P. G. students. PG activities, seminars etc.
Others : Workshop attended by the staff members.
 - Female genital tract - conducted by Tata
 - Cytology - Breast Lump - Tata
 - B. Services and achievements :
 - Clinical pathology
 - Histopathology
 - Cytology
 - Autopsy
 - Medicolegal autopsy - histopath services
 - C. Research Department:
 - Sr. Surgical slide seminar - all pathologists come together and discuss slides once in a month.
 - Bombay breast cancer group registry - at Tata once in a month
 - Lymphnode cancer registry - at Tata
 - Bombay haematology group - once in a month
 - Bombay kidney group
 - Death conference
 - Exchange of surgical slides at chapter conference

TABLE G-11: TESTS CONDUCTED IN THE PATHOLOGY DEPARTMENT

		1993	1994	1995	Charge	Examination Mean Time
Pathology	Cutpdo-agnosis					
	Excisional Biopsy	7184	8248	5164	-	
	Frozen Section					
	Others Autopsy	620	606	405	-	
	PSPM	713	519	572	-	
	Cytology	2375	2500	2800	-	
Face Urinalysis	Urine					
	Faces					
Others	Hb CBC	28800	36000	38000	-	
	ESR	11620	18000	18300	-	
	PS for MP	720	1000	930	-	
	Urine	21600	25200	28800	-	
	Stool	3600	4800	4500	-	

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B: Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: PATHOLOGY DEPARTMENT, GMC

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	E		
Fluorescent microscope	23/03/84	C. Z. Instruments Pvt. Ltd	C. Z. I. (imported)						1	All the items listed in the table are very essential and useful for the laboratory to give correct and proper diagnosis in time.
Orthoplan microscope	27/09/82	Lietz Wetzler	Lietz Wetzler (imported)						1	
Automatic histoprocessor	03/03/72	Modern Traders	Indian (local firm)						7	
Automatic knife sharpner	03/03/72	Goverdandas Pvt. Ltd	Imported						5	
Pictovol microscope (photo)	05/07/79	C. Z. Instruments Pvt. Ltd	Imported						1	
Automatic slide projector	27/03/86	N. V. Virkar (local firm)	Japanese						1	
Binocular microscope	1982	Local firm	Made in Poland						32	
Monocular microscope	1955-1985	Local firm	Indian/imported						200	
Centrifuge machine	1982	R. K. Traders	Indian						17	
High speed centrifuge machine	28/02/90	Local firm	Indian						1	
Overhead projector	1980	Local firm	Imported (Leitz)						1	
Hot air oven	1972-1982	Local firm	Indian						7	
Incubator	1972-1984	Local firm	Indian						4	

TABLE G.11 TESTS CONDUCTED IN THE PATHOLOGY DEPARTMENT

	1993	1994	1995	Charge	Examination Mean Time
Completed					
Excess	84	8238	64		
Biopsy					
Histopath					
Section					
Other	620	606	405		
Adverse					
OSPM	75	519	75		
Unfinished	375	2100	2800		
Excess					
Excess					
Excess	28800	36000	3800		
Excess	1620	18000	2830		
Excess					
Excess	720	600	930		
Excess	1600	28200	2880		
Excess					
Excess	600	1800	1800		

7. Existing Major Medical Equipment List

Name of the Department	Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty						Total Qty	Remarks
					A	B	C	D	E	F		
Pathology Department	Electrocardiograph	1984	Instruments Pvt Ltd	(imported)						1		All the items listed in the table are very old and useful for the laboratory. We have directed the purchase of new ones.
	Microphotocopyer	1982	Fietz Wetzer	Fietz Wetzer (imported)						1		
Autoclave	Autoclave	1975	Modern Traders	Modern Traders (firm)						1		
	Autoclave	1975	Goverdandas Pvt Ltd	Goverdandas (imported)						1		
Syringes	Syringes	1975	Modern Traders	Modern Traders (firm)						10		
	Syringes	1975	Goverdandas Pvt Ltd	Goverdandas (imported)						10		
	Syringes	1975	Modern Traders	Modern Traders (firm)						10		
	Syringes	1975	Goverdandas Pvt Ltd	Goverdandas (imported)						10		
	Syringes	1975	Modern Traders	Modern Traders (firm)						10		
Syringes	Syringes	1975	Goverdandas Pvt Ltd	Goverdandas (imported)						7		
	Syringes	1975	Modern Traders	Modern Traders (firm)						7		

DEPARTMENT OF PAEDIATRICS

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: DEPARTMENT OF PAEDIATRIC SURGERY

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	E		
High pressure steriliser	1970	JJ hospital	Nate Steel Co.							
High speed steriliser	1970	JJ hospital	Nate Steel Co.							
Hot & cold water steriliser	1970	JJ hospital	Nate Steel Co.							
Minipose operation table	1970	Tata trust	Minipose							
Paed. operation table	1970	Tata trust	Esler's							
Boyles apparatus (3)	1968, 80, 86	JJ hospital	Indian oxygen							
ECG monitor	1993	JJ hospital	L & T							
Halogen operating ceiling lamp	1992	JJ hospital	Philips							
Fibrooptic lamp	1992	JJ hospital	Electrooptic							
Air conditioner	1970	Tata trust	Volta							
Cautery (3)	1985, 1991	JJ hospital	Delamedical							
	1990	JJ hospital	Valley lab							
Cytoscope (2) with accessories		JJ hospital	Storz							
Blood gas analyser		JJ hospital	Instrumentation Lab IL 1306							
Pulse oxymetre		JJ hospital	Pase Tech							
Ventilator		JJ hospital	Vicker, Bare cub							

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: PAEDIATRIC LABORATORY

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	E		
Flame Photometre	1992	Maya Brothers	Elico						1	
Hot Air Oven	1994	Maya Brothers							1	
Klett Colorimetre	1961								1	
Elico Colorimetre	1984	Maya Brothers	Elico						1	
Erma Colorimetre	1989	Maya Brothers	Erma, Japan						1	
Cystonic Colorimetre	1992	Supply by JJ office							1	
Single Pan Balance										
Microscope Monocular with 3 objectives	1982									
Distillation Apparatus	1992	Maya Brothers								
Centrifuge Machine	1994									

TABLE G-12: DEPT. OF PEDIATRIC SURGERY, J.J. HOSPITAL, MUMBAI. NUMBER OF IN-PATIENT-BY DISEASES

No.	Category of diseases	1993	1994	1995
1	Gastro intestinal tract	195	226	223
2	Central nervous system	65	45	71
3	Genito urinary system	157	157	146
4	Thoracic	58	55	56
5	Septic	52	51	39
6	Trauma	84	101	82
7	Plastic	40	48	58
8	Burns	31	36	27
9	Tumors	26	25	40
	Total	708	744	742

DEPARTMENT OF PREVENTIVE AND SOCIAL MEDICINE**TABLE G-13: STAFF POSITION**

Category	Sanctioned Posts	Vacancy
Professor	2	1
Associate Professor	6	
Lecturer	4	
Stenographer	1	
Store Keeper	Nil	
Sr. Clerk	Nil	
Jr. Clerk	1	
Technician	2	One posted at the Urban Health Centre in Bandra
Lab. Asst.	Nil	
Lab. servant (attendant)	4	
Sweeper	Nil	
Medical Social Worker	3	

Some of the activities that are performed by the department are:

- Ambulatory Care Services
- Antirabies Treatment Centre
- Immunization
- Undergraduate and Postgraduate Education
- Research Project

LIST OF EQUIPMENT IN THE DEPARTMENT

1. Centrifuge Machine (Liquid Speed Indicator)
2. Centrifuge Machine for 8 tubes
3. Centrifuge Swing out Rotator with complete metal tube
4. Dark Field Condenser
5. Microscope lamp (KMT - 18)
6. Thermometre
7. Pointer Eyepieces
8. Incubator
9. Hot Air Oven
10. Serological Water Bath (for 4 Racks)
11. Outfit for sending sample of milk and water
12. Outfit for taking sample of blood for wasserman test
13. Autoclave (electrically operated)
14. Platinum Wire Loop Handle
15. Metal slide cabinet for 1000 slides
16. Test tube stands for 6 T. T.
17. PH Lovibond Comparator & Disk
18. Diamond Point Glass Tube Cutter
19. Haemoglobinometre Pipette

20. Weighing machine bath type (Indian)
21. Laboratory Shaking Machine for Kahn Rads
22. Distilled Water Plant
23. Hemoglobin Square Tube
24. Anaerobic Jar with Catalyst and Kipp's Apparatus
25. Tayler Water Analyser stand with 3 round tube
26. Round Corning Brand Tube (TWK)
27. Comparator Nitrogen Slide
28. Phenol Red slide for Taylers water kits
29. Vacuum & Compressor rotary combined pump
30. Cellular membrane filter unit
31. Chlorotex Outfit Complit
32. Automatic Pipette washer
33. Magnetic Stirrer with hot plate (electrically)
34. Hot Plate
35. Inoculation hood with wooden frame
36. Reflex Viewer for 35 mm film slide
37. Disco Haemoglobinometre model 660 Sahli Hellige type with square tube complete set
38. Improved Neubare Chamber (English make)
39. Microscope Straight Body (DSW)
40. High Power Lamp (mode HP 54) with condenser 6 V. 36 W
41. Instrument Steriliser (Electric)
42. Clinical Pipette Shaker
43. Investigation Kit
44. Portable Petroleum Gas Burners
45. Stop Watch
46. Alarm Timer
47. Pipette Box for sterilising
48. Steel rack for traying & Drying
49. X-Ray viewing box - D'sco make
50. Haemocytometre - complete set
51. Automatic Display 35 mm slide projector
52. Cine Projector 35 mm
53. Slide Projector/Automatic Slide Projector
54. Overhead Projector
55. Binocular microscope
56. Camera
57. Arti sound wave metre
58. Vaccine carrier
59. Epidescope
60. Autovisual apparatus
61. Slide tape tutav
62. Calculator
63. Electronic Desk Calculator
64. Tape-records
65. Chloroscope
66. Hand Tally Counter 4 digits
67. Rotator for VDRL
68. Portable Double Bottle Suction

Urban Health and Training Centre, Bandra (Department Of Preventive And Social Medicine)

The urban health training centre, Bandra is a field practice area for the teaching and training of undergraduate, postgraduates and the interns of the GMC, Mumbai. In addition it provides health care facility to the people residing in the government colony. It is functioning under the supervision of the Dean, GMC through the Department of Preventive Social Medicine under the administration control of Directorate of Medical Education & Research, Mumbai since April 1979.

The centre caters to the residents of the government colony of about 50,000 population and is surrounded by slums of Shastri Nagar, Sanjay Nagar, Ahinsa Nagar and Bharat Nagar. The activities that are performed by the centre are as follows:

- Out Patient Department
- Dental OPD
- Ante-Natal Clinic
- Under Five Clinic
- Indoor Services
- Casualty Services
- Laboratory and X-Ray services
- Other Services viz., school health services, health education, home visits, referral services, expert services from GMC, implementation of National Health Programmes, treatment of tuberculosis patients, treatment of leprosy and skin patients through Bombay Leprosy Project

Future Requirement - Maternity and paediatric services need to be given priority for expansion in future.

TABLE G-14: STAFF PATTERN OF THE URBAN HEALTH CENTRE, BANDRA

Sr. no.	Designation	No. of Posts
CLASS I		
1	Professor Incharge	1
CLASS II		
2	Medical Officer	3
3	Dental Surgeon	1
CLASS III		
4	Pharmacist	1
5	Compounder	2
6	Staff Nurses	8
7	Sanitary Inspector	2
8	Lab. Technician	2
9	X-Ray Technician	1
10	Statistical Assistant	1
11	Mid-wife	1
12	Senior Asst.	1
13	Sr. Clerk	2
14	Jr. Clerk	2
15	OPD Clerk	2
16	Dresser	1
CLASS IV		
17	Aya	4
18	Sweeper	4
19	Dispensary Servant	4
20	Watchman	4
21	Lab. Attendant	2
22	Peon	1
TOTAL		50

Rural Health Centre Palghar (Department Of Preventive And Social Medicine)

Work done by Health Unit at Palghar:

1. Health services at
 - Headquarters
 - 6 Subcentres
 - 11 Rural Mobile Clinics
 - 35 other villages (only for vital statistics) which are under the 7 PHCs - 92,000 population

Services provided are:

- Maternal and child health services
- Medical care
- Family planning

- Control of epidemics and investigation
- School health
- Environmental sanitation
- Compilation of vital statistics
- Health education
- Health figureion
- Health camps
- Special gynaecological examination
- Dental clinics
- Laboratory services

Rural Health Training for Students:

- M.D. - Preventive and Social Medicine
- D.P.H. - Diploma in Public Health
- Medical Interns
- Basic- nursing
- Post Basic - nursing
- Paediatric Nursing
- BSC/MSC Nursing

TABLE G-15: STAFF POSITION AT HEALTH UNIT PALGHAR

Designation	Number
Class I Officer	1
Class II Officer	1
Class III- Female Medical Officer	1
Class III - Office Staff	4
Class III - Para Medical Workers	8
Class III - Nursing Staff	13

OBSTETRICS AND GYNAECOLOGY DEPARTMENT

TABLE G-16: NUMBER OF IN-PATIENT BY DISEASES

No.	Category of Diseases	1993	1994	1995
1	Pregnancy Induced Hypertension	90	98	94
2	Heart Disease	23	19	23
3	Infection & other Febrile Diseases	35	41	26
4	Ante Partum Haemorrhage	8	3	8
5	Severe Anaemia	2	6	4
Total of Obst. Cases		158	167	155
6	Menstrual Disorders	112	97	150
7	Malignancy (Cx + Ovaries)	74 + 32	60 + 27	39 + 62
8	Fibroid	69	65	69
9	Ectopic	10	20	14
10	Others	80	92	95
Total of Gynae. Cases		465	445	550
Grand Total		623	612	705

TABLE G-17: DETAILS ON IN-PATIENTS OF THE OBST. AND GYNAE. DEPARTMENT

	1993	1994	1995	Charge
No. of In-Patient	623	612	705	Nil
No. of Beds	136	136	136	Nil
Rotation Rate of Bed				
Avg. days of Hospitalisation	6	6	6	Nil

TABLE G-18: NUMBER OF DELIVERY CASES

	1993	1994	1995	Charge	Delivery time
Normal Delivery	1518	1665	1564	Nil	
Caesarean Section	213	285	251	Nil	
Others	377	307	268	Nil	
Total	2108	2257	2083	Nil	

TABLE G-19: GRAVIDITY

	1993	1994	1995
Gravidity	2856	3566	2988
Abortion	410	644	432
Complication of Pregnancy	216	243	212
Complication of Labor	222	302	311

TABLE G-20: STILL BIRTH AND DISEASES OF PERINATAL PERIOD

	1993	1994	1995
Normal	1968	2113	1941
Still Birth	58	61	51
Neonatal Mortal	82	83	91
Induced abortion	198	412	244
Spontaneous Abortion	212	232	188

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: OBST. AND GYNAE

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	Z		
Colposcope	1990	Govt. Purchase	Seimens Co.					Z	1	
Doppler	1992	Govt. Purchase	Galton Co.						1	
Foetal Monitor	1988	Govt. Purchase	Corometrics, USA						1	
Ultrasound	1996	Govt. Purchase	Aloka Co.						1	
Microscope	1984	Govt. Purchase	Indian						1	
Suction Units - 4	1990, 94, 96	Govt. Purchase	Indian						4	
Heater for Warming Neonales	1994	Govt. Purchase	Indian						3	
Laparascopes - 3	1984, 96	Govt. Purchase	Storz, Germany K4, USA						2	
Steriliser - 6	1980	Govt. Purchase	Indian						5	
Autoclave - 2	1978	Govt. Purchase	Indian						2	1 unit not working
Boyles Apparatus	1982	Govt. Purchase	Indian						3	

Name of the Department: N.I.C.U, WD-30 B

S.no.	Name of equipment	Procurement year (19xx)	Name of purchaser or donor	Name of manufacturer	Condition by qty						Total qty	Remarks
					A	B	C	D	Z			
1	Neonatal respirator	1995		Approtech	✓						1	
2	Pneupac ventilator resuscitator	1980		Pneupoc london lu6/3dl	✓						1	
3	Respiration monitor	1993		Viscon tetromed pvt. Ltd. Thane			✓				1	
4	Temperature monitor	1993		Viscon			✓				1	
5	Cardio rate alarm system	1993		Viscon			✓				1	
6	Autoclave machine Old New	1980 1991		Modren trader ultra	✓						1	
7	Suction machine	1980		-					✓		1	
8	Phototherapy machine.	1970		-	✓						2	
					✓						1	

TABLE G-21: STAFF PATTERN OF THE OBST. AND GYNAE DEPARTMENT

Designation	Number
Medical Staff	
Professor & Head of Deptt.	1
Associate professor	3
Part time honoraries	3
Lecturers	3
Residents	12
Total	22
Non Medical Staff	
Lab. Technicians	3
Cytology Technicians	2
Social Workers	2
Clerks	2
Attendants	2
Family Planning	
Medical officers	2
Staff nurses	3
Asst. Nurse midwives	3
Coordinator	1
Projectionist	1
Ward boys/Attendants	3
Sweepers	2
Associate Prof. - Health Education	1
Associate Prof. - Post Partum Programme	1 (vacant)
Staff in the each of the 3 wards (Total Beds - 136)	
Sister incharge	1
Staff Nurses	8
Student Nurses	8
Wardboys	4
Sweeper	6
Ayahs	4
Labour Room - As in the wards above	
Operating Room - As in the wards above	
OPD - As in the wards above	
Sister incharge	1
Staff Nurses	2
Student Nurses	8
Wardboys	1
Sweeper	2

DEPARTMENT OF BIOCHEMISTRY
CENTRAL CLINICAL LABORATORY

TABLE G-22: NUMBER OF INVESTIGATIONS CARRIED OUT IN THE LABORATORY

Sr. No.	Investigation	1993	1994	1995
1	Serum Sodium	27,840	33,120	39,600
2	Serum Potassium	28,911	343,025	40,320
3	Serum Chloride	27,840	33,120	39,600
4	Serum Bilirubin	29,337	32,635	36,720
5	Serum Alkaline Phosphate	25,009	29,867	34,200
6	Serum GOT	34,315	37,803	40,680
7	Serum GPT	36,011	38,916	41,760
8	Serum Proteins	22,437	25,300	28,800
9	Serum Albumin	22,437	25,300	28,800
10	Serum Globulin	22,437	25,300	28,800
11	Serum Acid Phosphatase	1,785	1,987	2,160
12	Serum Calcium	3,990	4,128	4,320
13	Serum Phosphorous	3,187	3,965	3,240
14	Serum Uric acid	3,600	5,400	5,780
15	Serum Creatinine	28,800	32,400	38,312
16	Serum Cholesterol	3,640	5,400	6,032
17	Serum Amylase	660	720	928
18	Blood Sugar	28,817	31,600	36,720
19	Serum Urea	24,321	27,150	32,760
20	Serum LDH	760	1,280	2,160
21	Serum Ketones	805	1,080	1,280
22	Prothrombin Time	5,825	7,920	5,400
23	Urine Sugar	1,287	1,480	1,672
24	CSF & Fluids	918	1,440	2,185
25	B+ - CT	6,115	9,008	12,305
26	CBC/MP	5,335	7,200	19,440
TOTAL		396,419	766,544	533,974

TABLE G-23: P.G. LAB - SPECIAL INVESTIGATION LAB

Sr. No.	Investigation	1993	1994	1995
1	Triglycerides	2,016	1,836	1,860
2	LDL	1,692	1,440	1,656
3	HDL	1,692	1,440	1,656
4	VLDL	1,692	1,440	1,656
5	Free Fatty Acids	2,016	1,836	1,860
6	Stone Analysis	24	12	12
7	Urine electrophoresis	36	24	12
8	Homo cystinurea	24	24	24
9	Cereplasmin	12	12	12
10	Misc.	12	12	12
P.G. Lab Investigation - Total		9,216	8,076	8,760
Central Lab Investigation - Total		396,419	766,544	533,974
Grand Total		405,635	774,620	542,734

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: LIST OF INSTRUMENTS IN THE CENTRAL LABORATORY, DEPTT. OF BIOCHEMISTRY

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	Z		
ABG Gas Analyser	1990	Govt. Of Maharashtra	Ciba - Corning					1	1	Working
Chemistry Analyser - 550	1990	Govt. Of Maharashtra	Ciba - Corning					1	1	Non Working
New Chemistry Analyser	1996	Govt. Of Maharashtra	Ciba - Corning					1	1	Working
Mono Pan Balance	1981	Govt. Of Maharashtra	Dona					1	1	Working
Erma Colorimetre	1982	Govt. Of Maharashtra	Erma					2	2	Working
Systronoc Colorimetre	1993	Govt. Of Maharashtra	Systronic					1	1	Working
Hot Plate	1975	Govt. Of Maharashtra	Tempo					1	1	Working
Hot Air Oven	1977	Govt. Of Maharashtra	Shanti					1	1	Working
Oven Electric	1975	Govt. Of Maharashtra	Tempo					1	1	Working
Flame Photometre (Systronic)	1993	Govt. Of Maharashtra	Systronic					1	1	Non Working
Flame Photometre (Elico)	1991	Govt. Of Maharashtra	Elico Pvt. Ltd.					1	1	Working

Refrigerator	1977	Maharashtra Govt. Of Maharashtra	Godrej							1	Working
Refrigerator	1977	Maharashtra Govt. Of Maharashtra	Godrej							1	Working
Ultra Sound Cleaner	1990	Maharashtra Govt. Of Maharashtra	Godrej							1	Working
Voltage Stabiliser	1992	Maharashtra Govt. Of Maharashtra	Argo							2	Working
Water bath (Lab Hospital)	1991	Maharashtra Govt. Of Maharashtra	Lab Hospital							1	Working
Microscope (ICCU)	On Loan	Maharashtra Govt. Of Maharashtra	Remi.							1	Working
Vertax Mixer	1996	Maharashtra Govt. Of Maharashtra								1	
Hot Plate (tempo)	1975	Maharashtra Govt. Of Maharashtra	Tempo							1	Working
Centrifuge Machine	1988	Maharashtra Govt. Of Maharashtra	Remi.							5	3 Working 2 Non Working
Systronic Colorimetre	1995	Maharashtra Govt. Of Maharashtra	Systronic							2	Working
Refrigerator	1995	Maharashtra Govt. Of Maharashtra	Godrej							1	Working
Hot Air Oven	1992	Maharashtra Govt. Of Maharashtra	Shanti							4	Working
Refrigerator	1995	Maharashtra Govt. Of Maharashtra	Godrej							1	Working
Boiling Water bath	1985	Maharashtra Govt. Of Maharashtra	Shanti							1	Working
Boiling Water bath	1977	Maharashtra Govt. Of Maharashtra	Shanti							2	Working

Air Conditioner Unit	1981	Govt. Maharashtra	Of Accaine					1		Working
Air Conditioner Unit		Govt. Maharashtra	Of Voltas					2		Working
Air Conditioner Unit	1981	Govt. Maharashtra	Of Accaine					1		Non Working
Serological water bath	1992	Govt. Maharashtra	Of Shanti					1		Working
Portable Deionizer	1992	Govt. Maharashtra	Of Ion exchange					1		Non Working

TABLE G-24: STAFF PATTERN OF BIOCHEMISTRY AND CENTRAL LABORATORY

College Staff		Sanctioned	Filled
1	Professor	2	2
2	Associate Professor	8	4
3	Lecturer	6	3
4	Technician	2	2
5	Lab. Asst.	3	3
6	Attendant	9	9
Hospital Staff			
7	Biochemist	2	2
	Biochemist - Temporary transferred from other deptt		2
8	Technician	19	19
9	Lab. Asst.	7	7
10	Attendant	6	6
Total		64	59

DEPARTMENT OF MEDICINE

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: DEPARTMENT OF MEDICINE - MICU

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty						Total Qty	Remarks
				A	B	C	D	Z			
Respirator			Bannet							Working	
Puritan Respirator			Bannet							Working	
Centron Ventilator (2)										Not Working	
Suction machines (7)	1992		Surgical Products							Working	
Food trolley	1992		Oriental Surgical							Working	
Horizon 2000 monitor	1992		Omran Medical							Working	
Medicine stand	1993		Seth Surgical							Working	
Sarve Ventilator	1993		Siemens							Working	
Puritan Burnet Respirator	1994		IOL Ltd							Working	
Alpha Bed	1994		IOL Enterprise							Working	
Blood gas analyser	1994		Med. Tachnagist							Not Working since March 1995	
Defibrillator (3)			OPL							2 Not Working for last 4 months	
Bird's respirator											
Dressing trolley	1992		Oriental Traders							Working	
Refrigerator			Leonard							Working	
Keslar Ophthalmoscope	1992		Maya Brothers							Working	
Air Conditioner (12)										6 Working and 6 to be	

												repaired
Department of Medicine, Haematology Clinic												
Binocular Microscope	1985										Carlzeiss	1 Working, 1 Not Working
Monocular Microscope	1985											2 Working, 1 Not Working
Calorimeter	1985											2 Working
DIGI Cell Counter	1985											1 Not Working
RIA Counter	1980										Pickers	1 Working
Spect. Camera	1980										Donated	1 Not Working
OGD Scope	1988										Olympus	1 Working
Duodenum Scope	1988										Olympus	1 Working
OGD Scope	1989										Asahi Pentax	1 Not Working
Bronchoscope											Asahi Pentax	1 Working

TABLE G-25: STAFFING PATTERN OF THE MEDICINE DEPARTMENT

Sr. No.	Designation	Sanctioned	Filled	Vacant
	Teaching staff			
1	Head of Deptt.	1	1	
2	Professor	1		1
3	Associate Professor	9	7	2
4	Lecturers	5	3	2
	Secretarial Staff			
5	Stenographer	1	1	
6	Clerk	1	1	
7	Technician	1	1	
8	Servants/Helpers	2	2	

APPENDIX H

Appendix H

CAMA AND ALBLESS HOSPITAL

Cama and Albless hospital is a 505 bedded peripheral hospital affiliated to the Grant Medical College, as a special maternal and child health hospital. The hospital is centrally located in Mumbai, next to the Central Railway station. The hospital provides all its services free of charge to all its patients.

H-1 ORGANISATION STRUCTURE

For all administrative purposes the Cama and Albless hospital reports the Dean of the J. J. Hospital. The superintendent of the Cama and Albless hospital is responsible for routine affairs of the hospital. There are two distinct divisions in the hospital. The organisation structure of the hospital is given in the figure below.

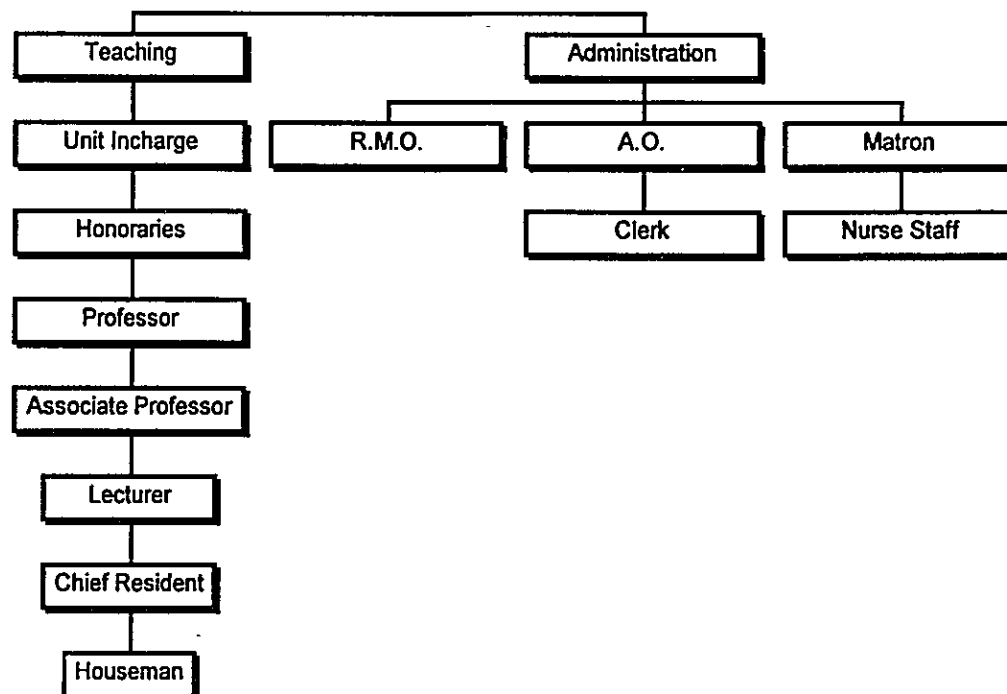


FIGURE H-1: ORGANISATION STRUCTURE OF THE CAMA AND ALBLESS HOSPITAL

H-2 BUDGET

The budget of the hospital is sanctioned by the state government. The budget of the Cama and Albless-hospital is separate from that of the J. J. Hospital. The hospital is given a 3 monthly budget at a time. Details of the budget for the year 1996-97 are provided in the following table.

TABLE H-1: BUDGET OF THE CAMA AND ALBLESS HOSPITAL FOR THE YEAR 1996-97

(In Rs.)

Head	Amount
Salaries	27,764,000
Travel	20,000
Office Expenses	1,960,000
Petrol, Oil, Diesel	22,000
Rent	40,000
Publicity	7,000
Repair	172,000
Vehicle Maintenance	25,000
Equipment Maintenance	115,000
Medicine, Supplies	7,590,000
Scholarship	84,000
Diet	814,000
Total	38,613,000

The hospital has not received any planned budget for the year 1996-97. The Superintendent of the hospital has the authority to approve any purchase which is within Rs. 12,000. For purchases exceeding Rs. 12,000 and below Rs. 20,000, the Director of Medical Education is the approving authority. Purchases above Rs. 20,000 have to be sanctioned by the Secretary of Medical Education. The lowest quote approach is adopted for all purchases that are made. The hospital enters into an annual maintenance contract for equipment which cost more than Rs. 25,000. The annual maintenance contracts are renewed by the hospital every year.

The procedure for procurement of imported equipment is the same as that which was discussed for the J. J. hospital. All drugs are procured by the hospital through the rate contracts that are entered into by the Director of Medical Education. However, the superintendent has powers to purchase drugs that are not on the rate contract and are required in an emergency by some patients. These purchases are limited to Rs. 1,000 per day. The hospital keeps 3 months stock for all its drugs. At present there are about 350 medicines on the rate contract. This includes injectables, tablets, syrups and surgical items such as bandage cloth and operating instruments. However, it was reported that the quality of supplies made under the rate contract was very bad.

The hospital has its personal ledger account (PLA). All revenue that is generated from the nominal charges that the hospital levies for certain specific tests are credited to this account. Donations that are received are also credited to this account.

The existing clinical department in the hospital are listed below:

1. Obstetrics
2. Gynaecology
3. General Surgery
4. Neonatal Intensive Care Unit (NICU)
5. Paediatrics
6. Medical OPD
7. Post Partum Programme
8. Dental OPD
9. Pathology (Clinical Laboratory)
10. Histopathology
11. Cytology
12. Radiology and Ultrasonography

The table below gives details of the staff that is employed in the hospital.

TABLE H-2: NUMBER OF MEDICAL STAFF

Medical staff	To
Doctor	
Surgeon	
Obst. & Gynecologist	
Physician	
Doctor at PHC	
Nurse	
Nurse (Assistant)	
Radiologist	
Radiologist (Assistant)	
Laboratorist & Laboratorist (Assistant)	
Physiotherapist	
Pharmacist	
Dietitian	
Maintenance Engineer	
Maintenance Technicia	
Social worker	
Kitchen, Laundry	
Administrator	
Total	

Although the referral system in the state is not strictly enforced, the referral system works for people who live in rural areas merely due to the geographical locations of the patients. Analysis has revealed that since the Cama and Alless hospital is only one of its kind for women and children the following referral pattern is followed with respect to complications in gynaecology and obstetrics.

TABLE H-3: NUMBER OF REFERRAL PATIENTS

Name of Disease	Name of Sender (Hospital Name)	Name of Receiver (Hospital Name)
Delivery Gynaecology Neonatal Disease Paediatric Problems Surgical Problems	Primary Health Centre Urban Health Centre Non Governmental Organisatio All over Maharashtra	Cama & Alless Hospital, Mumbai

The number of emergency patients that have been treated by the hospital is indicated in the following table.

TABLE H-4: NUMBER OF EMERGENCY PATIENTS

	1992	1993	1994	1995	1996
Delivery	247	200	92	1580	175
Paediatric	150	175	100	240	160
Gynaecology			217	300	238

Tables H-5 and H-6 below give details of the in and out patients that were treated by the hospital.

TABLE H-5: NUMBER OF OUT PATIENTS

	1992	1993	1994	1995	1996
Medical OPD	13,566	12,148	12,836	9,591	8,147
Surgical	1,795	1,257	1,264	1,709	1,827
Gynaecology	25,082	27,637	27,229	26,689	17,295
Family Planning	4,433	3,725	3,998	2,602	2,363
OPD Total	44,876	44,767	45,327	40,591	29,632

TABLE H-6: NUMBER OF IN-PATIENT

	1992	1993	1994	1995	1996
Infection disease	286	145	178	197	205
Acute diarrhoea disease	227	181	154	209	175
Angiocardiopathy					
Neoplasm	107 (M) 111 (B)	97 (M) 92 (B)	105 (M) 92 (B)	95 (M) 63 (B)	50 (M) 78 (B)
Psychiatric disease	2	1	3	1	2
Internal secretion -Metabolic disease	42	40	55	158	128
Maternal diseases	143	152	168	118	109
Congenital anomaly, perinatal period diseases	466	385	436	409	388
Nutritional disturbance	195	182	145	158	190
Gravidity	1296	1256	1395	1512	1389
Birth	4326	4125	3595	3675	2479
Puerperium	97	107	95	91	85
Others	2673	3090	2917	2227	2042
Total	9971	9853	9318	8798	7191

TABLE H-7: CAUSE OF DEATH

	1992	1993	1994	1995
Paediatric	45	31	40	39
NICU	74	77	73	104
Surgery	3		2	4
Maternal Mortality	4	3	1	2
Total	126	111	116	149

The expenditure that was incurred by the hospital for the last three years is outlined in the following table. As indicated, the budgetary allocation for expenditure that can be incurred for medical equipment is not at all adequate. It is therefore felt that there is an urgent need to increase the resources of the hospital for medical equipment and maintenance.

TABLE H-8: HOSPITAL EXPENDITURE (IN RS.)

Expenditure (Figure and %)	1994	1995	1996
1. Personnel	20,696,415	21,874,550	26,923,627
2. Electricity	1,470,726	1,489,536	677,826

3. Fuel	22,701	9,408	9,890
4. Water	778,389	871,749	836,457
5. Medical Supplies	6,178,166	6,947,052	8,613,510
6. Medical Equipment	13,414	7,930	14,826
Total	29,159,811	31,200,225	37,076,136

TABLE H-9: EQUIPMENT OPERATION MAINTENANCE COSTS (IN RS)

	1992	1993	1994	1995	1996
Purchasing of :					
Equipment	27,700	40,850	42,850	124,250	57,377
Consumables					
Repair Parts				615,000	
Others					
Personnel expenses					
Charge paid to					
Private company					
Regular contract					
Regular charge					

7. Existing Major Medical Equipment List

- A : Utilized without any troubles
 B : Utilized without any troubles but necessary maintenance
 C : Utilized after repairing (not utilized now)
 D : Utilized but out of the durable period
 E : Utilized and impossible to repair

Name of the Department: CAMA AND ALBLESS HOSPITAL

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Qty					Total Qty	Remarks
				A	B	C	D	Z		
Non Invasive BP Monitor	1996	Supdt. CAH	Medex agency						2	
Infusion Pump	1996	Supdt. CAH	Braun Co.						2	
Syringe Pump	1996	Supdt. CAH	Braun Co.						2	
Overhead projector	1996	Supdt. CAH	Cine ent.						1	
Slide Projector	1996	Supdt. CAH	Cine ent.						1	
Vertical Steam steriliser	1996	Supdt. CAH	Surgical Prod.						2	
Neonatal Resuscitation Trol.	1996	Supdt. CAH	Gunjan Sug.						10	
Pulse Oximeter	1996	Supdt. CAH	System Biomed.						3	
Baby Basinet with trolley	1996	Supdt. CAH	Seth Sug.						25	
Pulse Oximeter Portable	1996	Supdt. CAH	Edifice						2	
Oxygen Concentrator	1996	Supdt. CAH	Lyka						1	
Oxygen Analyser	1996	Supdt. CAH							3	
Solar Energy	1996	Supdt. CAH	Synergy						1	
Apnea monitor	1996	Supdt. CAH	Medifrin						2	
Electronic baby Weighing machine	1996	Supdt. CAH	Life Sign						2	
Computer	1996	Supdt. CAH	High Tech.						1	
Autoclave	1996	Supdt. CAH	M. Shah						2	

Ultrasonography	1987	Supdt. CAH	Blue Star						1	
X-Ray machine	1981, 95	Supdt. CAH	Siemens Co.						6	
Ventilator	1986	Supdt. CAH							1	
Defibrillator	1987	Supdt. CAH	harison Co.						2	
Autoanalyser	1994	Dean, JJH	Kopran Co.						1	
Boyles Anaesthesia apparatus	1993	Supdt. CAH	IOL						6	
Operation tables										
Blood bank Refrigerator	1993	Supdt. CAH							7	

APPENDIX I

Appendix I

KING GEORGE'S MEDICAL COLLEGE

I-1 BACKGROUND

King George's Medical College, Lucknow, was established in 1911 and is one of the five oldest medical colleges in the state. The college provides highly structured and clinically oriented undergraduate programmes which are emulated all over the country. The college also provides postgraduate degrees in 30 specialities and super specialities.

The medical college has an operational clinical epidemiology unit for the last seven years (sponsored by Rockefeller Foundation and USAID) which is among the 6 in India and 26 in the world. The catchment area of the medical college is approximately a population of 250 million from UP, MP, Bihar and Nepal which will be benefited by any grant-in-aid programme to KGMC.

I-2 ORGANISATION

The college has a separate college and a hospital section. The overall jurisdiction of the medical college and the hospital is under the Principal of the college. Administratively, the superintendent is responsible for the hospital section, however he needs to report to the Principal.

The medical college is under the Lucknow University. The relationship between the college and the university is primarily for academic purposes. The faculty in the college is non-transferable. The college is almost autonomous.

The college has 32 departments and has capacity for 1,250 under graduates in MBBS. It provides post graduate degrees to 450 students and under graduate dental degrees to 301 students.

The college runs various Community Health Projects. Department of Paediatrics (National Child Health Programmes), Obstetrics and Gynaecology; Social and Preventive Medicine, psychiatry have been leaders in community oriented projects for a long time. A few of these projects are, ICMR, comprehensive MCH multicare projects, Child Survival and Safe Motherhood (CSSM) now renamed Reproductive and Child Health Care projects, HRRC (Human Reproductive Research Centre) and ICMR Project (one of the 33 in the country). The Department of Family Welfare, GOI has recognised the Department of Obstetrics and Gynaecology and Urology unit as a Centre of Excellence for Training of Trainers in Population Control Programme. With the establishment of a clinical epidemiology unit in KGMC, there has been recent thrust in the area of community oriented research projects.

There are certain specific community projects which are being undertaken by doctors in the college. These projects are protein intake and cataract, health in hills of Uttar Pradesh, respiratory illness in children and ambient environment pollution, control of parasitic infection in

children, preventive strategies for prevention/early detection of oral cancer, clinical trials and descriptive studies (n>200) and oral cancer awareness programme in the hills of UP.

The Virology department has been made a screening surveillance centre by the GOI for the state of UP. The Family Welfare Department, GOI has recently in collaboration with the World Bank made it a quality control centre for AIDS screening (one of the 8 centres in India). Since 1988, the centre has screened 56,000 blood samples, 320 positive by western blot and there are number of indeterminants who are being followed every 3 months.

I-3 MANPOWER

The college has 186 doctors in position as against the sanctioned 286 posts. The college has 286 nurses with each of them having at least 8 years of experience. The average years of experience that the nurses possess is 16 years.

I-4 BUDGET

The college receives grants from the state government and from the lottery fund that is provided for social causes in the state.

TABLE I-1: GRANTS FOR COLLEGE AND GANDHI MEMORIAL HOSPITAL
(Rs. Million)

Particulars	1994-95			1995-96			1996-97		
	College	Hospital	Total	College	Hospital	Total	College	Hospital	Total
Wages, DA, Other allowances	118	50.1	0	118	55.7	0	108.4	50.6	0
Pension	5	3.3	8	0	0	0	0	0	0
Travel Expenses	0.145	0.04	0.185	1.45	0.04	0.185	0.148	0.04	0.188
Office Expenses	3	1.675	4.675	3	1.675	6.475	3	1.676	4.676
Water- Electricity Expenses	4	4.2	8.2	4	4.2	8.2	4	4.2	8.2
Telephone Expenses	0.1	0.07	0.17	0.1	0.07	0.17	0.1	0.068	0.168
Rental	1.3	0.4	1.7	1.3	0.6	1.9	1.3	0.6	1.9
Mini Construction	5	2.064	7.064	5	2.5	7.5	5	2.5	7.5
Repairs of Vehicles	0.11	0.1	0.21	0.112	0.18	0.292	0.112	0.18	0.292
General Maintenance	5.4	1.4	6.8	5.4	1.4	6.8	5.4	1.4	6.8
Miscellaneous	0.8	3	11	8	3.5	11.5	8	3.5	11.5
Consumable	0	0	0	0	0	0	0	0	0
Medicine	0	9.915	9.915	0	9.915	9.915	0	9.912	9.912
Diet	0	2.15	2.15	0	2.15	2.15	0	2.152	2.152
Interest on GPF	3.917	2.011	5.928	0	0	0	0	0	0
Total	146.772	80.425	65.997	146.362	81.93	57.715	135.46	76.828	53.288

TABLE I-2: ACTUAL EXPENDITURE

(Rs. Million)

Particulars	1994-95		1995-96		1996-97 (30.09.'96)	
	College	Hospital	College	Hospital	College	Hospital
Expenditure						
Wages, DA, Other allowances	110.56	50.10	118.80	56.90	58.29	28.08
Travel Expenses	0.15	0.04	0.14	0.04	0.02	0.01
Office Expenses	3.00	1.68	318.20	2.37	0.93	0.69
Water- Electricity Expenses	4.00	4.20	4.35	4.19	1.85	1.99
Telephone Expenses	0.10	0.07	0.09	0.07	0.04	0.02
Rental	1.30	0.40	1.57	0.57	0.65	0.15
Mini Construction	5.00	2.07	5.00	2.49	1.90	0.68
Repairs of Vehicles	0.11	0.10	0.11	0.19	0.04	0.05
Diet	0.00	2.15	0.00	2.14	0.00	1.07
Medicine	0.00	9.91	0.00	10.30	0.00	4.84
Miscellaneous	8.00	3.00	8.02	3.49	1.93	1.74
General Maintenance	5.40	1.40	5.32	1.99	2.60	0.60
Medical equipments	62.68	0.00	7.88	0.00	0.00	0.00
Total	200.29	75.11	469.48	84.73	68.24	39.92
Revenue						
Institution	0.70	2.83	0.72	2.82	0.51	1.62
Government	154.37	80.18	145.86	81.93	67.73	38.30
Total	155.07	83.01	146.58	84.75	68.24	39.92

I-5 HOSPITAL STATISTICS

TABLE I-3: HEALTH INDICES - THE UP DATA

Items		1991	1992	1993	1994	1995	1996
Population(million)		139.1	141.9	144.8	147.8	150.8	153.7
Population growth rates % (annual decaded)		2.52	2.01	1.98			
Birth rate(per 1000 persons)		35.1	36.2	36.0			
Death rate(per 1001 persons)		11.1					
Life expectancy rate at birth	Total						
	Male	54.1					
	Female	44.6					
Infant mortality rate (per 1000 persons)	Total	93	98	93		97	
	Male						
	Female						
Maternal mortality rate(per 10,000 births)							
Infant mortality rate under 5 (per 1000 births)	Total		124			102	
	Male						

	Female						
Infant mortality rate under 14 (per 1000 births)	Total						
	Male						
	Female						
Low birth weight babies	%						
Malnutrition of children under 5	%						
Total fertility rate	%	5.2	5.2	3.9	3.9	3.9	
Perinatal mortality rate (per 1000 births)							

TABLE I-4: NUMBER OF OUT-PATIENT

Particulars	1992	1993	1994	1995
Infection disease	1,445			1,756
Acute diarrhea disease	950			1,155
Angiocardiopathy	500			612
Neoplasm	211			256
Psychiatric disease *1	58			71
Internal secretion - metabolic disease	516			614
Maternal diseases *2	18			10
Congenital anomaly, perinatal period diseases	189			229
Nutritional disturbance *3	15			19
Gravidity/birth/puerperium *4	156			189
Others	11,254			13,576
Total	15,312			18,487

The above category mainly includes trauma. About 70% categories marked by * are under reported and explained below

- *1 psychiatric OPD emergency are separate
- *2 maternal disease covers to the queen Mary's hospital
- *3 nutritional disturbances report in outdoors
- *4 Gravidity/birth/puerperium also report to queen Mary's hospital

TABLE I-5: NUMBER OF IN-PATIENT -AMONG THE PATIENTS COUNTED

	1992	1995
Infection disease	1,013	1222
Acute diarrhea disease	529	639
Angiocardiopathy	360	492
Neoplasm	139	168
Psychiatric disease	35	43
Internal secretion - metabolic disease	392	474
Maternal diseases	5	7
Congenital anomaly, perinatal	145	175

period diseases		
Nutritional disturbance	12	15
Gravidity/birth/puerperium	108	131
Others	6,321	7626
Total	9,059	10992

TABLE I-6: CAUSE OF DEATH - 1995

Order	Cause of death(case)	
1	Others	1,744
2	Infections	1,700
3	Angiocardiac	772
4	Neoplastic	440
5	Int sec/metabolic	332
6	Prematurity	212
7	Acute diarrhea	92
8	Nutritional	60
9	Maternal disease	52
10	Gravida	52
OTHERS	Psychiatric	4
TOTAL		5,460

TABLE I-7: NUMBER OF REFERRAL PATIENTS

Name of disease	Name of sender(hospital name)	Name of receiver(hospital name)
Tuberculosis	District hospital and PHCs all over UP.	
Psychiatric diseases	Other medical colleges	
Trauma	Balrampur hospital	Gm & a hospital
Spinal cord injury	Sanjay Gandhi PGI	
Cardiac diseases	Civil hospitals	
Cancer		
Amputees		
Paediatric surgery		

TABLE I-8: NUMBER OF EMERGENCY PATIENTS

	1995 Diseases(no.)	
1	Trauma	
2	Infection	
3	Cardiac	
4	Psychiatric	
5	Obstetrics	
6	Surgical	
7	Respiratory	
8	Metabolic	

TABLE I-9: EDUCATIONAL INSTITUTE FOR MEDICAL STAFF

Medical Staff	Institute/School	Education(years)	Practical(years)
Doctor			
Surgeon	230 (Consultants) + 300 (Residents)	8-1/2 years medical UG + PG education 5-1/2 years Medical UG education	Average experience 20 years Average experience 2 years
Obst. & Gynaecologist			
Physician			
Paediatrician			
Doctor at PHC			
Nurse	8	8 years experience	>10 years

TABLE I-10: CLINICAL LABORATORY, PATHOLOGY - NUMBER OF ANALYSIS

		1993	1994	1995
Biochemistry		53,255	49,597	54,984
Haematology		9,000	12,000	15,000
Immunology	HIV			
	HB			
	Others			
	Imm. Pathology	1,000	1,200	1,500
Pathology	Cutpdoagnosis	4,500	4,800	5,000
	Excisional Biopsy	9,000	9,200	9,500
	Frozen Section	-	-	- 50.
	Others Autopsy	20	18	15
	Medico Legal Ref	25	20	24
	Neuropath/Genetics	167	145	578
	Electron Micro	240	180	150
Face- Urinalysis	Urine	3,000	3,500	3,800
	Faces			
Others		2,20,000	2,25,000	2,30,000

(1) Blood Bank

TABLE I-11: NUMBER OF BLOOD COLLECTION CASE

	1992	1993	1994
Whole Blood Collection			
250 cc (300 ml)	2,717	1,837	2,314
500 cc	-		
Others	-		
Component Blood Collection			

TABLE I-12: WASTED BLOOD MATERIALS

	1993	1994	1995
Contaminated Blood	Nil	Nil	Nil
Expired Blood	Nil	Nil	Nil
Total			

TABLE I-13: ANALYSING ITEMS

	Items	
Before Collection	ABO and Rh Blood Group	Yes
	Sedimentation	Yes
	Blood Pressure	Yes
	Examination	Yes
After Collection	ABO and Rh Blood Group	Yes
	Irregular Antibody Screening Test	Yes
	Syphilis Serological Test	Yes
	HBs Antigen Test	Yes
	HBs Antibody Test	No
	HBe Antigen Test	No
	HBe Antibody Test	No
	HBc Antibody Test	No
	HCV Antibody Test	No
	HIV-I Antibody Test	Yes
	HIV-II Antibody Test	Yes
HTLV-I Antibody Test	No	

TABLE I-14: PAEDIATRICS DEPARTMENT - NUMBER OF IN-PATIENT BY DISEASES

No.	Category of Diseases	1993	1995
1	Infection Disease	2346	2504
2	Acute Diarrhoea Disease	709	522
3	Angiocardiopathy	47	32
4	Neoplasm	65	84
5	Psychiatric Disease	-	-
6	Metabolic Disease	25	8
7	Cong. anomaly, Peri. pd ds	559	692
8	Nutritional Disturbance	13	81
9	Others	522	749
10	Overlapping in infectious disease and diarrhoea (Total)	4286	4672
11	Hospital Admission (Total)	3577	4150

TABLE I-15: NATAL UNIT, QUEEN MARY'S HOSPITAL - NICU

	1993	1994	1995
No. of In-patient	408	421	382
No. of Beds	6	6	6
Rotation Rate of Bed	68	70.2	63.7
Average Days of Hospitalisation	4.7	5.1	4.8

TABLE I-16: NUMBER OF METABOLIC EXAMINATION (IF YOU HAVE EQUIPMENTS IN NICU DEPARTMENT)

	1993	1994	1995
Dry Chemistry			
Bilirubin Meter	910	962	878
Blood Gas Analyser	-	70	84
Electrocardiograph			
Electrolyte Analyser(Na,Ca,Cl)			
Total			

TABLE I-17: NATAL SPECIAL CARE UNIT - DEPARTMENT OF PAEDIATRICS NICU

	1993	1994	1995
No. of In-patient	982	1,012	915
No. of Beds	16	16	16
Rotation Rate of Bed	61.4	63.3	57.2
Average Days of Hospitalisation	6.4	6.2	6.8

TABLE I-18: NUMBER OF METABOLIC EXAMINATION

	1993	1994	1995
Dry Chemistry			
Bilirubin Meter	1,145	1,208	1,115
Blood Gas Analyser	584	712	754
Electrocardiograph	-	-	-
Electrolyte Analyser(Na,Ca,Cl)	162	184	196

TABLE I-19: IN-PATIENT DETAILS

	1993	1994	1995	Charge
No. of In-patient	3,577		4,150	
No. of Beds	110		110	
Rotation Rate of Bed	32.5		37.7	
Average Days of Hospitalisation	11.1		9.5	

I-6 MEDICAL EQUIPMENTS STATUS

The organisation has bought equipments worth Rs. 58.7 million rupees. The college is spending 7 million annually for maintenance of its equipments. The status of the equipments is mostly working with regular services. There are, however, certain equipments which are not repairable in the country. These equipments which pose a problem in maintenance and repairs. The decision to purchase an equipment is made at a time when the cost of its repairs exceeds the cost of purchase of the new equipment.

Details of analysis being undertaken at certain laboratories is also attached.

Anatomy	Fluorescence Microscope	1985	KGMC		B		I
	Trinocular Research Microscope	1978	KGMC			D	I
	Inclinometer	1972	KGMC			D	I
Physiology	Polytite Generator	1986	KGMC		B		I
	Digital Lab System Analyser	1987	KGMC		B		I
Pharmacology	Computerised animal Feeding & Drinking Monitor	1987	KGMC		B		I
	Medicare 2 Channel	1986	KGMC	Medicare	B		I
	Polygraph						
	Scintillation Counter	1984	KGMC		B		I
Pathology	Centrifuge Machine	1976	KGMC			D	I
	Microscope Monocular	1972	KGMC			D	I
	Microscope Binocular	1978	KGMC			D	I
	Electrophoresis Machine	1972	KGMC			D	I
	Spectrophotometer	1982	KGMC			D	I
	Cytotoxic Balance	1989	KGMC			D	I
	Semiauto analyser	1987	KGMC			D	I
	Ultracentrifuge	1980	KGMC			D	I
S.P.M.	E C G Machine	1976	KGMC	BPL		D	I

	Microscope Camera 35 MM	1977	KGMC	Leica			D	I
	Leica M-3 Camera 35 MM	1977	KGMC	Leica			D	I
	Nikommat - 35 MM Camera	1974	KGMC	Nikommat			D	I
	Slide Projector 35 MM	1963	KGMC				D	I
	Copying Apparatus	1965	KGMC				D	I
	Contact Printer	1966	KGMC				D	I
E. N. T.	Arphi Audiometer MK-IV	1992	KGMC	Arphi	A			I
	Electronystagmograph Single Channel	1986	KGMC			B		I
	Room Airconditioner 1.5 Ton	1987	KGMC			B		I
	Fiber Optic Bronchoscope with Light Source	1980	KGMC	Olympus	B			I
	Carl Zeise Operating Microscope CPMI-1	1973	KGMC	Carl Zeise			D	I
	Surgical Microscope for ENT	1985	KGMC				D	I
	Solid State Electrosurgical System	1985	KGMC	Scimens			D	I
	Arphi Audiometer MK IV	1971	KGMC	Arphi			D	I
	Hosane Suction Apparatus	1983	KGMC	Hosale			D	I
Pædiatrics	Baby Incubator (Ameda Make-3)	1986	KGMC	Ameda Make	B			I
	Baby Incubator (Sishfield Make-1)	1988	KGMC	Airshield	B			I
	Photo Therapy Unit (Ameda Make)-3	1988	KGMC	Ameda	B			I
	Ventilator-2	1991	KGMC		B			I

	Imageintensifier System	Television	1975	KGMC	Siemens	B	I
	Heart Lungs Machine		1977	KGMC			I
	Monitor 6 Channel		1976	KGMC			I
	Defibrillator		1989	KGMC			I
	Dyathermy		1989	KGMC			I
	Ventilator						
	Gastroscope		1983	KGMC	Olympus	A	I
	Fibrobroncoscope		1983	KGMC	Olympus	A	I
	PH Monitoring		1990	KGMC			I
	Hipothermy Machine		1975	KGMC			I
Ophthalmology							
	Bipolar Cauty		1991	KGMC			I
	Operating Microscope		1990	KGMC			I
	Ultrasound Biometer		1991	KGMC			I
	Laser Photocoagulator		1978	KGMC			I
	Indirect Ophthalmoscope (Fison)		1973	KGMC	Filson		I
	Indirect Ophthalmoscope (Schepense)		1977	KGMC	Schepens	B	I
	Operating Microscope (Appasamy)		1987	KGMC	Appasamy	B	I
	C.Z. Denon Photoregulator		1974	KGMC	C.Z.	B	I
	C.Z. Operating Microscope		1975	KGMC	C.Z.	B	I
	C.Z. Fundus Camera		1975		C.Z.	B	I
	C.Z. Photolist Lamp		1975		C.Z.	B	I

CHEMICAL-PATHOLOGY**ANNEXURE-I****ITEMS OF ANALYSIS**

- Vanden Berg Reaction
- S. Bilirubin
- S. Alkaline Phosphatase
- SGPT
- SGDT
- S. Acid Phosphatase
- S. Cholesterol
- S. HDL Cholesterol
- S. Protein
- S. Albumin
- S. Calcium
- S. Phosphorus
- S. Uric Acid
- S. Amylase
- Blood Urea
- S. Creatinine
- Plasma Glucose
- S. Sodium
- S. Potassium

HAEMATOLOGY**ANNEXURE-II****ITEMS OF ANALYSIS**

- Total Leucocytes
- Differential Leucocytes
- E.S.R.
- Total R.b.c.
- Haemoglobin
- Reticulocyte Count
- Platelet Count
- Prothrombin time
- Prothrombin Conc.
- P.T.T.K.
- Bleeding Time
- Coagulation time
- G.B.P.
- blood Group
- RH (anti-D)
- Thromboplastin Generation test (TGT)
- Factor VIII & IX semi-quantitative Assay
- Tests for inhibitors
- Platelet function tests-PF-3 release-Aggregometry
- Bone Marrow aspirations & special staining therapy
- Trepine Biopsy
- Foetal haemoglobin
- Protein/Hb. Electrophoresis and
- Other haematology related biochemical tests.

IMMUNO-PATHOLOGY**ANNEXURE-III****ITEMS OF ANALYSIS****ELISA tests for detection of:**

- anti-Antigen 60 antibodies for tuberculosis.
- Antibody detection for malaria.
- Anti PG1-1 antibodies for leprosy.

Circulating immune complexes:

- PEG precipitation
- Latex RF agglutination inhibition test

Serum immunoglobulins & complement components

- by single radial immunodiffusion test for IgU, IgM, IgA, C₃ & C₄

Rheumatoid Factor, Anti-streptolysin 'O' CRP Hbs Ag detection

- PPD skin test
- Coombs test
- Malaria diagnostic tests, culture and in vitro antimalarial sensitivity tests.
- Neutral red Latex phagocytosis test (in vitro)

NEUROPATHOLOGY & CYTOGENETICS**ANNEXURE-IV****ITEMS OF ANALYSIS**

- Neuropathology
- Neurocytology
- Neuro-immunology
- Genetics & Neuropathology
- Chromosomal analysis
- Bar Body
- Elisa
- Immunohistochemistry
 - P-53
 - PCNA
 - Cyto
 - Vimentin
 - Desmin
 - Neurofilament
 - GEAP

APPENDIX J

Appendix J

PT. B.D. SHARMA P.G. INSTITUTE OF MEDICAL SCIENCES, ROHTAK

Pt. B.D. Sharma P.G. Institute of Medical Sciences, Rohtak - PGIMS - (also called Rohtak Medical College) comprises four colleges (offering M.B.B.S., Nursing, Pharmacy and Bachelors in Dental Science courses) and a 1,200 bed hospital. The hospital is the largest and the top referral institution for the state of Haryana.

The medical college was started in August, 1960 as a guest institution of the Government Medical College, Patiala (in Punjab) with 50 students in the M.B.B.S. course. It finally shifted to its present campus at Rohtak in January, 1963. The hospital equipped with 500 beds was started in the same year. By the end of VIth Five Year Plan (1985) five courses were being offered by the institution, as given in Table J-1.

TABLE J-1: COURSES OFFERED BY 1985

Course	No. of Subjects	Annual Admissions
M.B.B.S.	N.A.	115
Post Graduate Degree	19	80
Post Graduate Diplomas	9	55
Ph. D.	5	-
B.D.S.	N.A.	20

The number of beds increased from 500 in 1963 to 1070 in 1985 to the present capacity of 1200 beds. Three Primary Health Centres at Dighal, Kathura and Chhara were also attached to the college under the Rural Orientation of Medical Education (ROME) Scheme.

Table J-2 gives details of the attendance, deaths and births recorded, operations performed and bed occupancy in the hospital from 1988 through 1995.

TABLE J-2: GENERAL DATA REGARDING PGIMS, ROHTAK

Year	OPD Attendance	IPD Attendance	Death	Births	Operations Performed	Bed Occupancy (percent)
1988	461,245	37,035	2,557	2,729	35,660	84.80
1989	504,828	37,612	2,654	2,988	49,075	86.10
1990	577,861	36,161	2,695	3,129	61,288	79.30
1991	615,939	39,314	2,886	3,707	58,892	89.90
1992	625,465	40,913	2,799	3,785	72,556	84.20
1993	626,961	41,971	2,849	3,887	72,516	81.50
1994	657,317	41,607	2,665	4,160	86,011	77.60
1995	633,248	42,890	2,754	4,143	77,282	82.00

J-1 LOCATION AND FACILITIES

PGIMS, Rohtak is located on the Delhi-Rohtak road in the main town of Rohtak adjoining Maharishi Dayanand University complex. It is spread over an area of approximately 350 acres. The campus is divided into following zones on the basis of activities undertaken there:

- Medical College zone
- Hospital zone
- Hostels zone
- Residence zone

Medical College Zone

This consists of a five storey building and includes the core departments and the library. The departments in this building are:

- Department of Anatomy
- Department of Forensic Medicine
- Department of Physiology
- Department of Biochemistry
- Department of Microbiology
- Department of Pathology
- Department of Pharmacology
- Department of Social and Preventive Medicine.

This building also has two main lecture theatres for the students.

The library is situated in the administrative block of the main college building. It is fully air-conditioned and has a seating capacity of 200 students.

Hospital Zone

The hospital zone comprises two parts viz., the Outpatient department (OPD) and the Indoor hospital.

The OPD area of the hospital has a reception hall for seating the patients and their attendants, an emergency block and rooms for various departments. The specialties located in the OPD area are as given under:

- Eye and Oto-Rhinolaryngology
- Surgery and Orthopaedics
- Dentistry and Casualty
- Dispensary,
- Blood Bank,
- Clinical Pathology,
- Emergency,
- Biochemistry
- Paediatrics Medicine and Surgery.
- Neuro Surgery.
- Medicine
- Dermatology
- Venerology
- Obstetrics and Gynaecology
- Urban Family Welfare
- Tuberculosis and Chest Diseases.

The indoor hospital area has all the clinical departments with Central Supportive services with a capacity of approximately 1,200 beds. It has an Operation Theatre with pre-operative and post-operative patient observation facilities in addition to a Respiratory Intensive Care unit. It also has an Intravenous Infusion Manufacturing unit with a capacity of 1,000 infusion fluid bottles per day and is able to meet most of the hospital's requirements. In addition, the hospital has a kitchen and a laundry unit (with a capacity of 1,000 kg of wet linen per day).

There are specialty clinics like those for Cardiovascular, Gastroenterology, Leprosy, and Urology as well as facilities for Super specialties for Cardiology, Neurology, Endocrinology, Paediatrics, Neuro-surgery, and Dialysis.

Hostel Zone

Hostel facilities are available for nearly all students enrolled in the various medical, dental and paramedical courses. In addition to the boarding and lodging, facilities for recreation and sports are also provided.

Residences Zone

Houses are available for the staff working in the medical college and the hospital. A primary school is also provided for the children of the residents.

J-2 ORGANISATION STRUCTURE

The institution comprising the hospital and the colleges is headed by the Director. He looks after three major aspects viz., hospital operations, hospital administration and colleges.

On the hospital operations side, the director is assisted by a Medical Superintendent (MS). The MS is responsible for all the departments of the hospital. Four Deputy Medical Superintendents (DMS) report to the MS.

On the administration side, an Additional Director (AD) reports to the Director. The AD is an official from the state Administrative Services. He is responsible for all the work related to various staff departments. He is assisted by Branch Superintendents.

The college has four levels of instructors, Professors, Associate Professors, Readers and Lecturers. The instructors also practice at the hospital in their respective disciplines. The qualifications and the work experience for each post is as laid down in the Haryana Government Gazette, 1988. The Organisation Structure is given in Figure I-1 and the department-wise break-up of the instructors is given in Table I-3.

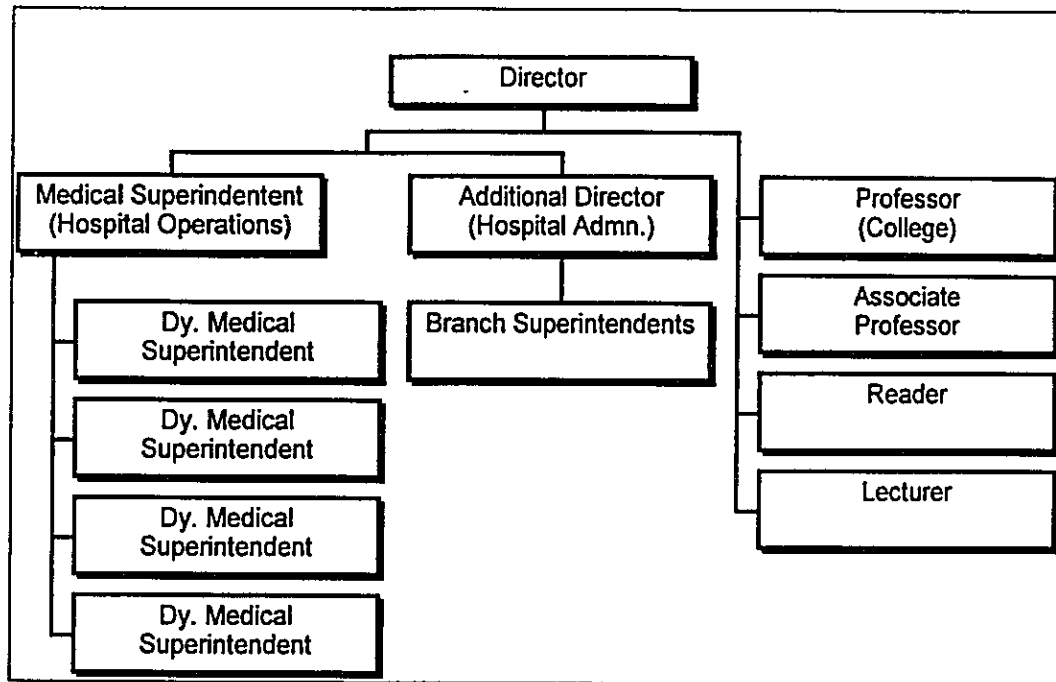


FIGURE J-1: ORGANISATION STRUCTURE

TABLE J-3: DEPARTMENT-WISE BREAK-UP OF COLLEGE INSTRUCTORS

Department	No. of Professor	No. of Associate Professor	No. of Readers	No. of Lecturers
Medicine	2+5 (ad-hoc)	2	1	4
Surgery	2+1 (F. Professor)	6	1	5
Orthopaedics	1+1 (ad-hoc)	1	3	0
Biochemistry	0	11	0	0
Pathology	2+1 (F. Professor)	4	1	3
Microbiology	1	3	0	0
Forensic Medicine	1	1	0	2
Pharmacology	1+1 (F. Professor)	3	0	1
S.P.M.	2	2	0	4
Anaesthesiology	1	4	0	5
Blood Bank	0	0	0	1
Skin and VD	1	0	0	1
Dentistry	1	0	2	9
E.N.T.	1	2	1	2
Neuro-Surgery	1	1	0	1
Gynaecology and Obstetrics	1+1 (ad-hoc)	4	2	3
Ophthalmology	2	3	1	3
Psychiatry	1	1	1	1
Paediatrics	1	3	1	0
Paediatric Surgery	0	0	1	1
Radiology	1	3	2	1
Radiotherapy	1	1	1	20
Urology	0	1	2	0
Tuberculosis and Chest	0	2	0	1
Burns and Plastic Surgery	0	0	0	1
Cardiology	0	0	0	0
Cardiac-surgery	0	0	0	0
Nephrology	0	0	0	0
Gastroenterology	0	0	0	0
Neurology	0	0	0	0

J-3 STAFFING AND VACANCIES

The total teaching strength of the college is 176, out of which posts filled by professors and other instructors are 29 and 147 respectively. Information on the total sanctioned posts, posts filled and vacancies as on November 13, 1996 is given in Table J-4.

TABLE J-4: STAFFING POSITION OF FACULTY STAFF

Department	Professors			Others		
	Sanctioned Posts	Filled Posts	Vacant Posts	Sanctioned Posts	Filled Posts	Vacant Posts
Anatomy	1	1	0	11	5	6
Physiology	1	0	1	11	9	2
Biochemistry	1	0	1	12	11	1
Pathology	2	2	0	9	7	2
Microbiology	1	1	0	4	3	1
F. Medicine	1	1	0	4	3	1
Pharmacology	1	1	0	5	5	0
SPM	2	2	0	9	6	3
Anaesthesia	1	1	0	12	9	3
Blood Bank	0	0	0	1	1	0
Skin and VD	1	1	0	2	1	1
Dentistry	6	1	5	16	11	5
ENT	1	1	0	6	5	1
Medicine	4	2	2	13	12	1
Neurology	1	0	1	2	0	2
Neuro Surgery	1	1	0	2	2	0
Gynaecology and Obstetrics	2	1	1	10	10	0
Ophthalmology	2	2	0	10	7	3
Ortho/Institute	2	1	1	7	5	2
Psychiatry	1	1	0	5	3	2
Paediatrics	1	1	0	5	4	1
Paediatrics Surgery	1	0	1	3	2	1
Radiology	1	1	0	8	6	2
Radiotherapy	1	1	0	4	4	0
Surgery	4	2	2	14	13	1
Urology	0	0	0	2	1	1
Tuberculosis and Chest	1	0	1	3	2	1
Burns and Plastic Surgery	1	0	1	2	1	1
Immunology	1	0	1	1	1	0
Cardiology	1	0	1	2	0	2
Cardiac Surgery	1	0	1	2	0	2
Nephrology	1	4	1	1	0	1
Gastroentology	0	0	0	2	0	2

J-4 REFERRAL SYSTEM

PGIMS, Rohtak is the top referral hospital in Haryana. It caters to the patients referred from various health institutions in the state as well as outside it. Medical education at the college is imparted in such a way, that the students get a thorough orientation towards rural realities. The faculty of the college belonging to departments like, Obstetrics and Gynaecology, Paediatrics, Ophthalmology, Trauma and Orthopaedics, Surgery, Medicine and Community Medicine, visit Primary and Community Health Centres five days a week. Teaching is modified according to the needs of the area. The college maintains continuous liaison with the health delivery system of district Rohtak.

A brief description on PGIMS' involvement in the Government Health Programmes is given in Annex 1.

Civil Hospital, Rohtak

A Civil Hospital is situated in Rohtak city about 5 Km away from the PGIMS. It caters to the basic needs of the area and acts as a referral point for the PGIMS.

It has a capacity of 50 beds with facilities for 400 Out Patients. It has a staff of 13 doctors. The most common diseases treated in this hospital are Malaria, Pneumonia, Diarrhoea, Gynaecology related disorders and injuries.

Last year, Rohtak and surrounding areas were submerged in floods, and the Civil Hospital building was badly affected by the flood waters. Hence, some parts of the building are in a dilapidated state.

The area around the city of Rohtak is poor and the drainage system is absent. Hence, water logging is common, due to which diseases related to stagnant water like malaria are common. Population density in the town area is around 500 persons per square km, while in the villages near Rohtak it is 200 persons per square Km.

Community Health Centre (CHC), Dighal

CHC, Dighal is the next referral point lower to the Civil Hospital, Rohtak. It has a total Out Patient capacity of 150 patients per day. Indoor patients facilities are only for two-three patients. CHC has five doctors; one Senior Medical officer and four Medical Officers. Two lady medical officers look after the women related problems in the centre.

The centre has two laboratories; one is a general laboratory which caters to the general tests, and the second caters to tests for malaria and tuberculosis.

Sub Centre (SC), Dhandlan

A multi-purpose health worker (MHW) looks after the SC. This centre caters to two villages, Lakria and Dhandlan. It has some basic equipment for health care, especially that required for women and child care. The MHW takes blood smears in case of any disease and delivers it to the CHC, Dighal for further tests at its laboratory. She gives basic medication in case of fevers

and if the problems persist, the patients are referred to the next point in the health delivery system, i.e., CHC.

Regular and updated registers are maintained for each family. These contain details of the health record, births and deaths in each of the families in that area. The MHW visits the adjoining Lakria village once in a fortnight. She also performs deliveries in the two villages, as the dais in the two villages have died. Sufficient supply of delivery kits are kept in the centre. Deliveries are performed in the houses of the pregnant mothers itself. Birth rate in the area is 26/1,000.

The MHW has received intensive training for one and a half years besides which a continuous training programme is imparted by the PGIMS, Rohtak on an ongoing basis.

The school next door has close liaison with the sub-centre. Students are regularly examined and treated.

Village Health Worker (VHW), Lakria

The village of Lakria is serviced by the VHW. She takes care of the children before the school going stage. The medication and supplies provided by the VHW are for

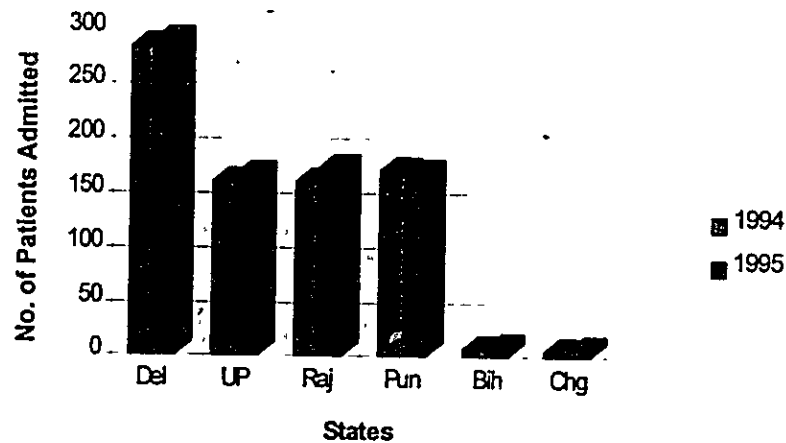
- immunization of pregnant ladies,
- simple medication for pregnancy - iron and vitamins,
- fevers,
- respiratory problems,
- worms, and
- contraception.

If the problems persist for over 48 hours, the patient is referred to the CHC. The VHW has been provided an intensive three months' training, besides which she undergoes regular training by the supervisors.

J-5 CATCHMENT AREA

PGIMS, Rohtak caters to patients from the various states other than its own, i.e., Haryana. Patients from states like Uttar Pradesh, Rajasthan, Punjab, Bihar, Himachal Pradesh, Andhra Pradesh, Madhya Pradesh and West Bengal have been admitted and treated in the last two years. The number of patients admitted in the last two years from various states are illustrated in Figure H-1.

FIGURE J-2: DETAILS OF PATIENTS ADMITTED STATE-WISE



Note:

- i. The abbreviations used in the chart are; Del=Delhi, UP=Uttar Pradesh, Raj=Rajasthan, Pun=Punjab, Bih=Bihar, Chg=Chandigarh.

The number of patients admitted from Haryana in 1994 and 1995 were 40,817 and 42,075 respectively.

J-6 PURCHASE PROCEDURE

The purchase of stock and store for PGIMS, Rohtak are initiated through the following:

- Rate contracts arranged by:
 - * Director General of Supplies and Disposal, New Delhi
 - * Director of Supplies and Disposal, Haryana
- Sources approved by Government
- By calling quotations/tenders

In case of the purchase of stock and store upto Rs.2,000, quotations/offers from registered dealers are invited and purchases are made from the dealer with the lowest rate with acceptable quality of product.

For purchases of above Rs.2,000 a notice inviting tenders is published in the newspapers. The lowest bidder providing the required quality goods is given the contract.

The decision -making structure for purchases of different values is given in Table J-5.

TABLE J-5: DECISION-MAKING STRUCTURE FOR PURCHASES

Committee	Headed by	Purchase limit (Rs.)
Local purchase Committee	Medical Superintendent, PGIMS, Rohtak	Upto Rs. 100,000
Standing Purchase Committee (Lower)	Commissioner and Secretary, Government of Haryana, health and Medical Education Department	Rs. 100,000 to Rs. 200,000
Standing Purchase Committee (Higher)	Financial Commissioner and secretary to the Government of Haryana, Industry Department	Rs. 200,000 to Rs. 800,000
High Powered Committee	Chief Minister, Haryana	Above Rs. 800,000

J-7 PAYMENT PROCEDURE

The indenting department of the hospital prepares the inspection report and the Store Officer makes the stock entry certificate for the purchases stored. These, along with the bills, are checked by the Section Officer and the Accounts Officer in the Accounts Department of the hospital.

The verified documents are presented to the Government Treasury for approval of the payment of the bill. The payment is made to the supplier from the State Bank of India, Rohtak through Demand Drafts.

J-8 BUDGET PROCEDURE

The departments of the hospital make estimates for the expenses - both, capital and revenue - and send the detailed statements for Director's approval by the end of the second quarter. Meanwhile the Budget and Planning department makes tentative estimates for drugs, stores, consumables and linen in consultations with the various departments and sends a statement for Director's approval.

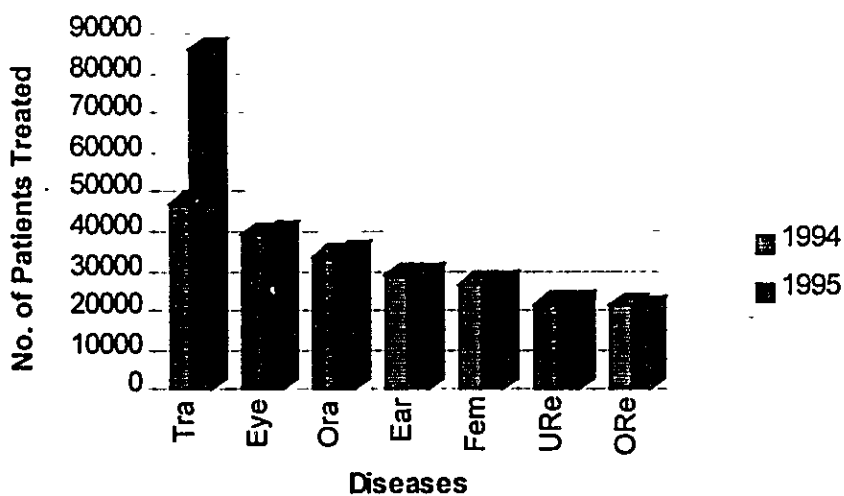
All the statements approved by the Director are consolidated and sent to the Planning Department (State) in Chandigarh by the end of November. The expenses that form part of the Plan amount, are sent to the Planning Commission for sanction. Sanctions for the Plan budget is received by April/May, and that for the Non-Plan budget is received by March of the concerned fiscal year.

Total plan and non-plan budget sanctioned for the fiscal year 1995-96 was Rs. 3 billion.

J-9 DISEASE PATTERN

While the disease-patterns for the patients treated in the out-patient and in-patient departments are different. Trauma is the most common cause of disorders. Incidentally, maximum number of deaths recorded in the hospital have also been among the trauma patients. The information on the number of patients is depicted in the Figures J-2 through J-4.

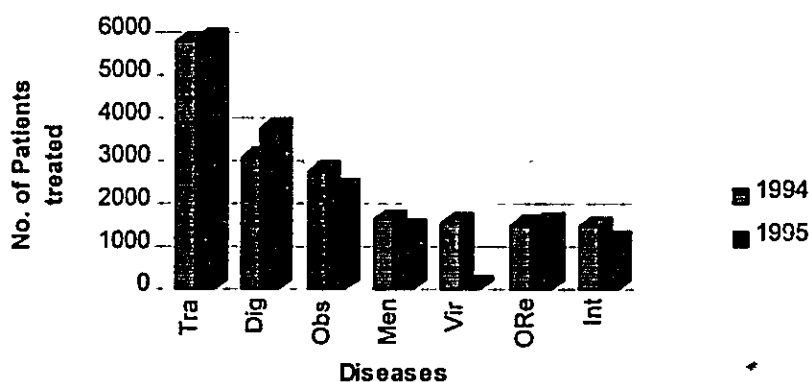
FIGURE J-3: NO. OF OUT-PATIENTS TREATED



Note:

- i. The abbreviations used in the chart are; Tra=Trauma, Eye=Eye disorders, Ora=Oral, Salivary glands and jaws' disorders, Ear=Ear related disorders, Fem=Female Genital organs related disorders, URe=Upper Respiratory disorders, ORe=Other respiratory disorders.

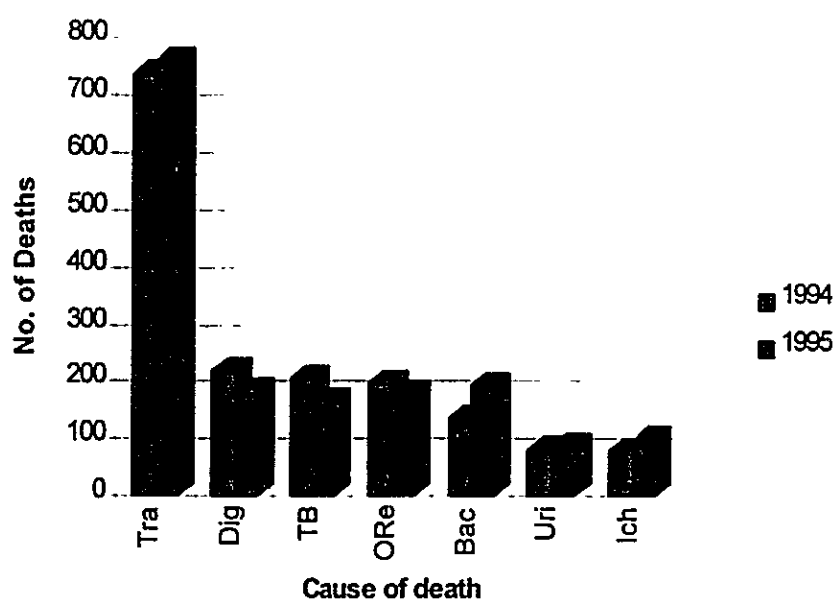
FIGURE J-4: NUMBER OF IN-PATIENTS TREATED



Note:

- i. The abbreviations used in the chart are; Tra=Trauma related cases, Dig=Digestive System disorders, Obs=Obstetrics disorders, Men=Mental disorders, Vir=Viral diseases, ORe=Other respiratory disorders, Int=Intestinal infection disorders

FIGURE J-5: NUMBER OF DEATHS



Note:

- i. The abbreviations used in the chart are; Tra=Trauma, Dig=Digestive system related disorders, TB=Tuberculosis, ORe=Other respiratory disorders, Bac=Bacterial infections, Uri=Urinary system disorders, Ich=Ichaemic Heart Diseases

J-10 C.T. SCAN

A C.T. Scan was installed in 1990 at the PGIMS, Rohtak. This was donated by the Japanese Government and was manufactured by Shimedzu of Japan. It is installed in the Radiology department and services 25 patients per day. As PGIMS is a government hospital, nominal fees is charged from the patients. A head scan costs Rs.250 (US \$7), while a chest and abdomen scan costs Rs.750 (US \$21). The details of the maintenance and consumables expenditure related to the scan are given in Table J-6

TABLE J-6: EXPENDITURE DETAILS FOR C.T.SCAN

Expenditure Type	Amount (Rs.)
Annual Maintenance service contract	1,90,000
Annual maintenance contract for the attached A.C.	20,000
Annual expenditure on purchase of developer and fixer	1,00,000
Annual expenditure for purchase of X-ray films	3,00,000
Cost of tube purchased in Financial Year 1995-96	15,00,000

J-11. DETAILS OF EQUIPMENT

Name of Equipment	Procurement Year	Name of Purchaser or Donor	Name of Manufacturer	Condition by Quality	Total Quantity	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Clinical Pathology Department						
Blood Analyser (Semi-Automatic) Particle Counter	1986	Pt. B.D.Sharma Rohtak	ERMA Japan	C	1	Being repaired
Clot Timer (Digital) (Coagulo Meter)	1990	Pt. B.D.Sharma Rohtak	MLA Medical Lab. Autodate, New York.	A	1	-
Bio-Chemistry Department						
Blood Gas Analyser	1991	Pt. B.D.Sharma Rohtak	M/s. A.V.L. Switzerland	B	1	In working order
Blood Gas Analyser	1985	Pt. B.D.Sharma Rohtak	M/s Radiometer Denmark	D	1	-
Spectrophotometer UV-VIS	1986	Pt. B.D.Sharma Rohtak	M/s. CECIL England	C	1	Firm has been contacted for repairs
Spectrophotometer UV-VIS	1971	Pt. B.D.Sharma Rohtak	M/s. C.Z. Germany	D	1	Outdated model
Spectrophotometer-film meter	1986	Pt. B.D.Sharma Rohtak	Hitachd Japan	A	1	In working order
Semi Auto Analysers	1992	Pt. B.D.Sharma Rohtak	Vitalab Netherland	A	1	One in working order
Refrigerated Centrifuge	1972	Pt. B.D.Sharma Rohtak	Remi E. Germany	C	1	Other under repairs.
I.S.E Electrolyte Analyser	1994	Pt. B.D.Sharma Rohtak	Eshwehleri W. Germany	A	1	Working order
Microbiology Department						
Lypliser Freeze Dryer Plant LGA 05 (GDR)	1979	Pt. B.D.Sharma Rohtak	G.D.R.	E	1	-
Centrifuge Ultra (GDR); Make: VAC 601	1972	Pt. B.D.Sharma Rohtak	G.D.R.	E	1	-
Centrifuge machine Cooling type K-24	1972	Pt. B.D.Sharma Rohtak	G.D.R.	E	1	-

Equipment	Year	ICMR Donated	Titeriek Multikan (R) Pins (Finland)	D	I	-
Pharmacy Department						
Centrifuge Machine S-70 Handing	1975	Pt. B.D.Sharma Rohtak PGIMS	Jametzki VOR Offen Germany	B	1	-
Polygraph 4 channel	1978	Pt. B.D.Sharma Rohtak PGIMS	M/s Instruments & Chemicals, Ambala.	A	1	-
Pathology Department						
Refrigerated Centrifuge	1979	Pt. B.D.Sharma Rohtak PGIMS	-	C	1	-
Fluorhacant Microscope 1986	1986	Pt. B.D.Sharma Rohtak PGIMS	Nikon Japan	A	1	-
Multihead Teaching Microscope	1986	Pt. B.D.Sharma Rohtak PGIMS	Nikon Japan	A	1	-
Cryo Stat	1992	Pt. B.D.Sharma Rohtak PGIMS	Bright U.K.	A	2	-
Automatic Tissue Professor (Histokinift)	1989	W.I.O.	Hendry U.K.	D	2	-
Microscoper Research Binocular	1979	Pt. B.D.Sharma Rohtak PGIMS	Olympus Japan	D	14	-
Anatomy Department						
Microscope (Monocular)	1968	Pt. B.D.Sharma Rohtak PGIMS	Olympus Japan	B	7	-
Microscope (Binocular)	1963	Pt. B.D.Sharma Rohtak PGIMS	Olympus Japan	B	5	-
Microscope (Trinocular)	1963	Pt. B.D.Sharma Rohtak PGIMS	Olympus Japan	B	3	-
Microscope (Monocular)	1975	Pt. B.D.Sharma Rohtak PGIMS	German	B	35	-
Microscope (Sterioscopic)	1962	Pt. B.D.Sharma Rohtak PGIMS	Czechoslovakia	B	3	-
Microscope Zaum (Sterio Binocular GS00-77)	1979	Pt. B.D.Sharma Rohtak PGIMS	Japan	B	1	-
Knife Sharpener	1968	Pt. B.D.Sharma Rohtak PGIMS	Was Wox (Indian)	B	1	-
Digital PH Meter	1993	Pt. B.D.Sharma Rohtak PGIMS	Indian	B	1	-

Deep Freezer	1995	Pt. B.D.Sharma Rohtak	PGIMS	Indian	B	1	-
Centrifuge Machine	1993	Pt. B.D.Sharma Rohtak	PGIMS	Indian	B	1	-
Microtome Firmu	1963	Pt. B.D.Sharma Rohtak	PGIMS	Japan	B	1	-
Microtome Giant	1965	Pt. B.D.Sharma Rohtak	PGIMS	Indian	B	1	-
Microtome Wasway	1967	Pt. B.D.Sharma Rohtak	PGIMS	Indian	B	2	-
Microtome (Base sledge)	1969	W.H.O.			B	2	-
Microtome (Rotary)	1969	Pt. B.D.Sharma Rohtak	PGIMS	Spencer A.O.	B	2	-
Leminar Flow	1979	Pt. B.D.Sharma Rohtak	PGIMS	Indian	B	1	-
Balance top Pan	1974	Pt. B.D.Sharma Rohtak	PGIMS	German	B	1	-
Balance single Pan Mettler type	193	Pt. B.D.Sharma Rohtak	PGIMS	German	B	1	-
Accident and Emergency Department							
Birds Ventilator	1992	Pt. B.D.Sharma Rohtak	PGIMS	Birds Corp. California, USA	E	1	Declared condemned
Defibrillator	1985	Pt. B.D.Sharma Rohtak	PGIMS	BPL	B	L	One more required.
500 MA X-ray machine	1991	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	C	1	Needs repairs.
Obstetrics and Gynaecology							
Cardiotocogram (one set) Focal Monitor	1992	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Sindchem Electronics Ltd., New Delhi.	C	1	Not in working order; Needs Repairs
Radiant Head Warmer with Resuscitation Trolley	1992	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Mediserve, Delhi.	C	1	Not in working order; Needs Repairs

Laproscopic Teaching Aids one set Karl Storz Germany with Tele cons. Camera video recorder indovision Telecom Camera	1996	Donated by Family Welfare United Nations	M/s. Karl Storz Germany, Japan			Utilized. Demonstration & Installation by Delhi Hosp. & Supply, New Delhi.
Microscope (operating) Opri (one) DFC Karl Zeiss with Bipolar coagulator	1991	Donated by Family Welfare United Nations	Germany	A	I	Good condition
Leisegang (Photocalposcope) I DF model Germany	1996	Pt. B.D.Sharma Rohtak PGIMS	Germany	A	I	Good condition
HAMOU Endomat (Hy.steromat) Karlstorz Germany	1996	Pt. B.D.Sharma Rohtak PGIMS	Germany		I	Required demonstration by Delhi Hospital & Supply, New Delhi.
Chest and T.B. Department						
Pulmonary function Apparatus Computerized Magna-88	1985	Pt. B.D.Sharma Rohtak PGIMS	M/s. P.K.Morgan (I) Pvt. Ltd., New Delhi.	B	I	.
Flexible Fiberoptic Bronchoscope	1992	Pt. B.D.Sharma Rohtak PGIMS	M/s. J.Mitra & Bros. Pvt. Ltd., Delhi.	A	I	.
Pulse Oximeter	1995	Pt. B.D.Sharma Rohtak PGIMS	M/s. Indchem ATL Ltd., Delhi.	B	I	.
Portable Spirometer with display	1992	Pt. B.D.Sharma Rohtak PGIMS	M/s. P.K.Morgan (I) Pvt. Ltd., New Delhi.	A	I	.
Emergency Operation Theatre						
Down Sterilizer	1978	Pt. B.D.Sharma Rohtak PGIMS	M/s. Shah & Co., Bombay	A	I	If additional items are to be provided by Japanese Aid then two Cauberge two ceiling lights & two portable light may be provided to Emergency O.T. One electricity operated drill machine and one Radio ISO Top operation table.
Inst. Sterilizer	1990	Pt. B.D.Sharma Rohtak PGIMS	PEI Co. Bombay	A	I	

Shelving light MSU 32	1964	Pt. B.D.Sharma Rohtak	PGIMS	AG Joshi & Co. Philips India Ltd. Poona	A	1	
Shelving light 7 reflector	1978	Pt. B.D.Sharma Rohtak	PGIMS	AG Joshi & Co. Philips India Ltd. Poona	A	1	
Combination major light	1992 & 1993	Pt. B.D.Sharma Rohtak	PGIMS	J.M.B Co., Delhi	A	1	
Martin portable light-mi 500	1992	Pt. B.D.Sharma Rohtak	PGIMS	J.M.B Co., Delhi	A	1	
High pressure steam Sterilizer	1965 & 1972	Pt. B.D.Sharma Rohtak	PGIMS	I.N.I. Mark India & Borolin a Mark	A	1	
O.T. Table	1974	Pt. B.D.Sharma Rohtak	PGIMS	PE Co. Raghubir Builder, Bombay	A	3	
Diatheramy Urbotom		Pt. B.D.Sharma Rohtak	PGIMS		A	3	
Water colier	1995	Pt. B.D.Sharma Rohtak	PGIMS	Ele. Ltd., New Industrial Town, Faridabad.	A	1	
Servo automatic voltage Sib. 2	1993	Pt. B.D.Sharma Rohtak	PGIMS	Inst. & Equip. Co., Ambala.	A	2	
Skin & V.D.Deptt.							
Biokry Freeze Pistol Cryotherapy Unit	1992	Pt. B.D.Sharma Rohtak	PGIMS	Ms Biokry	A	1	
Burns & Plastic Surgery Deptt.							
Cromiofacial Mini-plate and Screw Set.	1996	Pt. B.D.Sharma Rohtak	PGIMS	Thechesay U.K.	A	1	
Dental Micromatos	1995	Pt. B.D.Sharma Rohtak	PGIMS	Setelec Switzerland	B	1	Cannot be used satisfactorily for heavy long make.
Operating Microscope	1996	Pt. B.D.Sharma Rohtak	PGIMS	Ascon Madras	B	1	As it is not a diploscope, so microsurgery cannot done with this.
Psychiatry Department							
Pulse Bistified Back Biotrainer PBF 3000	1995	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	A	1	
Alfa EEG Biofeed back Biotrainer EBF 5000	1995	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	A	1	
EMG Biofeedback Biotrainer MBF 4000	1995	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	A	1	

VIP (ECT) Machine	1989	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	E	1	
VIP (ECT)	1989	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	E	1	
Aristocrate (ECT)	1991	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	C	1	
Medical Electronic	1991	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	C	1	
Medical Electronic (ECT)	1991	Pt. B.D.Sharma Rohtak	PGIMS	Medicaid System	C	1	
Blood Bank Department							
Ref. Centrifuge Machine IEC DPR 6000	1986	Pt. B.D.Sharma Rohtak	PGIMS	International Equip Corp.	B	1	
Deep Freezer KLF 5545 (KRISPCOLD)	1985	Pt. B.D.Sharma Rohtak	PGIMS	M/s. V.Krishna & Co., Bombay	C	1	
Platelet Agitator	1991	Pt. B.D.Sharma Rohtak	PGIMS	Forma Scientific make	A	1	
Elison Reader for testing HIV & HBS 'Ag.	1993	National AIDS Control Org. Govt. of India.		Multi-can Make (Plus) Mark-II	B	1	
Laundry Department							
Washing Machine 100 kg. capacity	1984	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Superwhite, Delhi.	B	1	
Washing Machine 100 kg. capacity	1986	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Stejob, Delhi.	B	2	
Washing Machine 100 kg. capacity	1993	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Poonam International, Faridabad.	B	1	
Sluicing Medicine 25 kg. capacity	1990	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Superwhite, Delhi.	B	2	
Heat-Load Press	1990	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Matharo Mfg Delhi	B	1	
Hydro Extractors 50 kg. capacity	1984	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Superwhite, Delhi	B	1	
Hydro Extractors 50 kg. capacity	1986	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Stejob, Delhi	B	2	
Hydro Extractors 50 kg. capacity	1993	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Poonam, Faridabad	B	1	
Orthopaedics Department							

A.O. Instrumentation	1981	Pt. B.D.Sharma Rohtak	PGIMS	A.O.Synthesis	D	I	Needs replacement because of wear & tear.
Image Intensifier	1971	Pt. B.D.Sharma Rohtak	PGIMS	Wiproge	E	I	25 years old, repaired many times.
Image Intensifier	1991	Pt. B.D.Sharma Rohtak	PGIMS	Shimadzo	B	I	Supplier not coming for repair contact.
Arthroscopy	1982	Pt. B.D.Sharma Rohtak	PGIMS	Storz	C	I	Needs repairing.
Eschman O.T. Table	1984	Pt. B.D.Sharma Rohtak	PGIMS	Eschoman	C	I	Needs replacement.
Surgery Department							
Colonscope Gastroscope Resectoscope for TUR	1991 1995 1995	Pt. B.D.Sharma Rohtak	PGIMS	-	A A A	I	One colour doppler for vascular surgery required.
Smart Dop hand held recording doppler Model ES-1000 SP	1992	Pt. B.D.Sharma Rohtak	PGIMS	Four Seasons Ltd. Tokyo Japan	A	I	
Neuro Surgery							
nil							Department needs 1) Operating Microscope 2) Hale Budde Br. retractor. 3) Skull clamp 3 pin
E.N.T. Department							
Impedence Audiometer	1991	Pt. B.D.Sharma Rohtak	PGIMS	American Electronics Corp. USA	C	I	Sent for repairs
Audiometer	1996	Pt. B.D.Sharma Rohtak	PGIMS	Elkon	B	I	-
Electro Nystagmorigite Graphy (E.N.G.)	1995	Pt. B.D.Sharma Rohtak	PGIMS	Medicare System, M.L.W. Germany	B	I	-
Bronchoscope/Oesophagoscope Set	1990	Pt. B.D.Sharma Rohtak	PGIMS		B	I	-
Operating Laryngoscope with light carrier complete set	1993	Pt. B.D.Sharma Rohtak	PGIMS	G.D.R.	B	I	-
Doesel huzly bronchoscope set size 4, 5, 6 with cold light	1993	Pt. B.D.Sharma Rohtak	PGIMS	Karl Storz Germany	B	I	-

Neurology Department EEG 16 channel	1986	Pt. B.D.Sharma Rohtak	PGIMS	Recorder & Medicare, Chandigarh	D	1	Needs replacement
EMG/Evoked Neuromatic-2000 unit	1986	Pt. B.D.Sharma Rohtak	PGIMS	Dantec Denmark	D	1	Needs repairing & replacement.
Radioogy Department C.T.Scan SCT 3000 TF	1990	Japan (donated)		Shimadzu, Japan	B	1	
U.S.RT 3600	1989	Pt. B.D.Sharma Rohtak	PGIMS	Wipro GE	B	1	
U.S.S.D.L. 32 B	1990	Pt. B.D.Sharma Rohtak	PGIMS	Shimadzu, Japan	B	1	
U.S.S.D.L. 30	1985	Pt. B.D.Sharma Rohtak	PGIMS	Shimadzu, Japan	D	1	
T.S. 5/Sinish Duplex	1972	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	Part of equipment haas been condemned.
E 45/KIS	1972	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	-
Heliphos U.S. Skill table	1974	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	-
Heliphos D 300/500	1993	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	-
TSS Cardiology	1972	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	-
Munerwith DOT	1972	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	1	-
SRD 725	1985 & 1986	Pt. B.D.Sharma Rohtak	PGIMS	Wipro GE	B	2	-
DX 525/HOR	1990	Pt. B.D.Sharma Rohtak	PGIMS	Wipro GE	B	1	-
Nono Mobile 100 MA	1990	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	2	-
ST-100	1992	Pt. B.D.Sharma Rohtak	PGIMS	Wipro GE	B	1	-
ST-50	1970	Pt. B.D.Sharma Rohtak	PGIMS	Wipro GE	B	3	-
Portable 60 MA	1978	Pt. B.D.Sharma Rohtak	PGIMS	Siemens	B	3	-

Oedelea Camera 70X70 mm 100X100 mm	1972 1970	Pt. B.D.Sharma Rohtak	PGIMS	Siemens Wipro GE	B	1	
Central Workshop					B	1	
Band Saw	1965	Pt. B.D.Sharma Rohtak	PGIMS	Sonex Machine Rajkot	E	1	
Gas Welding Set	1980	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	1
Drill Machine	1979	Pt. B.D.Sharma Rohtak	PGIMS	Modern Tools Mfg.	A	1	
Pipe bending machine	1979	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	
Press Machine	1980	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	
Power Hexa	1979	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	
Welding set	1980	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	
Compressor machine	1979	Pt. B.D.Sharma Rohtak	PGIMS	Delhi	A	1	
Anesthesia Deptt.							
IOU Ventilator EVITA-Z	1995	Pt. B.D.Sharma Rohtak	PGIMS	Drager, Germany	B	2	
Vital Sign Monitor	1995	Pt. B.D.Sharma Rohtak	PGIMS	S & W	B	1	
Anaesthesia Machine Front line blease	1994	Pt. B.D.Sharma Rohtak	PGIMS	Blease	B	1	
Fiber-optic Laryntoscope	1994	Pt. B.D.Sharma Rohtak	PGIMS	Pentex	D	1	
Pulse-Oximeter	1994	Pt. B.D.Sharma Rohtak	PGIMS	Critical care	B	2	
Capnography	1990	Pt. B.D.Sharma Rohtak	PGIMS	Ohtmada	D	1	
C.S.S.D. Deptt.							
Bulk Sterilizer	1975	Pt. B.D.Sharma Rohtak	PGIMS	M.Shah & Co., Delhi	A	1	

Bulk Sterilizer	1977	Pt. B.D.Sharma Rohtak	Nat Steel Co. Bombay	A	1	
Rectangular (5 Nos) sterilizer 2'X2'X4'	1977	Pt. B.D.Sharma Rohtak	Nat Steel Co. Bombay	A	1	
Gloves washing machine	1978	Pt. B.D.Sharma Rohtak	M/s. Supreme Surg. Co., Delhi	A	1	
Gloves drying machine						
Gloves powdering machine	1985	Pt. B.D.Sharma Rohtak	M/s. Nat Steel Bombay	C	1	
Gloves washing machine						
Gloves drying machine	1994	Pt. B.D.Sharma Rohtak	M/s. Supreme Surg. Co., Delhi	A	1	
Gloves powdering machine: 1st to 3rd						
Radiotherapy Deptt.						
Theratron-765 Cobalt teletherapy unit	1977	Pt. B.D.Sharma Rohtak	Theratronics	B	1	
Theratron-780 Cobalt teletherapy unit	1990	Pt. B.D.Sharma Rohtak	Theratronics	B	1	
C-137 Manual after loading lects. two	1989	Pt. B.D.Sharma Rohtak	BARC	B	2	
Theraplan-500-therapy planning system	1994	Pt. B.D.Sharma Rohtak	Theratronics	B	1	
Ophthalmology Deptt.						
Slit Lamp	1979	Donated by Govt. of India	Carl Zeiss	E	2	Required six more
Yag Laser	1985	Pt. B.D.Sharma Rohtak	Biophysics	E	1	Two required
Fundus amera	1979	Donated by Govt. of India	Carl Zeiss	E	2	Two required
Fluorescein Angiography Machine with Camera	1979	Donated by Govt. of India	Carl Zeiss	E	1	Two required
Perimeter Goldman	1984	Donated by Govt. of India	Carl Zeiss	E	1	Two required
Vitreotomy machine	1988	Donated by Govt. of India	Indian	E	1	Two imported machines required
Operating machine	1979	Donated by Govt. of India	Carl Zeiss	D	1	Required six more
Ophthalmic ultrasound	1985	Pt. B.D.Sharma Rohtak	Bio-physics	E	1	Two more required

	1995	DAN PAC	Mentor	A	I	One more required
Biometer	1995			A	I	
Physiology Deptt. Vitalograph Compact	1991	Pt. B.D.Sharma Rohitak PGIMS	Vitalograph Lid. Buckinghamham	A	I	
Oscilloscope with accessories	1966	Pt. B.D.Sharma Rohitak PGIMS	Toshniwal Bros. New Delhi	C	I	
Oscilloscope double beam	1983	Pt. B.D.Sharma Rohitak PGIMS	Tektronic USA	C	I	
EMG machine	1982	Pt. B.D.Sharma Rohitak PGIMS	Medicare, Hungary	E	I	
Harley clerk stereotaxic instrument	1960	Pt. B.D.Sharma Rohitak PGIMS	INCO Ambala	B	I	
Medicine Deptt.						
Tread Mike system	1991	Pt. B.D.Sharma Rohitak PGIMS	Fakuda, Japan	B	I	Needs replacement with dedicated system
ICCU Monitoring system (8 bedded)	1993	Pt. B.D.Sharma Rohitak PGIMS	Ind Chem India	B	I	Needs replacement in near future (frequent breakdown)
3 channel EKG Machine	1991	Pt. B.D.Sharma Rohitak PGIMS	Fakuda, Japan	B	I	Needs two more such units for ICCU especially with facility for recording late potentials
Dcfibullatin/Manual/Recorder/pace maker	1992	Pt. B.D.Sharma Rohitak PGIMS	Physiocentral USA	B	I	Needs additional backup system
Multiparamonitor	1993	Pt. B.D.Sharma Rohitak PGIMS	Schillu, Germany	B	I	For critical care monitoring more such units in ICCU with Haemodynamic units
Hollen Monitory system	1994	Pt. B.D.Sharma Rohitak PGIMS	Mediac India	B	I	Upgradable system with 12 lead recording
Hachodialysis machine	1988	Pt. B.D.Sharma Rohitak PGIMS	Drakewetlock	A	I	Trouble free service
Haemodialysis machine	1988	Pt. B.D.Sharma Rohitak PGIMS	Drakewetlock	C	I	Needs replacement & one more needed
Paediatric surgery Deptt. Cystoureliroscope	1979	Pt. B.D.Sharma Rohitak PGIMS	Olympus	C	I	Needs repairs

G.I.F.-P2	1979	Pt. B.D.Sharma Rohtak	Olympus	B	1	Needs repairs
Sheffield ventilator S.I.V.	1985	Pt. B.D.Sharma Rohtak	Sheffield	D	1	Under repairs
Incubators	1992	Pt. B.D.Sharma Rohtak	ISOLA 37 (Medipren)	B	3	Needs maintenance necessary
Infant Warmer	1985	Pt. B.D.Sharma Rohtak	Ameda	C	1	
Infant Warmer	1983	Pt. B.D.Sharma Rohtak	Healthdyne	C	1	Needs repairs
Infant warmer with trolley	1992	Pt. B.D.Sharma Rohtak		B	1	
Colonoscope	1992	Pt. B.D.Sharma Rohtak	Fujinon	A	1	
Bronchoscope	1991	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Urology Deptt. Reccoscope	1984 & 1995	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Ultrasound Burr	1984	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Cystoscope	1984	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Nephroscope	1984	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Uretroscope	1984	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Paed. scope	1984	Pt. B.D.Sharma Rohtak	Karl Storz	A	1	
Urodynamic DISA 2100	1984	Pt. B.D.Sharma Rohtak	Inter Cardio	C	1	
Surgery Operation Theatre						
Horizontal High Pressure Steam sterilizer	1975	Pt. B.D.Sharma Rohtak	Net Steel Equip. Pvt. Ltd., Bombay	A	2	
Horizontal High Pressure Steam sterilizer	1990	Pt. B.D.Sharma Rohtak	Imperial Surg. Co. Pvt. Ltd., Bombay	D	3	

Electro Surgical Unit (diathermy)	1967	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Burcher, England	C	2	
Burcher Electro Surgical Unit (Diathermy) Phillips	1978	Pt. B.D.Sharma Rohtak	PGIMS	M/s. Phillips India Pvt. Ltd., Delhi	B	2	
Electro Surgical Unit (Diathermy) Phillips (Magatome)	1981	Pt. B.D.Sharma Rohtak	PGIMS	Jahangir Medical Elect. Ind. Bombay	B	2	
Electro Surgical Unit (Diathermy) Phillips (Eschman)	1985	Pt. B.D.Sharma Rohtak	PGIMS	Eschman Co. Pvt. Ltd., England	B	5	
Ceiling O.T. light seven dome Phillips	1970	Pt. B.D.Sharma Rohtak	PGIMS	Phillips Ind. Pvt. Ltd., New Delhi	B	2	
Ceiling O.T. light seven dome Phillips	1978	Pt. B.D.Sharma Rohtak	PGIMS	A.G.Joshi & Co., Poona	B	3	
Major ceiling light scullight & day light	1992	Pt. B.D.Sharma Rohtak	PGIMS	Smith & Mathew USA	A	2	
Martin Cromophone Mobile OT Light (Martin Cromophone)	1992	Pt. B.D.Sharma Rohtak	PGIMS	Martin Germany	C	1	
Hydraulic Operation Table (Hydraulic)	1964	Pt. B.D.Sharma Rohtak	PGIMS	Q.I.C. Bombay	B	8	
Dental College Rohtak							
Electronic casting equipment	1982	Pt. B.D.Sharma Rohtak	PGIMS	Horomedia USA	B	1	
O.P.G. Machine	1985	Pt. B.D.Sharma Rohtak	PGIMS	U.S.A.	A	1	
Cephasate Machine	1987	Pt. B.D.Sharma Rohtak	PGIMS	Japan	A	1	
I.O.P.A. X-ray machine	1993	Pt. B.D.Sharma Rohtak	PGIMS	Conludant	A	1	
Cart Trolley	1987	Pt. B.D.Sharma Rohtak	PGIMS	Conludant	A	26	
Micromotor	1986	Pt. B.D.Sharma Rohtak	PGIMS	Conludant	C	6	
Model Trimer	1987	Pt. B.D.Sharma Rohtak	PGIMS	Prem Bebra, India	B	1	
Light cure unit	1991	Pt. B.D.Sharma Rohtak	PGIMS	D.P.I. Bombay	A	6	
Ultrasonic scale	1987	Pt. B.D.Sharma Rohtak	PGIMS	Stellas-France	C	8	

Electric Dental chair	1983 & 1992	Pt. B.D.Sharma Rohtak	PGIMS		A	5	
Electric Dental Lathie	1987	Pt. B.D.Sharma Rohtak	PGIMS	U.S.A.	A	10	
Spot Welfrer	1979 & 1991	Pt. B.D.Sharma Rohtak	PGIMS	Concludant	B	2	
Hydraulic Dental chair	1994	Pt. B.D.Sharma Rohtak	PGIMS	Concludant	A	1	

ANNEX 1

**NATIONAL HEALTH PROGRAMMES AND PGIMS,
ROHTAK**

PREVENTION OF BLINDNESS

- The faculty of Ophthalmology holds eye camps to restore vision by undertaking cataract and other operations in the rural areas.
- The Department of Ophthalmology imparts one months' training to State Medical Officers for primary eye care.
- PGIMS, Rohtak undertakes research projects to measure the impact of the programme.

ALL INDIA POST PARTEM PROGRAMME

- The Department of Obstetrics and Gynaecology undertakes four to six weeks' training for Medical Officers in three rural areas for medical termination of pregnancy.
- The programme also has an urban extension component, wherein it covers the slum population.

PREVENTION OF SEXUALLY TRANSMITTED DISEASES AND AIDS

- PGIMS, Rohtak is the surveillance centre for AIDS cases in Haryana.
- It trains laboratory staff for safety measures in handling blood samples.
- It supports state's AIDS prevention faculty by providing training and required orientation.

NATIONAL PROGRAMME ON LEPROSY

- Department of Skin and V.D., PGIMS provides training to the medical and paramedical personnel of the state for early detection, prompt treatment of leprosy and patient-care management.

INTEGRATED CHILD DEVELOPMENT SERVICES (ICDS) PROGRAMME

- PGIMS, Rohtak conducts training for medical Officers of the state as well as orientation for the District Health and Social Welfare teams. The faculty also undertakes operational research activities and periodic surveys for the I.C.D.S. programme.

NATIONAL PROGRAMME FOR CONTROL OF TUBERCULOSIS

- PGIMS, Rohtak conducts orientation programmes for the District Programme Officers to equip them to effectively control TB. They impart knowledge of the latest research conducted by the hospital.

NATIONAL PROGRAMME OF IMMUNISATION AND FAMILY PLANNING

- The college has a well equipped immunisation clinic through which the institution supports the programme.
- 'Pulse Polio' immunisation drives are undertaken by the hospital staff.
- PGIMS, Rohtak contributes to the Family Welfare activities by way of training of doctors, and development of better techniques.

APPENDIX K

Appendix K

NATIONAL TRAUMA CENTRE, DELHI

K-1 BACKGROUND

Accidents today rank third in order among the leading causes of death in the World and are responsible for 10 percent of all deaths in developed countries with road accidents being the major contributor. According to the World Health Organisation, about 0.5 million people are killed and 20 million injured all over the world in road accidents. In developing countries for which valid statistics are available, accidents are shown to be as numerous as in developed countries and has been increasing rapidly as a cause of death in absolute numbers and proportionately.

In India, 40,000 people were killed in road accidents in 1986 as against 24,600 in 1980. This number has increased to threefold during the last 10 years. India has a fatality rate in road accidents that is 20 times that of developed countries. 7 percent of the accidents are fatal while another 7 percent are of serious nature. Only effective emergency medical services can prevent avoidable deaths and can reduce disabilities after injuries are sustained during accidents. It is estimated that in India for every death there are 8 permanent disabilities, which not only reduce functional capacity of the individual but many of the times than not, makes them dependent for the rest of their lives.

New Delhi, the capital of India, at present has a vehicular population that exceeds that of Mumbai, Chennai and Calcutta combined together. Delhi had 21,310,000 vehicles in 1991, 65.9 percent of which were two wheelers and while cars, jeeps and taxis made upto 14.1 percent. The fatality rate per 10,000 vehicles in New Delhi/India is among the highest in the world.

Increased road accidents can be attributed to the following:

1. A tremendous growth in the number of four and two wheelers plying on the roads.
2. Defective design, layout of crossroads, speed breakers, street lighting and maintenance of roads.
3. Large number of old and poorly maintained vehicles.
4. Low driving standards and widespread disregard of traffic rules.
5. Large number of pedestrians and animals on the roads. Also there is no segregation of the slow and fast moving traffic on the roads.

A critical analysis of existing accident emergency services reveals that the major deficiencies that occurred were delay in notifications, lack of pre hospital services, lack of facilities and specialists at health institutions at various levels. It has also been found that motor cycles and goods vehicles contribute to 15 percent and 30 percent of total accidents respectively. Contrary to common belief, 56 percent of accidents occur in the day time and only 44 percent in the night: thus vigilance is required all 24 hours.

To be noted here is that the Ministry of Health and Family Welfare considered whether the existing emergency services in the other hospitals could be augmented as an alternative to setting up the new proposed trauma centre. It was found that casualty and emergency services were largely restricted to the government hospitals or local authorities. Analysis revealed that in the

42 hospitals with about 9,000 beds would under no circumstances be able to provide Delhi the much needed effective trauma centre keeping in view the large increase in the number of trauma cases being received.

K-2 ORGANISATION

It is proposed that an autonomous body be set up to administer the institute which will be the first of its kind in India. The Institute is proposed to be constituted as the Traumatology Society of India which will be registered under the Societies Registration Act and shall function independently. The management structure of the autonomous body will be in accordance with the requirements of the Societies Registration Act. The box below gives brief details of the Societies Registration Act.

BOX K-1: THE SOCIETIES REGISTRATION ACT

Objectives of the Societies Registration Act

The Societies Registration Act, 1860, was enacted for the registration of literary, scientific and charitable societies. Section 20 of the Act defines the types of societies that can be registered under its provisions. Broadly speaking, the Act was created to facilitate the formation of legal entities to carry out two types of objectives:

- *to propagate science, literature and the arts; and*
- *to provide for large membership organisations like an association of professionals.*

However, these purposes have been extended to include a variety of other public purposes, through amendments made by different state legislations. In recent usage, the Act has been used by voluntary agencies and NGOs for educational, scientific and developmental efforts. The government has also used this Act to create its own organisations; e.g., Council for Advancement of People's Action and Rural Technology (CAPART) and National Dairy Development Board (NDDB) are both registered as societies under the Act

Registration and Other Provisions

A Society can be registered by seven persons who subscribe to a memorandum of association (MOA). The MOA, which has to be filed with the Registrar of Societies, should contain:

- *the name of the Society;*
- *the names, addresses and occupations of those who are subscribing to this, and*
- *the names, addresses and occupations of those who are members of its governing body and with whom the management of the affairs of the Society will be entrusted.*

Any Act which is ultra vires the Memorandum is null and void and cannot be validated even if consented to by all the members of the society. Even foreigners can be a member of a society registered in India

The rules and regulations of the Society have also to be filed along with the MOA, and should contain the following:

- *name and address of registered office of the Society;*
- *manner, criteria and procedure for enrolment and removal of different categories of membership, their rights and obligations;*
- *period of membership, criteria, manner and procedure of formation of governing body, conduct of its meetings, notice period, quorum etc.;*
- *designation, manner of appointment or election and removal of its office-bearers, their powers and rights;*
- *procedure for conduct of annual general body meetings, or special meetings;*
- *accounts and audit procedures;*
- *manner in which objects and rules and regulations of the Society can be changed; and*
- *definition and interpretations of the terms used in the MOA.*
- *institution of suits by or against the society*
- *provisions governing alterations and amendments*
- *procedure for dissolution*
- *other provisions as per the requirements of the Act.*

The Registrar ensures that the name of the Society is new, and that various provisions of the Act have been complied with, and then issues a certificate of registration. The central Act requires a list of members of the managing body to be submitted annually, following the annual general meeting of the Society.

Other provisions of the Act:

- *the membership is open to those who subscribe to the aims and objects of the Society;*
- *a fee for membership may be charged;*
- *a governing body can be elected, selected or nominated from among the general body of membership;*
- *the property of the Society is vested in the governing body, and can be used only for the furtherance of the objects of the Society and not for the private benefit of any member. However, this does not prevent any member from being compensated for any services rendered;*
- *the Society is a legal body corporate, and can sue and be sued in its name by and on behalf of the governing body;*
- *the liability of the members of the Society and the governing body is limited; the rules and regulations provided for various roles and responsibilities, which become the basis for day-to-day functioning of the Society.*

Advantages

The main advantages of the Society are as follows:

- *It is one of the most democratic forms of organisation available: it can have a broad membership which periodically elects a governing body for managing the affairs of the Society; the governing body is accountable to the general membership and can delegate its day-to-day functioning to some full-time staff.*
- *The Act provides flexibility and ease of amending its purposes, rules and regulations, and bye-laws. In the central Act, the ultimate authority for such changes vests with the general body and the governing body.*

It is proposed that the Secretary - Health, government of India will be the Chairman of the Governing Body of the Society. The Governing Body will be responsible for appointing committees and sub-committees for the management of the Institute.

K-3 THE HOSPITAL CONCEPT

The Institute of Traumatology will initially be a 250 bedded hospital with facilities capable of expansion to a 500 beds centre when required. The institute will have a well established network of efficient ambulances to provide timely aid to the victims until they reach the institute. It is a well recognised aspect that effective emergency services supported by an extensive and adequate communication system provides the backbone of trauma care. The following box details the death peaks that occur due to an accident, and once again emphasises that the basic principle of trauma care is to provide medical aid at the earliest to the trauma victim.

BOX K-2: DEATH PEAKS IN ACCIDENTS

There are three death peaks that occur after accidents and deaths from trauma, and have a trimodal distribution.

The first death peak of death is within seconds to a minute of injury. Deaths that occur during this period are usually due to laceration of brain, brain stem and high spinal cord injury, injuries to heart and large vessels.

The second death peak occurs within minutes to few hours after injury. This period is considered as the golden hour for the critically injured. Deaths that occur during this period are usually due to subdural and epidural hemorrhage, haemopneumothorax, rupture spleen, laceration of liver, pelvic fractures or multiple injuries associated with significant blood loss.

The third death peak occurs several days to a week after the initial injury and is almost always due to sepsis and organ failures. Deaths that occur during this period can be minimised by prompt, proper and adequate hospital care.

It is proposed that the following medical specialties be included in the centre:

Clinical Specialties

- General Surgery
- Orthopaedic
- Neurosurgery
- Plastic Surgery including Fascio-maxillary surgery

Supporting Specialties

- Anaesthesiology
- Radiology and imaging including CT Scan/MRI/Ultra Sound

Supporting Facilities

- Intensive Care Unit
 - * For General Trauma
 - * For Orthopaedic Trauma
 - * For Vascular Trauma
- Dialysis Unit

Trauma Related to Other Specialties

- Ophthalmology
- ENT
- Dental and others

Cardio-Thoracic Specialty

Medical Emergencies

Forensic Medicine Department

Acute Burns Unit

Teaching and Research

Technical support Services

- Laboratory
- Physiotherapy and Rehabilitation Unit

General Support Services

The Institute of Traumatology will have close academic linkages with the All India Institute of medical Sciences (AIIMS) and post graduate students would be trained in Traumatology and Medical Rehabilitation at the Institute.

K-4 MANPOWER

After extensive consultations with experts in the field, the Hospital Services Consultancy Corporation has formulated a detailed list of the technical and support service staff that will be required for the hospital. This list is available in the project proposal that has been prepared for the Institute.

K-5 BUDGET

The total capital outlay for the proposed project is estimated to be Rs. 1232 million. The estimates of cost for construction of buildings and associated facilities have been worked out to be Rs. 48,24,18,564. Further it has been estimated that the medical and associated equipment,

furniture and furnishings cost including consultancy and equipment installation charges would be Rs. 30,20,11,000 for the 250 bedded hospital. Of this the cost of imported components has been worked out to be around Rs. 16,88,10,000.

It has also been estimated that Rs. 145 million will be required to meet the running expenses of the hospital per annum. The running expenditure of the hospital will be generated from the receipts of the paying beds as proposed in the chapter on "Cost and Financial Analysis". It has been envisaged that the hospital will not require any subsidies for the running expenses of the hospital.

For the proposed trauma centre the necessary approvals from the New Delhi Municipal Corporation (NDMC), Urban Arts Commission and Delhi Fire Services have been received. The entire land for the trauma centre has a boundary wall. It has been observed that there is slight encroachment in the service lane. This however, would not hinder the process of setting up the centre. Given the current accidents scenario in the city, the consultants strongly recommend the setting up of the trauma centre.

APPENDIX L

Appendix L

CAPITAL HOSPITAL, BHUBANESWAR

The Capital Hospital founded in 1955 is the largest secondary level hospital of the state of Orissa. The hospital is located in the state capital, Bhubaneswar. The catchment area of the hospital are the districts of Khurda, and the neighbouring districts of Puri and Cuttack. As the hospital is located in the capital, it also receives a large number of patients from the entire state. The main referral hospital in the state is the Cuttack Medical College.

The total bed strength of Capital Hospital is 300. The hospital caters to an average of 350 inpatients and 700-800 outpatients per day. The hospital provides free of cost service to all its patients for all services except for certain tests for which nominal fees are charged.

ORGANISATION STRUCTURE

The Capital Hospital is under the Department of Health, Government of Orissa.

The Chief Medical Officer (CMO) is the head of the hospital. The CMO reports to the Director, Health Services, who is responsible to the Secretary, Department of Health, Government of Orissa.

THE BUDGET

The Government of Orissa allocates budget to the Capital Hospital. Figure L.1 gives the budget sanction and release of payments procedure.

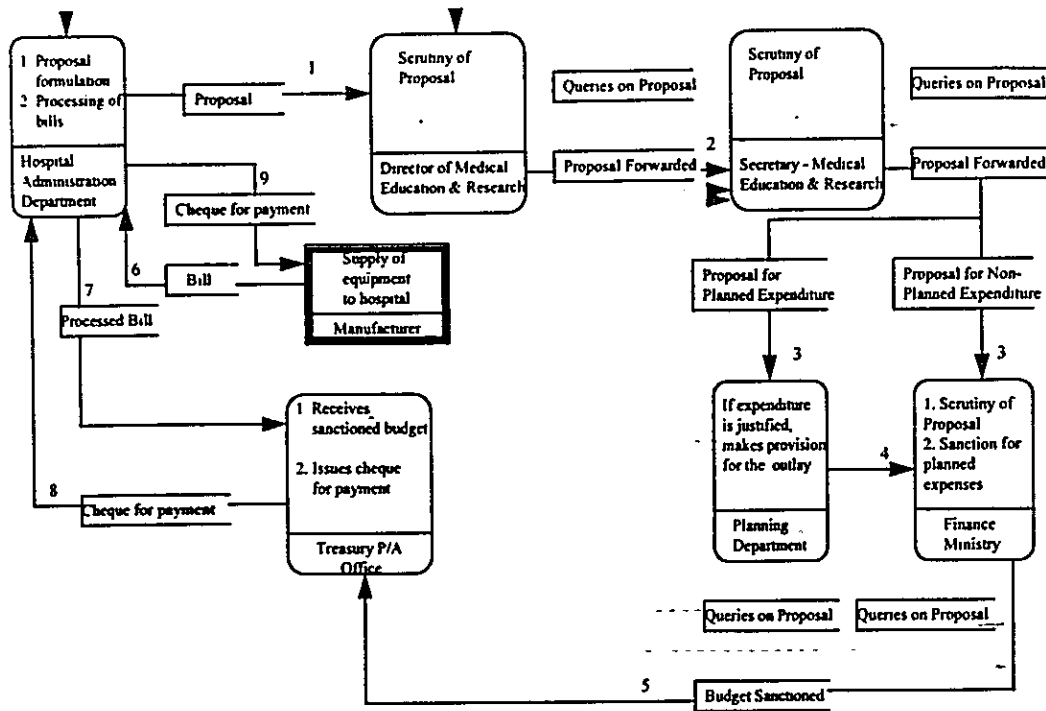


FIGURE L-1: BUDGET SANCTION AND RELEASE OF PAYMENTS

CAPITAL HOSPITAL

The budget is formulated in August-September for the coming financial year and is approved by March. The proposal is formulated in accordance with a specified format. The proposal includes various heads, viz., salaries, wages, office expenses, travelling expenses etc. The proposal is formulated on the basis of the expenses incurred in the previous three financial years.

The administrative department of the hospital sends the finalised budget proposal to the Director, Health Services, with the approval of the CMO. After the approval of the Director, Health Services, the proposal is sent to the Secretary, Department of Health Services.

The office of the Secretary forwards a copy of the approved planned expenses proposal, and this is sent to the planning and coordination department, while the approved non-planned expenses proposal is sent to the Finance ministry. The planning department when satisfied with the justification provided for planned expenses, makes a provision in the planned budget and intimates the Finance ministry. The Finance ministry, then sanctions the proposed planned expenses and informs the state treasury and the hospital of the sanction. For non-planned expenses, the Finance ministry sanctions the expenses and once again, informs the state treasury and the hospital, of the sanction.

Once the budget is sanctioned, the money is released through the treasury. All the bills of the hospital to which payments have to be made are processed by the administrative department of the hospital and then sent to the treasury. The treasury releases the cheque for payments to be made.

The budget that is sanctioned to the hospital are not released at one time. Every 4 months the hospital has to send an expenditure statement to the Finance ministry on the basis of which the next installment is released.

As indicated above, the hospital needs to specify reasons for any increase or decrease in the sanctioned grant. It was reported that if there is a justifiable cause for an increase in the expenditure of the hospital, it is sanctioned by the Finance ministry.

The hospital budget has been increasing by a small percentage of which 80 - 90 percent of funds are spent on salaries.

Any portion of the budget that the hospital is unable to utilise in the particular financial year has to be surrendered by the 25th of March of that financial year, so that it may be utilised by some other hospital or department in the state.

PERSONNEL

The details of personnel working in the capital Hospital are given in the following table.

TABLE L-1: TABLE STAFF OF CAPITAL HOSPITAL, BHUBANESWAR

Categories of Staff	In Positi
Doctors	
Dentist	
Radiologists	
Speech Therapist	
Matron	
Asst. Matron	
Nursing Sister	
Staff Nurse	
Public Health Nurse	
Lady Health Visitor	
Health Worker (Femal	
Health Worker (Male)	
Pharmacist	
Dietician	
Radiographer	
Dental Technician	
Ophthalmic Assistant	
Sr. Lab. Technician	
Jr. Lab. Technician	
Mediamaker	
Computer	
Para Medical Worker	
Statistical-Asst.	
E.C.G Technician	
Technical Storekeeper	
Clerks	
Projectionist	
Steno	
Drivers	
Class IV	

Department	No. of Units
Medicine	
Surgery	
Paediatrics, NICU & Paediatric Surgery	6 (4+1)
Obst. & Gynae	3
Ortho	
Eye	
ENT	
Skin & V.D.	
Urology	
Psychiatry	
Dental	
Physiotherapy	
Others (TB, Plastic Surgery, Nephrology, CV Neurology, Cardiology, Gastroenterolo Neurosurgery, etc.)	

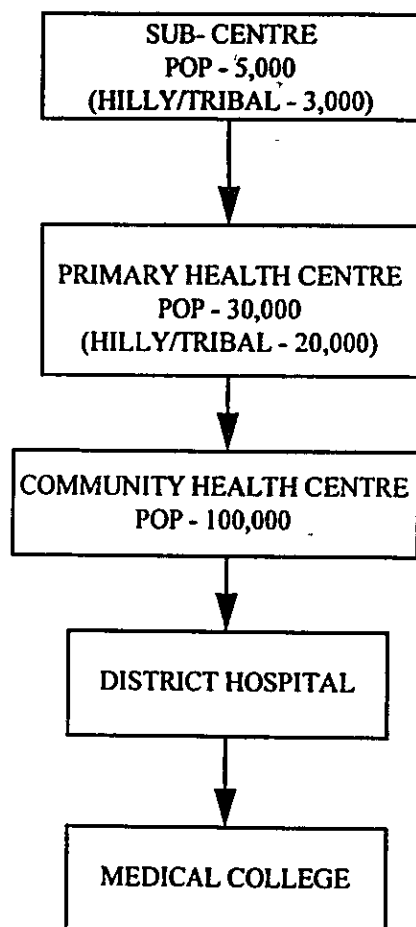


FIGURE L-2: PUBLIC SECTOR HEALTH DELIVERY SYSTEM

A primary health centre (PHC) is to be provided for every 30,000 population (20,000 in tribal and hilly areas), with staff to include one or more medical officers and other paramedicals. Community health centres (CHC) are to be developed to serve populations of 100,000 and would

include some in-patient facilities. Higher level referral and inpatient facilities are provided at district level and in towns and urban centres.

PROCUREMENT OF DRUGS

Drugs are procured from the government approved suppliers at the fixed rate. The hospital prepares Annual Purchase Programme (APP) through a committee headed by the CMO. The hospital is not supposed to exceed this limit. In exceptional cases, Annual Exceeding Programme is prepared by the same committee. For a drug which is not in the approved list, prior approval from the Director of Medical Education and Research (DMER) is required. Only one month's requirement of such a drug can be purchased.

The hospital prepares a list of generic drugs that it would require in the next financial year to the DMER. A tender is then floated by the DMER which consolidates the entire requirements of the state. The rate contract is finalised on the lowest quote mechanism and the hospitals are informed of the supplier for each drug. The rate contracts that are fixed are valid for one year.

The hospital then procures its requirement of a particular drug from the specified supplier. The supplier is required to submit a test certificate alongwith the supplies. The reorder point that is maintained by the hospital is 3 months inventory. The pharmacists estimate the requirements of the hospital.

The Food and Drug Administration department (FDA), conducts random checks at the rate contractors premises, to collect samples of the drugs that are on the rate contract list which are then sent for testing. In case, it is discovered that a drug that has been supplied to the hospital is not resulting in the desired effects, the FDA is immediately informed. The follow-up action is then taken up by FDA.

For drugs that are not on the rate contract, procurement can be made from government of India or state government undertaking, or from the BMC rate contracts.

PROCUREMENT OF EQUIPMENT

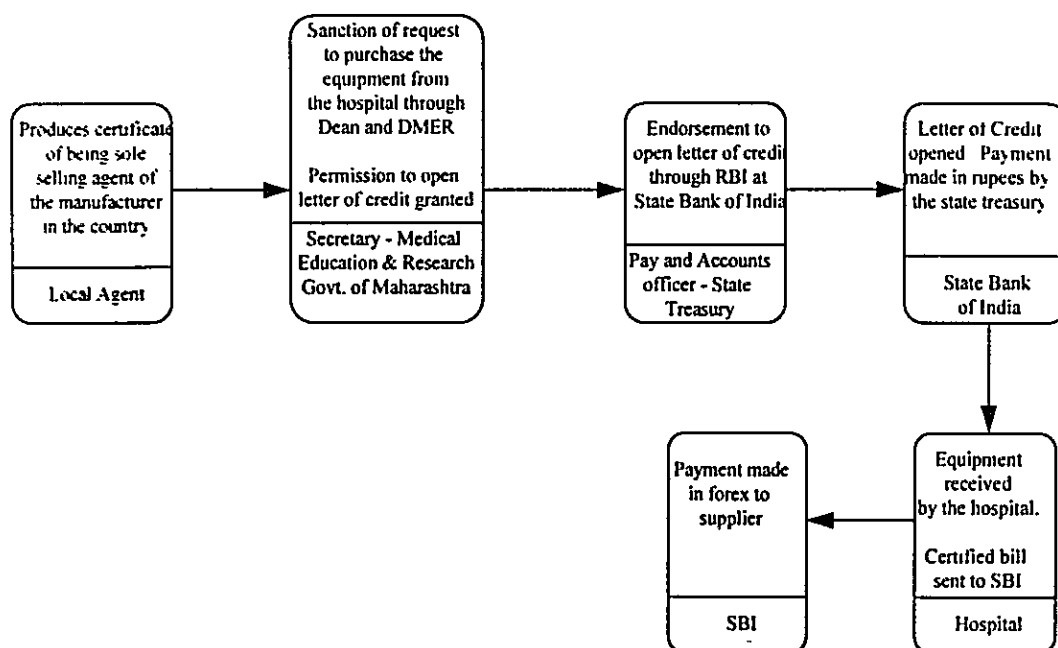


FIGURE L-3: PROCUREMENT OF EQUIPMENT THROUGH AN AGENT OF A FOREIGN MANUFACTURER

EQUIPMENT PROCUREMENT

Purchasing Power for the CMO is limited at Rs. 3,000. Above this amount, the permission of the Director, Health Services, is required.

EQUIPMENT MAINTENANCE

For maintenance, the hospital utilises the services of ELMARK, a local firm approved by the Government of Orissa. Poor maintenance of the equipment and the firm is not capable of providing repairs to all the equipment's.

MISCELLANEOUS

The hospital provides free service to the public except in case of certain investigative services to the outpatients. These are as follows:

- Ultrasound - Rs. 75
- X Ray - Rs 9-12
- Nursing Home Accomodation: Rs 1250 per day
- Special Cabin: Rs 10 per day

Any revenue that is generated by the hospital goes back to the state treasury.

There is no special system to handle the medical waste. The waster is disposed like any other waste generated in the city through the Bhubaneswar Municipal Corporation's trucks which

come on a routine basis to the hospital and carry away the waste. This is then disposed by the Corporation.

The source of drinking water in Bhubaneswar is the River Mahanadi located closely. The supply of water is done by the Bhubaneswar Municipal Corporation. At present, there is a 24 hour water supply at the hospital.

The hospital doctors are allowed to have private practice by the state government.

PLANS FOR EXPANSION

The hospital is currently expanding 100 beds and plans to have another 300 beds within 5 years.

TABLE L-2: CAPITAL HOSPITAL, BHUBANESWAR LIST OF EQUIPMENTS

Name of the Equipment	Procurement Year	Name of Purchaser/Dono	Name of Manufacture	Condition Quality	Total Quant	Remark
X Ray Machine S 725	1985	CMO, CHB	WIPRO-GE	B	1	Radiology Dept.
Ultrasound with Decho facility	1987		Indochem, Madras	E	1	Radiology Dept.
Defibrilator	1985			E	1	Crdiology
Defibrilator	1985			E	1	Crdiology
Defibrilator	1995	CMO, CHB	BPL	A	1	Cardiolog
Defibrilator	1995	CMO, CHB	BPL	A	1	Operation Theatre
Auto Analyser	1983	CMO, CHB	Chemtries, US	E	1	Pathology
Room A.C (1.5 To	1983	CMO, CHB		E	1	Pathology
Histokinet	1977	CMO, CHB		E	1	Pathology
Spectrophotometer	1996	WHO		A	1	Pathology
Slit Microscope	1980	CMO, CHB		C	1	Eye

APPENDIX M

THANE DISTRICT CIVIL HOSPITAL

The Thane civil district hospital is also known as the Vithal Sayanna Hospital since the land for the entire hospital was donated by Lord Rao Saheb Shri Narayan Vithal Sayanna in the year 1935 in the memory of his late father Shri Vithal Sayanna. The total area of the hospital is 1,30,681 sq. feet and the built up area is 54, 136.67 sq. feet. The hospital is headed by a Civil Surgeon who is also the incharge of the urban health for the district. The rural health of the district is headed by a Rural Health Officer. Thane district, with a population of 60 lakhs has 10 municipal councils. The structure of health care in the district is as follows:

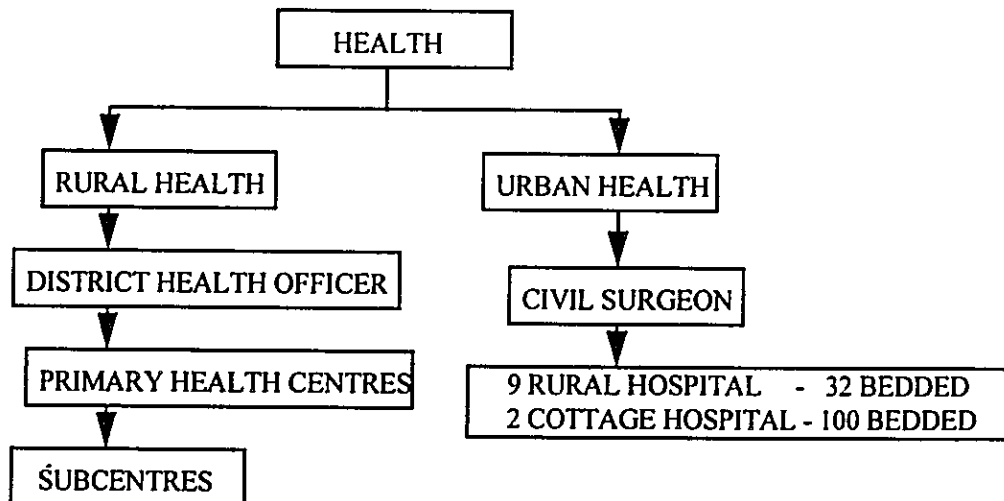


EXHIBIT M-1: STRUCTURE OF HEALTH ACRE IN THANE DISTRICT

The hospital has 14 specialities and 336 beds. The following medical facilities are available in the hospital:

A. Out Patients Department

- 1 General for male and female
- 2 Ophthalmic
- 3 Dental
- 4 Orthopaedic
- 5 E.N.T.
- 6 Pathology
- 7 Tuberculosis

- 8 Obstetrics & Gynaecology
- 9 Leprosy
- 10 Casualty
- 11 X-Ray .
- 12 Physiotherapy

B. Indoor facilities

- 1 Gynaecology
- 2 Ophthalmic
- 3 Orthopaedic
- 4 E.N.T.
- 5 Tuberculosis
- 6 Surgical
- 7 Maternity
- 8 Medical

C. Other facilities

- 1 Blood bank
- 2 Family welfare
- 3 M.C.H.

The hospital has all specialties except cardiothoracic and neurology departments. The distribution of the beds in the hospital is outlined in the following table.

TABLE M-1: DISTRIBUTION OF BEDS IN THANE CIVIL DISTRICT HOSPITAL

Department	Male	Female	Total
Family Planning		10	10
Surgery & Orthopaedic	80	20	100
E.N.T.	5	5	10
Paediatric	14	6	20
Medical	40	24	64
Obst. & Gynae		51	51
Ophthalmic	10	10	20
Burns	10	5	15
Isolation	10	10	20
T.B. Isolation Ward	12	8	20
I.C.C. Unit	3	3	6
Total	184	152	336

The referral pattern in the district is as follows:

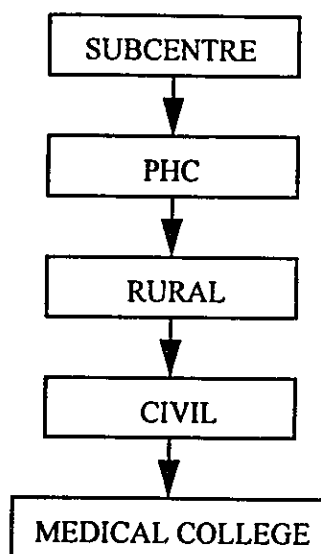


FIGURE M-1: REFERRAL PATTERN IN THANE DISTRICT

The major equipment that the hospital has are:

- X Ray
- Monitors
- Auto Analyser
- Blood Gas Analyser

Service contract for maintenance of hospital equipment is not a problem since Thane is located very close to Mumbai (one hour's drive). The hospital does not have backup facilities for the entire hospital in case of power cuts. Generators are available only in emergency sections, viz., the operation theatres.

The hospital receives its budget from the Director of Health Services. It was reported that there has been an average increase of about 20 percent in the budget of the hospital over the previous year.

The diseases most prevalent in the region are malaria, and tuberculosis. On an average, about 6 post-mortems are conducted in the hospital everyday. Thane district has 3 national highways crossing through it due to which the number of medico-legal cases caused due to accidents are very high. Thane region has a lot of industries also. However, the respective organisations have their own hospitals and industrial accidents are treated in those hospitals.

The services offered by the hospital are nominally priced for patients whose income exceeds Rs. 150 per month. Patients with monthly income below Rs. 150 per month are provided all services free of charge. For Out Patient Department, Rs. 2 is charged by the hospital. The regular budget, i.e., the day to day activities are looked after by the hospital

itself through the regular budget which is provided to them, while any equipment that are required by the hospital are purchased by the office of the Director of Health Services. The hospital sends its annual requirement of drugs to the office of the Director of Health Services who arrange for the supply of the drugs through the rate contracts that have been approved before hand for supply of drugs for that particular year. The entire drug supplies made are generic in nature. The regular budget that is given to the hospital includes Rs. 10, 000 per bed per annum. The budget of the hospital is released in installments. i.e., every 4 months.

TABLE M-2: DETAILS OF THE THANE CIVIL DISTRICT HOSPITAL BUDGET FOR THE YEAR 1994-95

Head	Grants	Expenditure	Balance
Salary	16,928,000	15,931,113	996,887
Contingency	8,622,451	8,616,122	6,329
Medicine			
Diet	643,000	641,873	1,127
Others	3,977,000	3,967,073	9,927
Grand total	30,170,451	29,156,181	1,014,270

The revenue that has been collected by the hospital over the last 3 years is detailed in the following table:

TABLE M-3: REVENUE GENERATED BY THE HOSPITAL

(In Rs.)

Year	Total Revenue Collection
1992-93	276,728
1993-94	244,177
1994-95	309,528

The hospital attends to approximately, 1,000 patients per day in the OPD. About 40% of the OPD patients require to be attended by the medicine department. The other major departments which receive patients are Gynaecology, dental, Orthopaedic and surgery. and ophthalmic departments. The total staff strength of the hospital is 436, which includes 22 doctors.

The following table outlines the details of the equipment that are available at the Thane civil district hospital and their working conditions:

TABLE M-4: DETAILS OF EQUIPMENT AVAILABLE AT THE THANE CIVIL DISTRICT HOSPITAL

Name of Equipment	Total Qty.	Status	
		Working	Not Working
E.C.G. machine	4	4	
Ambu. Bag	48	48	
Respirator	1	1	

Oxygen cylinder	125	125	
Nitrous oxide cylinder	40	40	
X-Ray machine			
500 M.A.	1		1
300 M.A.	2	2	
50 M.A.	1	1	
50 M.A.	2		2
Colorimetre	2	2	
Refrigerator	9	9	
Blood storage refrigerator	4	4	
Water bath	3	3	
Hot air oven	3	3	
V.D.R.L. Rotator	1	1	
Incubator	1		1
Microscope	7	7	
Centrifuge machine	3	3	
Auto analyser	1	1	
Blood gas analyser	1	1	
Suction machine (Ele.)	9	9	
Suction machine (Foot)	6	6	
High pressure steri	5	5	
O.T. care	1	1	
Boyles apparatus	4	4	
Hydraulic ope table	4	4	
Shadowless lamp	12	12	
Air conditioner	12	11	1
Incinerator	1		1
Laproscope	4	4	
B. P. operator	55	55	
Lift electrical	2	2	
Photometre	1	1	

To ensure continuous water supply for 24 hours anticipating any sort of emergency operations and in the interest of patient care, the existing ½ " pipeline has been replaced by 1½" line fitted in the hospital campus.

The performance of the hospital in terms of activities performed is as follows.

TABLE M-5: PERFORMANCE OF THE HOSPITAL

Indicator	Year	Target	Achievement	Percentage
Sterilisation	1992-93	620	510	82
	1993-94	720	212	29
	1994-95	720	242	34
I.U.D.	1992-93	507	399	79
	1993-94	509	311	61
	1994-95	509	235	46
C. C. users	1992-93	750	1,183	158
	1993-94	750	465	62
	1994-95	750	273	36
O. P.	1992-93	325	446	137
	1993-94	325	225	69
	1994-95	325	139	43
MCH ACTIVITIES				
Measles	1992-93	1,000	667	67
	1993-94	1,000	598	60
	1994-95	1,000	512	51
Polio	1992-93	1,000	967	97
	1993-94	1,000	774	77
	1994-95	1,000	629	63
D.P.T.	1992-93	1,000	967	97
	1993-94	1,000	774	77
	1994-95	1,000	497	50
D.T.	1992-93	800	721	90
	1993-94	800	502	63
	1994-95	800	1,023	128
Pana (C)	1992-93	1,000	1,064	106
	1993-94	1,000	1,115	112
	1994-95	1,000	338	34
Pana (M)	1992-93	1,000	296	30
	1993-94	1,000	133	13
	1994-95	1,000	406	41
T. T.	1992-93	1,000	368	37
	1993-94	1,000	1,864	186
	1994-95	1,000	1,095	110
Vit (A)	1992-93	1,000	569	57
	1993-94	1,000	1,020	102
	1994-95	1,000	793	79
A.N.C.	1992-93	1,000	2,181	218
	1993-94	1,000	2,163	216
	1994-95	1,000	2,112	211
B.C.G.	1992-93	1,000	2,561	256
	1993-94	1,000	2,233	223
	1994-95	1,000	2,049	205

D.P.T. (B)	1992-93	1,000	568	57
	1993-94	1,000	484	48
	1994-95	1,000	497	50
Polio (B)	1992-93	1,000	568	57
	1993-94	1,000	484	48
	1994-95	1,000	497	50
T.T. (10)	1992-93	800	103	13
	1993-94	800	832	104
	1994-95	800	951	119
T.T. (16)	1992-93	800	363	45
	1993-94	800	560	70
	1994-95	800	1,070	134

APPENDIX N

Appendix N

INTERNATIONAL COOPERATION IN THE HEALTH SECTOR

A number of donor countries have set up agencies through which they contribute to development in India. The contributions are typically made to the ongoing Government of India programmes or through established NGOs. A number of such donors also route money separately through UNICEF. The major programmes undertaken by the main bilateral donors in India are given in the table below.

(Figures in Thousand of dollars)

TABLE N-1: LIST OF BILATERAL AND MULTILATERAL PROJECTS IN HEALTH SECTOR

Project title	Duration	Donor	Total Commitment
Private Voluntary Organisations for Health (PVOH II)	87-97	USAID	10,000
Family Welfare Area Project (Phase II), Rajasthan	89-96	UNFPA with Ministry of Health and Family Welfare	13,034
Orissa Health and Family Welfare Project Phase II	90-95	ODA	35,149
Andhra Pradesh Health Education	89-98	Netherland Government	412
Comprehensive Family Welfare Programme and Income Generation for Working Women in urban slums of and rural area of TN	93-96	UNFPA (MHFW)	12,267
Family Welfare Area Project, Maharashtra.	90-96	UNFPA (MHFW)	12,267
Family Welfare Area Project Himachal Pradesh Phase II	90-95	UNFPA (MHFW)	15,132
Quality Control of Health Technologies	90-98	USAID	13,300
Quality Control of Health Technologies Project	90-97	OECD	55,146

National Institute of Health and Family Welfare	94-97	ODA	1,527
Medical Cooperation	90-95	France Government	427
Continuing Health Education	94-95	CARE (US Government)	46
Continuing Health Education	94-95	CARE (US Government)	51
Continuing Health Education	94-95	CARE (US Government)	50
Maternal Anaemia Control	94-2000	CARE (US Government)	1,000
Improving Women's Health in urban slums of Allahabad	89-95	CARE (US Government)	396
Health and welfare	94-97	ODA	1,527
ICDS	82-95	NORAD	27,774
ICDS	91-95	UNICEF	50,000
Acute Respiratory Infections	89-96	CARE (US Government)	317
ARI, Immunization Project	89-96	CARE (US Government)	287
Nutrition	91-95	UNICEF	15,000
CSSM	92-95	SIDA	12,900
AP School Health Programme	91-96	ODA	15,822
ICDS II Tamil Nadu	93-95	SIDA	
ICDS	92-96	CARE (US Government)	79
Mother and Child Health Parivar Seva Sanstha	94-97	ODA	76
VHW Training and iron study	94-95	CRS (US Government)	6
Contraceptive Development and Research in immunology	85-94	USAID	6,188
Leprosy Eradication Programme	86-94	NORAD	1,348
National Programme for eradication of leprosy	86-96	DANIDA	17,947

DANIDA assisted National Programme for control of Blindness	86-96	DANIDA	14,932
National Blindness Programme	89-97	ODA	2,513
ARI	89-96	CARE (US Government)	643
TB Phase III	90-94	SIDA	8,908
St. Stephen's Hospital Maternal and Neonatal care project	91-94	ODA	8,632
Universal Immunisation Programme/ Mother and Child health/ transport and equipment	91-95	UNICEF	122,650
Child Disability	91-95	UNICEF	3,200
Cancer Research Phase II	90-94	ODA	1,988
AIDS Prevention and control	92-2002	USAID	10,000
4 Health Projects	93-94	Belgium Government	307
Malaria Eradication	89-95	ODA	3,874
Leprosy Epidemiology, Chengalpet	92-96	ODA	89
AIDS	90-95	France Government	220
Breast Cancer	90-95	France Government	209
Prevention of acute lapse of leprosy	92-94	DANIDA	1,647
Resource base for medical plan	92-97	DANIDA	3,933
CSSM	93-94	CIDA	2,338
Strengthening community health department, CMC, Vellore	93-98	DANIDA	553
Commodity Aid for Health and Family welfare	94-95	German Government	25,947
STD Project	94-97	ODA	76
Community Ophthalmology National Blindness Programme	94-97	ODA	960

Health and Nutrition Support	94-97	CRS (US Government)	4
Anticonceptive technology	89-94	CIDA	592
Innovations in Family Planning Services	92-2002	USAID	325,000
Population Research and training	92-96	ODA	1,544
Family Welfare Project II	91-94	NORAD	33,111
Orissa Social Marketing Population Services International	94-97	ODA	1,565
Women's health and children by choice	94-99	ODA	76
Post partum programme	92-95	NORAD	44,571
DANIDA Health Care Project, Madhya Pradesh phase II	89-95	DANIDA	8,616
All India Hospital Post Partum Programme	81-94	NORAD	37,077
DANIDA Health Care Project, Tamil nadu phase II	89-95	DANIDA	7,749

Source: Development Cooperation Report 1994, UNDP. The information from various agencies has been included wherever applicable.

APPENDIX O

Appendix O

INTAKE OF MBBS STUDENTS IN MEDICAL COLLEGES

The table below gives the intake of students in medical colleges in Delhi, Haryana, Maharashtra and Uttar Pradesh

TABLE O-1: INTAKE OF MBBS STUDENTS

State	Institute	Intake
Delhi	All India Institute of Medical Sciences	MBBS: 50.
	University of Delhi: Faculty of Medical Sciences	MBBS: 410
	Lady Hardinge Medical College	MBBS: 130
	Maulana Azad Medical College	MBBS: 180
	University College of Medical Sciences and GTB Hospital	MBBS: 100
Haryana	Maharaja Agarsen Institute of Medical Research & Education	MBBS: 35
	Pt. Bhagwat Dayal Sharma Postgraduate Institute of Medical Sciences	MBBS: 115.
Maharashtra	Dr. Panjabrao Deshmukh Memorial Medical College	MBBS: 100
	Shri Vasantrao Naik Govt. Medical College	MBBS: 50
	Medical College	MBBS: 120
	Grant Medical College	MBBS: 200
	K J Somaiya Medical college	MBBS: 100
	Lokmanya Tilak Municipal Medical College	MBBS: 100
	Mahatma Gandhi Mission's Medical college	MBBS: 100
	Seth G S Medical College	MBBS: 180
	Terna Medical College	MBBS: 100
	Topiwala National Medical College	MBBS: 120
	Government Medical College, Aurangabad	MBBS: 100
	M G M Medical College	MBBS: 100
	S R T Rural Medical College	MBBS: 50
	Government Medical College	MBBS: 200
	Indira Gandhi Medical College	MBBS: 60

	Mahatma Gandhi Institute of Medical Sciences	MBBS: 64
	N K P Salve Institute of Medical Sciences & Research Centre	MBBS: 100
	Smt. R M Memorial Medical Trust's Dental College	MBBS: 100
	A C Patil Memorial Medical College	MBBS: 100
	Shri Bhausaheb Hire Government Medical College	MBBS: 50
	Armed Forces Medical College	MBBS: 130
	Maharashtra Institute of Medical Education and Research	MBBS: 100
	N D M V P Samaj's Medical College	MBBS: 120
	Rural Medical College	MBBS: 100
	Dr. V M Medical College	MBBS: 100
	D Y Patil Education Society's Medical College	MBBS: 100
	Government Medical College	MBBS: 100
	Krishna Institute of Medical Sciences	MBBS: 100
	C U Shah College of Pharmacy	MBBS: 30
	Government Medical College	MBBS: 50
	Maharashtra Institute of Medical Science & Research	MBBS: 100
Uttar Pradesh	Faculty of Medicine (J N Medical College)	MBBS: 100
	Motilal Nehru Medical College	MBBS: 102
	Institute of Medical Sciences	MBBS: 50
	M L B Medical College	MBBS: 80
	L L R M Medical College	MBBS: 150
	S N Medical College	MBBS: 123
	B R D Medical College	MBBS: 105
	H N Bahuguna Garhwal University	MBBS: 60
	King George's Medical College	MBBS: 185
	G S V M Medical College	MBBS: 191

Source: Handbook of Medical education, Association Indian University. (Information regarding the PG courses was not available)

