

PHYSICAL STANDARDS IN THE PRIVATE HEALTH SECTOR

(A Case Study of Rural Maharashtra)

Sunil Nandraj
Ravi Duggal

DECEMBER 1997

CEHAT

Centre for Enquiry into Health and Allied Themes
519, Prabhu Darshan, 31, SS Nagar, Amboli
Andheri West, Mumbai 400 058.
Tel : (91)(22) 625 0363 Fax : (91)(22) 620 9203
Email : admin@cehat.ilbom.ernet.in

PHYSICAL STANDARDS IN THE PRIVATE HEALTH SECTOR

(A Case Study of Rural Maharashtra)

**Sunil Nandraj
Ravi Duggal**

DECEMBER 1997



Centre for Enquiry into Health and Allied Themes, Research Centre of Anusandhan Trust, Survey No. 2804 & 2805, Aaram Society Road, Vakola, Santacruz East, Mumbai – 400055, Maharashtra, India; Ph:(+91-22) 26673154, 26673571; Fax : 26673156; Email :cehat@vsnl.com; www.cehat.org

ACKNOWLEDGMENTS

We are extremely indebted to the doctors & the heads of hospitals & nursing homes in Satara district who participated & provided us the information and shared their views. It would not have been possible to conduct the study without the co-operation of the Indian Medical Association (Satara & Karad), Medical Representative Association, Homeopathy Association of Satara. In the government sector the District Health Officer and Staff at the Patan and Karad panchayat samiti provided necessary assistance, we express our sincere thanks to them. We would like to thank the staff of Shramjeevi Janata Sahayak Mandal, Patan for arranging our accommodation and travel in Satara district & special thanks to Mr. B.Kolekar.

A special thanks to Dr. S.S.Narvekar, Dy. Director of Health Service, Govt. of Maharashtra, consultant and resource person, who took keen interest and shared his insights of various aspects of the study. We also take this opportunity to thanks Dr. S.R. Salunke, Director, Govt. of Maharashtra who provided us the necessary permission to carry out the study.

Our sincere thanks to Dr. Anil Pilgaokar, Dr. Arun Bal, Dr.Sanjay Nagral and Dr.Santosh Karmarkar for providing us valuable inputs. Thanks are due to all the participants of the workshop on "Physical Standards In Private Hospitals / Nursing Homes" for sharing their valuable inputs, comments and suggestions.

Our most sincere thanks to Dr. Veena Murlidhar for formulating the standards document "Proposed Minimum Standards For Private Hospitals & Nursing Homes".

A special thanks to Ms Asha Vadair who helped in the preparation of the questionnaire, sampling frame, data collection, monitoring the study and providing valuable computer assistance in the analysis of data. The investigators Archana Jadhav, Anand Utekar, Madhu Rokle who have been important architects of the study. Our most sincere thanks to the CEHAT staff, Ms. Shiny Matthew for word processing & Dr. Amar Jesani Coordinator of CEHAT for bearing the burden of administrative responsibilities of this research initiative.

Last but not the least we are thankful to the late Prof. T.N.Krishnan, National Project Coordinator, Research project on strategies & financing for Human Development in India for providing the funds to carry out this study as well as his special interest in the progress of this study.

CONTENTS

Introduction

Study Design and Methodology

Private Medical Practitioners : Nature and Status

Private Hospitals : Profile and Status

Findings in the Context of Minimum Standards Evolved

Conclusions and Recommendations

References

Tables

Proposed Minimum Standards for Private Hospitals/Nursing Homes (Upto 30 Bedded Unit Providing Medical/Surgical/Maternity Services)

Introduction

Functional Program for a Nursing Home

Humanpower Requirements

Instruments and Equipment

Minimal Functional and Space Requirements

Building Engineering Environmental Standards

References

Appendix 1

Appendix 2

Appendix 3

Introduction

In India, provision of health care services is complex. At one level it is bifurcated into public and private providers and at another level there are a multiplicity of systems - allopathic, ayurvedic, homoeopathy, unnani etc. The public sector provides health services through the central government, state governments, municipal corporations and other local bodies. The private health sector consists of the 'not-for-profit' and for profit health sector. The not-for-profit health sector which is very small includes various health services provided by non government organisations (NGOs), charitable institutions, missions, trusts, etc. Health care in the for-profit health sector is provided by various types of practitioners and institutions. These practitioners range from 'General Practitioners' (GPs) to the super specialists, various types of Consultants, Nurses and Paramedics, Licentiates, Registered/ Rural Medical Practitioners (RMPs) and a variety of unqualified persons. Then there is an 'informal' sector which consists of practitioners not having any formal qualifications, like the tantriks, faith healers, bhagats, hakims, vaidyas and priests who also provide health care.

The private sector is a large and an important constituent in the country's health care delivery system. It has expanded greatly in the post independence period, especially in the eighties. Various studies conducted by organisations such as National Sample Survey Organisation (NSSO), Foundation for Research in Community Health (FRCH), Kerala Shashtra Sahitya Parishad (KSSP) and National Council of Applied Economic Research (NCAER) bring out the fact that between sixty and eighty percent of people utilize private health facilities in the country in both rural and urban areas. (NSSO, 1987, Duggal, R., Amin, S. 1989, Kannan, K.P., etal, 1991, NCAER, 1992, George, A, etal, 1993). The findings also show that a substantial financial burden is borne by households for meeting health care needs. Compared to public expenditures on health the private households expenditure are nearly four to five times more.

Data on sectoral distribution of doctors is not easily available. Many states do not file the required information to the appropriate authorities. A listing of health establishments and practitioners in Ahmednagar district, Maharashtra, was done by FRCH. This study identified a total of 3060 doctors in the district belonging to all systems of medicines and 92 percent of them were found to be practicing in the private sector (including a very small percentage in the voluntary sector). Of the total doctors identified 51 percent were in urban areas and the rest in rural areas. (FRCH, 1993). The 1981 census economic tables which list occupational distribution also show a more or less similar pattern. Thus of all doctors in the country 59 percent were in urban areas (73 percent of allopathic doctors) (Census, GOI - 1981).

With regard to hospitals in the country, during 1974, 16 percent of the hospitals and 22 percent of the hospital beds were in the private sector and the rest were in the public sector. This increased in 1990 to 58 percent of hospitals and 29 percent hospital beds in the private sector (CBHI, various years). There are reasons to believe that the number of hospitals in the private sector is much larger than the available data suggests. Health information of India 1992, shows that there were only 1,319 private and voluntary hospitals in Maharashtra. But the Bombay Municipal Corporation listed 907 private hospitals and nursing homes in Bombay city alone (excluding Thane), on the basis of its registration data which is also an underestimate. Another instance of under reporting of data is brought out by a survey undertaken by Andhra Pradesh Vaidya Vidhana Parishad, which found the existence of 2,802 private hospitals and 42,192 private hospitals beds in Andhra Pradesh in 1993 as against only 266 private and voluntary hospitals and 11,103 private hospital beds according to official figures (Mahapatra P, 1993). The survey also showed that 68 percent of private hospitals were located in urban areas (which were state capital, divisional H.Q., District H.Q. and Taluka H.Q.). The bed population ratio in private hospitals was 6.37 beds per 10,000 population as compared to public hospitals which was 5.12 per 10,000.

The expectation of the public for quality medical care is very high, especially of the middle class. There is a growing pressure on health care providers and professional to maintain and improve the quality of health care with emphasis on cost effectiveness. This is reflected in a concern accorded by policy makers, planners, administrators, doctors, researchers and consumers to the aspect of quality of care in the delivery of health care services.

Quality and Standards in Health Care

There are different aspects and dimensions of quality. The Oxford English dictionary defines quality as a noun meaning degree of excellence (Oxford Dictionary, 1984). The Bureau of Indian Standards defines quality as 'the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs' They use the term quality with a qualifying adjective such as 'quality level' relative quality (Bureau Of Indian Standards, 1992). The quality revolution with its emphasis on total quality, quality leadership, and total quality management has resulted in its usage even in human services. Concepts of quality of life, quality assurance, quality enhancement, quality management, quality level are currently having a significant impact on human services like health and education.

In developed countries quality as an issue has been in the forefront for the management of

various types of institutions. Various systems and methodologies have been developed to study different dimensions of quality. These were developed foremost in the industrial setting and then later in the health care sector. The same trend is being followed in India.

Quality medical care involves methodology used to assess and ensure quality, development of guidelines regarding appropriate methods of quality assessment to improve care provided and increase overall access to health care of high quality. There are systems and processes for guaranteeing quality. The measures include reducing unnecessary admissions, assessing the appropriateness of average length of stay, the number of consultations and the number of days spent in hospitals. The outcomes include such things as rate of avoidable deaths, preventing hospital infection, avoiding surgeries and invasive procedures when not necessary, and reducing the instances of post operative complications and readmissions.

Avedis Donabedian, the guru of quality assurance, in his contribution to the assessment of health care lays emphasis not only on the technical domain (defined as knowledge, judgment and skill of providers) but also on the interpersonal. This consists of patient communication to the physician for purposes of both diagnosis and the determination of preference for treatment and physician communication to the patient for purpose of information on the nature and management of the illness (Donabedian, A, 1988).

Explicit attention to the definition and measurement of quality of care on the part of the International health community can be attributed to the widespread dissemination of the writings of Bruce and her colleagues who have initiated activities to operationalise what had previously been thought a rather elusive concept. Bruce has developed a conceptual framework which defines quality of care for family planning and related reproductive services. The framework defines quality in terms of six elements and associated indicators. These are choice of method, provider-client information exchange, provider competence, interpersonal relations, mechanisms to encourage continuity and appropriate constellation of services (Bruce J, 1990)

The conceptual framework provided by Bruce on quality of care is rather narrowly defined. The framework does not include the health infrastructure. This dimension clearly cannot be ignored when evaluating services. Barbara Mensch mentions two parts to a comprehensive assessment of services. The first is a description of programs which are considered part of the infrastructure (i.e. equipment and facilities, staff and training, supervision, record-keeping, and suppliers). If all of these are functioning, the necessary, although not sufficient,

conditions for adequate services can be said to be in place. In other words, a facility might be clean, reasonably equipped, and staffed with trained personnel, but still treat women poorly both from the medical and personal standpoint. Similarly, a family planning clinic might have a decent contraceptive logistics system with an adequate range of suppliers, but not provide balanced information or a full range of methods. The existence of a large supply of any one method may simply indicate that particular method is rarely offered (Mensch B, 1990).

Inevitably, emphasis on quality of care leads us to the discussion of standards. Standards assist us in defining the meaning of quality as it relates to health care delivery. The first step in improving quality of care is an articulation of standards that are needed for the provision of care. The key concepts for the definition of standards are firstly, that the standards are a degree of excellence, secondly, it suggests that standards serve as a basis of comparison, thirdly, that standards are a minimum with which a community may be reasonably content, and finally, that it is recognized as a model imitation.

Standards are classified broadly as written or explicit standards, written or implicit standards and unwritten or implicit standards. Explicit standards are defined as specific for care. Implicit standards are defined as usual and customary in practice. Implicit standards can also be written as a general checklist of items. Ideally standards should be written and explicit as these allow both the data collection process and the assessment of care to be based on clearly delineated agreed upon bench marks rather than relying on the discretion of assessors (Fooks C & Rachlis M, 1990). Donabedian states that standards may be directed towards structure, process or outcome. Structure standards apply to the things such as human, financial and physical resources. Process standards apply to activities that constitute care, service or management. Outcome standards refer to the end results of care, clinical as well as non-clinical (Donabedian, A, 1988).

In 1985 the deliberations of a WHO expert committee resulted in a report entitled. " The Hospital and Health for All". This report highlighted the need for suitable infrastructure for the hospital and for the organisation of resources " across various levels of service". It further suggested a need for an appropriate management system to be in place, that hospitals determine their scope of service with reference to a community based information system. The committee recommended that WHO develop indicators of performance as well as methods and materials related to facility planning and maintenance for hospitals. In 1990 a WHO study group at Geneva brought out a report which recommended to WHO to continue to develop guidelines on essential procedures, technologies and standards for first referral

hospital functions. It further recommended that national and international non-government organisations should improve the existing standards of management. The report went into the specific of elements of standards such as information system, referral systems, human resources, continuous monitoring and evaluation of performance, quality of care and effectiveness and efficiency as well as its physical structure and equipment. (WHO 1990).

Many countries recognize the need for standards for hospitals. Some countries have established national standards and are continuously improving them and some others have established national programs to monitor the compliance of individual hospitals and other types of health facilities with national standards. Scrutiny of hospital based services is required on the grounds that a sound organisation is necessary for the delivery of high quality clinical care and a high quality of services for the user.

There are various levels of standards. There are minimum standards which generally represent a level of acceptability. Minimum standards are a must to meet. Beyond the minimum there are desirable or optimal standards. A hospital while meeting a minimum standard should seek to achieve a desired or optimum standard. Minimum standards should be achievable by all, optimal standards on the other hand represent a degree of excellence. If good quality service involves 'conformity to specified requirements' we have to ask whose requirements and whose standards are to be met. Standards have to be developed and maintained. This is done based on collective judgments. This includes both the organisation and the management's standards, standards for clinical /professional practice. Governments have an important role of establishing standards for the delivery of health care services.

In 1984 a regional committee of the WHO adopted 38 targets for attainment of Health for all by the year 2000. Target 31 is specifically on quality, and reads "By 1990 all member states should have built effective mechanisms for ensuring quality of patient care within their health care systems". The target book included establishing methods and procedures for systematically monitoring the quality of care given to patients, by making assessment and regulation a permanent component of health professionals' regular activities, and by providing all health personnel with training in quality assurance. It also emphasised the need for clear country policies on quality assurance. Such policies should state which procedures were to be assessed, how the assessment should be organised, how health providers, politicians and consumers should co-ordinate their efforts, and what the practical consequence of quality assessment would be. Policies would have to be formulated to ensure the involvement and cooperation of provider groups, researchers, public health authorities and consumers. No member state claimed to have established a comprehensive

programme for quality assurance. Three countries had incorporated into law the requirement to include quality assurance (WHO,1990).

In recent times there is an increased interest not only in formulation of standards but also in the process of measurement of compliance with them. This is generally referred to as accreditation. Accreditation is a process wherein standards are set and compliance with them is measured. C. E. Lewis gives a useful working definition of accreditation as "professional and national recognition reserved for facilities that provide high quality health care". This means that the particular health care facility has voluntarily sought to be measured against high professional standards and is in substantial compliance with them (Lewis C. E,1984). In many countries accreditation systems are in place for the monitoring of standards in hospitals. The countries with the most firmly established accreditation system are the USA, Canada and Australia. In the US there were 3 clear phases in the evolution of the accreditation process : the era of minimal standards 1917-1965, the era of optimal achievable standards 1966-1987, and the era of performance evaluation and beyond from 1988 (Brooks T, 1990).

In developing countries the issue of quality assumes a different dimension, that of accessibility and availability of health services. In India access to services is very limited and until the present the government's attention was focused on expansion of services,namely of primary health center's and sub-center's for the rural population. This expansion was carried on without giving emphasis to the quality aspect. This resulted in the government primarily concerned with meeting targets of infrastructure and manpower. This is especially true of family planning services. Perceiving quality to be luxury in resource poor settings, international donors, national policy makers and local providers have directed their attention to expansion of services ignoring for the most part the nature of these services. Not surprisingly then researchers investigating the health sector in developing countries rarely focus explicitly on the assessment of existing services (Barbara M, 1990).

There have been very few studies of institutional based health care services and practitioners and even fewer on private providers of health care. The application of the concept of quality is relatively new to the field of health. In the overall scenario no significant impression has been made on the issue of quality with regard to the country's health care services. Nevertheless in a short period a number of studies have been undertaken on the aspect of quality.

Only recently there have been studies conducted on the aspect of quality.A search of the

studies conducted in India post-1985 using the key word 'quality' identified 30 studies. This was due to the fact that quality as a term has been used rather loosely to mean many things. The various studies on quality were baseline and evaluation studies, which looked at specific components of service delivery and programs. Majority of the studies restricted themselves to the family welfare program. These studies were too narrow and focused in their approach. The studies mainly dealt with the client perception of quality, utilisation, acceptance, role of demand and supply factors. These studies have shown several shortcomings in the programme operations. There were a few major studies which focused primarily on the aspect of quality. To mention a few, the Indian Council of Medical Research conducted a study evaluating the adequacy of facilities, human power and quality of family welfare services offered by 398 primary health centres, selected across 18 states and 1 union territory (Indian Council of Medical Research, 1991). Another comparative study undertaken by the operations Research Group in 3 states examined functioning of PHC/SC, its coverage, quality of service and main bottlenecks, perceptions of people about functioning of PHC/SC and reasons for not utilising it (Khan, M E & Tamang A K, 1987). Recently the international Institute of Population Sciences also conducted a study in 3 states on the quality of family welfare services. The study examined the perception of clients and providers on quality of family planning provided and the relationship between perception of quality and utilisation of services (Verma K R, Roy T K, Saxena P L, 1994).

There have been very few studies conducted on the private health sector in India. Two studies on knowledge and awareness among doctors regarding treatment of tuberculosis and leprosy were conducted in Bombay. It was found that for treating tuberculosis patients, 100 private doctors prescribed 80 different regimens, most of which were inappropriate and expensive (Uplekar M W, Shepard D S, 1991). In the study with regard to leprosy, it was found that there was a gross lack of knowledge and awareness among private doctors about leprosy and about the National Leprosy Control Programme (Uplekar M W, Cash R A, 1991). Another study examined the use of irrational medicines and injections by the doctors in the private health sector. Out of a total of 633 prescriptions analysed from 27 private clinics it was found that 28.9 percent were of irrational drug combination, 9.6 percent were for hazardous drugs, 45.7 percent were unnecessary drugs and 26.5 percent were unnecessary injections (Phadke A, et.al, 1995). Another study conducted by H. Vishwanathan and J.E Rhode on diarrhea brought out sharply that 62 percent of 'doctors' identified by local respondents had no formal medical qualifications (Vishwanathan H, Rhode J E, 1990). The presence of these 'doctors' is prominent especially in the remote rural areas of the country. A study conducted in Madhya Pradesh showed that of all those treated in a private facility, 52.24 percent of the illness episodes in rural areas were treated by licentiates/RMPs and in

contrast in urban areas 17.83 percent were treated by such practitioners (George, A et.al., 1993). Medico Friend Circle conducted a public survey to understand patient's experiences, views and perceptions of the private health care system. The findings bring out various aspects of the private practitioners functioning in terms of waiting period, treatment provided, reasonability of charges, among others (Medico Friend Circle, 1990).

With regard to hospital based studies with specific reference to quality, Mahapatra and Berman conducted 2 studies based on secondary data 108 of secondary level public hospitals in Andhra Pradesh. The first study looked at the utilisation and productivity, the second study dealt with the performance service-mix ratios (Mahapatra P, Berman P, 1990 and 1992). Nandraj conducted a study of 24 randomly selected private hospitals and nursing homes in Bombay city, it documents their poor condition and an absolute lack of concern for any minimum standards (Nandraj S, 1994).

Presently, as mentioned earlier, in India there are no standards or guidelines being enforced for the running of private hospitals and nursing homes. For the running of government hospitals there are basic requirements and guidelines laid down. Various government and non-government bodies have attempted and evolved standards for minimum requirements in hospitals and nursing homes. The various government bodies which have some standards for private hospitals are the Municipal Corporation of Bombay, Delhi Development Authority and Karnataka Government. The standards incorporated in the legislations do not cover various aspects of the hospital functioning and are very limited in scope of monitoring private hospitals. In most of the places these are not being implemented for various reasons. The Bureau of Indian Standards (BIS) have laid down standards for hospitals ranging from 30 to 250 beds. The standards which are laid down are applicable to both private and public sectors. National Institute of Health & Family Welfare (NIHFW) has laid down standards but largely for 50 and more than 50 bedded hospitals and that too only for equipment. Most of the standards laid down by BIS, NIHFW etc. are meant for relatively larger hospitals located in major urban areas. In Maharashtra the government hospitals have to follow the Hospital Administration Manual for the running of the hospitals. Andhra Pradesh Vaidya Vidhana Parishad had laid down standards for secondary level hospital in the government sector which comes under it. One of the objective of the present study was to document and review various guidelines available in the Government, NGO and Private Sectors for the minimum physical standards necessary for provision of health care of various kinds.

In the present study we selected two talukas of Satara district in Maharashtra, one

economically developed and one economically backwards, and in them a sample of general practitioners and nursing homes/hospitals to explore their existing status and how they fit into a framework of minimum standards for provision of health care. The framework of minimum standards for quality care have been evolved on the basis of existing information discussed as per the findings and its critique at a workshop organised by CEHAT to facilitate the placement of findings of the present study.

Study Design & Methodology

In developed countries quality as an issue has been in the forefront for management of various types of institutions. Various systems and methodologies have been developed to study different dimensions of quality. These were developed foremost in the industrial setting and much later in health care delivery systems. The same trend follows in India. Industrial units took up the issue of quality and began developing quality standards in their production, sales, operations, management systems, among others. The entry of multinationals, the opening of the Indian economy and the increased purchasing-power and consciousness of the middle class consumer have been some of the factors which have raised quality awareness. 'Quality is the new buzz word with International Standards Organisations (ISO) certifications being chased by an increasing number of organisations. As regards health care services as yet not significant impression has been made on the issue of quality in this country.

For the present study we had to evolve a study design and use different methodologies for collecting the required information. This was due to the limited amount of information and the secretive nature of functioning of the private health sector in the country. Studies on public health services are relatively easier to conduct since the data is available, though often its accuracy is questionable. The present study is exploratory in character and mainly an enquiry into the existing nature and physical infrastructure available with the practitioners and hospitals operating in the domain of private health care.

Objectives

To document and review various guidelines available in the government, NGO, private sectors for the minimum physical standards necessary for provision of reasonable quality of health care of various kinds.

To study the existing physical standards of health care in rural areas of a district at different levels of health care provision (GP, Consultant, Hospital, etc.) and

To compare the findings of the study with the guidelines for minimum physical standards at different level of health care delivery and to understand reasons adequacies and inadequacies in fulfilling such physical standards in the private sector.

Study Area & Sampling

Maharashtra is considered one of the more developed states in India. The average per capita income in the state was Rs.3,168 during 1982-83, to 1984-85, ranking second only to Punjab. Though majority of the population is engaged in agriculture, it is one of the industrially more developed states in the country. A word of caution about Maharashtra being a more developed state in India - if the Bombay-Thane-Pune belt is excluded the state income may even fall below the average income for the country as a whole. Thus the state is characterised by uneven development among its various regions. This pattern of development gets reflected within the districts (George A & Nandraj S, 1993). Using the Centre for Monitoring Indian Economy scores for districts we categorised them into developed, average, and underdeveloped. Shortlisting all the average districts and fitting other criteria like logistics, resources, short time frame, and the nature of the study we selected Satara district randomly from a final list of six districts.

The district of Satara reflects a trend like in many of the districts in the country where some of the regions are developed and some underdeveloped. There are around 4356 co-operative societies of all sorts in the district, a large number of them being connected and dependent on the sugar industry which is controlled by politicians. 16.13 percent of the irrigated land is used for sugar cane, oilseeds, and cotton cultivation. From among the 11 tehsils in Satara district, we selected Karad and Patan tehsil. Karad being a developed tehsil and Patan underdeveloped. This was on the basis of broad socio-economic indicators.

As this was an exploratory study we used a combination of methodologies. Firstly from the sources such as District Statistical Handbook, District gazetteer, Census Documents, offices of the District Health Officer (DHO) and the Block Development Officer, documents of the various Medical Councils and associations etc. We collected basic information on the district. There was paucity of information on private health facilities with the government bodies, including the DHO's office. No compilation of their number, size, care provided, facilities was available in the district. There was no information on the number of doctors practicing in the district. Registration of the hospitals in the district was not being done inspite of the fact that in Maharashtra under the Bombay Nursing Home Registration Act (BNHRA) of 1949 it is mandatory to register with the local body.

The team had to make use of various handbooks, and membership lists compiled by different local associations of doctors, chemists and medical representatives. These were available for the tehsil of Karad and Patan town. These were deficient in many respects

since some of them had only names of their members, some had restricted it to the system of practice, others had names of only those who had paid the subscription. There was inadequate information on the doctors practicing in the Indian Systems of medicine.

From the lists provided by the various local associations and the medical council list, cross checking was done on the lists and in addition key informants such as drug stores, senior doctors, government health officials etc.. were contacted for updating the list. After this exercise a final list was compiled of the practitioners and institutions existing in the two selected tehsils of the district. Care was taken to include practitioners from different systems of medicine and specialties. The names of those persons practicing without any qualifications were collected through informal discussion with key informants in the villages such as shopkeepers, PHC doctors, private qualified doctors, local voluntary organizations etc. Our attempt was to cover around 50 practitioners and 50 hospitals and nursing homes from both the tehsils. This was considered a fairly sufficient sample to understand their functioning and examine the physical standards.

The final sample consisted of 53 practitioners and 49 hospitals. In Patan tehsil which was an Economically Backward Area (**EBA**) 18 hospitals and 22 practitioners were covered under the sample. In Karad which was an Economically Developed Area (**EDA**) 31 practitioners and 31 hospitals and nursing homes were covered. The selected sample in the two tehsils was roughly proportionate to the number as found in our compilation.

The sample with regard to practitioners consisted of those qualified and also those not qualified from various systems of medicine, to whatever extent possible in the same proportion as in the population, and different regions in the tehsil. It was done in order to capture the variation size and spread across various socio-economic divisions within the tehsil.

The sample for both the tehsils was from the tehsil headquarters, the village where hospitals were located, one primary health center (PHC) village and its sub-centre (SC) village and a remote village in each tehsil. The team started first with the village and towns where hospitals were located and then covered adjacent villages. Care was taken to interview those doctors practicing in remote villages which had no public health facility. In the rural sample care was taken to select GP's from the PHC village, SC village and a remote village of the particular SC village. This gave us a diverse sample. An effort was also made to interview doctors during bazar day in the village bazar. (The term Hospitals & Nursing homes have been used synonymously and henceforth will be mentioned in the text as Hospitals)

The data collection was undertaken during the months of January, February and March 1995. As this was during the winter season the doctors were relatively free, since the morbidity load according to them is fairly low during this season. Many doctors informed us that they would not have entertained us during the rainy season since it was their "peak season". Assembly elections in Maharashtra were underway during the period of data collection but everything went off peacefully.

Contrary to our expectations the response of the doctors practicing and hospital owners was quite positive. Initially there was some apprehension, like some were under the impression we were from the Income Tax department, many of them were exposed to a research study for the first time and did not know how to react, few were openly hostile and did not give the information etc. but this was mainly in Karad taluka. The positive side was that many doctors, especially in smaller towns and villages, were very friendly and went out of their way to assist us in many ways. The persons who feared and were worried were those practicing without any qualification. They were very fearful of the study, inspite of our assurances about the identities being kept confidential. In one instance the respondent who did not have proper qualification informed his brother who was a sub-inspector in the Bombay police to make inquiries about us.

A one day workshop was held on "Minimum Physical Standards for Private Hospitals and Nursing Homes" in Bombay. The participants for the workshop consisted of researchers, government officials, doctors from the public and private hospitals from urban and rural areas. A consultant was appointed to evolve minimum standards for the hospitals taking into consideration various aspects of functioning. A background document titled "Proposed Minimum Standards for Private Hospital and Nursing Homes" : upto 30 bedded unit providing Medical/Surgical/Maternity care was prepared. The draft was discussed in the workshop. Various valuable suggestions and comments came forth in the workshop. These have been incorporated in the final document. **(The document is provided alongwith this report)** The document evolved was an independent exercise from the field based study. While efforts were made to collect substantial information from the field based study and compare it with the standards evolved, it was not possible to examine all the aspects of the standards due to the nature of the study. (eg. information was collected on the sources of supply of water and its storage but we did not collect information on the amount available per day.)

There were various problems faced by the researchers during the conduct of the study. The

most important problem was that of inadequacy of data on the size, functioning and nature of the private health sector. This was compounded by the fact that there were very few studies available on private health facilities and the few studies that were available dealt with only the urban setting. This becomes more frustrating when neither the government nor medical associations/councils have any kind of information on this sector. The second problem related to the size of the institutions which ranged from the 3 to 500 bedded hospitals. This made the task of categorising different aspects related to physical standards between two extremes difficult for analysis. It was very difficult to study such a wide variation in the present study. The third problem was in terms of defining the various units under study and their various functions. Practitioners in the district ranged from the road side quick fix operator to the super specialists. In between we had persons claiming to be doctors and practicing. Further there were those qualified in a formal system and those trained by tradition. A related problem was with reference to defining qualitative terms for the observation schedule. We have come to this conclusion that the observations are subjective since we did not standardize various definition such as clean, adequate, proper etc., nevertheless adequate proxy indicators.

Another problem was with the instruments and their number. We went into details of certain instruments such as scissors, scalpel sets, gauze, kidney trays. In some of the bigger hospitals they would laugh at us for asking such questions, since many of them were having it by the dozens but on the other had smaller setups would not have them in sufficient quantities. Another problem was that all the researchers involved in the data collection were from the social science background. It was difficult for the researchers to grasp especially when clinical terms were used and with the names of drugs, instruments and equipment. We feel that a study of this kind should have had on its field team a person with a medical background. Two other major limitations of the study was that it covered only aspects of physical standards (which included staffing) and that it was not possible to check records of the hospital in many cases.

Private Medical Practitioners : Nature & Status

Provision of routine medical care for a wide range of diseases and symptoms is mostly in the private sector. While government health centres exist across the length and breadth of the country they have failed to provide the masses with the basic health care which the latter expect. The scope of this document does not permit a detailed analysis as to why the government health care has failed. It will suffice to say that a fairly large investment by the public sector in health care is being wasted due to improper planning, financing and organisation of the health care delivery system - the national public sector health expenditure today is Rs.10,000 crores per year being spent on 4800 hospitals, 11,100 dispensaries, 23,000 PHC's, 1,40,000 subcentres and various preventive and promotive programs, including family planning. The State employs 1,25,000 doctors and also runs 108 medical colleges. But the services provided by the state do not meet the expectations of people and as a consequence the latter are forced to use private health care whatever be its quality and / or effectiveness.

Private medical practice flourishes almost everywhere. The range of providers are also varied, from the herbal and witch doctor to the modern unqualified or quasi qualified 'quack' and to the qualified practitioners of different systems of medicine, many of whom also indulge in quackery. There is no firm data available on the entire range of practitioners. Even the medical councils of the various systems of medicine have failed to maintain a complete register of active practitioners. The census is another source but the latest available census data for occupations is for 1981. Hence estimates from various studies or indirect extrapolations are the only methods for fixing a proximate size of medical practitioners.

Our estimate is based on indirect extrapolation using the assumption that all doctors (compiled from lists of the various medical councils) minus government doctors is equal to the private sector. Today there are about 11,25,000 practitioners registered with various system medical councils in the country and of these 1,25,000 are in government service (including those in administration, central health services, defence, railways, state insurance etc.) This leaves 10,00,000 doctors of various systems of medicine floating in the private sector and one can safely assume that at least 80 percent of them (8,00,000) are economically active and about 80 percent (640,000) of the latter are working as individual practitioners. Apart from this there are as many unqualified practitioners, as estimated by the UNICEF/SRI-IMRB study in Uttar Pradesh, and if we accept this estimate then the total medical practitioners active becomes about 13,00,000 i.e. one such practitioner for 750 population (Hema V and Rhode J,1994). Another study done in Ahmednagar district showed

that the district has 3060 active medical practitioners (FRCH, 1993). Ahmednagar being an economically average developed district, if we multiply this figure by 452 districts we get an approximate figure of 13.8 lakh practitioners for the country as a whole which is quite similar to the earlier estimate. The latest census figures were not available, and in Satara district we were unable to do a complete listing of medical practitioners because of the limited objectives of the present study and the constraint of time and resources. Apart from this no other information about the size of the health sector is available. *This problem of poor availability of information, especially about the private sector calls for intervention to make the various medical councils and the local bodies more accountable and to improve their recording and information systems.*

Unlike the estimate which was possible in the Ahmednagar study mentioned earlier the limited scope of the present study did not allow the time nor had the resources to throw our nets wider to collect information on the size of the private health sector. The objectives of the study are limited to the existing status and nature of the practice and how it conforms to accepted minimal standards or quality of care. In Satara district from the two sample units, one a developed taluka and another a backward taluka, 31 and 22 medical practitioners respectively were selected to explore the nature of general practice.

Profile of medical practitioners : The number of medical practitioners in the EDA is expected to be much larger than those in the EBA since medical practitioners tend to concentrate in developed markets and our sample reflects that. The same is true for the urban/rural distribution in the two areas though this may be close to the actual proportion **(Table 1)**. The EBA is almost wholly rural except for the taluka headquarters which we have classified as an urban area. The EDA has well developed urban centres and thus even has a private teaching hospital, making for a much larger concentration of medical practitioners in urban centres. Urban concentration of health care providers is a well known fact – 59 percent of the country's practitioners as per 1981 census (73 percent in case of allopathic) are located in cities, and especially metropolitan ones (Census - 1981). For instance, of all allopathic medical graduates in Maharashtra 60 percent are located in Bombay city which has only 11 percent of the state's population.

This selective concentration of health care providers then becomes a major concern to be addressed to, especially since the health care market is supply induced and when people fall ill they are wholly vulnerable and forced to succumb to the dictates of such a market. The consequence of this is that access to health care providers gets restricted to those living in urban and developed pockets and the vast majority of the rural and EBA populace have to

make do with quacks or travel to the EDAs for satisfying their health care needs. Infact, studies have shown that those living in EBAs spend about as much on health care as those in EDAs (Duggal,R, Amin, S.1989., George, A, et. al., 1993) and hence relocation can become economically viable for qualified private practitioners. *Thus the state and the local bodies must intervene to restrict the number of practitioners from setting up practice in EDA's. This calls for some locational policy which can establish a relative socio-geographic equity.*

The gender and age distribution shows a very high male concentration in both the areas and as one would expect a larger proportion of women doctors are located in the EDA. Macro data also show that the proportion of women doctors is abysmally low. For instance the 1981 census reveals that women constitute only 10.8 percent of all doctors (4 percent in rural areas). This overwhelming male dominance of the medical profession have had its adverse impact on health care of women, especially of care specific to women. Further the few women who become doctors also tend to locate themselves in the large urban centers.

As regards age distribution of the active doctors, the mean age of the sample is 37.75 years and 42 percent of them are below 35 years. The mean age of the EDA practitioner is higher and this is perhaps indicative of the push factor in EDAs as a consequence of over concentration which is forcing new practitioners to move gradually into EBAs (half of EBA practitioners are below 35 years) in larger numbers. *If this is happening, it is a welcome trend and a policy to encourage youngsters to move into underserved areas and conversely a policy to discourage new entrants into the profession from setting up shop in overserved areas would be helpful - the local governments have an important role to play here.*

When we launched on this study the first question which confronted us was how to determine who was a qualified practitioner. After much debate and consultation we decided to 'qualify' those practitioners who had obtained a degree or diploma from a recognised university or statutory board of allopathy, homeopathy, ayurvedic, unani and siddha. All others who did not fit the above definition have been regarded as unqualified and this includes the so called group of Registered Medical practitioners (RMPs). Unless of course the latter had an actual registration with a recognised board or council (some very old practitioners in Maharastra, for instance do have such a registration). Thus in our sample we have 'recognised' two categories, one called 'accredited degree or diploma' and the other called 'unqualified'. We would like to note here that by labeling this group as unqualified we are in no way commenting on their abilities and skills in providing care. Our perception being coloured by modern science we have only made categories to facilitate our analysis.

In our sample of practitioners we see that one-fourth of them are unqualified and the difference between the EDA and EBA on this count is very large. The EBA has unqualified practitioners nearly five times that of EDA. This reflects not only the fact that the unqualified are largely located in EBAs but also that EBAs have weak markets (low purchasing power) and probably no concern at all for regulation. The EDAs with large concentration of practitioners are also well developed markets and some unwritten regulatory mechanisms operate due to forces of demand and supply but as is well known these forces vis-a-vis the health sector are very weak because health care has always been a supply induced market.

Of all the qualified practitioners in the total sample 40 percent are allopaths, 53 percent from Indian systems and only 8 percent from Homoeopathy. Between the EDA and EBA again a vast difference as per the pattern discussed above prevails. Thus in the EDA of all qualified 54 percent are allopaths and 43 percent from Indian systems, and in the EBA conversely only 8 percent are allopaths (over six times less than EDA) and a whopping 75 percent from Indian systems.

Further, we see that those qualified in modern medicine tend to locate in EDAs and in our sample the EDA has six times more allopaths than the EBAs. The Indian system practitioners which is the largest group of practitioners in the country, as also in our sample, is more or less equally distributed in the EBA and EDA. The 1981 census also indicates a similar pattern - the allopaths in urban areas (EDA) are three times more than in the rural areas (EBA), and the Indian system doctors distribution is more or less similar, 55 percent in rural areas and 45 percent in urban areas (if we exclude govt. doctors from the census data then the similarity with our sample becomes very close) (Census - 1981 op.cit). The findings of the Ahmednagar study also support the findings in Satara district. In Ahmednagar 77 percent of allopaths were in EDAs and 23 percent in EBAs and for Indian systems the percentage distribution was 68 and 32, respectively (FRCH, 1993 op.cit.). And in our sample of all the allopaths 94 percent were in EDAs and of all Indian systems 43 percent were in EBAs.

The diversity and complexity discussed above becomes a serious concern in the context of the fact that an overwhelming majority of them, including unqualified are practising Allopathy. Thus, a major question which needs to be addressed is how do we view practitioners of different systems of medicine, how should they be distributed in the population and what type of care should each group be allowed to administer. *While recognising the advantages that each system may have, overall it is generally accepted that modern medicine deserves*

the priority it commands today hence it should become the basic system of medicine (until another system establishes its "superiority") and hence medical education must produce a single stream of basic doctors trained in modern medicine and those who wish to acquire knowledge and skills of other systems should have the necessary facilities to pursue those as electives or specialization's. We strongly feel that this is an important issue of concern for policy makers. If some steps in the direction suggested are not undertaken with due seriousness then the existing system hierarchies (with allopathy as dominant and homeopathy and ayurveda qualifications serving as a legitimacy to practice modern medicine or as an alternative to allopathy for the patient when the latter fails to cure) will continue and quality care or care with basic minimum standards will never be achieved.

Related to having an accredited qualification is the question of registration with the appropriate authority and renewing the registration periodically. Legally speaking registration gives the qualified practitioner the right to practice medicine and it is the duty of the concerned authority to assure the consumers of such health care that no practitioner without appropriate registration is treating patients. For instance the Maharashtra Medical Council registers all doctors qualified in allopathy and permits them to set up medical practice in the state. Similarly each state or region has such a council. The Indian systems and homoeopathy also have their respective councils and give registrations for practicing the relevant system of health care. The registrations given are not permanent and are usually for five years and it is the responsibility of every practitioner to renew their registration at the appropriate time failing which the council can prevent the practitioner from practicing. It is well known that the various medical councils have been lax and negligent and have not been performing their statutory duties. As a consequence of the latter the medical practitioners have also become lax and a large number of them are practicing today not only without proper registration but also without the requisite qualifications. All this then becomes a threat to the patient who is thrown at the mercy of 'doctors' who may not have the necessary skill and practice with his/her half baked knowledge. *Thus, even something for which there is a law and an authority to administer it, it is being neglected. It is the responsibility of the State to see that its own constituted authorities are carrying on with their responsibilities effectively.*

In our study sample we found that only 55 percent of the practitioners had the appropriate registration and even from among all the qualified practitioners only 73 percent were registered. Between the EDA and EBA the former had 61 percent of practitioners registered and the latter 45 percent and from those qualified the percentages for the two areas were 68 and 83, respectively. Ofcourse, as mentioned earlier the EBA has nearly five times more

unqualified practitioners than the EDA. *All this clearly demonstrates both the laxity of the concerned authorities and the unconcern of the medical profession for proper standards and quality care for treatment of patients. The health care administration needs to pull up its bootstraps on the one hand and the concerned medical professionals must take a lead to put their own house in order on the other hand.*

When people fall ill the first line of contact is usually the neighborhood general practitioner (GP) or some government facility like a dispensary or primary health centre or a hospital. That the GP is the most sought after health care provider has been confirmed now by a number of studies, and this ranges from 60 percent to 85 percent of all non-hospital care which patients seek (NSSO, 2987, Duggal, R., Amin, S. 1989, Kannan, K.P., et. al, 1991, NCAER,1992, George, A, et. al, 1993). But we have already seen above that many GPs are there in the market place, and more so in the EBAs where the majority of the population resides, who may be more a risk than help to patients seeking care. **(Table No. 2)** While modern medicine has simplified treatment of most illnesses and symptoms to a few drugs (even making many of us self-prescribers) its commercialisation has brought in more problems than the benefits it has created. The pharmaceutical industry and the medical equipment industry have both caused much harm to the character of the medical profession. Their marketing practices have lured a large majority of medical professionals (and not the unqualified quacks alone) to increasingly resort to unnecessary and irrational prescriptions of drugs, the overuse of diagnostic tests, especially the modern ones like CAT Scan, ultrasound , ECG etc.. and uncalled for references to specialists and super specialists (for all of which a well organised kickback system operates - the givers and beneficiaries calling it commission!). These issues, while they fall within the context of standards and quality of care, are extremely difficult to study and hence only anecdotal information is available. However through indirect methods some amount of information may be derived as was done in one study in Satara district on drug supply and use . This study lends credence to the anecdotal evidences we so far had about unnecessary and irrational drug prescription and use. This study concludes that there is a very high proportion of use of unnecessary, irrational, hazardous drugs and unnecessary injections especially in the private sector, to the extent that 69 percent of expenditure on prescriptions is a waste.(Phadke A, et.al. 1995) In the present study such an exercise has not been possible because we have focused largely on the supply side and not looked at usage.

In the preceding section we discussed the qualifications of the practitioners and even mentioned that the non-allopathic and unqualified are in reality largely practicing modern medicine even when they are not trained for it. This fact is clearly borne out amongst the

sample practitioners where we see that as many as 79 percent are practicing only allopathy as against 30 percent of the doctors in the sample who are qualified allopaths. If we add to this those practising allopathy alongwith their own system in which they are trained then the total of those actually practicing allopathy becomes 94 percent (**Table 3**). The trend in both the EDA and EBA is similar with the EBA having a slightly larger proportion of those who practice allopathy alone. In the context of the fact that it has only 5 percent qualified allopaths amongst its practitioners the difference assumes added significance.

When we cross -tabulate the actual practice data with the practitioner's actual qualification we see that almost all the allopaths practice only allopathy, only 14 percent of the ayurveds practice solely their own system, none of the homoeopaths are practicing their own system independent of allopathy and 77 percent of the unqualified are practicing purely allopathy. The patterns in the EDA and EBA are similar. We have used the data in **Table 3** to calculate a proxy cross practise rate which reveals that the qualified allopaths have an insignificant volume of cross practice as against the ISM and homoeopath practitioners. As suggested in the preceding section something needs to be done at the policy level about this cross practice and the large presence of unqualified practitioners. *Action has to begin from reorienting medical education to create a basic doctor in rational modern medicine and strengthening regulation and control of medical practice by getting the regulatory bodies to become active and committed to the cause of quality and standards of health care.*

The mean number of years of practice in the overall sample is 10.5 years. There is significant difference between the EDA and EBA with the former having practitioners with greater number of years of experience as compared to the latter. While the EBA has 68 percent practitioners with 10 or less years of practice the EDA has 64 percent of its practitioners who have worked for over 10 years. (**Table No.2**).

In the sample 60 percent of the practitioners are working in rented clinics. In the case of EBA practitioners 73 percent have rented clinics in comparison to 52 percent in EDA. Further, in both areas about 30 percent of the practitioners run clinic in more than one place. (For those having multiple clinics all data pertains to the clinic in which the practitioner was interviewed). One-third of the practitioners had indoor care facilities and in the EBA this facility was there in one-half of the clinics. This difference is understandable because the EBA is less likely to have nursing homes and hospitals and hence individual practitioners do maintain some provision for day -care (usually saline drips) or for observation of a serious patient. In the EDA this is not necessary because of easy access to hospitals and nursing homes. Of all those who have indoor facilities half of them have one bed and the other half

two or more beds. The EBA has more of the former and the EDA more of the latter. As regards laboratory services very few doctors in either area have them and they usually refer to the nearest one available. In the EDA a large majority of the doctors have their own telephone connection whereas in the EBA very few do. A large majority of the clinics are open 6 days of the week, however the EBA has many clinics open for all seven days of the week, and the average number of hours the clinic is open everyday is 10.11 hours with a large difference between the EDA (8.77 hours) and the EBA (12.09 hours) (infact two practitioners from the EBA stated that their clinic runs for 24 hours!). The differences due to location are as expected and reflects the nature of supply of services in the two areas, clearly establishing that the supply is related to potential of making profits. Thus, the EBA does not have laboratory services because a minimum volume of such cases perhaps does not exist or more properly cannot be induced in the EBA market whose purchasing capacities are much more limited to make such an investment in the EBA viable.

The number of cases or patients seeking care from practitioners has been recorded in a number of different ways so that it can give us some methodological insight. Thus, we first recorded the number of cases treated on the preceding day, then questioned about cases treated during last week and further during the last month new cases (incidence) and old cases continuing from the earlier month into the last month (the latter two together constituting the monthly caseload), and the number of cases treated per day during the monsoon months. Since case records are not maintained properly by most practitioners the figures most often are those reported by the practitioner him/herself. Therefore, recall plays its role. Our assesment is that the preceding days's figures and previous week's figures are the most accurate and the others are approximate. Wherever, possible monthly figures were checked against records available at the clinics and our judgment is that the monthly figures are quite accurate, though an underestimate. Ofcourse, the most appropriate would have been to sit through the entire work-day of the practitioner and record the actual attendance, but this has not been possible due to the limited time and resources at our disposal.

The data on workload shows that practitioners are seeing 20 patients per day, 125 patients per week and 400 cases per month. During the monsoon they estimate that their work load increases by 63 percent to a daily average load of 32.61 patients. The difference between the EDA and EBA is substantial. The EBA practitioner is treating on an average more patients than the EDA practitioner. The difference is 20 percent on a daily basis and 24 percent on a weekly basis. **(Table No. 2)** This is perhaps due to the fact that EDA has a greater concentration of practitioners as against the EBA. *This then allays the apprehension of doctors that patients are not available in the backward and rural areas. The EBAs and*

rural areas have as much a demand for health care as the EDAs and hence there is much sense in implementing a policy of locational restriction in overserved areas and locational encouragement in under served areas through, for instance, fiscal and tax related measures. Further, the question of lack of purchasing power, which is very valid, can also be overcome involving the qualified practitioners into a State sponsored universal health care system which assures them a clientele and income through a system of family practice. For latter to be successful a statute backed locational policy for setting up medical practice becomes essential. Along with this regulation, standards and quality care are necessary features.

Visits by Medical Representatives (MR's) to clinics and other health care establishments is an important feature of the health sector economy. MRs from pharmaceutical companies are the lifeline of the drug industry on the one hand and a source of information or misinformation for the practitioners on the other hand. The network of MRs is so well entrenched that even in the EBA as many as 73 percent of practitioners are visited by them. As is expected the EDA based practitioners are subjected to more frequent contacts by the MRs because of the medical market and especially the drug market being concentrated in urban and developed areas. *With irrational and unnecessary drug prescriptions being very high, and the role of the pharmaceutical industry in perpetuating this, it calls for policy intervention in regulating MR practices on one hand and creating a mechanism for rational continuing medical education for medical practitioners on the other hand.*

Another disturbing feature of medical practice is the lack of maintaining case records by the practitioners. Only 38 percent of the practitioners had some semblance of a record but even these were not case records in the true sense. The records were usually just what medicines they administered and the charges to be paid by the patient, and it was mostly the latter so that they could keep track of which patient owed them what - most of these were maintained in diaries or notebooks. *This is again an important area of policy concern and practitioners must be legally made liable for maintaining a proper record of a patients diagnosis, treatment given, prescriptions, charges, levied etc., Proper records are a must both from the perspective of the patient as a right to information as well as for the doctor's own protection to evaluate his/her interventions especially when there are charges of negligence and malpractice against him/her.*

While carrying out the field study the investigators were provided with an observation checklist to record qualitative aspects of the clinic. The listings in **Table No. 4** gives the percentage of clinics which 'scored' positive on the feature observed. For instance noise level refers to clinics which were not noisy or condition of floor refers to clean and well kept

and type of floor means tiled or display of registrations means 'Yes' or pharmacy means it exists as a separate entity etc.. The findings are self-explanatory and show that overall conditions are not very conducive and that the EDA clinics are a little better of in some of the features. *To improve these general conditions the role of a regulatory authority becomes manifest. There is a urgent need to have provisions as to where, how , what, features etc., a clinic must have in the interest of good medical practice and that of the patients.*

Like the observation checklist we had a checklist for equipment and instruments. This list was developed in consultation with a number of medical practitioners in Bombay. While this list may not be complete it may also have some items which sound frivolous to ask and enlist. Nevertheless, this list may be assumed to be a proxy minimum requirement that any GP clinic must meet. The results are evident in **Table No 5**. Again one sees that certain crucial requirements are lacking and the difference between the EDA and EBA in some cases is sharp. Overall the existing situation is quite bad - things like sterilisers, thermometers, examination table, weighing machine, bed sheets, towels and napkins, wash basin etc.. are grossly lacking. *Again a need to formulate a minimum list of equipment which a general practice clinic must have in the interest of good medical practice becomes necessary. Clinics without the agreed upon basic minimum must not be granted permission be set up.*

Private Hospitals : Profile & Status

Care in institutions like hospitals could be for the purposes of examination, diagnosis of diseases, curing, surgical interventions, recuperating, maternity and related purposes, among others. One can broadly classify these institutions on the basis of their (i) bed strength, (ii) location, (iii) ownership (iv) services and facilities provided. Institutions range from those having five beds or less owned by individuals to corporate hospitals having more than 500 beds which are set up by corporate bodies as business ventures. In addition to these there are companies who have their hospitals to provide medical care to their employees. Lastly there are hospitals which are run by NGOs and private charitable trusts.

There is gross under-estimation of data available and the quality of data available from official sources is unreliable. There are reasons to believe that the number of hospitals in the private sector is much larger than what the available data suggests. Health Information of India 1992, claims that there were only 1,319 private and voluntary hospitals in Maharashtra and the Directory of Hospitals brought out by the Ministry of Health listed 1,174 hospitals in Maharashtra (CBHI, 1992). But the Bombay Municipal Corporation listed 907 private hospitals in Bombay city alone (excluding Thane), on the basis of its registration data which again is an underestimate. Another instance of under reporting of data is brought out by a survey undertaken by Andhra Pradesh Vaidya Vidhana Parishad, which found the existence of 2,802 private hospitals and 42,192 private hospital beds in Andhra Pradesh in 1993 (Mahapatra P, 1993). According to data available with GOI as on January 1 1991, however Andhra Pradesh had only 266 private and voluntary hospitals and 11,103 private hospital beds (CBHI, 1992, op. cit). There is a very little information available at the district level of the total number of health establishments. The data available is of the same quality as available at the state and national level. The Directory of Hospital, 1988 lists only 47 hospitals and 1728 beds in Ahmednagar district (CBHI, 1988). A listing of hospitals in the district in 1992 found that there were 274 institutions having indoor facilities. Out of them 18 were government run, 224 from the private sector and 12 from the voluntary sector (FRCH, 1993). Primary Health Center's were not included in the listing. Data for hospitals from official sources is very scanty and unreliable. Many states do not file the required information and the data that is provided is incomplete. Due to inadequate and unreliable nature of data, planning for the health system becomes difficult and faulty.

There were 49 hospitals involved in the study sample. From the EDA 31 hospitals were selected and 18 hospitals from the EBA. As expected nearly three fourths of the institutions were located in the urban areas, which consisted of the two tehsil head quarters and one

other town. Majority of them were from the EDA area, namely Karad. This was due to the fact that geographically the town of Karad is well connected with other surrounding districts and tehsils, located on the national highway and boasts of a private teaching hospital. In the EBA more than fifty percent of the hospitals were located in Patan town (**Table No. 6**). The findings reveal that majority of private hospitals are located in urban areas of the developed taluka. This is reinforced by other studies which looked at the location of private hospitals. A listing of institutions in Ahmednagar found that out of the 274 institutions 201 were located in urban areas and 71 were in rural areas of the district (FRCH, 1993). Another study conducted in Andhra Pradesh found that the highest concentration of hospitals and nursing homes were in the towns and cities of the advanced districts. Even in the backward districts they were restricted to major towns. The private sector functions in areas where there is a paying capacity. The growth of the private sector in healthcare is directly related to the level of economic development. This link is logical because it is the economically developed areas which not only provide the market for these services but also the surplus to invest in commercial enterprises (Baru R, 1993).

The majority of the hospitals were established during the eighties and later were in the urban areas of the developed district. Between 1968 and 1978 only 12 percent hospitals were established, between 1980 and 1990 45 percent hospitals were established and 43 percent hospitals between 1991 and 1995. More than eighty percent of the hospitals in the sample were established in the eighties and nineties period. During this period the private sector increased its presence and this growth took place at a rapid pace. In the Ahmednagar study too it was found that out of 75 hospitals in the sample 51 percent were established between 1983 and 1991. (FRCH, 1993) The growth of private hospitals can be noticed at the National level also in India. In 1974, 16 percent of the hospitals and 21 percent of hospital beds were in the private sector and rest were in the public sector. This proportion increased in 1992 to 57 percent of the hospitals and 32 percent hospital beds in the private sector. (CBHI, various years). This clearly bears out that the private sector increased its presence and became more dominant in the last two decades in the hospital sector..

The findings with regard to the type of management revealed that 92 percent of them were individual proprietorship, 6 percent were run on partnership basis and one hospital was a cooperative. All the partnership run hospitals were in the EDA. Three fourths of the hospitals in the sample were operating from premises which was owned by themselves. The doctor was the administrator/sole incharge of the institution for all the hospitals in the sample. The Ahmednagar study found that out of 75 hospitals 93 percent of them were individual proprietorship and 4 percent were run on partnership basis. With regard to ownership of

premises 81percent of the premises were owned by the doctor running it and in only 19 percent it was on a rental basis. (FRCH, 1993). The findings on the type of management and ownership of premises clearly brings out the fact that many of the medical practitioners progress towards building their own hospitals. The phenomena of individual proprietorship of the hospitals by the doctors has been due to the increasing number of doctors passing out from the medical colleges and the fast returns of the investment in the health field. There is an increasing tendency to start self-owned hospitals.

More than ninety percent of the doctors running the hospitals were males. There were only four female doctors in the sample running the hospitals independently. In most of the cases the team found that it was the husband and wife team running the hospital. The phenomena of husband and wife running the hospital is quite unique. Discussions with the medical fraternity and a glance at the matrimonial advertisements reinforce the fact that in the medical profession spouses look out for partners with a hospital in mind, therefore the specialization of the spouse becomes an important factor. This requires a more detailed sociological study.

Further examination revealed that in 86 percent of the hospitals patients were admitted only by the doctor-owner and only in 14 percent of the hospitals other doctors could admit their patients. This was more so in the EDA, whereas in the EBA all of them were admitting only their own patients. The findings on the type of management, ownership of the premises and admission of patient clearly brings out the fact that many of the medical practitioners progress towards building their own hospitals.

With regard to the qualification of doctor/owner it was found that 71percent of them were qualified in the Allopathy system of medicine. Out of them 10 were specialists, with MD or MS and 5 were MBBS with some diploma. Out of the 10 specialists 9 were located in the EDA of the district. This shows that the doctors with specialisation prefer to set up hospitals in the developed area. There were 16 percent and 10 percent of the doctors who were trained in ayurvedic and homoeopathy systems of medicine respectively. Those qualified in other systems of medicines were located in the EBA of the district **(Table No 6)**. *All the hospitals owned by doctors from other systems in the sample were also providing care in the allopathy system. This is of serious concern as these doctors qualified in homoeopathy and Indian systems of medicine are not trained in the allopathy system. This has taken place since there are no monitoring mechanisms or a regulatory authority operating in the country.*

None of the hospitals were being registered by local authorities or any authority for that

matter. In Maharashtra hospitals are legally required to register with the local governing authority under the Bombay Nursing Home Registration Act (1949). The Act is applicable to the whole of Maharashtra, however it is not being implemented. Many of the local bodies did not have enough information about the Act and the bye-laws were yet to be formulated in some. Except for Delhi, Bombay and Karnataka none of the states have any rules, laws, regulations or even data for private hospitals and nursing homes. In Delhi there is the Delhi Nursing Home Registration Act (DNHRA), 1953. In the above states the various acts are not being implemented for various reasons. In most of the states in India there are no regulations for private hospitals and nursing homes. *Despite having one of the largest private health sector in the world, providing 70 percent care in India, the fact that it should function practically unregulated is a matter of grave concern.*

The average number of beds was 11 beds per hospital in the study sample. In the EDA the average was 12 beds as compared to 8 beds in the EBA. More than fifty percent of the hospitals had a bed strength in the range of 6 to 15 beds. Nearly a quarter of the hospitals in the sample had a bed strength between 3 to 5 beds, most of them being located in the EBA. It was generally found that the majority of the hospitals located in the EBA had a bed strength of less than 15 beds. In the studies conducted in Bombay and Ahmednagar it was found that the average bed size of a private hospital was 10. (FRCH 1993, Nandraj S 1994). This raises issues of efficiency and effectiveness of running smaller hospitals. *There are not enough studies undertaken on these aspects and there is a need to look at the optimum size of hospitals.*

All the hospitals in the study had an out patient department (OPD). This was either a new case, consultancy or for follow-up of the indoor treatment provided earlier. The average number of OPD cases attended was collected for the previous day, last week and last month. On an average a hospital was attending to 40.14 OPD cases per day and 185.58 cases in a week. The OPD attendance was higher in the EDA by about 25 percent. Data collected for the month could not be compared with actual records and hence there were substantial problems in reporting by the respondents because of the long recall period and hence the data is not usable. The higher attendance of OPD cases in the EDA is because people prefer to come to the developed/urban area in case of major ailments as specialists are available mostly in the EDA and also due to referrals by practitioners and institutions from the rural areas. **(Table No. 7)**

Admissions for indoor patients on an average in a hospital for last week worked out to 11.68 and for the last month 42.20 patients. The average length of stay of patients in the hospitals

was 13.32 days for patients under care during the month. The number of days stay was higher in the EDA, about 16.38 days as compared to 6.90 days in EBA. This could be because the investment in the EDA for setting up a hospital is higher and therefore to maximise returns the hospitals would be keeping the patient for longer period of time. This could also be that for major ailments, illnesses, surgeries etc. people prefer to go to hospitals located in the urban centers in the developed areas which have specialists and other supportive structures such as blood bank, laboratories and diagnostic facilities. The other reasons are that many patients come from the periphery to the developed areas for treatment. The average occupancy rate for the month was on an average 51 percent of the beds available in the sample hospitals.

There are diverse categories of personnel who run the hospitals. They could be broadly classified as those with qualification and those without any formal qualification. The personnel could be further classified based on the role they perform. There are doctors, nurses, paramedics, pharmacist, various type of technicians to handle the equipment and conduct various tests and the other supportive staff like wardboys, ayahs, receptionist, typist, security, personnel, etc. The availability of human power in the hospitals is of prime importance. Data regarding the staffing pattern was collected with regard to the various categories of personnel employed, their number and their qualification. Data on visiting consultants was also collected. The full time staff generally consisted of medical and paramedical workers. They were doctors, nurses, technicians, wardboys/ayahbais, receptionist and others. These are staff mainly running the hospitals and those who are employed in the institutions.

Information on the place of residence of the doctors was collected. It was found that out of 49 hospitals 38 of the owner doctors were residing in the same premises and of those not residing in the same premises nine of them were staying at a walking distance of 5 to 10 minutes from the hospital (**Table No. 8**). One doctor was staying in another town and she mentioned that when there was an emergency she stayed in the hospital. There were a total of 69 full-time doctors in the hospitals of the sample, 46 were qualified in modern medicine and 23 were from other systems of medicine and more than 60 percent of being in the EDA. Out of a total of 23 doctors trained in other systems 57 percent were in the EBA.

Out of a total of 49 hospitals 39 percent of them were being run by the doctor-owner without any assistance from other doctors or visiting consultants and of this only half had any specialist qualifications and one fourth of them (all from the EBA) did not have a qualification in modern medicine. An issue of grave concern is that as many as 29 percent of the

hospitals were run by doctors trained/qualified in the other systems of medicine and were providing care using allopathic cures. The BNHRA (1949) clearly mentioned that the hospital should be under the management of a qualified medical practitioner or a qualified nurse. It was generally found that MBBS doctors prefer to practice with the aid of either a full-time doctor or a visiting consultant. In contrast in Bombay it was found that out of 24 hospitals and nursing homes only one hospital had employed a post graduate doctor, whereas 10 of them had doctors trained in other systems. Few hospitals had provision for the doctors to be present round the clock. Majority of the nursing homes utilised the services of visiting consultants. (Nandraj S, 1994)

The majority of the consultants were anaesthetists, followed by surgeons and those trained in general medicine. The services of the visiting consultants were mainly utilised by the those performing surgeries. In the EBA the visiting consultants would visit the hospital on a particular date. Usually the planned operations were performed on that day. Most of the hospitals that utilised visiting consultants were located in the EDA. In some of the hospitals the consultants were called when required and in some they were visiting on a regular basis.

Qualified nurses are in short supply. There were only 3 qualified nurses in the entire sample. Most of them were employing unqualified nurses (**Table No. 12**). They were usually women with some formal education trained by the doctors themselves. Many doctors claimed that the nurses trained by them were also assisting them in the OT. Informal discussions with them also revealed that they were performing other tasks in the hospitals such as sweeping, dispensing of drugs, etc. Their hours of work were very long and working conditions miserable, with poor remuneration. The BNHRA (1949) states that a maternity home should have on their staff a qualified mid-wife. In the study in Bombay it was found that with regard to qualified nurses only 7 had employed them and that too only 1 nurse each. Most of them had employed unqualified nurses who were either trained by the doctor or had received training for about 3 to 6 months from various private training institutes which have also sprung up to meet the needs of private hospitals. (Nandraj S, 1997).

Other staff that were present in the hospitals were technicians, ward attendants, sweepers and a category of personnel who performed all the jobs (OT assistant, pharmacists, technician, ward attendant, sweeper, receptionists, etc.) in the hospital. *Thus generally we see that employment of qualified staff is an issue of serious concern in private hospitals. It was generally found that the availability of staff was not adequate and many of those employed were not properly qualified. Many hospitals functioned with doctors trained in other systems of medicine who administer allopathy treatment in the hospitals. This is a very*

serious matter and needs immediate attention of concerned authorities.

There have been very few studies conducted on the services and facilities provided by private hospitals. Data and information with regard to the functioning of the private sector is not forthcoming. Figures regarding cases treated, diagnosis, type of treatment provided, amount charged, etc. are not easily obtainable from private hospitals.

Hospitals providing care could be of a general nature providing basic care or interventions or may be restricted to certain specialties. They could be classified as Medical, Surgical, Obstetrics and Gynecological, Pediatric, Orthopedic, Ophthalmic, etc. or a combination of them. The services could include Maternity, Medical Termination of Pregnancy (MTP), Baby care, Intensive Care Services (ICU), Surgery, Day care and other types of services. The responses with regard to the services provided by the hospitals for indoor admissions were of an open ended nature under the broad categories of Medical, Surgical and OB/Gynecology (Maternity). This gave a broad spectrum of type of cases admitted in the hospitals. Some of the hospitals were providing care in certain specialties such as orthopaedics. **(Table 9 & 10)** OB/Gyn were the single largest service provide in the sample hospitals with 55 percent of hospitals providing the service. It was provided exclusively by 14 percent of the hospitals. The main services consisted of care for Normal delivery, Cesarean, Hysterectomy, Abortion, MTP, DNC, Infertility, STD, etc.

The major services being provided was medical care. The cases treated were mostly for illness such as Tuberculosis, Malaria, Gastroenteritis, Typhoid, Diarrhea, Dysentery, Jaundice, Asthma and various kinds of fevers such as Rheumatic fever, enteric fever, etc. Medical services were being provided exclusively in 20 percent of the hospitals. In 18 percent and 8 percent it was being provided along with OB/Gynecology and surgical services respectively. Hospitals providing exclusive Surgical services were 16 percent in the sample, all of them located in the EDA.

Findings in the Context of Minimum Standards Evolved

The findings of the field based study have been compared to the standards developed for private hospitals and nursing homes having a bed strength of upto 30 beds. As mentioned earlier in the review of literature private hospitals in the country function without any regulation or adhering to any standards. Standards are not prescribed nor are being enforced either through legislation, bye-laws or professional organisations /associations.

One of the major objectives of the study was to evolve standards for the smaller private hospitals functioning in small towns and rural areas. A medical doctor, well acquainted with hospital administration was consulted to evolve standards for private hospitals having a bed strength upto 30 beds. A document on the physical standards for private hospital was prepared. This was based on existing material, visits to private hospitals, discussion with owners of hospitals and other doctors. These standards covered minimum requirements for running a hospital in terms of services offered, space, humanpower, facilities available with regard to equipment and instruments. They were evolved keeping in mind both the scientific principle as well as patients' minimum comfort.

For the smooth functioning of the hospital certain basic requirements are needed. The environment & infrastructure related factors are mainly those connected with the physical structures of the unit, its location, size, condition, etc. It also includes communication facilities such as phone, ambulance for the transport of patients, continuous power and water supply, etc. The facility related factors are operation theatre, labour room, sterilisation room, equipment and instruments. In this section the findings have been presented under the following broad heads : Functional programme, human power, facilities and space and equipment and instruments.

Functional program

As per the physical standards for hospitals evolved certain basic facilities need to be provided by the hospitals irrespective of the services being provided.

Emergency Care : The standards clearly mention that every hospital should be in a position to provide first aid to stabilise a victim's condition for transportation to a higher or appropriate service in case of emergency. The hospitals should provide emergency services for cases such as road, minor, domestic accidents and those involving medico legal victims.

In the field based study we found that private hospitals were unwilling to treat emergency cases and those involving accident cases. Only 2 percent of the hospitals were treating emergency cases. In 14 percent hospitals preliminary treatment was given and the cases were referred elsewhere. In 33 percent hospitals the cases were not admitted at all but referred directly (**Table No. 11**). In the EBA majority of the hospitals do not admit the patients. With regard to accident cases majority of them treat only accidents which are of a minor nature. They do not admit cases involving road and domestic accidents. The doctors like to play it safe and not get involved in medico legal cases. This is in clear violation of the ethics of the doctors and amounts to negligence on the part of the doctor. They do not want to even provide first aid and refer the patient to a bigger institution. Most of them complain that it is because of the various formalities and procedures involved.

Pathology : There should be provisions in hospitals or in a nearby location for minimum pathological tests to be performed on site or at a nearby facility. Of all hospitals only 18 percent had facilities for pathological examination (**Table No. 11**). These were mainly located in the EDA and they did routine tests such as blood, urine and stools. Most of the hospitals were referring the patients to private laboratories in the same village or town. In another district we found that persons from the laboratory would come and collect the samples from the hospital and bring back the results. This practice was not found in Satara district.(FRCH 1993). Hospitals located in the rural areas of EBA were referring them to laboratories located in another village or town.

During data collection we found that many of the pathology laboratories functioning in small towns or bigger villages had unqualified persons to conduct the tests. Many of them conducting the tests were not qualified to carry out the tests recommended. In rural areas it would be quite appropriate for the hospital to have facilities for conducting certain basic tests, otherwise proper treatment in such cases could be delayed and it would also save the patient unnecessary transport to an urban areas. The referrals for examination mainly for diagnostic tests has an unhealthy nexus. There is a cut system operating. In Bombay, Pune, Nasik the laboratory/diagnostic centre gives a cut of the charges to the doctor referring the patient. We were not able to collect information on this aspect in our study as the data was not forthcoming. In Karad informal discussions with the doctors revealed that Sonography was being conducted rampantly. At one end in rural areas there are no facilities to conduct simple tests in the hospitals and at the other end we find unnecessary investigations and examinations being conducted more out of commercial concerns.

Blood Bank : Blood transfusion facilities should be available within half an hour to one hour

for hospitals providing Maternity and Surgical services. None of the hospitals had facilities of a blood bank. Blood banks were located in Karad and Satara town of the district. In Karad it was available in the private teaching hospital and the cottage hospital run by the Zilla Parishad. Majority of the hospitals informed the patient to make their own arrangement in procuring blood for either surgery or transfusion. This is a major problem which the patients face as in case of a planned surgery or transfusion the patient has to run around to procure blood. In case of emergency the problem is worse especially in rural areas.

Power supply : For the running of a hospital the availability of power is of utmost importance as it could mean life or death for a patient. In case of non availability of continuous power supply a generator should be available. It was found that only in a quarter of the hospitals power was available without any interruption. Only 24 percent of the hospitals in the sample had the facility of a generator (**Table No. 11**). The non availability of continuous power supply to the hospital is of concern as in certain situations. The patient is put to a grave risk if power fails.

Water : Arrangement should be made to supply a minimum of 350 litres of potable water per day, per bed to meet all requirements (including laundry) except fire fighting. Majority of the hospitals were getting water which was supplied by the municipal / grampanchayat authority and were having storage facility either underground or in an overhead tank.

Communication : An efficient communication system for contact with the outside and within the hospital is necessary. Three fourths of all hospitals had facilities of a telephone but in the EBA only 50 percent of them did so (**Table No. 11**). A quarter of the hospitals in the sample were depending on a care-off number which was either in a nearby shop or situated close to the hospital. Hospitals which did not have the facility of a telephone were mainly located in rural areas of the EBA. The non availability of a telephone for the functioning of hospitals is of serious concern as in case of an emergency the communication between the doctor and the supportive services and with patients is not present.

None of the hospitals had an ambulance available. Many of the doctors expressed surprise at this question as it was assumed by them that transportation of the patients was the patient's own responsibility. It should be the responsibility of the hospital to provide proper transportation facilities to the patients especially when they are referred by the hospitals. In the EBA most of the patients were transported in a jeep for those who could afford. It became more difficult for patients from rural areas and in case of emergencies. In the EDA, private ambulances were available. It is possible for some of the smaller hospitals to come

together and have one ambulance which could be used by all of them. This would be more beneficial in the rural areas due to the transportation facilities being poor. Communication and transport facilities should be a prerequisite for the functioning of a hospital as the time for providing any intervention is often crucial.

Fire fighting : Efficient fire fighting systems should be installed in every hospital. Fire fighting equipment was available only in 22 percent of the hospitals, all of them were located in the EDA.

Humanpower

As seen earlier the availability of staff for the running of hospitals was grossly inadequate and of those available majority of them were not qualified. Here we examine the availability of humanpower especially doctors and nurses in relation to the standards laid down.

Doctors : The standards laid down specified that there should be one Duty Medical Officer available for every 20 indoor beds or part thereof in every eight hour shift. In hospitals where the qualified owner doctor is resident the requirement could be scaled down.

As noted earlier 39 percent hospitals were functioning without either a full-time doctor or a visiting consultant for the care of the patients. Assuming that the owner-doctor is resident it is not possible for him/her to work for 24 hours. The situation could become dangerous when the doctor goes out of the hospital even for a short while. A qualified doctor is a must for proper care to be provided to the patient. Out of the 19 hospitals which were run by the doctor-owner alone, 29 percent of the hospitals were being run by doctors trained in other systems and in 10 percent they were operating alone. Out of a total of 14 hospitals who had a docto-owner qualified in other systems of medicine, 2 of them were providing services in OB/Gyn and medical services, 3 hospitals in medical care and it was surprising to note that 1 of the doctors was providing care in surgical services. The practice of doctors trained in other systems of medicine providing care in allopathy system of medicine needs to be banned.

Such a situation has arisen because there are no regulations for the functioning of private hospitals in the country. Anybody can open a hospital and start practicing and providing care even if they are not qualified to do so. With regard to the doctors who were only had a MBBS degree it was found that 3 of them were providing care for all types of services and 2 were

providing even OB/Gyn. Out of the 24 specialists 6 of them were providing care in Medical services, 4 for all types of care and 3 each for only OB/Gyn and OB/Gyn along with medical care. There were 46 qualified allopaths totally available on a full time basis who were either employed or running the hospitals themselves. If we exclude the owner-doctors of the 19 hospitals functioning without any full-time doctor we find that only 27 doctors were available on full time basis for the rest of the 30 hospitals. This practically means that full time doctors were not available on shift basis (**Table No. 12 & 13**).

This clearly brings out the fact that the hospitals are not willing to employ full-time qualified doctors to run them. The hospitals were being run on a purely individual basis by the doctors with some additional help from other persons trained by them. This has come about due to the fact that there is no accountability and monitoring system. It is also because the practice of medicine has become commercialised with fast returns by not employing qualified staff.

Nurses : The standards specify that there should be one nurse available for every 7 beds for every eight hour shift. For hospitals offering maternity facilities and emergency surgical facilities two more operation theatre nurses are required on shifts. In the study the availability of qualified nurses was found to be grossly inadequate. Only two hospitals had three qualified nurses between them. There were 14 hospitals who did not have either qualified or unqualified nurses. Comparing them with the recommendations of nurses to be available in shifts, even taking into consideration unqualified ones the availability was only two nurses per hospital (**Table No. 12**).

Facilities and Space

A hospital should have certain basic facilities in terms of various zones for the provision of treatment. These are the waiting room, dispensary/pharmacy counter, toilets, bathrooms, consulting room, wards among others. Those providing surgical and maternity services should have an operation theatre, labour room, sterilisation room, changing room, etc.

Location & Premise : In the study it was found that 82 percent of the hospitals were located near the marketplace and 66 percent of them were functioning from an independent building. The noise level in 55 percent of the them was disturbing (**Table No. 14**). The location and the premise of the hospitals play a very vital role in the recuperation of the patient. The location of the hospital near a marketplace is due to the fact that the hospitals would like to attract patients and be known. Hospitals were located in a residential complex pose a

number of problems for the residents living in the locality. For instance the garbage would be dumped in the common dumping ground, which could lead to spread of infections. Also the residential premises are not suitable for hospitals as the purpose for a dwelling place is much different from that providing indoor care, with its wards, OT, etc. The study in Bombay found that 63 percent of the private hospitals were located in residential premise, and 13 percent were run from sheds which had roofs of asbestos, tin, etc. and only 8 percent had an independent building of their own. The study found that 50 percent of the hospitals were located in poorly maintained buildings or were in a dilapidated condition. (Nandraj S. 1994) In Bombay the Development rules clearly state that hospital should have a separate entrance as it would not disturb other residents of the building.

Pharmacy/dispensary : Usually in private hospitals it is generally found that in the waiting room premises a place is there for the dispensing of the drugs. In 27 percent of the hospitals there was a place for a dispensary but the space provided was inadequate for all the hospitals.

Waiting Room : The waiting and consultancy room are the first entry points of a patient visiting the hospital. Certain basic facilities need to be provided for the comfort of a patient during his/her waiting. The environment of the waiting room should be such that it is pleasing and not congested. Various types of information need to be provided - the doctor's qualification, registration in the council and schedule of fees should be displayed in the waiting room prominently. There should be a proper system of entry to the doctors chambers. Enough space should be provided for the patients and their relatives to sit in the waiting room. The environment of the waiting room was reasonable in 82 percent of the hospitals.

Consultancy room : Majority of the hospitals in the sample had facilities of a consulting room. Only in 28 percent of the hospitals the space was found to be adequate. The consulting room needs to have certain basic equipment and instruments, fixtures for diagnosis of the patient's illness or complaints. It was found that 92 percent of those who had a consulting room an examination table was present and of those 71 percent of them had a bedding on the examination table. Further it was revealed that 47 percent of the consulting rooms did not have a stool and only 8 percent had a revolving stool. The privacy of the patient is of utmost importance, especially for women. There was neither a screen, curtain or a separate room for examination of patients in 65 percent of the hospitals. The privacy of the patient was not given adequate importance. It is imperative that there is a wash basin and with sufficient water as the doctors examine different types of patients. A wash basin with tap was

available in 59 percent of the hospitals and out of these in 49 percent there was no water available in the wash basin. **(Table No. 15)**

Wards : The major standards recommended were that wards should be separate for male and female patients, infectious and non infectious diseases. There should be a minimum of 70 sq. feet space per bed with a minimum distance of 2.2 sq. ft between centres of two beds **(Table No. 16)**. The findings with regard to the wards pertain to the general ward. This was done since the observation of a special room would provide a different picture altogether. It was generally found that the walls in the ward were bad, there was sufficient light, ventilation was not proper, distance between beds not sufficient, width of the door less than three 3 ft, three fourths did not have a screen and of those having a screen it being dirty in nearly most of the hospitals. Surprisingly in 71 percent the bed pans were not available.

Beds : The condition of the beds were observed. It was found that in only 6 percent of the hospitals the space per bed was adequate. It was generally noticed that private hospitals as far as possible try to make the maximum utilisation of the space available. This is done usually at the cost of patient comfort. The space between beds is kept as little as possible so that more number of beds could be put. In 57 percent of the hospitals the distance between two beds was less than 3 feet. This has other consequences such as the spread of various infectious diseases within the hospital. In more than 50 percent of the hospitals the bedsheets and pillows were found to be dirty. **(Table No. 17)**

Operation Theatre (OT) / Labour Room : Hospitals providing surgical services should have a facility of an operation theatre. The standards evolved do not differentiate between a minor and major OT. Out of 49 hospitals 36 were having facilities of an OT. There were totally 23 hospitals providing care in surgical services either exclusively or in addition with OB/Gyn and medical services. All of them had OT facilities except one hospital which was providing services for surgical and medical care.

There were 27 hospitals providing care in OB/Gyn services, 7 of them exclusively and others in addition to medical and surgical services. One hospital neither had a OT or a labour room. In 13 hospitals there were no facilities for a labour room, the OT was used as a labour room. In 4 hospitals facilities were present of only a labour room. All the hospitals were providing services in addition to medical services. **(Table No. 18 & 19)**

Though most of them had facilities of an OT the area was found to be adequate in only 11

percent of the hospitals of those who had an OT. The minimum requirement of space for the provision of an OT is 350 sq. ft. The conditions of the OT and labour room were very bad. Of the hospitals having OT facilities OT table was present in only 71 percent, shadowless lamp was present in only 39 percent of them and lithotomy was present in 37 percent of the hospitals. In 64 percent of them the walls were dirty and in 49 percent the ceilings were leaking and paint peeling off. The equipment was kept in an unorganised manner in 57 percent of the OTs.

Equipment and Instruments : The standards evolved have dealt with equipment and instruments in great detail inclusive of minor and major instruments and their number. The standards have recommended that a portable ECG facilities should be available in all hospitals round the clock. In hospitals providing surgical facilities X-ray facilities should be available. **(Table No. 20)** For the purpose of analysis of availability of equipment and instruments, not all of them were analysed. It was generally found that an ECG monitor which is a must for all the hospitals, only 10 percent of them had the facility. A steriliser was available in only 65 percent of the hospitals. The findings reveal that basic instruments and equipment was available in more than 50 percent of the hospitals. In hospitals providing OB/Gyn services nearly a quarter did not have equipment and instrument which was the basic requirement. An oxygen cylinder was available in 52 percent, labour table in 74 percent and a suction machine in 81 percent of the hospitals. With regard to hospitals providing surgical services only 39 percent had an X-ray machine. Oxygen cylinder was available in 56 percent of the hospitals. An electro-cautery unit was available in 39 percent of the hospitals. None of them had a Boyles apparatus **(Table No. 20)**.

The availability of equipment and instrument is of vital concern. They should be available in sufficient numbers and be in a working condition. They should be well maintained. In the study we found in some hospitals that they were kept in an unorganised manner. Basic cleanliness was not maintained with regard to the equipment and instruments. Except for few hospitals who were storing them in a cupboard with glass doors, most of them were leaving it open. In some hospitals there was more than sufficient number of smaller instruments such as needles, thermometer, dressing material, kidney trays, scalpel sets. In fact the respondent would laugh at the investigators for asking such things but at the other end there were hospitals in which even these were not present in sufficient quantities.

Conclusions & Recommendations

The private sector has grown to be the most dominant one in the health sector. This sectors growth has been unregulated, unplanned and is not accountable. This has taken place since the state did not regulate and monitor to make the private health sector accountable. Due to this situation we have a sector which functions in an unregulated manner. Surprisingly the functioning of this sector has been the least examined. There are no minimum standards laid down for the functioning of private hospitals in the country. Even where regulation exists in paper it is not being implemented. In the US where the market forces play a dominant role there are stringent regulations for setting up private practice and hospitals.

Action needs to be taken to bring about reforms in this sector. The suggestions made are not exhaustive, but touch upon some areas which need to looked at in the prevailing situation. As a first step people should be made aware of their rights and duties vis-a-vis the health care system. With regard to private practitioners, the state and medical councils should ensure that only properly qualified persons practice. The government should endeavor through licensing and encouragement the proper geographical distribution of practitioners and hospitals in the country to prevent over-concentration in certain areas. There should be regular medical and prescription audits. The renewal of license and registration should be dependent on it. Records should be maintained properly and the patients should have access as a matter of right Minimum standards and requirements for various types and kinds of hospitals and nursing homes should be laid down and be made legally binding. Many other reccomendations have been made in the appropriate sections (*italicised text*) as also implicit in many other paragraphs.

REFERENCES

- Baru R, Inter-Regional Variations in Health Services in Andhra Pradesh, EPW May 15th 1993.
- Bhore J., Report of the Health Survey and Development Committee, 4 Vols., GOI, New Delhi, 1946.
- Brooks T, Standards and Accreditation : Quality assurance program, Kings fund centre for health service development, Hospital Management International Hospital Federation, Sterling Publications, pg. 130-133, 1990
- Bruce J, Fundamental Elements of the Quality of Care: A Simple Framework, Studies in Family Planning Vol. 21 No 2, March-April, 1990
- Bureau Of Indian Standards, Quality Systems-Vocabulary, Indian Standards Institution, New Delhi. Third Reprint April 1992.
- CBHI, Health Information of India, GOI, New Delhi, 1992.
- CBHI, various years, Health Information of India, GOI, New Delhi.
- Census -1981, 1984 : Part II, Special Series I - India, Report and Tables based on 5% sample, GOI, New Delhi.
- Crawford, D.G., A History of the IMS 1600-1913, Vol. 11, W. Thacker & Co., Calcutta. 11, 401, 1914.
- Dept. of Economics & Statistics, District Handbook on Social & Economic Aspects, Bombay, 1993
- Director of Census Operations, Census Of India, Primary Census Abstract, General Population Part II-B (I), Series 14, Maharashtra, 1991.
- Donabedian, A, The quality of Care: How can it be assessed? Journal of the American Medical Association 260 (12) 1743-1748,1988
- Donabedian, A, The quality of Care: How can it be assessed? Journal of the American

Medical Association 260 (12) 1743-1748,1988.

Duggal R, A Review of the Bhore Committee - 1946 and its Relevance, FRCH Newsletter IV 1-2, January-April 1990.

Duggal, R., Amin, S. Cost of Health Care, Survey of an Indian District, FRCH, Bombay, 1989.

Duggal R, Nandraj S. 1991, Regulating the Private Health Sector, Medico Friend Circle Bulletin No 173-174, July/August, Nasik.

Fooks C and Rachlis M, Assessing Concepts of Quality of Care: Results of a National Survey of five self regulating health professions in Canada, CHEPA working paper series, Mc master Univ., Canada 90-7 May 1990.

FRCH, Health Sector Resources, Investment and Expenditure in a District, FRCH, Pune, Draft Report, 1993.

George A and Nandraj S, State of health care in Maharashtra, Economic & Political Weekly, Bombay, Vol XXVIII Nos 32 and 33, August 7-14, 1993.

George, A, Shah, I. Nandraj, S., A Study of Household Health Expenditure in Madhya Pradesh, FRCH, 1993.

Government of Maharashtra, Law and Judiciary Department, The Bombay Nursing Home Registration Act, 1949.

Government of India, Directory of Hospitals in India, CBHI, New Delhi, 1988.

Indian Council of Medical Research, Evaluation of Quality of Family Welfare Services of Primary Health Centre level, New Delhi, 1991.

Kannan, K.P., Thankappan K R, Raman Kutty V, and Aravindan K P, 1991, Health and Development in Rural Kerala, K.S.S.P, Thiruvananthapuram.

Khan, M E & Tamang A K, Quality of Health Services in Rural India, A comparative study of 3 states ORG, 1987.

Lewis C. E (1984), Hospital Accreditation in New Zealand, Hospital 68, 8, pp 15-17 quoted in Tessa Brooks, Standards and Accreditation: Quality assurance program, Kings fund centre for health service development, Hospital Management International Hospital Federation, Sterling Publications, London, pg. 130-133, 1990

Mahapatra P, Berman P, Evaluating Public Hospital Performance: Service mix Ratios of Secondary Level Hospitals in Andhra Pradesh. Hyderabad, 1992.

Mahapatra P, Berman P, Evaluating Public Hospital Performance: Combined Utilization & Productivity, Hyderabad, 1990

Mahapatra P, Correspondence with DR Prasanta Mahapatra, Jt secretary, Health, Medical & Family welfare dept., Govt. of Andhra Pradesh 1993.

Medico Friend Circle, Patient Provider Interface: A Public Survey, 1990.

Mensch B, Quality of Care: A Neglected Dimension, Studies in Family Planning, Vol. 21, No 2 61-91, 1990.

Nandraj S, Beyond the law and the Lord: Quality of private health care, Economic and Political Weekly, Vol.: XXIX, No: 27, July 2, 1994, pp.1680-5.

TABLE NO: 1 Characteristics of Practitioners
(Figures, except #, are in percentages, columns = 100)

Characteristics	EBA	EDA	Total
All Practitioners	41.50	58.50	100.00
Location			
a) Urban	13.64	83.87	54.7
b) Rural	86.36	16.13	45.3
Gender			
a) Males	95.45	93.55	94.3
b) Females	4.55	6.45	5.7
Age			
a) < 35 years	50.00	35.48	41.5
b) 35-45 years	36.36	35.48	35.9
c) > 45 years	13.64	29.04	22.6
# Mean Age (years)	36.00	39.00	37.7
Qualifications			
a) Accredited Degree	54.55	90.32	75.5
b) Unqualified	45.45	9.68	24.5
System Accredited			
a) Allopathic	4.54	48.39	30.2
b) Homeopathic	9.10	3.22	5.7
c) Indian Systems	40.91	38.71	39.6
d) Unqualified	45.45	9.68	24.5
Valid Registration			
a) Yes	45.45	61.29	54.7
b) No	9.10	29.03	20.8
c) Unqualified	45.45	9.68	24.5

Note : EDA - Economically Developed Area;
EBA - Economically Backward Area

TABLE NO : 2 General Features of Practitioners
(Figures, except #, are in Percentages, columns=100)

Practice Characteristic	EBA	EDA	TOTAL
Type of Practice			
a)Allopathic	86.36	74.19	79.24
b)Allopathic + other	9.09	16.13	15.09
c)Ayurveda	4.55	6.45	3.77
Years of Practice			
a)upto 5 years	31.82	35.48	33.96
b)6 - 10 years	36.36	12.90	22.64
c)11 - 20 years	13.64	29.04	22.64
d)> 20 years	9.09	22.58	16.98
# Mean year's	8.45	12.00	10.50
Clinic ownership			
a)Owned	27.27	48.39	39.62
b)Rented	72.73	51.61	60.38
Multiple Practice			
a)Single clinic	68.18	70.97	69.81
b)2 or more clinics	31.82	29.03	30.19
Indoor Care Facility (ICF)			
a)Yes	50.00	22.58	33.96
b)No	50.00	67.74	60.38
c)Other clinic	-	9.68	5.66
Number of Beds as % of (ICF)			
a)One	63.64	28.57	50.00
b)Two or more	36.36	71.43	50.00
(Sample actual number)	(11)	(7)	(18)
# Mean Days/week clinic open	6.50	6.29	6.38
Laboratory Services			
a)Yes	-	6.45	3.77
b)No	9.09	3.23	5.66
c)Refers nearby town/village	45.45	70.97	60.38
d)Refers nearby town/village	40.91	16.13	26.42
Telephone Facility			
a)Yes	9.09	64.52	41.51
b)No	68.18	19.35	39.62
c)Care off	22.73	16.13	18.87
Practice Caseload			
#Mean Hours per day	12.09	8.77	10.11
Practice Characteristic			
# Mean Cases per day			
-last day actuals	22.18	18.55	20.05
-during monsoon	36.50	31.12	32.61
# Mean Cases in last week	140.86	113.52	124.87
# Mean cases in last month	493.89	342.17	399.39
- old cases	160.67	140.71	148.52
- new cases	333.22	201.46	250.87
Contact with Med. Reps			
a)No contacts	27.27	6.45	15.09
b)< 5 per week	45.46	51.61	49.06
c)5 & more per week	27.27	41.94	35.85
Maintaining Case Records			

a)Yes	40.91	35.48	37.74
b)No	59.09	64.52	62.26
Sample Size (actual numbers)	22	31	53

Note : Where % totals don't equal 100 the balance are 'no - responses'

TABLE NO : 3 Practitioner Qualification vis-a-vis their Actual Practice
(Figures are in percentages, columns = 100)

Qualification												
Type of practice	Allopathy			Indian system			Homeopathy			Unqualified		
	EB A	EDA	Tot.	EB A	ED A	Tot.	EBA	EDA	Tot.	EB A	ED A	Tot.
Allopathy	100	93	94	89	50	68	50	100	67	90	33	77
Allopathy+other	-	7	6	-	33	19	50	-	33	10	33	15
Ayurveda	-	-	-	11	17	14	-	-	-	-	-	-
Cross-practice Rate	0	7	6	800	499	599	9900	9900	9900	NA	NA	NA
Sample Size	1	15	6	9	12	21	2	1	3	10	3	13

Notes : i) Where % totals don't equal 100 the balance are 'no - responses'

ii) The cross-practice rate has been calculated by indexing qualification' = 100 and dividing it by the percent who actually practice their original system., multiplying this by 100 and from the product obtained subtracting 100. For example, for the ISM qualified in the EDA :[100 * (100/16.7)]-100=499. In the case of homeopaths we have taken the denominator as 1. NA=Not Applicable.

TABLE NO : 4 Observations of Condition of Clinics
Positive Features

(Figures are percent positive to total)

Features Observed	EBA	EDA	Total
Noise Level (quietness)	27	29	28
Condition of wall (good)	22	61	47
Height of Ceiling (above 8 ft.)	59	81	72
Ceiling Type (cemented)	18	45	34
Condition of Ceiling (good/clean)	14	58	40
Type of Floor (tiled)	77	90	85
Condition of Floor (good/clean)	36	58	49
Natural Light (sufficient)	68	58	62
Artificial Lighting (sufficient)	23	65	47
Ventilation (adequate)	9	28	19
Seating for Patients (adequate)	18	81	55
Water Availability (present)	14	32	25
Display of Registration	5	81	13
Environment (uncongested)	36	48	43
Dustbin (present)	18	23	21
Examination Table (present)	95	84	89
Condition of Ex. Table (good/clean)	50	81	68
Medicine Tray (present)	55	77	63
Pharmacy (present)			
SAMPLE SIZE (actual numbers)	22	31	53

TABLE NO : 5 Equipment in PRACTIONERS clinics
(Percentage existing)

Equipment	EBA	EDA
Gauze swabs	9.1	83.9
Sterile pads	-	71.0
Scissors	54.5	64.5
Adult weighing machine	-	12.9
Children's weighing machine	-	3.2
Kidney tray	45.5	61.63
Antiseptic solution	13.6	90.3
Syringes	81.8	90.3
Needles	81.8	90.3
Oxygen cylinder	4.5	6.5
X-ray viewers	-	19.4
Slides	-	6.5
Test tube	9.1	45.2
Spirit Lamp	13.6	38.7
Hemoglobin test set	-	6.5
Sterliser	4.5	3.2
Bowls	22.7	51.6
Bed sheets	4.5	-
Towels and napkins	22.7	54.8
Revolving stools	-	12.9
Ordinary stools	-	51.6
Examination table	9.1	19.4
Step stool	-	9.7
Screen stands or curtains	-	3.2
Refrigerator	-	16.1
Wash basin with tap	-	9.7
Wall clocks	-	12.9
Stethoscope	86.4	90.3
BP Instrument	81.8	93.5
Thermometer	36.4	48.4
Tongue Depressor	31.8	58.1
Scalpel	13.6	12.9
Speculum ENT	-	22.6
Valselum	4.5	9.7
Reflective mirror	4.5	3.2
Artery forceps	-	29.0
Auroscope	-	6.5
Dressing material	86.4	83.9
Knee hammer	-	12.9
Sutures and ligatures	9.1	58.1

TABLE NO: 6 PROFILE OF HOSPITALS

(Figures are percentages with column=100, except those marked #)

	E B A	E D A	Total
All Institutions	36.70	63.30	100
Location			
a) Urban	55.6	90.3	77.6
b) Rural	44.4	9.7	22.4
Year of establishment			
a) 1968 to 1978	11.1	12.9	12.2
b) 1980 to 1990	50.0	41.9	44.9
c) 1991 to 1995	38.9	45.2	42.9
Ownership			
a) Individual prop	100	60.0	91.8
b) Partnership	-	9.7	6.1
c) Any other	-	100	2.0
Ownership of premises			
a) Owned	61.1	83.9	75.5
b) Rented	33.2	16.1	22.4
c) Long term lease	5.6	-	2.05
Functioning			
a) Only self patients	100	77.4	85.7
b) Open NH		22.6	14.3
Doctor-Owner	100	100	100
Administrator			
Qualification of doc-owner			
a) Allopathy	61.1	77.4	71.4
b) Ayurveda	22.2	12.9	16.3
c) Homeopathy	11.1	9.7	10.2
d) LMP/LSM	5.6	-	2.0
Sex of owner			
a) Male	88.9	93.5	91.8
b) Female	11.1	6.5	8.2
Age of owner			
a) < 35 yr.	50.0	35.5	40.8
b) 35 – 45 yr.	16.7	41.9	32.7
c) >45 yr.	33.3	22.6	26.5
# Average age	39.11	39.12	39.12
Number of Beds			
a) 3 to 5	44.4	12.9	24.5
b) 6 to 15	50.0	64.5	59.2
c) 16 to 25	5.6	19.4	14.3
d) above 25		3.2	2.0
#Average number of beds	7.55	12.29	10.55
# Total	18	31	49

TABLE NO : 7 CARE PROVIDED

OPD cases and Indoor admissions	EBA	EDA	Total
Out patient department (OPD)			
Average cases treated			
Last day (number)	34.72	43.29	40.14
Last week (number)	161.06	199.03	185.58
Indoor admissions			
Admissions last week (number)	11.06	12.06	11.68
Admissions last month (number)	44.35	40.85	42.20
Length of stay (last month) (days)	6.90	16.38	13.32
Occupancy rate (last month) (percent)	54.68	48.98	50.81

TABLE NO : 8 STAFFING (Doctors)

(Figures are percentages with column = 10 except those marked #)

Doctors Practice	EBA	EDA	Total
Residence			
a) Same premises	83	71	75
b) does not reside	16	29	25
# Total	18	31	49
Doc-owners operating alone			
a) MBBS	6	10	8
b) Specialists	6	29	21
c) Other Systems of Medicine	28	-	10
Doc-owners with visiting consultants			
a) MBBS	50	6	22
b) Specialists	-	32	21
c) Other Systems of Medicine	10	23	18
# Total	18	31	49

TABLE NO : 9 SERVICES PROVIDED

(Figures except #, are in percentages, columns = 100)

Types of cases treated	EBA	EDA	TOTAL
Obstetrics & Gynecological	17	13	14
Medical	22	19	20
Surgical	-	26	16
Gynecological & Medical	22	16	19
Surgical & Medical	6	10	8
Gynecological & Surgical	11	-	4
All types of cases	22	16	19
# TOTAL HOSPITALS	18	31	49

TABLE NO : 10 CROSS TABULATION OF SERVICES PROVIDED

(Figures are actuals)

EBA	OB/G Y	Medical	Surgical	All
OB/GY	3	4	2	-
Medical	4	4	1	-
Surgical	2	1	-	-
All	-	-	-	4
EDA				
OB/GY	4	5	-	-

Medical	5	6	3	-
Surgical	-	3	8	-
All	-	-	-	5
TOTAL	18	23	14	9

TABLE NO : 11 Examinations, Emergency, Accidents & Supportive structures
(Figures are percentages except #, column = 100)

Features	EBA	EDA	TOTAL
Pathology Lab Present	11	23	18
Referral for path. Exams			
a) Same village/town	61	24	35
b) Different village/town	16	-	3
Blood Bank Present	0	0	0
Referral for blood			
a) Pvt. Blood bank	11	26	20
b) Cottage Hospital (Karad)	0	10	6
c) Pvt. Teaching hospital (Karad)	67	32	45
d) Refer the case elsewhere	22	13	16
Emergency cases			
a) Treat the cases	-	3	2
b) Preliminary treat. given & refereed	11	16	14
c) Refer directly	56	19	33
d) Do not admit	6	6	6
Place refereed			
a) Refer to Pvt. Hosp..	61	32	45
b) Refer to specialists	6	3	4
Treat for minor accidents cases			
a) Treat the case	33	68	55
b) Preliminary treatment & refereed	17	6	10
c) Refer to private hosp.	11	3	6
d) Refer to public hosp.	11	-	4
e) Do not admit.	28	23	25
Treat for road accident cases			
a) Treat the case	6	26	18
b) Preliminary treatment	28	16	20
c) Refer to Pvt. hosp.	11	13	12
d) Refer to Public	6	6	6
e) Do not admit	28	39	34
Treat for domestic accident cases			
a) Treat the case	11	48	35
b) Give preliminary treatment	11	6	8
c) Refer to Private hospital	28	6	14
d) Refer to public hospital	-	6	4
e) Do not admit	50	32	38
Other Supportive Structures			
Power supply(continuous)	22	29	27
Generator (present)	22	26	24
Water storage			
a) Overhead/underground tank	83	87	86
b) Drum filled	17	13	14

Phone (present)	50	94	78
Ambulance (present)	0	0	0
Fire fighting equip. (present)	0	35	22
Food (provided)	0	3	2
# TOTAL	18	31	49

Note : Where % totals don't equal 100 the balance are 'No - responses'

TABLE NO : 12 STAFFING
(In actuals)

Staff	EBA		EDA		TOTAL	
	Number	Hosp's	Number	Hosp's	Number	Hosp's
Q Docs full time (allop)	14	11	32	24	46	35
Q Docs full time (oth. sys)	13	7	10	7	23	14
V.C.(Total)	38	11	52	19	90	30
Q Nurses	0	0	3	2	3	2
Q Technicians	2	2	6	5	8	7
Sweepers	11	9	29	18	40	27
Ward attendants	3	1	15	10	18	11
Receptionists	1	1	8	6	9	7
Others	19	6	17	7	36	13
Unqualified staff						
Nurses	15	8	71	25	85	33
Pharmacists	11	7	17	10	28	17
Technicians	0	0	2	1	2	1

TABLE NO : 13 Services Provided by Doctors - Owners
(In Actuals)

	MBBS	Specialists	Oth. Sys.	Total
OB/Gynecology	2	3	2	7
Medical	1	6	3	10
Surgical	1	1	1	8
OB/Gyn & Medical	1	3	5	9
Surgical & Medical	1	2	1	4
OB/Gyn & Surgical	2	0	1	3
All care	3	4	1	8
TOTAL	11	24	14	49

TABLE NO : 14 Location, building and environment
(Figures are percentage, except #, column=100)

Features	Total
Location	
a) Near market place	82
b) Residential area	16
c) Commercial area	2
Premise	
a) Independent bldg.	66
b) Commercial building	14
c) Residential building	20
Noise level (Noisy)	55
Waiting Room	

a) Seating arrangement (adequate)	53
Seating arrangement (organised)	59
Environment (congested)	18
Disp/Pharmacy (present)	27
a)Area adequate	0
Rest room (present)	37
Store room (present)	71
Sterilization room (present)	37
a)Area adequate	22
# TOTAL	49

TABLE NO : 15 CONSULTING ROOM

(Figures are percentages, except #, column = 100)

Features	Total
Present	94
Area (adequate)	28
Examination table (present)	92
Condition of the table (clean)	88
Bed on the table (present)	71
Type of stool	
a) Ordinary	45
b) Revolving	8
c) Not present	47
Type of screen	
a) Stand	2
b) Curtain	25
c) Separate room	8
d) Not present	65
Condition of screen(dirty/torn/tattered)	73
Wash basin with tap (present)	59
Water in the basin (available)	51
Condition of wash basin (clean)	49
Medicine tray (present)	45
If present (organized)	37

TABLE NO : 16 WARDS

(Figures are percentages, except #, column = 100)

Features	Total
Condition of the walls (good)	49
Height (below 8 feet)	12
Condition of ceiling (clean)	51
Condition of floor (clean)	65
Lights (sufficient)	76
Ventilation (present)	16
Dustbin (present)	20
Width of the door below 3 feet	90
Screen (present)	25
Condition of screen (clean)	12
Lockers (present)	51
Bed- pans (present)	29
Cradles (present)	35

Condition of the cradle (good)	25
--------------------------------	----

TABLE NO : 17 Beds in General Ward
(Figures are percentages, except #, column = 100)

Features	Total
Space per bed (adequate)	6
Space between beds (adequate)	43
Bed sheet (present)	71
Condition of bed sheets (clean)	47
Pillows (present)	89
Condition of the pillows (clean)	45

Table No. 18 SERVICES PROVIDED BY FACILITIES
(In Actuals)

Services	Major OT	Minor OT	Labour room	Steril. Room
OB/GYN	5	-	2	4
Medical	3	2	-	1
Surgical	8	2	-	3
OB/Gyn & Medical	6	1	3	1
Surgical & Medical	3	-	-	2
OB/Gyn & Surgical	2	-	1	1
All care	9	3	2	3
TOTAL	36	8	8	20

TABLE NO : 19 OPERATION/THEATRE LABOUR ROOM
(Figures are percentages, except #, column = 100)

Features	Total
Operation theatre (present)	73
Area (adequate)	11
Labour room (present)	16
Condition of the walls (Good/clean)	36
Walls (above 8 ft.)	98
Ceiling (bad/dirty/leaking/paint peeling)	49
Floor (Dirty/cracked/uneven)	46
Lights (sufficient)	55
Operation table (present)	71
Lithotomy (present)	37
Placement of equipment (organized)	43
Trolley for instruments (present)	49
Shadowless lamp (present)	39
Wash basin with long handle tap (present)	35

TABLE NO : 20 Equipment and Instruments
(Figures are percentages)

Equipment and Instruments in all hospitals	Total
B.P Instruments	98
Larangyscope Adult	63
Larangyscope Child	53
Refrigerator	39
ECG monitor	10

Steriliser	65
Stretcher	51
Equipment and Instruments in OB/Gyn hospitals	
Suction machine	81
Oxygen cylinder with valves	52
OB forceps	81
Labour table with U-Cut Lithomy	74
Baby Weighing Machine	74
M.T.P Sets	59
Equipment and Instruments in Surgical hospitals	
Shadowless Lamp	65
Oxygen Cylinder with Valves	56
Lahem Table	26
Electro cautrey unit	39
Ventilator	13
Defribilator	9
X-ray viewers	57
X-ray machines	39
Autoclave	91
Boyles apparatus	0

Note : **OB/Gyn hospitals=27, Surgical hospitals=23, All hospitals=49**

Introduction

This document contains information intended as model standards for planning a nursing home upto 30 beds in respect to functional program, human power, equipment, functional and space requirements. A few essential building services, engineering and environmental requirements have also been covered.

A nursing home is envisaged as place where a patient is admitted for overnight medical and nursing care. It is common practice in most nursing homes to provide various disciplines under one roof. This document lists out minimum standards for nursing homes providing medical /surgical/maternity facilities.

Provision of medical facility does not require any special infrastructural input beyond that available in any nursing home. It is mainly a question of medical skill and hence medical patients are normally admitted to nursing homes which provide care in other disciplines. In a rare case of existence of **“Medical” nursing home**.

1. The minimum functional programme of such a nursing home would have to adhere to points 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13 listed under the section on functional programme.
2. Functional and space requirements would be as listed out under the various zones in the relevant section. Only the critical zone is to omitted
3. Similarly, equipment, instrument and human power requirement would be as specified under the relevant sections, omitting those which fall under the critical zone

In a **“General Surgical”** nursing home only the space, equipment and instruments which have been listed under the Delivery Suite will not be required. Everything else in the document would have to be provided.

A **“Maternity Home”** should be provided with all minimum human power, space, equipment and instruments as detailed in the document.

Standards for day care centre, intensive care units and other disciplines like orthopedics, ENT, etc. are beyond the purview of this document.

The sponsor of a nursing home shall provide a functional programme for the facility that describes the purpose of the project, the projected demand or utilisation, staffing patterns, departmental relationships, space requirements and other basic information relating to

fulfillment of the institution's objectives.

Nothing in these standards should be construed as restrictive to a facility that chooses to do work as part of a long range plan for improvement of quality/level of services provided or safety of the facility.

A nursing home should be integrated with the community where it is situated and should participate/take lead in health education, nutrition and other needs of the community.

Functional Programme for a Nursing Home

The basic minimum functions provided by a nursing home should include the following :

1. EMERGENCY FIRST AID : Emergency first aid is care provided initially to stabilize a victim's condition and to minimize potential for further injury during transport to an appropriate service. At minimum each nursing home shall have provisions for emergency first aid treatment for staff as well as for persons who may be unaware of or unable to immediately reach services in other facilities. This is not only for minor incidents that may require minimal care but also for persons with severe injuries or in grave condition who must receive immediate first aid and assistance for transport to other facilities.

Emergency first aid includes facilities for incubation, venesection, thorough cleaning/dressing of wounds, ligations of bleeding vessels, insertion of intercostal drainage tube, application of Thomas Traction, starting of nasal O₂, bladder catheterisation, stomach wash, establishing an intravenous line in case of patients in shock, controlling of convulsions, controlling of acute attacks of breathlessness, etc.

Emergency first aid services should be provided to all patients in need of them irrespective of their capacity to pay.

2 General Medicine : All nursing homes providing medical facilities should be able to provide **Clinical** diagnosis for infectious diseases, diabetes, hypertension, auto-immune disorders, endocrine disorders, neurological disorders, renal disorders, skin diseases, gastro-intestinal disorders, etc. Treatment and follow-up care for a majority of these conditions would also be possible by a physician.

Medical personnel manning such a facility should be able to take a decision regarding cases which require higher medical skills or which may eventually need transfer to a better equipped facility (intensive care, surgical facility, ventilators, hemodialysis machine, cardiac monitors, etc.) and accordingly transfer such patients at the earliest.

In case a patient had been admitted in such a facility for more than 24 - 48 hours, it is expected that the patient will be transferred with a medical attendant *accompanying the patient and all medical records (including X-rays, investigation reports, clinical notes) will be made available to the next doctor who will be treating the patient. It is also expected that the doctor who had treated the patient initially will keep in touch with the institution to which the

patient has been transferred in order to remain aware of the patient's condition.

- NOTE : If a Nursing home provides 'Cardiology Consulting' facilities only, this should be clearly stated in the functional programme of the nursing home as well as in any advertising material put up by the nursing home. This is to avoid confusion and misunderstanding in the minds of the populace seeking care.

A nursing home which claims to provide Emergency Cardiology Services should possess intensive care facilities

3 General Surgery : A general surgical nursing home would be able to provide Elective General Surgery for the following : Benign and malignant soft tissue tumours, benign breast disease, carcinoma breast, thyroid surgery benign and malignant conditions of the gastro-intestinal tract, benign anal conditions, inguinal hernia, hydrocoele, varicose veins, testicular tumours, abscesses, vasectomy, splenectomy, etc.

In case a patient who has been operated upon or has been admitted in a surgical nursing home needs transfer to a better-equipped facility, it is expected that the patient will be transferred with a medical attendant *accompanying the patient and all medical records (including X-rays, investigation reports, detailed indoor notes with operation and anaesthesia notes) will be made available to the next doctor who will be treating the patient. It is also expected that the doctor who had initially treated the patient will continue to keep in touch with the patient, his/her relatives and the next doctor. A purely general surgical nursing home need not have a delivery suite.

** As far as possible, the treating doctor should accompany the patient. If not a Duty Medical Officer (D. M. O) or a nurse with an Ayahbai or ward boy should accompany the patient.*

- Note 1 : Elective surgery for uncomplicated urolithiasis, gall bladder conditions and closed reduction of fractures can be performed if portable X-ray facility is available.
- Note 2 : In case a surgical nursing home provides emergency General Surgical facilities, this should be clearly mentioned in the functional programme of the nursing home as well as in any advertising material put up by the nursing home. In such nursing homes emergency care for cases of acute abdomen, strangulated hernia, torsion testis, etc. can be provided. For this X-ray facilities should be available within the nursing home and access to Blood Bank and Ultrasonography facilities should be available within half an

hour.

- Note 3 : Conditions like carcinoms oesophagus, acute abdomen with cardio-respiratory compromise, oral malignancies, pancreatic surgery for obstructive jaundice/malignancies/chronic pancreatitis, liver Surgery, biliary tract strictures and malignancies, surgery for portal hypertension, recurrent surgery in the abdomen for complications like G.I fistulae, repeated adhesions, associated serious medical conditions like severe diabetes, cardiac disease etc., and other conditions that will need critical management with ventilators/intensive care units should not be operated upon unless intensive care facilities can be made available.

4 Maternity Facilities : All nursing homes providing maternity facilities should provide basic obstetric facilities and neonatal facilities. All maternity homes should be able to carry out procedures like suction and evacuation, dilatation and curettage, Lower Segment Cesarean Section and Hysterectomy on an emergency basis. Blood transfusion facilities should be available within half to one hour. Also ultrasonography facilities should be available within half to one hour. The functional programme of the nursing home should mention nearest availability of neonatal intensive care facilities.

5 Pathology : The type and extent of laboratory facility to be available for a nursing home would depend on the functional programme of the nursing home. But provisions shall be made for the following minimum procedures to be performed on site or at a nearby facility. Blood counts, urinalysis, blood glucose, blood urea and nitrogen, coagulation profile (bleeding time, clotting time, prothrombin time), Blood grouping, typing and cross-matching, serum electrolytes, serum amylase*. Provision shall also be included for specimen collection and processing. A separate toilet facility should be provided for the pathology section.

** If a cross contractual arrangement is possible to provide these investigations within half to an hours time, these need not be duplicated within the nursing home.*

6 RADIOLOGY : Equipment and space for the department would have to be planned according to the program functions. In the minimum following X-rays should be possible : X ray chest, abdomen, pelvis, femur and skull. For this an X-ray machine of 300MA capacity is needed. In nursing homes providing emergency surgical facilities and those with more than twenty beds, the X-ray machine should be installed within the nursing home premises. In smaller facilities, it should be possible to have access to such X-ray facilities within one hour.

Standard precautions should be taken in the construction of the radiology room like

constructing the walls with barium impregnated bricks.

In radiological facilities where procedures like IVU are carried out, separate facilities should be provided for disposal of urine.

In case radiotherapy, nuclear medicine facilities are to be provided, guidelines by local statutory bodies should be followed.

7 ECG : Portable ECG facilities should be available in all nursing homes round the clock.

8 HEALTH EDUCATION : All medical personnel in nursing homes should be aware of all the various national programmes for control of various diseases and should integrate with the same. For e.g., on detecting a case of leprosy, information regarding the same must be directed to Medical Officer in-charge of the local PHC/UHC where the survey, education and treatment centre of the National Leprosy Programme is situated. Nursing homes should maintain records of all such instances which may be checked by regulating bodies on a periodic basis.

Special mention needs to be made regarding infectious and occupation related notifiable diseases.

Medical personnel in nursing homes should ideally also be involved in educating the local populace on nutrition, child care, psychological needs of various constituent groups in a community, school health, the harmful and useful effects of drugs/medicinal preparations, etc. Records for these also must be maintained.

9 AMBULANCE SERVICES : All nursing homes should have access to ambulance services within half an hour.

10 MEDICAL RECORDS : Maintenance of medical records of all patients attending the nursing home is of utmost importance.

The "OPD paper" of a patient attending the OPD should contain the doctor's name and detailed clinical notes including patient's name, age, occupation, chief complaints, onset/duration/progress of illness, past history, personal history, family history, detailed examination findings, provisional diagnosis and treatment advised. A separate prescription should be written out for the medication that has been advised.

The OPD paper should be given to the patient alongwith X-rays and all investigation reports. Nursing homes may maintain a copy of the OPD paper. All indoor papers should be complete, i.e. clinical notes (as detailed above) should be written along with whatever treatment has been given during the admission and reports of investigation carried out.

In case of operated patients detailed operation and anesthesia notes should be written.

In case of deliveries, labour room notes should be complete.

All indoor records should be carefully maintained by the nursing home so that they may be scrutinized at any time.

On discharge or on transfer a discharge summary should be given to the patient with all details clearly written down. Also all X-rays and investigation reports should be handed over to the patient.

A separate register of all deaths occurring in the nursing home should be maintained.

A separate register of all births occurring in the nursing home should be maintained.

Duplicate copies must be maintained of all certificates issued by the nursing home.

Notifiable disease register and whether local authorities have been informed of the same.

11 Dietary Facilities : All maternity homes and all nursing homes with more than 20 beds shall provide dietary facilities for indoor patients.

12 Others : Disciplines like Dentistry, Ophthalmology, ENT, Orthopedics etc. and diagnostic facilities like ultrasonography, C.T. scan, etc. if provided by a nursing home would require design, equipment, space as well as personnel over and above that specified in the document.

13 Universal biosafety guidelines shall be followed by all nursing homes to protect personnel employed from occupation related diseases.

Human Power Requirements

Qualifications

Physician : M.D. degree from a university or equivalent from a local recognised body OR diploma from Diplomate of National Board or equivalent from a local recognised body.

Surgeon : M.S. degree from a university OR Diploma from Diplomate of National Board or equivalent from a local recognised body.

Obstetrician and Gynecologist : M.D. degree from a university or equivalent from a local recognised body or diploma from Diplomate of National Board or local recognised bodies (like C.P.S) or university or equivalent from a local recognised body.

Anesthetist : M.D. degree from a university or university or equivalent from a local recognised body OR diploma from Diplomate of National Board or local recognised bodies (like C.P.S) or university or equivalent from a local recognised body.

Neonatologist/Pediatrician : M.D. degree in Paediatrics from university or equivalent from a local recognised body or diploma from Diplomate of National Board or local recognised bodies or university or equivalent from a local recognised body.

Duty Medical Officer : MBBS, BAMS, or BHMS should have completed one year of internship. Responsibility regarding clinical decisions, procedures etc. is that of the consultant and not the DMO.

Availability of Personnel :

As soon as a patient arrives at a nursing home, (in emergencies) he or she should immediately be seen by a Duty Medical Officer. A consultant should see the patient within half an hour.

A nursing home providing **MEDICAL** facilities should have a physician available on call round the clock.

A nursing home providing **SURGICAL** facilities should have a surgeon and anesthetist available on call. In case Emergency Surgical Facilities are also provided then a surgeon and anesthetist should be available on call round the clock.

A nursing home providing **MATERNITY** facilities should have an Obstetrician and Gynecologist, an anesthetist, a surgeon and a neonatologist available on call round the clock.

A nursing home may need an administrator to look after everyday running of the nursing home.

In nursing homes where consultants are resident, the requirement for D.M.O could be accordingly scaled down.

Minimum requirement of personnel :

Duty Medical Officer

- One duty medical officer for every 20 indoor beds or part thereof in every eight hour shift.
- Two duty medical officers to function as O.T. assistants during routine O.T. hours (8 hrs) and one each for the next two shifts in those facilities providing emergency surgical care and obstetric care (nurses could be trained to perform this function).
- One duty medical officer for the labour ward in every eight hour shift. (Optional. This function may be performed by the O.T. assistant or a trained nurse)

A formal training programme may be worked out for D.M.Os.

Nursing staff :

- One nurse for every 10 beds if on same floor on every eight hour shift and if on different floors then in same proportion on different floors. Here one nurse undergoing training may be posted along with a qualified nurse*.
- Two qualified operation theatre nurses for routine surgery. For nursing homes offering maternity facilities and emergency surgical facilities two more operation theatre nurses will be required on shifts. (In practice the number of nurses posted specifically for this area would depend on the patient load there.)
- Four qualified nurses for labour room. One in each eight hour shift. They may also function as O.T nurses when required.
- One nurse should be kept available for emergency patients on every eight hour shift.
- During regular OPD hours one more nurse should be kept available for OPD block.

** There should be a formal nurses training program and nurses should be issued certificates for the same. They may be later posted for training in critical areas.*

Nursing aids:

- One ayahbai or one ward boy for every 8 beds for every eight hour shift.
- One ayahbai for obstetrics and gynaecology OPD.
- One ward boy for surgical and medical OPD.
- One ayahbai for labour room.
- One ayahbai or ward boy for O.T. suite
- One sweeper per eight beds for wards in every 8 hour shift.
- One sweeper for operation theatre and Labour ward.

Ayahbai/ward boy/sweeper need to undergo training in nursing care skills like measuring of urine output, assisting in inserting an I.V. line, transferring patients from trolleys to beds, etc.

Paramedical staff :

In case a contractual arrangement is being availed of for these functions, then these personnel may be appointed accordingly

- One Pathology technician (optional)
- One Radiology technician (optional)
- One ambulance driver (optional)

Availability of paramedical staff should be adequate to satisfy basic functions as specified in the functional program.

Engineering staff

- One plumber (To be available on call throughout the day)
- One electrician
- One qualified consultant engineer

Administrative and Ancillary staff

- Receptionist 2 (on shifts)
- Cashier 1 (optional in NHs with low patient turnover this function may be performed by any of the other staff)

- Storekeeper 1
- Stenographers 1 (in NHs with more than 20 beds for maintenance of records)
- Security staff 4 (one per shift)

NOTE: For the indoor section in a 30 bedded nursing home where there are no resident consultants this work out to

DMOs		6 (2 in each shift)	
Nurses	-wards	11	
	-OT and labour room	9	(for a busy labour room and OT)
Ayahbai & ward boy		12	
Sweepers		3	
Administrative & Ancillary		<u>9</u>	
TOTAL			<u>50</u> persons

Instruments and Equipment

Entrance zone

Reception and Registration with cashier

Desk/counter
Chairs (to seat personnel)
Storage cabinets (for copies of bills, OPD records, etc)
Janitor's equipment
Floor scrubbers, brooms, dusters.

Waiting area

Chairs for patients and relatives
(Drinking water facility and toilets should also be provided)
One wheel chair
One trolley - This should be an emergency trolley with a mattress and adjustable side railings.
It
should also be adjustable for head low/head high positions.

Ambulatory zone

a. Nursing station

Desk/counter
Chairs
Notice boards
Communicating system
Storage space; cupboards, etc.

b. Treatment/Dressing room and Injection room

Water bath large size
Examination table with mattress to carry out dressings and
Dressing trolley
Hydrogen peroxide solution, Savlon solution, solvent ether spirit, Povidone iodine solution, Freshly prepared Eusol, Freshly prepared 1% Na Hypochlorite solution, Cheatles forceps in savlon solution, Drums with sterile gauze and gamjee and bandages, Sterile packets of catgut, ethylon, prolene, silk, etc., autoclaved linen, sticking plaster, 2% Xylocaine without adrenaline, suture cutting scissors, Disposable syringes 5,10.20 ccs needles curved, cutting and round bodied small and medium sizes kept in Lysol solution.

ECG machine (portable)
Dustbins (2) with lids
Suction apparatus
Oxygen cylinder (2) with flowmeter
One trolley for oxygen cylinder.
Laryngoscope with blades.
Ambus bag
IV stands (2)

Emergency trolley
Inj adrenaline, effcorline, soda bicarb
Inj aminophylline, chlorpheniramine
Inj calcium gluconate

Catheters tray (all sizes of catheters)
Endotracheal tubes tray (all sizes of cuffed tubes) with connectors
Oropharyngeal airway. metallic all sizes.
Spirit bottle. Syringes and needles

Venesection tray
Small plain forceps and small toothed forceps
Venesection scissors
Curved cutting needles medium sizes (2)
Barboos linen
Small mosquito forceps (2)
Towels (2)
One bowl
KY jelly
Foleys Catheters
I.V. fluids

c. Examination and consultation rooms (OPDs) and casualty

Chair for consultants - One for each consulting room and casualty
Chairs for patient and persons accompanying patient - Two or three per consulting room and casualty
Revolving stool (metallic) - One for each consulting room
Tongue depressor - One each for medical and surgical consulting rooms and casualty

Thermometer (oral) - One each for every consulting room and casualty
Sphygmomanometer - One each for medical and obstetrics OPD and one for casualty
Stethoscope - One for each consulting room and casualty
Torch Big size (three batteries) - One for each consulting room and casualty
Small pin-point source torch-light for medical consulting room
Kidney trays - One for each consulting room and casualty
X-ray viewing box - One for each consulting room and casualty to carry one X-ray at a time.
Bowls - One in each consulting room
Examination table with mattress - One each for medical and surgical consulting rooms.
Examination table for OBG clinic - with appropriate light fixture and stool for doctor
Doctor's table - One for each consulting room
Step stool - One for each consulting room
Wash basin with liquid soap dispenser and towel rail - One in each consulting room and in casualty
Protoscope, small medium and large for surgical OPD
Hammer - for eliciting tendon jerks. One for medical consulting room
Tuning fork - One for medical consulting room

Sims speculum

Ant. vag wall retractor For OBG/OPD

Bivalved speculum

Weighing machine

Gloves

Towels

Bedsheets

Screens: For every examination table. (May be suspended neatly from the wall, or screen stands may be used)

d. Pharmacy

Desk/counter

Refrigerator 175 litres

Diagnostic zone (optional)

These need not be available within the nursing home in case a contractual arrangement is possible.

Pathology

Desk

Cabinets to store reports

mm wide and 800 mm high bench of length about 2 metres per technician.

Each lab bench shall have lab sink with swan neck fittings, reagent shelving, gas and power point and under counter cabinet. The table top should be easy to clean and resistant to corrosion.

Sahli's hemoglobinometer with pipette

Microscope

Pipettes for RBC and WBC counts

Diluting fluids

Neubauer's chamber

ESR- wintrobe's tube

Westergren's tube for PCV

Stand for the same

Slides cover glass

Centrifuge. 300 revolutions/min.

Test tubes with stands

Reagents for various tests

Anticoagulants, preservatives

Colorimeter

Glucometer (optional) In case personnel to carry out manual methods is available round the clock, this may not be needed.

Refrigerator 175 lts. (Most kits need to be stored in a refrigerator)

Flame photometer (for serum electrolytes)

Water bath

NOTE: In case a autoanalyser/ semi autoanalyser is installed some of this equipment would not be necessary.

Radiology (optional)

Apron, lead rubber

Cassettes with intensifying screens

Chair, office type

Chair, plastic moulded

Diagnostic X-ray unit. 300 mA with automatic device
Dark room with safe light
Dark room timer
Dark room adaption goggles
Film clips
Film hanger and wall brackets
Hanger for X-ray film
Gloves, lead rubber
Lead numbers for marking X-ray film
Lead sheets
Magnifying glass
Step stools
Revolving stool
Tank thermometer
Patients' trolley
Wash basins with towel rail/liquid soap dispensers
X-ray view box
X-ray protection screen
X-ray film processing tank
X-ray film corner

Intermediate zone

a.Wards

Bedsteads (If provided with facility for IV sets, separate IV stands need not be provided)
Half of the requirement should be Fowler's and the other half may be normal. Post-natal beds need not be Fowlers

Bedside lockers with table top (one for each bed)
One dustbin with lid for each bed
One stool with each bed
One steel water jug with one steel glass for every bed
One mattress with mattress cover
One pillow with pillow case (pillow cases to be changed on alternate days)
Hospital clothes - Pyjamas and coat. Three sets per bed
One blanket per day per bed
One kidney tray per bed

One spittoon per bed
Indoor papers stand/holder (one per bed)
Urine pot (one for every four patients)
Bed pans (one for every four patients)

b. Nursing station

Desk/counter
Wall clock
Wash basin with liquid soap dispenser and towel rail
Sink unit
Notice boards
Fire fighting equipment
Enemr can-set - One per ten beds
B.B splint (Bohler-Braun) (for limb elevation)
Ophthalmoscope
Torch large size (3 batteries) - One & one small size (pin-point source)
Percussion hammer
Laryngoscope with blades of all sizes
Medicine trolley
Inj aminophylline, chlorphemramine adrenaline, ranitidine.
Tablets- Paracetamol, chlorpheniramine, Gelusil, ranitidine, C. ampicillin.
X-ray viewing box for one X-ray plate
Refrigerator 300 litres
Weighing machine
Stethoscope
Torch

c. Treatment room

Water bath - big size
Glass syringes, 5,10,20ml
Disposal syringes and needles
General purpose scissors
Thomas splint - all sizes
Emergency trolley as detailed in ambulatory zone
Dressing trolley treatment room
Venesection tray

d.. Trolley bay

Screen stands. Two screen stands per ward

One trolley - ordinary.

One wheel chair

e. Ward store

Storage racks

Oxygen cylinders

IV stands

Suction apparatus

IV fluids and IV sets

Foley's catheters with urine bags

Naso-gastric tubes

**Operation Theatre
Instruments for General Surgery & (Maternity) Obstetrics/Gynaecology.**

The aim of the following list of instruments is to provide an exhaustive checklist of instruments that may be required. It is recognised that surgeons have preferences for types and number of instruments and this list need not be considered as restrictive.

Instruments	Quantity	Size
<u>General Instruments</u>		
Sponge forceps (Rampley)	4	2.5cms
Towel clips	6	11cms
Artery forceps, straight	6	16cms
(crile) curved	6	16cms
Artery forceps (mosquito) straight	6	13cms
curved	6	13cms
Curved artery forceps (Mayo or Kelly)	6	20cms
Straight artery forceps (spencerwells)	6	20cms
Tissue forceps (Allis)	4	15cms
Standard dissecting forceps toothed	2	14.5cms
non-toothed	2	14.5cms
Long dissecting forceps (toothed)	1	25cms
Long dissecting forceps (non-toothed)	1	25cms
Straight dissecting scissors (Mayo)	2	17cms
Curved dissecting scissors (Mayo)	1	23cms
Dissecting scissors (Metzenbaum)	1	18cms
Skin grafting (Humby's) handle	1	
Skin grafting blades		
Stitch scissors with blunt ends	2	15cms
Abdominal wall C-shaped retractors (narrow, medium)		
Retractors (Deaver) medium, blade	1	25mm
large blade	1	75mm
Needle holders (Mayo) medium	2	15cms
large	2	17.5cms
Scalpel handles No.3 (Bard Parker)	12	
No.4 (Bard Parker)	12	
No.5 (Bard Parker)	4	

Suction nozzle	1	28.5cms
Diathermy electrodes, coagulating & fulgurating	2	
Grooved director	1	20cms
Stainless steel bowls small	6	
medium	6	
large	6	
Stainless steel kidney trays small	4	
medium	4	
large	4	
Sinus forceps	2	
Wooden boards with beveled edges	4	
<u>Abdominal Instruments</u>		
Self retaining retractor	1	
Proctoscope (anal speculum, Gologher)		
child size	1	6cms
adult size	1	7.5cms
Sigmoidoscope, complete with pumps :		
Child size	1	
Adult size	1	
Light source with cable to fit sigmoidoscope	1	
Biopsy forceps	2	
Gallstone forceps (Desjardin)	1	
Lacrimal probes, set of 3	1	
Crushing clamps (Payr): small	2	21
large	2	26
Malleable copper retractors (spatulae)	2	
Occlusion clamps (Doyen) straight	2	22.5
curved	2	22.5
Intestinal tissue holding forceps (Babcock)	4	24
Glass rods	2	
<u>Chest instruments</u> (Not required in maternity homes)		
Chest drainage set, including tube and calibrated bottle	1	
<u>Orthopaedic instruments</u> (for closed reductions, amputations		

and skeletal traction's for fracture femur)

Plaster instruments :

plaster saw (tenon)	1	
plaster saw (Engel)	1	
shears (stille)	1	46 cms
scissors (Bohler)	1	25 cms
bandage scissors (lister)	1	
Pneumatic tourniquet	1	
Rubber bandages (Esmarch)	2	
Pius (stermmaun) with covers for ends		
Hand chuck for introducing pens (T-handle)	1	
Stirrups (Bohler)		
Hand drill and drill bits (Zimmer)	1set	
Mallet (Heath) 1 38mm head	1	38 mm head
Small mallet	1	
Straight osteotomes (stille) : broad	2	18x160mm
Narrow	2	6x160mm
Straight chisels (stille)	2	
Amputation knife	1	20cm
Gillies saw	1	
Compund action bone cutting forceps	1	19cm
Skull callipers (Nutch field)- (optional)	1	

Urogenital instruments (Some of these may be required in maternity homes)

Curved urethral bougies	2sets	various sizes
Straight bougies	2 sets	various sizes
Filiform bougies	2 sets	33cm long
Suprapubic trocars and cannula	1	
Catheter introducer (Foley)	1	

Vascular instruments

Bull dog clamps	4	22mm
Clamps (Satinsky), with 3 different blade shapes	1set	
(vascular) Narrow jaw needle holders	1	17.5 cm
(vascular) Plain forceps	1	

Gynaecology instruments (Surgical nursing homes would require a few of these instruments)

Vaginal Specular (Sims) : small	1	1
large	1	3
Weighted vaginal speculum (Auvard)	1	38x75mm
Vulsellum forceps (Teale or Duplay)	2	28cm
Vaccum extraction apparatus	1	
Amniohook	1	
Uterinesound (Simpson)	1	30cm
Double ended uterine dilators (set of 6)	1	30cm
Uterine curettes (Sims)	1set	26x7mm to 26x14 mm (various sizes)
Ovum forceps (de Lee)	1	24cm
Cranial perforator	1	
Straight hysterectomy forceps (pean)	6	22.5cm
Craniotomy forceps	2	
Uterine hemostasis forceps (Green Armytage)	8	20cms
Obstetric forceps low	1	
mid cavity	1	
Retractor (Doyen)	1	
Interior vaginal wall retractors	2	
Punch biopsy forceps	1	
Endometrial biopsy cannula	1	
Suction cannulas, set of 4	1	

Obstetric instruments (Some of these may be needed for General Surgery)

LSCS tray :

Curved dissecting scissors	1 pair
Scalpel handle and blade	1
Short dissecting scissors	1 pair
Long dissecting scissors	1 pair
Stitch scissors,	1 pair

Small, curved artery forceps	6 pairs	
Small, straight artery forceps	6 pairs	
Large, curved artery forceps	6 pairs	
Large straight artery forceps	6 pairs	
Needle holder, long	1	
C- shaped abdominal wall retractors		
Self-retaining retractor	1	
Dissecting forceps, toothed	1 pair	
Long dissecting forceps, non-toothed	1 pair	
Tissue forceps (Allis)	2 pairs	
Tissue forceps (Duval)	2 pairs	
Tissue forceps (Babcock)	2 pairs	
Sponge forceps	4 pairs	
Malleable copper retractors (spatular)	2	
Occulsion clamps, straight	2	
Curved	2	
Crushing clamps, large	2	
small	2	
Syringe 10 ml with needle	1	
Syringe 20 ml with needle	1	
Sutures No. 1, 0 and 2/0 and 3/0 thread, ties and with needles		
Sutures No. 1. 0 and 2/0 nylon, ties and with needles		
Suction nozzle	1	
Diathermy electrode	1	
Flexible probe, with round point	1	
Grooved director	1	
Nasogastric tube	1	
Towel clips	6	
Stainless steel bowls	2	
Kidney trays	2	
Uterine hemostatic forceps (Green Armytape)	8 pairs	
Obstetric forceps	2 pairs	(1 low, 1 mid cavity)
Vaginal speculum	1	
Suction catheters		
Linen tape		

Gauze swabs		
Abdominal packs	5	
Dissecting gauze rolls	10	
Antiseptic solution		
Adhesive tape		
Tubing for tension sutures		
Drainage tubes		
Safety pin	1	
Colostomy bags (optional)		
Sterile drapes		
Sterile gloves, at least	3 pairs	
Dilatation and Curettage		
Vaginal speculum	1	
Vulsellum forceps	1 pair	
Uterine sound	1	
Uterine dilators	6 (one set)	
Uterine curette	1 (at least)	
Sponge forceps	2 pairs	
Retractor for anterior vaginal wall	1	
Gauze swabs		
Vaginal pad		
Antiseptic solution		
Kidney tray		
Sterile drapes		
Sterile gloves	1 pair	

**Operation Theatre
Equipment For Surgery And Obstetrics/Gyn**

Equipment	Quantity	Size/s
Fixed equipment		
Fixed operating room light (shadowless)	2	not less than 45 cms.
Scrub basins with elbow operated taps		
Exhaust fans		
Electric autoclave with horizontal drum [High speed instruments sterilizer]	1	400mm diameter x 600mm depth
Electric sterilizer (water bath large size) for boiling instruments	1	
Hydraulic Operating table with mattress (Orthopaedic attachment optional)	1	
Utensil sterilizer for bowls, boiling type	1	
Forceps sterilizer (cheatle), heavy duty		
Instruments trolleys	4	
Anaesthetic trolleys	2	
Drums trolley	1	
Portable aspirating surgical sucker, electric Or Central suction	2	
Foot operated suction	1	
Cylindrical sterilising drums		
24 cms. diameter	4	
29 cms. diameter	4	
34 cms diameter	4	
Stainless steel buckets with covers	4	
Revolving operating stools of adjustable height	4	
Foot stools	2	
Dressing trays:small	4	
medium	4	
large	4	
Portable operating room lights, with stands	2	
Diathermy machine	1	
X-ray viewing box (to hold at least 2 X-rays at a time)	1	
Patient transfer trolley	1	
Covered instruments trays	4	
Covered instrument/ dressings trays	4	
Catheter trays	4	
Stainless steel jugs, 3 litres	2	
4 litres	2	
Stainless steel funnels, 200 ml	2	
Self-retaining balloon catheters (Foley)		
Urinary bags		
Graduated drainage (collecting) bottles, glass, 1.5 litres		

Surgeon's latex gloves, sizes 6, 6.5, 7, 7.5, 8		
Colostomy bags		
Nasogastric tubes (Levin) 12, 14, 16, 18		
Polythene nasal feeding tubes infant size	8	
and adult size	16	
Asepto syringe	2	
Insuline syringe 1ml		
Tuberculin syringe 1ml		
Hypoderine syringes 2, 5, 10, 20, 50 ml		
Hypodermine needles		
Face masks and caps	18 to 26	
Washable footwear		
Drapes		
Gowns		
Surgeon's handbrushes with nylon bristles		
Sutures / ligatures:		
Chromic catgut and plain catgut with and without needles		
Nylon and silk with and without needles		
Soft, stainless steel wire		.35 mm thick (about size 0)
Regular eye needles, assortment of different types and sizes		
Scalpel blades, No. 10, 11, 12, 15, 21, 22, 23	100 of each size	
Stitch removal scissors	2	
Heavy-duty "counter" scissors	2	
Disposable scalp-vein infusion sets/		
Blood transfusion sets.		
Polythene tubing no. 21, 22 for venesection in children		
Latex tubing		
Soft Rubber tubing		
Connectors for tubing, assorted, including T-shape and Y-shape		
Utility apron, opaque plastic	2	
Plastic sheeting		
Rubber sheeting		
Corrugated rubber drain		

Gauze bandages		25 mm x 9 m 50 mm x 9 m 75 mm x 9 m 20 cm x 6 m
Absorbent gauze for dressings, swabs, abdominal packs, petroleum gauze, etc.		1 m x 100 m 25 cm x 10 cm
Surgical adhesive tape		
Absorbent cotton wool		
Eye pads		
Eye shields		
Umbilical tape		3 mm wide
Safety pins		medium size
Rubber bands assorted		
All metal, safety razors		
Double edged safety razor blades		
Battery operated wall clock, with hands showing time in hours, minutes and seconds	1	
Laboratory balance, 2kg capacity	1	
Sand bags		
Stainless steel ruler	1	
B.P. apparatus	1	
Stethoscope	2	
Clinical thermometer (oral)	1	
Torch (large size) battery operated	1	
Orthopaedic equipment (for general surgery)		
Gauze bandages		10 cm & 15 cm wide
Crepe bandages		
Plaster of paris powder		
Multipurpose board splints	1 set	3 sizes
Anaesthetic equipment		
Anaesthetic face masks infant size to large adult size 2 of each size	Total 14	
Oropharyngeal airways,	Total 12	sizes 00 to 52 of each size
Laryngoscopes	2 handles + 3pairs of blades	
Spare bulbs of laryngoscopes	12	
Batteries for laryngoscopes	30	

Endotracheal tubes,		sizes 2.5 - 10 mm (external diameter) in 0.5 mm steps with cuff
Magill's intubating forceps	2pairs	
Endotracheal tube connectors 3 for each tube size		
Catheter mounts	4	
Breathing hose and connectors		
lengths of 1 meter antistatic tubing	2	
lengths of 30 cm tubing for connection of vaporizers	4	
T - piece for oxygen enrichment	1	
Breathing valves (universal non-rebreathing type) child size	2	
adult size	2	
Breathing systems		
- Boyles apparatus	1	
In areas where Nitrous oxide not easily available		
- Self-inflating bellows or bags, child size 1		
adult size	1	
- Anaesthetic vaporisers for ether, halothane and trichloroethylene (draw over type)		
Needles and cannulas for intravenous use		
Intravenous infusion sets		
Spinal needles, range of sizes, 18 - gauge to 25- gauge		
Ambu's bag - 2 numbers		

Delivery suite : Equipment & Instruments (for maternity homes only)

a. Examination and preparation room

Obstetric examination table with light

Enema can set

Double edged safety razor blades

Gowns, towels, drapes

Gloves

Soap, towel
Facility for warm water throughout the day

b. Labour room

Cot (one per room) pillows, pillow covers, mattress
Clean bedsheets

c. Delivery rooms

Delivery table/labour table

4 Opaque Plastic aprons

Gloves

Drapes

Dressing trolley with catheters

O₂ cylinder with trolley and masks

Suction apparatus

Episiotomy set

4-5 sets

Episiotomy scissors

1 pair

Small artery forceps

4 pairs

Dissecting forceps, toothed

1 pair

Needle holder

1

Sponge forceps,

2 pairs

Syringe 5 ml with needle

1

Local anaesthetic agent

Sutures and ligatures, O chromic catgut, ties and with needles

Antiseptic solution

Gauze swabs

Sterile pad

Suction catheters

Kidney dish

1

Sterile drapes

Sterile gloves

1 pair

Delivery tray

Bowl for placenta - steel

Plain rubber catheter

Artery forceps

Kidney tray

Baby tray

Tray
 Artery forceps
 Clamps
 Kidney tray
 Mucus suction with catheter
 Mucus suckers
 Scissors for cutting cord
 Thread for tying cord
 Resuscitation tray for babies
 Mucus suckers
 Ambu bag
 Oxygen mask
 Endotracheal tubes
 Laryngoscope with appropriate blades
 Obstetric forceps
 Low 1
 Mid cavity 1
 - Breast pump
 - Doppler for foetal heart sounds
 Vaccum extraction apparatus with suction caps of all sizes
 Foleys Catheters

Equipment for Service Zone

Laundry

Linen store/ General store shelves for storage

Medical store

Medical records room - Facilities for storage of records so that they are not affected by bad weather and can be accessed at any time.

Generator

Nurse's duty room- one cot with mattress, pillow, 2-3 chair and a table, cupboards

Doctors' duty room - One cot with mattress, pillow

- One table

- One chair

- Cupboards

Minimal Functional and Space Requirements

To facilitate planning and framing of the structural grid a usable space planning module of 14 sq.m based on basic space unit of 3.5 sq.m has been stipulated in order to rationalise the requirements for various facilities in the hospital. This space planning module is derived by assuming a planning grid of 1.6 m. Six such grid units i.e. 3.2 x 4.8 m will lead to a carpet area of about 14 sq.m after deducting the space taken by walls. All floor space requirements recommended for various facilities in respective table of the various sections of general hospital are based on above basic space unit. Fractional variation in floor spaces in actual planning may be ignored.

Area requirement for the nursing home is to be derived from carpet area of various functions and services as outlined in the following tables by applying conversion factor (40%) for circulation space. This circulation space will include corridors.

Space requirements have been divided into following categories:-

- - Entrance Zone
- - Ambulatory Zone
- - Diagnostic Zone
- - Intermediate Zone
- - Critical Zone
- - Service Zone

Entrance Zone

1. Entrance hall with Enquiry counter with cash counter and records area (to maintain few OPD records)	28 sq.m
2. Pharmacy	17.5sq.m

Ambulatory Zone

1. Medical clinic (consultation and examination room)	17.5 sq.m
Waiting area	21 sq.m
2. Surgical clinic (consultation and examination room)	17.5 sq.m

Waiting area	21 sq. m.
3. Casualty and emergency care (optional)	17.5 sq.m
4. Treatment and dressing	21 sq.m
5. Injection room (optional)	17.5 sq.m

Note: 3, 4 and 5 will be required in all types of nursing homes.

6. Obstetric and gynaecological clinic: In case of a purely maternity home, only the OBG OPD as detailed below would be needed.

The clinic should include a separate registration, consulting-cum-examination room and toilet in order to ensure privacy. The clinic should be planned close to inpatient ward units to enable them to make use of the clinics at times for ante and post-natal care. The clinic should also be at a convenient distance from other clinics in the OPD.

Reception and registration	14 sq.m
Consultation and examination room	17.5 sq.m
Toilet cum changing room	10.5 sq.m
Waiting area	21 sq. m

In case of nursing homes where OPD facilities in other disciplines are also provided care should be taken to provide privacy and separate toilet facilities for obstetric patients.

7. Nursing station for OPD block with clean and dirty utility	17.5 sq.m
8. Janitor's closet	3.5 sq. m

The outpatient department should be located such that patients visiting the outpatient department need not pass through inpatient areas.

Diagnostic zone (optional)

This zone should ideally be interposed between OPD and IPD.

1. Pathology - including reception and specimen collection (privacy for blood collection),

records,	
Laboratory space	17.5 sq.m
Toilet room (compulsory)	3.5 sq.m

2. Radiology -

Radiography room (with records)	17.5 sq.m
Film developing, processing, drying	10.5 sq.m
Toilet room	3.5 sq.m

The illustrations provided are not meant to be planning specimens. They are meant only to show the utilisation of space under each head. These spaces and equipment within them have been drawn as far as possible to scale.

Critical Zone

This zone is required in surgical and maternity homes. This zone consists of the **Operating Suite** and **Delivery Suite**. This is technically a therapeutic aid in which a team of surgeons, anaesthetists, nurses, gynecologists and sometimes pathologist/s and radiologist/s operate upon or care for the patient.

The critical zone shall be located and arranged to prevent non-related traffic through the suites.

When delivery and operating rooms are in the same suite, access and service arrangements should be such that neither staff nor patients need to travel through one area to reach the other.

If outpatient surgery (i.e. surgery which is performed without anticipation of overnight patient care) is to be integrated with hospital inpatient surgery, at least one room should be specifically designated for outpatients to change from street clothing to hospital gowns and to prepare for surgery.

Room for post anaesthesia recovery of outpatient surgical patients shall be provided. Depending on the patient load, this room may also serve the purpose of a supervised 'recovery lounge' for patients who do not require post anaesthesia recovery but need additional time for their vital signs to stabilize before safely leaving the facility. Such a room should have an area

of at least 21 sq.m. It should be provided with two cots, have convenient access to toilets large enough to accommodate a patient and an assistant, space for one to two family members, provisions for privacy and a small space which can serve as a nurses counter.

Operating suite

Basic Design Standards

Protective Zone: Consisting of Nursing Station with storage facility, changing rooms, staff arrive through this zone and proceed via changing areas dressed for their task.

Clean Zone: This includes the recovery room. It is principally the corridor linking the transfer bay to the theatre suite. Patients are brought from the ward and should not cross this zone in their

ward- clothing which is a great source of infection. Changeover of trolley should be affected just before the clean zone.

** All staff should enter from a separate route and through a set of change rooms and through an air lock. They should communicate with the sterile corridor. A shoe change and gowning space near the air lock should be provided.*

Aseptic or sterile zone: It consists of operation theatres, sterilisation, theatrepack preparation and sterile storage, scrub up and gowning rooms.

Disposal zone: Also erroneously called the dirty zone. Soiled instruments and dressings are transacted through this area for washing and reesterilisation or disposal.

Minimum space requirements

A. Protective zone

Doctors' and nurses' change room with toilet	10.5 sq.m
Nursing station with storage area (sterile)	10.5 sq.m

B. Clean Zone

1 Recovery room with 2 beds	21 sq.m
2 Corridor space in the clean zone should have minimum width of	3.7sq.m

C. Aseptic Zone

1. Operation Theatre (This space is worked out on the basis of space required for one OT table, one Boyle's apparatus, one anaesthetist, one operating surgeon, 2 OT assistants, 2 nurses, space to move around.) 35 sq.m

2. Scrub up and gowning 10.5 sq.m

3. Instrument sterilisation 10.5 sq.m

4. Theatre pack preparation area with sterile storage 10.5 sq.m

D. Disposal Zone

1. Dirty utility 10.5 sq.m

Delivery suite (Required for nursing homes providing maternity facilities)

All maternity homes and all nursing homes offering maternity services shall make provisions for a delivery suite as under, over and above the aforementioned facilities necessary for an operating suite.

A. Examination and Preparation room with changing and toilet facilities 14 sq.m

B. Labour room/s 10.5 sq.m

Two labour rooms should be provided for every 10 maternity beds or part thereof. These rooms may be constructed preferably in the form of cubicles. They should be situated close to the delivery room. In case combined with the "examination and preparation room," the area standards should be maintained.

NOTE: In facilities which have only one delivery room, at least one of the labour rooms shall be 21m² so as to function as a 'delivery room'.

C. Delivery room 21 sq.m

Delivery rooms are to be provided at the rate of one for every 20 beds or part thereof.
This room should ideally be situated close to the operation theatre.

NOTE 1: In a maternity home with twenty beds, there should be

- Three labour-rooms each of size 10.5 sq.m
- One labour room of size 21 sq.m
- One delivery room of size 21 sq.m

NOTE 2: Labour/Delivery/Recovery (LDR) and Labour /Delivery/ Recovery / Postpartum (LDRP) facilities

When provided by the functional programme, delivery procedures in accordance with birthing concepts may be performed in the following facilities.

LDR/LDRP rooms shall have a minimum of 21 sq.m. If an operating room is not immediately accessible to the LDR/LDRP facilities, at least one room shall be equipped for emergency cesarean section and shall have not less than 35m² of clear area. Communication system, resuscitation facilities (for mother and newborn) should be provided for.

Each LDR/LDRP room shall be for single occupancy and have access to an adjoining toilet with shower or tub. One toilet may serve two LDR/LDRP rooms. Each room shall be equipped with a lavatory for hand washing (hand-washing sink with wrist blades is acceptable for scrubbing). Examination lights may be portable, but must be immediately accessible.

E. Dirty utility (exclusively for the Delivery suite) 7.0 sq.m

F. Nursing station 10.5 sq.m

G. Sterilising room 10.5 sq.m

H. Scrubup and gowning 10.5 sq.m

I. Theatre pack preparation area with sterile storage 10.5 sq.m

J. Doctors' and nurses' change room with toilet 10.5 sq.m

Spaces required for F to J may be shared with the operating suite and should be arranged in the same degree of asepsis as for operating suite.

K. Sluice room 7 sq.m

L. Area for storing stretchers out of the path of normal traffic 3.5 sq.m

M. Janitor's closet 3.5 sq.m

Intermediate zone

Inpatients nursing units

Wards should be relegated at the back to ensure quietness and freedom from unwanted visitors.

Normally a ward may comprise of six to eight beds.

An area of 7 sq.m per bed is recommended and should be arranged with a minimum distance of 2.25m between centres of two beds and a clearance of minimum 200mm between the bed and wall. This area is exclusive of toilet rooms, closet, lockers, ward robes, etc.

Each ward may accommodate a maximum of 8 patients. This would conveniently correspond to the ratio for provision of W.C. facilities.

Separate ward units shall be provided for male and female patients.

Preferably, separate wards should be provided for medical and surgical patients. Patients with infectious diseases should not be admitted into such wards.

Maternity wards for ante - natal and post-natal patients should be separate.

A nursery unit should be provided in nursing homes providing obstetric facilities.

Every patient shall have access to a toilet area without having to enter the general corridor area.

In wards, visual privacy shall be provided for each patient according to the need.

In maternity homes an arrangement must be possible to isolate a patient of eclampsia. A specific eclampsia room/ward may be provided for every twenty post natal beds.

- | | |
|--|------------|
| 1. Patient area | 7 sq.m/bed |
| 2. Nursing station (including work area, space for cabinets, space for emergency trolley, medicine trolley, refrigerator and toilet) | 14 sq.m |

3. Treatment room	10.5 sq.m
4. Ward store	10.5 sq.m
5. Trolley bay	3.5 sq.m
6. Janitor's space	3.5 sq.m
7. Day space (optional)	14 sq.m
8. Relatives waiting area (optional)	14 sq.m
9. Sluice room (one per ward)	10.5 sq.m
10. Patients' toilet (specified under sanitary requirements)	10.5 sq.m
11. Space for pantry (optional if warm food can be provided directly for the kitchen) (in all maternity homes and in nursing homes with more than twenty beds)	10.5 sq.m

Note:

Day space: For those patients who are allowed to sit and relax, a room shall be provided in the ward unit itself. It should afford an easy access to patients and supervision by the nursing staff and should be provided with easy chairs, book-shelves and small tables. It may also serve as a dining space.

Sluice Room: This room is meant for emptying and cleaning bed pans, urine bottles and sputum mugs, disposing of used dressing and similar material, storage of stool and urine specimens, cleaning mackintoshes/rubber sheets.

Ward Pantry: For collection and distribution of meals and preparation of beverages. Should have facilities for storing cutlery, etc.

Postnatal wards: In case rooming - in concept is being followed, bassinets would have to be provided with every bed. The space requirement, accordingly, will be higher.

NURSERY FOR NEW BORN - all nursing homes providing maternity facilities must provide for a nursery for normal babies. An area of 10.5 sq. m may be ear-marked for the same. Floor space per bassinet would be 3.5sq. m.

A FORMULA-CUM-BREAST FEEDING room also needs to be provided in maternity homes. An area of 10.5sq.m near the nursery would be sufficient.

Service zone

1. Laundry: For a nursing home having less than 30 beds manual washing facilities may be used. For this one corner of the nursing home complex may be used. Space would be required for following:

- Dirty clothes receiving area	10.5 sq.m
- Manual pressing	14 sq.m
- Clean clothes storage	10.5 sq.m

(optional. This function may be carried out in the manual pressing area)

2. Dietary facilities: All nursing homes having more than twenty five beds and all maternity homes shall provide dietary services.

Cooking area	28 sq.m
Washing area (for washing pots, trolleys, dishes)	21.0 sq.m
Garbage collection	3.5 sq.m
Dry ration storage area	10.5 sq.m

(Optional. This function maybe carried out in the cooking area)

3. Space for storage of oxygen cylinders: Enough reserve cylinders should be kept to last out for a week.

Space for storage of **Nitrous oxide cylinders**. Enough reserve cylinders shall be stored to complete at least one day's procedures.

If a **compressor** is to be used for central suction then space would have to be provided for the same

4. Generator: In case of a power failure, all equipment, instruments and electrical points of the nursing home (including those for refrigerator, fans, lights) should be able to work as normal.

The capacity of generator required should be accordingly calculated.

It should be installed in a place where it will not disturb patients and traffic. It may need to be covered with a casing to control noise.

5. Medical store	10.5 sq.m
6. General store [may be combined with linen store(optional) 10.5 sq.m]	10.5 sq.m
7. Medical records room	10.5 sq.m
8. Administrator and nursing-in-charge office	10.5 sq.m
9. Nurses changing/duty room with toilet	10.5 sq.m
10. Doctors' duty room with toilet	10.5 sq.m

Using the above tables, space requirement work out as follows :

- for a medical nursing home 28.46 sq. m/bed
- for a surgical nursing home 33.53 sq. m/bed
- for a maternity home 40.69 sq. m/bed

Building Engineering Environmental Standards

1. Location

Hospital sites with high degree of sensitivity to outside noise should be avoided. The site should be compatible with other considerations such as accessibility and availability of services. The buildings should be so planned that sensitive areas like wards, consulting and treatment rooms and operation theatres are placed away from the outdoor sources of noise.

2. Ceilings

The finishes of all exposed ceilings and ceiling structures in areas normally occupied by patients or staff, and those in food preparation or food storage areas shall be readily cleanable with routine housekeeping equipment. Ceilings and walls in operating and delivery rooms shall be free of fissures, open joints, or crevices that may retain on permit passage of dirt particles. Ceiling should be R.C.C.

3. Floor Height

The height of all the rooms in the hospital should not be less than 3.00m and not more than 3.65m, measured at any point from the surface of the floor to the lowest point of the ceiling. Minimum head room, such as under the bottom of beams, fans and lights shall be 2.5m measured vertical under such beam, fan, light. The design of building shall ensure control of noise due to walking, movement of trollies, etc.

4. Floors and Walls

The architectural finishes in hospitals shall be of high quality in view of maintenance of good hygienic conditions. All wards should have dado to height of 1.2m. The walls should be impervious with oil paint. Floors should be covered with good quality mosaic tiles in the minimum. The aim being that floor materials shall be readily cleanable and appropriately wear-resistant. In all areas subject to wet cleaning, floor materials shall not be physically affected by liquid germicidal and cleaning solutions. Floor subject to traffic while wet, including showers and bath areas, shall have a non-slip surface. Floors should be smooth so as to allow smooth passage of wheelchairs and trolleys.

Wall finishes shall be washable and, in the proximity of plumbing fixtures, shall be smooth and moisture resistant. Wall bases in areas that are frequently subject to wet cleaning shall be

covered with the floor; tightly sealed within the wall; and constructed without voids. Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects. Joints of structural elements shall be similarly sealed.

Operating room/Labour room/Delivery room should be made dust-proof and moisture-proof. Corners and junctions of walls, floors and ceiling should be rounded to prevent accumulation of dust and to facilitate cleaning. Walls of operation theatre, delivery room, recovery room, scrub room should be fully covered with dado tiles.

In other areas of critical zone, tiling should be provided upto a height of 1.2m.

5. Doors:

The minimum door width for patient use shall be (2 feet 10 inches) 86cms. The minimum width of doors to rooms used by hospital inpatients transported in beds/trolleys shall be 1.2m. Height of doors should be not less than 2.13metres(7 feet)

Rooms which contain bathtubs, Sitz baths, showers and/or water-closets for inpatient use shall be equipped with doors and hardware permitting emergency access from the outside. When such rooms have only one opening or are small, the doors shall open outward or in a manner that will avoid pressing a patient who may have collapsed within the room.

All doors between corridors, rooms or spaces subject to occupancy, except elevator doors, shall be of the swing type.

Doors, except those to spaces such as small closets not subject to occupancy, shall not swing into corridors in a manner that might obstruct traffic flow or reduce the required corridor width.

In the operation suite and Delivery suite, all doors should be two leaf type with a minimum width of 1.5m and shall have self closing devices.

6. Windows

Wards and rooms for the admission of light and air shall have one or more apertures such as windows (also sufficient members of fans and lights) opening directly to the external air or into an open verandah. The minimum aggregate areas of such opening, excluding doors, inclusive

of frames shall be not less than 20 percent of the floor area in case such apertures are located in one wall and not less than 15 percent of the floor area in case such apertures are located in two opposite walls at the same sill level.

Note: If a window is partly fixed, the openable area shall be counted.

7. Corridor

Minimum public corridor width shall be 5 feet (1.52 metres). Work corridors less than 6 feet (1.82 metres) long may be 4 feet (1.22 metres) wide.

8. Water Supply, Plumbing And Other Piping Systems

Arrangement shall be made to supply 350 litres⁴ of potable water per day, per bed to meet all requirements (including laundry), except fire fighting. Storage capacity for two days requirement should be made on the basis of above consumption.

Systems should be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand.

Separate reserve emergency overhead tank shall be provided for operation theatre.

Hot water supply to wards and departments of the general hospital shall be provided by means of electric storage type water heaters or centralised hot water system of capacity depending upon the need of hot water consumption.

Filtered and soft water supply is needed in pathology laboratories and shall be supplied as required.

Cold water supply is needed for processing tanks in film developing room and shall be supplied as required.

Within the operation theatre there should not be any drains.

The material used for plumbing fixtures shall be non-absorptive and acid-resistant

Insofar as possible, drainage piping shall not be installed within the ceiling or exposed in

operating and delivery rooms, nurseries, food preparation centres, food serving facilities and other sensitive areas. Where exposed, overhead drain piping is unavoidable, special provisions shall be made to protect the space below from leakage, condensation or dust particles.

Pipe line network shall be laid down to transmit oxygen and Nitrous oxide gases and suction line to the departments and wards as detailed below for nursing homes with more than 20 beds. The three pipelines have to be of different colours conforming to a laid down standard and mounted on wall or ceiling surface.

Precautions should be taken regarding the storage of oxygen and nitrous oxide.

For more than 20 beds

	Oxygen	Vaccum	Nitrous oxide
Operation	Two outlets	Three outlets	Two outlets
Delivery room, LDR room, Obstetric recovery room	Two outlets per room	Three outlets per room	One outlet per room
Labour room	Separate outlet for each bed	One outlet accessible to each bed	One outlet accessible to each bed
Recovery	Separate outlet for each bed	Separate outlet for each bed	One outlet accessible to each bed
Nursing	One outlet accessible to each bed	One outlet accessible to each bed	One outlet accessible to each bed
First aid and emergency treatment	Separate outlet for each bed	Separate outlet for each bed	Separate outlet for each bed

In all these areas keep one O₂ cylinder as spare

For less than 20 beds

One suction apparatus for every eight beds.

One suction apparatus for operating theatre.

One suction apparatus for delivery room.

One suction apparatus for emergency and casualty patients. At least two of these should be foot operated.

Oxygen cylinders

Operating theatre - Three cylinders

Wards - Two cylinders/8 beds

Delivery room - Two cylinders

Emergency - Two cylinders

Stock for one week should be maintained

In each of these areas flowmeters and trolleys shall be provided.

9. Electrical Standards

Points for lighting, fans etc. as may be required in the facility.

Switchboards and Power points

The main switchboard shall be located in an area separate from plumbing and mechanical equipment and shall be accessible to authorised persons only. Switchboards shall be convenient for use, readily accessible for maintenance, away from traffic lanes, and located in a dry, ventilated space free of corrosive or explosive fumes, gases, or any flammable material. Overload protection devices shall operate properly at ambient room temperatures.

Panel boards

Panel boards serving normal lighting and appliance circuits shall be located on the same floor as the circuits they serve. Panel boards for emergency circuits shall be located on each floor that has major users.

10. Access Routes to various Facilities of the Nursing Home:

The nursing home shall be easily accessible to patients. Access up till the casualty/emergency section of the hospital should be easily possible. A ramp may need to be constructed for the same.

Electrically operated automatic control lifts shall be provided in all categories of hospitals having

more than one storey. The lift should be easily accessible from all entrances of the hospital. Lifts should be conveniently situated near ward and operation theatres departments. There shall be sufficient space near the landing door for easy movement of stretcher/trolley. Lift should be large enough to accommodate a trolley, a wheel chair and 3-4 persons at a time.

A ramp leading to the topmost floor of the nursing home may be provided in addition to the stairs needed at places.

11. Communication system

An efficient communication system within the nursing home is necessary. An intercom system would be the best. If not possible softly ringing alarm bells with lighting up system should be installed connecting wards, nursery units, operation theatre, delivery room, labour room to the nursing stations.

12. Fire-fighting system

Efficient fire fighting systems should be installed in every nursing home.

13. Ventilation requirements for areas affecting patient care in nursing homes

The following table covers ventilation for comfort as well as for asperis and odour control in areas if acute care hospitals that directly affect patient care.

Area	Minimum total air change per hour	Air movement relationship to adjacent area
Operating room	15	Out
Delivery room	15	Out
Newborn nursery	6	-
Recovery room	6	-
Labour room	2	-
Wards	2	-
Patient corridor	2	-
Bathroom/toilets	10	In
Steriliser equipment room	10	In

Design of the ventilation system shall in so far as possible provide that air movement is from "clean to less clean" area.

14. Requirements for sanitary fitments in nursing homes for patients

INPATIENT WARDS AND NURSING UNITS

- i. Water closets:
 - 1 for every 8 beds or part thereof (male)
 - 1 for every 6 beds or part thereof (female)
- ii Ablution taps water
 - 1 for each water closet plus one tap with draining arrangement in the vicinity of water closets.
- iii Urinals
 - 1 for every 12 beds or part thereof (males only)
- iv Wash basin
 - 1 for every 12 beds or part thereof.
- v Baths
 - 1 bath with shower for every 12 beds or part thereof.
- vi Bed pan washing sinks
 - 1 for each ward In dirty utility and sluice room
- vii Cleaner's sinks and sink/slab for cleaning mackintosh
 - 1 for each ward

OUTPATIENT BLOCK

For the OPD block separate toilets are to be provided for the use of males and females. The same toilets may be used by the staff also.

The pathology department must maintain a separate toilet.

The radiology department must have following special toilet facilities in case it carries out procedures like IVP.

- | | For males | For females |
|-------------------------|--|--------------------------------|
| i Water closets thereof | 1 for every 40 persons or part thereof | 2 for every 50 or part thereof |
| ii Ablution taps | 1 in each water closet | 1 in each water closet |
- Plus 1 water tap with draining arrangements shall be provided in the vicinity of water closet and urinals per lavatory block.

iii Urinals 1 for every 25 persons or part thereof --

iv Wash basin 1 for every 50 persons or part thereof

1 for every 50 persons or part thereof

15 Waste Disposal:

This should be carried out by means of incinerator.

References

1. Bureau of Indian Standards, **Basic requirements for Hospital planning Part I upto 30 bedded Hospital : 1988** Published : Bureau of Indian Standards Manak Bhavan, 9 Bahadurshah Zafar Marg New Delhi 110 007
2. **Recommendations for basic requirements of General Hospital Buildings Part I Administrative and Hospital Services Department Buildings - 1984** Published: Indian Standards Institution
3. **Recommendations for basic requirements of General Hospital Buildings Part 2 Medical Services Department Buildings** Published: Indian Standards Institution
4. **Recommendations for basic requirements of General Hospital Buildings Part 3 Engineering Services Department Buildings** Published: Indian standards Institution
5. Ivan D. A. Johnston and Andrews R. Hunder **The Design and Utilisation of Operating Theatres** Published: Edward Arnold (Publishers Ltd.) , Bedford Square, WC1B 3DQ
6. Khorshed Pavri - **Standard Biosafety guidelines** 2nd Ed 1991; Published: Dr. S.P. Tripaty, Director General, Indian Council of Medical Research (ICMR), New Delhi
7. Municipal Corporation of Greater Bombay, **Guidelines for Nursing Homes** Public Health Department, HO/73296.
8. John Cook, Balu Sankaram, Ambrose E.O. Wasunna - **General Surgery at the district hospital**: Published: World Health Organisation (WHO) 1988
9. John Cook, Balu Sankaram, Ambrose E.O. Wasunna - **Surgery at the district hospital: Obstetrics, Gynaecology, Orthopedrics and trauntology** - WHO 1991
10. Michael B. Dobson - **Anaesthesia at the district hospital** WHO - 1988.
11. Indian Standard, **Classification and Matrix for various categories if Hospitals** (1989)
12. Guidelines for construction and Equipment of Hospital & Medical facilities. 1987 Edition by the American Institute of Architects.
13. Guidelines on norms for equipments for hospitals of different sizes. March 1992. Published National Institute of Health and Family Welfare, New Delhi.

Appendix 1

Biosafety guidelines

1. Entry into Laboratory/work area should be restricted.
2. Staff should be provided with aprons for working in the laboratory.
3. Work surfaces should be disinfected when procedures are completed and at the end of each working day, 0.1% Hypochlorite solution is effective for the same.
4. Gloves should be worn for all manipulations of infectious material: Examination gloves of vinyl or latex must be used in laboratory, ward, operation theatre. General purpose utility gloves (i.e. rubber gloves or household gloves, reusable) must be used while cleaning instruments, decontamination procedures and other activities where manual dexterity is not required.
5. In operation theatres and delivery rooms, cleaning must be carried out every day. Cleaning with carbolic acid/phenol has to be carried out every week and swabs should be sent to laboratory for cultures. Fumigation must be done in case cultures turn out positive. Records for the same should be maintained so that they can be scrutinised periodically. All horizontal surfaces including floor should be mopped between cases.
6. All medical instruments should be soaked for 30 minutes in chemical disinfectant before cleaning. This will give further protection to the personnel from exposure to HIV during the process of cleaning.
7. The best form of disinfection is autoclaving. After this comes boiling for 20 minutes. In practical and field settings, high-level disinfection with chemicals is far less reliable than boiling.
8. Hepatitis vaccine should be provided for all personnel.

Appendix 2

“MINOR” SURGERY

It is a myth that “minor” and “intermediate”* operations can be satisfactorily performed in small theatres or in treatment rooms.

Such surgery should be performed only in standard-sized theatres provided with the usual level of lighting, ventilation, equipment and staffing.

Such surgery may become major ones due to unforeseen circumstances (e.g. Rupture of uterus during termination of pregnancy).

General Surgery, OBG

Herniac Dilatation and cureltage

Varicose veins avulsion Termination of pregnancy

Vasectomy Laparoscopic procedure

Manual dilatation of anus Polypectomy (cervical)

Endoscopy Cautery of cervix

Excision of swellings (lipoma, breast lump,

Sebaceous cyst) Marsupialization of Bartholin’s cysts

Appendix 3

**List of Participants for the Workshop on
"Physical Standards in Private Hospitals / Nursing Homes"**

Date: April 23, 1995

**Venue: ICSSR Conference Room, J. P. Naik Bhavan
University of Mumbai, Kalina, Santacruz East, Mumbai.**

1. Dr. Yash Lakhandwala Cardiologist ,KEM Hospital, Mumbai
2. Dr. Santosh Karmarkar, Padiatric Surgeon, Wadia Children's Hospital, Mumbai
3. Dr. Murlidhar V., Surgeon, Sion Hospital, Mumbai
4. Dr. Sanjay Nagral, Surgeon, KEM Hospital, Mumbai
5. Dr. S.K.Pandya, Head, Dept. Neurosurgery, KEM Hospital, Mumbai
6. Dr. Veena. J. Murlidhar, Medical Officer, Navi Mumbai Municipal Corporation, Navi Mumbai
7. Dr. Sham Ashtekar. Director, Bharat Vaidyak, Dindori, Nashik
8. Dr. Anil Pilgaokar, Forum for medical Ethics Society, Mumbai
9. Dr. Sharad Narvekar, Dy. Director of Health Services, Maharashtra, Mumbai
10. Dr. Satish Arolkar, Plastic Surgeon, Mumbai
11. Dr. B.M.Inamdar, Obstetrics & Gynaecology, Datta Maternity Home, Mumbai
12. Dr. Pawan R. Surekha, Paediatrician, Anand Nursing Home, Mumbai
13. Ms. Padma Prakash, Senior Assistance Editor, Economic and Political Weekly, Mumbai
14. Dr. Amar Jesani, CEHAT
15. Mr. Ravi Duggal, CEHAT
16. Mr. Sunil Nandraj, CEHAT
17. Ms Asha Vadair, CEHAT
18. Ms. Hemalata Pisal, CEHAT
19. Mr. Anand Utekar, CEHAT
20. Ms.Archana Jadhav, CEHAT