"Care cannot be high quality unless the patient is satisfied"
- Vouri. H

District hospitals are quite often criticized by the community or public for their inefficient and ineffective functioning. They use their own standards and parameters for measuring the quality of medical care provided. To operate the hospitals under the present dynamic environment is a big challenge. Hence, it is imperative for the hospital administration to bring in certain standards in all spheres of hospital and health care management so that the quality of care provided by the different functionaries can be measured against these laid down standards.

Who decides the quality in a hospital, and who decides the standards in hospital? The beneficiaries, health care providers, management, medical association or accreditation board? All these categories may have some stake in defining the standard of medical care, but out of these beneficiaries, patients are the single largest category. They deserve special attention because the mission of any medical institution is to provide quality health care to the patient. Therefore, the satisfaction of the patient is one of the most important criteria for assessing the quality care in a medical institution.

The researcher made an attempt to review the previous studies relating to the field of measurement of quality in health care, using patient satisfaction. An attempt is also made to study the existing norms/standards prescribed for the District Hospital. A detailed review of earlier literature is presented in four parts based on the following themes:

a. Ideal patient satisfaction survey
b. Role of patient satisfaction survey in measuring quality health care
c. Improvement of quality by using patient satisfaction survey
d. Standardization of quality medical care in district hospital
FIGURE -1
MODEL OF HEALTH SYSTEM BASED ON PRIMARY HEALTH CARE

Source: District Health Facilities: Guidelines for Development and Operations, WHO regional publications
Ideal patient satisfaction survey

If you don’t take the time and effort to discern what your customer anticipates from their health care encounter and what their needs and concerns are, you make the mistake of assuming that you know what they want or what they hope to gain. This is inefficient from a productivity standpoint and can result in less effective clinical outcomes.¹

The main objective of quality health care is to effect a positive change in the health status of the patient population. Therefore it is observed that factors influencing patient satisfaction form the pre-requisite to the concept of quality assurance.

Quality improvement in health care organizations requires effective measurement of patient satisfaction. A study done by Kathryn H. Dansky from Pennsylvania State University describes a methodology that identifies dimension of care most closely associated with overall perceptions of quality. A patient satisfaction survey was mailed to 2055 discharge patients of 13 home health agencies. Patients were asked to evaluate most closely associated with quality indices which can be identified and used in Continuous Quality Improvement (CQI) initiative. Service dimensions of home health relating to scheduling, nursing care, home health aid services and discharge arrangements were studied. Overall satisfaction with quality of services was used as a dependent variable in two discriminant analysis equations. Eleven dimensions discriminated between “Excellent” and “Good” quality and 7 dimensions discriminated between “Satisfactory” and “Unsatisfactory” quality using discriminant analysis items².

The measurement of patient satisfaction stands poised to play an increasingly important role in the growing push toward accountability among health care providers variation in measurement tools, however it is an obstacle in making patient satisfaction a reliable part of the quality equation. University of Pittsburgh Medical Centre’s (UPMC) Webstar believes that patient satisfaction measurement is best kept to the quality of service side rather than integrating it with the quality of care issues.

¹ Sheryl Bonkesh J., “Improving Patient Satisfaction; Service Quality”, Audiology Today March/April, 1998, PP. 54-58
Preliminary research on the relationship between perception of quality care and the actual outcome highlights the difficulty of integrating the two on a patient survey. Only recently efforts have begun, to bring uniformity to patient dissatisfaction measurement for hospitals. Even if redundancy and variation of patient satisfaction measurement can be minimized to permit meaningful comparisons, questions remain as to how patient satisfaction surveys can be modified to fulfill an expanded role of quality of care measurement, whether it is even appropriate to be considered as a quality indicator, what weight patient satisfaction should be given in context of other quality measures. Perhaps the largest context in which patient satisfaction is currently measured is to assess and improve their functions and to do better service jobs to maintain a competitive posture in the markets.

To measure service quality and customer satisfaction, the key scenes, acts, and sequencing of acts that occur in the service encounter must be mapped out in detail. A general framework of customer evaluation was modified for hospital use by the National Medical Enterprises Inc (NME) in 1987.1

The real challenge was how to integrate the distinct elements into a programme that is scientifically sound and administratively practical since patient surveys should be accurate, repetitive and useful and should highlight priorities. In the year 1986 to 1989 Thomas Jefferson, University Hospital Philadelphia, developed and implemented an approach to “Patient Satisfaction Management System” (PSMS approach) with an attempt to integrate these features more effectively and in the unique context of health care2.

To understand how and what your patient expects or perceives and to identify where improvement is indicated, a common tool “patient satisfaction survey” is used. The main point of consideration is whether the right questions are being asked and the right cross tabulations are being made to get realistic and specific reasons for patient dissatisfaction. A method of combining qualitative and quantitative aspects is

Figure -2
General Framework to Customer (Patient) Satisfaction with received hospital care as Developed by National Medical Enterprises 1987

Figure -3
The Jefferson approach of patient satisfaction developed at Thomas Jefferson University Hospital Philadelphia

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probably the best. It provides objectivity for patient perceptions rather than just obtaining figures 'who to ask' and 'how many people' to include in the project are the ones that worry most people. It depends on the aim of the project, case mix, size, time frame available, the priority on the agenda of improvement and of course the method used. A medical condition may be as important as age, gender, ethnicity and class in affecting the person's expectations and so their responses to questions about their views on the care they have received.1

Role of Patient Satisfaction Survey in measuring Quality in Health Care

In a significant shift towards the customer focus in the health care industry, the Blue Cross of California announced that they would no longer reward physicians for controlling medical costs and will instead link the physician’s bonuses to patient satisfaction.

Have you ever thought on the subject of how a patient comes to you? In other words who actually brings the patient? In a survey conducted it was found that satisfied patient brings in 57 %.2

"Accountability has become the buzzword of 90’s more and more, physicians are compelled to show that they have acceptable levels of patient satisfaction. In fact, a number of standards setting organizations and consumer groups have began using patient satisfaction as a key indicator of the health care quality."3

Unlike customers of other service sectors, a patient is forced to be the customer, gets a close look at the system, interacts practically with everybody and parts with his money unhappily,. So it is important to determine the needs and wants and satisfy them through design, communication, pricing, delivery of products, and services. Market research should be associated with patient needs for reasonably good quality medical care. They want smiling, empathetic nurses and staff, a wide selection of food for their meals, and quick response to their calls.


Hospitals have introduced “patient satisfaction survey” and even taken a community view to make their services attractive in the eyes of its beholder but despite serious attempts, hospitals have not been able to match the level of satisfaction as expected from their target group. With insight from strategic principle of total quality management, a major thrust of patient oriented effort is to measure and improve the service quality level. Unfortunately, service quality impact on patient satisfaction and long term loyalty is hard to grasp. This is because health is a life long state of well being that requires continuous care related interactions over a period of time and because patient satisfaction, being a function of multiple services comes across a wide variety of exchange partners within health care organizations.

Therefore, it is equally important to integrate research on internal service quality mechanism and competitive positioning. “Evaluating internal quality which affects the perception of service quality dimensions and competitive positions against other health care institutions on key quality criteria, will enhance overall patient satisfaction with service quality, which in turn will help to develop quality relationship building strategies”.

Quality improvement through patient satisfaction surveys

A patient satisfaction survey, conducted by Parvathi S.J. et al. at MVDSC, Chennai, revealed “Quality Index” of services as 55.8 in 1998, 56.8 in 1999 and 61.5 in 2000. This study involving 1,342 patients was done to determine quality, using a questionnaire which was designed for rating, appreciation and suggestion. The chief causes of patient dissatisfaction are in the following areas; patient waiting time, catering and physical needs to room, space management, cleanliness of hospital and staff, charges of the centre, guidance to different departments. It was observed that improvements in the quality index over the years were mainly because of corrective and preventive action by the team effort to rectify complaints. The study further suggested that improvement in patient feedback can be achieved by frequently

enquiring from patients during their stay in the hospital and convincing the patients before their discharge about the issues which cannot be settled immediately.

A study of 200 patient satisfaction surveys conducted by Chaskar R.P.\textsuperscript{1} in 1996, at the OPD of the Indore Hospital noted that 36 percent of the patients regularly visited the hospital, as they were satisfied. 72 percent were satisfied with the cleanliness of the rooms however, 38 percent people felt the hospital was very congested and over crowded. A total of 16.5 percent, 15 percent, and 27 percent patients replied that they were subject to excessive delay at the registration counter, laboratory, and checkups respectively. Almost 39 percent of patients answered that more than required number of investigations were done. 40 percent of the people were not happy with the physical facilities provided, but it was encouraging to note that 85 percent were fully satisfied with the treatment, and 90 percent patients were of the opinion that they would recommend the hospital to their friends and relatives. In view of the above findings, to prevent overcrowding, the hospital was advised to fix visiting hours and restrict the attendants to one. Maintenance of physical facility, training of ward boys and other staff was also considered and enquiry of delay at the registration and laboratory was needed to be further investigated and dealt with accordingly.

Veera Prasad M.\textsuperscript{2}, in his study conducted at the Nizam Institute of Medical Sciences, Hyderabad in 1994, recommends patient grievances, redressal, and counsel clinics. This study involved 100 patient satisfaction surveys, and most of the patients were dissatisfied about the cumbersome procedures during admission, abnormal delays at the time of discharge, laboratory, behaviour of security and hospital staff, and patient guiding system. Almost all patients were satisfied with the medical services but most of the patients (68 percent) complained that they are not getting any information regarding their illness. 63 percent of patients showed interest in recommending this hospital to others because they were satisfied, but 17 percent agreed that they would recommend it because of the lack of an alternative.


Mark Meterko et al. in their study investigated the relationship between team work culture of hospital and patient reports of their satisfaction with the care they received. Results from multivariate regression analysis indicated a significant and positive relation between team work culture and patient satisfaction for inpatient care, and a significant and negative relation between bureaucratic culture and patient satisfaction for inpatient care. The study suggests developing a culture emphasizing team work and de-emphasizing those aspects of bureaucracy that are not essential to assure quality care.

Prasanta Mahapatra and others, revealed depressing feedback in a study of patient satisfaction survey involving 1,179 people of 25 district hospitals managed by the Andhra Pradesh Vidya Vidhana Parishath (APVVP) using PSQ III questionnaire, in May-July 1999. This survey is the first of its kind for public hospitals in India. Overall satisfaction was about 65 percent and areas of dissatisfaction were corruption by hospital staff (20 percent), utilities like water supply fan and light (17 percent), toilet and cleanliness (17 percent), communication and interpersonal skills (12 percent), supply of drugs (9 percent), food supply (8 percent), linen availability and cleanliness (5 percent), staff shortage (2 percent), diagnostic facilities (2 percent). Significantly, high level of dissatisfaction was also noted regarding, patient assessment of technical quality of doctors’ work and the time spent by doctors. The study concluded that patient satisfaction survey should form an important tool for identifying deficiencies and for any managerial interventions to improve quality.

Aarti Viji and R.K. Sharma, conducted a retrospective study to evaluate the “in use” exit Proforma for patients opinion and suggestions in special wards of a public sector tertiary care hospital in Delhi. The Patient satisfaction survey of 100 samples revealed high level of satisfaction with various aspects of hospital services.

100 percent satisfaction was observed with medical and nursing service. Certain percentage of dissatisfaction was observed with the quality of food (19.8 percent), supplies of private ward rooms (17 percent) and diagnostic services (12 percent). The study suggested administering patient satisfaction survey routinely to establish baseline data of performance that will allow managers to focus on specific patient care issues to improve quality.

A comparative study of patient satisfaction was done by Talluru Sreenivas and Prasad G.\(^1\) involving 300, 270, and 240 patients from Osmania, Nizams, and Deccan Hospitals, Hyderabad respectively. All the three hospitals were selected for their similar characteristics and identical facilities. Outpatients in the three hospitals were dissatisfied about registration procedure, consultation, and treatment facility.

Mohan Virennder\(^2\) did a cross sectional study using exit interview of 300 patients attending OPD in all the hospitals attached to Government Medical College, Amritsar to evaluate patient satisfaction. 194 (64.67 percent) patients attending these OPD’s were educated below the standard of matriculation with the remaining 107 (35.67 percent) illiterate, which was responsible for the higher satisfaction level of patients. The main reason for their dissatisfaction was the scattered location of the hospital facilities, cleanliness of toilets, and dispensary services.

A study was conducted at Nizam Institute of Medical Sciences, Hyderabad by Sathya Naryana N. et al.\(^3\) through distribution of structured questionnaire to 300 patients, for a period of six months. This was done with a total sample of 300 questions to view working hours, registration pattern, waiting time of various services. Patient satisfaction survey was combined with direct personal observation, and retrospective study of medical record department to scrutinize workload. The study identified some bottlenecks such as lack of flow concept and lack of adequate

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floor space. Keeping in view the results obtained after the study, the following suggestions were recommended for better patient care; plan single entry and exit in a systematic way, increase the OPD area, issue plastic colour tokens with numbers, proper sign boards and staggering hours of consultation to decrease overcrowding.

Patient satisfaction survey of 6769 patients at Three Rivers Endoscopy Centre, USA\(^1\), in October 2002, using post visit questionnaire, showed 98 percent overall satisfaction. Admission, nursing care, and medical care showed more than 95 percent satisfaction levels. The study felt that such a high success rate is because of the high standard of service provided by the hospital.

Patient Satisfaction Collaborative Project by Indian Health Service (IHS) and the Health Resources and Service Administration (HRSA)\(^2\), working as co-leaders and partners, developed the conceptual frame work for “Patient Satisfaction Resource Manual” which would be useful in improving an organization quality of care provided by Indian Health Service which often lacks tools and resources.

A study by Lauret Boyer et al\(^3\) to assess 500 clinical staff opinion on the results of inpatient satisfaction survey in a 2,200 bed Teaching Hospital using a validated questionnaire, revealed a favourable opinion (94 percent) about the patient satisfaction surveys. The study concluded that despite this declared interest, the results of the patient satisfaction surveys remain underused by the staff to improve the quality.

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Christel Woodward A. et al., conducted a study to examine the performance of a patient survey about the quality of care received in community based diagnostic and therapeutic facilities. Patients generally rated their care positively (81.5 percent), but the patients’ ratings regarding aspects of quality, were not useful predictors of assessors rating. The study concluded that, although patients’ ratings cannot substitute for “expert on-site assessment”, they are an important part of quality management programme.

A study done by Steven F. Isenberg and Michel G. Shewart, involving 6088 patients and 59 physicians, with the objective to quantitatively measure the effect of ‘quality improvement based intervention’ using a patient satisfaction survey revealed a significant positive effect on patient satisfaction with office visits, when compared to a group of physicians who did not use this intervention.

Roger Bolus and Jennifer Pitts, report on the growing importance of measuring patient satisfaction by conducting surveys annually, with an extensive questionnaire since 1996, by Hewitt Associates. These surveys say a lot about quality and are continuously conducted by Health Management Organisations (HMO) and accrediting bodies and the authors suggest medical groups to follow suit.

A survey by ‘Fraser Health’ from July to September 2003 reports the usefulness of patient satisfaction survey involving emergency patients to improve the quality rather than comparing results with other competitors.


Kevin Khyat and Brian Salter, report varied levels of satisfaction among 2173 adults according to socio demographic characteristics, such as age, sex, social class, housing tenure and length of time in education. The study concluded that, this type of survey can form the basis of a marketing strategy aimed at optimizing list size, list composition and service quality. It also suggested that the satisfaction survey can be readily incorporated into regular medical audit and financial management to improve quality.

A study done by Aditi Iyer and others, to know the patient satisfaction in the context of socio economic background and basic hospital facilities, revealed above average level of satisfaction in most of the components of care provided. The satisfaction levels were as follows; admission procedures 80.9 percent; hospital ward 82.4 percent, toilet facilities 76.9 percent, facility for sleeping 80.2 percent, linen 64.7 percent, clothes 48.2 percent, food 53.9 percent, doctors 94 percent, nurses 92 percent, ward boys 78 percent, ayahs 77.4 percent. The main reason for dissatisfaction was the unsatisfactory physical facilities (24 percent) and poor communication by hospital staff (10 percent). Though this study recommends assessment of patient satisfaction on a regular basis in public hospitals it explains that satisfaction is generated by many factors. Satisfied patients do not necessarily mean that there is good quality of care in the hospital. The findings of this study further suggest that the very low socio-economic status of the patients, and the consequent low expectations from the hospital by them, have greatly influenced their response to the questions on satisfaction. The study recommends detailed qualitative study using other methods along with comprehensive exit survey of patients in public hospitals to determine the quality of care provided.

Terry Rives and John Mekee C., in their patient satisfaction survey of 432 patients visiting general medicine clinics in November 2003, revealed positive patient experience. The principle source of dissatisfaction was the parking (58.5 percent),

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3. Terry Rives, John Mekee C., “Patient Satisfaction Survey in General Medicine Clinic “, The University of Texas, Health Service Centre at Houston, Outcome Assessment and Biostatistical Services. www.portmedical.org/2003
time (78 percent), and getting through the clinic by telephone (83.9 percent). About 96.6 percent would recommend the clinic to their friends and family. The survey instrument used was the self administered questionnaire employing Likert, like close ended responses options, two open ended options, and standard demographic self reported categorical variables. Tests for significant differences among those categorical variables were performed using Chi-square test.

The Syracuse area office\(^1\) sees the facilities and agencies it regulates, as customers and partners whose opinion and participation are important for continuous improvement in the quality of regulatory services. The survey conducted in February 1995 of 324 health care agencies covering 29 hospitals, 92 nursing homes, 136 home care providers, 13 hospices, 47 ambulatory care facilities and 7 health maintenance organizations revealed three highest levels of customer satisfaction in courtesy of staff (90 percent), efficient use of onsite time (84 percent), and respect for provider employees (83 percent). The three lowest satisfaction rating were in the judgement domain. The study expected better results when they repeated the survey, by their commitment to improve quality by their performance, especially in the problem areas highlighted in the study.

A cross sectional study done by Prasanta Mahapatra\(^2\) involving 1,179 respondents from the district hospitals in Andhra Pradesh from June 1999 - Dec 2000 revealed a low level of global satisfaction; 70.3 percent in June 1999, 70.6 percent in June 2000 and 68.1 percent in December 2000. Corruption appeared to be highly prevalent; the other causes for dissatisfaction were availability and supply of drugs, water supply, fans and lights. But, the study identified no differences in satisfaction scores by age, gender, education, occupation, or by socio-economic status. The study suggested the use of objective data like hospital indicator to improve the quality of services along with the patient satisfaction surveys at regular intervals in public hospitals.


The regular patient satisfaction survey conducted by Nuffield hospitals\textsuperscript{1} in every quarter focusing on general aspects of care provided within the hospital including care and treatment, information received, room and privacy, and catering services revealed excellent ratings in majority of the services. More than 99 percent revealed recommending the hospitals to others.

Kroenke et al,\textsuperscript{2} conducted a study for one year (July 1996 - June 1997) interviewing patients within 2 hours of admission and re-interviewing within 24 hours of discharge. The study revealed that patient satisfaction was correlated with decrease in symptoms by the time of hospital discharge.

Mary Hill H., Theresa Doddato,\textsuperscript{3} reports a high level of patient satisfaction (87.8 percent) in the survey conducted at the Academic Nursing Centre. Stepwise regression analysis, identified treatment with respect to the rating of care received and the helpfulness of the person at the front desk as the strongest predictors of patient satisfaction. Correlation analysis revealed that patient satisfaction is highly correlated with intent to return and intent to recommend services.

Laurel Lambert G. et al,\textsuperscript{4} reports in a patient satisfaction survey that patients rated the food services system by catering employees, higher than traditional nursing distribution system. Food service directors preferred using their own employees for distribution rather than using nursing service, stating that it improved their personal level of satisfaction, as well as that of patient and hospital employees.


\textsuperscript{2} Kroenke, Timothy Stump M.S., Daniel Clark D., “Symptoms in Hospitalized Patients; Outcome and Satisfaction with Care", American Journal of Medicare, No. 107, November 1999, , PP 425-431.


Standardization of Quality Medical Care in District Hospitals

In health care organizations, a standard is a statement of expectations defining the process that must be substantially in place to enhance the quality care, and entitle the organization in aggregate to achieve accreditation. Developing standards will help to improve quality of care, enhance universal recognition and credibility of service, to evaluate service level and to comply with the regulations of the regulatory bodies.

How do we compare one hospital with another? This can be done only by an independent agency, be it in the form of certification or accreditation through a variety of models that are available. American accreditation system is the best and they have demonstrated the value of their system through a dramatic adoption of medication and medical errors, reduction in injuries to staff and patient, creating a safety culture etc., so JACHO (Joint Accreditation Commission for Hospital and Health Care Organizations) has almost become the gold standards for medical fraternity world wide.

Does certification help in improving quality in the hospitals? Will it make life better for patients? How it will help doctors? Certainly it will help in improving the all round standards of hospitals and everyone will realize that they are answerable, but before going in for accreditation, the hospital should improve an overall competence at all levels by setting their own criteria to meet the quality norms.¹

In India, so far there is no accreditation on a regular basis. There is some regulatory influence by the Medical Council of India and WHO on the hospitals which are affiliated to medical colleges. The Bureau of Indian Standards (BIS) has developed standards on basic requirement for hospitals up to 30 beds, (IS 12433 (part-1) - 1988) and 100 bedded hospitals (1992).

While these standards provide basic framework, they are neither practical nor feasible to be applied in private sector and larger public hospitals. There is a need to develop essential and optimal standards for each type of organization.²

There is a proposal from the Bureau of Indian Standards to develop standards for 250, 500, 750 bedded hospitals. Government hospitals would find these standards very useful.

Standardization of surgical instruments and medical equipment on an organized basis was taken up in 1960s by the erstwhile Indian Standards Institution, the National Standards Body of India, now known as Bureau of Indian Standards. At present, more than 15,000 medical devices relating to different instruments, equipment, apparatus and other accessories, and a variety of materials are used by the medical profession are listed. Standards have been formulated for more than 900 items and it is imperative that these standards are sincerely implemented by all concerned. BIS has introduced BIS certification marking scheme (ISI), the quality system certification scheme (ISO 9000).1

Certain disposable medical devices which come in contact with body tissues have been declared as drugs by the drugs controller of India under the Drugs and Cosmetics Rules, 1945. Indian standards for such devices are being notified or are under consideration for notification for mandatory conformity of such devices. It is mandatory under law to get each blood bank licensed by the drug controller under the Drugs and Cosmetics Act. It is the responsibility of the head of the institution to get the blood bank licensed and renewed from time to time. Separate license is required for blood components. For technical procedural details and mandatory provisions, blood bank in-charge should refer to the Drug and Cosmetic Act rules 1999 by the Ministry of Health and Family Welfare, India. The disposal of waste generated in the hospital including blood bank should be done as per the guidelines issued by Ministry of Environment and Forest in their Bio-Medical Waste Management Act -1998. 2

Developing standards for medical treatment is a difficult task considering the nature of work and complexity of the medical profession. Setting up standards and their compliance by the medical professionals in hospitals is generally monitored through a system called medical audit. Developing and using standards to reduce waiting time in support service areas, after discharge or reducing the length of overall patient stay at the hospital are quite common in western hospitals.


For the past 20 years, WHO has been supporting the development of the Basic Radiology System (BRS). Since 1993, this system has been further improved and is now called the WHIS-RAD. It is essential to refer WHO document WHO/RAD/TS/95.1: “Technical specifications for the World Health Imaging System for Radiography” for the layout. Radiation protection and personnel monitoring in the hospital should be provided as per “WHO Manual on Radiation Protection in hospitals and general practice”. A WHO expert committee has selected a model list of essential drugs which is published in the WHO drug information Vol.12, No.1, 1998. It contains approximately 250 essential drugs and vaccines. The model list is revised every 2 years.

It is required to provide other supportive services to the hospital as per the Bureau of Indian Standards:

IS: 2440-1975, guide for day lighting of building
IS: 4347-1967, code of practice for hospital lighting
IS: 732-1983, code of practice for electrical wiring installation
IS: 8030-1976, specification for luminaries for hospitals
SP: 30-1985, national electric code
IS: 2309-1969, code of practice for protection of building against lightning
IS: 2268-1966, Specification for electric call bells and buzzers for indoor use
IS: 3362-1977, Code of practice for natural ventilation of residential building
IS: 1474-1959, specification for commercial refrigerators.
IS: 2190-1979, code of practice for selection installation and maintenance of portable first aid fire extinguishers
IS: 2189-1976, Code of practice for installation of automatic fire alarm system
IS: 2064-1973, code of practice for selection, installation and maintenance of sanitary appliances
IS: 5329-1983, code of practice for sanitary pipe work above ground for buildings
IS: 2065-1983, code of practice for water supply in building

However with national health insurance scheme coming in soon, accreditation is likely to become mandatory. National Accreditation Board for Hospitals and Health Care Providers (NABH) by Quality Council of India (QCI) prescribes standards to
hospitals in India. Recently the Credit Rating and Information Service of India Ltd. (CRISIL), a nongovernmental organization has introduced rating of the hospitals based on the quality of services.¹

Accreditation of public hospitals has come into the spotlight following the findings of a parliament committee on the poor state of government hospitals across the country. But there is a threat of backdoor privatization if the public hospitals do not meet the requirements. It is not possible to strictly confirm to ISO, for example, in public sector, with the large volume of people, it is difficult to document, so some concession should be given. We can of course see that the patient does not face delay in waiting and is given reports on the same day so that he does not lose his wages and is satisfied with the service.²

The term “District Hospital” means a hospital at the first referral level. It is responsible for a district of a defined population and is governed by a politico-administrative organization. A district hospital should be able to serve 85-95% of the medical needs of the district. The district health system is a part of the National Health System. Standards appropriate to this system should be determined by all those involved in the delivery of care within the system.³

The Health Survey and Planning Committee (1961) recommended that district hospitals should occupy the key position in regard to medicine. They should have 300 to 500 beds and should be expanded and strengthened with specialists’ facilities. A number of district hospitals should be linked with the teaching hospital on a regional basis in order to get expert assistance in the matter of investigation, diagnosis and treatment.⁴

Under the World Bank and German assisted health systems development project, secondary hospitals are being upgraded. Administrative control of upgraded hospitals is being transferred from the Zilla Panchayat to the health department when the bed strength is more than 100 beds. In urban areas, the district hospital under the district surgeon provides secondary level services.

The State Government provides curative medical services to the general public through hospitals and health centres run by the Directorates of Health and Family Welfare Services and Medical Education. At present, the quality of service offered in public hospitals is seen through Boards of Visitors nominated by the Government headed by the local MLA with political representatives, representatives of weaker sections, press, Indian Medical Association, Rotary/Lions club, Deputy Commissioner, Superintendent of Police and the Chief Executive Officer of the Zilla Panchayat.\footnote{1. Questionnaire on User Charges in the Health Sector, Health Sector Reforms in India Initiative from Nine States, Available on www.whoindia.org.}

Contemporary use of standards\footnote{2. Ashok Sahani, “Extracts From the Contemporary use of Standards in Health Care, WHO 1993”, Hospital Planning, Patient Satisfaction, Quality Assurance and Legal Aspects of Health Care, Bangalore - Yem Yes Printers, 1996, PP 88-90.} in health services by World Health Organization are as follows:

- **Standard-I**: There is a statement of purpose and there are goals and objectives for the provision of a specific service.
- **Standard-II**: Every service is organized to support the mission of the facility and is directed by a chief.
- **Standard-III**: There are written policies and procedures for specific services consistent with the overall policies of the facility.
- **Standard-IV**: There are human and physical resources to achieve the goals and objectives of specific services.
- **Standard-V**: There are orientation, staff development and continuing education programs available to all staff of specific services.
- **Standard-VI**: The patient's individual needs for specific service are assessed and care is planned.
- **Standard-VII**: Monitoring and evaluating to improve the quality of specific service.
Planning and design considerations

The existing public health infrastructure is far from satisfactory. For the outdoor medical facilities in existence, funding is generally insufficient; the presence of medical and Para-medical personnel is often much less than that required by prescribed norms; the availability of consumables is frequently negligible; the equipment in many public hospitals is often obsolescent and unusable; and the buildings are in a dilapidated state. In the indoor treatment facilities, again, the equipment is often obsolescent; the availability of essential drugs is minimal; the capacity of the facilities is grossly inadequate, which leads to over-crowding, and consequentially to a steep deterioration in the quality of the services. As a result of such inadequate public health facilities, it has been estimated that less than 20 percent of the population, which seek OPD services, and less than 45 percent of that which seek indoor treatment, avail of such services in public hospitals. This is despite the fact that most of these patients do not have the means to make out-of-pocket payments for private health services except at the cost of other essential expenditure for items such as basic nutrition.1

As per the guidelines provided by WHO, the District Hospital should be located centrally with a reasonable service zone, so that it is easily accessible. Grouping with other institutions like religious and provision of all utilities is mandatory.2

"We’ve got to design ‘smart’ hospitals that respond to present needs while anticipating future change."³ This involves all traffic, entry, exit, parking, utility form, shape and size of the building. A hospital requires three or four major entrances (Main, OPD, Emergency Service) These entrances are determined by adjacencies and traffic flow inside the facility, and in turn will determine traffic flow outside and location of parking lots.⁴

In the words of Emerson Goble, "Separate all departments, yet keep them all close together; separate types of traffic, yet save steps for everybody; that is all there is to plan for hospital. This involves planning shortest traffic routes, minimizing traffic, separation and control of dissimilar activities and departments. A great deal of thought should be given to plan for development of traffic flow for patients, personnel and visitors within the building and between departments. It is mandatory to ensure location of departments and layout of equipment in proper relationship. Design should be such that staff, patients and visitors can easily orient themselves within the building and go wherever they want".  

Provision of internal routes like corridors (Minimum 8 ft width), ramps (5 percent gradation, 1.6 meter width, landing every 6-9 meter), stairways (0.15m rises, 0.32 m treads). Elevators for multi-storied buildings should be made available. Walls and ceilings should be heat proof, moist proof and sound proof and there should be adequate floor height (10 ft). Doors are designed with adequate width (86 cm, 120 cm for lab and inpatient ward, 160 cm for emergency unit, 145 cm for Intensive Care Unit).  

With rapid development of technological, medical and administrative sciences, the space requirement of almost every department has increased markedly. For example, it is said that the space requirement of the hospital will double every 10 years. Hospitals are prone to commit a major mistake of succumbing to the dominant pressure for adding beds without giving sufficient consideration to space and infrastructural facilities. One simple method of computing space requirement for the hospital - a rule of thumb to say – space occupied by One bed (100 sq.ft) x 10times x Total number of beds. Allowing maximum light and breeze to all parts of the building is an important factor.

Human Resources: Hospital staffing Norms

The staff is the cornerstone of district health services. Without staff there is no service. The support and development of health workers is critical to the improvement of district health services. Human resource management at the district level takes place within the context of national human resource policies, which defines appropriate staffing mix and ratios. This includes structured orientation programme, maintaining confidential record, written procedures for recruitment, assessing staff competence, training and education according to the district service needs.1

In the interest of patient care, NHP-2002 emphasizes the need for an improvement in the ratio of nurses vis-à-vis doctors/beds. In order to discharge their responsibility as model providers of health services, the public health delivery centres need to make a beginning by increasing the number of nursing personnel. The Policy lays emphasis on improving the skill-level of nurses, and on increasing the ratio of degree-holding nurses vis-à-vis diploma-holding nurses. It also recognizes the need for establishing training courses for super-speciality nurses required for tertiary care institutions.2

Financial management

The public health investment in the country over the years has been comparatively low, and the percentage of GDP declined from 1.3 percent in 1990 to 0.9 percent in 1999. The aggregate expenditure in the Health sector is 5.2 percent of the GDP. Out of this, about 17 percent of the aggregate expenditure is public health spending, the balance being out-of-pocket expenditure. The central budgetary allocation for health over this period, as a percentage of the total Central Budget, has been stagnant at 1.3 percent, while that in the States has declined from 7.0 percent to 5.5 percent. The current annual per capita public health expenditure in the country is not more than Rs. 200.

Given these statistics, it is no surprise that the reach and quality of public health services has been below the desirable standard. Under the constitutional structure, public health is the responsibility of the States. In this framework, it has been the expectation that the principal contribution for the funding of public health services will be from the resources of the States, with some supplementary input from Central resources. In this backdrop, the contribution of Central resources to the overall public health funding has been limited to about 15 percent. The fiscal resources of the State Governments are known to be very rigid. This is reflected in the declining percentage of State resources allocated to the health sector out of the State Budget. If the decentralized public health services in the country are to improve significantly, there is a need for the injection of substantial resources into the health sector from the Central Government Budget. This approach is a necessity, despite the formal constitutional provision in regard to public health, if the State public health services, which are a major component of the initiatives in the social sector, are not to become entirely morbid. The NHP-2002 has been formulated taking into consideration these ground realities in regard to the availability of resources.

The budget of 2003-2004 recognized the importance of health care service sector. Innovative, effective and equitable ways of health financing needs to be evolved to meet the health expenditure. Collection of user fees in public hospitals will augment resources, with ownership in the hands of people to improve accountability and enhance demand for quality care. In order to give ownership, even the poor can be charged nominal fee.

The purchasing power of the consumer is increasing, with the mushrooming of market economies. Given a choice, spending power permitting, one would prefer to be hospitalized in a single room rather than a multi patient general ward.

"Due to economic recession and exponential rise in finances required for health care, it has been universally accepted that government cannot sustain and provide free tertiary level and partially secondary level care and these expenses have to be realized at least in part by the consumers."1

The services are free for those with an annual income less than Rs 8,000. In practice, patients who produce a yellow card under the public distribution system that is with an annual income of less than Rs.11,850 are treated free. SCs and STs who have yellow cards are generally treated free. The department of medical education which runs teaching hospitals, charges a registration fee of Rs.5 for outpatients and Rs.10 for inpatients. There are no consultancy fees. Services and ward charges are free for those with annual incomes below Rs.20,000 and there is a 50 percent reduction for those with an annual income between Rs.20,000 and Rs.40,000.

District hospitals attached to teaching institutions charge nominal fees for both services and special ward occupancy. 50 percent of the normal ward charges are expected to be charged for those with an annual income between Rs.4800 and Rs.8000 and poorer persons are expected to be treated free.

Low paid employees are provided medical facilities in ear-marked institutions run by the State Government under the ESI (Employee State Insurance) scheme. Government employees and their families are entitled to free treatment in government hospitals depending on their job level. For teaching hospitals above district level, there are committees headed by the Medical Superintendent or college principals to monitor provision of services and manage funds received both, as user charges and as contributions. They are empowered to spend amounts up to Rs10 lakhs, and higher levels of expenditure are authorized by the State level committee.

“Health Insurance in the country is available through mandatory schemes like ESI, General Insurance Corporation Mediclaim and Jana Arogya Bima, Employers’ Scheme and schemes run by the NGO’s in the voluntary sector”.

Material management

Health care institutions are multifaceted and multidimensional dynamic organizations. The material required by the hospital varies from simple house keeping materials to sophisticated state-of-the-art equipment. As per the studies conducted in India and abroad, the expenditure on providing materials ranges from 25-45 percent of the total hospital budget, which is next to the cost of the hospital personnel. Judicious management of the material will minimize losses and achieve maximum service for which they are meant.

The current trend indicates that major medical equipment is increasingly being developed in the districts to increase the diagnostic and treatment capabilities. On the other hand, the capabilities to manage or to maintain medical equipment in most district hospitals remain rather weak. The growth in the capabilities to manage or to maintain medical equipment has lagged far behind the rate of development of equipment. Most of the time, the person responsible for procurement of instrument does not possess the right knowledge of the standards and testing facilities. The result is that substandard and poor quality instruments have to be used by the professionals.

A medical equipment selection team comprising of doctors, nurses, technical and administrative personnel should be formed for selection of equipment. They will assess needs to ensure the availability of qualified users and services. All the hospitals should have in-house technical staff to carry out comprehensive medical equipment management. Keeping of “Equipment Service History” by the in-house technician is of great importance.

“List of essential medical equipment” as specified by WHO is a basic tool for specified health service delivery depending on the nature of service delivered. All the equipment in the hospital that is in the care of service of hospital workshop should be recorded on cards as “equipment inventory”.

Proper maintenance of medical equipment is essential to obtain sustained benefits and to preserve capital investment. Proper maintenance has a direct impact on the quality of care.¹

**Emergency Department**

The hospital as the medical center of the community stands for service in any time of need. The emergency service must be prepared to treat any case ranging from a frightened child and concerned parent to a major disaster. The emergency department is one of the most important and sensitive departments of the hospital as it deal with patients during the most crucial phase after disease and injury. The emergency department has become a major point of entry into the health care system. The availability of round the clock service is the aspect which contributes to the emergency department’s popular characterization as the “front door” of the hospital.²

The emergency department should be located on the ground floor and should have direct access from the road. A door width of 1.6m will allow the attendant to walk in either side of the stretcher or trolley.³ The emergency department needs to have two entrances of the hospital; one main entrance and one separate entrance to the emergency unit. Admission counters need to be located immediately adjacent to the emergency department. Resuscitation facility room is preferable rather than shifting the patient directly to the coronary care unit.⁴

A close interrelationship with the Operation Theater, Radiology, Blood Bank, Laboratory, ICU, Records, OPD and Mortuary is required. The other physical facilities such as examination room, procedure room and treatment room are a necessity. Nursing council guidelines say the nursing staff required in the ratio of 1:1 is the backbone of this department.⁵

Out Patient Department

This is the most important service provided by all the hospitals as it provides services to a large number of patients at a low cost. In small hospitals, the same doctor examines all categories of patients, while in secondary and tertiary hospitals, patients are examined by specialists. Successful management of outpatient departments can reduce the burden on the wards.

The Out Patient Department (OPD) is very important in public relation. It is the first point of contact between hospital and community. Everything should be done to create an atmosphere of friendliness and warmth. This depends partly on the layout of the department. It also depends upon the attitude of all members of the hospital staff. The impression of the hospital can be largely made or marred within a few minutes of the patient’s arrival.

The OPD should be located near the main road close to the main hospital entrance with adequate space for parking vehicles. The department should be located conveniently in relation to the diagnostic and treatment facilities, viz., Radiology, Laboratory, Pharmacy, and Physical Therapy and also the adjunct facilities such as admission, medical record, emergency, and social service.

Facilities like registration counter, enquiry, way finding, sign posting, guide maps showing location of all clinics should be available. Way finding system need to be designed by considering the first time users, local language, literacy level of the users. Provision for drinking water, public telephone, and toilet facility should be available.

Admission

The function of the admitting department revolves around admitting, transferring, and discharging of patients. The data collected during the admitting process is vital to the quality of care the patient receives. The efficiency of the department is measured by factors such as the waiting time, confidentiality of the information, and courtesy of the staff. In some of the cases it is the first point of contact between the patient/patient’s families and the general public. The opinion of the hospital is formed here. The patient and the patient’s families are most of the time in a state of mental
stress, delay may cause emotional trauma. Admitting staff should exercise utmost
care, consideration and courtesy in dealing with patients and their relatives should
meet the responsibilities with composure, grace and resourcefulness.

"Admission counter should be close to the Emergency Service, Outpatient
Department, Medical Record, Laboratory and Radiology. Admission counter should
be seen from the main entrance or information desk".1

Laboratory

The clinical laboratories are a group of interrelated subsystems and form a
vital component of patient care. Hence, in planning and the management of hospitals,
attention should be focused on the design, organization, costing, and maintenance of
the quality of laboratory services. The primary goal of the laboratory is to generate
with promptness a reliable, precise, and accurate report which is reproducible right
from the time the patients sample is collected or received. Further, more the services
of the clinical laboratories must be available round the clock i.e. 24 hours a day, and
365 days a year.

Blood Bank

In district hospitals, the blood bank should be a part of the laboratory services.
This should be headed by a consultant pathologist. In the view of modernizing the
blood banking system in the country, the Government of India introduced
amendments to the Drugs and Cosmetics Rule 1972, required to fulfilled by the blood
banks. 2

Radiology

The practice of modern medicine cannot be undertaken without certain
investigative facilities. Radiology is one such important department of the hospital
which contributes directly to the patient care. Good medical and surgical care depends
to a great extent, on the availability of prompt, thorough and skillful diagnostic
services.

1. Kunders G.D., “Planning and Designing Supportive Services”, Hospital Facilities and
2. Ambika Nanu, “Supportive Services of a Hospital Blood Bank”, Journal of Academy of
Hospital Administration, Vol. 2., No. 2 ,July 1990, PP. 41-49.
Among the many modern diagnostic techniques that are so necessary for the effective treatment of the patients, X-ray examinations are of vital importance. The imaging technique ultrasound is becoming increasingly popular because it does not require potentially harmful radiation.

The diagnostic radiology department should be located on the ground floor, conveniently accessible to inpatients, outpatients and emergency patients. It is also desirable to locate the department close to the elevators and near other diagnostic and treatment facilities.

Protection against ionizing radiation in excess of tolerable limits is mandatory. This can be done by built in safe guards, by modern X-ray equipment, lead screens with lead glass windows and radiation detecting devices to check the barrier design before the construction plan. X-ray rooms should be located at the rear end of the building so that the activity within the department will not be disturbed because of the through traffic to other parts of the hospital. X-ray rooms should be rectangular in shape and not square. The Optimum size of the X-ray room is 4.5 m. by 6.0 m. If the two X-ray rooms are paired then one dark room can serve both, resulting in economy of the place. There should be adequate waiting area, change room, registration counter. 1

Pharmacy

Pharmacy is one of the most extensively used therapeutic facilities of the hospital. A good pharmacy is a blend of qualified personnel, modern facilities, efficient organization and operations, sound budgeting and the support and cooperation of the medical, nursing, and administrative staff of the hospital.

Availability of the right drug at the required place at the time of need is the key to a hospital’s existence. Delays can be disastrous and the effect of non-availability of the right drug at the right time can be horrifying in terms of mortality and morbidity. There should be a properly organized pharmacy department under the direction of a professionally competent and qualified pharmacist.

Essential drugs are those that satisfy the health care needs of a majority of the population; they should therefore be available at all times in adequate amounts and in the appropriate dosage forms. The choice of such drugs depends on many factors such as, the pattern of prevalent diseases, the treatment facilities, the training and experience of available personnel, the financial resources, genetic, demographic and environmental factors.¹

The WHO expert committee has selected a model list of essential drugs which contains 250 essential drugs and vaccines. This is the 10th list since 1977 and is revised every 2 years. More than eighty countries have adopted the model to relate to the specific disease burden and financial resources available. Experience with the original model list and the subsequent revision, as well as with regional and national list of essential drugs has confirmed the need for regular review and updating.

The Procurement of drugs to be used at the district level and below is decided by the national authorities. At present, the best way to obtain drugs of good quality at low prices appears to be through an international competitive tender for bulk drugs in standard packages with assured financing. Procurement requires expert knowledge and skill. The WHO may on request, give guidance to national staff on assessing needs and on developing or improving their own procurement system.

The central pharmacy in the district hospital is the primary source of drugs and medical supplies. The task of the pharmacy will include planning, selection and procurement of drugs, safe storage, distribution, record keeping, and provision of education on drugs for hospital workers. There should be Standard Operating Procedures (SOP’s) for I.V. fluids and drugs procurement, handling, storage, testing and adverse report.²

The pharmacy or therapeutic committee should adopt a suitable formulary of selected medications. This will promote rational therapeutics and prevent unnecessary duplication, waste, confusion and thus will promote economy to both the patient and the hospital. The content and pharmacy procedures should be reviewed periodically by the committee.¹

Medical Care:

The most dominant group in the hospital are the doctors, who decide about the patients' admission, diagnosis, treatment, and discharge. Hence, proper choice and retention of doctors are extremely important. The method of recruitment is by public service commission based on test and interview. At present in district hospitals, there is a surplus of employable doctors because they wish to be in the cities and larger towns.

The medical staff may occupy various positions depending on their qualifications and experience such as Super Specialist, Specialist, Registrars, general duty doctors (Assistant Surgeon), Casualty Medical Officer, Residents and Interns. Their remuneration is based on their availability, either full time or part time. Though many State Governments do not encourage honorary services by doctors, it still persists where district hospitals are attached to private medical colleges.² The Medical superintendent is directly responsible for the efficient functioning of various areas of medical and paramedical services. She/He is the chairman of all hospital committees and should supervise (inspection/meeting) availability, documentation of patient information, continued medical education, and protocol management abiding to the norms of Medical Ethics and Bio Ethics.³

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Nursing Service

The nurse is present all the time, caring for the patient and looking after the needs of the patient throughout the 24 hours. She is responsible to restore health and function, and to alleviate suffering of patients. There has always been a debate on the optimum number of nurses required by the hospital to maintain proper nurse patient ratio i.e. 1:3 (for ICU 1:1).\(^1\) Ratio can vary if there are student nurses available for service. But now, there is a move that “students should not be used for services of the hospital”. However, this appears undesirable as the best way of learning is “learning by doing”.\(^2\)

Professional standards are key to success of nurses as health care evolves, since new roles are created, and new practice settings are established. Nursing are the infrastructure beneath the development of institutional standards of care, competency based education programmes, and quality assurance programme. Using them to link these key components provides consistency across practice settings and among practicing nurses within an integrated delivery system. They also serve as the foundation for consensus building for partnerships and interdisciplinary initiatives. The Nursing superintendent is responsible to evaluate efficiency of nursing service, ensure protocol management, documentation of patient information and supervise continued medical education and ethics.\(^3\)

Food and Diet Distribution

Hospital dietary service includes planning and preparing suitable appetizing, wholesome, well cooked, nourishing and economic diets. It is directly responsible for selection and purchase of food, receipt, storage of foods and its preparation, and distribution. There is a role of dietician for scientific preparation of therapeutic diet. The hospital kitchen could be responsible for spreading diseases if unhygienic,

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conditions are not maintained. Use of gas/electricity for cooking, natural light, ventilation, regular medical check ups of kitchen staff is of great importance. Provision of kitchen equipment should be as per IS: 12433 (part1)-1988.¹

Most people readily accept the professional service of their doctors with minimum criticism. They do however tend to pass judgements on the cleanliness of the hospital, personal care and attention given to them as patients and visitors, and on the quality of food. A major share of such criticism can be avoided by a properly planned and well administered food service department.

**Inpatient Ward/Nursing unit**

The basic considerations in placement of wards is to ensure sufficient nursing care, locating them according to the needs of the treatment in respect to medical disciplines and checking cross infection. In general wards, there should be two ward units, one for male and one for female. In planning a ward, the aim should be to minimize the work of nursing staff and provide basic amenities to the patients within the unit.

Each ward unit should have a set of ward ancillaries such as nursing station, treatment room, pantry, store, sluice room, day space, isolation room and sanitary. The Type of ward may be either Nightingale (Rectangle arrangement) or Rigs (Parallel arrangement) type, the latter is recommended from a socio environment standpoint.

The ward unit may be made of desired number of beds (100 sq.ft per bed) and should be arranged with a minimum distance of 2.5 meters and 0.25meters between bed and wall. The bed size should be 2mx1m. The width and height of the door should be 1.2mx1.2m. Bed side locker, a chair for a visitor and a built in cupboard for storing clothes should also be provided.²

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WHO recommends that the inpatient ward should provide range of facilities necessary for meeting the basic human needs in a controlled way. It should furnish the environmental factors of shelter, temperature, ventilation, cleanliness, noise control, privacy, and as far as possible general comfort. Provision of services such as a supply of food, linen and removal of waste products should be made available. Consideration must also be given to the relatives of patients for their visits and stay overnight.¹

**Medical Record Department (MRD)**

This department indicates whether or not the efforts of the doctors, supplemented by hospital and related facilities are in accordance with the reasonable expectations of present day scientific medicine. Indices serve hospital for preventive medicine, outbreak, medical research, and legal aspects. The records maintained also serve the patients in their present illness and are of value if the patient should become ill again.

The information contained in the record is confidential and should be disclosed only to the Police, Life Insurance Corporation, Court of Law, Public Health Authorities and also to the patient on request. A spacious MRD room, knowledge of staff in record keeping and international classification of diseases, and hospital indices with good medical record software is important for effective functioning of MRD.²

Evaluation of the medical care provided in the hospital should be reviewed through medical audit. For the effectiveness of the medical audit, there should be good organized medical records and medical audit committee which meets at least once in a month to review the quality of care provided to the patient in retrospect.³

Hospital information management system should manage the information relating to the development and working of hospital either manually or with sophisticated information technology. A successful Hospital Information System (HIS) requires committed teamwork approach from all disciplines such as administrators, nurses and paramedics, physicians, medical technologists,

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accountants, stores-purchase-material executives, front office executives, pharmacists, biomedical executives, security officers and the top management. In a hospital there is a need for different kinds of purposes, different personnel and different departments.¹

The hospital manager needs information to know the workload, financial information for planning budgeting and controlling. Managers also need information for human resource management. Information such as inventory of drugs, linen, supplies of important material, blood, etc. is significant to the management. The process of gathering, integrating, comparing, analyzing and dispersing internal and external information through computers will help different level of employees in increasing the level of efficiency. The efficiency can be increased by reducing costs and improving staff productivity. Some studies have found that, computerization of the hospital information has improved the outcome of quality of care. This can be utilized for further improvement in quality of care, the utilization, and also the outcome.²

Central Sterilization and Supply Department (C.S.S.D.)³

Despite all the advancement in medical science, hospital-acquired infection remains a serious problem in health care today. To combat this, hospitals must have a scientific and effective method of disinfection and sterilization. In modern hospitals, this process is centralized and takes place in what is called the Central Sterilization and Supply Department. From various parts of the hospital like operating rooms, wards, outpatient clinical and other departments, all soiled items are collected in the CSSD for processing, and then transported back to the end users. In the CSSD, the process of cleaning, disinfecting, inspecting, packing, sterilizing, storing and distributing is carried out by trained personnel. This ensures better control and reliable results, and consequently reduces risk of infection.³

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¹ Subba Rao S., “Hospital Information System and Information Technology”, Managing a Modern Hospital, Edited By A.V. Srinivasan, New Delhi - Response Books, 2000, PP. 221-230.
³ Maduri Sharma, “Central Sterile Supply Department , Essentials for Hospital Support Services and Physical Infrastructure , New Delhi - Jaypee Brothers, 2003 , PP.28-34.
Housekeeping

The hospital housekeeping services comprise of activities related to cleanliness, maintenance of hospital environment and good sanitation services for keeping the premises free from pollution. Inadequate cleaning and disinfection will result in health care institutions becoming reservoirs of large number of microorganisms. Cleaning must not only be effective in removing dirt but also in maintaining low levels of microorganisms. Cleaning materials and disinfectants are essential components in ensuring Quality Assurance in housekeeping services. Materials of the right quality, quantity and used in the appropriate specified frequency will not only augment the quality of housekeeping services but also ensure optimum utilisation of resources. It will also enhance patient satisfaction.¹

Hospital Infection or Nosocomial Infection affects approximately 2 million patients annually in acute care facilities in our country and their annual patient care costs several millions of rupees. There should be a dedicated Hospital Infection Control Programme to assist the Public Health Services, State and local Health Department and other professional organizations in the prevention and control of nosocomial infections. The main aim of the Hospital Infection Control programme should be surveillance activities, investigation, prevention and control of nosocomial infection and the dissemination of information in the hospital. Studies show that nearly one third of the nosocomial infection can be prevented by a well organized infection control programme.

Guidelines and recommendation for an effective infection control programme are; Organized surveillance and control activity, one infection control practitioner for every major health care facility, one trained Hospital Epidemiologist, a system of reporting the wound infection, an adequate hand washing facility, immunization for the health care personnel, infectious disease control, control of infection relating to intravascular device, policy for isolation precautions, surgical site infection control, guidelines for infection control in health personnel (universal precautions) should exist².

Linen and Laundry service

The hospital linen comprises bed sheets, draw sheets, pillow cover, patient gowns and patient towel. Maduri Sharma, suggests that the laundry service shall satisfy basic considerations namely, adequacy (4 per bed), cleanliness, disinfection of linen, and provision of necessary facilities for drying, pressing, storage of soiled and cleaned linen. The provision of linen should be as per BIS standards.

The aim of the laundry service is to provide clean, adequate and timely supply of linen to various user departments. Linen and laundry service is an integral and very important part of a hospital. The importance of providing clean linen needs no emphasis. Frequent change of linen and its effective washing is a well recognized preventive measure in controlling cross infection. Moreover, clean linen in a ward makes it look more cheerful and aesthetic both for the patients as well as the staff.

Engineering:

An office – cum-store should be provided to handle day to day maintenance work of the hospital building. Arrangement should be made to supply (115 litres per day per person) potable water round the clock. Necessary water storage with overhead tank (Storage capacity for 2 days) with pumping arrangement shall be made. The laying and distribution of water supply system shall be made according to the provisions of IS: 2065-1983, code of practice for water supply in building. Cold and hot water supply piping should be run in concealed form embedded into walls with full precaution to avoid seepage.

Drainage should be in accordance with IS: 1742 – 1983, code of practice for building drainage. Sanitary appliances should be in accordance with the IS: 2064-1973, code of practice for selection, installation and maintenance of sanitary appliances and IS: 5329-1983, code of practice for sanitary pipe work above ground level for buildings. Electrical substation and generating set to accommodate transformer, HT/LT panel and generating set to meet the electrical requirement of the hospital shall be provided. Stand by generators should be provided to generate power requirement for essential areas. Emergency portable light units should be provided in all wards and departments in case of power failure.

Where adequate air changes cannot be obtained by natural ventilation, convenient positioning of mechanical ventilation either by exhaust air or by positive ventilation through fans or a combination of the two shall be provided. Provision of electrical supply and connections and fire safety should be as per BIS norms. Air condition should be provided for the Intensive Care Unit and the Operation Theatre. The hospital should be provided with a water cooler and refrigerator in wards and all departments depending upon the needs. Provision should be as per BIS norms.

Other services

There should be availability of centralized medical gas. Communication system shall be adequately designed to alert all persons charged with duties for patient care. Ambulance service should be designed and staffed with equipment and supplies to cope with round the clock medical emergencies outside the hospital.

Literature Summary

The problems in interpreting the results of satisfaction surveys arise from the weak conceptual foundation of patient satisfaction, which has been well documented in the literature. In these contexts, however, the ideal way in which the patient satisfaction survey should be conducted and interpreted to minimize problems has received critical attention. The role of ideal patient satisfaction surveys in improving quality is increasing. Review of these studies reveals that so far only a small number of patient satisfaction surveys have been conducted in public hospitals. None of these studies assess the adherence to already existing standards for hospitals in terms of infrastructural requirements, process factors and final outcome of care.

It is evident from the literature that most of the attention has been given to developing standards within specific fields of quality assessment, particularly outcome and process measures. Indian standards published are primitive and a lot more needs to be done in developing standards for our hospitals. It is also evident that exhaustive standards in this area exist in western countries. We could adopt them with necessary modifications to suit our needs and environment.