CHAPTER 8
SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

General

8.1 Hospital Administration. Increasing specialisation among employees and modernisation in equipment, instruments and medicines tend to engender problems of professional allegiance and organisational identification and even problems of competition and conflict. The hospital specialists and professionals presumably have the expert knowledge and technical competence required to perform their roles relatively autonomously, but many organisational decisions which affect them and their work, often are made by administrators, who have legitimate organisational authority to do so. The latter ordinarily have good knowledge of hospital organisation but very limited technical, medical or nursing expertise. These circumstances can readily lead to serious conflicts, or at least raise important authority issues revolving around the question of right balance between power and knowledge of various groups of organisational participants.

8.2 The problems of over specialisation can be resolved through well structured MIS, elaborate coordination, effective communication and cooperativeness in all parts of the hospital. Regrettably, in our country search to-date has not provided satisfactory answers as to the levels of specialisation that would be optimal for hospitals. A hospital administrator is a change agent and if he is to be increasingly held accountable for hospital effectiveness, he must also be able to hold various heads of the departments including, doctors/nurses, similarly accountable. Because of increased specialisation, changing technology and increased expectations of citizens and non-physician employees, hospital requires increased coordination and organisational adaptability. However, main mechanism for monitoring
implementation of various programmes could only be MIS based management.

8.3 Limitations of existing system of hospital management and recommendations for introducing MIS based management are covered in succeeding paragraphs.

8.4 Organisational Structure.

8.4.1 Short-comings of existing system.

(a) Over centralisation at DMS and planning officer level has resulted in avoidable bottle-necks/delay in flow of information.

(b) Information is often incomplete and incorrect due to assignment of jobs to unqualified personnel.

(c) Span of control is not conducive to efficient management.

(d) There is no feed-back system to act as control/monitoring mechanism.

(e) Interaction between DMS and planning Officer-cum-Accounts Officer is not very cordial, since role of Administrative Officer is not clearly defined.

(f) Forecast and demand of medical supplies is more of a crisis management, since post of stores officer is lying vacant over three years and his duties are being performed by DMS.

8.4.2 Recommendations.

(a) There is an urgent need to modify functional structure of hospital management as shown in figure 2.4 in chapter 2.

(b) In order to have well defined responsibility and accountability, duties of various functionaries should be identified and published in the gazette.
(c) Post of planning Officer should be replaced by Administrative Officer.
(d) Stores Officer trained in inventory management must be posted.
(e) Medical Record Officer's role should be assigned to DMS till this post is created.
(f) Role of Administrative Officer should be transferred from DMS to Administrative Officer and DMS should be given duties of Public Relation Officer (PRO).
(g) Account Officer should be independent of the role of Planning Officer and he should work directly under DHS/PMD but have lateral interaction with MS, Stores Officer and Administrative Officer.
(h) Dietics department, management of class IV employees, security, horticulture, hygiene and sanitation, and transport like functions should be assigned to the Administrative Officer.
(i) Medical Officer-in-charge of various dispensaries should be rotated to ensure high efficiency.

8.4.3 Advantages of proposed organisational structure.
(a) Line of control is clearly defined which will improve accountability of various functionaries.
(b) Span-of-control has been optimised for better control and coordination.
(c) With improved functioning of PRO and MRD, patients and their relatives/public will have better satisfaction.
(d) Proposed system has built-in-mechanism for regular feed-back and control.
(e) Proposed system will provide cost-effective medical-care to a larger number of patients and will promote better health environment in Chandigarh (UT) The City Beautiful.

8.5 Decision-Making and policy formulation.

8.5.1 Limitations of Existing System.

(a) Hospital statistics are inaccurate, incomplete and often delayed.

(b) Decision-making is over centralised.

(c) Accurate data on hospital performance is not available and this hampers forward planning.

(d) Cost control is not effective due to inadequate material management and financial management.

(e) Reports and returns to Ministry of Health are restricted to communicable diseases only, since full disease indices of all OPD/IPD are not maintained.

8.5.2 Recommendations.

(a) Decision-making process should be modified to follow a model as shown in figure 3.4 in chapter 3.

(b) Computer assisted MIS should be developed for patient care, personnel management, material management and financial management.

(c) Hospital statistics in the form of monthly bulletin, yearly summaries should be regularly provided to help management in forecasting and planning.

(d) Patient statistics dealing with OPD and in-patient load should be readily available to medical superintendent.
(e) Statistics of deaths due to various diseases as per age, sex of patient should be prepared regularly.

8.5.3 Advantages of MIS based Decision-Making.

(a) Monthly as well as yearly performance can be reviewed.

(b) Forecasting of load and availability of resources can be done with fair degree of accuracy.

(c) Large deviation in performance could be analysed and timely corrective action could be initiated.

(d) Percentage breakdown of essential equipment could be studied.

(e) Instances of stock-out of essential medical supplies could be analysed.

(f) Availability of resources (manpower, material and funds) could be studied.

(g) Effect of seasonal variations or epidemic could be examined.

8.6 Patient-Care.

8.6.1 Limitations of existing system.

(a) Daily ward census are not being taken properly, instead it is just reporting of deaths by Nursing Superintendent to the DMS.

(b) Due to non existence of Medical Records Dept, patient documentation is below standard.

(c) Full entries in case-sheet, are not being made by attending doctors.

(d) Daily census are incomplete, inaccurate and delayed.

(e) Compilation of hospital statistics is almost missing.
(f) Inaccurate reports and returns due to lack of qualified staff and absence of the following:–
   (i) Diagnostic Index.
   (ii) Patient Index.
   (iii) Daily census.
   (iv) Proper documentation in OPD's.
(g) Hospital bulletin and other statistics for determining performance index are not prepared.

8.6.2 Recommendations.
   (a) Introduce Medical record Department (MRD) for proper handling of patient-care data.
   (b) Maintain patient data-base on PC-XT/AT computer and generate daily/monthly statistics as explained in para 4.29 of chapter 4.
   (c) Introduce various forms/registers for OPD and In-patient records as listed at para 4.30.
   (d) Collection and processing of daily census should be the responsibility of MRD as explained in para 4.24.6 of chapter 4.
   (e) Revised layout of In-patient case sheet should be as per Appx 'J' of chapter 4.
   (f) Diagnostic Index should be maintained on computer for analysis of patient response to treatment for various diseases.
   (g) Develop computer application programme using user-friendly software like dBASE III. Some sample programmes have been listed as per para 4.32.

8.6.3 Advantages of MIS-based patient-care.
   (a) Easy to produce hospital statistics on patients in terms of their stay, disease, age, sex etc.
(b) Aids Medical Superintendent in analysing bottle 
necks and take timely action.
(c) Post analysis and reference to patient records is 
easier.
(d) Proposed forms are simple to use and easy to 
change over to auto-coding for computer-based system.
(e) Proper indexing and filing of case history sheets 
will help in improving efficiency of hospital.
(f) OPD and ward data will help in judicious 
allocation of technical staff.
(g) Patient load on various clinics, laboratories and 
dispensaries will help in readjustment of resources 
like personnel, equipment and medical supplies.
(h) Billing of patient will be more accurate.
(j) Diet management will be streamlined.

8.7 Personnel Management.

8.7.1 Limitation of Existing System.

(a) There is no full time Administrative Officer/ 
Personnel Manager.
(b) Line of command and control is not well defined.
(c) Posting, transfer, demand for additional manpower 
is not based on factual information.
(d) Career development programme is not organised.
(e) Seniority roster is not published.
(f) Training for professional advancement is not 
organised.
(g) Appraisal forms need modification since these do 
ot lend themselves to quantitative analysis.
(h) There is no satisfactory procedure for dealing 
with public complaints.
8.7.2 Recommendations.

(a) Reorganise manpower structure as explained in chapter 2 with a view to:

(i) Employ right person for the right job.
(ii) Delegation of authority must match responsibility/accountability.
(iii) Introduce regular feed back to enhance productivity.

(b) Timely and correct appraisal of performance and recognition of individuals achievements.

(c) Revised ACR form as explained in para 5.9.5 of chapter 5 will help in computerising performance evaluation.

(d) Introduce complaint management procedure and give wide publicity.

(e) Publish seniority roster regularly.

(f) Maintain computerised data base for hospital employee as per format shown at para 5.10.

8.7.3 Advantages of MIS Based Personnel Management. Proposed system will assist in generating accurate reports and returns. Some of these are:

(a) List of average rate of salary by post and department

(b) Leave absence and sickness report.

(c) List of authorised versus actually posted staff in each department/PHC/dispensaries.

(d) Education and professional skill inventory.

(e) Annual Confidential Report of hospital employee.

(f) Seniority roster for career planning.

(g) Qualification summaries for promotion/employment.
(h) Summaries of medico-legal cases processed.
(j) Nominal roll by qualification, cast, sex, age.
(k) Summaries of complaints processed.

8.8 Material Management.

8.8.1 Limitations of existing system.

(a) Despite existing sanction of one Stores Officer, the post has remained vacant over three years and this job is being handled by DMS, as an additional assignment.
(b) Processing of demands and placing of supply order on MSD Karnal is often late which results in costly local purchases.
(c) Lack of qualified staff is resulting in poor documentation and accounting. Consequently, there is tendency to over-demand to avoid risk of stock-out.
(d) Medical inventory has not been classified as per ABC/VED analysis.
(e) Irregular and inadequate stock verification and internal audit are resulting in pilferage, wastage and incorrect projection of demands.
(f) Stock opening board/committee is not generally ordered. Thus checking correctness of receipts is left to concerned storeman, who is not adequately qualified.
(g) Indexing classification and storage of medical supplies need lot of improvement to facilitate easy retrieval and physical checking.
(h) There is no standardisation/codification of inventory items, which results in duplicate and incorrect demands.
(j) Repairs/disposal of defective equipment and instruments needs to be streamlined.

(k) Auction of unserviceable items/scrap/empty bottles/containers is not being held regularly. This results in unnecessary blocking of storage space.

(l) There is no procedure for cost analysis in terms of medical supplies issued to particular ward/department for a particular period. Thus for planning purpose, it is not possible to determine cost per patient per day.

(m) Accounting of rations is still in seers and chhataks since ration scales have not yet changed officially to kilograms. However, all demands/supplies are made in kilograms and this requires frequent converting of old scales to new weight scales. This often leads to discrepancy due to rounding off error while converting from one scale to another scale.

3.8.2 Recommendations.

(a) Restructure existing system of material management by employing qualified Stores Officer and store keepers.

(b) Institute Three-Tier system of purchase, storage and distributions as explained in para 6.11 of chapter 6.

(c) Apply ABC and VED analysis to classify medical supplies and apply inventory management technique.

(d) Maintain data-base of consumptions of past three years by ward/dispensary and carry out correct forecasting and demand.
(e) Follow correct demand procedure of placing timely demand on approved suppliers and minimise emergency/local purchase. This has been explained in para 6.13 and figure 6.2 of chapter 6.

(f) Demand for costly equipment/drugs should be strictly curbed.

(g) Maintain reliability index of vendors.

(h) Follow laid down procedure of receipt, inspection, accounting and storage as explained in para 6.16 and figure 6.3.

(i) Annual stock verification must be carried out by nominated team to identify discrepancies, pilferage, wastage.

(k) Cost control must be exercised through standardisation of equipment/drugs, proper storage, correct accounting and controlled distribution/issue of medical supplies.

(l) Employ qualified technician to carry out proper repair of equipment. If need be, utilise services of specialist through annual contract/on-call bases.

(m) All medical supplies and drugs must be codified as suggested in para 6.25. Proper indexing will help proper store and easier retrieval.

(n) Employ PC-XT/AT micro computer for material management and design input/output files including master stock ledger as explained in para 6.26 of chapter 6.

8.5.3 Advantages of MIS based Material Management.

(a) Improved inventory control resulting in cost-effective medical care for maximum patients.
(b) Timely and accurate forecast for placing demands on various supplies.
(c) Provide audit-trail of master ledger entries.
(d) Automatic review of vendor performance.
(e) Minimise cost due to over demanding, wastage, pilferage and local purchase.
(f) Improves Mean Time Between Failure (MTBF) of equipment which will increase hospital efficiency.
(g) Helps Medical Superintendent in analysing patients vs cost of material.

8.9 Financial Management.

8.9.1 Inadequacies of existing system.

(a) There is a wide variation in the pay scale for the three cadres of employees who are either directly posted from UT or on deputation from Punjab and Haryana.
(b) the entire budget planning is carried out by DHS/PMO and planning Officer-Cum-Accounts Officer, with certain inputs from Medical Superintendent. The inputs from departments/stores are inaccurate, incomplete and often delayed.
(c) In the absence of qualified Stores Officer planning of materials are inadequate.
(d) Despite State Bank of Patiala (extension Counter) being located within the hospital, pay is disbursed in cash to all the 602 employees. For disbursement of pay, even non-gazetted staff is detailed to make cash payment to doctors, Nurses and class IV employee.
(e) It was noticed that in one of the OPD, class IV employee was entrusted with signing of expense vouchers and even got the audit done of his bills.
Obviously, he could not be as cost conscious as a qualified doctor/pharmacist.
(f) The process of calculating individual income tax for purpose of determining net entitlement for the month, is quite cumbersome and prone to error.
(g) Book-keeping needs to be stream-lined by introducing facilities like personal computer.
(h) Procedures/methods in use for monitoring of various planned and non-planned expenditure are inadequate and need urgent review and modification.

8.7.2 Recommendations.
(a) Post of Planning Officer-cum-Accounts Officer should be bifurcated and there should be full time qualified Accounts Officer.
(b) The Accounts Officer should have frequent interaction with MS, DMS and Stores Officer.
(c) Maintain Data-Base using PC-XT/AT computer and produce details of past Budget Estimates and projected demand for ensuing year.
(d) Follow procedures as explained in figure 7.2 of chapter 7.
(e) Internal audit must be carried out as per laid down procedure.
(f) Computer data base as explained in para 7.29 to 7.30.3 should be maintained to generate various outputs as listed in para 7.30.4 of chapter 7.
(g) Pay scale should be same for a grade of an employee, irrespective of entry as UT or Haryana/Punjab.
(h) Pay and allowances should be accurately worked out with help of a computer and salary payment should be made through bank account.

(i) Accounts book should be accurately maintained by ensuring timely update of all transactions.

(k) Purchase Committee must follow hospital policy strictly and discourage purchase of expensive/highly sophisticated equipment.

8.9.3 Advantages of MIS Based Financial Management.

(a) On the basis of statistical information generated from computerised data-base, management can take timely and appropriate decision of reallocation of resources to meet hospital objectives.

(b) Misuse of hospital resources like drugs, consumable items, vehicles, telephone etc can be observed through printed summaries.

(c) Provide basis for preparation of Budget Estimates (BE) and forecasting.

(d) Provides data for periodic review of budget estimates (RE) and monitoring progress of various schemes/programmes.

(e) Provide data for calculating cost of operations of various facilities as well as cost per patient per day.

(f) Generates monthly, quarterly and annual summaries of expenditure and income.

(g) Automatic preparation of pay-roll catering necessary deductions/refund.
(h) Inventory report giving losses due to expiry of drugs, pilferage and break-down of machinery/equipment.

(j) Provide summary of expenditure under major heads for each department.

(k) Automatic write off as per hospital criteria but with the approval of competent authority.

(l) Assists in management control analysis, showing vouchers submitted since last processing date, paid totals, unpaid totals and file balance.

(m) Provides employee's salary history showing wage, tax, deductions on monthly basis.

(n) Generates timely and accurate balance sheet and income statement.

8.10 Implementation Scheme.

8.10.1 The proposed model of hospital MIS as discussed in chapter 2 to 7 can be easily adopted at any district level hospital or even it can be extended for bigger hospitals. Depending upon availability of an EDP facility, the proposed input/output forms can be easily modified by giving number and size of each data item as an input/output (record). The statistical analysis and forecasting can be effectively carried out without/with Computer.

8.10.2 Evolutionary approach of selective automation using low-cost personal computer (PC) should be adopted. Initially 2 to 3 PC-XT/AT should be employed for OPD, in-patient and inventory management as explained in para 1.26 of chapter 1. As more experience is gained, other areas like finance management, personnel management, MRD could also be automated. Current cost of one PC/XT computer is approximately Rs 40000/-
8.10.3 Minimum changes in the existing format of forms/registers.
8.10.4 Introduce self coding sheets which are easy to fill but have comprehensive details.
8.10.5 Train existing staff through locally available courses of 3 to 6 months to gain expertise in computer software like Word Processor, dBASE, LOTUS 1-2-3 under MS-DOS environment. Subsequently, they could be trained in 4GL and UNIX operating system environment. Training cost of one programmer is nearly Rs 3000/- and data entry operator is Rs 2000/-
8.10.6 It is recommended that proposed model of hospital MIS should be given a 'parallel run' for six months to one year to ascertain its suitability. Once the system is validated its spin-offs could be many.
8.10.7 Hospital staff should be given small training capsule on use of new forms and their benefits.
8.10.8 Implementation can only succeed if it has the support by the top most person in the hospital administration.