Chapter V

FINANCIAL ADMINISTRATION

1. Introduction

With a view to better management of scarce financial resources in developed, developing and underdeveloped countries, more and more emphasis is being laid on proper fiscal management in all fields including hospitals so that maximum amenities can be provided at minimum cost. Limited finances are at the root of most of the problems today and as such, solutions to the problems are guided by the financial control approved by appropriate authorities.¹

Hospital services being one of the most important public utility services, much of the development funds for health are being spent on establishment of new hospitals or expansion of existing hospitals. Still, the availability of hospital bed to the population is far less than the minimum standard. It is only 0.6 per 1000 population as against the 10 or more per 1000 population in developed countries.² With

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increasing scope of specialisation and technological development, the level of services have broadened and become more sophisticated. Consequently, cost of providing these facilities has been continuously and steadily increasing.

As a result of this, establishment of a new hospital as well as running day to day activities of a hospital, have become an expensive affair for the funding agency. In addition, there is a growing worldwide and national movement to attain "Health For All" by the end of this century. "Health For All" means every individual should have access to primary health care, and through it to all levels of a comprehensive health system with the objective of continually improving the state of health of the total population. It is extremely difficult with our meagre financial resources to achieve this goal. Roughly about 80% of the total health budget goes to hospitals. Hospitals are no outsiders to this strategy, but rather play an important role in this approach.

It is, therefore, very important that there should be an efficient financial and cost administration system to meet the ever increasing demand of medical care by using the limited financial resources judiciously. This will only be

possible if the cost of patient care is analysed and is known to the hospital administrators. Though modern economic techniques viz., cost benefit analysis, cost - effective analysis and cost accounting or cost studies are still not adopted and practiced in the financial management system of hospitals, there has been a general awareness now to have these introduced. With a view to providing services more efficiently and make them available at lesser cost, these techniques are increasingly becoming an integral part of general health planning, budgeting, management and evaluation of health programmes all over the world. Particularly, cost accounting is now being recognised as one of the most effective means to achieve good management in hospitals.  

Financial management is not merely concerned with the maintenance of books of accounts, but it also helps in decision making and provides financial information, financial advice including cost analysis and control.

The financial management in a hospital is aimed to provide the community with the services it needs at an acceptable level of quality and at the minimum possible cost by planned allocation of funds and proper control of

expenditure. Thus, the basic objective of hospital financial management should be the welfare of the community without sacrificing the concept and principles of propriety of financial management.

Most of the hospital in the country (6334 out of 9831 hospitals) are being controlled and financed by Central/State Government and Autonomous organisation/local bodies. The government (various departments) has to get its financial demands voted by Parliament/State assembly and has to render accounts for the proper utilization of the finances granted. The accounts of all the government fund are subject to audit by Controller and Auditor General of India. Thus in all these hospitals the prescribed accounting procedure for government accounts is required to be followed.

The important fact of good financial management service is to lay down proper system of reliable accounting to check that:

1) the expenditure does not exceed the funds allocated;

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2) there is no loss of revenue and it is recovered without loss of time;

3) there is a continuous review of all services to ensure that they are being carried out economically;

4) expenditure from public money is not incurred for the benefit of a particular person or a section of the people unless it is enforced in a court of law or is in pursuance of a recognised policy or custom;

5) the cash, stores, stamps and other valuable items are safe;

6) advice or instructions are issued by financial authority regarding maintenance of accounts or safety of valuables; and

7) a cost analysis system is developed and adopted to measure cost effectiveness.

Considering these principles of a sound financial management system, the main financial functions in a hospital can be grouped into three main categories as follows:

a) Financing of hospital services.

b) Financial control on expenditure.

c) Financial advice to bring efficiency and effectiveness.

The financial management aspect of the Safdarjang Hospital was studied in detail with particular emphasis on financial advice so as to carry out cost analysis of patient care, findings of which would be useful in the better administration of the hospital by allocation of funds for the hospital services rationally.
Financial Administration of Safdarjang Hospital

The financial aspect of the hospital administration is looked after by an Accounts Officer. The Medical Superintendent is the financial head of the hospital. But the Accounts Officer is designated as a drawing and disbursing officer (as prescribed by GFR)\(^7\). In the organisation the Accounts Officer comes under the Chief Administrative Officer (CAO). There are two account sections; Account Section I and Account Section II.

Account section I deals with:
Cost + Budget + contingency + pay and allowances of gazetted officers.

Account Section II deals with:
Pay bill, LTC, leave encashment, CPF of non gazetted staff.

2. Staff in the Department

The whole department is under the charge of an Accounts Officer who is assisted in his work by the following staff:

- Accountant - 2 (Pay scales for accountant and Head Clerk - 3 (head clerk are same)
- Upper Division Clerk - 9 (5 for account section II
  4 for account section I)
- Lower Division Clerk - 11
- Cashier - 3 (UDCs also work as cashier)
- Daftari - 1
- Peon - 4

3. Functions of the Department

3.1 Financing of services

"Budgeting is the allocation of scarce resources among competing alternate issues." The Safdarjang Hospital being funded and controlled by central government, the financial procedure prescribed by the central government is followed. Budget is prepared on the basis of estimation done by all the Heads of various departments. The budget estimates are prepared on the criterion of performance budget calculating last years' performance and expenditure.

Each Head of the department prepares the estimates, gets it approved by the Medical Superintendent and then sends it to the Accounts Officer.

The Accounts Officer compiles all the estimates under the approved subheads, prepares the estimates for the whole hospital and submits to the Medical Superintendent through the Chief Administrative Officer. The final budget estimate being approved by the Medical Superintendent is sent to the Ministry of Health and Family Welfare. The estimates are scrutinised according to the prescribed procedure and modified as necessary by the concerned ministries/departments and proccessed further as under:


i) The estimates of plan expenditure for the ensuing year are processed in consultation with the Planning Commission in accordance with the instructions issued by them.

ii) In other cases (revised estimates of both planned and non-planned expenditure and budget estimates for non-plan expenditure), the estimates are submitted to the Financial Advisor. He gets the estimates consolidated for each programme/organisation presenting a complete picture of the financial costs and obtain approval of Secretary in the Ministry of Finance, wherever necessary.

The estimates as finally approved then are forwarded to the Budget Division in the Department of Economic Affairs of the Ministry of Finance in the manner prescribed by them from time to time. After scrutiny, they incorporate the estimates in the Budget and arrange to obtain "vote on account" to cover the expenditure. After the appropriation bill, the Ministry of Finance communicates the appropriation sanctioned by the Parliament to the Department of Health. The administrative department distributes the grant to the authorised officer.
3.2 **Financial control**

The financial control function is carried out not only by the whole accounts section, but also others who spend the sanctioned money. This hospital, being controlled by the government, follows the principle of single entry system. Financial powers are delegated to different heads of departments as well as to the administrative heads of the hospital. Each and every expenditure is incurred through proper channels and within the ambit of Codal provisions. Care is taken to see that not only the expenditure is properly vouched, but its propriety is also seen with the expenditure incurred. It is ensured that the expenditure is incurred with the approval of a competent authority.

A set of accounts books are maintained as prescribed in the accounts rules as well as in the department rules. Cash Book is the main account book to which data is fed through a number of subsidiary account books such as:

i) Store and stock ledger.

ii) Bill register.

iii) Refund register.

iv) T.A. bill register.
v) Pay bill register.
vii) Work register etc.

Bills of different categories are entered in respective records and then are passed on to the Cash Book. Even though the hospital accounts are kept in single entry system, Income and Expenditure accounts as well as Balance Sheets are also prepared, because of receipts of hostel mess fee taken from the residents of the nurses hostel, recoveries made on account of loss etc. All these are audited by means of internal audit as well external audit.

3.3 Financial advice

The financial advice include the following aspects of financial management:

a) Fixing of priorities.
b) Cost analysis.
c) Evaluation.
d) Advising.

As per the job responsibilities framed by the hospital authorities the Accounts Officer is assigned the duties of providing financial advice and technical advice in costing (Annexure - VI). But no costing of patient care has been

done by any of the hospital member. Mainly, the advice is sought for following the procedure and for dealing with the audit objection.

Studying this situation the study of costing of patient care (inpatient as well outpatient) was carried out.

4. Study of Costing of Patient Care

This Study was done in respect of two broad functions of the hospital i.e. inpatient and outpatient care. The Study was carried on 7 working days (20-28 Jan. 1986).

Consequently the emphasis has been on:

a) Developing methodology of apportioning costs between these two functions.

b) Developing suitable indices of output.

c) Estimation of unit costs of the outpatients in respect of these two functions.

The objective of the study was to find out the total as well as unit costs in respect of inpatients and outpatients treated in the hospital. Keeping this in mind, the following specific objectives were laid for conducting the study.

1) To identify the cost centres in the inpatient and outpatient services.
2) To find out the total as well as unit costs in respect of inpatients and outpatients treated in the hospital.

3) To discuss the usefulness of the findings of the study in the better management of the hospital.

Methodology

From the analysis of the activities and functions being performed in the hospital and also the requirements expressed by the management of the hospital, it becomes clear that the hospital departments can be treated as cost centres.

4.1 Objective - To identify the cost centres in the inpatient and outpatient services.

The categories of cost centres are:

- a) Inpatient service cost centre.
- b) Outpatient service cost centre.
- c) Emergency patient service cost centre.

Various other general and special services supply to all these three categories. These include:

- a) Housekeeping department.
- b) Hospital engineering and building maintenance department.
- c) Transport services.
- d) Power light services.
e) Water services.
f) Medical records.
g) Laundry and linen services.
h) Central sterilization and supply department.
i) Pharmacy and medical stores.
j) Dietary services.
k) General store.
l) General administrative services.
m) Social service department.
n) Operation plant.

The special services are:
a) Operation theatre.
b) Laboratory services.
c) Radiology services.
d) Blood Bank.
e) Physiotherapy.
f) Electrocardiography.
g) Ambulance services.

All these services are more or less required for all categories of patients viz, outpatients, inpatients and emergency patients.

In this study, only overall cost has been considered and individual sub-services have been left out due to limitation of time.
4.2 **Objective**  
To find out the total as well as unit costs in respect of inpatients and outpatients treated in the hospital.

So far in the Safdarjang Hospital, no study had been carried out to estimate the cost per outpatient or emergency patient per day.

It is difficult to state that how much amount is to be apportioned for outpatients or emergency patients out of the total budget. It was necessary to prepare certain parameters based on practical observations for estimation of this cost. Several parameters were considered and following three indices were computed.

1. Ratio of the cost of medicines for general outpatients versus the cost of medicines for inpatients in general ward per day.

2. Ratio of the cost of medicines incurred on an emergency outpatient versus the cost of medicines for an inpatient in general ward per day.

3. Ratio of professional man hours spent on an outpatient versus professional man hours spent on an inpatient in general ward.
4.3 Method of Computing the Parameters

Parameter 1

First Parameter was to obtain the ratio of the cost of medicines for a general outpatient versus the cost of medicines for an inpatient in general ward. The study was carried on seven working days (20th, 21st, 22nd, 23rd, 24th, 27th and 28th Jan '86). The cost of medicines prescribed was calculated for 50 patients on each day. The rates of all the drugs were obtained from Directorate General of Supplies and Disposals contract rates. Those were taken as standard rates. Similarly, the cost of the drugs prescribed for 50 inpatients in general ward (ward no. 11) per day was computed individually. These were tabulated and average cost per outpatient per day and average cost per inpatient per day on the drugs prescribed were calculated.

Parameter 2

The second parameter was to obtain the ratio of the cost of medicines for an emergency outpatient versus the cost of medicines for an inpatient per day in a general ward. The study on emergency outpatients was carried out for 7 weeks (20th Jan. to 1st March) to get requisite number of cases, so that the ratio was acceptable. The drugs prescribed during the stay of the patients in the Casualty
department was noted and the cost of the drugs for each patient was calculated on the rates of DCS &D, and the ratio of this cost and the cost per inpatient was obtained.

Parameter 3

This was to find out the ratio of professional man hours spent on an outpatient versus professional man hours spent on an inpatient.

The study was carried out for seven working days in general OPD and general medical ward. Time taken for each outpatient for examination and prescription by doctor and for giving injection was noted. When the patient entered the physician's room, time was entered on his slip and time was noted again when he left the room. This way time for injections was also noted for any of these patients who was advised any injection. Professional man hours include medical and nursing man hours. General medical ward (ward 11) was chosen for computing professional man hours. Time was noted for the following, daily for seven days i.e. February 3-9, 1986.

a) Time taken for physicians round.
b) Time taken for senior residents' round.
c) Duration of stay junior resident.
d) Duration of stay during day duty - nurses.
e) Duration of stay during evening duty - nurses.
f) Duration of stay during night duty - nurses.
Simultaneously, average bed occupancy in the ward was calculated and professional man hours for each inpatient were ascertained accordingly.

All three ratios were finally summed up to obtain the ratio of cost of outpatient care versus inpatient care.

Index-1 : Cost of medicines for general outpatient per day

Cost of medicines for general inpatient per day

Index-2 : Cost of medicines for an emergency outpatient per day

Cost of medicines for a general inpatient per day

Index-3 : Professional man hours spent on an outpatient per day

Professional man hours spent on an inpatient per day

Final Ratio

\[
\text{Outpatient care} \quad \frac{\text{Index 1} + \text{Index 2} + \text{Index 3}}{\text{Inpatient care}}
\]

4.4 Types of costs considered

The overall cost was divided into four elements:

1) Fixed costs : The cost which was incurred on salary to the staff and expenditure on non-expendable items like furniture, building, instruments, equipments etc.

2) Variable costs : The expenditure on expendable items like drugs, chemicals, medicines, injectables etc. was referred as variable cost.
3) **Overhead costs**: This covered the cost of administration, establishment, stationery, forms, telephones, office machinery etc.

4) **Other costs**: The special fund allotted to super-specialities, rehabilitation centre, post partum programme, Sexually Transmitted Disease programme etc. was included in this category.

4.5 **Cost estimates**

Fixed, variable, overhead and other costs were summed up for obtaining cost estimate for the whole financial year.

The following costs have been estimated.

a) Cost per bed per day = \(x\)

b) Cost per inpatient = \(y\)

c) Cost per outpatient per day = \(z\)

Suppose:

a) **Fixed costs**

i) Salaries and wages = \(A\)

ii) Accomodation = \(B\)

iii) Furniture = \(C\)

iv) Medical equipment = \(D\)

v) Linen = \(E\)

b) **Depreciation value of fixed costs would be** = \(F\) 

\((10\% \cdot B + 10\% \cdot C + 10\% \cdot D + 50\% \cdot E)\)

c) **Variable costs** = \(G\)

d) **Overhead costs** = \(H\)
e) Other costs = J

f) Total number of patient days
   i) No. of patient days for inpatients = K
   ii) No. of patient days for outpatients and
       emergency cases = L
   iii) Total no. of patient days = M (K+L)

g) Average length of stay = 0

h) Total expenditure at present wages = Q (A+C+H+J)
i) Total expenditure at inflated wages = R (20%A+Q)
j) Total expenditure at inflated wages
   including depreciation costs = S (R + F)

Cost per bed per day has been calculated as follows:

a) At present wages (x₁)

\[
\text{Expenditure at present wages} = \frac{Q}{M}
\]

b) At inflated wages (x₂)

\[
\text{Expenditure at inflated wages} = \frac{(20\% A + Q)}{M}
\]

= \frac{R}{M}
c) At inflated wages including depreciation costs ($X_3$)

\[
\text{Expenditure at inflated wages including depreciation costs} = \frac{(R + F)}{M} \times S
\]

Cost per inpatient has been computed as follows:

a) At present wages ($Y_1$)

\[
Y_1 = X_1 \times \text{ALS} = X_1 \times 0
\]

b) At inflated wages ($Y_2$)

\[
Y_2 = X_2 \times 0
\]

c) At inflated wages including depreciation costs ($Y_3$)

\[
Y_3 = X_3 \times 0
\]

Cost per outpatient per day has been obtained as under:

a) At present wages ($Z_1$)

\[
\frac{X_1}{\text{Ratio between outpatient and inpatient IP}}
\]
b) At inflated wages ($Z_2$)
\[ Z_2 \quad = \quad \frac{X_2}{\text{I P}} \]

c) At inflated wages including depreciation costs ($Z_3$)
\[ Z_3 \quad = \quad \frac{X_3}{\text{I P}} \]

5. Findings of the Study of Costing

As discussed in methodology three parameters were considered for estimating the cost of patient care. The first parameter was to obtain the ratio of the cost of medicines for a general outpatient versus the cost of medicines for an inpatient in general ward.

Parameter 1

The cost per outpatient per day in respect of medicine as obtained is given in Table no.15.

<table>
<thead>
<tr>
<th>Day</th>
<th>Average cost (in rupees)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.31</td>
<td>0.40</td>
<td>2.30</td>
</tr>
<tr>
<td>2</td>
<td>1.48</td>
<td>0.40</td>
<td>2.40</td>
</tr>
</tbody>
</table>

Contd ...
The daily average expenditure ranged between Rs. 1.19 to Rs. 1.65 for medicines on an outpatient per day. The minimum expenditure was of Rs. 0.40 whereas the maximum had been Rs. 2.60 of all the 350 outpatients studied. (50 on each day for 7 days). The average cost on medicines per outpatient per day has been obtained as Rs. 1.43.

Similarly cost per general inpatient per day in respect of medicines was obtained and is given in Table No.16.

### Table 16

**Average Cost of Medicines Per Inpatient Per Day**

<table>
<thead>
<tr>
<th>Day</th>
<th>Average cost (in rupees)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.05</td>
<td>4.00</td>
<td>28.00</td>
</tr>
<tr>
<td>2</td>
<td>10.26</td>
<td>4.00</td>
<td>28.30</td>
</tr>
<tr>
<td>3</td>
<td>9.89</td>
<td>4.00</td>
<td>32.00</td>
</tr>
<tr>
<td>4</td>
<td>10.45</td>
<td>3.80</td>
<td>26.00</td>
</tr>
<tr>
<td>5</td>
<td>10.18</td>
<td>4.00</td>
<td>18.00</td>
</tr>
<tr>
<td>6</td>
<td>9.61</td>
<td>6.00</td>
<td>12.00</td>
</tr>
<tr>
<td>7</td>
<td>9.96</td>
<td>4.00</td>
<td>14.00</td>
</tr>
</tbody>
</table>
From this information it can be stated that the average expenditure on medicines per inpatient per day ranged between Rs. 9.61 to Rs. 10.45. The minimum expenditure was Rs.3.80 and the maximum had been 32.00 on an inpatient per day.

Therefore the ratio is:

\[
\frac{\text{cost of medicine for general outpatient per day}}{\text{cost of medicine for general inpatient per day}} = \frac{\text{Rs.1.43}}{\text{Rs.10.05}} = 1 : 7.02
\]

**Parameter - 2**

The second parameter was to obtain the ratio of the cost of medicine for an emergency outpatient versus the cost of medicine for general inpatient per day in a general ward. The study was extended for 7 weeks for obtaining requisite number of emergency cases. The expenditure on medicines prescribed for the management of the emergency cases during that period was computed and is given in Table No.17.
### Table 17

<table>
<thead>
<tr>
<th>Week</th>
<th>Average cost (in rupees)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>6.50</td>
<td>4.50</td>
<td>9.20</td>
</tr>
<tr>
<td>Second</td>
<td>6.96</td>
<td>5.20</td>
<td>18.00</td>
</tr>
<tr>
<td>Third</td>
<td>6.72</td>
<td>5.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Fourth</td>
<td>5.13</td>
<td>5.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Fifth</td>
<td>6.75</td>
<td>5.20</td>
<td>9.60</td>
</tr>
<tr>
<td>Sixth</td>
<td>6.74</td>
<td>5.20</td>
<td>8.50</td>
</tr>
<tr>
<td>Seventh</td>
<td>6.97</td>
<td>6.00</td>
<td>10.20</td>
</tr>
</tbody>
</table>

The average expenditure on medicines per an emergency patient per day in the casualty department ranged between Rs. 6.13 to Rs. 6.97. The minimum expenditure had been Rs. 4.50 and the maximum was Rs. 18.00 per single emergency case in the casualty department. The grand average cost on medicines per emergency patient per day comes to Rs. 6.68. Therefore:

\[
\frac{\text{cost of medicines for an emergency outpatient}}{\text{cost of medicines for an inpatient per day in general ward}} = \frac{\text{Rs. 6.68}}{\text{Rs. 10.05}} = 1 : 1.5
\]
This was to find out the ratio of professional man hours on an outpatient versus professional man hours spent on an inpatient.

The study was carried out for seven working days in general OPD (Medical OPD) and general ward (Medical ward No.11). Time taken for each outpatient for examination and prescription by doctor and time taken for giving injection by nurse was noted. These were actual professional man hours as they included medical and nursing man hours only. Time taken for fifty patients individually was noted daily for a period of seven days. And the average time taken was worked out. The average time taken on each day for each outpatient is given in Table No.18.

### Table 18

<table>
<thead>
<tr>
<th>Day</th>
<th>Time taken for examination &amp; injections</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st day</td>
<td>6' 45&quot;</td>
<td>3' 30&quot;</td>
<td>16' 00&quot;</td>
</tr>
<tr>
<td>2nd day</td>
<td>5' 15&quot;</td>
<td>3' 00&quot;</td>
<td>11' 40&quot;</td>
</tr>
<tr>
<td>3rd day</td>
<td>5' 51&quot;</td>
<td>3' 00&quot;</td>
<td>12' 40&quot;</td>
</tr>
<tr>
<td>4th day</td>
<td>5' 42&quot;</td>
<td>3' 00&quot;</td>
<td>10' 00&quot;</td>
</tr>
</tbody>
</table>

Contd.....
From this table it can be stated that the average time taken per outpatient per visit in the outpatient department ranged between 5' 5" to 6' 45". The minimum time taken for examination and prescription for an outpatient per visit had been 3' 00" whereas the maximum was to the extent of 16 minutes. This included time taken for injection also. The grand average time taken for an outpatient per visit during this study had been 5' 50".

For obtaining professional man hours for inpatient ward no. 11 which is a general medical ward was chosen.

The general medical ward which was chosen had an authorised bed strength of 52. The bed occupancy was full during the period under study. The percentage of bed occupancy ranged between 100% to 113%. Professional man hours include those of physician, senior resident, junior resident and nursing staff. The duties of nursing staff are arranged in three shifts (morning, evening and night shift). The time taken for the rounds include a round by consultant physician. The total time taken in minutes by professional staff was 30,295 minutes and time for each inpatient comes
to 77 minutes. The total number of patients during the period was 392.

Therefore:

Average time taken is:

\[
\frac{5 \text{ hrs 25 min} + 7 \text{ hrs} + 140 \text{ hrs} + 195 \text{ hrs} + 84 \text{ hrs} + 73 \text{ hrs 30 min}}{392}
\]

or (in minutes)

\[
\frac{325 + 420 + 8400 + 11700 + 5040 + 4390 + 30}{392}
\]

\[
= \frac{30295}{392} = 77 \text{ minutes 16 Seconds.}
\]

Time taken for each outpatient was 5'50"

Therefore:

Ratio of

\[
\frac{\text{Professional man hours spent on an outpatient per day}}{\text{Professional man hours spent on an inpatient per day}}
\]

\[
= \frac{5 \text{ min 50 sec}}{77 \text{ min. 16 sec.}} = \frac{350 \text{ sec}}{4636 \text{ sec}} = 1 : 13.2
\]

The ratio of outpatient versus inpatient has been arrived at by summing up all the three parameters.
Parameter - 1

\[ \frac{\text{cost of medicines for general outpatient per day}}{\text{cost of medicines for general inpatient per day}} = \frac{1}{7.02} = 1 : 7.02 \]

Parameter - 2

\[ \frac{\text{cost of medicines for an emergency outpatient}}{\text{cost of medicines for general inpatient per day}} = \frac{1}{1.5} = 1 : 1.5 \]

Parameter - 3

\[ \frac{\text{professional man hours spent on an outpatient per day}}{\text{professional man hours spent on an inpatient per day}} = \frac{1}{13.2} = 1 : 13.2 \]

Total ratio = parameter 1 + parameter 2 + parameter 3

\[ = \frac{3}{21.72} \]

Cost on outpatient : cost on inpatient = 1 : 7.24

Approximately 7 outpatients are taken as equal to one inpatient.
The budget sanctioned under various sub heads and actual expenses for the financial year 1985-1986 collected for calculating the cost elements are presented in the Table Nos. 19 to 25.

### Table 19
**Expenses On Wages And Other Office Expenses**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sub head</th>
<th>Budget sanctioned (in lakhs)</th>
<th>Actual expenses (in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wages</td>
<td>4.20</td>
<td>5,38,937.30</td>
</tr>
<tr>
<td>2</td>
<td>Office expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>furniture</td>
<td>1.00</td>
<td>1,31,505.00</td>
</tr>
<tr>
<td>ii)</td>
<td>electricity</td>
<td>33.00</td>
<td>52,47,549.98</td>
</tr>
<tr>
<td>iii)</td>
<td>telephone</td>
<td>4.00</td>
<td>4,80,860.76</td>
</tr>
<tr>
<td>iv)</td>
<td>service stamps</td>
<td>0.25</td>
<td>25,000.00</td>
</tr>
<tr>
<td>v)</td>
<td>office machine</td>
<td>0.30</td>
<td>38,081.00</td>
</tr>
<tr>
<td>vi)</td>
<td>stationery forms</td>
<td>1.45</td>
<td>3,90,021.71</td>
</tr>
<tr>
<td>vii)</td>
<td>deliveries</td>
<td>5.00</td>
<td>6,93,683.70</td>
</tr>
<tr>
<td>viii)</td>
<td>taxes</td>
<td></td>
<td>6,120.00</td>
</tr>
<tr>
<td></td>
<td>Total (office expenses)</td>
<td>45.00</td>
<td>70,12,823.15</td>
</tr>
<tr>
<td></td>
<td>Total (1+2)</td>
<td>49.20</td>
<td>75,51,760.45</td>
</tr>
</tbody>
</table>

### Table 20
**Expenses On Other Charges**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sub head</th>
<th>Budget sanctioned (in lakhs)</th>
<th>Actual expenses (in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>publications</td>
<td>1.25</td>
<td>1,25,030.26</td>
</tr>
<tr>
<td>2</td>
<td>subsidy to canteen</td>
<td>2.00</td>
<td>2,23,768.35</td>
</tr>
<tr>
<td>3</td>
<td>medical stores</td>
<td>35.00</td>
<td>35,08,170.14</td>
</tr>
<tr>
<td>4</td>
<td>general stores</td>
<td>4.00</td>
<td>4,28,875.63</td>
</tr>
<tr>
<td>5</td>
<td>rehab. stores</td>
<td>1.00</td>
<td>35,238.36</td>
</tr>
<tr>
<td>6</td>
<td>admm. section</td>
<td>3.00</td>
<td>5,35,356.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>46.25</td>
<td>48,56,409.24</td>
</tr>
</tbody>
</table>

Contd....
The detailed expenditure on main plan is presented in Table No. 21.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sub head</th>
<th>Budget sanctioned (in lakhs)</th>
<th>Actual expenses (in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>salaries</td>
<td>4.15</td>
<td>36,747.55</td>
</tr>
<tr>
<td>2</td>
<td>machinery</td>
<td>6.75</td>
<td>6,06,326.47</td>
</tr>
<tr>
<td>3</td>
<td>publication</td>
<td>0.10</td>
<td>7,567.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>11.00</strong></td>
<td><strong>5,50,641.02</strong></td>
</tr>
</tbody>
</table>

Table 21

Expenditure In Relation To Main Plan
Safdarjang Hospital is also receiving funds from National Scheme for Rehabilitation Centre. The detailed expenditure is presented in Table no.22.

Table 22
Expenditure On National Scheme For Rehabilitation Centre

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sub head</th>
<th>Budget sanctioned (in lakhs)</th>
<th>Actual expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>salaries</td>
<td>2.95</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>wages</td>
<td>0.10</td>
<td>108.80</td>
</tr>
<tr>
<td>3.</td>
<td>travel expenses</td>
<td>0.30</td>
<td>4,033.00</td>
</tr>
<tr>
<td>4.</td>
<td>office expenses</td>
<td>0.90</td>
<td>14,044.04</td>
</tr>
<tr>
<td>5.</td>
<td>payment to professionals</td>
<td>0.40</td>
<td>575.00</td>
</tr>
<tr>
<td>6.</td>
<td>machinery and equipment</td>
<td>1.00</td>
<td>1,02,243.64</td>
</tr>
<tr>
<td>7.</td>
<td>material and supplies</td>
<td>1.50</td>
<td>1,12,661.16</td>
</tr>
<tr>
<td>8.</td>
<td>scholarship and stipend</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>maintenance</td>
<td>0.50</td>
<td>49,993.47</td>
</tr>
<tr>
<td>10.</td>
<td>motor vehicle</td>
<td>1.60</td>
<td>1,16,256.00</td>
</tr>
<tr>
<td>11.</td>
<td>other charges</td>
<td>0.25</td>
<td>24,909.80</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>10.00</strong></td>
<td><strong>4,24,824.91</strong></td>
</tr>
</tbody>
</table>

There are two more programmes running in the hospital. These are post partum programme and National Sexually Transmitted Disease programme. The detailed expenses on these two programmes are presented in Table 23.

Table 23
Expenditure On Post-partum Programme & National STD Programme

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sub head</th>
<th>Budget sanctioned (in lakhs)</th>
<th>Actual expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>salaries</td>
<td>3.00</td>
<td>2,22,743.65</td>
</tr>
<tr>
<td>2.</td>
<td>contingencies</td>
<td>0.03</td>
<td>2,604.50</td>
</tr>
<tr>
<td>3.</td>
<td>vehicles</td>
<td>0.12</td>
<td>8,752.67</td>
</tr>
<tr>
<td>4.</td>
<td>ward and OT</td>
<td>0.265</td>
<td></td>
</tr>
</tbody>
</table>

Contd ....
From the actual budget expenditure of Safdarjang Hospital during the financial year 1985-86, it can be noted that it includes certain expenditure on furniture, medical equipment and linen. The expenditure on this account is deducted and the total expenditure arrived at is presented below:

1. Total expenditure during financial year 1985-86 (From hospital budget) Rs.8,66,79,608.09

2. a) Furniture Rs. 1,31,505.00
   b) medical equipment Rs.35,08,170.14
   c) Linen Rs. 2,75,818.30

Total 2 (a+b+c) Rs.39,15,493.44

3. Total expenditure - expenditure on 2(a+b+c) (RS. 8,66,79,608.09) - (Rs. 39,15,493.44)
   = Rs. 8,27,64,114.65

4. Expenditure on account of main plan Rs.16,93,941.35

5. Expenditure on account of specialities Rs. 6,50,641.02

6. Expenditure on Rehabilitation centre Rs. 4,24,824.91

7. Expenditure on Post Partum Programme Rs. 2,43,790.82
   Contd ......

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>travel expenses</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>equipment</td>
<td>0.005</td>
<td>9,690.00</td>
</tr>
<tr>
<td>7.</td>
<td>machinery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>National STD programme</td>
<td></td>
<td>11,571.35</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Total</td>
<td>3,440</td>
<td>2,55,362.17</td>
<td></td>
</tr>
</tbody>
</table>

Contd.
8. Expenditure on National STD programme
   Rs. 11,571.35

   Total of (3,4,5,6,7 & 8) Rs. 8,57,88,884.10

9. CPWD expenditure on building programme (recurring)
   Rs. 58,33,000.00

   Total Rs. 9,16,21,884.10

10. Salaries
    a) staff of hospital  Rs. 4,87,41,337.05
    b) superspecialities  Rs. 36,747.55
    c) post-partum programme  Rs. 2,22,743.65
    d) others  Rs. 5,32,946.35
    e) CPWD staff  Rs. 8,30,376.05

   Total of 10 (a+b+c+d+e) Rs. 5,03,64,150.65

11. value of site, building, civil works, sanitary & water supplies
    electrical installations and external services
    (As obtained from CPWD) (B)  Rs. 9,46,71,564.70

12. value of furniture  (C)  Rs. 15,21,365.00

13. value of equipment  (D)  Rs. 2,26,48,500.00

14. value of linen  (E)  Rs. 4,75,900.00

15. a) value of (11,12,13)  Rs.11,88,41,429.70
    b) 10% of the cost
       (10% of B + 10% of C + 10% of D)  Rs. 1,18,84,142.97

16. 50% of the cost of linen (50% of E)  Rs. 2,37,950.00

17. depreciation cost (F)  Rs. 1,21,22,092.97
    (15(b) + 16)

   By obtaining this information the total expenditure for
   the financial year 1985-86 at the rate of present wages, at
the rate of increased wages and at the rate of inflated wages including depreciation cost are computed. These are presented in Table No. 24.

Table 24
Total Expenditure On Safdarjarg Hospital During 1985-1986

<table>
<thead>
<tr>
<th>S.No</th>
<th>Details</th>
<th>Expenditure (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Total expenditure at the rate of present wages</td>
<td>9,16,21,884.10 (Q)</td>
</tr>
<tr>
<td>2.</td>
<td>Total expenditure with inflated wages for pension gratuity benefits etc.</td>
<td>10,16,94,714.23 (R)</td>
</tr>
<tr>
<td>3.</td>
<td>Total expenditure with inflated wages including depreciation cost</td>
<td>11,38,16,807.20 (S)</td>
</tr>
</tbody>
</table>

The distribution of expenditure at present wages, at inflated wages and at inflated wages including depreciation cost on main subheads was worked out and presented below:

Table 25
Distribution Of Expenditure Under Different Subheads

<table>
<thead>
<tr>
<th>S.No</th>
<th>Subheads</th>
<th>at present wages</th>
<th>at inflated wages</th>
<th>at inflated wages with depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Salaries</td>
<td>55.694%</td>
<td>60.065%</td>
<td>53.639%</td>
</tr>
<tr>
<td>2.</td>
<td>Ration</td>
<td>2.98%</td>
<td>2.68%</td>
<td>2.403%</td>
</tr>
</tbody>
</table>

Contd ....
For calculating the cost of a bed per day, the outpatients, emergency patients, and all inpatients were converted into a single denominator.

During 1985-86 (April 85 to March 86) the total outpatient attendance and inpatient days including emergency cases were:

Total outpatient attendance \( 12,66,038 \) (L)

Total inpatient days \( 4,58,827 \) (K)

Converting these into a single denominator \((L+K)\) the total number of patient days,

\[ M = \frac{12,66,038}{7} + \frac{458827}{1} = 639689 \ (1 \text{ inpatient} = 7 \text{ outpatient}) \]

1. **Cost per bed per day**

a) **Cost per bed per day at present wages**

\[ X_1 = \frac{\text{expenditure at present wages}}{\text{total no. of patient days during the same period}} \]
b) Cost per bed per day at inflated wages

\[ X_2 = \frac{R \times 10,16,94,714.23}{M \times 639689} = \text{Rs. 158.98} \]

\[ X_3 = \frac{S \times 11,38,16,807.20}{M \times 639689} = \text{Rs. 177.92} \]

Total number of inpatient days during 1985-86 was 458827.
Total number of discharges during the same period was 74870.
Therefore average length of stay
\[ \frac{4,58,827}{74870} = 6.12 \text{ days (0).} \]

2. Cost per inpatient

This was obtained by multiplying per bed per day with average length of stay.

a) Cost per inpatient at present wages
\[ Y_1 = \text{cost per bed per day at present wages} \times \text{average length of stay} \]
\[ = (X^1) \times \text{ALS} = (X^1) \times (0) = \text{Rs. 143.22} \times 6.12 \]
\[ = \text{Rs. 876.50} \]

b) cost per inpatient at inflated wages

\[ Y_2 = \text{cost per bed per day at inflated wages} \times \text{ALS} \]
\[ = (X^2) \times (0) = \text{Rs. 158.98} \times 6.12 = \text{Rs. 972.95} \]

c) cost per inpatient at inflated wages including depreciation cost.

\[ Y_3 = \text{cost per bed per day at inflated wages including depreciation cost} \times \text{ALS} \]
\[ = (X^3) \times (0) = \text{Rs. 177.92} \times 6.12 = \text{Rs. 1088.87} \]

3. Cost per outpatient per day

a) Cost per outpatient per day at present wages

\[ Z_1 = \frac{\text{Cost per inpatient per day at present wages}}{\text{The ratio between outpatient and inpatient}} \]
\[ = \frac{143.22}{7} = \text{Rs. 20.46} \]

b) Cost per outpatient per day at inflated wages

\[ Z_2 = \frac{\text{cost per inpatient per day at inflated wages}}{\text{IP}} \]
c) Cost per outpatient per day at inflated wages including depreciation cost.

\[ \text{Cost per inpatient per day at inflated wages including depreciation cost} \]

\[ Z_3 = \frac{X_3}{IP} \]

\[ \frac{X_3}{IP} = \frac{177.92}{7} = \text{Rs. 25.41} \]

The summary of these cost estimates is presented below:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Cost estimates at present at inflated at inflated wages (Rs) wages (Rs) wages including depreciation costs (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>cost per bed per day (X) 143.22 158.98 177.92</td>
</tr>
<tr>
<td>2.</td>
<td>cost per inpatient (Y) 876.50 972.95 1088.87</td>
</tr>
<tr>
<td>3.</td>
<td>cost per an outpatient per day (Z) 20.46 22.71 25.41</td>
</tr>
</tbody>
</table>

As per the distribution of the total expenditure on various subheads, the cost per bed per day can be distributed in the main subheads. The distribution of cost
per bed per day is presented in Table No. 26 and distribution of cost per outpatient per day in Table No. 27.

### Table 26
**Distribution Of Cost Per Bed Per Day**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Item</th>
<th>at present salaries (Rs.)</th>
<th>at inflated salaries (Rs.)</th>
<th>at inflated salaries including depreciation costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>salaries</td>
<td>80.20</td>
<td>95.40</td>
<td>95.47</td>
</tr>
<tr>
<td>2.</td>
<td>ration</td>
<td>4.29</td>
<td>4.26</td>
<td>4.27</td>
</tr>
<tr>
<td>3.</td>
<td>CPWD maintenance</td>
<td>7.16</td>
<td>7.80</td>
<td>7.87</td>
</tr>
<tr>
<td>4.</td>
<td>miscellaneous</td>
<td>5.72</td>
<td>5.66</td>
<td>4.59</td>
</tr>
<tr>
<td>5.</td>
<td>medical stores</td>
<td>32.94</td>
<td>32.94</td>
<td>32.96</td>
</tr>
<tr>
<td>6.</td>
<td>general stores</td>
<td>4.29</td>
<td>4.61</td>
<td>4.09</td>
</tr>
<tr>
<td>7.</td>
<td>electricity</td>
<td>8.59</td>
<td>8.20</td>
<td>8.20</td>
</tr>
<tr>
<td>8.</td>
<td>depreciation cost</td>
<td>-</td>
<td>-</td>
<td>18.95</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>143.19</strong>*</td>
<td><strong>158.87</strong>*</td>
<td><strong>176.34</strong>*</td>
</tr>
</tbody>
</table>

### Table 27
**Distribution Of Cost Per Outpatient Per Day**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Item</th>
<th>at present salaries (Rs.)</th>
<th>at inflated salaries (Rs.)</th>
<th>at inflated salaries including depreciation costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>salaries</td>
<td>11.37</td>
<td>13.63</td>
<td>13.62</td>
</tr>
<tr>
<td>2.</td>
<td>ration</td>
<td>0.60</td>
<td>0.60</td>
<td>0.61</td>
</tr>
<tr>
<td>3.</td>
<td>CPWD maintenance</td>
<td>1.11</td>
<td>1.11</td>
<td>1.11</td>
</tr>
<tr>
<td>4.</td>
<td>miscellaneous</td>
<td>0.84</td>
<td>0.85</td>
<td>0.84</td>
</tr>
<tr>
<td>5.</td>
<td>medical stores</td>
<td>4.70</td>
<td>4.70</td>
<td>4.70</td>
</tr>
<tr>
<td>6.</td>
<td>general stores</td>
<td>0.57</td>
<td>0.57</td>
<td>0.57</td>
</tr>
<tr>
<td>7.</td>
<td>electricity</td>
<td>1.17</td>
<td>1.17</td>
<td>1.17</td>
</tr>
<tr>
<td>8.</td>
<td>depreciation cost</td>
<td>-</td>
<td>-</td>
<td>2.69</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>20.36</strong>*</td>
<td><strong>22.63</strong>*</td>
<td><strong>25.31</strong>*</td>
</tr>
</tbody>
</table>

*Some figures were rounded for calculation. Therefore slight difference is seen.*
From the Table No. 26 indicating distribution of cost per bed per day, Rs. 80.20 is consumed by salaries out of the total of 143.19. If the salaries are inflated, consumption pattern by salaries alone increases to Rs. 95.40 per bed per day out of a total of Rs. 158.87. Adding depreciation cost there is almost no change in the consumption by salaries.

In similar way, the consumption by medical stores is Rs. 32.94 and by electricity is Rs. 8.59, while CPWD maintenance expenditure consumes Rs. 7.16 per bed per day. Ration and general stores respectively carry away Rs. 4.29 each. For an outpatient per day Rs. 11.37 is spent on salaries while Rs. 4.70 is spent on medical stores. The ration, general stores and other miscellaneous items take away very little of the cost. The expenditure on electricity constitutes Rs. 1.17 per outpatient per day, while the expenditure on CPWD maintenance is Rs. 1.11.

6. Conclusions

Based on the analysis of the data gathered from record study, through informal discussions with various categories of personnel and the empirical research carried out the following conclusions are drawn.
Safdarjung Hospital is managed and financed by the Central Government. It is primarily a general hospital for patient care also providing specialist services of various kinds. No choice is left in the selection of patients, and admission is obligatory being a Central Government hospital irrespective of vacancy by providing extra improvised beds. This hospital also provide services to the Central Government Health Scheme beneficiaries. This also acts as a centre for highly sophisticated bio social research and training of various health functionaries. The hospital runs on the grant received from the Ministry of Health and Family Welfare.

The financial management system follows the general financial rules prescribed for all government agencies for budget estimation and financial control, but no standard parameters have been laid down for cost accounting or cost analysis in the hospital. As a matter of fact, the system of cost accounting in most of the hospitals is non-existent.

There is no parameter for comparing emergency or outpatients with inpatients of the hospital. From the information presented in Table No. 25 it can be seen that salaries and medical stores together constitute approximately 72% to 80% of the total expenditure. If only actual expenditure is considered salaries constitute 55% of
total cost. If the cost on account of depreciation is considered, the percentage decreases to 53, while it shoots up to 60% if the salaries are inflated due to benefits such as pension, gratuity etc. This information provides enough base for the management to examine the sanctioned strength of staff, to find out actual requirement of staff, to develop the performance appraisal of the already existing staff so that they can increase their output in order to prevent additional expenditure on salaries and increase fund for direct patient care, like on medicines, food, other materials etc.

The information about expenditure on electricity could provide some direction to the management for development of such a system which will keep a constant vigil and thus minimise wasteful utilisation of electricity.

Similarly by cost analysis, the hospital management will be able to examine the investment and actual expenditure on various items in relation to patient care and make decision on altering the pattern scientifically. If cost accounting/cost analysis is maintained in the form of various parameters indicated, it will reflect the need for keeping all the beds occupied as far as possible because every unoccupied bed increases cost per inpatient per day. It is also indicated that speedy disposal of cases decreases
the inpatient days and so reduce the cost. These parameters help in reflecting the cost per bed per day irrespective of number of beds occupied particularly in the matter of salaries and wages which form the bulk of expenditure.

The cost per bed per day which has been calculated for Safdarjang Hospital cannot be a representative figure for other hospitals due to the following reasons:¹²

a) Funds provided to big hospitals differ from State to State and from hospital to hospital, and even from Union Territory to Union Territory.

b) Sizes of various hospitals differ.

c) Functions and specialities are not the same.