

Chapter 5

PILOT IMPLEMENTATION: HOSPITAL-BASED COSTING

Key Messages

- Studies in the two pilot hospitals: Teaching Hospital Kurunegala and Base Hospital Kuliyaipitiya illustrated the versatility of the step down cost accounting methodology in allowing costs to be compared across hospitals and within hospitals both from an input perspective, and from a speciality/ward angle.
- Calculating unit costs, per patient day costs in particular are a crucial means of identifying the achievement of efficiency within the hospital. Utilization is a crucial element in bringing down unit costs.
- Sustainability of the costing process depends primarily on interest in such an activity among the management and staff. It also needs sufficient trained personnel, computer facilities and even an adequacy of stationary. Provincial and National Level support and incentives are then essential for ensuring continuous and sustained efforts in managerial cost accounting.

Teaching Hospital Kurunegala and Base Hospital Kuliyaipitiya were selected as the sites for the pilot studies on cost accounting. Although both Teaching Hospital Kurunegala and Base Hospital Kuliyaipitiya are located in the Kuruganela District, Teaching Hospital Kurunegala is a run directly by the Ministry of Health while Base Hospital Kuliyaipitiya comes under the purview of the Provincial Council. Kurunegala district was selected for the pilot studies for two reasons: firstly this is a relatively developed district of Sri Lanka, as reflected by its socio-economic statistics as well as health infrastructure; secondly the health personnel in the district and the province had an interest in improving their costing and management systems, as reflected by presentations at the Provincial Annual Health Forum held in 2005.

The choice of two different types of hospital for the pilot studies was based on the argument that differences in the implementation of health budgets, financial flows, organization and information systems in the two sites would allow the researchers to identify the strengths and constraints of the systems to initiating and implementing a cost accounting process; and would then contribute to the development of a cost accounting system that is appropriate and flexible (with only minor institution specific adjustments) to be adopted at national level.

The method used for costing Teaching Hospital Kurunegala and Base Hospital Kuliyaipitiya is similar to that used in Sri Jayewardenepura General Hospital. The detailed results for the two pilot hospitals and suggestions for developing the managerial cost accounting system in line with the constrains and challenges presented by these hospitals, are presented in 5.1 and 5.2 and a comparison of costs by speciality for all three hospitals is given in 5.3.

5.1 BASE HOSPITAL KULIYAPITIYA

Base Hospital Kuliyaipitiya comes under the Regional Director of Health Services (RDHS) office. Base Hospital is a term used to refer to a hospital that has the four main specialties: Medical, Surgical, Paediatric and Gynaecology and Obstetrics. This hospital has 11 wards, 402 beds and a staff of 508. Coverage area is 1,540 k m². Coverage population is 0.8million.

In 2005 the number of outpatients treated in this hospital was 204,782. The number of patients attending clinics was 112,454. The number of operations carried out during the year was 9551. The number of inpatients admitted to the wards was 42,420. The bed occupancy rate was approximately 87% during the year. The average length of stay in the hospital was 3.5 days.

5.1.1 HOSPITAL FUNCTIONS AS RELATED TO COST ACCOUNTING

A. FINANCIAL PROCEDURES

Allocation of funds is done by the North Western Provincial Council through its budgetary allocation, so there is no budgeting or accounting done in the hospital. All payments are made from the RDHS office. As a result except for the petty cash float Base Hospital Kuliyaipitiya does not handle any cash transactions. The RDHS Kurunegala office maintains only overall accounting records. They do not prepare accounts by institution. This process is detrimental to improving efficiency and appropriate resource allocation as it precludes institutional cost analysis.

Hospital staff salaries are prepared by the RDHS office Kurunegala. For this purposes they use the Government Payroll System (GPS) (See section 1.1.5). They are using an accounting package called CIGAS to handle recurrent expenditure. A separate Bank Account is maintained in the Bank of Ceylon for salary payments. Information on salaries is not available by hospital cost centres which necessitated categorizing and costing of staff salaries by cost centres as part of the pilot study,

The RDHS office Kurunegala handles many financial functions on behalf of the hospital. However all budgeting and accounting is done for all the institutions in the district en masse (124 institutions) which prevents easy access to hospital based information. Only electricity, water and telephone expenses are known by institution. Recurrent expenses are under the Regional Director while the Provincial Director oversees all capital expenditure. No depreciation policy is in existence.

B. MEDICAL SUPPLIES

The Regional Medical Supplies Department (RMSD) which is under the RDHS is responsible for supplying drugs to the hospitals in the district. Drugs are supplied to the hospitals whenever required and no regular periodical requests need to be made. No annual stock verification has been carried out at the end of the financial year but ad hoc stock taking has been carried out.

From the RMSD, they issue the items directly to the Drug Stores, Surgical Consumable Stores and Surgical Inventory Stores. From the Drug stores they issue the drugs to OPD pharmacy, Clinic pharmacy and Indoor pharmacy. From the Indoor pharmacy they issued to wards, ICU and OT. If any medicine is out of stock or urgently needed they can buy it locally. These local purchase drugs are directly issued from the Drug stores to the wards and are entered on the patient's Bed Head Ticket (BHT).

5.1.2 PRESENT STATUS OF HOSPITAL MANAGEMENT INFORMATION SYSTEM

A. CLINICAL INFORMATION

Hospital clinical information is maintained by the Medical Records Department which comes under the direct supervision of District Medical Officer (DMO). This department is responsible for maintaining medical records for Inpatients. They prepare monthly statistics and an annual bulletin in which they provide data on:

- Number of beds
- Staff by category
- Clinics by specialty
- Hospital service details
- Inpatient Services
- Physiotherapy Department
- ECG
- Radiology
- Anti malaria Activities
- OPD Services
- Notification of diseases
- Information related to the Department of Judicial Medicine
- Operations by specialty
- Hospital Lab Services
- Blood Bank Services
- Maternity Statistics
- Hospital Transport Services
- Revenue Generation
- Recruitment Expenditure

The Medical Record Office section enters ICD 10 CODE on every BHT and Indoor Morbidity and medical statistics are gathered from the BHTs. Every year they do a Hospital Facility Survey in order to maintain records about the availability of resources and services provided. In addition, from every ward midnight statistics are collected and these numbers are used to calculate the number of admissions, total patients days, discharges, transfers and deaths information by ward and for the hospital as a whole on a monthly and annual basis.

At the Base Hospital Kuliypitiya for management purposes, the following **5 meetings** are generally held once a month:

- **Management Consultative meeting:** A meeting for the entire hospital management (involved in decision making), attended by consultants from each clinical department. Various clinical statistics and information on Incident Accident media report, as well as clinical matters are deliberated here
- **Sectional Heads meeting:** used for discussing various issues related to the coordination of daily duties and activities.

- **Drug Review meeting:** Used to discuss issues such as prescribing patterns, drug safety and availability
- **Infection Control meeting:** Meeting held to monitor/update information on infection rates and means of infection control
- **Peri Natal Mortality Review meeting:** Meeting held to identify and discuss factors contributing to peri natal mortality and appropriate safeguards/interventions

B. FINANCIAL INFORMATION

Neither an Accounts Department in the hospital nor the RDHS office is maintaining accounts on a monthly or annual basis. No item-wise budget is maintained so no evidence exists of the variance between budgeted and actual values. So in carrying out this cost accounting study financial allocation information was collated from the RDHS office and other information relating to determining expenditure were gathered from Hospital registers.

No focal group exists for evaluating hospital costs. Nor is there a regular financial reporting system between the hospital and the RDHS. Currently at the Drugs Review meeting, not only drug costs but also general clinical costs, such as repairs and renewal costs for devices, medical gas cost, medical supplies costs, costs for X-ray and Laboratory, are reported and deliberated. Costs related to maintaining healthcare services, such as fuel and electricity expenses are reported at the Sectional Heads meeting. Ideally with the advent of hospital costing, systems should be developed for regular meetings of a financial committee within the hospital to analyze costs at cost centre level, as well as a scheme for reporting hospital costs to the RDHS (for monitoring and cross-institutional comparison purposes).

5.1.3 COST ACCOUNTING PROCESS AT THE HOSPITAL

A. COST CENTRES

Base Hospital Kuliapitiya did not have a cost centre system in operation so for the purpose of this study cost centres were categorized as follows:

TABLE 5- 1: BASE HOSPITAL KULIYAPITIYA COST CENTRES

FINAL COST CENTERS (18)			
Ward -01 Surgical Male	Ward -07 Gynecology	Oral-Maxillo-Facial (OMF) Unit	
Ward -02 Eye	Ward -08 Pediatric	Out Patient Department (O.P.D)	
Ward -03 Medical Male	Ward -10 Surgical Male	Clinics	
Ward -04 Surgical	Ward -11 Medical Male	Dental Unit	

Female		
Ward -05 Medical Female	Bhikku Ward	Eye Unit
Ward -06 Obstetrics	Pre -Mature Baby Unit (PBU)	Emergency Shock Unit(E .S .U)
INTERMEDIATE COST CENTERS (20)		
Ward-14 Other	Physiotherapy	Injection Unit
Paying ward	Indoor Pharmacy	Drug Stores
Intensive Care Unit (ICU)	O .P.D. Pharmacy	Scanning Unit
Operation Theater	Clinic Pharmacy	Surgical Inventory Stores
Kitchen	Central Sterilize Supplies Department	Surgical Consumables stores
X-ray Unit	Blood bank	Laboratory
E .C .G Unit	Dressing Unit	
OVERHEAD COST CENTERS (18)		
General Stores	Planning	Infection Control Unit
D .M .O . 's Office	Accounts	Transport
Administration Officer' s Office	Establishment	Mortuary
Medical Record Office (MRO)	Matron's room	Maintenance
Telephone Exchange	Judicial Medical Officer's Room	Anti Malariya Unit
Security	Health Education Unit	Overseers office

In the SJGH study Intermediate Cost Centres were classified as (A) and (B): departments with patients who receive services from several departments being classified as Intermediate Cost Centres (A), and departments which only aid activities of Final cost centres are classified as Intermediate Cost Centres (B) in line with the SJGH classification of cost centres. Of the list above only Ward 14, the paying ward and the ICU would fall into the category - Intermediate cost Centre (A). While this distinction has not been explicitly made in the case of the two pilot studies, cost absorption has followed the same procedure as in the SJGH study.

B. ALLOCATION AND APPORTIONING OF COSTS TO COST CENTRES

First the salaries were allocated to each cost centre according to the number and type of employees working in the cost centre. Likewise we allocated overtime/holiday pay and travel expenses.

Drugs, surgical items and dressings were also directly allocated to each cost centre as issued by the Indoor pharmacy. The above items are issued to the following wards/cost centres on the following basis: medical oxygen is directly allocated to cost

centres; laboratory chemicals and consumables apportioned to each cost centre according to the number of tests done by each cost centre; X – Ray consumables apportioned to cost centres according to number of X- rays taken by each cost centre.

Food provisions (diet) apportioned to the cost centres according to the number of diets provided to each cost centre. General supplies and food directly allocated to cost centres. Repairs and maintenance allocated directly to relevant cost centre.

TABLE 5- 2: ALLOCATION OF DIRECT COST TO COST CENTRES

Cost	Method
1. Personnel Emoluments	From GPS gained information on the monthly total salaries. Names of staff are identified by cost centre.
2. Traveling	Name-wise monthly payments taken from RDHS office. Information collated by cost centre
3. Drugs, Dressings	Issue registers from Drugs Stores and Indoor Pharmacy used to prepare costs cost centre-wise
4. Surgical Items	Issue register from Surgical Consumable Stores used to prepare costs cost centre wise
5. Medical Oxygen	Information taken from RDHS office and checked in line with hospital records. Entered cost centre wise.
6. Lab chemicals & Consumables	Information gained from Stock Transfer Vouchers at the laboratory and Local Purchase Invoices.
7. X-ray Consumables	Data from X-ray Department allocated according to the number of X-rays taken of patients in the different cost centres
8. General Suppliers	Information taken from Issue Register Book entered cost centre wise
9. Food Provision	Information taken from RDHS office and checked against hospital records. Entered cost centre wise.
10. Fuel	Information gained from RDHS office and checked against hospital records. Entered cost centre wise.
11. Repairs & Maintenance	Information gained from RDHS office and checked against hospital records. Entered cost centre wise.
12. Electricity	Costs taken from electricity bill payments, apportioned to cost centre considering the floor area, number of equipment using electricity and consumption rate
13. Water	Taken from water bill payments. Apportioned to cost centres on basis of number of patients, staff and usage in the cost centres.
14. Telephone	Taken from telephone bills payments. Direct lines bills directly allocated to cost centres, other calls allocated to cost centres according to information in the call register.
15. Gas	Taken from RDHS office and hospital records, and entered cost centre-wise.
16. Laundry	Taken from hospital records and entered cost centre wise.

17. Other Services

Rent, Rates. Postage etc taken from RDHS office and hospital records and entered cost centre wise.

5.1.4 RESULTS FROM STEP-DOWN COST ACCOUNTING AT BH KULIYAPITIYA

A. COSTS BY COST CENTRES

The sum total of medical expenditure in 2005 at this hospital is 189,666 thousand LKR. This expenditure is divided among 56 cost centres and the cost centres are classified at three levels: Final cost centre (18 centres, 121,790 thousand LKR), Intermediate cost centre (20 centres, 48,111 thousand LKR) and Overhead cost centre (18 centres, 19,765 thousand LKR). The detailed cost structure for each level of Cost Centre and the results of Step-down cost accounting are given in the Table below.

TABLE 5- 3: DETAILED COST STRUCTURE FOR THREE LEVELS OF COST CENTRES

Final Cost Centres																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Ward 01	Ward 02	Ward 03	Ward 04	Ward 05	Ward 06	Ward 07	Ward 08	Ward 10	Ward 11	Bhikku	PBU	OMF	OPD	Clinics	Dental	Eye	E.S.U
Personnel Costs	6127	3662	5452	4658	5957	16595	4559	6790	2908	3170	529	2768	1737	10396	848	1739	1463	2422
Material Costs	3453	416	3891	1972	2388	5171	1231	2996	1189	1324	124	697	80	6012	6247	92	54	661
Recurrent Costs	103	71	91	114	162	200	152	102	72	76	18	23	51	351	42	118	40	227
Depreciation																		
Total Costs	9683	4150	9433	6745	8506	21966	5942	9887	4169	4570	670	3487	1868	16760	7138	1949	1557	3310

Intermediate Cost Centres																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Word 14	Paying	ICU	O.T	Kitchen	X-ray	E.C.G	Phisio	Indoor pha	OPD pha	Clinic Pha	CSSD	Bloodbank	Dressing	Injections	Drug stores	Scanning	Laboratory	Surgical Inv	Sugical con
Personnel Costs	2591	343	5528	10812	941	968	668	742	284	1033	543	776	181	530	232	728	1387	3497	396	308
Material Costs	829	222	1969	6898	16	17	37	2	3	12	6	12	49	0	3	4	10	141	3	3
Recurrent Costs	100	4	864	1376	619	220	115	7	162	27	17	9	683	9	8	221	132	794	28	19
Depreciation																				
Total Costs	3250	568	8362	19086	1576	1205	820	750	450	1072	566	797	913	540	243	953	1528	4432	400	330

Overhead Cost Centres																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Matron's Off	JMO's Off	H.E.U	I.C.N	Mortuary	Malariaiya	Generalstore	DMO's Off	A.O's Off	MRO	T. Exchange	Security	Planning	Accounts	Establish	Transport	Mainten	Overseer
Personnel Costs	419	733	326	298	201	103	230	212	448	625	601	164	77	1094	1265	1675	2703	2324
Material Costs	6	1	7	117	31	4	3	4	1	1	3	0	15	37	81	986	144	1756
Recurrent Costs	14	26	6	6	368	7	15	92	61	81	977	1	124	46	548	323	353	25
Depreciation																		
Total Costs	439	760	339	421	601	114	247	308	509	707	1581	165	216	1177	1894	2984	3200	4105

TABLE 5- 4 : COST STRUCTURE AT BASE HOSPITAL KULIYAPITIYA

Cost Centre	Final		Intermediate		Overhead		Total	
	000Rs	(%)	000Rs	(%)	000Rs	(%)	000Rs	(%)
Personnel Costs	81,780	67%	32,464	67%	13,496	68%	127,739	67%
Material Costs	37,997	31%	10,234	21%	3,197	16%	51,428	27%
Recurrent Costs	2,013	2%	5,414	11%	3,072	16%	10,498	6%
Depreciation	0	0%	0	0%	-	0%	0	0%
Total	121,790	100%	48,111	100%	19,765	100%	189,666	100%
		64%		25%		10%		100%

Costs Centre	Final		Intermediate		Total	
	000Rs	(%)	000Rs	(%)	000Rs	(%)
1st Allocation Total	121,790	89%	48,111	91%	169,901	90%
Overhead CC	14,911	11%	4,854	9%	19,765	10%
TOTAL	136,701	100%	52,965	100%	189,666	100%

Costs Centre	Final		Total	
	000Rs	(%)	000Rs	(%)
1st Allocation Total	121,790	64%	121,790	64%
Overhead CC	14,911	8%	14,911	8%
Intermediate CC	52,965	28%	52,965	28%
TOTAL	189,666	100%	189,666	100%

B. CONSIDERING COSTS OF FINAL COST CENTRES

Total amount of cost by final cost centre is In-patient 142,760 thousand LKR (75%), and Out-patient 46,906 thousand LKR (25%).

Disaggregating costs shows that the major cost element is direct personnel costs (44% inpatient and 40% outpatient care). The other major items are direct medical material costs (17% inpatient and 28% outpatient care), and costs absorbed from administrative and intermediate cost centres (37% inpatient, 31% outpatient). The absorbed costs of inpatient care are higher because it involves cost absorption from intermediate cost centres such as operating theatre, x-ray and laboratory departments.

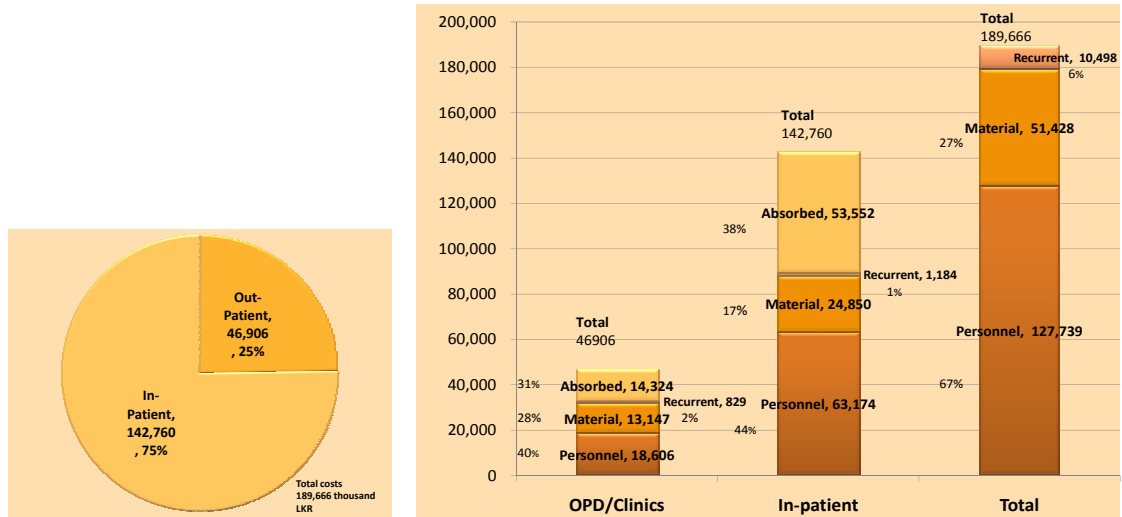


FIGURE 5- 1: TOTAL COST OF FINAL COST CENTRE BY IN-PATIENT AND OUT-PATIENT SECTION

The highest cost centre is Ward-06 (Obstetrics ward) followed by Ward-01 (Surgical Male), Ward-04 (Surgical female), and Ward-03 (Medical Male). This is due to ward-06 utilizing the highest amount of human resources (2 consultants, 17 nurses, 20 midwives and 6 minor staff). Likewise this ward also uses the most material resources such as drugs and medical materials as it is the ward that has the highest number of beds (67 beds) with an occupancy rate of 104.4%.

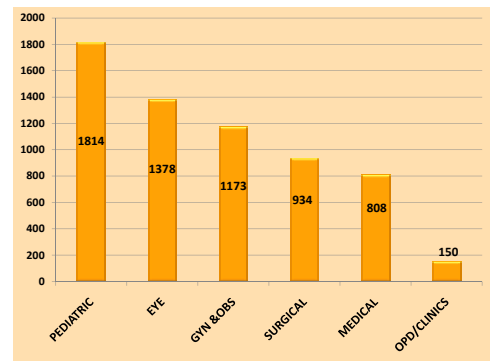


FIGURE 5- 2: TOTAL COST BY FINAL COST CENTRES IN 2005

The drug cost at the OPD and Clinic is much higher than that of other cost centres, which results in increasing the total cost of these departments.

As the next step the final cost centres are added up by speciality in the case of inpatients. Due to the lack of detailed information it is not possible to divide up OPD care by speciality.

With regard to the cost per medical speciality, the cost at the OPD/Clinic is the highest, followed by OB/GY and Surgical. Considering the characteristics of the three highest medical specialties, it is noted that medical material costs occupy a high ratio at the OPD/Clinic, personnel costs occupy a high ratio at the OB/GY, and absorbed cost such as X-ray and operation costs occupy a high ratio at the surgical department.

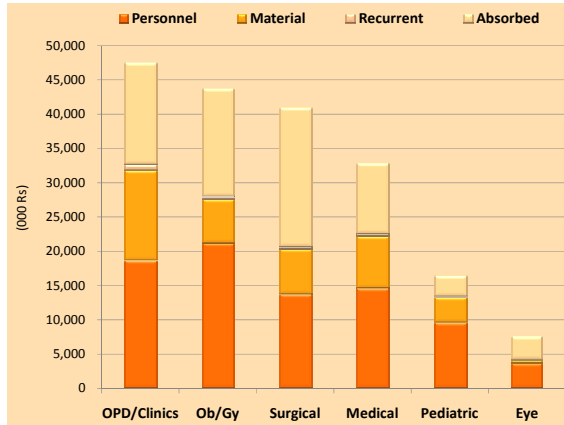


FIGURE 5- 3: TOTAL COST STRUCTURE BY MEDICAL SPECIALTY

With regard to the cost per patient based on medical specialties, the cost in the Paediatric ward (Rs. 4,099) and the OB/GY (Rs. 4,027) is high. Paediatric ward cost is high because of the provision of intensive nursing to infant patients.

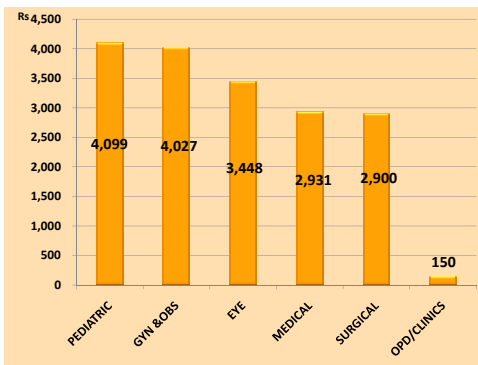


FIGURE 5- 4: COST PER PATIENT

With regard to the cost per patient per day based on medical specialties, the cost at the Paediatric and the Eye department is high. Although the total cost of both the Paediatric and the Eye departments is low, the cost per patient per day is higher compared with that of other medical specialties. This is because the number of patients is low and average length of stay short.

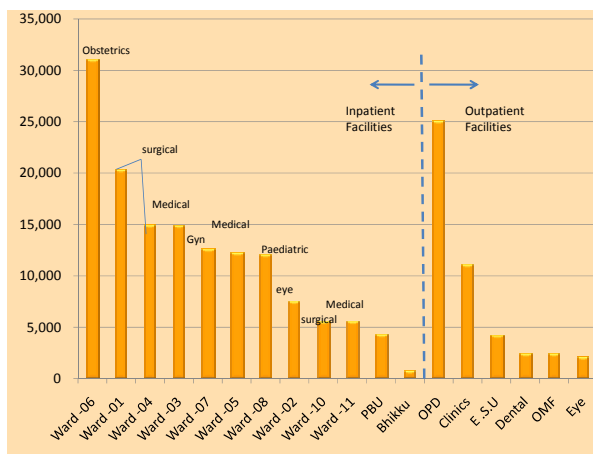


FIGURE 5- 5: COST PER PATIENT PER DAY

TABLE 5- 5: CALCULATION OF COST PER PATIENT AND COST PER PATIENT PER DAY

	PEDIATRIC	GYN & OBS	EYE	MEDICAL	SURGICAL	OPD/CLINICS	TOTAL
Total cost (Rs)	16,413,052	43,698,819	7,558,613	32,800,425	40,921,918	47,486,686	188,879,513
No. of Patient Admission	4,004	10,852	2,192	11,190	14,109		42,347
Total No. of Inpatient Days	9,046	37,241	5,484	40,589	43,797		136,157
No. of Out-Patient						317,236	317,236
Cost per Patient (Rs)	4,099	4,027	3,448	2,931	2,900	150	
Cost per Patient per Day (Rs)	1,814	1,173	1,378	808	934	150	

5.1.5 ISSUES ARISING FROM COST ACCOUNTING EXERCISE

A. MANAGEMENT OF COST INFORMATION FOR BASE AND LOWER LEVEL HOSPITALS

Presently Base Hospital Kuliypitiya does not use a specified cost centre system. For our study purposes, we identified some cost centres. Management must identify the appropriate cost centres for the hospital. Further costs were allocated to cost centres based on staff responses as to which cost centre they were attached to. This could cause misallocation of costs if staff covered duties in multiple locations.

Cost accounting for this hospital, as for most Base and lower level hospitals around the country is carried out entirely at the RDHS office and even then en masse rather than institutionally (as described in section 5.1.1). Therefore it is not possible to get cost accounting information at hospital level. The Kurunegala RDHS office is responsible for 141 organizations so dividing up costs across all these organizations is one approach. Alternatively, it may be possible to carry out cost accounting exercises in all the organizations under the RDHS office, and then provide medical examination and treatment costs for all the organizations jointly and separately.

The other issues regarding information management are summarised in the Table below.

TABLE 5- 6: INFORMATION MANAGEMENT ISSUES AT BASE HOSPITAL KULIYAPITIYA

Cost Centre	Issue	Probable cause	Improvement Method	Expected Result
Drug stores, Indoor pharmacy Surgical consumables	It is difficult to find out the amount of each drug issued. (Presently the register has a separate page for each drug. After finishing the page, the next data is entered in the next available space.	Current purpose of this book is finding the balance stock of a particular drug for	Register must allocate sufficient pages to enter each drug. If the allocated space is finished then the next register should	Easy to find out the amount of each drug issued to different cost centres.

	Therefore a drug register have several pages for the same drug, but in several places in the register. Calculating drug usage then becomes difficult)	ordering purposes.	be used.	
Drug stores, Indoor pharmacy Surgical consumable	It is difficult to Find out the price of the drugs.	Current purpose is to balance stocks.	The price and the issued amount of individual drugs are calculated per cost centre.	Cost awareness will develop within the system.
Laboratory tests	It is difficult to find out the number of samples per cost centre.	There is no necessity to calculate the laboratory cost per cost centre.	A new cost centre based register is needed	Detailed data is useful for cost analysis.
Ward 14	There are no separate admission registers, separate drugs registers, for surgical, medical and OMF patients.	There is no need to enter the data specialty wise.	They must use separate admission, and drug registers by specialty	It will become easier to find out the costs specialty wise.
Clinic dispensary	There are no separate entries clinic wise.	They enter the total for each day.	Use separate pages for separate clinics.	Can carry out cost analysis for each clinic.
Dressing unit	There are no records by cost centre.	They only enter the total.	Enter the patient details by cost centre.	Can carry out cost analysis cost centre wise.
Accounts dept	Most of the data is not entered cost centre wise.	They only focus on actual cost.	Prepare vouchers specifically detailwise.Eg:-The cost related to which cost centre.	We can analyze the cost accurately cost centre wise.

B. DEVELOPING THE HOSPITAL COST ACCOUNTING INFORMATION SYSTEM

Hospital cost accounting system must be developed in such a manner that financial information can be easily grasped and yet costs can be accurately allocated to every cost centre to allow for detailed cost analysis. For development of a hospital cost accounting information system, the following three elements are important:

- Development of the process: Development of data collection mechanisms and administration geared to the collection of such data
- Training of the persons in charge
- Quality improvement involving evaluation through a structured review process

The EBM Study Team introduced the process development for cost accounting based on experience gained through the cost accounting pilot studies. When we introduce cost accounting by

department, the most important issue is the collection of data. We need not only financial accounting information but also information relating to the allocation and utilization of finances by department. Descriptions below in parenthesis specify the information requirements of respective key cost items under Financial and Clinical information.

- Financial information
 - Personnel costs (The latest salary data of the staff posted in every cost centre)
 - Material costs (Consumption by every cost centre of materials such as drugs, surgical items, chemicals, etc.)
 - Recurrent costs (Information on the different elements by cost centre)
 - Depreciation (Information on medical equipment and office appliances at every cost centre)
- Clinical information
 - Number of patients by cost centre, by specialty, etc.
 - Number of operations by cost centre, by specialty, by type of operation, etc.
 - Co-medical information on absorption of each co-medical department's cost by cost centre
 - Laboratory (establishment of a measurement method of quantity of duties by each cost centre)
 - X-Ray (establishment of a measurement method of quantity of duties by each cost centre)
 - Kitchen (Information on number of meals by cost centre)
 - Other : (establishment of a measurement method of quantity of duties by each cost centre)
- Other information
 - Floor area (area used by each cost centre)
 - Consumption of electricity, water supply (consumption by each cost centre_
 - Other (information related to absorption by cost centre)

c. WEAKNESSES OF THE CURRENT INFORMATION

MANAGEMENT SYSTEM AT THE KURUNEGALA RDHS OFFICE

We have to examine in detail the financial and information flows relationship between the hospital and the RDHS office when we are trying to introduce a cost accounting system for the Base Hospital Kuliypitiya. It becomes necessary to improve each information management system, such as the clinical information at the hospital and the financial information at the RDHS office, as the current systems have many weaknesses. Weaknesses and challenges are summarized below.

- Financial information

At the RDHS office accounts are not prepared institution-wise. However they already operate some computerized system for salaries (Government Pay roll system), medical supplies (in Regional Medical Supply Department), and accounting (Computerized Integrated Government Accounting System). So these systems can be adopted for cost accounting purposes with some improvements in data collation institution -wise and cost centre-wise.

- Clinical information

Improvement of data recording format in hospital cost centres is necessary, as well as an improved format for aggregating data across the hospital.

- Integration of Financial and Clinical information

It is necessary to construct a system where information from the RDHS and detailed hospital information from all cost centres is combined on a monthly basis. Proposes such an information system by setting up one common computer for cost accounting purposes.

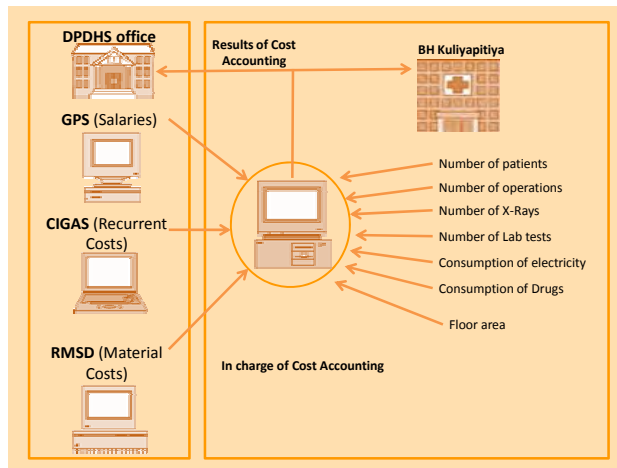


FIGURE 5- 6: COST ACCOUNTING INFORMATION SYSTEM AT BASE HOSPITAL KULIYAPITIYA

It is recommended that the Kurunegala RDHS Office upgrades their existing computer information system so that financial information such as salary, miscellaneous, and materials can be retrieved by Base Hospital Kuliyaipitiya to introduce a cost accounting method by cost centre. At the same time, BH Kuliyaipitiya needs to establish a mechanism through which clinical information is periodically collected from various cost centres and updated by a single unit.