

Unit cost per inpatient day of rehabilitative care services at 272 bedded Rheumatology and Rehabilitation Hospital in Sri Lanka

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Abstract- Introduction; Healthcare performances of countries with similar income levels, educational statuses, and health expenditures are not always similar. Therefore, deploying the most cost-effective strategies to achieve the desired level of healthcare is very important for any country. Healthcare provision of the public health sector in Sri Lanka is free of charge at the point of delivery of care. The awareness of provider cost of patient care in countries with free healthcare systems is very important in developing them. Therefore, some countries with free healthcare have studied the unit cost of their services in order to compare the cost of healthcare within and between different countries. However, there are no such cost estimation local studies of rehabilitative healthcare in Sri Lanka.

Aims; The aim of this study to apportion the per-patient day provider cost of rehabilitative care service of Rheumatology and Rehabilitation Hospital of Ragama, Sri Lanka. This value could be used as a reference value of physical rehabilitative care cost in Sri Lanka.

Method; Step down costing approach is used for calculation and rational allocation of indirect provider cost to selected direct cost center in order to estimate per inpatient day cost. The recurrent cost has only been considered for this study.

Results; Lowest per patient day cost reported from spinal injured and stroke units which is an average of 29.49 USD. The other categories of units have recorded slightly higher per patient day cost. However, the admission unit which manage the first phase of medical rehabilitation has recorded significantly higher per patient day cost of 57.61 USD as it consumes more services than rest of the final cost centers due to nature of its personalized patient management system.

Conclusion; The per patient day costs calculated in this study could be regarded as representative reference values for rehabilitative healthcare provider cost in Sri Lanka and can be used for further studies on the subject.

Index Terms- Unit cost, Rehabilitative care services, Rheumatology, Rehabilitation

I. Introduction

1.1. Provider cost of healthcare services

The differences are noted in healthcare performances of countries with similar income levels, educational statuses and health expenditure (Christopher, 2000). The marked variation is noted in health per-capita expenditure in different countries as per WHO records (WHO, 2017). Therefore, deploying the most cost-effective strategies to achieve desired level of healthcare is very important for any country.

Sri Lankan health system comprises of both public and private sector services. Healthcare provision of public health sector is free of charge at the point of delivery of care (MOH, 2017). One Goal of the Ministry of Health Sri Lanka is to improve the level of healthcare offered for citizens (MOH, 2016). National Health Strategic Master Plan 2016 - 2025 (For Curative, Preventive and

Rehabilitative Services) is the strategy adopted by ministry to achieve its desired health outputs and outcomes by 2025(MOH, 2016). Sri Lankan government has allotted 3.811% of its GDP in year 2017 for healthcare (WB, 2020).

1.2. Cost estimation of health care

There are many cost accounting methods that could be used in process costing and management. Nevertheless, hospitals must understand to use less sophisticated method for costing as the process is costly and the benefits of service-level cost information generated relatively low with the exception of the usefulness of quality cost information for hospital management and policy decisions (Caroll, 2016).

1.3. Provider Cost estimation in rehabilitation

There are no such cost estimation local studies of rehabilitative care in Sri Lanka. However, cost estimation studies have been conducted in hospitals to identify unit costs and to compare the cost of healthcare within and between different countries (Epstain, 2008, Than, 2017).

The objective of costing is to estimate the cost of every unit, service, procedure, patient wise expenditure and use it to compare with the expected outputs. This will help decision-makers to identify the problem areas that require immediate attention and also use the same information in planning and decision-making (Goel, 2014).

1.3.1. Cost estimate using step-down costing approach

The use of absorption costing or variable costing principles are common forms of managerial accounting that are used for cost accounting. Nevertheless, absorption costing captures all costs which are associated with the production of a good or service. Therein, the direct costs and indirect costs associated with production are being used to calculate the unit cost of production (Mogyorozy, 2005).

Step down costing approach is one form of absorption costing which is used in calculating and rational allocation of indirect provider cost to selected direct cost centers. The unit cost of the radiology unit of Sri Jayawardanapura Hospital, Sri Lanka was estimated by Attanayake in 2007 using a step-down costing approach. Similarly, the unit cost of an inpatient day is calculated by step down method with a rational apportioning technique in Myanmar by Than (2017). Goel (2014) also used step-down approach to calculate unit cost.

1.4. Rheumatology and Rehabilitation Hospital – Ragama, Sri Lanka

Rheumatology and Rehabilitation hospital, Ragama, (RRH) is the leading national center which provide rehabilitative tertiary care for the people with physical disabilities & rheumatological diseases in order to improve their physical, psychological, social and spiritual wellbeing and quality of life (MOH, 2015).

RRH was established by consolidating the tuberculosis treatment hospital in 1971. The tuberculosis treatment hospital was built in 1948. The rehabilitation hospital has 272 patient beds. To date, Rehabilitation Hospital has been playing the role of the national service provider for persons with physically disabilities through the network of outpatient clinic and in ward treatment setup and therapy units those are operated by designated team of professionals. Hospital has a clinic facility which operates six days a week in the morning hours. Dental clinic also operates 6 days a week which has only out-patient ambulatory services. Meantime, special functional units such as wheelchair workshop, prosthetics and orthotics units and orthopedic workshop manufacture and provide assistive devices for patients. The vocational rehabilitation unit of the hospital provides opportunities for physically disabled patients for vocational rehabilitation. Therefore, 26 functional units of RRH work 24/7 to provide overall rehabilitative care for persons with physical disabilities. In addition, it provides training opportunities for therapists, postgraduate students, undergraduate students, and research students from medical and nonmedical backgrounds.

Average length of stay of a patient of RRH for year 2018 is 27 days. However, vocational rehabilitation program which is being conducted for selected suitable patients will be of minimum 3 months duration and majority of participants will complete total one-year vocational rehabilitation program. Usually about 30 patients are undergoing vocational rehabilitation at a given time. Hospital has 30 beds which are allotted for people who are undergoing vocational rehabilitation. Many wards of the hospital have 3-5 beds allotted in each for this purpose. However, all the beds allotted for vocational rehabilitation are not always being used. Patients can attend to vocational rehabilitation programs conducted by department of social services if they are discharged from hospital and are staying at home. Nevertheless, many prefer vocational rehabilitation program conducted by RRH as it is quite convenient for most of them.

The aim of this study to apportion the per-patient provider cost of rehabilitative care service of Rheumatology and Rehabilitation Hospital of Ragama, Sri Lanka. This value could be used as a reference value of physical rehabilitative care cost in Sri Lanka.

II STUDY METHODOLOGY

A hospital-based cross-sectional study was conducted in the Rheumatology and Rehabilitation Hospital in September 2018. The objective was to estimate the per-patient provider cost of different direct cost centres of rheumatology and rehabilitation hospitals in Ragama, Sri Lanka. The cost of care for providing services for all patients, who have taken treatment from the 1st to 30th of September 2018, was used to calculate per patient per day cost.

2.1. Data Collection Method

The total hospital cost for each unit was obtained. A well-prepared checklist was used as an instrument to collect data. These data are being used to calculate the following.

Total hospital costs related to various departments of the hospital were calculated by using the following steps.

Step 01- Identification of cost centres

There were two types of cost centers as Goel (2014) and Attanayake (2007) described.

1. Direct cost centers- the cost of the direct cost center is limited only for the center. Therefore, all wards, specialized units and clinics are considered as direct cost centers.
2. Indirect cost centers- The cost centers that provide services for direct cost centers and other indirect cost centers. They can be,
 - a. Overhead cost centers – Centers those provide supportive services to direct cost centers and can't be directly linked to clinical service
 - b. Intermediate cost centers – Centers those provide services to direct cost centers and are linked directly to clinical services.

Table 2.6.1; Identified Cost centers of RRH, Ragama

Direct cost Centers		Intermediate cost centers		Overhead cost centers	
Ward	1	1	Laboratory	1	General stores
Ward	2	2	PT main (physiotherapy)	2	Medical record office
Ward	4	3	PT orthopedic	3	Diet branch
Ward	5	4	PT pediatric	4	Telephone exchange
Ward	6	5	PT spinal	5	Matron's office
Ward	7	6	Speech & language	6	Infection control
Ward	8		Therapy	7	Health education unit
Ward	10	7	OT main (Occupational)	8	Quality imp. unit
Ward	12	8	OT orthopedic	9	Transport
Ward	14	9	OT pediatric	10	Administration
Clinics	Medical	10	OT spinal	11	Cleaning
Clinics	Dental	11	Dispensary	12	Security
		12	SLSPO (P&O)	13	Maintenance
		13	Drug stores	14	Overseer office
		14	Orthopedic workshop	15	Doctors quarters
		15	Wheelchair workshop	16	Nurses quarters
		16	VRC (Vocational Re)	17	AO quarters
		17	X -RAY	18	Minor staff quarters
				19	Diabetic education unit
				20	Nutrition unit
				21	Patient registration unit
				22	Kitchen
				23	CSSD

Step 02 - The line items were classified and grouped according to similarity and relationship into indirect cost centers. The provider cost associated with direct cost centers comprise of recurrent and capital cost (Goel, 2014).

1. **Recurrent Cost items** – items which usually last for less than one year will be considered as recurrent cost items. The following items could be given as examples consumables, IV fluids, linen, dressings, drugs, investigations and services like nurses and doctors' time spent on patients.
2. **Capital cost items** - items which include assets those are buildings, instruments, equipment, training of staff etc. Nevertheless, the depreciating capital cost of many items of workshops, therapy units and also of 70 years of old buildings found difficult and also this study focuses on estimating the unit cost of different direct cost centers of a hospital, therefore, the capital cost has not been included in calculating the unit cost of these cost centers.

Table 2.6.2; Line Items classification and information sources

Line item	Category	source
Special consumables	Recurrent	Inventory
General consumables	Recurrent	inventory
Dressings	Recurrent	inventory

Personnel	Recurrent	Duty roster and salary sheets
machines	Capital	Unit inventory
equipment	Capital	inventory
repairs	Recurrent	Inventory, office, company
Trainings	Capital	
Buildings	Capital	Unit Master plan,
Special drugs	Recurrent	inventory
Investigations	Recurrent	inventory

Table 2.6.3; Detailed Line item categorization of RRH – recurrent expenditure

The provider cost in intermediate cost centers was calculated by studying data in inventories.

These data have been used to estimate the apportion cost of each direct cost center separately.

Grouped Line item	Detail of Line item	Line items		
Personnel	Personnel Emoluments	Salaries and Wages	2.2. Data Analysis Method 2.2.1. Dimensions of Allocation The cost for an inpatient day in each direct cost center is calculated as the throughput, Goel (2014) has done same calculation. Following methods are used to determine the value of different resources used by individual direct cost	
		Overtime and holiday pay		
		Other Allowance		
Material	Travelling Expenses	Travelling expenses		
		Supplies		Stationary and Office Equipment
				Fuel
Diets				
Uniforms				
Other				
Other Recurrent	Supplies and Requisites	Drugs		
		Special Drugs		
		Dressings & Surgical Consumables		
		Medical Oxygen		
		Lab chemicals		
		X-ray films & Chemicals		
		Hospital equipment		
Other Recurrent	Maintenance Expenditure	Vehicles		
		Plant machinery and equipment		
		Building & Structure		
		Computers repair		
		Contractual Services		
	Contractual Services	Postal and Communication		
		Electricity		
		Water		
	Other Recurrent Expenditure	Gas		
		Security		
Cleaning				

center.

2.2.1.1. Cost of electricity

The total electricity bill for the month was obtained for the entire hospital. The total number of electricity utility points (all plug points allocated to electronic devices including air conditioners and all switches/regulators allocated for fans/bulbs) were obtained in all the wards/units of the hospital.

Single electricity utility point cost =

$$= \frac{\text{Total electricity bill in the given month in the Hospital}}{\text{Total number of Electricity Utility points in the Hospital}}$$

This single electricity utility point cost was multiplied by number of such point within the particular ward unit.

2.2.1.2. Cost for Water, telephone and internet, sanitary services, laundry, security services, meals, SLSPO services

Total cost of the line item for the entire hospital facility during the given month was divided by total inpatients days in the given month in order to calculate cost for inpatient day. This figure was multiplied by number of inpatient days of the particular ward or unit to calculate expenditure of unit concerned.

Example; Cost of water supply

$$\text{Cost for inpatient day (water)} = \frac{\text{Total Water bill of month}}{\text{Total inpatient days in the Hospital during the same month}}$$

This figure was multiplied by number of inpatient days of the particular ward or unit to calculate expenditure of unit concerned.

2.2.1.3. Cost of other line items

However, following methods are used to calculate cost of following line items

2.2.1.3.1 Cost for Wages including extra duty and overtime payments

Total monthly wages of dedicated staff members of the unit concerned were calculated and the figure was divided by total monthly inpatient days of the unit or ward in order to calculate cost for inpatient day.

Cost for inpatient day (wages) =

$$= \frac{\text{Total staff salary cost including extra duty cost in the particular unit or ward in given month}}{\text{Total inpatient days in the particular unit or ward during the same month}}$$

2.2.1.3.2. Cost for Hospital Drugs, Saline and Oxygen:

Different Drug Prices were obtained from the Sri Lanka Pharmaceutical Cooperation (SPC) and total drug cost including saline (if given only) was calculated for individual patient which were mentioned in the Bed Head Ticket (BHT). Drug cost has been calculated for each individual patient and to the unit. Then the total inpatient days of the unit is used to calculate it for a inpatient day.

Total monthly cost for Oxygen was calculated for entire hospital and which was divided by total inpatient days in the hospital in order to calculate cost for inpatient day.

2.2.1.3.3. Cost for other consumables and utensils including Linen in the hospital setting

Monthly total cost for linen and other consumables/ utensils were calculated separately for relevant units and wards. This cost was divided by the total inpatient days of the unit to calculate cost for inpatient day. Similar method used for wheelchair services and orthopedic workshop services.

Cost for inpatient day =

$$= \frac{\text{Total cost for consumables utensils and linen in the particular ward or unit in the given month}}{\text{Total inpatient days in the particular Ward or Unit during the same month}}$$

2.2.1.3.4. Cost for hospital investigations (Laboratory cost/ Radiology cost)

Cost for Investigations

$$= \frac{\text{Total cost for laboratory tests and Radiology tests in the given month}}{\text{Total tests (Lab, radiology) of the hospital during the same month}}$$

This figure was multiplied by number of tests done in the unit concerned.

III. RESULTS

The results obtained are as follows (values given in LKR),

3.1 Total Expenditure – September 2018

Table 3.1.1 ; Financial statistics of total provider cost on In-patient and `out-Patient services of RRH of September 2018

	Out-Patient	In-Patient	All Hospital
Personnel	1,782,550.73	8,988,595.40	10,771,146.13
Material	2,877,306.59	9,493,898.49	12,371,205.08
Other Recurrent	145,716.30	1,224,889.32	1,370,605.62
Absorbed	3,826,008.23	8,824,591.00	12,650,599.23

Total	8,631,581.85	28,531,974.21	37,163,556.06
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The table 3. 1.1 shows the total expenditure of outpatient and in-patient departments of the hospital with total provider cost of the hospital pertaining to month of September 2018.

Table 3.1. 2 ; Financial statistics of total provider cost on In-patient and `out-Patient services of RRH of September 2018 – As a percentage of total expenses

	Out-Patient	In-Patient	All Hospital
Personnel	21%	31%	29%
Material	33%	34%	33%
Other Recurrent	2%	4%	4%
Absorbed	44%	31%	34%
Total	100%	100%	100%

Table 3. 1.2 shows the percentage breakdown of total provider cost of said month.

3.2 Total Costs of direct cost centers

Table 3. 2.1; Financial statistics of direct cost centers of RRH of September 2018

	Ward 01	Ward 02	Ward 04	Ward 05	Ward 06	Ward 07
	Orthopedic	Orthopedic	Pediatric	Spinal/stroke	Spinal/stroke	Rheumatology
Personnel Costs	987,802.36	1,056,043.56	740,902.90	954,871.23	765,869.28	618,820.49
Material Costs	2,025,069.08	1,936,295.78	336,987.13	366,218.67	232,267.45	1,188,866.74
Other Recurrent Costs	127,616.14	150,575.58	93,999.24	117,822.55	87,735.06	130,780.56
TOTAL EXPENSES(First Allocation)	3,140,487.58	3,142,914.92	1,171,889.27	1,438,912.44	1,085,871.79	1,938,467.79
Overhead Cost Centre Costs	228,695.31	272,132.80	166,563.62	211,566.18	154,600.85	235,042.24
Intermediate Cost Centre Costs	972,250.90	992,982.94	805,127.60	369,033.74	279,967.54	560,750.48
Absorbed	1,200,946.21	1,265,115.74	971,691.22	580,599.92	434,568.38	795,792.72
Grand Total	4,341,433.79	4,408,030.66	2,143,580.49	2,019,512.36	1,520,440.17	2,734,260.51

Ward 01 and ward 02 are orthopedic male and female ward respectively. These two wards share almost equal capacity and resources. Both units have one common physiotherapy unit and also one common occupational therapy unit. The male ward has higher number of admissions.

Ward 04 is pediatric ward and it is a small ward with has lesser number of patient days a month. It has designated physiotherapy unit and occupational therapy unit.

Ward 05, 06, 08, 12, 14 are stroke/spinal injured wards. Ward 05 is only female stroke/spinal ward and las lesser number of admissions whereas ward 06 is admission ward with few beds. Ward 06 has its own designated physiotherapy staff. Ward 08,12,14

are male stroke/spinal wards with comparably high number of patient days. Ward 05,08,12,14 share one physiotherapy and one occupational therapy unit.

Ward 07 and ward 10 are rheumatology female and male ward respectively. Both units have one common physiotherapy unit and also one common occupational therapy unit.

Table 3. 2; Financial statistics of direct cost centers of RRH of September 2018

	Ward 08	Ward 10	Ward 12	Ward 14	Medical clinic	Dental
	Spinal/stroke	Rheumatology	Spinal/stroke	Spinal/stroke		
Personnel Costs	805,248.58	1,183,202.87	921,017.55	954,816.59	1,547,128.46	235,422.27
Material Costs	599,188.51	1,086,881.38	796,974.55	925,149.20	2,858,486.74	18,819.85
Other Recurrent Costs	104,097.73	144,426.87	125,569.67	136,915.42	102,871.15	42,845.15
TOTAL EXPENSES(First Allocation)	1,508,534.83	2,414,511.12	1,843,561.77	2,016,881.21	4,508,486.35	297,087.22
Overhead Cost						
Centre Costs	184,245.13	260,993.18	224,373.77	245,542.84	136,505.04	39,881.59
Intermediate Cost						
Centre Costs	597,237.04	605,006.29	792,912.59	900,608.22	3,662,199.91	27,421.69
Absorbed	781,482.17	865,999.46	1,017,286.36	1,146,151.06	3,758,704.95	67,303.28
Grand Total	2,290,017.00	3,280,510.59	2,860,848.13	3,163,032.28	8,267,191.30	364,390.55

Tables 3. 2.1 and 3. 2.2 showed final cost of each identified direct cost centers.

3.3 Total cost expenditure - by category

Table 3 .3. 1 ; Financial statistics of direct cost centers of RRH of September 2018 - by category

	Orthopedic	Rheumatology	Pediatric	Spinal/Stroke	Medical Clinic	Dental Clinic
Personnel Costs	2,043,845.92	1,802,023.36	740,902.90	4,401,823.23	1,547,128.46	235,422.27
Material Costs	3,961,364.86	2,275,748.12	336,987.13	2,919,798.38	2,858,486.74	18,819.85
Other Recurrent Costs	278,191.72	275,207.43	99,349.74	572,140.43	102,871.15	42,845.15
Absorbed	2,466,061.95	1,426,749.94	971,691.22	3,960,087.89	3,758,704.95	67,303.28
Total	8,749,464.45	5,779,728.85	2,143,580.49	11,853,849.93	8,267,191.30	364,390.55

Table 3. 3. 1 shows provider cost of direct cost centers as per the different categories of the hospital.

3.4 Cost per Patient per day – Cost Centers

- * Cost per patient per day = Grand total / in patient days
- * Inpatient days have taken from day and night report (patient census).

Table 3. 4. 1 ; Financial statistics, Inpatient days and per patient cost of direct cost centers of RRH of September 2018

Cost Centre	No. of Beds	Ex. Grand Total	In Patient days	Cost per Patient per Day (LKR)	CPPPD (USD)*
Ward 01	35	4,341,433.79	772	5,623.62	33.24
Ward 02	35	4,408,030.66	523	8,428.36	49.82
Ward 04	16	2,143,580.49	240	8,931.58	52.79
Ward 05	26	2,019,512.36	299	7,754.23	45.83
Ward 06	16	1,520,440.17	156	9,746.41	57.61
Ward 07	30	2,734,260.51	453	6,035.90	35.68
Ward 08	28	2,290,017.00	451	5,077.64	30.01
Ward 10	30	3,280,510.59	629	5,215.44	30.83
Ward 12	24	2,860,848.13	701	4,081.10	24.12
Ward 14	32	3,163,032.28	769	4,113.18	24.31
Medical Clinic		8,267,191.30	Patient visits 2675	3,090.54	18.27
Dental Clinic		364,390.55	164	2221.90	13.13

USD 1 = LKR 169.19 (30th Sep. 2018)*

Ward 06 (admission ward) has 16 beds and allotted staff for each bed and its own physiotherapy staff. Its cost is higher than all cost centers. Orthopedic male and female ward shares almost same total cost but per patient cost is higher in female ward as it has lesser number of patient days. Lowest per patient day cost reported from spinal injured and stroke units.

Cost per Patient per day – Specialties

Table 3. 4. 2 ; Financial statistics, Inpatient days and per patient cost of direct cost centers of RRH of September 2018 – by category

Cost Centre	Grand Total	In Patient days	Cost per Patient per Day (LKR)	CPPPD (USD)
Orthopedic	8,749,464.45	1,295	6,756.34	39.93
Rheumatology	5,779,728.85	1,082	5,341.71	31.57
Pediatric	2,143,580.49	240	8,931.58	57.79
Spinal/Stroke	11,853,849.93	2,376	4,988.99	29.49

USD 1 = LKR 169.19 (30th Sep. 2018)*

Table 3. 4. 1 and 3. 4. 2 shows provider cost per patient per day of different direct cost centers and the breakdown of it as per the category of the hospital.

The orthopedic and rheumatology units have recorded slightly higher per patient day cost than that of spinal/stroke units. However, those units also share patients on demand. Therefore, the cost difference among them is basically determined by the services provided by each unit and also by the fact that these services are being shared with other units or not. Therefore, the orthopedic rehabilitation has an average per patient day cost of 39.93 USD whereas average per patient day cost of rehabilitation of rheumatology patients is 31.57 USD.

IV. DISCUSSION

Economic analysis aims to facilitate decision-makers in formulating and implementing policies and strategies to deliver healthcare services. The general objective of this survey was to estimate the provider cost of rehabilitation in public health sector hospitals in Sri Lanka. The output of this may help healthcare managers and decision-makers to exercise rational allocation of financial resources on rehabilitative services and also to identify cost-driving factors and finally use this as a price-costing exercise. Since, Rheumatology and Rehabilitation Hospital, Ragama is the only hospital of its kind and capacity in Sri Lanka, this throughput would be useful in making decisions to expand rehabilitative services across the country.

Step Down Costing Approach (SDCA) has been used to calculate provider cost. Twelve direct cost centers and forty indirect (seventeen intermediate cost centers and twenty-three overhead cost centers) cost centers were identified. The same methodology was adopted by Attanayake (2007), Tan (2017) and Goel (2014) to allocate overhead and intermediate cost at direct cost centers but differences in defining cost centers were observed.

Per-patient cost calculation in the healthcare system in Sri Lanka is not done as a formality (De Dilva, 2007). This study used both aggregated and disaggregated methods to calculate per-patient cost. Further, per-patient resource utilization data is difficult to be sought as Sri Lanka doesn't have such a mechanism in place to identify resource use. Therefore, top down approach has been used in many occasions than bottom up approach to calculate the per patient cost. However, drug cost is calculated by bottom up approach. Two methods of dimensions of allocation used in this study. The same method is used by Attanayake and Karunarathna in their study. Those are direct allocation or allocation to utility points. Direct allocation used in many occasions but allocation to utility points is used for allocate electricity usage.

The objective of calculating the cost on per per-patient basis was fulfilled by identifying the aggregate cost of all resources used by individual hospital direct cost centers (OPD/Clinic, Wards etc). The unit cost/ per patient cost was calculated by dividing the total cost which is obtained after cost allocation and apportionment with a measure of total patient days and patient visits (throughput). The same method is used by Attanayake (2007), and Goel (2014).

The total cost of the hospital in September 2018 was LKR 37,158,205.57 (USD-219,624. 12). The per-patient cost of each category shows a difference whereas the lowest per-patient cost is reported from spinal injuries and stroke units. The value was USD 29.49. the average length of stay of RRH of same month is 27 days. This shows government is spending apparently USD- 796.23/ LKR 134,714.15 for a single stroke or spinal injured patient if the patient is discharged on the 27th day of admission. The study on the cost-effectiveness of early supported discharge confirms that it provides 4% to 30% reduced cost with similar clinical outcomes (Stephani, 2016). The National Institute for Health and Care Excellence report on physical rehabilitation confirms that rehabilitation shall focus on maximizing and maintaining the independence of patients. NICE suggest rehabilitation in community will help to achieve this target and also thereby to reduce the burden of healthcare system (NICE,2018).

Limitations. This study has not considered capital cost of the healthcare provider. Therefore, the cost per patient per day calculated could not be used to compare with figures that are generated by both capital and recurrent cost components.

V. CONCLUSION

The per patient day costs calculated in this study could be regarded as representative reference values for rehabilitative healthcare provider cost in Sri Lanka and can be used for further studies on the subject.

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