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Unit Cost Analysis Of Medical Rehabilitation Program For Low Back Pain In Type D Private Hospital

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ABSTRACT

Comprehensive health access through the JKN Program is changing the fee-for-service payment paradigm towards a package system. Hospitals that can benefit in the current era with the INA-CBGs payment system are hospitals that can implement cost efficiency. The medical rehabilitation installation is a service unit with various complexities. Efficient cost management requires precise information about the actual unit of service. One way that companies can use to achieve cost efficiency is through an Activity Based Costing System (ABC system). This research is qualitative research using a case study design. Data was obtained through interviews, observations, documentation, and medical records. Cost analysis was carried out using the ABC method, Cost analysis was carried out using the ABC method, then the next step was compared with hospital rates and INACBG claims. The unit cost of the medical rehabilitation program for LBP cases in "A" hospitals using Activity Based Costing obtained a difference of IDR 182,754.39 for hospital rates (32%) and IDR 122,195.25 for INACBG (24%). The unit costs using the ABC method are smaller than the actual costs applied from hospital rates.

INTRODUCTION

The Indonesia government, in order to provide health services that ensure every citizen has fair access to health services in the form of promotive, preventive, curative and rehabilitative, or known as Universal Health Coverage (UHC), provides comprehensive access to health through the Health Insurance Program called "JKN " which has now changed its name to "BPJS Kesehatan" since January 2014. This is an implementation of Law Number 40 of 2004 concerning the National Social Security System. SJSN management with the principles of efficiency, rationality, accountability and transparency (Kementerian Kesehatan Republik Indonesia., 2011).

Hospitals that currently benefit from payments using the INA-CBGs system are hospitals that can implement efficiency and cost-effectiveness. Applying good quality coding will get good

quality claim reimbursement without committing fraud. Changes in health financing using a package system create obstacles in health services. Medical personnel must carry out health service actions correctly, without misuse, and based on existing guidelines (Indriani et al., 2013). Healthcare systems strive to provide high-quality services while optimizing resource utilization and cost-effectiveness.

The development of hospital accounting in Indonesia, especially management accounting, has increased rapidly in the last two decades. In several hospitals, unit cost calculations are still interpreted only as a basis for determining rates. Calculation of unit costs can have a broader meaning than just being a basis for determining rates. One of the functions of unit costs is as a basis for evaluating hospital costs compared to INACBG claims (Aulia et al., 2017).

Hospitals still need to calculate unit costs routinely, even in the JKN era. This is because unit costs can be used as an evaluation of hospital operations and also as a basis for decision-making in improving service quality so that hospitals can exist and provide quality health services.

Medical Rehabilitation Centers are services that vary in complexity. Medical rehabilitation also requires high costs, such as the costs incurred by stroke patients to survive after being hospitalized for 12 months on an outpatient basis are very large (Godwin et al., 2015). Case-mix developments in medical rehabilitation pose similar challenges for healthcare systems worldwide. Limited fees paid in one period result in poor service quality (Turner-Stokes et al., 2012). Currently, the pricing for the Type D Private Hospital in this study, hereinafter referred to as "A" Hospital, is based on a comparison of rates with other hospitals, which has the potential to cause inaccuracies. With this strategy a price war may occur, the role of marketing management is very important for evaluation in determining prices, this method uses the manager's intuition which tends not to be a scientific method (Liozu et al., 2011).

A comparison of hospital rates and INACBG at the medical rehabilitation center "A" Hospital results in a negative difference or loss. High and repeated visits to health centers can lead to inaccurate information if the tariff calculation is not based on unit costs. Therefore, this study analyzes unit cost calculations using the ABC method at medical rehabilitation centers.

LITERATURE REVIEW

Many methods can be used to calculate unit costs, one of the methods that is considered the best is activity-based costing (ABC). This calculation method is based on activities that consume hospital resources. In its implementation, activity-based resource use takes into account the efficiency and effectiveness of an activity, because if this is not done, the resulting (Don R and Maryanne M, 2000). The ABC method is to calculate each cost for each activity based on a different allocation basis for each activity. ABC is claimed to be able to reduce distortion (other disturbances) caused by calculations using a tariff determination system using traditional methods and can also identify Overhead and non-value-added with this method (Baker, 1998). Efficient cost management requires precise information about the actual (Archongka et al., 2008).

Trisnantoro (2015) explains how hospital rates should be calculated, they must always be guided by the costs incurred to create the service, if the hospital sets a lower cost level, the hospital will experience some losses related to the survival of the hospital (Trisnantoro, 2015).

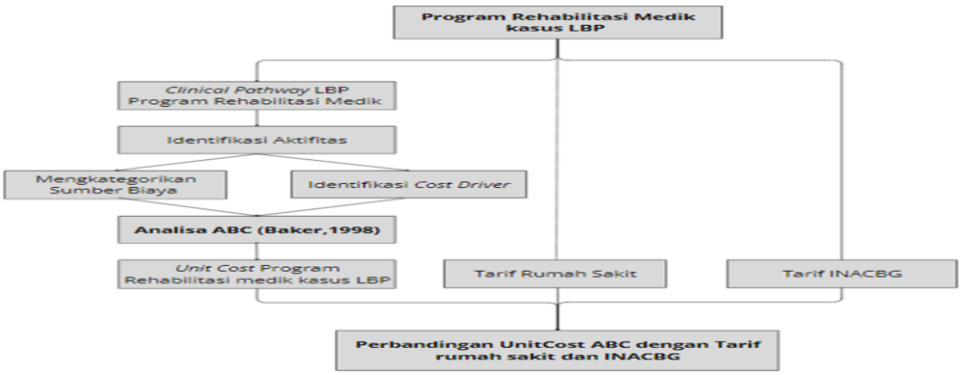
Medical Rehabilitation Service System

The approach to health services in the medical rehabilitation section at hospitals is implemented through a one gate system, namely that every patient who requires medical rehabilitation services must previously undergo an examination by a trained specialist/general practitioner to establish a diagnosis, plan the therapy program that is carried out, and prognosis (KMK 378, 2008).

METHODS

This research is a qualitative study with a case study approach of unit costs carried out at the Medical Rehabilitation Center, then calculated using the Activity Based Costing method and then looking at the differences in hospital rates and claims INA-CBG. This research was carried out in January – June 2024 at Hospital A. Research subjects included the head of finance, head of polyclinic installation, medical rehabilitation specialist doctor, and head of the medical records department. The objects in this research are all activities that occur from the time the patient arrives at the hospital until the patient has finished providing services at the Outpatient unit and Medical Rehabilitation unit in A Hospital. The data collected is secondary data from the financial and medical records department for the period January to December 2023. The secondary data that has been collected is analyzed using the following conceptual framework:

Figure 1 A Conceptual Framework For Unit Cost Analysis Using The ABC Method In The Medical Rehabilitation Program



RESULTS

Medical Rehabilitation Services Profile

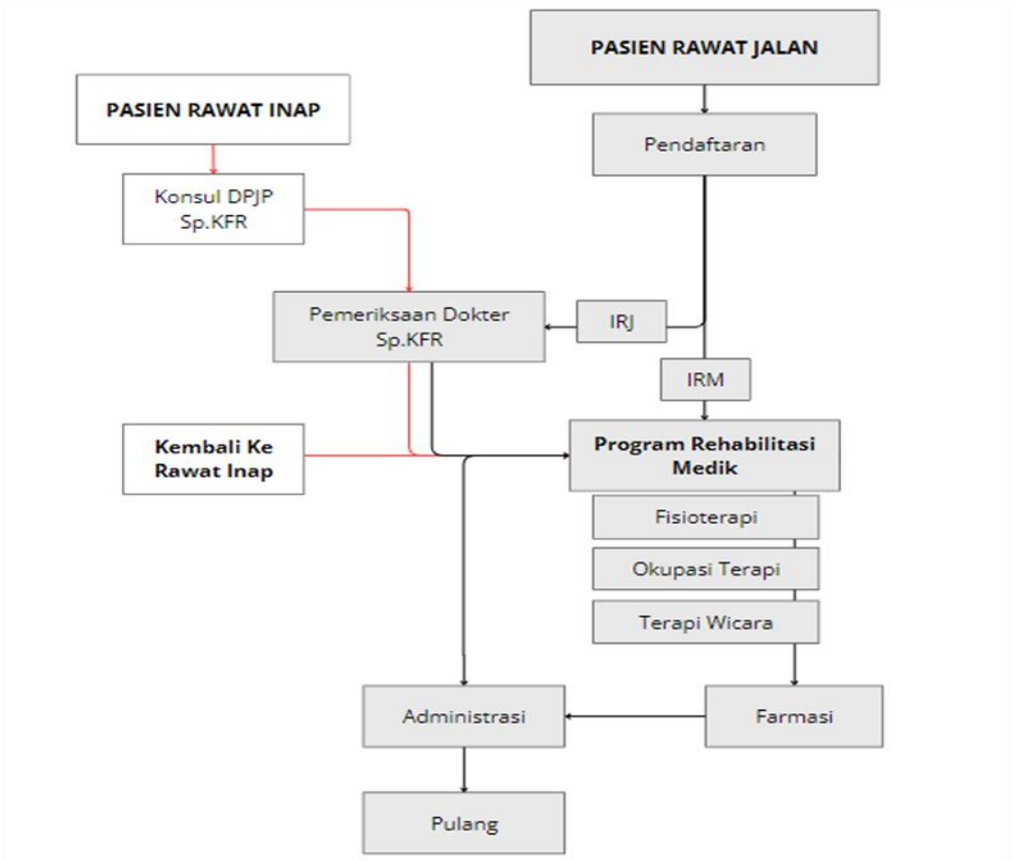
The hospital is a type D private hospital. Hospital A's vision is to create a Hospital A that is Islamic, professional, affordable, and the community's first choice. Hospital A's medical rehabilitation center has specialist doctor in Physical Medicine and Medical Rehabilitation (Sp.KFR), physiotherapy, speech therapy, and occupational therapy. Hospital A's medical rehabilitation experts currently consist of 1 Sp.KFR doctor, 4 physiotherapy officers, 1 occupational therapy officer, and 1 speech therapy officer.In 2023, the number of procedures at the Medical Rehabilitation Center (MRC) will be 34,224 people, with the following distribution:

Table 1 Data Procedure At Medical Rehabilitation Center (MRC)

No	Procedure	Amount
1	TENS	12,389
2	Exercise	261
3	Ultra Sound	64
4	Infrared	12,779
5	Speech Therapy	1,568
6	Occupational Therapy	1,327
7	SWD	86
8	Breathing exercise	59
9	Lumbar traction	27
10	OT/TW Package 8	3
11	Taping and Strapping	1
12	Physiotherapy (inpatient)	5,660
		34,224

Patients diagnosed with LBP who have been referred to a medical rehabilitation center will receive a medical rehabilitation program. In accordance with technical instructions from PERDOSRI, the medical rehabilitation program can be carried out by Sp.KFR doctors or delegated to the medical rehabilitation team. The flow of medical rehabilitation patient services is as follows:

Figure 2 Flow Of Medical Rehabilitation Patient



At Hospital A, according to the Clinical Pathway for Medical Rehabilitation Management of LBP cases, there are four visits in one month as follows; In accordance with Medical Rehabilitation service standards, this series of programs is preceded by an assessment by Doctor Sp.KFR at the Outpatient Clinic, followed by therapy with 2 of the 3 modalities (TENS, Exercise, and Infrared), continued in the second and third weeks without going to the Outpatient Clinic. At the fourth week's visit, the patient will be evaluated by Doctor Sp.KFR regarding the success of the therapy program that has been undertaken in one cycle. As shown in the table 2

Table 2 Clinical Pathways Rehabilitation Medical Case Low Back Pain At Hospital A

Type of Visit		Week I	Week II	Week III	Week IV
Outpatient Clinic		+			+
MR-Center	TENS	+	+		+
	Exercise	+		+	+
	Infrared		+	+	

Unit Cost Analysis Based On Activity-Based Costing

Based on the clinical pathway for the medical rehabilitation program for LBP cases at Hospital A, the activity centers were found to be as follows:

Table 3 Activity Center In Outpatient Clinic And Medical Rehabilitation Center Hospital A

Activity Center	First stage Driver Cost (minutes)	Second stage Cost Driver
Outpatient Clinic		
The patient registers	2	Number of activities
Officers measure vital signs	4	Number of activities
The doctor performs an anamnesis and physical examination	7	Number of activities
Doctors provide education about disease diagnosis and therapy protocols	3	Number of activities
Medical Rehabilitation Center (MR-C)		
TENS		
The physiotherapist identifies the patient	1	Number of activities
Patient preparation and informed consent	1	Number of activities
Free and clean the area to be treated from clothing	1	Number of activities
Installation of electrodes in the specified area.	2	Number of activities
Determine the current and TENS settings (continuous or intermittent)	2	Number of activities
TENS therapy	10	Number of activities
Therapy is complete and equipment is tidied up.	1	Number of activities
Infra-Red		
The physiotherapist identifies the patient	1	Number of activities
Patient preparation and informed consent	1	Number of activities
Free and clean the area to be physiotherapy	1	Number of activities
Hot-cold sensibility test.	2	Number of activities
Parts of the limbs/body that are not exposed to light are covered with a towel or cloth	1	Number of activities
Tool settings	1	Number of activities
Control the exposure time: too hot or not too hot, if sweat comes out, wipe until dry.	10	Number of activities
Once finished, turn off the tool and tidy up.	1	Number of activities
Exercise		
The physiotherapist identifies the patient	1	Number of activities
Patient preparation and informed consent	1	Number of activities
The physiotherapist instructs the patient to move the joint according to the function of the muscle or muscle group, in the area of motion of the joint to reach the full range of motion (ROM).	2	Number of activities
Given actively according to its function, with repetition of 5-8 movements	10	Number of activities

Identify Direct Costs

Every Activity will bring up direct costs related, p This called Direct Costs. In a rehabilitation program medical For LBP cases, have 2 (two) grooves different services as in figure 2, p This cause There are also 2 (two) types of direct costs , namely: direct costs outpatient clinic visits for patients who go through outpatient clinic especially formerly For obtain examination by Doctor Sp. KFR and direct costs medical rehabilitation center visit for patients without via outpatient clinic.

Table 4 Cost Direct Rehabilitation Program Medic LBP Cases At Hospital A

Category	Unit	Amount	Cost	Outpatient Clinic	MRC
Registration fee Outpatient Clinic	Activity	1	IDR 25,000	IDR 25,000	-
Registration fee MRC	Activity	1	IDR 15,000	-	IDR 15,000
Doctor services	Activity	1	IDR 48,000	IDR 48,000	-
Doctor Consultation	Activity	1	IDR 16,000	-	IDR 16,000
BHP					
HS *Non-sterile*	*Pcs*	2	IDR 500	IDR 1,000	IDR 1,000
Total				**IDR 74,000**	**IDR 32,000**

Data source : Report Processed Hospital A finances (2023)

From table on get the total cost directly into a rehabilitation program medical outpatient clinic visit amounted to IDR 74,000 and medical rehabilitation center visits amounting to IDR 32,000. Total direct costs will added up with cost overheads.

Determine Cost Overheads

Counting cost overheads can differentiated into two , namely cost indirect resource overhead and costs direct resource overhead . There is four category source Power from cost overheads that is labor related, equipment related, space related, and service related.

1. Labor Related
   Labor-related is cost employees like salary, overtime, allowances , incentives, costs journey services , costs training, nutrition, food money, and health funds .
2. Equipment related
   It's a cost shrinkage tool medical and non-medical, maintenance, and repair tool. At the end of the economic period tool No is calculated Again its depreciation and is considered No There is the remainder.
3. Space-related
   Category This covers cost shrinkage buildings and their maintenance
4. Service related
   Service-related consists from cost office , expenses subscriber services (Telephone, Electricity and Water), costs marketing and costs cleaning service. Cleaning service costs are calculated using proportion-wide floor.

Table 5 RS A Resource Overhead Costs 2023

Category	Indirect Overhead Costs	Direct Overhead Costs			
		Outpatient clinic	MRC (TENS)	MRC (Exercise)	MRC (Infra-red)
Labor-related	IDR 3,380,980,740	IDR 718,135,200	IDR 76,922,116	IDR 2,025,655	IDR 51,398,862
Equipment related	IDR 264,173,086	IDR 239,384,696	IDR 31,741,234	IDR 835,869	IDR 21,209,287
Space related	IDR 2,309,944,801	IDR 99,807,652	IDR 11,862,742	IDR 312,392	IDR 7,926,608
Service-related	IDR 501,606,934	IDR 145,267,426	IDR 18,808,267	IDR 495,294	IDR 12,567,562
Total	**IDR 6,456,705,561**	**IDR 1,202,594,974**	**IDR 139,334,359**	**IDR 3,669,209**	**IDR 93,102,321**

Data source : Report Processed Hospital A finances (2023)

Cost indirect resources overhead covers all costs incurred by non-functional units or non-revenue later will charged to each functional unit (revenue center). The basis for indirect overhead charges is the proportion of functional units compared to income and costs.

Table 6 Proportion Income And Weighting Cost Indirect Overhead Of Functional Units Hospital A In 2023

Functional Units	Income (a)	Percentage (c)	Weighting
Outpatien clinic	IDR 8,250,773,674.00	14.21%	IDR 919,986,309
MRC (TENS)	IDR 495,560,000.00	0.85%	IDR 55,030,849
MRC *(Exercise)*	IDR 13,050,000.00	0.02%	IDR 1,294,844
MRC *(Infra-Red)*	IDR 331,130,000.00	0.57%	IDR 36,903,040
Functional unit other	IDR 48,987,213,980.25	84%	IDR 5,438,342,712
Total Income (b)	**IDR 58,077,727,654.25**	**100%**	

Data source : Report Processed Hospital A finances (2023)

Weighting = a (functional unit income) /b (RS income) x total indirect

Based on Table 6, it is found that the weighting for Outpatient Clinic is 14.21%. This value will be multiplied by the total indirect costs to get a weighting of IDR 919,986,309. The same thing is done for medical rehabilitation center for TENS, Exercise and Infra-Red actions, so each These actions received weightings of IDR 55,030,849, IDR 1,294,844 and IDR 36,903,040. This value will be added to direct overhead (table 5) and charged to the number of each visit, as in Table 7.

Table 7 Addition Cost Outpatient Clinic Overhead And Mrc Actions Hospital A Year 2023

	Outpatient Clinic	MRC (TENS)	MRC *(Exercise)*	MRC *(Infra-Red)*
Indirect Overheads	IDR 917,497,860	IDR 55,093,151	IDR 1,450,814	IDR 36,812,888
Direct Overhead	IDR 1,202,594,974	IDR 139,334,359	IDR 3,669,209	IDR 93,102,321
Total *Overheads*	**IDR 2,120,092,834**	**IDR 194,427,510**	**IDR 5,120,024**	**IDR 129,915,210**
Amount visit	83,350	12,389	261	12,779
Cost *Overheads*	**IDR 25,436**	**IDR 15,694**	**IDR 19,617**	**IDR 10,166**

Data source : Report Processed Hospital A finances (2023)

Add Up Direct And Overhead Costs

Stage final from calculation unit costs ABC-Baker method is adds up all costs that arise in the service program Rehabilitation Medic deep LBP patients One cycle, which consists from cost direct and cost overhead, summation can be seen from a table following :

Table 8 Unit Cost Program Services Rehabilitation Medic Lbp Patients At Hospital A

Structure Cost	W I	W II	W III	W IV	Total
Direct Costs	IDR 74,000	IDR 32,000	IDR 32,000	IDR 74,000	IDR 212,000
Overheads					
Outpatient clinic	IDR 25,436			IDR 25,436	IDR 50,872
MRC (TENS)	IDR 15,694	IDR 15,694		IDR 15,694	IDR 47,081
MRC (Exercise)	IDR 19,617		IDR 19,617	IDR 19,617	IDR 58,851
MRC(Infra-Red)		IDR 10,166	IDR 10,166		IDR 20,333
Unit Cost ABC	**IDR 134,747**	**IDR 57,860**	**IDR 61,783**	**IDR 134,747**	**IDR 389,136**
INACBG	**IDR 127,800**	**IDR 127,800**	**IDR 127,800**	**IDR 127,800**	**IDR 511,200**
Difference	(IDR 6,947)	IDR 69,940	IDR 66,017	(IDR 6,947)	IDR 122,064
Percentage	(5%)	55%	52%	(5%)	24%

DISCUSSION

In table 12 it is found calculation Unit Cost compared to with INA-CBG showing different costs each his visit , p This caused Because source power used in activities each visits are also different . At the visit W I and W IV obtained difference negative amounting to (IDR 6,947) or of (5%). However, during W II and W III's visits there were difference positive amounting to IDR 69,940 and IDR 66,017 or by 55% and 52%. If done accumulation from all over visit on one rehabilitation program cycle medical , then done comparison with INA- CBG rates and tariff Hospital , then get difference as following :

Table 9 Differences In Unit Costs Of Medical Rehabilitation Programs LBP Patients ABC – Baker Method With Ina-Cbg Rates And Hospital Rates

	Rates	Unit Cost	Difference	Percentage
INA-CBG rates	IDR 511,200.00	IDR 389,004.75	IDR 122,195.25	24%
Hospital rates	IDR 570,000.00	IDR 389,004.75	IDR 180,995.25	32%

Income Rehabilitation Hospital A's medical supplies are almost 100% sourced from patients with a guarantee by BPJS. Hospitals are paid by BPJS using the INA CBG Tariff according to PMK No. 3 of 2023 for class regional private D type I, ie amounting to IDR 127,800.00 each visit with grouping M-3-16-0. If the average is done in all four visits obtained cost amounting to IDR 97,251 for each visit. Based on the results research above , obtained Rehabilitation Program unit cost Medical consisting of from 4 visits with different costs obtain results positive addition or There is profit amounting to IDR 122,195.25 or by 24 percent. Although hospital rates compared with INACBG showing difference negative amounted to (8%).

At KI and KIV visits, unit cost calculations are obtained with negative difference. Second visit This is visits made consultation doctor moreover previously at IRJ before get modality therapy at IRM. Cost high direct because service medical that is amounting to IDR 48,000 or 66% of the total cost direct and imposition cost IRJ overhead results the difference is negative if compared with INACBG rates . Something else happens to the results KII and KIII visit, where patient direct get actions in IRM so No get it burden IRJ overhead and services medical doctor more low amounting to IDR 16,000 or 50% of the total costs straight away .

Calculation of unit cost of rehabilitation units medical at the rehabilitation clinic medical Hospital Batang , Central Java show no results Far different namely normative UC amounting to IDR 126,563.75 and actual UC IDR. 119,622.64 (Aimanah et al., 2018). This is different from research at type B hospitals, namely happen gap cost rehabilitation medical treatment in 2 modalities therapy (TENS-MWD) amounting to IDR (337,339) 12 . Research different show high yield for rehabilitation unit costs medical on infra-red Actions get cost unit actual amounting to IDR 229,364 and TENS received cost unit actual amounting to IDR 231,047 (Aulia et al., 2017). His height difference results due to the source each power is different Hospital , Service health is one of services that have diversity source Power especially source Power human , with high variation more from 10:1 (Nyawira et al., 2022). At Hospital A, Cost Direct resource overhead is dominated by costs employees, namely 55% in IRM and 59% in IRJ already in accordance with amount activities / excursions so that get efficiency cost . Gaps tariff government and the results of unit cost analysis with TDABC in patients take care road rehabilitation medical research in Mohammadpour et al., (2022) in Iran also occurred , p This caused by because capacity source power that is not yet maximum (Mohammadpour et al., 2022).

Hospital Already Enough Good in control fees on services rehabilitation medical proven with obtained profit by 24%. Implementation Clinical pathway based on efficiency costs in rehabilitation programs medical LBP cases become factor affecting matter the . In line with research calculation unit costs treated CKR cases stay with use clinical pathways produce difference positive or profit. In his research, Riza (2019) explains that clinical pathways can affect the length of stay and total cost of inpatient(Kurniawan and Pribadi, 2018)(. Clinical pathways increase communication, knowledge, and teamwork among hospital staff, and the quality of health care service for patients Good implementation of clinical pathways affects patients, medical staffs, and hospital management. Clinical pathways can improve the quality of health services in the hospital} For managers House illness , clinical pathways besides represent instrument management strategies that can be works For control costs and reduce cost in a way sustainable , also possible give contribution in form guarantee quality to provision transparent (Romeyke and Stummer, 2012). Rehabilitation medical tightly related with outcomes related repair function , with variation condition disturbance function in each patient case rehabilitation medical , then need done evaluate clinical pathways so that goals therapy patient become measurable .

Calculation unit costs use ABC method at Hospital can count in a way precise and accurate For something action so that party Hospital can determine tariff with right too. Comparison tariff Hospital with INACBG Rates results difference negative or loss , so need studied repeat related determination rates at Hospital A, Determination tariff No only based on unit costs but also need notice position competition , ability to pay , willingness to pay , and goals strategic (Riofandi et al., 2022).

CONCLUSION

From the results study This Rehabilitation program unit cost data was obtained medics at Hospital A use method Activity Based Costing is IDR 389,004.75 for One cycle services consisting from 4 visits . Unit cost of rehabilitation program medics at Hospital A use method Activity Based Costing more low rather than tariffs Hospital amounting to IDR 182,754.39 (32 %) and at the INACBG rate IDR 122,195.25 (24 %).

SUGGESTION

ABC method is a method of calculation accurate unit costs However matter This need more Lots cost trigger and takes more time Lots For do it. For study furthermore Can be considered For use other methods. Study This is accompanied with a number of limitations. Limitations time and costs make calculation No can done For all department . Diversity cost

driver in each Hospital in calculation This so that his findings No can generalized For all activity service rehabilitation at Hospital other .

REFERENCES

Aimanah, I.U., Budisuari, M.A., Supriyanto, R., 2018. ANALISIS BIAYA PRODUKSI DI UNIT KERJA POLI REHABILITASI MEDIS RUMAH SAKIT X BATANG, JAWA TENGAH. Bul. Penelit. Sist. Kesehat. 21, 8–14. https://doi.org/10.22435/hsr.v21i1.36

Archongka, Y., Manimmanakorn, N., Kuptniratsaikul, V., Solunda, S., Rn, P.Y., 2008. Unit Cost of Stroke Rehabilitation 91.

Aulia, D., Ayu, S.F., Nasution, N.H., 2017. Analisis Upaya Rumah Sakit dalam Menutupi Kekurangan Biaya Klaim Indonesia Case Base Group (INA-CBGs) Yang Dihitung dengan Metode Activities Base Costing pada Rumah Sakit Swasta Kelas C di Kota Medan Tahun 2017. J. Ekon. Kesehat. Indones. 1. https://doi.org/10.7454/eki.v1i4.1783

Baker, J.J., 1998. Activity-Based Costing and Activity-Based Management for Health Care. Aspen Pub.

Don R, H., Maryanne M, M., 2000. Akuntansi Manajemen, Ed. 4. Cet. 1. ed. Erlangga, Jakarta.

Godwin, K.M., Wasserman, J., Ostwald, S.K., 2015. Cost Associated with Stroke: Outpatient Rehabilitative Services and Medication 676–684. https://doi.org/10.1310/tsr18s01-676

Indriani, D., Kusnanto, H., Mukti, A.G., Kuntoro, K., 2013. Dampak Biaya Laboratorium Terhadap Kesenjangan Tarif INA-CBGs dan Biaya Riil Diagnosis Leukemia. Kesmas Natl. Public Health J. 7, 440. https://doi.org/10.21109/kesmas.v7i10.2

Kementerian Kesehatan Republik Indonesia., 2011. Peraturan Menteri Kesehatan Republik Indonesia No.903 tahun 2011. Pedoman pelaksanaan program Jamkesmas.

Kurniawan, S., Pribadi, F., 2018. Analysis Unit Cost In Mild Head Injury Patient With Activity Based Costing Method At The Hopital In Yogyakarta. Arch. Bus. Res. 6. https://doi.org/10.14738/abr.61.4079

Liozu, S.M., Boland, R.J., Hinterhuber, A., Perelli, S., 2011. Industrial Pricing Orientation: The Organizational Transformation to Value-Based Pricing. SSRN Electron. J. https://doi.org/10.2139/ssrn.1839838

Mohammadpour, F., Basakha, M., Kamal, S.H.M., Azari, N., 2022. Costing the outpatient rehabilitation services: time-driven activity-based costing approach. Cost Eff. Resour. Alloc. 20, 31. https://doi.org/10.1186/s12962-022-00366-z

Nyawira, L., Tsofa, B., Musiega, A., Munywoki, J., Njuguna, R.G., Hanson, K., Mulwa, A., Molyneux, S., Maina, I., Normand, C., Jemutai, J., Barasa, E., 2022. Management of human resources for health: implications for health systems efficiency in Kenya. BMC Health Serv. Res. 22, 1046. https://doi.org/10.1186/s12913-022-08432-1

Riofandi, L.A., Ardini, A., Maulana, M.Y., 2022. STRATEGI PENETAPAN TARIF RUMAH SAKIT BERDASARKAN UNIT COST 1.

Romeyke, T., Stummer, H., 2012. Clinical Pathways as Instruments for Risk and Cost Management in Hospitals - A Discussion Paper. Glob. J. Health Sci. 4, p50. https://doi.org/10.5539/gjhs.v4n2p50

Trisnantoro, L., 2015. Memahami Ilmu Ekonomi Dalam Manajemen Rumah Sakit, Kelima. ed. UGM Press.

Turner-Stokes, L., Sutch, S., Dredge, R., Eagar, K., 2012. International casemix and funding models: lessons for rehabilitation. Clin. Rehabil. 26, 195–208. https://doi.org/10.1177/0269215511417468

Turnip, H., 2020. Analisis Efisiensi Biaya Layanan Rehabilitasi Medik di Rumah Sakit Umum Daerah Koja Tahun 2019 = Cost Efficiency Analysis of Medical Rehabilitation Services at the Koja Regional General Hospital in 2019.