



Reconstruction of Caesarean Section Service Rates for National Health Insurance Patients

Vyola Regina^{1*}, Yurniwati², Adila Kasni Astiena³

¹Master Program in Public Health, Faculty of Medicine, Universitas Andalas, Padang, Indonesia

²Faculty of Economics, Universitas Andalas, Padang, Indonesia

³Faculty of Medicine, Universitas Andalas, Padang, Indonesia

ARTICLE INFO

Keywords:

Activity-based costing
JKN
Reconstruction
Sectio caesarea

***Corresponding author:**

Vyola Regina

E-mail address:

regina.vyolet@gmail.com

All authors have reviewed and approved the final version of the manuscript.

[515https://doi.org/10.37275/cmej.v5i2.515](https://doi.org/10.37275/cmej.v5i2.515)

A B S T R A C T

RSIA Permata Bunda as a JKN provider is paid according to the INA-CBG rate by BPJS Kesehatan, the amount of which does not match the costs incurred by the hospital so that there is a negative difference between the hospital section caesarea (SC) rate and the INA-CBG rate which reached 2 billion in 2021. The aim of this study was to reconstruct the SC service rate for JKN patients so that efficiency occurs. This study was an explanatory sequential mixed method design, preceded by quantitative research with unit cost calculation using the activity based costing (ABC) method and the average fee for service rate for hospital SC services and then qualitative research for interviews with informants. The unit cost calculated using the ABC method is lower than hospital package rates, fee for service rates but higher than INA-CBG rates for SC severity level I services in treatment classes I, II and III which causes losses for the hospital. Efficiency efforts that can be carried out by hospitals are through tariff reconstruction by adjusting LOS (length of stay), optimizing drug use and supporting examinations according to clinical pathways and changing the calculation of medical services from fee for service to a package system.

1. Introduction

An increase in the number of sectio caesarea (SC) procedures occurred in general in Indonesia by 11% in government hospitals and more than 30% in private hospitals.^{1,2} In 2020, the number of SCs in the city of Solok was 38.4%, while in 2021, the number of SCs at RSIA Permata Bunda was 81.51% of all deliveries.^{3,4} Hospitals serving JKN participants are paid by the Health Social Security Administering Agency (BPJS) at package rates, namely Indonesian-Case Based Groups (INA-CBGs).⁵ The INA-CBG tariff is a problem that is often complained about by hospitals as JKN providers. Based on observations of JKN patient health service claims at RSIA Permata Bunda in 2021,

there is a difference between the rates fee for service/FFS and hospital package rates with INA-CBGs rates. The difference between hospital SC package rates and INA-CBG rates reaches 2 billion rupiahs, while the difference between FFS rates and INA-CBG rates reaches 3 billion rupiahs, which results in less than optimal hospital income and even potential losses.³ The rates that apply at RSIA Permata Bunda are currently calculated traditionally, so they are not necessarily accurate. The rates set are calculated based on basic costs, market surveys, and competitors (conventional) that can result in undercosting or overcosting.⁶ Monica's research (2021) found a negative difference between INA-CBG

rates and real hospital rates, so hospitals experienced losses of up to 94.8%.⁷ Similar things were also expressed by other researchers who found a negative difference between INA-CBG rates and hospital rates, which reached 3 billion a year for SC services.⁸ However, in the two previous studies, no calculations were carried out for unit cost SC and tariff reconstruction as an efficiency effort. Meanwhile, Widjayanto's research (2017) carried out calculations of unit cost SC using the ABC method, but only 2 JKN patient samples were obtained and not in all treatment classes.⁹

The reconstruction of SC service rates for JKN patients aims to increase cost efficiency and service activities in hospitals. Therefore, it is necessary to trace costs based on activity through calculations of unit cost using the ABC method, calculating the average rate fee for service (FFS). Then compared the INA-CBGs rates, unit cost, and rates of FFS Hospitals with SC services to carry out reconstruction and efficiency so that funding from BPJS Health for JKN patients does not harm the hospital and is used optimally for hospital operations and development.

2. Methods

The research design used is an explanatory sequential mixed method design, namely quantitative research in the initial stage, analyzing the results, and then using the research results for the next phase, namely qualitative, using the interview method. Quantitative research to count unit cost SC services

with methods activity based costing on all 2021 samples and average rates fee for service use Ms. Excel with a total sample of 100 SC cases severity level I which includes JKN class I, II and III patients.^{6,10} Qualitative research conducted interviews with 4 informants consisting of the Main Director, Head of Finance, Head of Services and Obstetrician. The research located at RSIA Permata Bunda was carried out from April to September 2022 through field observations, reviewing transaction data, and financial reports related to SC services in 2021 at RSIA Permata Bunda. The instruments used are checklist tables, clinical pathways, and an interview guide matrix. Quantitative data analysis uses tabulation, Ms. Excel, and narrative, while data analysis in qualitative research is carried out through reduction, data display, and conclusion drawing through source triangulation and method triangulation approaches. This research has passed ethical review from the Research Ethics Commission of the Faculty of Medicine, Universitas Andalas, with Number 164/UN.16.2/KEP-FK/2023.

3. Results and Discussion

Exploring costs using the ABC method begins with determining stage facility activity (FA) at the hospital. There are 6 FAs at RSIA Permata Bunda, namely Medical Records services, UPSRS, Laundry, security services, cleaning services, and management services. Through this, FA costs are grouped into 3 cost groups, as in Table 1.

Table 1. Grouping of supporting activity costs in 2021.

No	Types of fees	Total cost	%
1.	Investment	Rp. 598.172.858	10,44
2.	Operational	Rp. 5.043.983.054	88,01
3.	Maintenance	Rp. 88.901.500	1,55
	Total	Rp 5.731.057.412	100

Source: Financial Report of RSIA Permata Bunda, 2021 (Results of Data Processing).

Based on Table 1 above, the largest grouping of supporting activity costs at RSIA Permata Bunda is operational costs, 88.01%, and the smallest is maintenance costs, namely 1.55%. The small maintenance costs are due to not all maintenance activities being documented by the maintenance staff and recorded in the finance department. This is similar to research by Tetriadi (2018), which found that the

proportion of operational costs was the largest compared to other cost groups, namely 73%, followed by investment costs at 25% and maintenance costs at 2%.¹¹ Aisyah's research also found a similar proportion of indirect costs, namely operational costs, which were the highest, and the smallest were maintenance costs.¹²

Table 2. Identification and classification of SC service activities.

No	Activity	Activity classification	Duration (minutes)	% of total time
ER				
1.	Initial nursing assessment	Primary	3	1,2
2.	Initial medical assessment	Primary	5	2,1
3.	Making medical records	Secondary	4	1,7
4.	Routine hematology examination and triple elimination	Primary	15	6,4
5.	Ultrasound examination	Primary	2	0,8
6.	KIE	Primary	5	2,1
	Time subtotal		34	9,8
Admission-Medical Records				
7.	Registration (Admission)	Secondary	15	6,4
8.	Check room availability	Secondary	1	0,4
	Time subtotal		16	6,8
Pre-operation				
9.	Operation tolerance check (Anaesthesia)	Primary	3	1,2
10.	Informed consent	Primary	5	2,1
11.	Premedication	Primary	15	6,4
12.	Surgical checklist	Secondary	1	0,4
	Time subtotal		24	10,1
Operation				
13.	Preparation of operation tools	Secondary	3	1,2
14.	Preparation of anesthetic drugs	Secondary	4	1,7
15.	Anesthesia	Primary	3	1,2
16.	Time out	Secondary	7	3
17.	Aseptic procedure	Primary	2	0,8
18.	Incision	Primary	6	2,6
19.	Giving birth to a fetus	Primary	3	1,2
20.	BBL resuscitation	Primary	5	2,1
21.	Delivering the placenta	Primary	1	0,4
22.	Check for bleeding and primary uterine hecting	Primary	7	3
23.	Suturing abdominal, subcutaneous and skin muscles	Primary	12	5,13
24.	Sign out	Secondary	5	2,1
25.	Making medical records	Secondary	4	1,7
	Time subtotal		62	26,5
Post-operation				
26.	RR monitoring	Primary	30	12,8
27.	Midwifery/nursing care	Primary	30	12,8
28.	Visite	Primary	15	6,4
29.	Making medical records	Secondary	4	1,7
30.	Discharge planning	Secondary	4	1,7
31.	Nutrition care	Primary	5	2,1
32.	Pharmaceutical care	Primary	5	2,1
33.	Administration	Secondary	5	2,1
	Time subtotal		98	41,9
Total Time			234	100

*Description: Primary Activity: activity directly related to the patient

Secondary activity: the activity that is not directly related to the patient

Source: Observation Results of SC Service Activities (Data Processing Results).

Table 2 shows the grouping of primary and secondary activities according to clinical pathway (CP) and observation. Primary activity is activity that is directly related to or felt by the patient, while secondary activity is activity that is not directly related to or felt by the patient. From the study, 21 primary

activities and 12 secondary activities were obtained in production units, and 6 secondary activities were obtained in facility activity (FA). From the combination of the activities above, the total primary activity time is 177 minutes, and the total secondary activity time is 57 minutes.

Table 3. Direct labor costs for SC services in 2021.

No	Direct labor	Total annual salary (Rp)	%
1	Ob-gyn specialist	4.347.372.000	47,63
2	Anesthesiologist	1.366.952.000	14,97
3	Pediatrician	554.225.000	6,07
4	Anesthetist	387.154.000	4,24
5	Operator assistant	480.210.475	5,26
6	Nurse OK	220.836.000	2,42
7	Inpatient nurse	1.769.609.000	19,39
Total		9.126.358.475	100
Employee costs per minute (yearly service time 433,440 minutes)		21.056	
Employee cost per SC procedure (177 minutes)		3.726.849	

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing).

In SC services, direct labor costs are obtained from the salaries of medical personnel consisting of ob-gyn specialists, anesthesia specialists, pediatric specialists, anesthesia technicians, operator assistants, operating room nurses, and inpatient nurses. Based on Table 3 above, it can be seen that the largest employee costs incurred by RSIA Permata Bunda in 2021 for SC services are ob-gyn specialist medical personnel, namely Rp. 4,347,372,000 (47.63%), and the smallest is the operating room nurse, namely Rp. 220,836,000 (2.42%). The presence of pediatricians accompanying SC and directly carrying out resuscitation of newborns in 2021 is only 33.16%. There are inefficiencies due to incompatibility

with CP because not all SC patients are accompanied directly by a pediatrician, but they are still provided with services by the hospital. Plus, the newborn baby is visited every day by a pediatrician, and the hospital also provides medical services (fee for service).

The results of calculating the total direct costs of SC services at RSIA Permata Bunda were obtained from the sum of the costs of consumable medical materials and employee costs, which are direct labor and medical equipment costs. The direct costs of class II and III SC services were the same, namely Rp. 5,451,734, while the total direct cost of class I SC services is Rp. 5,558,414 (Table 4).

Table 4. Total direct costs of SC services.

No	Service products	Material costs (Rp)	Employee costs (Rp)	Medical equipment costs (Rp)	Total cost (Rp)
1	SC class III	1.631.060	3.726.849	93.825	5.451.734
2	SC class II	1.631.060	3.726.849	93.825	5.451.734
3	SC class I	1.737.740	3.726.849	93.825	5.558.414

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing).

The biggest direct cost at RSIA Permata Bunda is employee salary costs. If we look at the proportion of costs, doctors' salaries are almost half of the total direct costs of employee salaries. There is a cost inefficiency in paying for the services of a pediatrician

who is present to accompany the SC and is paid using the method fee for service (FFS). Widjayanto's research in 2016 also stated that medical services for doctors made a big contribution to the high rates of SC without complications in hospitals.⁹

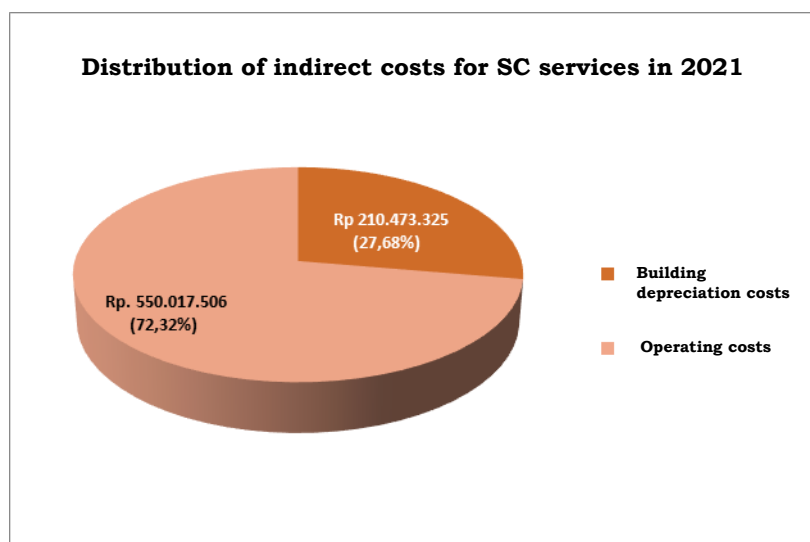


Figure 1. Distribution of indirect costs for SC services in 2021.

The result of calculating the total indirect costs in the SC service unit is by adding up depreciation costs

amounting to Rp. 210,473,325 with operating costs of Rp. 550,017,506, which is Rp. 760,490,831.

Table 5. Distribution of FA costs to production units.

No	FA name	Rate per CD	FA fee (Rp)		
			Class III	Class II	Class I
1	RM service	23.317	112.550.278	18.350.335	13.780.239
2	UPSRS services	1.618.793	114.934.292	184.542.385	176.448.421
3	Laundry service	4.440	74.211.867	44.528.896	14.841.485
4	Security services	258.364	27.386.544	22.735.999	22.735.999
5	CS services	324.455	34.392.223	28.552.034	28.552.034
6	Admin and management services	127.026	613.154.007	99.969.381	75.072.305
		Total	976.629.211	398.679.030	331.430.483

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing).

The largest FA fee charge is class III, namely Rp. 976,629,211, and the smallest is class I, namely Rp. 331,430,483. Next, the distribution of FA costs for each treatment class is dividing the FA costs by the number of patients (cost driver) SC class III, namely 1,624 patients; class II, namely 652 patients; and class I, namely 369 patients. Indirect costs are obtained, which are then totaled with direct costs to

obtain unit cost SC services.

Table 6 below shows the calculation results for unit cost SC services severity level I for treatment classes III, II, and I at RSIA Permata Bunda. Calculation unit cost SC in class I is the highest compared to other treatment classes. Unit cost SC for class III is Rp.6.160.301, class II is Rp.6.503.954, and class I is Rp.7.261.170.

Table 6. Unit cost SC services.

No	Service	Direct costs (Rp)	Indirect costs (Rp)	Unit cost (Rp)
1	SC class III	5.451.734	708.567	6.160.301
2	SC class II	5.451.734	1.052.221	6.503.954
3	SC class I	5.558.414	1.702.756	7.261.170

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing).

Unit cost SC class I service is the highest, and class III is the lowest. The indirect costs of class III treatment are smaller because the number of class III patients reaches 68% of the total number of patients, so indirect costs such as depreciation of non-medical equipment and buildings can be distributed among patients evenly. Total unit cost The SC from this research is not much different from the research

obtained by Widjayanto (2017). Unit costs for Class III SC procedures are the smallest compared to other treatment classes. Apart from that, Santoso (2017) also obtained research results unit cost SC services in 2015 for class III are Rp. 5,573,880, while Sri Wahyuni's (2018) research obtained unit cost Non-class SC is Rp. 5,438,627.^{9,13,14}

Table 7. Average SC fee for service rate each class of treatment.

No	Class treatment	Samples (n)	FFS rates average (Rp)	Maximum value (Rp)	Minimum value (Rp)
1	SC class III	68	6.668.661	7.567.391	5.641.280
2	SC class II	18	7.685.966	8.885.363	6.244.264
3	SC class I	14	8.620.003	9.122.653	7.158.290

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing).

Average tariff calculation results from FFS SC services for each treatment class at RSIA Permata Bunda earn Rp. 6,668,661 for class III, Rp. 7,685,966 for class II and Rp. 8,620,003 for class I. Tariff variations of FFS are caused by the number of days of treatment (LOS), use of drugs, and supporting examinations, which differ from one patient to another, as well as human error.¹⁵ Monica's research (2021) obtained the actual costs of SC patients at home based on calculations. The fee for service also

varies. This difference in rates depends on the completeness of medical records to calculate the cost components of services provided to patients, including medicines and other supporting examinations.^{7,15}

In SC tariff reconstruction, an analysis of tariff differences and differences between tariffs is first carried out FFS, unit cost, hospital rates, and INA-CBGs rates so that when tracking production unit activities, inefficiencies can be identified.

Table 8. Tariff comparison fee for service, unit cost, hospital rates, and INA-CBGs SC service rates.

No	Class treatment		FFS average (a)	Unit Cost ABC method (b)	Hospital rates (c)	Tarif INA-CBGs (d)
1	SC class III	Rp	6.668.661	6.160.301	5.750.000	5.019.000
2	SC class II	Rp	7.685.966	6.503.954	7.000.000	6.023.900
3	SC class I	Rp	8.620.003	7.261.170	8.000.000	7.027.900

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing)

Decree of Director of RSIA Permata Bunda No.02 of 2018

PMK Number 52 of 2016.

Unit cost SC using the ABC method is found to be lower than the tariff fee for service for all classes, lower than SC class II, and I package rates but higher than class III rates. When compared with INA-CBGs rates. Analysis results unit cost SC services at RSIA Permata Bunda when compared with INA-CBGs rates, it is found that unit cost SC for all treatment classes is higher than the INA-CBGs rate which has the potential to result in hospital losses because the majority of SC patients at RSIA Permata Bunda are JKN patients. When comparing the projected new tariffs for SC services with the INA-CBG tariffs, the INA-CBG tariffs are not able to cover hospital tariffs for all classes of treatment. Wahyuni's research (2018) also found that the INA-CBG rate was lower than the unit cost SC,

thus resulting in losses for the hospital. Widjayanto's research (2018) also found this unit cost SC is higher than the INA-CBG tariff with a difference of around 2 million for each class. Ashari's research (2021) also found that the INA-CBG rate was smaller than unit cost SC so that the CRR is less than 100%, which indicates a hospital deficit. This is slightly different from Duarsa's (2019) research which found that the INA-CBG rate was higher than unit cost so that it is still able to cover the costs of the SC action.^{7,9,14,16}

Qualitative research conducted interviews with four informants, namely the Main Director, Head of Services, Head of Finance, and Gynecologist at RSIA Permata Bunda, with the results of the interviews and method triangulation in Table 9 below.

Table 9. Method triangulation matrix.

No	Aspect	Interview	Document review	Observation	Conclusion
1	The concept of tariff determination that applies in RSIA	RSIA Permata Bunda has taken into account general costs (facilities, water, electricity and services) in determining tariffs but has not used accurate accounting calculation methods in assigning costs to products.	There is already a Decree on the Implementation of Tariffs (Attachment 2). There are no regulations or standard operational procedures for calculating and setting tariffs.	Each SC patient is given details of the procedure rates (fee for service/FFS) according to the tariff decree by the inpatient admin officer, but there is a difference between the hospital tariff and the INA-CBGs tariff	The tariff setting concept currently in effect at RSIA Permata Bunda already takes costs into account overhead such as room facilities, water, electricity and direct costs such as medical or non-medical services in determining rates. However, they have not used accurate accounting calculation methods such as activity-based costing (ABC) system in charging costs to products so that there is a difference in rates between JKN patients with FFS rates and hospital package rates
2	Expected margin (profit) from SC procedure	The expected SC service margin is 20% so that the benefits of this increase in income are felt by all staff including doctors at the hospital	There is no policy for determining margins for all types of services	The margin used is different for each service	The amount of margin (expected profit) by RSIA Permata Bunda from the rates that will be set from unit cost SC is 20%, which will have an impact on improving doctor services and will also be used optimally for hospital development.
3	Expectations regarding the calculation of new rates according to margins	Calculation unit cost Accurate data can be used as evaluation material and efficiency strategies for JKN patients, revision of old rates and a reference for setting new SC rates at RSIA Permata Bunda	The current rates are still based on the 2018 Decree and have not been revised for 4 years.	Calculation of doctors' medical services using a system fee for service, not a package like the JKN system	Calculation unit cost based on Activity Based Costing can be used as an evaluation and efficiency strategy for JKN patients, revision of old rates and a reference for setting new SC rates for non-JKN patients at RSIA Permata Bunda.
4	Hospital considerations in setting rates	The difference in rates per treatment class is because the facilities offered are also different, but cross-subsidies can be considered, especially class III	There is already a decree on service rates. Class III rates are the lowest compared to other classes (Appendix 2)	Even though class III rates are the lowest, the drugs and surgical methods used are the same as class II and I	The considerations made by RSIA Permata Bunda in setting different rates for each treatment class are due to the differences in facilities offered. However, hospitals also carry out cross subsidies, especially in setting class III rates so that new rates are obtained from unit cost With the ABC method, it can later be adjusted to the hospital's expectations.
5	Procedure for setting rates	Determination of new tariffs should start with a management meeting regarding tariff studies, then determine the SOP for calculating tariffs, calculate the unit cost by accountants, determine margins, management and commissioner considerations finalize new rates, so that new rates are ratified through a Director's Decree	There is no procedure for making tariffs or assignment letters/decrees for staff who will carry out calculations and study the current tariffs.	The current tariff determination is based on direct costs, the previous year's tariff plus a margin.	Hospital management and commissioners need to study rates, then calculate unit cost by competent staff, determining margins, consideration by management and commissioners to finalize new tariffs (if cross subsidies are needed between treatment classes), finally the new tariffs are ratified by Director's Decree. So there are two regulations in setting tariffs, namely the standard operating procedures (SPO) for calculating and determining tariffs, and the second is the director's decision letter (SK) for the application of new tariffs that have been determined.
6	Clinical pathway (CP) review	CP is in accordance with quality and cost control. Variations related to drug selection by specialists can be minimized through internal KSM meetings	There is already a CP Caesarean section (SC) and Clinical Practice Guide for SC services	The flow of patient care is in accordance with CP, treatment days are increased for patients whose babies are being treated	Clinical Pathways SC services at RSIA Permata Bunda are in accordance with hospital quality and cost control efforts and have referred to the collegium of the Indonesian Obstetrics and Gynecology Association (POGI) and the Indonesian Medical Council (KKI). Selection of the newest drugs and length of treatment days can be minimized through internal meetings of the Medical Staff Group (KSM)

Source : Results of Interviews and Document Review (Results of Data Processing).

Based on qualitative research, it was found that RSIA Permata Bunda wants a profit margin of 20% from SC services. If the tariff is determined based on

unit cost SC using the ABC method that has been obtained, the following is a projected comparison of the new SC package tariffs with the INA-CBGs tariffs.

Table 10. Projections of comparison of new SC rates and INA-CBGs rates.

No	Class treatment	New SC Tariff (20% margin of UC) (e)	Tarif INA-CBG (d)	Difference (d-e)	Information
1	SC class III	7.392.361	5.019.000	(2.373.361)	Unfavorable
2	SC class II	7.804.745	6.023.900	(1.780.845)	Unfavorable
3	SC class I	8.713.404	7.027.900	(1.685.504)	Unfavorable

Source: Financial Data of RSIA Permata Bunda, 2021 (Results of Data Processing)
Decree of Director of RSIA Permata Bunda No.02 of 2018
PMK Number 52 of 2016.

The results of the comparison between the projected new hospital SC package rates and the INA-CBGs rates at RSIA Permata Bunda are that the INA-CBG rates are lower than the new SC hospital package rates in all treatment classes, so there is a negative difference that does not benefit the hospital (deficit) of Rp.2.373.361 in class III, Rp.1.780.845 in class II and Rp.1.685.504 in class I. The new rates for SC services can be applied to general patients or for insurance offers other than JKN in hospitals, while for JKN patients, efficiency must be adjusted to the INA-CBG rates.

The new rates for SC services can be applied to general patients or for insurance offers other than JKN in hospitals, while for JKN patients, efficiency must be adjusted to the INA-CBG rates. Considering the rates fee for service and service package rates as well unit cost SC with the ABC method at RSIA Permata Bunda, which is currently higher than the INA-CBG rate, has the potential to cause losses for hospitals where the majority of patients use JKN as their guarantor. Meanwhile, the INA-CBG tariff has not changed for the past 7 years. Hospitals need to adopt a cross-subsidy policy so that class III rates remain affordable but the

hospital is not disadvantaged and can still develop the margin obtained from class II and I services or through the difference in payments from patients who upgrade according to Presidential Regulation Number 82 of the year 2018. Cross subsidies are considered to be in line with the principle of mutual cooperation in the JKN program, where healthy people help the sick and economically good people help weak economies as mandated by Law Number 40 of 2004^{17,18}.

In tracing activity-based costs for SC services at RSIA Permata Bunda, it was found that service inefficiencies were not in accordance with CP, namely, the presence of pediatricians accompanying SC was only 33.16%, and the number of treatment days (LOS) exceeded 3 days. On the tariff calculation based on fee for service (FFS), It was found that variations between each patient had the potential for inefficiencies in the length of treatment (LOS), supporting examinations and medications, as well as payment for pediatrician services that still used the *FFS*. Changes in anesthesia methods for SC can also increase efficiency in financing SC services and optimize LOS, as shown in Table 11 below.

Table 11. Reconstruction of non-ERACS SC service costs with ERACS SC.

No	Details	Non-ERACS			ERACS		
			Total	Price		Total	Price
1	Accommodation	4	550.000	2.200.000	3	550.000	1.650.000
2	TMO	1	3.500.000	3.500.000	1	3.500.000	3.500.000
3	Visite	3	100.000	300.000	2	100.000	200.000
4	Nursing	1	400.000	400.000	1	400.000	400.000
5	USG	1	150.000	150.000	1	150.000	150.000
	Pediatrician accompanying	1	200.000	200.000	1	200.000	200.000
6	Laboratory	1	150.000	150.000	1	150.000	150.000
7	Medicine and medical equipment	1	1.475.796	1.475.796	1	1.575.796	1.575.796
Total				8.375.796			7.825.796
Difference				550.000 (6,6%)			

Source: Data Processing Results.

Based on a comparative analysis of SC costs using the non-ERACS method and ERACS, it was found that the difference was IDR. 550,000 (6.6%), which means the hospital saves costs of around IDR 550,000 per patient, and the patient's treatment days are shorter, namely around 3 days, so it can be concluded that the ERACS method is more efficient than non-ERACS.

Cost efficiency for JKN patients who receive SC services at RSIA Permata Bunda is done by optimizing services and adjusting the length of treatment days to clinical pathways, especially since the hospital has used a new anesthesia method, namely enhanced recovery after caesarean surgery (ERACS) which allows faster patient mobilization. Efficiency also needs to be done not only because the INA-CBGs claim is lower than unit cost. However, the costs incurred by the hospital based on the number of JKN patients served are not necessarily in accordance with the realization of claims approved by BPJS Health because hospitals can make errors in inputting diagnosis codes, action codes, and treatment classes which makes the INA-CBG rates different than expected by the hospital.^{15,19} This also contributes to hospital losses due to the negative difference between hospital income from JKN patient claims and the actual costs incurred by the hospital.^{19,20}

4. Conclusion

The calculation of unit cost SC ABC method is preceded by tracing FA costs; in this study, it was found that the highest FA costs were operational costs

(88.01%) followed by investment costs (10.44%) and maintenance costs (1.55%). The direct cost calculation for class III SC is the same as class II, namely Rp. 5,451,734, and class I is Rp. 5,558,414, while the indirect costs for SC class III are the smallest compared to other classes. Unit cost SC services in class III are Rp. 6,160,301, class II is Rp. 6,503,954, class I is Rp. 7,261,170. Rates fee for service the average SC class III service is Rp. 6,668,661, class II amounting to Rp. 7,685,966 and class I amounting to Rp. 8,620,003. Comparison of the rates obtained, namely unit cost SC services are smaller than hospital fees and charges fee for service in all treatment classes, but it is greater than the INA-CBG rate for all treatment classes, which could cause losses for RSIA Permata Bunda because the majority of SC patients are JKN participants so reconstruction needs to be carried out to ensure efficiency, especially in the number of days of treatment and the payment system for doctor services. Reconstruction of SC service rates for JKN patients was carried out as a cost-efficiency effort unit cost SC by adjusting the number of days of treatment (LOS), optimizing medications and supporting examinations according to clinical pathway, as well as changing the method of payment for doctor services from fee for service be a package system.

5. References

1. Maskey MK, Baral KP, Shah R, Shrestha BD, Lang J, Rothman KJ. Field test results of the

- motherhood method to measure maternal mortality. *Indian J Med Res.* 2011, 133 (1), 64–69.
2. Saiffudin, A. *Content Science*, 3rd ed. Bina Pustaka Sarwono Prawirohardjo Foundation: Jakarta, 2005.
 3. Bunda RP. *RSIA Permata Bunda Annual Performance Report*; Solo, 2021.
 4. Solo, D. *Maternity Report*; Solo, 2020.
 5. Ministry of Health. *Standard Health Service Tariffs in the JKN Program. Regulation of the Minister of Health of the Republic of Indonesia Number 52 of 2016 concerning Health Service Tariff Standards in the Implementation of Health Insurance Programs*; 2016.
 6. Riwayadi. *Cost Accounting: Traditional And Contemporary Approaches*; Salemba Empat: Jakarta, 2017.
 7. Monica RD, Firdaus FM, Lestari IP, Suryati Y, Rohmayani D, Hendrati A. Analysis of the difference between real hospital rates and Ina-CBG's rates based on the medical equipment of in-patients in cases of cesarean delivery to control costs at Indonesian Air Force hospitals Dr. M. Salamun Bandung. *Indonesian Journal of Health Information Management* 2021; 9(1): 96.
 8. Saputera MMA, Ahmad A, Khumaira SA, Soraya A. Difference between Hospital Rates and INA-CBG's Rates for Sectio Caesarea Patients at the Idaman Banjarbaru Regional Hospital in 2019. *J Insa Farm Indones.* 2020, 3(2): 317–26.
 9. Widjayanto ADW, Sudiro S, Suryawati C. Policy for Determining Rates for Caesarean Sections Without Complications Using the Activity Based Costing Method Based on ICD-9CM for National Health Insurance at XY Hospital, Kudus Regency, 2016. *Indonesian Journal of Health Economics.* 2017; 1(4): 1–8.
 10. Creswell JW, Creswell JD. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. SAGE Publications: Thousand Oaks, California. 2018.
 11. Tetriadi TT, Nurwahyuni A. Analysis of unit costs for sectio caesarea services and efficiency efforts at RSD Kol. Abundjani Bangko. *Indonesian Journal of Health Economics.* 2020; 5(1): 1–9.
 12. Aisyah E, Nadjib M. Economic Evaluation of the Use of Prophylactic Antibiotics Cefotaxime and Ceftriaxone in Caesarean Section Operation Patients at Hospital X. *Indonesian Journal of Health Economics.* 2019; 3(2): 57–67.
 13. Santoso BI, Trisnantoro L, Hendra Y. Cesarean section tariff analysis based on indonesian case base groups in Cipto Mangunkusumo Hospital. *Advanced Science Letters.* 2017; 23(4): 3590–3593.
 14. Wahyuni S, Hernawati S, Viphindrartin S. Preparation of tariff based on unit cost of surgical action in Balung Hospital using activity-based costing (ABC). *Health Notions* 2018; 2(2): 240–3.
 15. Wijayanti AI, Sugiarsi S. Analysis of the difference between real tariffs and INA-CBG package tariffs in payment of Jamkesmas Claims for Inpatients at Sukoharjo District Hospital. *Indonesian Journal of Health Information Management.* 2013; 1(1): 1–10.
 16. Ashari MR, Ridwan RY. Calculation of rates for sectio caesarea procedures using the activity-based costing (ABC) system method at Anutapura General Hospital, Palu. *J Heal Educ Lit.* 2021; 4(1): 57–64.
 17. Republic of Indonesia State Secretariat. Presidential Regulation Number 82 of 2018 concerning National Health Insurance. 2018 Presidential Regulation of the Republic of Indonesia. 2018.
 18. Republic of Indonesia State Secretariat. Republic of Indonesia Law No.40 of 2004 concerning the National Social Security System. 2004.

19. Pusparini B, Pratiwi RD. Differences in claim rates for INA-CBG in circulatory system diseases. *Indonesian Journal of Health Information Management*. 2020; 8(2): 125.
20. Duarsa A, Sulistiadi W, Sangadji I. Strategy to overcome differences in unit costs for caesarean section with claims based on INA-CBG's tariffs for BPJS patients at the Mother and Child Special Hospital, Bunda Liwa. *J Manaj and Admin Indonesian Hospital*. 2019; 3(2): 142-154.