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Analysis of the Accuracy of Ina-Cbg's Cost Based on the Type of Disease and Influencing Factors in the Inpatient Installation of RSUD dr. Soegiri Lamongan

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ABSTRACT

The result of monitoring and evaluation of Health Insurance Program (JKN) implementation especially in INA-CBG's claim process at Health Facility of Advanced Rujuan (FKRTL), there are differences of opinion for some cases between FKRTL and BPJS Kesehatan causing delay or problem in payment of claim INA-CBG's. The purpose of this study is to analyze the accuracy of INA-CBG's cost and the factors that influence in RSUD DR. Soegiri Lamongan. This research is a type of observational research with descriptive analytic research design with cross sectional research design according to hospital perspective. The sample in this study amounted to 393 respondents. Sampling technique Simple random sampling technique. The research instrument used using the expense bill file issued and the BPJS patient care claims file file with linear regression statistic test with $\alpha = 0.05$. The cost component of the biggest Diabetes Mellitus disease is the median cost of Rp. 1.536.346. CVA disease average drug cost Rp. 1.135.399. The biggest DHF disease is the average room cost Rp. 814.067. Appendicitis medicines cost ± Rp. 1.633.961. The incremental cost of INA-CBG's and the actual cost of hospital in Diabetes Mellitus disease is Rp. 357.957, CVA disease difference of Rp. 2.151.170, DHF disease difference of Rp. 477,514 and in appendicitis disease the difference in average minus -Rp. 2,965,211. There is a difference (not appropriate) between the real cost and the cost of INA-CBG's in Diabetes Mellitus disease with p = 0,000. There is a difference (not appropriate) between the real cost and the cost of INA-CBG's on CVA disease with p value = 0.026. There is a similarity or precision between the real cost and the cost of INA-CBG's in DHF disease with a value of p = 0.159. There is a difference (not appropriate) between the real cost and the cost of INA-CBG's in Apendicitis disease with p = 0,000. There is a difference between the real cost and the cost of INA-CBG's in Diabetes mellitus, CVA, Apendicitis. Factors that affect the differences include room cost factors, drugs and medical action. For DHF disease there is no difference between the real cost and the cost of INA-CBG's.

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INTRODUCTION

Based on Law Number 40 of 2004 concerning National Social Security System (SJSN), all social security in the health sector, including Health Security for the Poor and Near Poor (Jamkesmas), is included in the National Health Security (JKN). JKN is organized by means of a compulsory social health security mechanism with the aim of meeting basic public health needs provided to everyone who has paid contributions or fees paid by the Government. Especially for JKN, it is conducted through The Implementing Agency of Social Security (BPJS) for Health which is legalized through Law Number 24 of 2011, while its implementation begins on January 1, 2014 (Ministry of Health, 2014).

In the implementation of the National Health Security (JKN), has been set the payment pattern to the advanced health facility is with INA-CBG's in accordance with Presidential Regulation Number 12 of 2013 on Health Security as amended by Presidential Regulation Number 111 of 2013 (Ministry of Health, 2014). INA-CBG's payment system is a payment based on the rate of diagnosis grouping that has a clinical closeness and the homogeneity of the resources used. INA-CBG's concept is originally called INA-DRG's (Indonesia Diagnosis Related Groups). The concept of INA-DRG's has been applied for the last 5 years in Indonesia. The grouping of INA-DRG's diagnoses was updated with INA-CBG's in 2011 with an enhanced diagnosis grouping software (Indriyani, 2013).

Starting from 2010 until present, the government is establishing health security through Jamkesmas, which is now included in the National Health Security (JKN), as the beginning of the achievement of health security for the entire population. Jamkesmas is a comprehensive protection for health services covering promotion, preventive, curative and rehabilitative services provided in stages for the community or participants whose contributions are paid by the government (Ministry of Health, 2011).

In 2011, the National Casemix Center Ministry of Health of Republic of Indonesia assesses the incompatibility in the application of tariffs Indonesia Diagnosis Related Group or INA-DRG's for the hospital. Then the evaluation and replacement of Health Ministerial Decree Number 1161/2007 on the Determination of Hospital Tariff based on INA-DRGs was replaced by Health Ministerial Decree Number 440/2012 on the Application of Hospital Tariff based on Indonesia Case Based Groups (INA-CBG's), which was divided into four regional and each region are grouped by type and class of hospital (Ministry of Health, 2016).

The INA-CBG's tariff applies to public and private, government-owned and private hospitals and hospitals that work together in the JKN program. The application of INA-CBG's package rates requires hospital management to be able to cost-efficiently and optimize the hospital's financial management, and to control quality, cost control and access through cost calculation service from each clinical pathway based on unit cost calculation owned by the hospital (Ministry of Health, 2016).

Preparation of clinical pathway and cost of care calculation for frequent cases is indispensable for quality control and hospital costs considering the International Hospital Accreditation standards based on Joint Commission International (JCI) adopted by the Hospital Accreditation Commission (KARS) requires that hospitals concerned to arrange at least 5 clinical pathways each month. Therefore, particular understanding is needed in the preparation of clinical pathway so that the hospital can calculate health service cost from each clinical pathway based on unit cost calculation that has been owned by the hospital and compare it with INA-CBG's tariff (Ministry of Health, 2016).

The implementation of INA-CBG's system for patients with catastrophic diseases (heart, cancer, and stroke) of Jamkesmas participants in hospitals has consequences on the one hand that catastrophic disease poses a threat to the future expansion of Jamkesmas financing. On the other hand, INA-CBG's claim reimbursement fee is lower than the rate incurred by the hospital, so the hospital feels a loss with a claim pattern based on INA-CBG's (Budiarto, 2013).

General Hospital of Dr. Soegiri Lamongan is one of the class B area general hospitals that has been implementing the INA-CBG method since 2010. Some obstacles occur during the implementation of INA-CBG's method. One is the gap or the difference between the actual cost of health services and the INA-CBG's tariff. Some CBG or case groups show negative gaps and hospitals are harmed by it, but some other CBG groups show a positive gap so that hospitals benefit (Indriyani, 2013).

Based on the results of monitoring and evaluation of the JKN Program implementation, especially in the process of INA-CBG's claim in the Advanced Referral Health Facility (FKRTL), there are differences of opinion for some cases between FKRTL and BPJS for Health causing delays or problems in payment INA-CBG's claims (Ministry of Health, 2014).

Based on previous research, the problem often found in the implementation of INA-CBG's financing system is the difference between real cost and INA-CBG's package rate for patients with Jamkesmas, especially on inpatient installation (Ratih et al., 2013). Evaluation of the implementation of the JKN system allows fraud and abuse to occur in the hospitals that carry it out. Fraud is a problem that occurs when a health service facility deliberately fraud or cheating in filing a claim while abuse is a problem caused by health care facilities that do not follow the standard medical services that result in unnecessary excess costs. Based on this matter, it is necessary to analyze the accuracy of INA-CBG's cost based on the type of disease and the factors that influence in General Hospital of Dr. Soegiri Lamongan.

Formulation of the problem

The problem in this research is whether the factors influencing the accuracy of INA-CBG's cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan.

Research Objective

The research objective is to analyze the accuracy of INA-CBG's cost based on the type of disease and the factors that influence in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan.

Benefits of Research

The results of this research are expected to be used as an input in increasing of medical service standards to improve the quality of health services in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan and can provide information about health service system evaluation, which is applied in JKN program, which later apply obligatory for all society.

RESEARCH METHODS

This research was a type of observational research with descriptive analytic of cross sectional research design based on hospital perspective. Methods of retrospective data retrieval taken by searching claims file and charge sheet of patient of Diabetes Mellitus, CVA, DHF, and Appendicitis in the inpatient installation General Hospital of Dr. Soegiri Lamongan that met the criteria of inclusion and exclusion. The sampling technique was performed by a saturated sampling technique that almost involved the entire population. This correlation research analyzed the cost accuracy of INA-CBG's based on the type of disease and the factors that influenced in the inpatient installation General Hospital of Dr. Soegiri Lamongan.

The population in this research was all patients of BPJS as many as 393 patients while the samples were parts of the patients of BPJS in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan with diagnosis of Diabetes Mellitus, CVA, DHF, and Appendicitis as many as 305 patients using simple random sampling.

RESULTS

Table 1 Most Four Types of Diseases in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan.

No	Types of Diseases	∑	%
1	Diabetes Mellitus	55	18
2	CVA	80	26
3	DHF	118	39
4	Appendicitis	52	17
	Total	305	100

Table 2 Types of Diseases of Based on Code of CBG's Patients with CVA in General Hospital of Dr. Soegiri Lamongan.

No	Code CBG's	Description	∑	%
1	G-4-10-I	Mild CVA	40	50
2	G-4-10-II	Moderate CVA	38	47,5
3	G-4-10-III	Severe CVA	2	2,5
		Total	80	100

Table 3 Types of Diseases Based on Code CBG's Patients with DHF in General Hospital of Dr. Soegiri Lamongan

No	Code CBG's	Description	∑	%
1	A-4-13-I	DHF Grade I	97	82,2
2	A-4-13-II	DHF Grade II	18	15,3
3	A-4-13-III	DHF Grade III	3	2,5
		Total	118	100

Table 4 Cost of Patient's Treatment Based on Types of Diseases in General Hospital of Dr. Soegiri Lamongan

No	Types of Diseases	Emergency Installation (Rp) Mean	Room (Rp) Mean	Laboratory (Rp) Mean	Medication (Rp) Mean	Medical Treatment (Rp) Mean	Visits (Rp) Mean	Etc. (Rp) Mean	Total Real Cost of Hospital
1	DM	159.109	1.239.454	386.754	1.536.346	465.490	578.909	276.022	4.642.086
2	CVA	185.875	930.250	306.387	1.135.399	316.325	552.125	1.215.725	4.088.742
3	DHF	105.983	814.067	224.338	469.919	223.610	359.618	65.506	2.263.044
4	Appendicitis	132.461	657.115	483.971	1.633.961	432.692	401.923	3.883.918	7.626.043
	Total	583.428	3.640.886	1.401.450	4.775.625	1.438.117	1.892.575	5.441.171	18.619.915

Table 5 Difference in Real Cost of Hospital and INA-CBG Costs to Patients in General Hospital of Dr. Soegiri Lamongan

No	Types of Diseases	INA-CBG Cost (Rp) Mean	Real Cost of Hospital (Emergency Installation, Room, Laboratory, Medication, Medical Treatment, Visits, Etc) (Rp) Mean	Difference (Rp) Mean
1	DM	5.000.043	4.642.086	357.957
2	CVA	6.239.912	4.088.742	2.151.170
3	DHF	2.740.558	2.263.044	477.514
4	Appendicitis	4.660.832	7.626.043	-2.965.211

Table 6 Statistical Test Results Linear Regression Analysis of Cost-Accuracy of INA-CBG's of Diabetes Mellitus, CVA, DHF, Appendicitis and Influencing Factors in The Inpatient Installation General Hospital of Dr. Soegiri Lamongan

Linear Regression Analysis	**Significance**			
	Diabetes Mellitus	CVA	DHF	Appendicitis
Real Cost of Hospital with INA-CBG's Cost	0,000	0,000	0,159	0,000
Influencing Factors				
Room	0,036	0,000	-	0,222
IBS	-	-	-	0,000
Emergency Installation	0,317	0,368	-	0,047
Laboratory	0,000	0,069	-	0,499
Medication	0,000	0,000	-	0,001
Medical Treatment	0,115	0,002	-	0,696
Cost of Visits	0,001	0,000	-	0,691

DISCUSSION

Type of Disease in The Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed that in general Hospital of Dr. Soegiri Lamongan, there were four types of diseases or diagnosis most for 3 months, from 17 September to 30 November 2017. The four diseases were Diabetes Mellitus as many as 55 patients (18%), CVA as many as 80 patients (26%), DHF as many as 118 patients (39%) and Appendicitis as many as 52 patients (17%).

The results showed that most respondents were 56.4% (31 patients) suffered mild Diabetes Mellitus with Code CBG's E-4-10-I, moderate Diabetes Mellitus as many as 36.3% and severe Diabetes Mellitus as many as 7.3%.

The results showed that half of respondents 50% (30 patients) suffered mild CVA with Code CBG's G-4-10-I, moderate CVA as many as 47.5%, severe CVA as many as 2.5%. Stroke was a rapidly growing clinical sign of focal (or global) brain dysfunction that lasts 24 hours or caused death in the absence of other obvious caused other than vascular problems (World Health Organization, 2012).

The results showed that almost all respondents were 82.2% (97 patients) suffered DHF grade I with Code CBG's G-4-10-I; moderate DHF as many as 15.3% and severe DHF as many as 2.5%. The results showed that almost all respondents 88.5% (46 patients) suffered Appendicitis grade I with Code CBG's K-1-13-; moderate Appendicitis as many as 1.9% and severe Appendicitis as many as 9.5%.

Emergency Cost in Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed the Emergency cost for Diabetes Mellitus averaged 159,109; for CVA averaged 185,875; for DHF averaged 105,983; and for Appendicitis averaged 132.461 (Soegiri Hospital, 2017). The Emergency cost was the total treatment taken in the Emergency Installation, whether it was an infusion, a wound or sewing doctor's examination and other cost of treatment done in the Emergency Installation. Laboratory cost was the total cost of examination of laboratory results during hospitalization (Ratih, 2013).

The statistic test results showed the real emergency cost of hospital and INA-CBG's cost for Diabetes Mellitus of 0.317 and CVA of 0.368 which meant > 0.05, there was precision between real cost and INA-CBG's cost of emergency for Diabetes mellitus and CVA; for Appendicitis, the significance of the real emergency cost of hospital and INA-CBG's cost was 0.047, which meant there was no precision between real cost and INA-CBG's cost for Appendicitis.

Room Cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed room cost for Diabetes Mellitus averaged 1,239,454; for CVA averaged 930,250; for DHF averaged 814,067; and for Appendicitis averaged 657.115. The room cost was the fee stated on the bill as long as the patient treated in the hospital according to its class (Soegiri Hospital, 2017).

The statistical results showed that the real room cost and INA-CBG's cost for Diabetes Mellitus was 0.036; for CVA was 0.000, which meant less than 0.05, there was inaccuracy between real cost and INA-CBG's fo Diabetes Mellitus and CVA. The inaccuracy of room costs for Diabetes Mellitus and CVA was due to class differences during inpatient treatment so that the cost between class I and VVIP classes was also a differentiator. The real room cost and INA-CBG's for Appendicitis was 0.222 which meant there was precision between real cost and INA-CBG's.

Laboratory Cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed that laboratory costs for Diabetes Mellitus averaged 386,754; for CVA averaged 306,387; for DHF averaged 224,338; and for Appendicitis averaged 483,971 (Soegiri Hospital, 2017). Laboratory cost was the total cost of examination of laboratory results during hospitalization (Ratih, 2013).

The results of statistical tests showed the real cost of laboratory and INA-CBG's for Diabetes Mellitus was 0.000 which meant less than 0.05; there was an inaccuracy between the real cost and INA-CBG's for Diabetes Mellitus. The real cost for CVA and INA-CBG's was 0.069 and for Appendicitis was 0.499; which meant there was a precision between the real cost and INA-CBG's for Appendicitis.

From the research results, the researchers argued that the average cost of laboratory examination was not too high so that less influenced the real cost difference with the cost of INA-CBG's, but there were also types of diseases that required continuous laboratory examination such as Diabetes Mellitus so it required high laboratory costs and influenced the real cost and cost of INA-CBG's.

Medication cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed the medication cost for Diabetes Mellitus averaged 1,536,346; for CVA averaged 1,135,399; for DHF averaged 469,919, and for Appendicitis averaged 1,633,961 (Soegiri Hospital , 2017). The medication cost in hospitals had a large component in financing. This happened because the higher the severity, the more medication would depend on the number of comorbidities suffered by patients. This result was similar to the research conducted by Riewpalboon (2012), where the cost of pharmaceutical services and medication had a percentage of 45% of the total cost of treatment. As shown in table 7 the greater the severity of the patient the cost of medication increased.

Medical Treatment Cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed the medical treatment cost for Diabetes Mellitus averaged 465,490; for CVA averaged 316,325; for DHF averaged 223,610; and for Appendicitis averaged 432,692. The medical treatment cost was calculated by summing up the costs of oxygen use, medical action and planned therapy, and medical rehabilitation. (Indriyani, 2013). The medical treatment cost was the cost of applying infusion, injection and etc, the longer the patient was treated the medical treatment cost was also higher.

According to the statement contained in the Health Security Center of Jamkesmas Implementation Guidelines and Health Security Ministry of Health (2010), medical service or service costs were set by the Director of Hospital as high as 44% of the cost of health services. The medical services included fees for service providers in the context of observation, diagnosis, treatment, medical treatment, care, consultation, visits, or other medical services, as well as for administrators of services.

Visit Cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The results showed that visit cost for Diabetes Mellitus averaged 578,909; for CVA averaged 552,125; for DHF averaged 359,618; and for Appendicitis averaged 401,923 (Soegiri Hospital, 2017). The visit cost was the cost of doctor's visit each time to exam the patient during the patient's hospitalization. In addition to these costs, there were other costs that included the cost of radiological examination or other medical support, and the cost of surgical action was certainly for certain diseases that required surgery (Indriyani, 2013).

INA-CBG's Cost in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan

The difference cost of INA-CBG's and the real cost of hospital for Diabetes Mellitus averaged 357,957. The real cost for Diabetes Mellitus averaged 4,642,086; and INA-CBG's cost averaged 5,000,043. Only BPJS for Health was ready to guarantee almost all types of diseases, including one of the diseases that BPJS guaranteed was Diabetes Mellitus, one of the main killer diseases. Almost everyone suffered from Diabetes Mellitus because of poor diet (Soegondo, 2014).

From the research results, the researcher argued that the real cost difference and INA-CBG's for DM and DHF were not very high, and the difference in cost of CVA was high because CVA was a severe disease so the total claims were also high. The minus cost for Apendicitis occurred so that hospital should cover the shortage of these costs because Appendicitis that required surgery and some cases just needed ordinary medication.

Analyze the accuracy of INA-CBG's costs with the influencing factors in the Inpatient Installation General Hospital of Dr. Soegiri Lamongan.

The results of statistical tests in this research were divided based on each type of disease of real cost analysis and INA-CBG's for Diabetes Mellitus, CVA, DHF and Appendicitis.

1. Diabetes Mellitus

The result of statistical test showed that between the real cost of the hospital and the cost of INA-CBG's for DM, p value = 0.000; this showed a difference (not exactly) between the real cost and the cost of INA-CBG's for Diabetes Mellitus.

Factors influencing the real cost difference with INA-CBG's cost for DM were probability value less than 0.05 ($p < 0.05$) namely room cost with p value = 0.036, laboratory cost with p value = 0.000, medication cost with p value = 0.000 and visit cost with p value = 0,001. This meant room costs, laboratory costs, medication costs and visit costs for DM that influenced the difference or inappropriateness between the real cost of the hospital and the INA-CBG's cost.

2. CVA

The statistical test results showed the real cost of hospital and INA-CBG's cost for CVA, p value = 0.000. The results showed that half of respondents was 50% (30 patients) suffered mild CVA with code CBG's G-4-10-I. This showed an inaccuracy between the real cost and the cost of INA-CBG's for CVA. Based on the analysis, there was a cost difference, with the need for a deeper review to find out the source of the cost difference. But this difference in cost might actually not happen if the cause and the solution was known.

Factors influencing the difference between real cost and INA-CBG's cost for CVA were probability value less than 0.05 ($p < 0.05$) that was room cost with p value = 0.000, medication cost with p value = 0.000, medical treatment cost with p value = 0.002 and visit cost with p value = 0.000.

The results showed that the highest average component cost was medication cost and medical treatment cost for all classes, because the cost of oxygenation, medication and medical supplies/equipments that contributed to higher costs, it was assumed that the greater LOS, the oxygenation, medication and medical supplies/equipments costs were also greater. This could be caused by LOS patients of Jamkesmas relatively stay ± 10 days, probability of main cause was the general condition of patient's disease that required longer treatment in hospital and the reason mostly caused by the middle to lower socio-economic condition of patients.

The results showed that most respondents 54% (43 patients) were aged 46-65 years and most respondents 54% (43 patients) were female.

3. DHF

The results of statistical tests showed that between the real cost of hospitals and the cost of INA-CBG's for DHF, p value = 0.159. This indicated a similarity or a precision between the real cost and the cost of INA-CBG's for DHF.

The results showed that almost half of the respondents 28% (33 patients) were < 6 years old. Most respondents 55% (65 patients) were male with claim BPJS for Health with DHF case. Rainy season was usually DHF case occurred. Dengue Hemorrhagic Fever (DHF) was an infection caused by dengue virus. Mosquitoes transmitted or spread the dengue virus. Therefore, for prevention to kill mosquitoes using fogging. It also must maintain the cleanliness of the surrounding environment by preventing the existence of water puddles that could be used as a breeding ground for mosquitoes (MOH, 2016).

The results showed that almost all respondents 82.2% (97 patients) suffered DHF grade I with code CBG's G-4-10-I. The ICD code was A91 for Dengue Hemorrhagic fever (DHF). The magnitude of claims for regional C type 1 hospitals was as follows: Main diagnosis: A91 Dengue hemorrhagic fever (DHF) Secondary diagnosis: - (none)

INACBG Code: A-4-13-I mild non-bacterial infection Level 1 (without secondary diagnosis or secondary diagnosis but not influence Class 1: 2,720,200; Class 2: 2,331,600; Class 3: 1,943,000. The above tariff is based on Regulation of Ministry of Health Number 59 of 2014 standard of health service tariff in the implementation of health security program For class A and B type hospitals and level 2 and 3 of course greater claim from above mentioned. For other regional hospital would differ by the amount of the claim (PERMENKES, 2014).

4. Appendicitis

The statistic test results showed the real cost of the hospital and the cost of INA-CBG's for Appendicitis, p value = 0.000. This indicated an inaccuracy between the real cost and the cost of INA-CBG's for Appendicitis.

Factors influencing the difference between the real cost and the cost of INA-CBG's for Appendicitis were probability values less than 0.05 ($p<0.05$) namely the cost of IBS (Installation of Central Surgery) with p value = 0.000; the emergency cost with p value = 0.047 and medication cost with p value = 0,001. This meant that IBS costs, emergency cost and medication cost for Appendicitis most influenced the difference between the real cost of hospital and the cost of INA-CBG's.

The results showed that almost half of the respondents 48% (25 patients) were 21-35 years old and most of the respondents 58% (30 patients) were female. Appendicitis was inflammation of appendix vermiformis and the most frequent cause of abdominal pain. This disease could influence all ages of both men and women, but more often attacks men aged 10-30 years (Mansjoer, 2010).

The difference between INA-CBG's cost and the real cost of hospital (emergency installation, room, laboratory, medication, medical treatment, visit, etc.) for Appendicitis incidence of INA-CBG's cost difference and real cost of hospital was greater in the real cost of hospital, the average minus was 2,965,211.

The results showed that almost all respondents 88.5% (46 patients) suffered Appendicitis grade I with code CBG'sK-1-13-I. Acute appendicitis, divided into: Appendicitis acute focal or segmentalis, namely after recovering occurred local stricture and diffusing purulent Appendicitis. (Docstoc, 2010).

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

1. The highest cost component for Diabetes Mellitus averaged medication cost 1.536.346; CVA averaged medication cost 1.135.399; the highest DHF averaged room cost 814.067; and Appendicitis medication averaged cost 1.633.961.
2. INA-CBG's cost difference and real cost of hospital for Diabetes Mellitus averaged cost 357.957; CVA difference averaged cost 2.151.170; DHF difference averaged cost 477.514 and Appendicitis difference minus averaged cost 2.965.211.
3. Inaccuracy between the real cost and the cost of INA-CBG's for Diabetes Mellitus with p value = 0,000.
4. Inaccuracy between the real cost and the cost of INA-CBG's for CVA with p value = 0,000.
5. There was a similarity or precision between the real cost and the cost of INA-CBG's for DHF with p value = 0.159.
6. Inappropriateness between real cost and INA-CBG's cost for Appendicitis with p value = 0.000.

Suggestion

1. With regard to real costs being too high, there should be tariff adjustments through PERDA on INA-CBG's tariffs.

2. In the diagnosis of diseases that had minus income, there should be clinical pathway enforcement through case mix, medical committee, nursing committee.

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