

Hospital Tariff Gap With Final Claims in The Indonesian Case Base Groups (INA-CBGs) System

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Abstract — National Health Insurance is a health program organized by the Social Security Organizing Agency with a prospective payment system or package system. Payment for health services with this package system is based on a diagnosis and procedure grouping that has similar resource needs. This study is an analytical study by examining differences in hospital tariff with final claims on the INA-CBG system. Data collection was carried out by observing 100 INA-CBGs claim files in five hospitals in Central Java Province, Indonesia. Data were analyzed by Paired Sample T-test. The results of the study showed that there was a significant difference with p value < 0.001. The total hospital tariff is IDR 582,373,996.00 compared to the total claim rate in the INA-CBG system of IDR 526,431,595.00, resulting in a negative difference of IDR 55,942,371.00. The difference in tariffs reached 9.6% of the total hospital tariff. The percentage of negative difference between hospital tariff and the tariff in the INA-CBGs system is 53%, slightly more than the 47% positive difference. Most hospitals already have efficient health service management by referring to the established clinical pathway. Financial management with cross subsidies between cases with positive and negative tariff differences can help hospital operations to continue to run well. Compliance of health workers with clinical pathways and effective and efficient management of health services can help hospitals overcome losses in the National Health Insurance system.

Keywords — *Tariff, INA-CBGs, hospitals, claims, health services*

V. INTRODUCTION

The diagnosis code has a very important role in determining the cost of health services. Code diagnosis that is not qualified will cause harm to the hospital both financially and in policy making [1]. The diagnosis code is very helpful in planning patient care in the future, making detailed bill of care costs and reducing hospital management risks [2] - [5]. Claims of the cost of health services in a case mix-based system in the state of Victoria, Australia depend on an appropriate, comprehensive and timely diagnosis code. Approximately 16% of the 752 cases audited showed changes in Diagnostic Related Groups (DRGs) and caused significant hospital losses to AUD 575,300 [6]. Indonesia in its health services has implemented a case mix system with Indonesian Case Based Groups (INA-CBGs) in the National Health Insurance program (JKN) organized by the Social Security Organizing Agency (BPJS). The case mix system uses tariff grouping based on diagnosis codes according to the International Classification of Diseases and Related Health Problems 10th Revision (ICD-10) [7]. Errors in establishing the patient diagnosis code can cause changes to the INA-CBGs code so that there are differences in rates. For example, Diabetes mellitus with an Ulcer of skin coded

with E14.9 and L98.4 produces the INA-CBGs E-4-10-II code at a rate of IDR 6,617,568.00. The diagnosis code is inaccurate because Diabetes mellitus with complications of the Ulcer of skin can be coded in combination with E14.5 code so as to produce the INA-CBGs I-4-15-I code at a rate of IDR 7,575,541.00. In one such case the hospital suffered a loss of IDR 957,973.00. Previous studies have shown that the diagnosis codes at public hospitals are significantly more precise compared to specialty hospitals but the number of diagnosis codes with large types of errors at public hospitals is greater [8]. Thus, each hospital with different characteristics, has a different level of accuracy of the diagnosis code as well. In addition to the accuracy of the diagnosis code, differences in hospital characteristics such as class, type and ownership of hospitals cause differences in the determination of health service rates. The results of preliminary studies show that specialized hospitals, private hospitals and hospitals with higher classes tend to have higher rates of health services. The difference in rates between hospitals causes a gap where there are hospitals that benefit and are disadvantaged by the INA-CBGs tariff policy.

Indonesia has many hospitals with different characteristics [9]. Based on documentation studies conducted by researchers, the average percentage of inaccuracy in diagnosis codes in hospitals in Indonesia is 31.5% [10] - [19]. The average percentage of inaccuracy in the diagnosis code is still very much higher compared to hospitals abroad, which is 12.71% [3] - [6], [8]. Research on INA-CBGs claims has been done by other researchers before, but only qualitatively analyzed the large differences in claims rates based on the diagnosis code. Researchers have also conducted similar studies with the results that there is a relationship between the accuracy of the diagnosis code with the accuracy of JKN insurance claims [20]. Central Java is one of the provinces in Indonesia which has a large number of hospitals. This study aims to analyze the difference between hospital rates and INA-CBG claim rates at five hospitals in Central Java by taking into account each of their characteristics.

VI. METHOD

This research is an analytic study, which is conclusions by conducting statistical evidence as a result of research. The approach used is cross-sectional. The location used for the study was in the case mix unit at five hospitals in Central Java. The time of this research starts in April - October 2019, which starts from data collection, data processing, data analysis to making research report. The population in this study are all claim documents in case mix units in five hospitals in Central Java. The sample used in this study was obtained by using the Disproportionate Stratified Random

Sampling technique with a sample size of 100. The research instrument used by this research is the INA-CBGs Software. The method used by the author in collecting research data is observation of claim files and data grouping of INA-CBGs. The stages of data processing carried out in a study are collecting, editing, coding, tabulating and entry. Data will be analyzed with the Statistical Product and Service Solution (SPSS) 22.0 for windows computer program. The analysis in this study was used to determine differences in hospital rates with claims for INA-CBGs. The statistical test used is a Paired Sample T-test. The significance level used was 95% with a significance value $\alpha = 0.05$ (5%).

VII. RESULT

A. Flow of Health Financing System Procedures

Health financing is an important part in the implementation of the National Health Insurance (JKN). The purpose of health financing is to encourage quality improvement, encourage service across patients, encourage efficiency in not giving rewards to providers who over-treat, under-treat or perform adverse events and encourage team services. With the right financing system, it is hoped that the above objectives will be achieved [7].

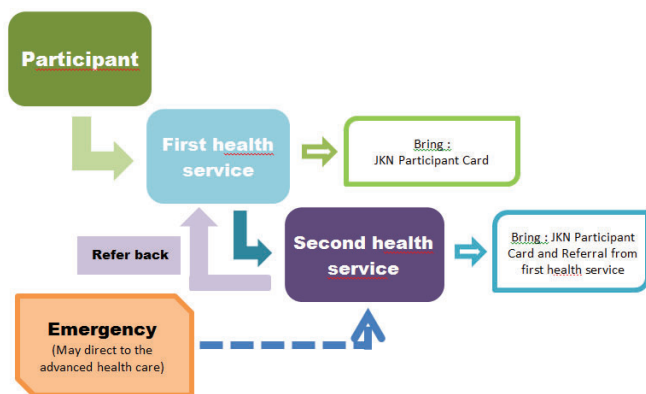


Figure 3.1 Flowchart of JKN Patient Service Procedures

The process of entering patient data into the INA-CBG application is carried out after the patient has finished receiving hospital services (after the patient is discharged from the hospital) the required data comes from a medical resume (Figure 3.2)

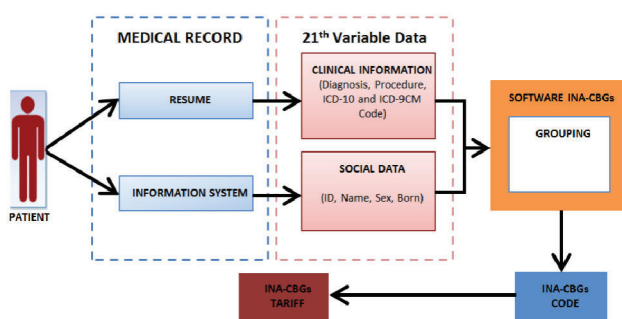


Figure 3.2 Flow of INA-CBG Software Data Entry

Health facilities submit claims every month on a regular basis no later than the 10th of the following month, except for capitation, there is no need to submit a claim by the Health Facility obliged to pay Health Facilities for services provided to participants no later than 15 working days after the claim documents are received in full at the Branch Office or Office District or City Operational Health BPJS. In the framework of implementing quality control and cost control, BPJS Health has formed a quality control and cost control team consisting of elements from professional organizations, academics and clinical experts. Then the claim verification is done (Figure 3.3)

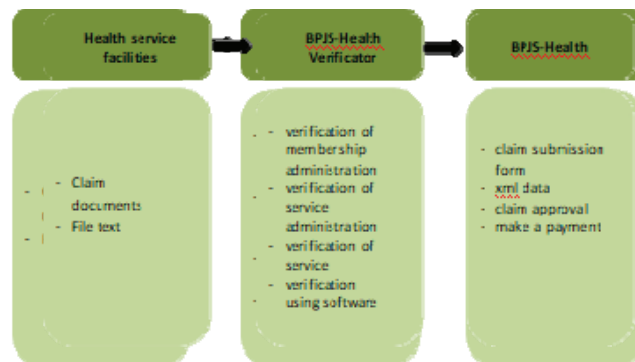


Figure 3.3 Claim INA-CBG's Verification Flow

B. Hospital Characteristics

This study uses five large hospitals in the area of Central Java Province with different characteristics. The following is a description of the characteristics of the five hospitals:

Table 3.1 Hospital Characteristics

No	Hospital	Class	Type	Ownership
1	Hospital A	B	General	Non-Government
2	Hospital B	A	Spesial	Government
3	Hospital C	B	General	Government
4	Hospital D	C	General	Government
5	Hospital E	C	General	Non-Government

Based on table 3.1 above it can be seen that of the five hospitals studied, one of them is a class A hospital (20%), two class B hospitals (40%) and the other two are class C (40%). Based on the type of hospital, there is only one specialty hospital (20%), while the rest are general hospitals (80%). Government-owned hospitals were more studied in this case (60%) compared to non-government-owned hospitals (40%) [21].

Previous studies have shown that the diagnosis codes at public hospitals are significantly more precise compared to specialty hospitals but the number of diagnosis codes with large types of errors at public hospitals is greater [8]. In addition to the accuracy of the diagnosis code, differences in hospital characteristics such as class, type and ownership of hospitals cause differences in the determination of health service rates. The results of preliminary studies show that specialized hospitals, private hospitals and hospitals with higher classes tend to have higher rates of health services. The difference in rates between hospitals causes a gap where there are hospitals that benefit and are disadvantaged by the INA-CBGs tariff policy.

C. Accuracy of Diagnosis and Action Codes

Table 3.2 Accuracy of Diagnosis and Action Codes

No	Hospital	Accuracy of the Diagnosis Code		Accuracy of the Procedure Code	
		Accurate	Inaccurate	Accurate	Inaccurate
1	Hospital A	80%	20%	85%	15%
2	Hospital B	90%	10%	90%	10%
3	Hospital C	75%	25%	85%	15%
4	Hospital D	85%	15%	90%	10%
5	Hospital E	90%	10%	85%	15%

Based on these data, each hospital has a different level of accuracy of the diagnosis code. The accuracy of the diagnosis code in five hospitals in Central Java studied was between 75% -90%, while the accuracy of the code of action was between 85% -90%. The accuracy of diagnosis codes and actions can be achieved cannot be separated from the role of the completeness of medical information needed [22]. Establishment of diagnosis codes and actions without complete or adequate supporting evidence or information cannot be claimed. This results in the accuracy of diagnosis codes and actions being a very important factor in the claims of INA-CBGs [1] - [5]. As in previous studies that the complexity of diagnosis also affects performance on Korean Diagnostic Related Groups (KDRGs) [23]. The more secondary diagnoses that can be coded, the higher the complexity. This was greatly influenced by doctors in making comprehensive medical records [24].

D. Results of Analysis of Differences in Hospital Rates and Claim Rates for INA-CBGs

Differences in Rates Based on Hospital Characteristics
The description of hospital rates compared to INA-CBGs claim rates at five hospitals (Table 3.3)

Table 3.3 Analysis of Differences in Hospital Rates and Claim Rates for INA-CBGs

Hospital	Hospital Tariff	Tariff Gap		p
		INA-CBGs Claim Tariff	Tariff Gap	
Hospital A	129,873,800	108,530,100	-21,343,700	<0.001
Hospital B	66,843,194	105,867,800	39,024,606	
Hospital C	141,323,197	139,527,050	-1,796,147	
Hospital D	55,640,977	59,705,045	4,064,068	
Hospital E	188,692,798	112,801,600	-75,891,198	
Total	582,373,966	526,431,595	-55,942,371	

Each hospital has set a tariff for each health service provided. In table 3.3 it can be seen that all hospitals experience a difference between hospital tariffs and INA-CBG claim rates. The difference is positive and negative means that there are hospitals that benefit, but there are hospitals that suffer losses. The total hospital tariff is IDR 582,373,996.00 compared to the total claim rate in the INA-CBG system of IDR 526,431,595.00, resulting in a negative difference of IDR 55,942,371.00. The total negative difference is Rp. 55,942,371.00. The difference in tariffs reached 9.6% of the total hospital rates. If analyzed on each claim, the percentage of claims with a negative difference between hospital rates and rates on the INA-CBGs system was 53%, slightly more than 47% positive difference. This shows that the number of negative and positive differences is almost the same.

Based on the analysis of differences using the Paired T-Test $p < 0.001$, which means there is a significant difference between hospital tariffs and INA-CBGs claim rates. Most hospitals already have efficient health service management by referring to the established clinical pathway. Financial management with cross subsidies between cases with positive and negative tariff differences can help hospital operations to continue to run well. Compliance of health workers with clinical pathways and effective and efficient management of health services can help hospitals overcome losses in the National Health Insurance system.

VIII. CONCLUSION

Hospital rates and claim rates for INA-CBGs statistically have significant differences (<0.001). The total hospital tariff is IDR 582,373,996.00 compared to the total claim rate in the INA-CBG system of IDR 526,431,595.00, resulting in a negative difference of IDR 55,942,371.00. The difference in tariffs reached 9.6% of the total hospital rates. The percentage of negative differences between hospital rates and the rates in the INA-CBGs system is 53%, slightly more than the 47% positive difference. Most hospitals already have efficient health service management by referring to the established clinical pathway. Financial management with cross subsidies between cases with positive and negative tariff differences can help hospital operations to continue to run well. Compliance of health workers with clinical pathways and effective and efficient management of health services can help hospitals overcome losses in the National Health Insurance system.

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