

## Analysis of Medical Record Completeness Factors on The Realization of Claims of COVID 19 Inpatients in Rsud Dr Chasbullah Abdulmadjid Kota Bekasi

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### ABSTRACT

The Covid-19 Global Pandemic was established by the WHO on March, 12 2020, and even now the number of Covid-19 cases are still growing. The Covid-19 patient's claim found on KMK Guideline number HK.01.07/MENKES/238/2020 at 6<sup>th</sup> April 2020 about the technical instruction of payment compensation of the Nursing of Patients with Certain Emerging Infectious Diseases for the hospital that provides Covid-19 services. The low number of verified Covid-19 patient's claim did not match with the submitted number. The purpose of this research is to find any relation between medical record completeness towards the realization of Covid-19 patient's payment claim and the most influential factor to the fulfilment of the Guideline of claim. The research was done by using quantitative approach with the retrospective cohort study, and by using secondary data from the medical record data of the Covid-19 patient in the hospitalization on March – May 2020. Data was obtained from the combination of SIMRS, Casemix and medical services that became a population of 278 medical record data sample. Statistic test was done gradually that contained of univariate analysis, bivariate, and multivariate with multiple logistic regression test. The result of this research shows that there was a valuable relation between age, Covid-19's status, diagnose, comorbid, and DPJP A/D towards the Covid-19 patient's claim, the most powerful factor was the DPJP A/D that the obedience DPJP towards medical record.

### Keywords

Covid-19 claim, Medical record, DPJP A/D.

### Prelude

Corona Virus Disease 2019 (Covid-19) was first reported on December 31, 2019 in China. Institute and Research experts from the Chinese Center for Disease Control and Prevention stated that they had collected isolation samples from patients, indicating the presence of Corona virus infection, a new type of beta corona virus, named 2019 novel Corona virus (2019-nCoV). The name of the corona virus was first revealed by Chinese researchers, the incident originated from one of the seafood markets or live markets in Wuhan City, Hubei Province, China [1,2].

The World Health Organization (WHO) on March 12, 2020 declared the Covid-19 outbreak a Global Pandemic condition. The Central Government issued Presidential Decree Number 11 of

2020 concerning the Determination of Public Health Emergency for Corona Virus Disease (COVID-19) on March 31, 2020 and Presidential Decree Number 12 of 2020 concerning Determination of Non-Natural Disasters for the Spread of Corona Virus Disease 2019 (COVID-19) as The National Disaster on April 13, 2020, has become a concern for all hospitals to maintain the continuity of the hospital's duties and functions in providing services to the community, especially the Covid-19 case.

This claim financing applies to patients who are treated in hospitals that provide certain Emerging Infectious Diseases services, including Covid-19 patients. Decree of the Minister of Health number HK.01.07 / MENKES / 238/2020 dated April 6, 2020 and Circular of the Minister of Health Number HK.02.01 / MENKES / 295/2020 Regarding Technical Instructions for Claims for Reimbursement of Care Costs for Patients with Certain Emerging Infectious Diseases [3,4], as a guideline for the Central Government, Provincial Government, City.

Regency Regional Government, Health Social Security Administering Bodies (BPJS), and Hospitals that provide Covid-19 services can propose an exemption from Covid-19 treatment fees which apply retroactively and determine the patient starting treated since January 28, 2020, in accordance with the stipulation of a Disaster Emergency in Certain State. Coronavirus Outbreaks in Indonesia by the National Disaster Management Agency (BNPB). The claim expiration period is 3 months after the status of the pandemic / outbreak is revoked by the Government [4].

To overcome the Covid-19 outbreak which concerns health services for patients suspected of being infected with the Corona virus, the Government has established several referral hospitals for Covid-19 Infectious Diseases based on the Decree of the Minister of Health. Dr Chasbullah Abdulmajid Hospital as a referral hospital based on the Decree of the Governor of West Java Number: 445 / Kep.186-Dinkes / 2020 concerning the Designation of Referral Hospitals for Certain Emerging Infectious Diseases in West Java on March 17, 2020 [5]. Meanwhile, at the City level, it was designated as the main referral hospital for handling Covid-19 in Bekasi City through the Decree of the Mayor of Bekasi Number 440 / Kep 171-Dinkes / III / 2020 [6-8].

The research objective is to explain the effect of medical records on the number of claims of Covid-19 patients according to the Decree of the Minister of Health Number: HK.01.07 / MENKES / 238/2020. The benefits of this study are to obtain an overview of the characteristics of human resources for medical and non-medical personnel and complete medical record data for Covid-19 patients in hospitalization, and to obtain information on the magnitude of the influence of medical record data on the realization of claims of COVID-19 patients at dr. Chasbullah Abdulmajid Hospital.

The scope of this study is the medical record data of Covid-19 patients in March - May 2020 and the management of submitting claims for Covid-19 patients at the CAM Hospital. The criteria for Covid-19 patients that can be claimed are as follows: cases of PDP patients and confirmation based on age <60 and> 60 years old hospitalized, doctor consultation, laboratory supporting examinations, radiology, COVID-19 status, conditions of how to go home, diagnosis, comorbid and number of claims who passed (in accordance) and dispute.

## Research Method

This study uses a quantitative method with analytic descriptive analysis, to describe and explain the relationship between the independent variable and the dependent variable. The data source used was secondary data, so the research design used a retrospective cohort study, namely data on all visits of Covid-19 patients who were hospitalized who received health services at dr. Chasbullah Abdulmajid Hospital since March - May 2020. Research time was July - August 2020. All populations were 278 medical records. The data is obtained from the SIMRS application, service data, and data from Casemix. Furthermore, data analysis is carried out in stages, namely: univariate to determine the frequency distribution

of the variables, Bivariate to see the relationship between variables using the chi Square statistical test, while multivariate uses multiple logistic regression analysis.

## General Description

Dr. Chasbullah Abdulmajid Hospital is a hospital owned by the Bekasi City Government that was founded in 1939, has been a type B hospital since 1997 and has fulfilled the 2016 Plenary Accreditation and has the status of a BLUD. Special handling services for Covid-19 patients are provided with isolation rooms and 119 beds, with 154 human resources until August 2020.

## Research Results and Discussion

### Univariate Analysis

**Table 1:** Description of the frequency distribution of the Independent and Dependent variables, as follows:

Variable	Category	Amount	%
Age	<60 years	224	80,6
	>60 years	54	19,4
Patient Sex	Male	141	50,7
	Female	137	49,3
Additional Diagnosis	Complete	97	34,9
	Not Complete	181	65,1
COVID-19 Status	Confirmed	129	46,4
	Not Confirmed	149	53,6
Inpatient	Cured	247	88,8
	Not Cured	31	11,2
Diagnose	COVID	221	79,5
	NON COVID	57	20,5
Comorbid	Yes	60	21,6
	No	218	78,4
Claim A/D	Accepted	122	43,9
	Disputed	156	56,1
Medical Doctor C/A	DPJP Children	24	8,6
	DPJP Adult	254	91,4
Staff Sex	Male	37	13,3
	Female	42	15,1
Staff Age	< 35 year	53	19,1
	> 35 year	26	9,4
Staff Working Year	< 3 year	39	14,0
	> 3 year	40	14,4

In the table above, the results of the analysis are based on: most patient age data is age <60 years 80.6%, most data on the sexes are male 50.7%, most supporting examination data is incomplete 65.1%, most data on COVID-19 status Not confirmed 53.6%, most data on how to go home healed 88.8%, most data on diagnosis of COVID-19 79.5%, most Comorbid data was not available as much as 78.4%, most Claims data Disputed 56.1%, medical doctor data most adult medical doctor as much as 91.4%, most data on gender of human resources were women, data on age of most human resources was <35 years, data on length of work for most HR was > 3 years. For further analysis: the variables of age of human resources, gender of human resources and length of work of human resources were not subjected to a bivariate test because there were only 79 samples of human resources.

**Table 2:** Analysis of the relationship between Independent Variables and Dependent variables, as follows:

Variable	Category		Claim A/D		OR	P value
			ACCEPTED	DISPUTED		
AGE	<60 Year	n	104	120	1,733	0,112
		%	46,4%	53,6%		
	>60 Year	n	18	36	0,929 - 3,234	
		%	33,3%	66,7%		
SEX	MALE	n	58	83	0,797	0,414
		%	41,1%	58,9%		
	FEMALE	n	64	73	0,496 - 1,281	
		%	46,7%	53,3%		
ADDITIONAL DIAGNOSIS	COMPLETE	n	38	59	0,744	0,302
		%	39,2%	60,8%		
	NOT COMPLETE	n	84	97	0,450 - 1,228	
		%	46,4%	53,6%		
COVID STATUS	CONFIRMED	n	82	47	4,754	0,000
		%	63,6%	36,4%		
	NOT CONFIRMED	n	40	109	2,856 - 7,915	
		%	26,8%	73,2%		
INPATIENT	CURED	n	107	140	0,815	0,731
		%	43,3%	56,7%		
	NOT CURED	n	15	16	0,386 - 1,722	
		%	48,4%	51,6%		
DIAGNOSA	COVID	n	113	108	5,580	0,000
		%	51,1%	48,9%		
	NON COVID	n	9	48	2,611-11,923	
		%	15,8%	84,2%		
COMORBID	YES	N	33	27	1,772	0,070
		%	55,0%	45,0%		
	NO	N	89	129	0,996 - 3,151	
		%	40,8%	59,2%		
Medical Doctor C/A	Medical Doctor CHILDREN	N	3	21	0,162	0,002
		%	12,5%	87,5%		
	Medical Doctor ADULT	N	119	135	0,047 - 0,557	
		%	46,9%	53,1%		

Conditions: If P value <0.05: Reject Ho

If P value > 0.05: Failed to reject Ho

### Bivariate Analysis

In the table above: the results of the analysis of the relationship between the independent variables, namely: age, gender, supporting examinations, how to return and comorbid patients with the COVID-19 claim variable, obtained the statistical test results P value > 0.05 means failure to reject Ho means there is no significant relationship. While the results of the analysis of the relationship between the independent variables, namely: COVID-19 status, diagnosis and DPJP A / D with the COVID-19 claim variable, the results of the statistical test p value <0.05 means that Ho reject means there is a significant relationship.

### The relationship between COVID-19 status and claims

The results of the analysis of the relationship between COVID-19 status and COVID-19 claims that passed verification with confirmation status were 63.6%, which turned out to be much higher than PDP status, which was only 26.8%. Meanwhile, the status of the dispute which was dispute was 36.4% smaller than the status of the PDP which disputed was 73.2%. The results of the COVID-19 status statistical test had a significant effect

on COVID-19 claims with an OR = 4.754 and P-value = 0.001, meaning that the effect of confirmation status was 4.7 times on the success/passing of COVID-19 claims.

### The relationship between diagnosis and claims

The results of the analysis of the relationship between COVID-19 diagnoses and claims that passed verification were 51.1% higher than non- COVID-19 diagnoses, only 15.8% who passed verification. Meanwhile, the diagnosis of disputed COVID-19 was 48.9% smaller than the diagnosis of non-COVID-19 which was 84.2%. The results of the diagnostic statistical test had a significant effect on COVID-19 claims with an OR = 5,580 and P-value = 0,000, which means that the effect of COVID-19 diagnosis was 5.5 times on the success/escape of COVID-19 claims.

### Medical Doctor C/A relationship with claims

The results of the analysis of the relationship between Medical Doctor C/A and COVID-19 claim that passed verification found that 46.9% of Adult Medical Doctor passed verification was higher than Medical Doctor Children, only 12.5%. Meanwhile, for

the dispute, the Medical Doctor for children was 87.5% and the Medical Doctor for adults was 53.2%. The results of the Medical Doctor C/A statistical test had a significant effect on COVID-19 claims with an OR = 0.162 and P-value = 0.002.

### Multivariate Analysis

Multivariate analysis using multiple logistic regression test, the next variable is the value of P value <0.25. The results of bivariate analysis on variables that have a value of P value <0.250 are: patient age, COVID-19 Status, Diagnosis, Comorbid and Medical Doctor C/A variables. These variables are then included in the multivariate analysis as follows:

**Table 3:** Bivariate Selection Included in the Multivariate Analysis.

Variable	P value	Notes
Age	0,112	Model Accepted
Sex	0,414	Model Not Accepted
Additional Diagnosis	0,302	Model Not Accepted
Covid-19 Status	0,000	Model Accepted
Inpatient	0,731	Model Not Accepted
Diagnosis	0,000	Model Accepted
Comorbid	0,070	Model Accepted
Medical Record C/A	0,002	Model Accepted

Testing by comparing the probability value ( $\rho$ -value) with probability ( $\alpha$ ) 0.05. If the probability value ( $\rho$ -value)  $\leq 0.05$ , then H1 is accepted and H0 is rejected or there is a significant effect of the independent variable on the dependent variable partially.

**Table 4:** Analysis of the Relationship Between Variables on Failed COVID-19 Claims.

	B	Sig.	Exp(B)	95% C.I.for EXP(B)	
				Lower	Upper
Age	-0,840	0,018	0,432	0,215	0,867
Covid-19 Status	-1,195	0,000	0,303	0,171	0,536
Diagnosis	-0,954	0,028	0,385	0,164	0,904
Comorbid	-0,780	0,022	0,458	0,234	0,896
Medical Doctor C/A	1,408	0,034	4,090	1,109	15,07
Constant	2,377	0,000	10,77		

From the results of the table, it illustrates that the interpretation of the possible success of the claims of COVID-19 patients in dr. Chasbullah Abdulmadjid Hospital, that Medical Doctor C/A can influence the decision to pass verification of medical record claims by 4.090 times than medical records that do not pass verification.

Can be concluded that:

- Whereas the influence of the Medical Doctor C/A variable will give the decision to pass verification by 4.090 times than the medical records that do not pass, so that each addition of 1 unit of Medical Doctor C/A value will add 4 times to each successful medical record verification;
- The possibility of the influence of the age variable will give a decision to pass verification by 0.432 times the medical records that do not pass;
- The possibility that the influence of the COVID-19 status variable will give a decision to pass verification by 0.303 times the medical records that do not pass;

- The possibility of the influence of the diagnostic variable will give a decision to pass verification by 0.385 times the medical records that do not pass;
- The possibility of the influence of the comorbid variable will give a decision to pass verification by 0.458 times the medical records that do not pass.

From all variables, it can be seen that the Beta (B) value is the greatest in the Medical Doctor C/A variable, this shows that it has the greatest effect on the failure of the Covid-19 claim, compared to other variables.

### Discussion

#### Medical Doctor C/A

The results of this study indicate that the Medical Doctor C/A variable plays a very important role in determining whether or not the completeness of the medical record data of COVID-19 patients is passed according to the results of multiple logistic regression analysis. It is stated that the role of Medical Doctor C/A will be 4 times greater in the success of the claims of Covid-19 patients than the variables of age, COVID-19 status, diagnosis and comorbid.

In accordance with Law No. 29 of 2004 concerning Medical Practice, Article 46 paragraph (1) Every doctor or dentist in carrying out medical practice is obliged to make medical records. (2) The medical record as intended in paragraph (1) must be completed immediately after the patient has received health services.

Whereas the role of a doctor in enforcing a diagnosis of COVID-19 or non-COVID-19 should be in accordance with the guidelines for handling COVID-19 patients or SOPs and in the hospital a service flow SOP and SOP for handling COVID-19 disease dated March 2, 2020, have been recorded since ODP patients were first recorded on outpatients. DPJD compliance with Clinical Practice Guidelines (PPK) and implementing COVID-19 handling protocols properly and correctly, the completeness of medical record data will be fulfilled properly, of course it will support the realization of claims for COVID-19 patients in accordance with the technical guidelines KMK No. 238 of 2020.

#### COVID-19 claims

The determination of the Coronavirus Disease 2019 (COVID-19) as a certain emerging infectious disease because it has caused an epidemic and a public health emergency as well as world health. Covid-19 not only causes death but also causes economic, social, cultural and environmental losses. The cost of controlling the COVID-19 epidemic is borne by the State in accordance with the Minister of Health Regulation No.59 of 2016 concerning the exemption of fees for certain emerging infectious disease patients and the determination of referral hospitals that provide Covid-19 services to receive reimbursement of patient care costs by submitting claims in accordance with the provisions in KMK No.238 / 2020. Based on this stipulation, dr. Chasbullah Abdulmadjid Hospital submitted a claim for COVID-19 in March - May 2020 and has filed a dispute again with the BPJS-Ministry of Health and the results were obtained in September, as follows:

**Table 5:** Verification Results of Covid-19 Claims for March - May 2020.

CLAIM VERIFICATION RESULT COVID-19				
Month	Accepted	%	DISPUTE	%
MARCH	293.650.000	50,85	283.810.000	49,15
APRIL	4.636.500.000	59,21	3.194.500.000	40,79
MAY	1.752.950.000	54,22	1.480.025.000	45,78
TOTAL	6.683.100.000	57,41	4.958.335.000	42,59
	<b>6.775.100.000</b>		<b>5.509.210.000</b>	

Based on: Researcher Data, August 2020

Description claims value in Table 5 that have passed (according to) verification, and after the process of submitting further verification, there was an increase in March to April, although there was a slight decrease in May, but in general the total claims paid were greater than the pending claims (disputed). With the opportunity to re-submit medical records, the Dispute provides an opportunity for the RSUD Casemix Team to complete and fulfil the requirements according to the technical claims set by the Ministry of Health.

### Conclusion

The multivariate analysis summary model shows the relationship between Medical Doctor C/A and the success of claims after being controlled by age, COVID-19 status, diagnosis and comorbid variables, the value of R square = 0.258, meaning that the Medical Doctor C/A variable can explain 25.8% of the COVID-19 claims variable. And there are  $(100\% - 25.8\% = 74.2\%)$  74.2% there are variables or other factors that are not researched which can explain the COVID-19 claim variable in Dr. Chasbullah Abdulmadjid Hospital.

Analysis of the completeness factor of the medical record on the realization of COVID-19 Claims at the dr. Chasbullah Abdulmadjid Hospital in 2020 is Medical Doctor C/A with an OR of 4.090 after controlling for variables age, COVID-19 status, diagnosis and comorbid.

### Suggestion

a) For Patient Service Managers

1. Make policies regarding medical personnel, especially DPJP, regarding compliance with the Clinical Practice Guidelines (PPK)

and Clinical Pathways so that the accuracy of the patient's disease diagnosis is in accordance with the services provided so that it can increase the success of claims.

2. Increase strengthening of DPJP officers, nurses, midwives and administrators as well as supporting services to always be disciplined in completing patient medical record documents.

b) For the Head of Planning

Recording and reporting of medical records by application can be integrated with several services ranging from patient registration to patient discharge, both outpatient and inpatient, in order to make it easier for the Case Mix Team to carry out internal verification before submitting claims to BPJS or private insurance.

c) For Further Research

It is hoped that we can examine more deeply the factors that influence claims for Covid-19 or other infectious diseases, by developing research on other factors that can affect the success of the claim.

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