COVID-19 Purchasing: Policy Brief Series-3

Comparison of Costs for COVID-19 Treatment in Indonesian Hospitals

INTRODUCTION

"**COVID-19 treatment costs are costly, and it does not even include vaccination,"** said Sri Mulyani, Indonesian Finance Minister, on COVID-19 costs that dominated the government's expenditures (Merdeka 2022). The government's spending by the Ministry of Health (MOH), which is utilized chiefly for tackling COVID-19, increased twice, from IDR102.1 trillion in December 2020 to IDR 204.9 trillion in 2021 (Ministry of Finance Indonesia 2021a, 2022). Considerably high hospital charges for COVID-19 treatment have been raising concerns not only among patients but also among public officials. For example, Banjarnegara Regent, Budhi Sarwono, asserted his concern of high hospital charges for COVID-19 treatments (Fahmi 2021). Due to rising Delta variant cases in 2021, he thought the hospital intentionally increased charges by approximately IDR6.25: IDR10 million per day. The government would eventually pay these claims.

Considering COVID-19's novelty, there is a need to probe hospitals' costs for treating COVID-19 patients and the amount charged to the patients or claimed to the government. This is needed to avoid the likelihood of moral hazards enacted by health providers.

The USAID Health Financing Activity (HFA) and MOH's Center of Health Financing and Decentralization Policy (Pusat Kebijakan Pembiayaan dan Desentralisasi Kesehatan/Pusjak PDK) conducted a study on COVID-19 treatment practices and costs to estimate the total cost of treating COVID-19 in 2020. The study was used to produce evidence on the cost of COVID-19 treatment to inform health financing policy decisions at the national level.

This policy brief highlights the difference between hospital charges and costs incurred by COVID-19 patients by calculating the surplus generated and the cost-to-charge ratio (CCR) during the pandemic's peak in 2020.

METHODOLOGY

This study utilizes a mixed model, which combines primary data collection of COVID-19 hospital charges and secondary data on hospital costs collected from hospital costing data.

Data on hospital charges were collected from 2,245 COVID-19 patients via a survey conducted between August and November 2020 in 33 hospitals (public and private) located in nine provinces: North Sumatera, Special Capital Region of Jakarta, Banten, Special Region of Yogyakarta, Central Java, East Java, South Kalimantan, South Sulawesi, and Papua. Three cities and regencies were selected from these provinces as samples based on their fiscal capacities issued by the Ministry of Finance and the number of COVID-19 cases (Ministry of Finance Indonesia 2021b). The primary data collection comprised information on patients' sociodemographics, symptoms experienced by COVID-19 patients, primary and secondary diagnoses, discharge status, and hospital claims for COVID-19 treatment. In addition, patients' severity levels were analyzed and disaggregated as mild, moderate, high, and critical. This categorization was based on hospitals' definition of severity level.

Meanwhile, costing data were collected from 48 public and private hospitals across nine provinces to calculate the total **cost incurred by health facilities** to provide service for COVID-19 patients in **one episode** of care. The data consisted of inventories, human resources for health (HRH), and outpatient visits gathered from the **provider's perspective**.

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The difference between claims and costs was calculated using the CCR to assess the gap between costs and charges for COVID-19 treatments (Asper 2013; Robinson et al. 2014).

FINDINGS

CLAIMS AND COSTS OF COVID-19 TREATMENTS

Table 1 shows the average charges and costs of COVID-19 treatments by hospital ownership, regions, case severity level, and operational classification. For example, public hospitals had slightly higher charges (US$17,618) and costs (US$1,276) compared to private hospitals (US$17,559 and US$1,205, respectively). This can be attributed to most public hospitals being referral hospitals. Variance in claims and costs were also found between COVID-19 case severity levels. For instance, patients with critical conditions had the highest charges and costs, while patients with mild severity levels had the lowest hospital charges and costs. Patients with critical conditions needed particular treatments, rooms, drugs, and non-pharmaceutical interventions, such as a central venous catheter and continuous pulmonary arterial pressure,[1] which incurred higher care costs.

The results also show variations in charges and costs by geographical area. For example, charges of COVID-19 were found to be highest in Central Java (US$ 23,954) than in other parts of Indonesia. This could be an outlier from COVID-19 claims. Meanwhile, the most increased cost was found in East Java (US$1,505.95) due to the anomaly of two patients with extended stays of more than 100 days.

It is also worth noting that hospitals in Java (Banten, Special Capital Region of Jakarta, Central Java, Special Region of Yogyakarta, and East Java provinces) had relatively higher charges compared to hospitals located outside of this region. This is because many A- and B-classified hospitals are concentrated in Java. A- and B-classified hospitals are likely to have higher hospital charges as they have more advanced facilities, better equipment, and more specialist physicians employed.

By contrast, the costs of COVID-19 treatments were higher in hospitals outside Java. This is because of the limited availability of medical consumables and drugs which generates higher prices for these items.

Finally, in terms of operational components of the hospitals, the highest charges and costs were observed for treatment requiring drugs as opposed to other treatment components. Considering COVID-19's novelty, it required an intensive utilization of antiviral medication and antibiotics for up to ten days or more.

Table 1. Average claims and costs of COVID-19 treatments by hospital ownership, region, case severity level, and classification in International $[2]

	Claims (Int$) (n= 48)	Costs (Int$) (n=33)
Hospital ownership		
Public	$17,618	$1,276
Private	$17,559	$1,205
Regions (province)		
North Sumatera	$16,703	$377.52
Banten	$17,794	$629.00

[1]Based on the Nominal Group Process on COVID-19 treatment on February 10, 2021.

[2]Based on OECD's international dollar conversion rate of US$1=IDR4,675.67 (https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm).

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Special Capital Region of Jakarta	$18,650	$925.26
Central Java	$23,954	$584.17
Special Region of Yogyakarta	$23,740	$1,295.23
East Java	$13,431	$1,505.95
South Kalimantan	$9,389	$906.22
South Sulawesi	$17,003	$1,152.43
Papua	$11,827	$1,233.60
Severity level		
Mild	$13,806	$590
Moderate	$15,677	$1,064
High	$20,136	$1,340
Critical	$20,735	$1,968
Operational components		
HRH	$412.02	$122.85
Consumables	$325.53	$206.42
Medtech	$337.27	$201.21
Drugs	$456.74	$314.28

VARIATIONS BETWEEN COSTS AND CLAIMS OF COVID-19 TREATMENTS

We conducted a CCR analysis which calculated the surplus (costs subtracted from charges) to confirm that hospitals had overcharged for COVID-19 treatments. The smaller the CCR, the more significant the gap between hospital expenses and fees, which implies that hospitals overcharged claims to the patients and the government.

Table 2 indicates the average surplus and CCR of COVID-19 treatments by hospital ownership, region, case severity level, and classification. The results show no differences among public or private hospitals but all other variables are of interest. For instance, treatment for patients with mild and critical severity levels was claimed to be higher than for those with moderate and high severity levels. Other examples include higher HRH charges than other operational components. Furthermore, claims also varied by region. In particular, North Sumatera, Central Java, and East Java. As a result, COVID-19 charges in North Sumatera and Central Java were higher than those in East Java.

Table 2. Average surplus and CCR of COVID-19 treatments by hospital ownership, region, case severity level, and operational components

	Surplus (Int$)	CCR
Hospital ownership		
Public	$16,342	0.07
Private	$16,354	0.07
Regions (province)		

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North Sumatera	$16,326	0.02
Banten	$17,165	0.04
Jakarta	$17,724	0.05
Central Java	$23,370	0.02
Yogyakarta	$22,445	0.05
East Java	$11,925	0.11
South Kalimantan	$8,483	0.10
South Sulawesi	$15,850	0.07
Papua	$10,594	0.10
Severity level		
Mild	$13,216	0.04
Moderate	$14,613	0.07
High	$18,797	0.07
Critical	$18,767	0.10
Operational components		
HRH	$289.17	0.37
Consumables	$119.10	0.71
Medtech	$136.07	0.60
Drugs	$142.46	0.69

CONCLUSION AND RECOMMENDATIONS

Overcharging for COVID-19 Treatment by Hospitals

The surplus and CCR results show hospitals' unnecessary overcharges and costs of COVID-19 treatment during the pandemic's peak in October 2020. This situation potentially led to morally hazardous behaviors exhibited by providers to charge higher claims to patients and the government. It also implies an unnecessary burden on the government's finances, which could be allocated for other priority health programs.

Geographical variation of CCR also reflects that different regions could impose separate charges for the same treatment. Other factors such as transportation costs and availability of resources are leading causes of variance in COVID-19 charges.

Overcharging for COVID-19 Treatment by Severity Level

The CCR results show that patients with mild conditions were overcharged more than moderate and high severity cases. This implies that there were unnecessary treatments given to those with mild conditions.

The results highlight the importance of calculating a case-based group (CBG) tariff for COVID-19 treatment, especially when the disease epidemiology evolves from pandemic to endemic.

The Minister of Health Decree No. 5673 of 2021 regarding new tariffs on COVID-19 treatments corrected the suspicion of high surpluses generated from COVID-19 cases; therefore, formulating the average tariff into a CBG was the correct solution as it created public savings and induced hospitals to be aware of openness and transparency.

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