

Research Article

Financial Risk Management Analysis of the Use of Health Services During the COVID-19 Pandemic

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Abstract.

COVID-19 has had many negative impacts on society. One of them is the impact on the economy in the healthcare sector, namely hospitals. Transmission through direct contact with a sprinkling of phlegm from infected people (through coughing and sneezing) and touching a surface contaminated with the virus made the Indonesian government enforce the Stay at Home policy. This led to reducing the number of BPJS patient visits at the hospital at the beginning of the COVID-19 pandemic. The reduced number of BPJS patient visits had the effect of decreasing hospital income. This is in line with the decrease in outpatient and inpatient income at the Muhammadiyah University General Hospital of Malang from 2019 to 2020 by 14% and 13%, respectively. This study uses Chaos Theory, where hospital revenues from patient visits are reduced unpredictably due to the ongoing COVID-19 pandemic. The method used in this research is a qualitative descriptive method. The results of the data analysis showed that the number of patient visits at UMM Hospital increased in the second year of the COVID-19 pandemic in 2021.

Keywords: COVID-19, hospital, risk management, financial, BPJS

1. INTRODUCTION

Service facilities and financial support for the fulfillment of guarantees for the implementation of public health are one of the responsibilities of the state. Health is built in order to provide protection and legal certainty to providers and recipients of health services (1) Citizens human rights to health are recognized based on the fifth principle of the Pancasila philosophy. In addition, it is stated in Article 28H, 34 of the 1945 Constitution (2) In Law No. 36 of 2009 concerning Health, it is stated that everyone has the same rights in obtaining safe, quality, affordable health (3)

Corona Virus Disease 2019 (Covid-19) has a negative impact on public health and economic conditions, including health care facilities such as hospitals. Based on global

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distribution data from the WHO from 223 countries with 179,686,071 confirmed cases of Covid-19, the death toll was 3,899,172. On June 25, 2021, Indonesia had 2,072,867 positive cases of Covid-19, 1,835,061 recovered, 56,371 deaths. provide Covid-19 services. In the context of the continuity of these services, in accordance with the Decree of the Minister of Health (KMK) Number HK.01.07/Menkes/1112/2022 concerning Technical Instructions for Claims for Reimbursement for Covid-19 Patient Service Fees, the financing of patients being treated with Covid-19 is guaranteed by the Ministry of Health through the Director General of Health Services (4) The Directorate General of Health Services noted that around 2,654 out of 3,014 hospitals throughout Indonesia provided services for COVID-19 patients. The Ministry of Health has budgeted the payment of Covid-19 claims to hospitals in 2021, amounting to Rp23.94 trillion. Payments that have been made in the 2020 service month are worth IDR 5.6 trillion, payments made for the 2021 service month are IDR 10.53 trillion.(5)

The Covid-19 virus has infected millions of people around the world. The burden on hospitals is also getting higher in providing services to Covid-19 patients. The Covid-19 pandemic has affected hospital operations. For Covid-19 referral hospitals, the soaring number of patients being treated at the hospital has disrupted cash flow. This is because the advance paid to the hospital (10-50 percent) is no longer sufficient for operational costs (6)The problem of disputed claims and there is no clarity on when the Covid-19 pandemic will end also causes anxiety for health service facilities in managing cash flow. The Covid-19 pandemic has also had an impact on non-referral Covid-19 hospitals. The outbreak has led to a decrease in outpatient and inpatient visits for non-Covid-19 patients. This condition resulted in a decrease in the occupancy rate. Decreased income has an impact on the hospital's cash flow. Disrupted cash flow causes the hospital's operating expenses to increase. If this condition continues, the hospital will be in danger of collapse and services will stop.

Muhammadiyah University General Hospital of Malang as a COVID-19 referral hospital since April 9, 2020. This is based on Governor's Decree Number 188/157/KPTS/013/2020. Various efforts have been made to provide optimal service to Covid-19 patients. Several health care facilities experienced problems such as a decrease in income and the number of visits, resulting in difficulties in carrying out operational activities. Based on data on outpatient and inpatient visits at the University of Muhammadiyah Malang Hospital in 2018 as many as 78,679 and 6,563 patients, outpatient and inpatient visits in 2019 as many as 105,631 and 8,533 patients, outpatient and inpatient visits in 2020 as many as 99,922 and 7,368 patients, outpatient and inpatient visits in 2021 were 106,145 and 7,597 patients, respectively. Therefore, further

studies are needed about the impact of the Covid-19 pandemic on the attention and visits of BPJS Health patients and how to maintain patient visits to remain stable in the era of the Covid-19 pandemic.

2. MATERIALS AND METHODS

This study is descriptive research, with secondary data. Secondary data was taken from the claim submission documents inpatients and outpatients at the Muhammadiyah University General Hospital of Malang between January 2018 to Desember 2021. Data were analyzed descriptively by displaying tables to provide information. This research was conducted at the Muhammadiyah University General Hospital of Malang in August 2022. This study did not use a population and research sample. It was carried out by comparing the data of patient before and during pandemic COVID-19 with the literature.

3. RESULTS

Muhammadiyah University General Hospital of Malang cooperates with BPJS Health and several private insurance companies. In this article, the researcher only provides an explanation of data about claims to BPJS Health. The data can be seen in the table below:

TABLE 1: Number of patient during January 2018 until December 2021.

Year	Inpatient	Outpatient	Total
2018	6,563	78,679	85,242
2019	8,533	105,631	114,164
2020	7,368	92,236	99,604
2021	7,597	106,145	113,742

TABLE 2: INACBG's cost during January 2018 until December 2021.

Year	Inpatient (IDR)	Outpatient (IDR)	Total (IDR)
2018	34,569,322,000	20,694,100,500	55,263,422,500
2019	44,549,393,700	29,249,705,900	73,799,099,600
2020	39,641,780,700	28,683,017,000	68,324,797,700
2021	47,702,448,000	32,679,497,800	80,381,945,800

Before the Covid-19 Pandemic, in 2018 there were 85,242 patients with a total claim of Rp 55,263,422,500, then in 2019 there were 114,164 patients with a total claim of Rp 73,799,099,600. This number increased by 34% from 2018. However, in 2020, the year the Covid-19 pandemic hit Indonesia, number of patient decreased 13%, and also

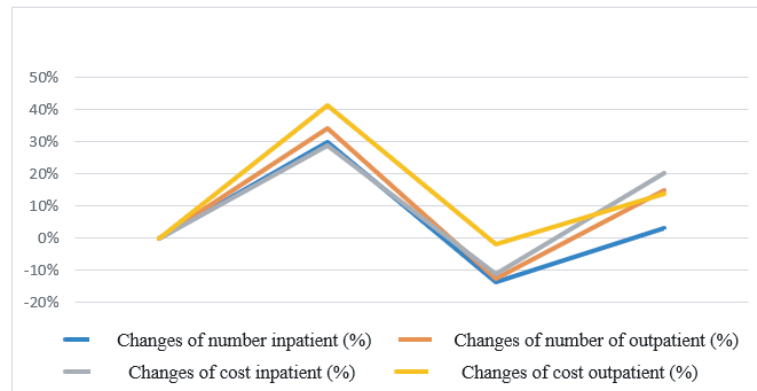


Figure 1: Changes in claims BPJS Health during 2018-2021.

decreased of income form INACBG's cost by 7%. The claim will increase again in 2021, which is as many as 113,742 patients with a total of Rp 80,381,945,800.

4. DISCUSSION

The results of the research at Muhammadiyah University General Hospital of Malang obtained data that from 2019 to 2020 there was a decrease in inpatients by 14% and outpatients by 13%. Thus, based on patient visit data in 2019 and 2020, there was a decrease of 13% from 114,164 to 99,604. This is in accordance with Nurwahyuni's research, 2021 which states that there is a decrease in the number in Hospital X, namely 55.63% from 2019 to 2020. (7) The decline in the number of patients is due to changes in the process of health services, for example the number of patients is limited so that the crowd is reduced. and there are precautionary standards to control the virus. Covid-19 spreads quickly with transmission through the air so that between patients it is necessary to have a distance of 1-2. Since the virus has now been found in the air away from affected patients, there has been a move to study the spread of short- and long-term respiratory particles containing live virus in hospital rooms. If airborne transmission increases the risk of a COVID-19 cluster, the healthcare environment requires strategies to reduce transmission between staff and patients. (8) The existence of telemedicine services is also the cause of the decline in BPJS Health patient visits to hospitals. Health care facilities, especially hospitals, have seen an increase in visits due to Covid-19. Public concerns about the state of the surrounding environment have caused the government to open up opportunities for health service facilities to provide telemedicine services to limit in-person visits. Telemedicine services also help hospitals in reducing the workload of health workers. This is used by the community so that direct visits to the hospital are reduced. (9) With the rapid increase in work from home and telehealth, it is increasingly

reducing patient attention to coming to the hospital, although experts say the need for digital security is greater. (10)

The decrease in the number of patients at the General Hospital from 2019 to 2020 affects the amount of claim revenue. Hospital revenue due to reduced patient visits is unpredictable due to the ongoing COVID-19 pandemic. The covid pandemic is a disaster that wreaks havoc on the policies that have been arranged at the Muhammadiyah University General Hospital of Malang. The chaos made Muhammadiyah University General Hospital of Malang inevitably change policy patterns such as health services and patient restrictions according to the new government policy standards during the COVID-19 pandemic. This is closely related to the chaos theory which is a coincidence, randomness and irregularity.(11) Policies such as changing health care patterns and patient restrictions have resulted in a decrease in patients. This is certainly a new problem for Muhammadiyah University General Hospital of Malang namely a decrease in the amount of income. Hospital revenue due to reduced patient visits is unpredictable due to the ongoing COVID-19 pandemic. (12) From 2019 to 2020, the total inpatient and outpatient income of Muhammadiyah University General Hospital of Malang decreased by 11% and 2%, respectively. However, in 2021 the number of inpatient and outpatient visits at Muhammadiyah University General Hospital of Malang will increase compared to 2020. Inpatients will increase by 3% and outpatients by 15%. This shows that the decline in patients due to changes in health services and restrictions on patients at the Muhammadiyah University General Hospital of Malang is not enough to affect the number of patient visits.

The year of 2020 is a crisis for the world, including Indonesia due to the Covid-19 pandemic. The hospital sector is one of the impact of the world economic crisis. (13) The higher hospital burden is inversely proportional to the decreasing number of BPJS patients at Muhammadiyah University General Hospital of Malang, which causes hospital revenues to also decrease significantly in 2020. In addition, Muhammadiyah University General Hospital of Malang is one of the Covid-19 referral hospitals, which of course requires costs in the treatment of Covid-19 patients. Hospitals need to meet the requirements of isolation rooms, prepare oxygen therapy and intensive care with ventilators and other components of the relatively high cost of care.

In addition, since becoming a Covid-19 referral hospital, Muhammadiyah University General Hospital of Malang has certainly become one of the places with a very high risk of virus transmission. This causes people to be afraid to go to hospital for treatment. In addition, in connection with the determination of Covid-19 as a Public Health Emergency Of International Concern (PHEIC) as a global pandemic by WHO,

and in accordance with the policy of the President of the Republic of Indonesia dated March 15, 2020 to deal with the impact of the spread of Covid-19, and referring to Government Regulation Number 21 In 2020 regarding Large-Scale Social Restrictions in the Context of Accelerating the Handling of Corona Virus Disease 2019 (COVID-19), the Malang City Government then also implemented the implementation of Large-Scale Social Restrictions (PSBB) in the Malang City area which was intended to limit activities and movement of community activities in an effort to Control and handling of Covid-19 through Malang Mayor Regulation Number 17 of 2020, so that people reduce their activities outside the home. Patients also reduce their visits to the hospital because they are more aware of contracting other viruses which will result in them going home with new diseases that they did not previously suffer from. This is in line with a survey conducted by MarkPlus, Inc. in Prameswari (2021) involving 110 respondents, 71.8% admitted that they had never visited a hospital or clinic since the Covid-19 outbreak. (14) Meanwhile, before Covid-19 hit, 31.8% of respondents admitted to visiting the hospital at least once a year. As many as 64.5% of respondents prefer to recover their health independently by resting and consuming healthy food.

This problem certainly has implications for the continuity of hospital operations. The hospital also feels that the reduction in the number of patients is a major obstacle that must be faced, because the income has decreased drastically so that the hospital has difficulty carrying out its operations. As a result of declining hospital income, cash flow is disrupted, while operating expenses are increasing. If the hospital does not implement a strategy in responding to this, the hospital's operations will be completely hampered. (15) Thus, Muhammadiyah University General Hospital of Malang needs to carry out a strategy of rapid change during the Covid-19 pandemic so that it does not collapse in the midst of the crisis. Because for hospitals, positive financial margins make it possible to invest in facility upgrades, maintenance of new tools and technologies, and to build reserves to meet unforeseen expenses or revenue shortfalls.

However, in 2021 the number of inpatient and outpatient visits at Muhammadiyah University General Hospital of Malang will increase compared to 2020. Inpatients will increase by 3% and outpatients by 15%. This shows that the decline in patients due to changes in health services and patient restrictions at the Muhammadiyah University General Hospital of Malang is not enough to affect the number of patient visits. The chaos that occurred in 2020, became a new goal for the General Hospital to find an order during the chaos caused by the Covid-19 pandemic. We tried to get up to increase visits. It can be seen in 2021 that the number of patient visits at Muhammadiyah University

General Hospital of Malang has increased again. This affects the total income of the hospital with an increase of 20% inpatients and 14% outpatients.

The strategies were implemented to increase patients, namely regulating human resource management, optimizing superior services, increasing outpatient visits and elective surgery. (16) This is in accordance with the Agency for Healthcare research report which states that the most elective admissions in hospitals are in orthopedic and cardiac surgical procedures, which are also excellent services for hospitals. Hospitals need to study their assets as an effort to optimize infrastructure and length of treatment during the pandemic. Support from the Health Office and government agencies is very much needed for the continuity of hospital operations.(17) Hospitals also need to reform payments related to cost policies and increase cooperation with private insurance companies, BPJS Health and companies. This is particularly important because financially insecure hospitals may be less able to invest in COVID-19 response efforts, and disparate financial strains can exacerbate differential outcomes for resource-poor hospitalized patients.(18) The regulation of the government is needed to increase public confidence in health service facilities. Government policies regarding the volume, cost and risks that occur in health services are needed as an effort for hospitals to formulate regulations according to their respective capabilities.(19) Hospitals need to innovate to accelerate health services, some of which are registration queues and drugs. Based on Gao's research, 2020, it was stated that during the Covid-19 period, patients felt anxious when they were in the hospital because of the large queues causing the potential for crowding with asymptomatic Covid-19 patients.(20)

5. CONCLUSION

The Covid-19 pandemic caused a decrease in the number of patients by 13% and BPJS Health claim income by 7%. The hospital's strategy to increase patient visits is collaboration and coordination between management, health workers, public health office and external institute. Hospitals are required to improve the quality and safety of patients in an effort to maintain patient belief so that the number of patient was stable. This research can be developed further by comparing the claims of BPJS Health and Covid-19.

References

- [1] Ekonomi Kesehatan Indonesia J, Ambarwati W, Kesehatan Madya A, Kesehatan KK. Pembiayaan Pasien COVID-19 dan Dampak Keuangan terhadap Rumah Sakit yang Melayani Pasien COVID-19 di Indonesia Analisis Periode Maret 2020-Desember 2020
- [2] COVID-19 Patient Payment and Financial Implication on Hospitals Serving COVID-19 Patients in Indonesia.
- [3] UNDANG-UNDANG DASAR NEGARA REPUBLIK INDONESIA TAHUN 1945 DALAM SATU NASKAH.
- [4] No UU. 36 Tahun. Tentang Kesehatan; 2009.
- [5] kmk-no-hk0107-menkes-4641-2021-ttg-panduan-pelaksanaan-pemeriksaan-pelacakan-karantina-isolasi-dalam-pencegahan-covid-19.
- [6] Kementerian KR. Pembayaran Klaim RS yang Menangani COVID-19 Berjalan Lancar. 2021. pp. 1–2., kemkes.go.id
- [7] Nosih Saturwa H, Aziz Ahmad A. The impact of Covid-19 pandemic on MSMEs. *Jurnal Ekonomi dan Bisnis* [Internet]. 2021;24(1):65–82. Available from: www.ejournal.uksw.edu/jeb
- [8] Giusman R, Nurwahyuni A, Indonesia U, Masyarakat K, Depok K, Barat J. Evaluasi Pelayanan Rawat Jalan RS X Melalui Segmenting, Targeting Positioning Evaluation of Hospital Outpatient Services Through Segmenting, Targeting Positioning.
- [9] Dancer SJ. Reducing the risk of COVID-19 transmission in hospitals: focus on additional infection control strategies. <https://doi.org/10.1016/j.mpsur.2021.10.003>.
- [10] Bruni T, Lalvani A, Richeldi L. Telemedicine-enabled accelerated discharge of patients hospitalized with COVID-19 to isolation in repurposed hotel rooms. *Am J Respir Crit Care Med*. 2020 Aug;202(4):508–10.
- [11] Hospitals forecast declining revenues, lower procedure volumes and greater telehealth adoption due to COVID-19 [Internet]. 2020. Available from: <https://www.hfma.org/topics/hfm/2020/august/hospitals-forecast-declining-revenues-lower-procedure-volumes.html>
- [12] Nur MI, Marzuki I. EVALUASI PENDIDIKAN NASIONAL ERA PANDEMI BERSANDAR PADA CHAOS THEORY. *Tadarus Tarbawy*. 2(2).
- [13] Nosih Saturwa H, Aziz Ahmad A. The impact of Covid-19 pandemic on MSMEs. *Jurnal Ekonomi dan Bisnis* [Internet]. 2021;24(1):65–82. Available from: www.ejournal.uksw.edu/jeb

- [14] Clark AE, D'Ambrosio C, Lepinteur A. The fall in income inequality during COVID-19 in four European countries. *J Econ Inequal*. 2021;19(3):489–507.
- [15] Survei Markplus_ Masyarakat enggan mengunjungi rumah sakit sejak pandemi Covid-19.
- [16] Kilaru AS, Lee K, Snider CK, Meisel ZF, Asch DA, Mitra N, et al. Return Hospital Admissions Among 1419 COVID-19 Patients Discharged from Five U.S. Emergency Departments. *Acad Emerg Med*. 2020 Oct;27(10):1039–42.
- [17] covid-strategy-update-14april2020.
- [18] Kilaru AS, Porges SB, Grossman L, Delgado MK, Morgan AU, Chaiyachati KH, et al. An accelerated hospital observation pathway to reduce length of stay for patients with COVID-19. *Am J Manag Care*. 2022 Jun;28(6):262–8.
- [19] Yim KM, Yim RM, Gaspard S, MacDougall J, Armstrong AW. Strategies to maximize clinical efficiency while maintaining patient safety during the COVID-19 pandemic: an interview-based study from private practice dermatologists. *J Dermatolog Treat*. 2022 May;33(3):1503–6.
- [20] The 2 key ways to improve patient flow during Covid-19.
- [21] Gao Y, Sun F, Jiang W, Fang Y, Yue L, Lin X, et al. Beliefs towards the COVID-19 pandemic among patients with emotional disorders in China. *Gen Psychiatr*. 2020 Jun;33(3):e100231.