

# INPATIENT CARE UTILIZATION AFTER JKN: A STUDY CASE IN EAST NUSA TENGGARA

*Pemanfaatan Layanan Rawat Inap Setelah JKN: Studi Kasus di Nusa Tenggara Timur*

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## Abstract

**Background:** Healthcare utilization is a predictor of health status among the population. The issues of its accessibility and equity have been raised, particularly after the government launched JKN (Jaminan Kesehatan Nasional).

**Aim:** This study aims to analyze the determinants of inpatient care utilization in East Nusa Tenggara.

**Method:** We used SUSENAS 2019 dataset and carried out descriptive and econometrics analysis to covariates including age, gender, educational level, type of health insurance, employment status, and type of residence.

**Result:** We found that all covariates analyzed were statistically significant in affecting the probability of inpatient care utilization ( $p$ -value $<0.005$ ). Different patterns of sociodemographic factors among people in East Nusa Tenggara will affect their rate of inpatient care utilization.

**Conclusion:** Inpatient care utilization rate is crucial to measure health accessibility and prevent any aggravated morbidity due to delayed treatment. Strategies to increase inpatient care utilization are needed to provide accessible treatment for all and increasing population health status.

**Keywords:** East Nusa Tenggara, health utilization, hospitalization, inpatient care

## Abstrak

**Latar Belakang:** Pemanfaatan layanan kesehatan merupakan salah satu determinan dalam memprediksi status kesehatan pada populasi. Isu terkait aksesibilitas dan ekuitas kesehatan menjadi topik hangat terlebih setelah pemerintah mengimplementasikan JKN (Jaminan Kesehatan Nasional).

**Tujuan:** Studi ini bertujuan untuk menganalisis determinan utilisasi layanan rawat inap di provinsi Nusa Tenggara Timur.

**Metode:** Peneliti menggunakan data SUSENAS 2019 dan melakukan analisis deskriptif serta ekonometri pada variabel usia, jenis kelamin, tingkat pendidikan, tipe asuransi kesehatan, status pekerjaan, dan tempat tinggal.

**Hasil:** Peneliti menemukan bahwa seluruh variabel secara signifikan berdampak pada probabilitas pemanfaatan layanan rawat inap di Nusa Tenggara Timur (nilai  $p<0.005$ ). Perbedaan pola faktor sosiodemografi akan mempengaruhi tingkat pemanfaatan layanan rawat inap.

**Kesimpulan:** Tingkat utilisasi layanan rawat inap adalah hal yang krusial untuk mengukur aksesibilitas kesehatan dan mencegah morbiditas yang diperparah karena penanganan yang terlambat. Strategi untuk meningkatkan tingkat utilisasi dibutuhkan untuk menyediakan perawatan yang dapat diakses oleh masyarakat dan meningkatkan derajat kesehatan masyarakat.

**Kata kunci:** Nusa Tenggara Timur, pemanfaatan layanan kesehatan, rawat inap

## Introduction

Since health is one part of individual human rights, its accessibility and utilization become a crucial issue. Healthcare utilization is determined by whether people need and want care, as well as access of care (National Academies of Sciences, 2018). Health accessibility includes several dimensions, such as approachability, acceptability, availability

and accommodation, affordability, and appropriateness (Pullyblank *et al.*, 2023). If health accessibility is usually discussed from a provider perspective, its utilization on the other hand is analyzed from a patient or consumer aspect. The issues about health utilization are raised since accessibility of services does not ensure the rate of its utilization being optimum.

Andersen's model describes several factors which influence healthcare

 Indonesian Journal of Health Administration (Jurnal Administrasi Kesehatan Indonesia)  
p-ISSN 2303-3592, e-ISSN 2540-9301, Volume 12 No.1 2024, DOI: 10.20473/jaki.v12i1.2024.120-128.  
Received: 2023-02-22, Revised: 2024-04-18, Accepted: 2024-06-17, Published: 2024-06-26.  
Published by Universitas Airlangga in collaboration with Perhimpunan Sarjana dan Profesional Kesehatan Masyarakat Indonesia (Persakmi).  
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How to cite:  
Rahvy, A. P. And Gani, A. (2024) "Inpatient Care Utilization After JKN: A Study Case in East Nusa Tenggara", *Indonesian Journal of Health Administration*, 12(1), pp. 120-128. doi: 10.20473/jaki.v12i1.2024.120-128.

utilization, such as predisposing factors, enabling factors, and illness level or need factors (Alkhalaf *et al.*, 2023). Predisposing factors include traits which are pre-exist in individuals such as age, sex, beliefs or faiths, and other demographic factors. Enabling factors such as income, health insurance coverage, and health accessibility make it possible for individuals to seek and utilize health services. Meanwhile, illness levels or need factors are often reflected in perceived illness felt by patients and evaluated illness examined by health professionals.

Inpatient care is defined by OECD as formally admitted to hospitals or other health facilities to get treatment and stays for a minimum one night (*OECD Glossary of Statistical Terms - In-patient care*). It is often associated with the risk of out-of-pocket payment and catastrophic health expenditure, as a study in Indonesia found that inpatient care tended to contribute the most to high OOP spending among households (Manafe *et al.*, 2021; Maulana *et al.*, 2022).

Jaminan Kesehatan Nasional or JKN is a social health insurance established by the Indonesian government in 2014. Aiming to provide universal health coverage for all citizens, JKN has become the largest national health insurance in the world with more than 220 million citizens and 27 thousand healthcares included in the scheme. JKN plays an important role in ensuring access to health services with certain types of membership based on income and employment status. Formal workers are registered to JKN by the employers, while those categorized as poor and near-poor are included in Subsidized Contribution Recipients or *Penerima Bantuan Iuran* (PBI) (Maulana *et al.*, 2022). JKN has covered treatment for diseases and drugs listed in Indonesia Case Based Groups (INA CBG's) and Formularium Nasional (Fornas)

East Nusa Tenggara (NTT) consists of many islands such as Flores, Sumba, and Timor with 22 regions. It is one of the provinces in Indonesia with low healthcare utilization rate for both inpatient and outpatient care, as well as primary and

secondary healthcare (Ramadani *et al.*, 2021). Although nearly 60% of people in NTT had JKN, statistics report found that more than 70% of people did not go to healthcare and received treatment in 2021 (Manafe *et al.*, 2021). Most of them preferred to cure themselves, indicating issues in utilizing professional healthcare despite the availability of care and JKN. Therefore, this study aims to analyze factors related to healthcare utilization focusing on inpatient care in East Nusa Tenggara after JKN implementation.

## Method

This study uses SUSENAS 2019 dataset to conduct econometric analysis using logit regression. This study included 51,754 individual observations in East Nusa Tenggara. We conducted logistic regression to find the best model which defines the inpatient care utilization. Outcome variable in this study is the likelihood of inpatient care utilization, which varies between 0 and 1. Utilization of inpatient care is influenced by many factors: demographic factors, socioeconomic factors, health service-related factors, factors related to individual health status, and health insurance-related factors (Azimzadeh *et al.*, 2019).

We carried out analysis on other covariates such as type of residence (urban or rural), age group, gender, employment (formal or informal), type of health insurance owned, and education. We divided the health insurance types into private insurance, regional insurance (*Jamkesda*), JKN non-PBI (*Peserta Bantuan Iuran*), and JKN PBI. JKN PBI is a type of JKN membership which premium paid by the government. Age variable in this study was divided into five groups: group 1 (0-5 years), group 2 (6-11 years), group 3 (12-25 years), group 4 (26-65 years), and group 5 (above 65 years). We also grouped education variable based on its level, which were elementary school, junior high school, senior high school, and diploma/bachelor degree or higher. The empirical model for this study is as follows.

$$\text{Inpatient\_i} = \beta_0 + \beta_1\text{insurance} + \beta_2\text{age} + \beta_3\text{gender} + \beta_4\text{employment} + \beta_5\text{education} + \beta_6\text{residence} + \text{uit}$$

The model explains that inpatient utilization is defined by independent variables including residence, age, gender, employment, education, health insurance ownership, and any other factors that are not included in this study. The confidence interval used in this study was 95%.

## Result and Discussion

### Population Characteristics

Analyzing the proportion of each category in independent variables, we found that most respondents lived in urban areas with the proportion of 83% compared to rural areas. Furthermore, the proportion of gender and employment type were relatively similar with almost 50% proportion for male and female as well as formal and informal work. The highest percentage of the age group was detected at 25-65 years old (43%), indicating the high proportion of the productive age group. Most respondents finished elementary school as their highest educational level (44%). Respondents were highest categorized in JKN PBI for their health insurance ownership (47.83%). But surprisingly, the proportion of people with no insurance was the second highest, reaching 32%. The detailed result of descriptive statistics test is shown in Table 1.

### Econometric analysis

We conducted logit regression analysis to see how the probability of inpatient care utilization is affected by several factors. The result of logit test is shown in Table 2. Using rural areas as reference, we noted that those who lived in urban areas were more likely to access inpatient care 1.152 times. Male respondents were also less likely to access care with odds ratio 0.649 compared to females. When using productive age (25-65 years) as the reference group, the younger age of respondents had lower probability to get inpatient care except for those who were 0-5 years, but the odds ratio was not

statistically significant. People who were 65 years or older tended to access inpatient care 1.354 times compared to those in productive age.

Moreover, we also found that informal workers had less probability (0.538 times) to access inpatient care rather than formal workers. When we examined the influence of education level on inpatient care utilization, we noted that the higher the last educational level was, the higher the probability of getting inpatient care. People who graduated from senior high school or higher education were 1.2 times more likely to access inpatient care, although the p-value for junior high school level was not significant. Health insurance also affected the rate of inpatient care utilization. Those who were insured had higher probability to get treatment in inpatient care. The highest odds ratio was found in JKN non-PBI, but in general all types of health insurance increased the chance of utilizing inpatient care although the odds ratio of private insurance was not statistically significant.

## Discussion

This study endeavors to achieve deeper understanding related to inpatient care utilization factors in Nusa Tenggara Timur using econometric analysis on Susenas 2019. We discovered that type of residence, gender, age group, employment status, education level, and type of health insurance influenced inpatient care utilization rate.

Most people in Nusa Tenggara Timur (NTT) received inpatient care in public hospitals (39.2%) and primary healthcare (36.76%) (Manafe et al., 2021). This study found that residential status of individuals affected their utilization of inpatient care. Since NTT is mainly divided into three big islands, the accessibility of inpatient care may be varied between one region and another. This is supported by Wulandari et al. (2022) in that disparities of inpatient care in urban-rural settings exist. People who live in urban areas might have better utilization due to better quality of care (Johar et al., 2019).

Table 1. Population characteristics

	Variables	Obs.	%
Residence	Urban	43,137	83%
	Rural	8,617	17%
Gender	Male	26,082	50%
	Female	25,672	50%
Age	0-5 years	6,367	12%
	6-11 years	7,386	14%
	12-25 years	12,972	25%
	26-65 years	22,045	43%
	>65 years	2,984	6%
Employment	Formal	29,488	57%
	Informal	22,266	43%
Education	Elementary school	22,975	44%
	Junior high school	7,717	15%
	Senior high school	8,280	16%
	Diploma until Postgraduate	3,675	7%
Health insurance	No insurance	16,572	32.02%
	Private insurance	92	0.18%
	Regional insurance	4,227	8.17%
	JKN non-PBI	5,199	10.05%
	JKN PBI	24,756	47.83%

Table 2. Logit regression result

	Variables	Coefficient	Odds Ratio
Residence	Urban	0.141*	1.152*
	Rural (reference)	-	-
Gender	Male	-0.433*	0.649*
	Female (reference)	-	-
Age	0-5 years	0.027	1.027
	6-11 years	-1.237*	0.290*
	12-25 years	-0.805*	0.447*
	26-65 years (reference)	-	-
	>65 years	0.303*	1.354*
Employment	Formal (reference)	-	-
	Informal	-0.619	0.538*
Education	Elementary school (reference)	-	-
	Junior high school	-0.009	0.991
	Senior high school	0.241*	1.272*
	Diploma until Postgraduate	0.303*	1.355*
Health insurance	No insurance (reference)	-	-
	Private insurance	0.472	1.603
	Regional insurance	0.604*	1.829*
	JKN non-PBI	0.952*	2.592*
	JKN PBI	0.741*	2.099*

Cons: -2.972, Pseudo R<sup>2</sup>: 0.047

Confidence Interval: 95%, \*: significant p-value &lt;0.005

The gap between human resources availability in NTT is also reflected by the shortness and unequal distribution of health professionals. The ratio of physicians in NTT was 2.4 per 10,000 citizens, far below the 1:1000 ratio recommended by the WHO. Kupang, the capital city of NTT, has 9:10,000 doctor ratio while Timor Tengah Selatan with similar number of residents has only 1.6 doctors per 10,000 population. We highlighted that 36.76% inpatient care was utilized in primary healthcare, but at the same time 10 regions or almost half of the regions in NTT did not have any doctor in some primary care facilities ("Ministry of Health," 2021). This indicates the huge gap of health professional availability which may lead to the inequalities of inpatient care utilization within NTT regions. Moreover, this might be the reason why people in rural areas have to spend more time and cost to access health services (Laksono *et al.*, 2019).

Sociodemographic factors such as educational level and income in urban areas might also be one step ahead compared to rural, and again influencing the gap of inpatient care utilization rate. As it is critical to ensure the quality and accessibility of care regardless geographical barriers, efforts made to tackle urban-rural disparities are no exception.

Age is one factor that influences the utilization of inpatient care (Anwar and Pujianto, 2022). Older adults are found to have higher chances of hospitalization. This might be due to the increased risk of morbidity among elderly (Hassan *et al.*, 2022). This is also supported by a statistical report by the regional government of NTT that more than 48% of elderly reported any health issues which might be due to biological aging (Bland, 2018; Manafe *et al.*, 2021). The high proportion of elderly who suffered from any kind of illness should get attention from government, since their illness may lead to a more chronic condition which requires even more cost. Strengthening the health program for the elderly as a prevention strategy from being sick is important to maintain or even increase their quality of life.

Nevertheless, the same report also stated that children below five years old were the second highest group with any health issues report. Although our study did not result in a significant value of children's odds ratio, it is important to acknowledge the risk of several health issues which are commonly found in children such as respiratory system and digestive system diseases which may influence their hospitalization rate (Feng *et al.*, 2019).

Furthermore, this study also discovered that males had a lower possibility to access inpatient care, which might be due to the lower proportion of males with health issues reported (Manafe *et al.*, 2021). Females are also more likely to utilize different types of health services, such as maternal care during childbearing age. The regional health report of NTT showed that most women aged 15-49 years old had labor in healthcare facilities (89.27%), indicating the better access of maternal care. However, results from a systematic review found that women's autonomy to access healthcare was sometimes influenced by men as they were considered as decision-makers in the family (Idris *et al.*, 2023). Women whose husbands had higher education level were more likely to have better autonomy to access healthcare, while another study in Nigeria found that women whose husbands worked tend to less likely decide their own healthcare (Osamor and Grady, 2018). This indicates the existence of socio-cultural and gender-related variables which may affect the decision of getting inpatient care.

Employment type is found significant to influence the probability of inpatient care in this study. Informal workers are less likely to utilize inpatient care compared to formal ones (Naicker *et al.*, 2021). This is presumably caused by the lack of social protection to access healthcare, as medical costs and opportunity lost due to being hospitalized prevent informal workers getting treatment (Lee and Di Ruggiero, 2022). After the JKN implementation, informal workers were aware of the importance of health insurance (Siswoyo *et al.*, 2019). However, the same study also identified the reasons why informal workers delayed their JKN ownership, which



included not fully understanding the mechanism of JKN and already had private health insurance. Another previous study by Muttaqien *et al.* (2021) also found that, based on 2016 survey, the average willingness and ability to pay informal workers was below the premium of JKN. The same study also highlighted the uncertain income and needs of informal workers, which made them stop paying for national health insurance or JKN. Ensuring the coverage of JKN to informal workers is crucial so that they can access health services and maintain their productivity.

Education is often discussed as a predisposing factor of accessing healthcare. The presence of educated family members is significantly associated with skilled delivery care utilization (Tesfaye *et al.*, 2019). Education plays an important role in providing knowledge, although it is not the only source people can attain to get knowledge related to health treatment. In our study, we found that the higher the educational level, the more likely they were to utilize inpatient care. People with higher education might have better knowledge and attitude of their health status, making them more aware of perceived illness they feel thus leading them to access healthcare.

Interestingly, prior study in Indonesia also found that educational inequalities were found larger in inpatient care utilization compared to primary care (Mulyanto *et al.*, 2019). Our study supported the argument that different educational level may play a huge role in individual's choice of receiving inpatient care. As most respondents in NTT were graduated from elementary school as their last educational level, the government should maximize other potential sources besides formal schools as a way to carry out health education and health promotion.

The type of insurance ownership was found significant in this study. People who are not insured have less protection from financial risk due to medical and non-medical costs of inpatient care. Having either private, regional, or national health insurance like JKN will significantly help them to utilize proper treatment whenever they need inpatient care. A study

conducted in America also proved that health insurance would increase outpatient, inpatient, and emergency care utilization (Farrell and Gottlieb, 2020). Patients are usually scared of not being able to afford the cost after getting treatment in health services, which forces them to delay treatment and worsen their condition. But the problem of "cost" does not only exist for medical cost only. A study by Erlangga *et al.* (2019) found that JKN increased the probability of getting inpatient care for both the PBI and Non-PBI group. However, the probability gap between these two groups was huge, as the contributory group would be more likely to use inpatient care, 8.2%, while the subsidized group only had 1.8% more probability when both groups were compared to those without JKN ownership. The assumption behind these phenomena is that the opportunity cost they will lose if they are hospitalized and the risk of impoverishment in lower socioeconomic groups are crucial predictors of inpatient care utilization.

Nevertheless, the availability and ownership of JKN in Indonesia are also facing barriers in achieving Universal Health Coverage (UHC). Although JKN has been proven to increase the healthcare utilization rate nationally, the Eastern part of Indonesia was still lacking of service availability which resulted in lower rate of service use, insurance claims, and out-of-pocket spending (Pratiwi *et al.*, 2021). Therefore, increasing the national health insurance coverage rate and securing its equity by managing healthcare based on supply and demand will become a real changer for those from low and middle socioeconomic status.

This study has limitations. We used SUSENAS 2019 which reflected the socioeconomic status of households and individuals before the pandemic, and, consequently, did not capture any change to health utilization rate after the pandemic era. The inpatient care utilization was also not divided by patient provider types. Moreover, we analyzed the probability of inpatient care utilization using a single choice of every health insurance type and excluded the possible mix of more than one insurance type. As the proportion of mixed

types of health insurance ownership was very low, we believed that it would not affect the overall result significantly.

## Conclusion

Inpatient care utilization rate is crucial to measure health accessibility and prevent any aggravated morbidity due to delayed treatment. Age, gender, employment status, type of residence, educational level, and type of health insurance owned are significantly impacting the probability of using inpatient care in East Nusa Tenggara. Since getting proper treatment for every citizen is a part of human rights, it is important to intervene in the issues related to the barriers of utilizing inpatient care in East Nusa Tenggara. Government needs strategies to ensure access as well as equity of inpatient care across all sociodemographic determinants of the population. Overcoming geographical barriers in East Nusa Tenggara might be difficult, but the availability of inpatient care in all regions should be a top priority. With almost 60% of JKN coverage in East Nusa Tenggara in 2019, the government may need to prioritize the increase of national health insurance coverage, in line with healthcare accessibility, so that the community will be able to access inpatient care without feeling afraid of being poor due to hospitalization.

## Abbreviations

JKN: *Jaminan Kesehatan Nasional*; (National Health Insurance Program) PBI: *Penerima Bantuan Iuran*; SUSENAS: *Survei Ekonomi Sosial Nasional*; NTT: *Nusa Tenggara Timur*; INA CBG's: *Indonesia Case Based Groups*; Fornas: *Formularium Nasional*; *Jamkesda*: *Jaminan Kesehatan Daerah*; Universal Health Coverage (UHC)

## Declarations

### Ethics Approval and Consent Participant

This research does not require applicable ethics approval and participant consent.

## Conflict of Interest

The authors declare that there are no significant competing financial, professional, or personal interests that might have affected the study.

## Availability of Data and Materials

Data and material research can be provided at open data repository like OSF or by upon request to corresponding author.

## Source of Research Funding

There is no source of research funding.

## Authors' Contribution

APR conceptualized the study; APR and AG created the methodology; APR wrote, reviewed, and edited the manuscript; AG reviewed the overall manuscript.

## References

- Alkhalwaleh, A. *et al.* (2023) 'Application and Use of Andersen's Behavioral Model as Theoretical Framework: A Systematic Literature Review from 2012–2021', *Iranian Journal of Public Health* [Preprint]. Available at: <https://doi.org/10.18502/ijph.v52i7.13236>.
- Anwar, M.N. and Pujiyanto, P. (2022) 'Analysis of Socioeconomic Factors on Healthcare Facilities Utilization for Inpatient Care in Indonesia', *PREPOTIF: Jurnal Kesehatan Masyarakat*, 6(1), pp. 696–709. Available at: <https://doi.org/10.31004/prepotif.v6i1.3265>.
- Azimzadeh, S. *et al.* (2019) 'Effective Factors of Utilization of Inpatient, Outpatient, Diagnostic, and Pharmaceutical Health Services: A Systematic Review', *Galen Medical Journal*, 8, p. e1236. Available at: <https://doi.org/10.22086/gmj.v8i0.1236>.
- Bland, J.S. (2018) 'Age as a Modifiable Risk Factor for Chronic Disease', *Integrative Medicine: A Clinician's Journal*, 17(4), pp. 16–19. Available at:

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6469457/>.
- Erlangga, D. *et al.* (2019) 'The impact of public health insurance on health care utilisation, financial protection and health status in low- and middle-income countries: A systematic review', *PLOS ONE*, 14(8), p. e0219731. Available at: <https://doi.org/10.1371/journal.pone.0219731>.
- Farrell, C.M. and Gottlieb, A. (2020) 'The Effect of Health Insurance on Health Care Utilization in the Justice-Involved Population: United States, 2014–2016', *American Journal of Public Health*, 110(Suppl 1), pp. S78–S84. Available at: <https://doi.org/10.2105/AJPH.2019.305399>.
- Feng, G. *et al.* (2019) 'Disease spectrum analysis of hospitalized children in China: A study of 18 tertiary children's hospitals', *Pediatric Investigation*, 3(3), pp. 159–164. Available at: <https://doi.org/10.1002/ped4.12144>.
- Idris, I.B. *et al.* (2023) 'Women's autonomy in healthcare decision making: a systematic review', *BMC Women's Health*, 23, p. 643. Available at: <https://doi.org/10.1186/s12905-023-02792-4>.
- Johar, M. *et al.* (2019) "Tahukah kamu?": Analisis Set Data Survei Sosial Ekonomi Nasional (Susenas)', *Jurnal Ekonomi dan Pembangunan Indonesia*, 19(2), pp. 191–208. Available at: <https://doi.org/10.21002/jepi.v19i2.843>.
- Laksono, A.D., Wulandari, R.D. and Soedirham, O. (2019) 'Urban and Rural Disparities in Hospital Utilization among Indonesian Adults', *Iranian Journal of Public Health*, 48(2), pp. 247–255. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6556184/>.
- Lee, J. and Di Ruggiero, E. (2022) 'How does informal employment affect health and health equity? Emerging gaps in research from a scoping review and modified e-Delphi survey', *International Journal for Equity in Health*, 21(1), p. 87. Available at: <https://doi.org/10.1186/s12939-022-01684-7>.
- Manafe, A., Sinurat, D. and Sukin, M. (2021) *Statistik Kesehatan Provinsi Nusa Tenggara Timur 2021*. 53000.2210.
- Maulana, N. *et al.* (2022) 'How Jaminan Kesehatan Nasional (JKN) coverage influences out-of-pocket (OOP) payments by vulnerable populations in Indonesia', *PLOS Global Public Health*. Edited by H.H. Farooqui and H.H. Farooqui, 2(7), p. e0000203. Available at: <https://doi.org/10.1371/journal.pgph.0000203>.
- Ministry of Health (2021) *Indikator Kinerja Program PPSDMK 1 Periode Tahun 2021 Berdasarkan Aplikasi SISDMK Kemenkes, Tableau Software*. Available at: [https://public.tableau.com/views/IndikatorKinerjaProgramPPSDMK1-2021/Dashboard1?:embed=y&:showVizHome=no&:host\\_url=https%3A%2F%2Fpublic.tableau.com%2F&:embed\\_code\\_version=3&:tabs=no&:toolbar=yes&:animate\\_transition=yes&:display\\_static\\_image=yes&:display\\_spinner=no&:display\\_overlay=yes&:display\\_count=yes&:language=en-US&publish=yes&:loadOrderID=0](https://public.tableau.com/views/IndikatorKinerjaProgramPPSDMK1-2021/Dashboard1?:embed=y&:showVizHome=no&:host_url=https%3A%2F%2Fpublic.tableau.com%2F&:embed_code_version=3&:tabs=no&:toolbar=yes&:animate_transition=yes&:display_static_image=yes&:display_spinner=no&:display_overlay=yes&:display_count=yes&:language=en-US&publish=yes&:loadOrderID=0) (Accessed: 2 March 2023).
- Hassan, N.Z.A.M. *et al.* (2022) 'The inequalities and determinants of Households' Distress Financing on Out-off-Pocket Health expenditure in Malaysia', *BMC Public Health*, 22(1), p. 449. Available at: <https://doi.org/10.1186/s12889-022-12834-5>.
- Mulyanto, J., Kringos, D.S. and Kunst, A.E. (2019) 'Socioeconomic inequalities in healthcare utilisation in Indonesia: a comprehensive survey-based overview', *BMJ Open*, 9(7), p. e026164. Available at: <https://doi.org/10.1136/bmjopen-2018-026164>.



- Muttaqien, M. *et al.* (2021) 'Why did informal sector workers stop paying for health insurance in Indonesia? Exploring enrollees' ability and willingness to pay', *PLOS ONE*, 16(6), p. e0252708. Available at: <https://doi.org/10.1371/journal.pone.0252708>.
- Naicker, N. *et al.* (2021) 'Health Services Use and Health Outcomes among Informal Economy Workers Compared with Formal Economy Workers: A Systematic Review and Meta-Analysis', *International Journal of Environmental Research and Public Health*, 18(6), p. 3189. Available at: <https://doi.org/10.3390/ijerph18063189>.
- National Academies of Sciences, E. *et al.* (2018) 'Factors That Affect Health-Care Utilization', in *Health-Care Utilization as a Proxy in Disability Determination*. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK500097/> (Accessed: 18 April 2024).
- OECD (2008) *OECD Glossary of Statistical Terms*. OECD. Available at: <https://doi.org/10.1787/9789264055087-en>.
- Osamor, P. and Grady, C. (2018) 'Factors Associated with Women's Health Care Decision-Making Autonomy: Empirical Evidence from Nigeria', *Journal of Biosocial Science*, 50(1), pp. 70–85. Available at: <https://doi.org/10.1017/S0021932017000037>.
- Pratiwi, A.B. *et al.* (2021) 'Is Indonesia achieving universal health coverage? Secondary analysis of national data on insurance coverage, health spending and service availability', *BMJ Open*, 11(10), p. e050565. Available at: <https://doi.org/10.1136/bmjopen-2021-050565>.
- Pullyblank, K. *et al.* (2023) 'Exploring Multiple Dimensions of Access to and Preferences for Telehealth Use', *Telemedicine Reports*, 4(1), pp. 348–358. Available at: <https://doi.org/10.1089/tmr.2023.0049>.
- Ramadani, R. *et al.* (2021) *Statistik JKN 2015-2019 Fakta dan Data Capaian Program Jaminan Kesehatan Nasional*. (1).
- Siswoyo, B.E., Prabandari, Y.S. and Hendartini, Y. (2019) 'Kesadaran Pekerja Sektor Informal terhadap Program Jaminan Kesehatan Nasional di Provinsi Daerah Istimewa Yogyakarta', *Jurnal Kebijakan Kesehatan Indonesia : JKKI*, 4(4), pp. 118–125. Available at: <https://jurnal.ugm.ac.id/jkki/article/view/36116>.
- Tesfaye, G. *et al.* (2019) 'Predisposing, enabling and need factors associated with skilled delivery care utilization among reproductive-aged women in Kersa district, eastern Ethiopia', *Reproductive Health*, 16(1), p. 167. Available at: <https://doi.org/10.1186/s12978-019-0829-z>.
- Wulandari, R.D. *et al.* (2022) 'Hospital utilization in Indonesia in 2018: do urban–rural disparities exist?', *BMC Health Services Research*, 22(1), p. 491. Available at: <https://doi.org/10.1186/s12913-022-07896-5>.