

# Analysis of Determinant Factors with Health Services Utilisation for National Health Insurance Participants at a Private Hospital

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A hospital is a health facility that provides advanced health services for national health insurance participants. This study aimed to analysed determinant factors with national health insurance utilisation. Methods: This was a cross-sectional study using a simple random sampling technique with the total sample of 150 respondents. Data was analysed using linear regression statistical analysis. Results: The results of the study illustrated that only 55.33% utilised national health insurance. Most respondents had the following characteristics: age >60 years (50.67%), high education (66%), good perception (68.67%), and were close to the health centre (53.33%). There was a correlation between the age variable ( $p = 0.022$ ), education ( $p = 0.005$ ), perception ( $p = 0.000$ ), services accessibility ( $p = 0.001$ ) with health service utilisation for national health insurance. Conclusion: Age, education, perception, and service accessibility were four variables that correlated significantly with national health insurance utilisation.

**Key words:** *Determinant factors, health service, national health insurance, utilisation.*

## Introduction

National health insurance is a solution in several developing countries to increase the reach of health services so that it can be used by all levels of society and reduce the risk of unexpected expenses for citizens to receive health services (Shet et al. 2018). Based on data released by the World Health Organisation, around 400 million people in the world have not received adequate health services. This problem is also felt in almost all developing countries, in which there are still many residents who have not been able to enjoy health care facilities (Dalinjong

et al. 2017). At the United Nations congress on September 2015, it was agreed that comprehensive health service coverage should be implemented as a national development program for all United Nations members. The overall coverage of health services must be felt by all levels of society in all-regions. Comprehensive health service coverage is expected to provide easy access to obtain optimal health services at affordable prices and help reduce the economic impact of health service costs (Barnes and Hanoch 2017). The United Nations hopes that all members can achieve comprehensive health service coverage by 2030 (Dalinjong et al. 2017). As a result, all members of the United Nations are trying to make improvements through health care programs to achieve comprehensive health service coverage (Hahn and Truman 2015).

In 2004, Law No.40 concerning National Social Security System was passed to overcome this problem. Law 40/2004 mandates that social security, including JKN (Indonesian national health insurance), is mandatory for all residents and will be managed by the Social Security Agency or Badan Penyelenggara Jaminan Sosial (BPJS) (Nisa' and Sari 2019). JKN is a social health and compulsory insurance service that was implemented gradually to achieve universal coverage (Nasution, Mahendradhata, and Trisnantoro 2019). The JKN program will run well if it is complimented by the literacy of the receiving communities. The communities are expected to be aware of the health insurance schemes, which are promoted through the health insurance literacy program. Social health insurance literacy is the measure of one's knowledge and confidence to find, evaluate, and choose the most suitable health plans by considering their financial and health conditions (or their family), and maintain the plan after the registration (Nisa' and Sari 2019).

Indonesia has also carried out health sector reforms to support universal health coverage. On January 1st, 2014, the Indonesian government issued a National Health Insurance program called National Health Insurance, which aims to provide a health service system with the concept of cooperation through regular payments by citizens (Hahn and Truman 2015). The implementation of national health insurance is carried out in stages for each region in Indonesia. By the target date in 2019, all Indonesian people should have national health insurance (Iqbal Nurmansyah and Kilic 2017). National health insurance programs must make health services more accessible to people. The problem is whether national health insurance can increase patient convenience in getting health care or not.

Equitable health care concerns geographical disparity, health facilities, human resources, health, and economic ability, especially for the majority of poor people live in rural areas. Distribution of the population of poor is becoming a critical part in the provision of health care because, although JKN increases amount of participation, equitable distribution of health facilities in rural areas is still difficult to achieve. This condition can be an obstacle for poor people living in rural areas to gain access to health services (Shihab et al. 2014).

Several studies have shown a positive influence on health insurance and the utilisation of maternal health services. Prior studies have shown that health insurance is critical for increasing the use of maternal health services in Ghana, Tanzania and Tibet. After the district health insurance in Aceh, one of Indonesia's provinces, the use of SBAs has increased. There have been important findings from the same research in the Philippines. A systematic review showed a strong link between health insurance and the use of health services, but there were still questionable effects on the quality of health care and final outcomes (Nasution et al. 2019).

Lavalette Hospital is a private type B hospital that was established in 1918 with specialist doctor services in Malang, East Java, Indonesia. Lavalette Hospital has been working with the government since the beginning of National Health Service program in 2014 to provide health services for national health insurance participants. Therefore, the authors chose Lavalette Hospital to conduct this study. National health insurance participants who visit Lavalette Hospital experience fluctuating conditions every month. Based on data from Lavalette Hospital in 2018, inpatient operational performance at the Lavalette Hospital for national health insurance patients was a fluctuating trend. The lowest number of patients was 852. The study is needed to analyse determinant factors with national health insurance utilisation at Lavalette Hospital.

## **Methods**

The research design used in this study was cross-sectional. The population in this study were all inpatients in the work area of Lavalette Hospital. The sample obtained comprised of 150 respondents using a simple random sampling technique. The inclusion criteria of this study included inpatients who were willing to become respondents, and inpatients with *compos mentis*. The exclusion criteria in this study were inpatients who could not read and write and inpatients who did not complete the questionnaire fully. This study was conducted at Lavalette Hospital, Malang, Indonesia from 20 to 24 August 2018.

Data for this study was obtained directly from the questionnaire distributed to respondents in the working area of Lavalette Hospital. In this study, the questionnaire used was a list of statements concerning the utility of national health insurance. The scale used was a Likert scale to measure attitudes, opinions, and perceptions. This study has received approval from the head of the hospital to be published in order to develop and improve the quality of hospital health services. Data was analysed using linear regression statistical analysis.

## Results

It shows that national health insurance is still an option for patients in receiving health services. It was obtained that the majority of the respondents (53.33%) used national health insurance [Table 1]. Most patients had the following characteristics: age >60 years (50.67%), female (53.33%), high education (66%), employment (58.57%), good perception about the attitude of health workers (45.33), good perception regarding the insurance (68.67%), close to health centre (53.33%), and having positive perception of pain (56%).

**Table 1:** Characteristics of respondents the utilisation of national health insurance.

Variables	Respondents	
	N	%
<b>Dependent variable</b>		
<b>Utilisation of national health insurance:</b>		
1. Using national health insurance	83	53.33
2. Not using national health insurance	67	44.67
<b>Independent variables</b>		
<b>Age</b>		
1. >60 years	76	50.67
2. ≤60 years	74	49.33
<b>Sex</b>		
1. Male	70	46.67
2. Female	80	53.33
<b>Education</b>		
1. High	99	66
2. Low	51	34
<b>Employment</b>		
1. Working	88	58.67
2. Not working	62	41.33
<b>Perception regarding health officer attitude</b>		
1. Good	68	45.33
2. Poor	72	53.67
<b>Perception regarding national health insurance</b>		
1. Good	103	68.67
2. Poor	47	31.33
<b>Service accessibility</b>		

1. Far	70	46.67
2. Near	80	53.33
<b>Perception regarding pain</b>		
1. Positive	84	56
2. Negative	66	44

The result of the analysis on Table 2 shows that there are four factors that have a correlation with the use of national health insurance. Factors that had a significant correlation were good perception of insurance ( $p = 0.000$ ), ease of access to services ( $p = 0.001$ ), age variable ( $p = 0.022$ ), and education variable ( $p = 0.005$ ). Employment was not related to the utilisation of national health insurance.

**Table 2:** Relationship between independent variables and national health insurance.

Variables	Utilisation National Health Insurance				p-value
	Using		Not using		
	N	%	N	%	
<b>Age</b>					
1.>60 years	49	59.04	27	40.30	0.022
2.≤60 years	34	40.96	40	59.70	
<b>Sex</b>					
1.Male	37	44.58	33	49.25	0.437
2.Female	46	55.42	34	50.47	
<b>Education</b>					
1.High	65	78.31	34	50.75	0.005
2.Low	18	21.69	33	49.25	
<b>Employment</b>					
1.Working	50	60.24	38	56.72	0.663
2.Not working	33	39.76	29	43.28	
<b>Perception regarding health officer attitude</b>					
1.Good	40	54.79	28	41.79	0.524
2.Poor	33	45.21	39	58.21	
<b>Perception regarding national health insurance</b>					
1.Good	73	87.95	30	44.78	0.000
2.Poor	10	12.05	37	55.22	
<b>Service accessibility</b>					
1.Far	54	65.06	26	38.81	0.001

2.Near	29	34.94	41	61.19	
<b>Perception regarding Pain</b>					
1.Positive	53	63.86	31	46.27	0.031
2.Negative	30	36.14	36	53.73	

## Discussion

There are four factors that affect someone in using national health insurance (age, education, perception, and service accessibility). This shows that respondents felt that their understanding of national health insurance program was lacking. The result of this study indicates a correlation between perception regarding national health insurance and the use of health facilities. A good perception of national health insurance will encourage patients to use health facility services (Oladimeji, Alabi, and Adeniyi 2017). Inadequate public perception of national health insurance in this paper is related to the flow of services that are felt to be difficult and the length of time waiting for treatment (Booyesen and Hongoro 2018). This causes respondents, that is, the national health services participants, to not use health services in Lavalette Hospital.

Another explanation to why people postpone the contribution fee on the basis of interviews are other needs such as school children, party attendance, credit, rent and other important obligations. They do not prioritise health problems. For example, even social costs are far higher than JKN benefits for interested parties and they never consider using it because they are not sick (Palutturi et al. 2018).

The theory of the utility of health services explains that one's desire to utilise health services is also determined by supporting factors. One of which is the distance or accessibility of health services (Mustapha Kurfi, Hussaini Aliero, and Author 2017). This means that government health expenditure should be concentrated on the vulnerable, and that various ethnic, demographic and socio-economic classes must be able to account for the cost of accessing healthcare. Poor road conditions and difficult access to health services make a person unwilling to take advantage of these health services (Wiseman et al. 2018). Another reason is that rural areas are often associated with lower levels of education and poor utilisation of health care services. Such factors affect oral health and the delivery of services (Akbar, Pasinringi, and Awang 2019). This is different with the Health Belief Model theory which conveys that structural factors related to access to health services will tend to influence one's desire to use or not utilise health services (Grøndahl et al. 2018). In this study, national health insurance participants who had a house some distance away from Lavalette Hospital still used national health insurance because there was no other health care option.

The result of this study indicates a relationship between the level of education and the utilisation of national health insurance. This is due to the higher level of education of a person, the greater their capacity to understand the information provided by the health workers (Grøndahl et al. 2018; Oparah et al. 2018). Some respondents understood that the use of national health insurance will help offset the costs incurred for health care. People do not worry about the fees that will be paid because they have become BPJS participants, something that did not happen in previous years because the majority of people were reluctant to go to health services because of cost problems. The service provided to national health insurance participants is not different from the service provided to private patients (Ria Ginting and Afifuddin 2018).

The utilisation of health care services is essential for the community to maintain, improve, prevent, and cure diseases, as well as to restore the health of individuals and families. Several medical services and public health care services are health promotion, environmental health care, maternal and child health care/family planning, nutrition improvement efforts, as well as communicable diseases eradication and treatment. At times, access to healthcare is hindered by inadequate financial and material capital, which is marked by poverty and material deprivation. This creates obstacles to public access to health services (Rachmawati and Sholihah 2019).

The Health Service Use Theory also states that age is one predisposing or internal factor that influences the behaviour of a person to make use of health services (Wiseman et al. 2018), The older a person, the degree of the disease will be more severe as a consequence of their immune system. The elderly require more and more health services for the healing of the disease (Yonas Biratu et al. 2019). The above results are also in line with other studies which state that age influences the utilisation of health services (Nouraei Motlagh et al. 2015). People of older age will often visit health services, even though there are some nonelderly age groups who also often use health services (Liu 2014). Researchers found that people over the age of 60 were more likely to use health care facilities than those aged  $\leq 60$  years. Some respondents mentioned that those  $>60$  years must pay attention to health. Conversely, people  $\leq 60$  years do not pay much attention to health because they think that pain is normal. Even though national health insurance participants can use free health services, in reality, they are still lacking in using these services. Inequity in the geography, employment and economic status of families must be minimised by strengthening health insurance policy and other policies related to the effective implementation of health insurance policies (Nasution et al. 2019).

## **Conclusion**

Perception and access to health facilities are factors which affect someone the most in using national health insurance. Lavalette Hospital needs to improve their information about health



insurance procedures and offer clarity regarding access to the Lavalette Hospital. Socialisation and knowledge of the national health insurance program are needed to be able to increase the utilisation of national health insurance in health facilities.



## REFERENCES

- Akbar, F. H. Pasinringi, S. and A. H. Awang. (2019). Relationship between health service access to dental conditions in urban and rural areas in Indonesia. *Pesquisa Brasileira Em Odontopediatria e Clinica Integrada* 19(1), 147-152.
- Barnes, A. J., and Yaniv H. (2017). Knowledge and understanding of health insurance: challenges and remedies. *Israel Journal of Health Policy Research* 6(1),4–6.
- Booyesen, F., and Charles, H. (2018). Perceptions of and support for national health insurance in South Africa's Public and Private Healthcare Sectors. *Pan African Medical Journal* 30. 1:1–9.
- Dalinjong, P. Ayizem, P. Welaga, J. A., Anthony, K. Martin, B., Abraham, O., Osman S., and Jane G. (2017). The association between health insurance status and utilization of health services in rural northern Ghana: Evidence from the introduction of the national health insurance scheme. *Journal of Health, Population and Nutrition* 36. (1):1–10.
- Grøndahl, V. A., Jörg W. K., Kirsti, L. A., Lise, A. Sørby, H. Marie A., Eli, A. S., Anne, K. R., Liv, S. T. and Ann, K. H. (2018). Health care quality from the patients' perspective: a comparative study between an old and a new, high-tech hospital. *Journal of Multidisciplinary Healthcare* 11: 591–600.
- Hahn, R. A., and Benedict, I. T. (2015). Education improves public health and promotes health equity. *International Journal of Health Services* 45(4):657–78.
- Iqbal, N. M. and Bulent K. (2017). Impact of national health insurance policy towards the implementation of health promotion program at public health centers in Indonesia. *Kesmas* 11(3):103–10.
- Liu, L. F. (2014). The health heterogeneity of and health care utilization by the elderly in Taiwan. *International Journal of Environmental Research and Public Health* 11(2):1384–97.
- Mustapha K. Muhammed, I. Hussaini, Al. and Corresponding Author. (2017). a study on clients' satisfaction on the national health insurance scheme among staff of Usmanu Danfodiyo University Sokoto. *IOSR Journal of Economics and Finance*, 8(5):44–52.
- Nasution, S. K., Mahendradhata, Y., & Trisnantoro, L. (2020). Can a national health insurance policy increase equity in the utilization of skilled birth attendants in Indonesia? A secondary analysis of the 2012 to 2016 national socio-economic survey of Indonesia. *Asia Pacific Journal of Public Health*, 32(1), 19-26.

- Nisa', C. and Intan, N. S. (2019). Social health insurance literacy: lesson learned from social insurance for maternity care by national health insurance programme. *Jurnal Administrasi Kesehatan Indonesia* 7(1):25-32.
- Nouraei M. Soraya, H. A. G., Ghadir, M., and Hossein, G. (2015). Main determinants of supplementary health insurance demand: (Case of Iran). *Global Journal of Health Science* 7(6):285–94.
- Oladimeji, O., Adeyinka, A., and Oladele, V. A. (2017). Awareness, knowledge and perception of the national health insurance scheme (nhis) among health professionals in mthatha general hospital, Eastern Cape, South Africa. *The Open Public Health Journal* 10(1):187–94.
- Oparah, P. C., Udu, A. Chioma, D. Ifeanyichukwu, V. N. O. A. and Emmanuel, N. (2018). Service quality : An empirical study of expectations versus perception of national health insurance scheme enrollees in federal universities in South East, Nigeria Service Quality : An empirical study of expectations versus perception of national health.” *International Journal of Academic Research Economics and Management Science* 7(3):149–65.
- Palutturi, S., Sahiddin, M. Ishak, H. and Hamzah. (2018). Community motivation and learning to pay the national health insurance contribution. *Asian Journal of Scientific Research* 11(2):276–86.
- Rachmawati, L., and Isma, F. S. (2019). The correlation between demand factors and health care service utilization by contribution beneficiary patients. *Jurnal Administrasi Kesehatan Indonesia* 7(2):185.
- Ria, G. R. and Syaad, A. (2018). Article ID: IJCIET\_09\_10\_046 Cite This Article: Rasinta Ria Ginting and Ramli, Syaad Afifuddin, Zulfendri, impact of the national health insurance program on economy, human development index and poverty. *International Journal of Civil Engineering and Technology (IJCIET)* 9(10):449–60.
- Shet, N. Ghulam, J. Qadiri, B. Sukhlal, K., and Sunita, S. (2018). Impact of out-of-pocket health care financing and health insurance utilization among the population: A systematic review. *International Journal of Health Science and Research* 8(2): 249–57.
- Shihab, A. N. Armyn, N. Abdul, Kadir, H. T., and Idrus, P. (2014). National health insurance effects on inpatient utilization in Indonesia. *International Journal of Health Sciences and Research* 7(3):1–3.



- Wiseman, V., Hasbullah, T., Augustine, A., Manon, H., Soewarta, K. Lucy, G., Anne, M. Andrew, H., Viroj, T. and Walaiporn, P. (2018). An evaluation of health systems equity in indonesia: study protocol. *International Journal for Equity in Health* 17(1):1–9.
- Yonas, B. Terfa, G. G. N. Hailu, F. B., Feyisa, G. T. Jeleta, F. Tafese, and Sinkie, S. O. (2019). Determinants of health care utilization among the elderly population in Jimma Town, Oromia region, Southwest Ethiopia. *International Archives of Nursing and Health Care* 5(3), 187-192.