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CAN EDUCATION INCREASE NHI MEMBERSHIP? A CASE STUDY AMONG MADURESE IN INDONESIA

Bisakah Pendidikan Meningkatkan Kepesertaan NHI? Studi Kasus pada Masyarakat Madura di Indonesia

***Agung Dwi Laksono[1,2], Ratna Dwi Wulandari[2,3], Nurhasmadiar Nandini[4], Maya Weka Santi[5]**
[1]National Research and Innovation Agency Republic of Indonesia, Cibinong, Indonesia
[2]The Airlangga Centre for Health Policy, Surabaya, Indonesia
[3]Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia
[4]Faculty of Public Health, Universitas Diponegoro, Semarang, Indonesia
[5]Health Department, State Polytechnic of Jember, Jember, Indonesia
Correspondence*:
Address: BRIN, KST Cibinong, JL. Raya Jakarta-Bogor KM 46, Cibinong, Indonesia | email: agung.dwi.laksono@brin.go.id

Abstract

Background: Madura Island is often left behind in health development in East Java Province, including in the health sector. Poverty and poor education dominate this region.
Aims: The research examined the role of education in National Health Insurance (NHI) membership among Indonesian Madurese.
Methods: The study employed 791 respondents. We used NHI membership as an outcome variable, education level as an exposure variable, and seven control variables: regency, residence, gender, employment, age, wealth, and marital status. In the last stage, we employed a binary logistic test.
Results: The results showed that 58.2% of Madurese people in Indonesia are members of the NHI. Regarding education level, Madurese with primary education was 1.672 times more likely than those without formal education to be an NHI member (95% CI 1.662-1.683). Meanwhile, Madurese with secondary education was 2.329 times higher than those uneducated to be an NHI member (95% CI 2.306-2.352). Moreover, Madurese with higher education was 4.593 times more likely to be an NHI member than uneducated Madurese (95% CI 4.517-4.669).
Conclusions: Education level was associated with NHI membership among Madurese in Indonesia. The higher the education level, the higher the possibility of being an NHI member.

Keywords: Health insurance, National Health Insurance, Madurese, big data, public health.

Abstrak

Latar Belakang: *Madura seringkali tertinggal dalam pembangunan kesehatan di Jawa Timur, termasuk dalam bidang kesehatan. Kemiskinan dan rendahnya pendidikan mendominasi wilayah ini.*
Tujuan: *Studi ini menganalisis peran pendidikan terhadap kepesertaan Jaminan Kesehatan Nasional (JKN) pada masyarakat Madura.*
Metode: *Studi ini menganalisis 791 responden. Studi menggunakan kepesertaan JKN sebagai variabel outcome, pendidikan sebagai variabel exposure, dan tujuh variabel kontrol: kabupaten, tempat tinggal, jenis kelamin, usia, pekerjaan, perkawinan, dan kekayaan. Pada tahap akhir, kami menggunakan regresi logistik biner.*
Hasil: *Studi menunjukkan bahwa 58,2% masyarakat Madura adalah anggota JKN. Berdasar tingkat pendidikan, masyarakat Madura yang berpendidikan dasar memiliki peluang 1,672 kali lebih besar untuk menjadi anggota JKN dibandingkan mereka yang tidak sekolah (95% CI 1,662-1,683). Sedangkan masyarakat Madura yang berpendidikan menengah 2,329 kali lebih tinggi menjadi anggota JKN dibandingkan yang tidak sekolah (95% CI 2,306-2,352). Selain itu, yang berpendidikan tinggi mempunyai peluang 4,593 kali lebih besar untuk menjadi anggota JKN dibandingkan yang tidak sekolah (95% CI 4,517-4,669).*
Kesimpulan: *Tingkat pendidikan berhubungan dengan kepesertaan JKN pada masyarakat Madura di Indonesia. Semakin tinggi tingkat pendidikan, semakin tinggi pula kemungkinan menjadi anggota JKN.*

Kata kunci: *jaminan kesehatan, Jaminan Kesehatan Nasional, Madura, big data, kesehatan masyarakat.*

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Introduction

Many governments have altered health financing to meet Universal Health Coverage (UHC) standards. Many countries are raising funds to ensure effective and fair health fund spending. Strong UHC performance is usually linked to a portion of the national budget for Social Health Insurance (SHI) and government initiatives (Wagstaff and Neelsen, 2020). The SHI model is the most commonly adopted approach in many nations that have successfully moved toward UHC (Maeda *et al.*, 2014; Laksono *et al.*, 2023).

In line with the UHC objective, Indonesia has been implementing NHI, also known as *Jaminan Kesehatan Nasional*, a national social health insurance program, since 2014 (Law No. 40 of 2004 mandates NHI). The Social Security Administering Agency (SSAA) for Health administered the program to provide all Indonesians with access to health services. According to the SHI concept, everyone must participate in the NHI program, and income determines the premiums paid. The government provides a premium for people classified as poor or almost poor, and their employees (Laksono, Wulandari and Matahari, 2021; Pratiwi *et al.*, 2021).

As a result of the NHI, 255 million individuals will obtain health care by 2019. If successful, Indonesia's NHI would become the world's most extensive single-payer program and one of the most ambitious UHC health finance reforms (Wiseman *et al.*, 2018; Laksono, Rukmini, *et al.*, 2022). As of 2020, only 82.7% of people were enrolled in the NHI, considerably short of the 95% coverage target set for the end of 2019 (Oldistra and Machdum, 2020). Around 90.3% of the population registered in the NHI as of the beginning of 2023, which is still below the goal of 98% coverage by the end of 2024 (Ministry of State Secretariat of Indonesia, 2023). Therefore, Indonesia must continue to exert considerable effort to guarantee a rise in NHI membership and attain UHC.

Several variables influence the NHI membership. Several factors correlate to NHI membership coverage: age, economic characteristics, education level, and demographic individual characteristics—defined as whether a person lives in an urban or rural location (Sukartini *et al.*, 2021; Wulandari, Laksono, Sillehu, *et al.*, 2022). Individuals who were divorced, lived in rural regions, had a lower wealth, were between the ages of 15 and 24, and only completed secondary school or less were less likely to sign up for NHI (Sukartini *et al.*, 2021). A previous study indicated that older age, less education, low income, poor treatment quality, low trust in administration and providers, overly rigid restrictions, and distance significantly affect community-based health insurance participation in Africa. Another study found that wealth, occupation, marriage, education, gender, age, and residence type predicted NHI participation, especially among the poor (Laksono, Nantabah, *et al.*, 2022; Putri, Laksono and Rohmah, 2023).

An article noted that education level affects health insurance enrolment. Reading and writing skills increase health insurance participation. Low education hindered health insurance enrolment (Conde *et al.*, 2022). People with low levels of education are more likely to be marginalized in society and to have limited access to opportunities, such as health care and financial security provided by health insurance (Laksono, Nantabah, *et al.*, 2022; Wulandari, Laksono, Nantabah, *et al.*, 2022; Ipa *et al.*, 2023). Their capacity to select and use insurance, as well as their level of education, may be impacted by low health insurance literacy. Since academic achievement is the best indicator of NHI engagement or protection in Indonesia, a study found that increasing the proportion of low-income populations can significantly impact NHI membership coverage (Laksono, Nantabah, *et al.*, 2022).

The significant population of Madura Island is Madurese, and the island is known for its distinct culture, distinguishing it from other East Java regions. Large families with many kids are a cultural feature of the Madurese people (Imanhadi, Saragih and Pranata, 2016). Madurese is generally perceived as being caught in an endless cycle of viciousness. A virulent cycle involves low health, education, and poverty (Laksono, Pranata and Astuti, 2014).

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Madura Island's four regencies generally have had lower health than East Java Province. According to the 2013 Indonesian Ministry of Health Public Health Development Index (PHDI), Sampang, Bangkalan, Sumenep, and Pamekasan were ranked 33, 36, 37, and 38 out of 38 regencies/cities in East Java Province (National Institute of Health Research and Development of the Ministry of Health of the Republic of Indonesia, 2014). The Ministry of Health presented the PHDI again in 2018, and Madura Island's fourth ranking indicates no discernible change. Notably, the rankings for Sampang, Bangkalan, Pamekasan, and Sumenep are 31, 33, 35, and 36, respectively (National Institute of Health Research and Development of the Ministry of Health of the Republic of Indonesia, 2019). Considering the context, the study aimed to examine the role of education in NHI membership among Indonesian Madurese.

Method

Study Design and Data Source

We investigated secondary information from a previous nationwide poll "Abilities and Willingness to Pay Fee and Participant Satisfaction in Implementing NHI in Indonesia in 2019," conducted by The Indonesian Ministry of Health. Meanwhile, every Madurese person in Indonesia made up the research population. The study looked at 791 respondents using multistage random selection and stratification.

Setting

The study setting was at the Madura Island level. There were four regencies on Madura Island: Bangkalan, Sampang, Pamekasan, and Sumenep.

Outcome Variables

We used NHI membership as the study's outcome variable. The respondent's position as a person, as a mandatory member (military, police, or governmental servant), as borne by the employer, or as a receiver of government financial aid determines their membership in the NHI. A person can be a member of the NHI or a non-member.

Exposure Variable

The education attainment was used as an exposure variable. There are four stages of education: not going to school at all, primary education (primary and junior high school), secondary education (senior high school), and higher education (universities).

Control Variables

We utilized seven control variables: regency, residence type, age group, employment status, gender, wealth, and marital status. Regency comprises Bangkalan, Sampang, Pamekasan, and Sumenep. The study ascertained the type of residency using data from Indonesian Statistics. There are two types of residence: urban and rural.

The study catagorized the age in the sample into three classes: < 17, 18 - 64, and > 65, based on productivity age. The two groups used in the experiment were the male and female genders in the interim. There were also two employment status categories: employed and unemployed. The study also recognized three categories of marital status: never married, married, and divorced/widowed.

The study used a wealth measure to determine the socioeconomic level. The wealth index was calculated as a weighted estimate of total household spending. The poll also found that the wealth index is based on first-hand information about how much people spend on food, rent, health insurance, etc. In addition, the poll split the income index into five groups: the lowest, lower, middle, upper, and the highest-class (Wulandari *et al.*, 2019; Laksono *et al.*, 2024).

Data Analysis

First, the study used the Chi-Square test to create a bivariate exam. It also employed a collinearity test to ensure no significant correlation between the independent variables. Ultimately, we used a binary logistic regression to examine the multivariate relationship. The IBM SPSS 26 program was used for the statistical exam.

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Result and Discussion

The results show that 58.2% of the Madurese population in Indonesia belongs to the NHI. This figure is far below the national average of 82.7% in the same year (Oldistra and Machdum, 2020). Additionally, Table 1 displays a cross-tabulation of the proportion distribution of NHI members of Madurese by education level and regency. The number usually shows that the higher the level of education, the higher the percentage of NHI members.

Table 2 illustrates that NHI membership increases with age. Women have a somewhat more excellent NHI member ratio than men. Employed people have more NHI members than unemployed people. The most outstanding NHI member ratio is married. Additionally, Madurese, with higher affluence, had the largest NHI membership.

The subsequent study examined the collinearity test of NHI participation among Indonesian Madurese. The study shows that the independent factors do not have a solid link. There are tolerance values greater than 0.10 for all variables and variance inflation factor values less than 10.00 for all factors simultaneously. The report's conclusion that the regression model did not show any signs of multicollinearity supported the test's case for making a choice.

The multivariate exam results are shown in Table 3. Madurese with only primary education is 1.672 times more likely to be an NHI member than those without education (AOR 1.672; 95% CI 1.662-1.683). Meanwhile, the number of Madurese with secondary education is 2.329 times higher than those uneducated to be an NHI member (AOR 2.329; 95% CI 2.306-2.352). Moreover, higher education Madurese is 4.593 times more likely to be an NHI member than uneducated Madurese (AOR 4.593; 95% CI 4.517-4.669).

Table 1. The Cross-tabulation of Proportion Distribution of NHI Members of Madurese by Education Level and Regency

Regency			Education level			
			No education	Primary	Secondary	Higher
Bangkalan	NHI	Non Member	66.0%	62.6%	45.5%	15.6%
		Member	34.0%	37.4%	54.5%	84.4%
	Total		100.0%	100.0%	100.0%	100.0%
Sampang	NHI	Non Member	92.1%	67.8%	68.6%	0.0%
		Member	7.9%	32.2%	31.4%	0.0%
	Total		100.0%	100.0%	100.0%	0.0%
Pamekasan	NHI	Non Member	60.1%	17.3%	27.4%	53.9%
		Member	39.9%	82.7%	72.6%	46.1%
	Total		100.0%	100.0%	100.0%	100.0%
Sumenep	NHI	Non Member	35.9%	36.5%	31.0%	22.2%
		Member	64.1%	63.5%	69.0%	77.8%
	Total		100.0%	100.0%	100.0%	100.0%
Total	NHI	Non Member	47.9%	42.5%	34.6%	25.3%
		Member	52.1%	57.5%	65.4%	74.7%
	Total		100.0%	100.0%	100.0%	100.0%

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Table 2. Bivariate exam of NHI membership and individual characteristics among Madurese, Indonesia (n=791)

Characteristics	NHI Membership		*p*-value
	Non-Member (n=352)	Member (n=439)	
Education level			< 0.001
No education	47.9%	52.1%	
Primary	42.5%	57.5%	
Secondary	34.6%	65.4%	
Higher	25.3%	74.7%	
Regency			< 0.001
Bangkalan	53.2%	46.8%	
Sampang	72.2%	27.8%	
Pamekasan	29.6%	70.4%	
Sumenep	35.2%	64.8%	
Residence			
Urban	38.9%	61.1%	
Rural	42.1%	57.9%	
Age Group			< 0.001
≤ 17	48.9%	51.1%	
18 - 64	39.7%	60.3%	
≥ 65	38.1%	61.9%	
Gender			< 0.001
Male	42.0%	58.0%	
Female	41.7%	58.3%	
Employment			< 0.001
Unemployed	45.8%	54.2%	
Employed	38.1%	61.9%	
Marital			< 0.001
Never married	48.2%	51.8%	
Married	37.0%	63.0%	
Divorced/Widowed	47.4%	52.6%	
Wealth			< 0.001
Poorest	38.1%	61.9%	
Poorer	39.7%	60.3%	
Middle	58.9%	41.1%	
Richer	35.1%	64.9%	
Richest	37.7%	62.3%	

Education has been generally associated with health determinants, including membership in health insurance. Education is needed to create more awareness of the benefits of NHI membership. Education could also indirectly describe the communities' literacy level, an essential determinant of NHI membership (Acharya *et al.*, 2020).

Previous research explained a positive association between education and risk aversion, which is also related to the higher demand for insurance (Savitha and Banerjee, 2021). Research in Ghana stated that individuals with higher education recorded the highest registration in NHI membership, while those with low education levels had the most minor registration (Kwarteng *et al.*, 2020). Research in Nigeria also proved that those who had higher education, especially tertiary education, had more knowledge of NHI and were registered as NHI members (Abiola *et al.*, 2019). Research about NHI membership within poor populations has stated that NHI membership tends to be higher among people with higher education (Putri, Laksono and Rohmah, 2023).

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Therefore, the education level in communities could become one of the determinants that may increase NHI membership.

Moreover, several previous indicated that education is also associated with all control variables. In general, where someone lives, their gender, job, age, wealth, and marital situation can all affect their education level. Most of the time, people with higher levels of schooling live in cities or districts with better access to schools than those in rural areas. Gender also plays a role, especially in places where social rules make it harder for women to go to school. There is also a link between education level and work. For example, jobs in the formal sector usually require a higher education. The education level is affected by age because younger people typically have easier access to education than older people. Being wealthy is essential because it means that families with more money can send their kids to college. Lastly, marital status plays a role, especially in countries that encourage young marriage, which can keep people from going to school, especially women (Xie, 2022) (Bauer, Clevenstine and Macklin, 2022).

Table 3. The multivariate exam results of NHI membership among Madurese, Indonesia (n=791)

Predictor	Member of NHI			
	p-value	Adjusted Odds Ratio	95% Confidence Interval	
			Lower Bound	Upper Bound
Education: No Formal Education	-	-	-	-
Education: Primary	< 0.001	1.672	1.662	1.683
Education: Secondary	< 0.001	2.329	2.306	2.352
Education: Higher	< 0.001	4.593	4.517	4.669
Regency: Bangkalan	-	-	-	-
Regency: Sampang	< 0.001	0.518	0.513	0.523
Regency: Pamekasan	< 0.001	3.545	3.513	3.577
Regency: Sumenep	< 0.001	2.280	2.262	2.298
Residence: Urban	-	-	-	-
Residence: Rural	< 0.001	1.093	1.080	1.105
Age group: ≤ 17	-	-	-	-
Age group: 18 - 64	< 0.001	0.640	0.633	0.647
Age group: ≥ 65	< 0.001	0.755	0.744	0.766
Gender: Male	-	-	-	-
Gender: Female	< 0.001	1.155	1.148	1.162
Employment: Unemployed	-	-	-	-
Employment: Employed	< 0.001	1.373	1.363	1.383
Marital: Never married	-	-	-	-
Marital: Married	< 0.001	1.676	1.660	1.691
Marital: Divorced/Widowed	< 0.001	1.284	1.267	1.302
Wealth: Poorest	< 0.001	1.377	1.360	1.395
Wealth: Poorer	< 0.001	1.381	1.364	1.399
Wealth: Middle	< 0.001	0.625	0.617	0.633
Wealth: Richer	< 0.001	1.776	1.753	1.800
Wealth: Richest	-	-	-	-

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Table 3 shows that regency and residence type are related to NHI membership among Madurese. Previous research in Ghana also revealed that urban residents were more likely to register for NHI membership than residents in rural areas. This might be because people in rural areas do not have easy access to healthcare facilities. People living in rural areas usually drive farther to get to healthcare facilities, which causes them to have less access to information related to NHI (Kwarteng *et al.*, 2020).

The results also found four demographic characteristics associated with Madurese NHI membership. The four are age group, gender, employment status, and marital status. These outcomes are consistent with several previous studies (Laksono, Rukmini, *et al.*, 2022; Putri, Laksono and Rohmah, 2023). The results illustrated that age, gender, marital status, wealth, and health facility are significant determinants of NHI enrolment. A possible explanation is that older people prefer to invest in their health by purchasing insurance (Rukmini *et al.*, 2022). Additionally, younger people are less likely to have health insurance since most are still in school and depend on their parents for money.

The findings on the effect of gender on health insurance enrollment have reported that females are more likely to enroll in NHI. Women were utilizing health services more often than men because they seemed more responsive to sickness and would notify health facilities than men, who would usually wait till their condition deteriorated due to masculinity (Badu *et al.*, 2018). Moreover, the marital status of the widowed stipulates the woman as a headed household. Therefore, they had a higher likelihood of being enrolled as an indication of women's preferences for investments in health (Ziegler *et al.*, 2024).

If you own insurance, you may be employed. Numerous organizations mandate their employees to enrol and remit the monthly fee, which may be a contributing factor. A previous study showed that people who work in the formal sector pay a monthly premium based on their income. This premium is automatically taken out of their paychecks by their employers and sent to the NHI (Sukartini *et al.*, 2021).

Furthermore, Table 3 indicates that, regarding wealth status, all levels are more likely than the richest to be an NHI member, except middle wealth, which is less likely than the richest. The situation explains that the high-income individuals might have the potential to pay from out-of-pocket payments for their health care cost and are less likely to be enrolled in the NHI scheme. Moreover, the wealthiest populations are inclined to choose private hospitals owing to the healthcare quality given and because they can pay for insurance payments more readily (Putri, Laksono and Rohmah, 2023; Wulandari *et al.*, 2024).

Strength and Limitation

Big data analysis is one of the study's strengths, allowing Madura Island results. However, this study analyses secondary data. Only the Indonesian Ministry of Health provides authorized variables. Some other factors affect health insurance eligibility, although it could not.

These elements consist of the size of the family, the number of children, business insurance, and cognitive capacity (Alo, Okedo-Alex and Akamike, 2020; Wang *et al.*, 2021).

Conclusion

The study found a link between education and NHI participation among Indonesian Madurese. Those with higher schooling have more chances of becoming NHI members.

From the participation perspective, the circumstances may affect how quickly universal health coverage is achieved and how long the NHI program can be sustained. Madurese people have low education levels, which makes them less conscious of the need to participate. As a result, if they no longer feel compelled to do so, they will cease participating. Compared to inhabitants with higher education levels, those with lower education levels are likelier to lose membership. Since this low-educated category is typically composed of

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impoverished people, the government's job in such cases is to offer premiums.

Abbreviations

UHC: Universal Health Coverage; NHI: National Health Insurance; SHI: Social Health Insurance; SSAA: Social Security Administering Agency; PHDI: Public Health Development Index; AOR: adjusted odds ratio; CI: confidence interval.

Declarations

Ethics Approval and Consent Participant

The National Ethics Committee has approved the poll (Number: LB.0201/2/KE.340/2019). The survey eliminated each respondent's identity from the dataset. Respondents have given written consent to participate in the study. The following website has permitted the author to use data for this study: http://www.layanandata.kemkes.go.id.

Conflict of Interest

The writers affirm that there is no conflict of interest between them.

Availability of Data and Materials

Since the Indonesian Ministry of Health, the data's owner, and a third party lack authorization to disseminate the data, the author cannot disclose it publicly. The survey data set can be found online at http://www.layanandata.kemkes.go.id for researchers who meet the standards for access to private data.

Authors' Contribution

ADL conceptualized the study; RDW created the methodology; NN and NWS wrote, reviewed, and edited the manuscript; ADL wrote the original draft.

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References

Abiola, A.O. *et al.* (2019) 'Knowledge and utilisation of National Health Insurance Scheme among adult patients attending a tertiary health facility in Lagos State, South-Western Nigeria', *African Journal of Primary Health Care & Family Medicine*, 11(1). Available at: https://doi.org/10.4102/phcfm.v11i1.2018.

Acharya, D. *et al.* (2020) 'Association of information, education, and communication with enrolment in health insurance: a case of Nepal', *Archives of Public Health*, 78(1), p. 135. Available at: https://doi.org/10.1186/s13690-020-00518-8.

Alo, C.N., Okedo-Alex, I.N. and Akamike, I.C. (2020) 'Determinants of willingness to participate in health insurance amongst people living with HIV in a tertiary hospital in South-East Nigeria', *The Nigerian postgraduate medical journal*, 27(3), pp. 196–201. Available at: https://doi.org/10.4103/npmj.npmj_11_20.

Badu, E. *et al.* (2018) 'Households Sociodemographic Profile as Predictors of Health Insurance Uptake and Service Utilization: A Cross-Sectional Study in a Municipality of Ghana', *Advances in Public Health*, 2018, pp. 1–13. Available at: https://doi.org/10.1155/2018/7814206.

Bauer, L., Clevenstine, V. and Macklin, M. (2022) 'Examining the economic status of same-gender relationship households'. Available at: https://www.brookings.edu/articles/examining-the-economic-status-of-same-gender-relationship-households/.

Conde, K.K. *et al.* (2022) 'Factors determining membership in community-based health insurance in West Africa: a scoping review', *Global Health Research and Policy*, 7(1). Available at: https://doi.org/10.1186/s41256-022-00278-8.

Imanhadi, B., Saragih, D.I. and Pranata, S. (2016) *Childcare: on the earth of "Adi*

Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v13i1.2025.9-19

Poday" Sapudi Island (Pengasuhan Anak di Bumi "Adi Poday"). Surabaya: Unesa University Press.

Ipa, M. *et al.* (2023) 'Factors Associated with the Place of Delivery among Urban Poor Societies in Indonesia', *Indian Journal of Community Medicine*, 48(6), pp. 888–893. Available at: https://doi.org/10.4103/ijcm.ijcm_798_22.

Kwarteng, A. *et al.* (2020) 'The state of enrollment on the National Health Insurance Scheme in rural Ghana after eight years of implementation', *International Journal for Equity in Health*, 19(1), p. 4. Available at: https://doi.org/10.1186/s12939-019-1113-0.

Laksono, A.D., Nantabah, Z.K., *et al.* (2022) 'Barriers to Expanding the National Health Insurance Membership in Indonesia: Who Should the Target?', *Journal of Primary Care and Community Health*, 13, pp. 1–7. Available at: https://doi.org/10.1177/21501319221111112.

Laksono, A.D., Rukmini, R., *et al.* (2022) 'National Health Insurance Membership among Urban Poor Societies in Indonesia in 2019: Are They Protected?', *Economies*, 10(8), p. Article number 196-Article number 196. Available at: https://doi.org/10.3390/economies10080196.

Laksono, A.D. *et al.* (2023) 'The Role of Government-run Insurance in Primary Health Care Utilization: A Cross-Sectional Study in Papua Region, Indonesia, in 2018', *International Journal of Social Determinants of Health and Health Services*, 53(1), pp. 85–93. Available at: https://doi.org/10.1177/00207314221129055.

Laksono, A.D., Pranata, S. and Astuti, W.D. (2014) *Positioning for Shaman (Positioning Dukun Bayi)*. Yogyakarta: PT Kanisius.

Laksono, A.D., Wulandari, R.D. and Matahari, R. (2021) 'The determinant of health insurance ownership among pregnant women in Indonesia', *BMC Public Health*, 21(1), pp. 1538–1538. Available at: https://doi.org/10.1186/s12889-021-11577-z.

Laksono, A.D.A. *et al.* (2023) 'The Role of Government-run Insurance in Primary Health Care Utilization: A Cross-Sectional Study in Papua Region, Indonesia, in 2018', *International Journal of Health Services*, 53(1), pp. 85–93. Available at: https://doi.org/10.1177/00207314221129055.

Maeda, A. *et al.* (2014) *Universal Health Coverage for Inclusive and Sustainable Development: A Synthesis of 11 Country Case Studies*, *Universal Health Coverage for Inclusive and Sustainable Development: A Synthesis of 11 Country Case Studies*. Available at: https://doi.org/10.1596/978-1-4648-0297-3.

Ministry of State Secretariat of Indonesia (2023) *Pursuing the target of 98% UHC by 2024, the Vice President Instructs Four Strategic Steps (Kejar Target 98% UHC pada Tahun 2024, Wapres Instruksikan Empat Langkah Strategis)*. Available at: https://www.setneg.go.id/baca/index/kejar_target_98_uhc_pada_tahun_2024_wapres_instruksikan_empat_langkah_strategis.

National Institute of Health Research and Development of the Ministry of Health of the Republic of Indonesia (2014) *The 2013 Public Health Development Index*. Jakarta, pp. 1–88. Available at: https://repository.badankebijakan.kemkes.go.id/id/eprint/4293/1/IPKM 2014.pdf.

National Institute of Health Research and Development of the Ministry of Health of the Republic of Indonesia (2019) *The 2018 Public Health Development Index*. Jakarta. Available at: https://www.litbang.kemkes.go.id/buku-ipkm-2018/.

Oldistra, F. and Machdum, S.V. (2020) 'Analysis of National Health

Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v13i1.2025.9-19

Insurance Policy Planning From the Aspect of Participation in the Ministry of National Development Planning/Bappenas (Analisis Perencanaan Kebijakan Jaminan Kesehatan Nasional Dari Aspek Kepesertaan Di Kementerian Ppn/Bappenas)', *Jurnal Ilmu Kesejahteraan Sosial*, 21(1), pp. 63–86. Available at: https://doi.org/10.7454/jurnalkessos.v21i1.253.

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.

Putri, N.K., Laksono, A.D. and Rohmah, N. (2023) 'Predictors of national health insurance membership among the poor with different education levels in Indonesia', *BMC Public Health*, 23(1), p. Article number 373-Article number 373. Available at: https://doi.org/10.1186/s12889-023-15292-9.

Rukmini, R. et al. (2022) 'Non-Communicable Diseases among the Elderly in Indonesia in 2018', *Indian Journal of Forensic Medicine & Toxicology*, 16(1), pp. 1026–1036. Available at: https://doi.org/10.37506/ijfmt.v16i1.17631.

Savitha, B. and Banerjee, S. (2020) 'Education and Experience as Determinants of Micro Health Insurance Enrolment', *International Journal of Health Policy and Management*, 10(4), pp. 192–200. Available at: https://doi.org/10.34172/ijhpm.2020.44.

Sukartini, T. *et al.* (2021) 'Factors Associated with National Health Insurance Coverage in Indonesia', *F1000Research*, 10, p. 563. Available at: https://doi.org/10.12688/f1000research.53672.1.

Wagstaff, A. and Neelsen, S. (2020) 'A comprehensive assessment of universal health coverage in 111 countries : a retrospective observational study', *The Lancet Global Health*, 8(1), pp. e39–e49. Available at: https://doi.org/10.1016/S2214-109X(19)30463-2.

Wang, Q. *et al.* (2021) 'Preferences for long-term care insurance in China: Results from a discrete choice experiment', *Social Science and Medicine*, 281, pp. 114104–114104. Available at: https://doi.org/10.1016/j.socscimed.2021.114104.

Wiseman, V. *et al.* (2018) 'An evaluation of health systems equity in Indonesia: Study protocol', *International Journal for Equity in Health*, 17(138), pp. 1–9. Available at: https://doi.org/10.1186/s12939-018-0822-0.

Wulandari, R.D. *et al.* (2019) 'Socioeconomic Disparities in Hospital Utilization among Elderly People in Indonesia', *Indian Journal of Public Health Research & Development*, 10(11), p. 2192. Available at: https://doi.org/10.5958/0976-5506.2019.03885.3.

Wulandari, R.D., Laksono, A.D., Sillehu, S., *et al.* (2022) 'Health Insurance Ownership among Moluccans in Indonesia', *Indian Journal of Community Medicine*, 47(3), pp. 332–335. Available at: https://doi.org/10.4103/ijcm.ijcm_593_21.

Wulandari, R.D., Laksono, A.D., Nantabah, Z.K., *et al.* (2022) 'Hospital utilization in Indonesia in 2018: do urban-rural disparities exist?', *BMC Health Services Research*, 2022(22), pp. 491–491. Available at: https://doi.org/10.1186/s12913-022-07896-5.

Wulandari, R.D. *et al.* (2024) 'Membership in National Health Insurance Among Workers in Indonesia', *Jurnal Administrasi Kesehatan Indonesia*, 12(2), pp. 280–291. Available at:

Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v13i1.2025.9-19

https://doi.org/10.20473/jaki.v12i2.2024.280-291.

Xie, R. (2022) 'The Influence of Education Level, Gender, Race, Marital Status, Age, and Occupation on the Wage of the General Population', in *2022 7th International Conference on Social Sciences and Economic Development (ICSSED 2022)*. Atlantis Press, pp. 926–932. Available at: https://doi.org/10.2991/aebmr.k.220405.155.

Ziegler, S. *et al.* (2024) 'A step closer towards achieving universal health coverage: the role of gender in enrolment in health insurance in India', *BMC Health Services Research*, 24(1), p. 141. Available at: https://doi.org/10.1186/s12913-023-10473-z.