Intended for healthcare professionals

Journal of Primary Care & Community Health

Read our latest Published Special Collection:
"Access to Care During Disasters for America's Underserved Communities"

All Issues

Current Issue

Submit Paper

Latest Articles | Most Read

Privacy

Most Cited | Trending on Altmetric

Articles most recently published online for this journal.

Ethnicity, Social Determinants of Health, and Pediatric Primary Care During the COVID-19 Pandemic

Pyone David, Sarah Fracci, Jennifer Wojtowicz, Erin McCune, Katyln Sullivan, Garry Sigman, Julie O'Keefe, Nadia K. Qureshi

First published: 13 Jul 2022

View More

Tell us what you think

We're continually looking for ways to enhance the site to make sure you're having the best experience. We greatly value your feedback!

Feedback

Editorial Team

Editor-in-Chief

- Kurt Angstman, MD
  Mayo Clinic

View All

Email Alerts

Sign up and receive alerts:

- With the latest Table of Contents

Privacy

- When new articles are published online

Sign Up

More from this Journal

Special Collection Index

Open Special Collections

Related Journals

INQUIRY: The Journal of Health Care Organization, Provision, and Financing

Health Services Research and Managerial Epidemiology

Journal of Health Services Research & Policy

Privacy

International Journal of Care Coordination

View More

Connect with us

Journal of Primary Care & Community Health

All Articles

Articles: 1 – 20 of 1050

Original Research

Ethnicity, Social Determinants of Health, and Pediatric Primary Care During the COVID-19 Pandemic

Pyone David, **Sarah Fracci**, **Jennifer Wojtowicz**, **Erin McCune**, **Katyln Sullivan**, **Garry Sigman**, **Julie O'Keefe**, **Nadia K. Qureshi**

First Published July 13, 2022. https://doi.org/10.1177/21501319221112248

Abstract

> Preview

Original Research

Buprenorphine Waiver Attitudes Among Primary Care Providers

Benjamin Lai, **Ivana Croghan**, **Jon O. Ebbert**

First Published July 13, 2022. https://doi.org/10.1177/21501319221112272

Abstract

> Preview

Reviews

Paternal Postnatal Depression During COVID-19 Pandemic: The Role of Health Care Providers

Zahra Yazdanpanahi, **Maryam Vizheh**, **Marzieh Azizi**, **Mahboubeh Hajifoghaha**

First Published July 11, 2022. https://doi.org/10.1177/21501319221110421

Abstract

> Preview

Original Research

Barriers to Expanding the National Health Insurance Membership in Indonesia: Who Should the Target?

Agung Dwi Laksono, **Zainul Khaqiqi Nantabah**, **Ratna Dwi Wulandari**, **Abu Khoiri**, **Minsarnawati Tahangnacca**

First Published July 11, 2022. https://doi.org/10.1177/21501319221111112

Abstract

> Preview

Original Research

Gender-Related Differences in Social Participation Among Japanese Elderly Individuals During the COVID-19 Pandemic: A Cross-Sectional Survey

Ryohei Goto, PT, PhD, **Sachiko Ozone**, MD, PhD, **Shogo Kawada**, PT, MS, **Shoji Yokoya**, MD, PhD

First Published July 11, 2022. https://doi.org/10.1177/21501319221111113

Abstract

> Preview

Privacy

Journal of Primary Care & Community Health

Editorial Board

Hide All

Editor-in-Chief

Senior Associate Editor

Founding Editor

Associate Editors

Editorial Board

More about this journal


Description


Aims and Scope


Abstracting/Indexing


Submit Paper

Original Research

Barriers to Expanding the National Health Insurance Membership in Indonesia: Who Should the Target?

Journal of Primary Care & Community Health
Volume 13: 1–7

DOI: 10.1177/21501319221111112
journals.sagepub.com/home/jpc
SAGE

Agung Dwi Laksono[1,2], Zainul Khaqiqi Nantabah[1], Ratna Dwi Wulandari[2,3], Abu Khoiri[4], and Minsarnawati Tahangnacca[5]

Abstract

Background: The Indonesian government initiated National Health Insurance (NHI) to reduce health service barriers. The study aimed to analyze specific targets for expanding the NHI's membership in Indonesia. **Methods:** The study population was all populations in Indonesia. Meanwhile, the study involved a 47 644 weighted sample. The analyzed variables included NHI's membership, residence, age, gender, education, employment, marital status, and wealth. The study employed binary logistic regression in the final step. **Results:** The urban population was 0.608 times less likely than the rural population to become a non-member of NHI. Aging younger was one of the barriers to becoming an NHI member, and the male gender is one of the barriers to becoming an NHI member. Meanwhile, the lower the education level, the greater the obstacles to becoming an NHI member in Indonesia. Besides, the unemployed population was 1.002 more likely than the employed population to become a non-member of NHI. The result shows that never married or married have a higher chance of becoming a non-member of NHI. Finally, all wealth status categories are more likely to become barriers to the most prosperous population becoming an NHI member. **Conclusions:** The study concluded that 7 population characteristics become specific targets for expanding NHI membership in Indonesia. The 7 characteristics are the population who live in rural areas, are young, male, poor education, unemployed, never married or married, and poor.

Keywords

health insurance, National Health Insurance, health policy, big data, population survey, public health

Dates received 28 April 2022; revised 14 June 2022; accepted 15 June 2022.

Introduction

In Indonesia, the National Health Insurance (NHI) policy strives to provide the fundamental needs of good public health for everyone who has paid dues or whose contributions are covered by the government. As a result, all Indonesian citizens, including foreigners who have worked in Indonesia for at least 6 months and paid dues, must join the NHI Program, which the Health Social Security Administering Agency (HSSAA) administered.[1,2]

By 2020, 222.5 million individuals will have signed up for the NHI, equating to 81.3% of Indonesia's total population. According to the NHI Program's plan, Indonesia Government has said that Universal Health Coverage (UHC) will be achieved by the end of 2019. Universal participation or all Indonesians have joined the NHI is one indication for UHC. As a result, around 18.7% of the population remains uninsured under NHI.[3] Furthermore, 2019 has passed, and the empirical facts state that UHC has not yet materialized. The government needs even more strenuous efforts to make all people in Indonesia covered by the NHI. The government needs to understand the barriers for people to becoming members of the NHI.

NHI membership consists of CARs (contribution assistance recipients) and non-CARs (non-contribution assistance recipients). As specified by Law No. 40 of 2004 concerning

[1]National Research and Innovation Agency, Republic of Indonesia, Jakarta, Indonesia
[2]The Airlangga Centre for Health Policy (ACeHAP), Surabaya, Indonesia
[3]Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia
[4]Faculty of Public Health, Universitas Jember, Jember, Indonesia
[5]Faculty of Health Science, Syarif Hidayatullah Jakarta State Islamic University, Jakarta, Indonesia

Corresponding Author:
Ratna Dwi Wulandari, Department of Health Policy and Administration, Faculty of Public Health, Universitas Airlangga, Universitas Airlangga Campus C Mulyorejo, Surabaya 60115, Indonesia.
Email: ratna-d-w@fkm.unair.ac.id

the National Social Security System, people defined as poor and underprivileged whose payments are paid by the government as participants in the NHI program are eligible to participate in the CAR. CAR participants get funding from the State Revenue and Expenditure Budget and the Regional Revenue and Expenditure Budget.[1] The total number of participants in the CAR group was 132.8 million.[3]

On the other hand, the regulation classed non-CAR participants as not poor or privileged and made their contributions to HSSAA individually or collectively. These participants can pay through payroll deductions or monthly payments to HSSAA with a premium amount determined by their class participation.[1,4] At the end of 2020, the non-CAR category includes 55.1 million people who have premiums taken from their paychecks and 35.3 million self-employed people.[3]

The number of participants contributes to the number of HSSAA admissions. In reality, HSSAA often runs a budget deficit, and the expenditure is not proportional to revenue. Furthermore, one of the continuous efforts is to increase the number of participants and participation in premium payments. The situation is inseparable from the attitude of public acceptance to be willing to become an NHI member and comply with premium payments following provisions.[4-6]

Previous studies have confirmed several variables that contribute to premium compliance, that is, family members, financial difficulties, participation in other insurance, knowledge of health insurance schemes, and availability of health workers.[4,7-9] The study also finds different drivers in each region. It suggests that policy designs must consider these differences, as effective in one area may not be effective in another location.[10] Moreover, previous studies also indicate that ownership of health insurance can increase public access to health services.[11-13]

The government does not just create and implement NHI policy. Both approaches include community engagement. In a democratic democracy, the community's role is more than just that of a target and policy advocate; it is, nonetheless, a determinant of the policy's success. As a result, a membership study focusing on the elements contributing to NHI membership is required to ensure the program's long-term viability. The study analyzed specific targets for expanding the NHI's membership in Indonesia based on the background.

Materials and Methods

Data Source

The survey was a national-scale survey conducted by the Ministry of Health of the Republic of Indonesia. The research employed secondary data from a previous study ("Abilities and Willingness to Pay, Fee, and Participant Satisfaction in implementing National Health Insurance in Indonesia in 2019"). Meanwhile, the study population was all residents of Indonesia. The study described 47 644 weighted sample participants as research respondents through stratification and multistage random sampling. With this sampling method, the study results are a national representation, involving 715 districts, 1430 villages, and 14 300 households in all Indonesian provinces (34 provinces).

The survey conducted data collection from March to December 2019. The study used household and individual instruments to assess participant characteristics, health insurance ownership, and NHI membership.

Variables

The study employed National Health Insurance (NHI) membership as the dependent variable. NHI membership applies to the respondent's presence in the NHI, whether as an individual member, a required member (civil servant, police, army), borne by the company, or an NHI. There are 2 types of NHI membership: non-member and member. As independent variables, the analysis used 7 variables. The 7 variables were age group, gender, education level, employment status, marital status, and wealth status. There are 2 forms of residence available: urban and rural. The study split the age group into 3 classes in the sample: $\leq$17, 18 to 64, and $\geq$65. Meanwhile, the research classified gender into 2 categories: male and female. There were 4 levels of education: no education, primary, secondary, and higher education. Moreover, there are 2 types of job status: unemployed and employed. Furthermore, the study divided marital status into 3 categories: never married, married, and divorced/widowed.

The study used the wealth index formula to assess wealth status. The wealth index was a weighted estimate of a household's total spending. Meanwhile, the wealth index was determined using primary data on households' spending, such as health insurance, food, lodging, and other products. Furthermore, the survey divided the income index into 5 categories: the poorest (quintile 1), poorer (quintile 2), middle (quintile 3), richer (quintile 4), and the richest (quintile 5).[14,15]

Data Analysis

The study used the Chi-Square test in the initial stage of the sample to make a bivariate comparison. Furthermore, the study employed a collinearity test to ensure no intense correlation between independent variables in the resulting regression model. The research used a binary logistic regression in the study's final point. The survey carried out this test to explore the multivariable relationship between all independent variables and NHI membership as the

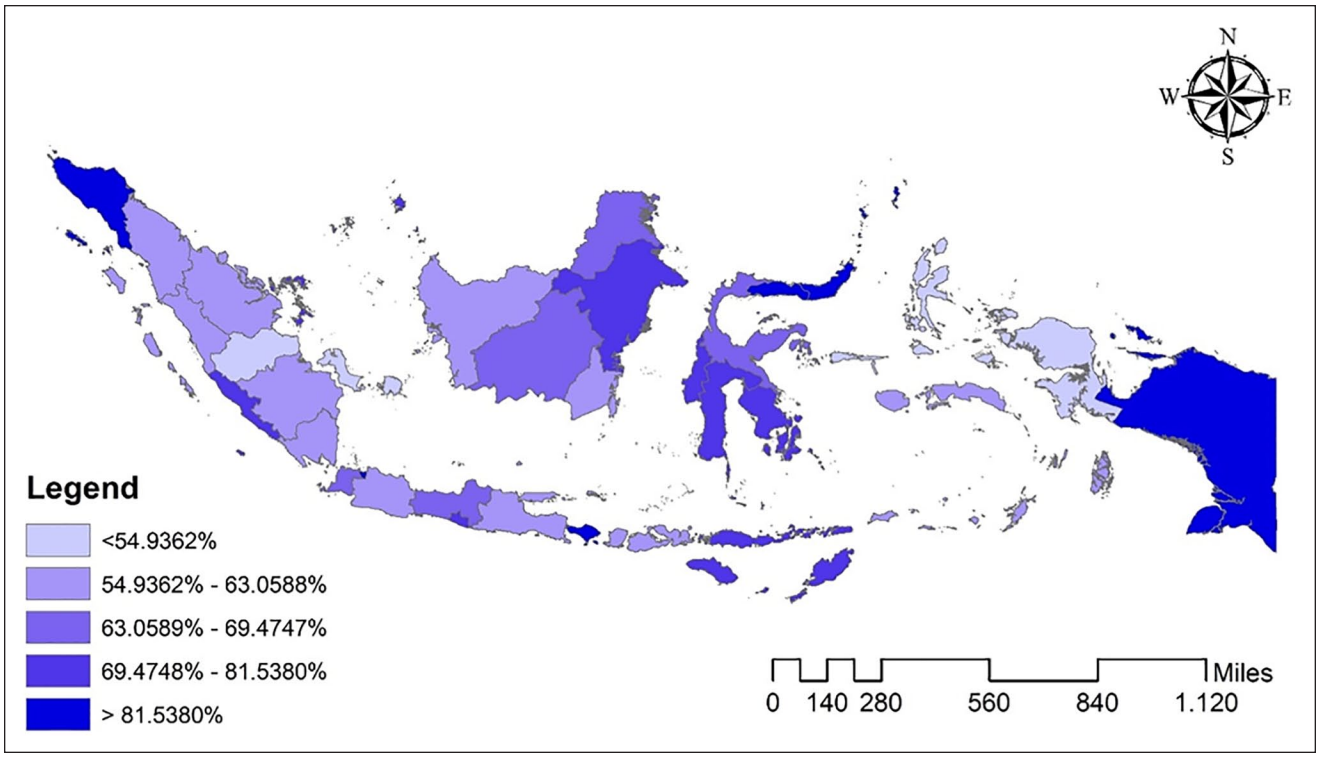

Figure 1. Distribution map of NHI membership by the Province in Indonesia in 2019 (n = 47 644).

dependent variable. The study used the IBM SPSS 26 program for the entire statistical analysis process.

On the other hand, the research used ArcGIS 10.3 (ESRI Inc., Redlands, CA, USA) to map NHI membership distribution by the province in Indonesia in 2019. The study issued a shapefile of administrative boundary polygons by the Indonesian Bureau of Statistics for the task.

Results

Figure 1 shows the distribution map of NHI membership by the Province in Indonesia. The figure shows the random distribution. Moreover, there is no specific pattern that can indicate a spatial trend.

Table 1 shows the results of descriptive statistics of NHI membership in Indonesia. The work shows the rural area population tends to rule the non-member NHI group based on residence type. The people in the 18 to 64 age group occupied the non-member NHI group regarding age groups. Based on education level, the population in secondary education controls the non-member NHI group.

According to employment status, the unemployed population overbearing the non-member NHI group. Meanwhile, based on marital status, the people that never married occupied the non-member NHI group. Finally, the most impoverished population rules the non-member NHI group based on wealth status.

The following analysis was the collinearity test of NHI membership in Indonesia. The analysis results indicate that there is not a strong correlation between the independent variables. The tolerance value for all variables is more significant than 0.10, and the variance inflation factor (VIF) value for all factors is less than 10.00 simultaneously. The report then concluded that there were no multicollinearity signs in the regression model, pointing to the test's decision-making basis.

Table 2 shows the result of binary logistic regression of NHI membership in Indonesia. The urban population is 0.608 times less likely than the rural population to become a non-member of NHI (AOR 0.608; 95% CI 0.607-0.608). The situation informs that living in a rural area was one of the barriers to becoming an NHI member in Indonesia.

Regarding age group, Table 2 shows that the population in the ≤17 age group is 1.575 more likely than ≥65 to become a non-member of NHI (AOR 1.575; 95% CI 1.573-1.578). The 18 to 64 age group population is 1.310 more likely than ≥65 to become a non-member of NHI (AOR 1.310; 95% CI 1.309-1.312). This information shows that the younger was one of the barriers to becoming an NHI member in Indonesia.

Table 2 informs that the male population is 1.028 more likely to become a non-member of NHI (AOR 1.028; 95% CI 1.028-1.029). This analysis indicates that the male gender is one of the barriers to becoming an NHI member in Indonesia.

Table 1. Descriptive Statistic of NHI Membership in Indonesia (n = 47 644).

Characteristics	NHI membership		*P*-value
	Member (n = 32 283) (%)	Non-member (n = 15 361) (%)	
Type of residence			<.001
Urban	31.2	20.3	
Rural	68.8	79.7	
Age			<.001
≤17	27.0	35.2	
18-64	66.5	59.6	
≥65	6.5	5.1	
Gender			<.001
Male	50.1	50.7	
Female	49.9	49.3	
Education level			<.001
No education	13.1	21.3	
Primary	56.6	56.8	
Secondary	24.0	18.9	
Higher	6.3	3.0	
Employment status			<.001
Unemployed	51.6	56.7	
Formal	48.4	43.3	
Marital status			<.001
Never married	42.0	47.5	
Married	51.7	47.1	
Divorced/widowed	6.3	5.4	
Wealth status			<.001
Poorest	19.0	22.2	
Poorer	19.8	20.3	
Middle	19.6	20.8	
Richer	20.4	19.1	
Richest	21.2	17.6	

Based on education level, the no education population is 2.601 more likely than the higher education population to become a non-member of NHI (AOR 2.601; 95% CI 2.596-2.605). The primary education population is 1.707, more likely than the higher education population to become a non-member of NHI (AOR 1.707; 95% CI 1.704-1.709). Moreover, the secondary education population is 1.526 more likely than the higher education population to become a non-member of NHI (AOR 1.526; 95% CI 1.524-1.529). This analysis indicates that the lower the level of education, the greater the barriers to becoming an NHI member in Indonesia.

Table 2 shows the unemployed population is 1.002 more likely than the employed population to become a non-member of NHI (AOR 1.002; 95% CI 1.001-1.003). The condition informs that unemployment is one barrier to becoming an NHI member in Indonesia.

Table 2. The Result of Binary Logistic Regression of NHI Membership in Indonesia (n = 47 644).

Predictor	Non-member of NHI			
	P-value	AOR	95% CI	
			Lower bound	Upper bound
Residence: Urban	<.001	0.608	0.607	0.608
Residence: Rural	-	-	-	-
Age group: ≤17	<.001	1.575	1.573	1.578
Age group: 18-64	<.001	1.310	1.309	1.312
Age group: ≥65	-	-	-	-
Gender: Male	<.001	1.028	1.028	1.029
Gender: Female	-	-	-	-
Education: No education	<.001	2.601	2.596	2.605
Education: Primary	<.001	1.707	1.704	1.709
Education: Secondary	<.001	1.526	1.524	1.529
Education: Higher	-	-	-	-
Employment: Unemployed	<.001	1.002	1.001	1.003
Employment: Employed	-	-	-	-
Marital: Never married	<.001	1.058	1.056	1.059
Marital: Married	<.001	1.106	1.105	1.108
Marital: Divorced/ widowed	-	-	-	-
Wealth: Poorest	<.001	1.213	1.211	1.214
Wealth: Poorer	<.001	1.039	1.038	1.040
Wealth: Middle	<.001	1.100	1.099	1.101
Wealth: Richer	<.001	1.022	1.021	1.023
Wealth: Richest	-	-	-	-

Abbreviations: AOR, adjusted odds ratio; CI, confidence interval.

The information shows that never married or married is more likely to become a non-member of NHI in Indonesia. According to marital status, the never-married population is 1.058 more likely than the divorced/widowed population to become a non-member of NHI (AOR 1.058; 95% CI 1.056-1.059). The married population is 1.106 more likely than the divorced/widowed population to become a non-member of NHI (AOR 1.106; 95% CI 1.105-1.108).

Regarding wealth status, Table 2 shows the poorest population is 1.213 more likely than the richest population to become a non-member of NHI (AOR 1.213; 95% CI 1.211-1.214). The poorer population is 1.039, more likely than the wealthiest population to become a non-member of NHI (AOR 1.039; 95% CI 1.038-1.040). The middle wealth population is 1.100 more likely than the richest population to become a non-member of NHI (AOR 1.100; 95% CI 1.099-1.101). Moreover, the richer population is 1.022 more likely to become a non-member of NHI (AOR 1.022; 95% CI 1.021-1.023). This analysis indicates that all wealth status categories have a higher probability of

becoming a barrier to Indonesia's most prosperous population becoming an NHI member.

Discussion

The distribution map of NHI membership by Indonesia's province does not show a particular pattern. Some regions show a higher proportion of the population members of the NHI (indicated by the darker color). Previous studies know this situation as the impact of local policies that expand NHI membership by utilizing local budgets. Provinces of Aceh and Papua recorded local policies with such broad effects. Both have a higher proportion of NHI membership than other provinces.[16,17]

The analysis found that living in a rural area was one of the barriers to becoming an NHI member in Indonesia. Previous studies have shown that this condition is caused by living in rural areas, having limited access, and expensive transportation costs to reach high-quality health services.[18-21] The results of this study are in line with previous research that living in rural areas makes it possible not to participate in NHI.[7,22]

The analysis results inform that the younger age was one of the barriers to becoming an NHI member in Indonesia. Increasing age is allegedly causing a decrease in the quality of health, so it tends to increase health investment. This health investment is realized in health insurance.[23] In addition, finances at old age are more stable than at a young age because they already have a relatively more regular.[17] The situation may cause a lack of NHI membership at a young age. Previous studies have also shown that age is associated with NHI membership.[17]

The study found that the male gender is one of the barriers to becoming an NHI member in Indonesia. The condition can happen because women get more medical services during childbirth, making it possible to take advantage of health insurance.[13,24] In addition, women are more aware of their health status, so they prefer to take advantage of health insurance.[25,26] The results of other studies also show similar results that men are significantly associated with lower NHI membership.[24]

The analysis results show that the lower the level of education, the greater the barriers to becoming an NHI member in Indonesia. Education has a role in selecting information related to health, one of which is health insurance.[27,28] In addition, educated people can better process the information received to make the right decisions.[27,29] Highly educated people have opinions regarding the importance of health insurance participation to anticipate unexpected health events in the future. However, people with low education do not have an awareness of this.[25] The study results align with previous research that inadequate education is an obstacle to NHI membership.[7] On the other hand, a person's level of education has a role in one's perception of the health insurance benefits.[30-32]

The result informs that unemployment is one of the barriers to becoming an NHI member in Indonesia. The situation relates to the income earned. Someone who has worked tends to have health insurance because they already have a fixed income. In addition, the workplace usually facilitates workers with health insurance.[4,33] The study results show similarities with previous studies that work influences NHI membership.[24]

The multivariate analysis result shows that never married or married are more likely to be a non-member of NHI than the divorced/widowed population in Indonesia. Marital status is often related to household income.[34] Married people have many household needs, so they may choose not to become a member of the NHI.[24] In addition, people who are not married tend not to take advantage of health insurance services because they feel they do not need financial risk protection for their health in the future.[17,35] The results of other studies also show that marital status is related to NHI membership.[35]

The analysis results show that all wealth status categories are more likely to become a non-member of the NHI than the wealthiest population. This situation is contrary to previous studies, which informed that the better the wealth status, the higher the probability of having health insurance.[36-39] On the other hand, this analysis's results show that the Indonesian government's efforts to provide subsidies in the form of NHI contribution assistance to the poor have proven effective. The ownership of health insurance for the poor is no different from the rich, which tends to be higher. This situation is also indicated in people's access to health services.[2,15,40] The study results confirm that wealth status is associated with NHI membership.[7,23,35]

The Indonesian government needs to develop policies targeting rural area residents to expand NHI membership. On the other hand, young people are potential targets and also those who are socially vulnerable (low education, unemployed, and poor). Moreover, further qualitative studies are needed on these targets to determine their perceptions of NHI and their reasons for becoming or not becoming NHI members.

The study found education level is the most potent factor related to NHI membership in Indonesia. Focusing on targets with poor education can have a more significant effect on increasing NHI membership in Indonesia.

Study Limitation

This study has strengths related to using big data as an analysis material so that the conclusions can get generalized up to the national level. On the other side, the analysis in this study utilizes secondary data from a previous survey ("Abilities and Willingness to Pay, Fee, and Participant Satisfaction in implementing National Health Insurance in Indonesia in 2019"). The accepted variables are limited to those given by the Ministry of Health of the Republic of

Indonesia. Several other variables previously known to affect health insurance ownership could not be analyzed. These variables include cognitive capacity, prior commercial insurance ownership, having children, and family size.[24,41,42]

Conclusions

Based on the results, the study concluded that 7 population characteristics become specific targets for expanding NHI membership in Indonesia. The 7 characteristics are the population who live in rural areas, are young, male, poor education, unemployed, never married or married, and poor.

The government needs to focus its policy on this specific target to accelerate the expansion of NHI membership in Indonesia.

Acknowledgments

The author would like to thank the Ministry of Health of the Republic of Indonesia, who has agreed to allow the author to analyze the "Abilities and Willingness to Pay, Fee, and Participant Satisfaction in the Implementation of NHI in Indonesia 2019" data in this article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethical Approval

The National Ethics Committee has approved the Ethical clearance of the survey "Abilities and Willingness to Pay, Fee, and Participant Satisfaction in the Implementation of NHI in Indonesia in 2019" (Number: LB.0201/2/KE.340/2019). The study removed from the dataset all the identities of respondents.

ORCID iD

Ratna Dwi Wulandari https://orcid.org/0000-0003-4365-5747

References

1. The Republic of Indonesia. *Law Number 40 of 2004 Concerning the National Social Security System*. 2004. p. 1–28.
2. Wulandari RD, Laksono AD, Matahari R. The effects of health insurance on maternity care in health services in Indonesia. *Int J Innov Creat Chang*. 2020;14(2):478-497.
3. Lidwina A. The Number of HSSAA (BPJS Kesehatan) Participants Reaches 222.5 Million People by 2020 (Jumlah Peserta BPJS Kesehatan Capai 222,5 Juta Orang hingga 2020) [Internet]. 2021. p. 1–2. Accessed June 12, 2021. https://databoks.katadata.co.id/datapublish/2021/01/06/jumlah-peserta-bpjs-kesehatan-capai-2225-juta-orang-hingga-2020?__cf_chl_jschl_tk__=437a2ebbdb136f3d5950b28fac76bc311c62b8ef-1623435823-0-ARTDPon0iYwnRXk3vHr1man3KVnLuPbf9Z10cZrv6r79TzOzduZTL0yKzMFkvg
4. Sari B, Idris H. Determinant of independent national health insurance ownership in Indonesia. *Malaysian J Public Heal Med*. 2019;19(2):109-115.
5. Indiraswari T, Supriyanto S, Ernawaty E, Putri NK. Health insurance literacy: discussion and reaction of Facebook users' towards the national health insurance in Indonesia. *J Public Health Res*. 2020;9(2):1844-1848.
6. Dartanto T, Pramono W, Lumbanraja AU, et al. Enrolment of informal sector workers in the national health insurance system in Indonesia: a qualitative study. *Heliyon*. 2020;6(11):e05316.
7. Andayani Q, Koesbardiati T, Prahastuti AD, Masruroh M, Laksono AD. The barrier to access health insurance for maternity care: case study of female workers in Indonesia. *Med Leg Update*. 2021;21(2):926-932.
8. Rahmadani S, Abadi MY, Marzuki DS, Fajrin MA. Analysis of independent national health insurance ownership of informal workers: Study of market traders in Gowa District, Indonesia. *Enferm Clin*. 2020;30:295-299.
9. Kur'aini SN, Razak A, Daud A, Mallngi A. Economic status of community interest in membership of BPJS health in Duampanua district, Pinrang regency. *Open Access Maced J Med Sci*. 2020;8(T2):36-40.
10. Dartanto T, Halimatussadiah A, Rezki JF, et al. Why do informal sector workers not pay the premium regularly? Evidence from the national health insurance system in Indonesia. *Appl Health Econ Health Policy*. 2020;18(1):81-96.
11. Laksono AD, Wulandari RD, Soedirham O. Regional disparities of health center utilization in rural Indonesia. *Malaysian J Public Heal Med*. 2019;19(1):158-166.
12. Laksono AD, Wulandari RD, Efendi F. Determinants of hospital utilisation among urban poor societies in Indonesia. *Int J Innov Creat Chang*. 2020;12(9):375-387.
13. Laksono AD, Wulandari RD, Rukmini R. The determinant of healthcare childbirth among young people in Indonesia. *J Public Health Res*. 2021;10(1):1890-1934.
14. Laksono AD, Paramita A, Wulandari RD. Socioeconomic disparities of facility-based childbirth in Indonesia. *Int Med J*. 2020;25(1):291-298.
15. Wulandari RD, Supriyanto S, Qomaruddin B, Laksono AD. Socioeconomic disparities in hospital utilization among elderly people in Indonesia. *Indian J Public Health Res Dev*. 2019;10(11):2192-2194.
16. Khairunnisa K, Abdullah A. Implikasi Jaminan Kesehatan Aceh terhadap Jumlah Persalinan Pada Rumah Sakit/Rumah Bersalin Swasta dan Rumah Sakit Kesdam di Banda Aceh (Aceh Health Insurance Scheme Implications to Total Labor at Private Hospital/Maternity Home and Kesdam Hospital in Ba). *J Kesehat Masy Aceh*. 2016;2(1):28-37.
17. Laksono AD, Wulandari RD, Matahari R. The determinant of health insurance ownership among pregnant women in Indonesia. *BMC Public Health*. 2021;21(1):1538.

18. Seran AA, Laksono AD, Sujoso ADP, et al. Does contraception used better in urban areas?: an Analysis of the 2017 IDHS (Indonesia Demographic and health survey). *Syst Rev Pharm*. 2020;11(11):1892-1897.
19. Wulandari RD, Laksono AD, Rohmah N. Urban-rural disparities of antenatal care in South East Asia: a case study in the Philippines and Indonesia. *BMC Public Health*. 2021;21(1):1221.
20. Laksono AD, Wulandari RD, Soedirham O. Urban and rural disparities in hospital utilization among Indonesian adults. *Iran J Public Health*. 2019;48(2):247-255.
21. Wulandari RD, Laksono AD, Nantabah ZK, Rohmah N, Zuardin Z. Hospital utilization in Indonesia in 2018: do urban-rural disparities exist? *BMC Health Serv Res*. 2022;22:491. 2022.
22. Mahmudiono T, Laksono AD. Disparity in the hospitals utilization among regions in Indonesia. *Open Access Maced J Med Sci*. 2021;9:1461-1466.
23. Mulenga JN, Bwalya BB, Gebremeskel Y. Demographic and socio-economic determinants of women's health insurance coverage in Zambia. *Epidemiol Biostat Public Heal*. 2017;14(1):1-9.
24. Okedo-Alex I, Alo C, Akamike I. Determinants of willingness to participate in health insurance amongst people living with HIV in a tertiary hospital in south-East Nigeria. *Niger Postgrad Med J*. 2020;27(3):196-201.
25. Laksono AD, Wulandari RD. Predictors of hospital utilization among Papuans in Indonesia. *Indian J Forensic Med Toxicol*. 2020;14(2):2319-2324.
26. Sisira Kumara A, Samaratunge R. Health insurance ownership and its impact on healthcare utilization: Evidence from an emerging market economy with a free healthcare policy. *Int J Soc Econ*. 2020;47(2):244-267.
27. Wulandari RD, Laksono AD. Education as predictor of the knowledge of pregnancy danger signs in rural Indonesia. *Int J Innov Creat Chang*. 2020;13(1):1037-1051.
28. Kusrini I, Fuada N, Supadmi S, Laksono AD. Education as predictor of low birth weight among female worker in Indonesia. *Medico-Legal Updat*. 2021;21(1):360-365.
29. Rohmah N, Yusuf AA, Hargono R, et al. Determinants of teenage pregnancy in Indonesia. *Indian J Forensic Med Toxicol*. 2020;14(3):2080-2085.
30. Megatsari H, Laksono AD, Ridlo IA, Yoto M, Azizah AN. Community perspective about health services access. *Bull Heal Syst Res*. 2018;21:247-253.
31. Maślach D, Karczewska B, Szpak A, Charkiewicz A, Krzyżak M. Does place of residence affect patient satisfaction with hospital health care? *Ann Agric Environ Med*. 2020;27(1):86-90.
32. Laksono AD, Wulandari RD, Ibad M, Kusrini I. The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*. 2021;21(1):14.
33. Denny HM, Laksono AD, Matahari R, Kurniawan B. The determinants of four or more antenatal care visits among working women in Indonesia. *Asia-Pacific J Public Heal*. 2022;34(1):51-56.
34. Megatsari H, Laksono AD, Herwanto YT, et al. Does husband/partner matter in reduce women's risk of worries?: study of psychosocial burden of covid-19 in Indonesia. *Indian J Forensic Med Toxicol*. 2021;15(1):1101-1106.
35. Liu M, Luo Z, Zhou D, et al. Determinants of health insurance ownership in Jordan: a cross-sectional study of population and family health survey 2017-2018. *BMJ Open*. 2021;11(3):e038945.
36. Mekonnen T, Dune T, Perz J, Ogbo FA. Trends and determinants of antenatal care service use in Ethiopia between 2000 and 2016. *Int J Environ Res Public Health*. 2019;16(5):748.
37. Wilson M, Patterson K, Nkalubo J, et al. Assessing the determinants of antenatal care adherence for Indigenous and non-Indigenous women in southwestern Uganda. *Midwifery*. 2019;78:16-24.
38. Nasution SK, Mahendradhata Y, Trisnantoro L. 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 J Public Heal*. 2020;32(1):19-26.
39. Wulandari RD, Laksono AD, Prasetyo YB, Nandini N. Socioeconomic disparities in hospital utilization among female workers in Indonesia: a cross-sectional study. *J Prim Care Community Health*. 2022;13(2):21501319211072679-21501319211072687.
40. Putri NK, Laksono AD. Predictors of childbirth services in Indonesia. *Int J Public Health Sci*. 2022;11(2):566-573.
41. McGarry BE, Tempkin-Greener H, Grabowski DC, Chapman BP, Li Y. Consumer decision-making abilities and long-term care insurance purchase. *J Gerontol Ser B Psychol Sci Soc Sci*. 2018;73(4):e1-e10.
42. Wang Q, Abiiro GA, Yang J, Li P, De Allegri M. Preferences for long-term care insurance in China: results from a discrete choice experiment. *Soc Sci Med*. 2021;281:114104.