

The Role of Indonesia's National Health Insurance Cadre: A Case Study in Bali

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Abstract. The management of informal sector participants poses the most significant difficulty to universal coverage attempts throughout Indonesia's National Health Insurance era. As a result, in April 2017, BPJS Kesehatan established the JKN Cadre Program. This program intends to expand the number of participants while also improving the collectability of contributions from the informal sector. This study aims to investigate the role of the cadre and explore the supporting, and inhibiting factors of such a program. This study is a qualitative descriptive case study, with data gathered through in-depth interviews. Informants were chosen purposefully. Thematic Analysis was utilized to examine the data, which Source Triangulation subsequently confirmed. The study found that the JKN KIS cadre has five functions, the most important of which is to remind people and collect contributions. Cadre activities included education and outreach, as well as collecting payment arrears receipts. The study also identified three inhibiting and supportive elements for the role of cadre namely individual, environmental, and organisational factors. To reduce unfavourable perceptions of JKN-KIS, it is vital to increase cadre self-actualization, self-esteem, information dissemination, synergy, and quality.

Keywords: Cadre, Health Insurance, Universal Coverage, BPJS Kesehatan

Introduction

Universal Health Coverage (UHC) is a healthcare system that ensures that all country's inhabitants have access to high-quality preventative, promotional, curative, and rehabilitative therapies at a reasonable cost [1]. Indonesia seeks to realise UHC by the establishment of Law Number 40 of 2004 concerning the National Social Security system (SJSN), which is implemented in the form of the National Social Health Insurance Program (JKN) managed by the Social Security Organizing Agency (BPJS) Kesehatan [2]. The JKN itself being implemented nationally in 2014. JKN's explicit goal is to protect the population from catastrophic expenditure due to illnesses, thus improving people's well-being and allowing them to lead productive lives, thereby boosting national productivity [2].

During JKN implementation, investment into digitalisation and information and communication technology (ICT) support the achievement of UHC increase considering the country's geography, which is composed of thousands of islands [3]. ICT is believed to improve efficiency and boost the achievement of UHC. Evidence from several low and middle-income countries (LMICs) suggests that digital insurance management systems can help to increase the number of enrollees for insurance, especially among poor households [4]-[15]. Although JKN applied digitalisation and ICT in its operation, several problems still arose, for instance, the scope of participation that covered only some of the Indonesian population and the low collectability of independent participant contributions. Therefore in 2017, BPJS Kesehatan formed a program, the JKN cadre. The cadre solution is used because of the people of each work area, a heterogeneous community, and limited human resources. It is expected to facilitate the approach to the community as a door-to-door [3],[16]. From the testimonials given by JKN cadres who serve in urban areas, the cadres face various obstacles in carrying out their duties. One is the distance between the locations of assisted families that are far apart, families who refuse to pay dues and community complaints [17].

In Denpasar, Bali, the remaining problem is independent participants' collectability. The collectability of independent participant contributions is still the lowest. The implementation of the JKN cadre Program has been running for several years. Evaluation of the role of JKN cadres and inhibiting and supporting factors for JKN cadres in carrying out their functions are necessary to be carried out for program improvement. Therefore, this study aims to investigate the role of the cadre and explore the supporting, and inhibiting factors of such a program in the BPJS Kesehatan Denpasar Branch Office in order to improve the implementation of JKN cadre program and boost the achievement of UHC in Indonesia.

1. Material and Methods

1.1. Data collection

To achieve the study's aims, qualitative research with a case study design was used to explore the role of JKN cadres. Data was collected through In-depth Interviews (IDIs) using the Indonesian language. The interview covered the following key topics: cadre routine tasks and functions, supporting and inhibiting factors during the implementation of their tasks. This qualitative employs an inductive approach, which means that researchers explore every detail of the data to find categories, dimensions and relationships between data so they can draw a general conclusion [18].

1.2. Participants

Participants were recruited using snowball sampling. Snowball sampling is a frequently employed sampling technique in qualitative research, used in medical science and various social sciences, for instance sociology, political science, anthropology, and human geography [19]. This technique was

employed because no exact data regarding JKN cadre at the BPJS Kesehatan. One JKN cadre was invited to participate from author's network then first cadre recommended others. There is no predetermined sample size is needed as we used the principle of saturation to reach a proper sample size for this strand, i.e., when no more new information or insights can be collected by conducting further interviews [20],[21]. The eligibility criteria are set as follows: active cadres registered in BPJS Kesehatan Denpasar branch, physically and mentally healthy, have worked for six months and are willing to participate. Informants consisted of three JKN-KIS cadres. One internal BPJS Kesehatan Denpasar Branch Office staff participated in the study for a source of data triangulation.

1.3. Data Analysis

Data gained from IDIs were analysed using thematic analysis. Thematic analysis steps include interview transcription, familiarisation of data, open coding of the entire data, axial coding (identifying the association of codes and integrating associated codes into a thematic category), and selective coding (selecting and integrating categories into main themes) [22]. NVivo 12 Plus software was utilized in the data analysis process. Strategies to increase the trustworthiness of the research findings included triangulation sources [23] and peer debriefing [24],[25]. Data validation is carried out by triangulation of sources to validate data between the key informants and the internal officer of BPJS Kesehatan Denpasar Branch Office.

1.4. Ethical Consideration

This study has been granted Ethics Approval Number: 1820/UN14.2.2.VII.14/LP/20019 by the Ethics Commission, Faculty of Medicine, Udayana University. Hence, the data is anonymised to protect confidentiality. All participants had given their consent and this study was conducted conforming to the Declaration of Helsinki.

2. Results

This study's informants included three cadres and one BPJS Kesehatan Denpasar Branch officer. The following Table 1 illustrates the characteristics of the informants.

Informant	Gender	Education	Occupation	Length of work
C_M_I1	Man	High School	Employees and JKN cadre	1 year
C_M_I2	Man	Bachelor	Retirees and JKN cadre	1 year
C_M_I3	Man	Vocational School	Freelancer and JKN cadre	3 years
O_W_I4	Woman	Master	BPJS Kesehatan Denpasar Branch Office (Internal Staff)	6 years

Table 1. Characteristics of Study Informants

As shown, all cadres are men with differing educational backgrounds. One cadre is an employee and becoming a cadre is his part-time job, the other one is a retiree and the last one also works as a freelancer. The time spent as a cadre is between 1 to 3 years. The officer from BPJS Kesehatan has the responsibility as the cadre agent and takes care of all cadre needs and requirements. She holds a master's degree status and has been working for 6 years.

2.1. The Role of JKN Cadre

From in-depth interviews with informants, the study found that JKN cadres have five functions in carrying out their job, namely: contribution reminder function, participation function, social marketing function, as well as education and complaint handling functions. In its implementation, the education function is carried out in conjunction with the complaint handling function. Table 2 summarizes the implementation of each cadre function.

Role	Job Description	Target
Reminder and Collecting Dues Function	This is the primary function of a cadre. Cadre making home visit and gathering proof that arrears have been paid by JKN participants	JKN participants listed on form C who have not made any insurance contributions for 21 months
Membership Function	This is a situation-specific function, cadre need to make report details about those wishing to sign up as JKN participants.	General Public
Social Marketing Function	A situational function that requires cooperation with the community and government officials at the village or sub-village level in order to carry out its functions.	General Public
Education and complaint handling Function	This is secondary function, cadres performing education and complaint handling during house visits, as well as JKN socialization among the broader public.	JKN participants listed on form C who have not made any insurance contributions for 21 months

Table 2. The Cadre Functions

Table 2 shows that the cadre performs a variety of duties, some of which are primary, others secondary, and all of which target diverse demographics. Detail IDI results and quotations will be described below

2.1.1. Reminder and Contribution Collection Function

All delinquent participants targeted by the cadres have been documented in all forms provided by internal staff to cadres, namely Form C. Form C is a list of arrears participants that JKN cadres target in their work regions, which can include up to 500 delinquent households or participants. However, the JKN cadre's primary goal is to collect ten (10) million rupiah in arrears contribution each month. Form

C contains basic information such as the names, addresses, phone numbers, amount of arrears, and signatures of participants who have been visited. Form C is distributed to cadres every month, with an upgrade or addition to the previous form C. Cadres are allowed to decide how many visits they can make. BPJS Kesehatan internal staff expects JKN cadres to visit at least five (5) visits per day, or twenty-five (25) visits per month. Cadres frequently struggle to meet the desired number of arrears since even if they visit twenty-five times per month, this does not guarantee that the target amount of premium arrears will be met. Not everyone who receives a visit from JKN cadres will want to instantly pay the premium arrears. As a result, JKN cadres frequently conduct additional visits.

'...not necessarily, as I mentioned previously. Yes, personal experience. In May, I just visited 23 families and collected almost 26 million. In June, I visited approximately 43 homes and collected only 25 million. Despite the high frequency of visits, less can be gained...' (Informant C_M_12).

2.1.2. Membership Function

In this duty, JKN cadres assist with membership registration. However, this function is not implemented precisely; rather, it is implemented exclusively in certain situations. In other words, cadres only register participants when it is necessary or when a society requests assistance directly. In carrying out this role, JKN cadres notified to the internal staff of BPJS Kesehatan about the participant data information required for registration. Previously, JKN cadres could access the online participant registration application. However, cadres still could not comprehend the application and found it detrimental. This is because the cadre needs to utilize their internet data, which is not covered by the BPJS Kesehatan.

"... we are handed an application, but we must commit with a photocopy of our ID and a letter stating that we would be responsible for the application. Four active cadres had never used it because they felt it was too difficult and required mobile data. After all, the office did not cover the mobile data, so we thought let the office handle it..." (C_M_13)"

2.1.3. Social Marketing Function

The social marketing function is when JKN cadres engage in initiatives that involve direct connection with the community and government instruments. Social marketing operations include cooperation between JKN cadres and the head of the environment and government officers at all levels (sub-district office staff, village office staff), as well as collaboration between JKN cadres and officials and Hamlet (sub-village) staff to carry out BPJS Kesehatan socialization. In implementing cooperation or interaction efforts to carry out social marketing, JKN cadres use several attributes provided by BPJS Kesehatan, namely vests, hats, ID Cards and assignment letters. The fact is used to determine that the cadre is indeed an extension of BPJS Kesehatan and can be trusted to carry out its functions.

"... we also have socialisation in the Banjar (community hall). We made an appointment with Kelian (community leader); the Kelian then gathered the residents, usually once a month, with activities like devotional work. We are there; the time is set aside for 1 hour; giving socialisation to the citizens... (C_M_13)."

2.1.4. Education and Complaint Handling Function

In the educational function, JKN cadres provide information the public needs to know about JKN. The main target of education in this function is the delinquent participants. This is because the delinquent participants are the participants who most often have misperceptions about JKN. Since its implementation in 2014, several shortcomings have occurred due to the transition to the new system. Many people have been disappointed because of rumors and the dissemination of information about JKN, which is still not good; therefore, many have lost faith in JKN. Based on this, education at the individual level must improve and straighten out. The provision of education is not only based on cadre guidelines but also on telling the cadres' personal experiences about the benefits of JKN.

"... Yes, we take things slowly at first; if we get right to the point, they will be terrified. If they are incorrect, we believe they will be much more dissatisfied. Later, after the situation has calmed down, I tell the appropriate person and try to assist by offering alternatives for how they can pay... (C_M_I1)."

2.2. Factors that support and impede the JKN cadre in carrying out their responsibilities.

This study also explores the aspects that support and hinder JKN cadres in performing their duties. According to the results of IDIs, cadres stated that various elements can affect their performance in carrying out their responsibilities or activities in society, namely environmental factors, organizational factors, and individual factors. Table 3 below depicts the results of the IDIs.

Factors	JKN cadre		
	Individual	Environment	Organisational
Enabling	1.Motivation: to gain additional income, awareness of the importance of JKN, 2.Social activities, 3.Appreciation and pride	Visiting distance is very accessible.	1. Award and reward from BPJS Kesehatan 2. Mentoring
Barrier	Negative thought: embarrassment, pessimism, hardship, and disappointment.	Locating the participating house is difficult.	Fast changing of JKN regulation without socialisation

Table 3. Enabling and Barriers to Performing Cadre's Functions

From the interviews, the respondents highlighted that individual, environmental and organisational elements can be the hurdles and supporters in carrying out their jobs. Detail of the IDI result is presented as follows.

2.2.1. Individual Factors

All three informants stated that they became JKN cadres to supplement their income and to get the benefits of JKN ownership, which was especially useful while they were sick.

'...first of all, income, sis. Then secondly, I think it's important to make people aware of the importance of government programmes...(C_M_11)'

Not all informants became cadres because of their initiative and experience. The informants became a JKN cadre due to offers from internal staff and the invitation of friends who, at that time, had become part of the JKN cadre. Various kinds of things that informants feel while in the field can be a motivation for JKN cadres. While carrying out his role. The informants admitted that they felt ashamed, troubled, pessimistic and disappointed when they faced the community's insults when they started their role in the field. This can certainly contribute to the un-optimal performance of JKN cadres because it can damage the enthusiasm of cadres in carrying out their functions in the area. However, it is not only the negative things that cadres feel while doing their task. There are several positive things that the cadre gains from being a cadre, feelings of pride, self-esteem, and self-satisfaction by seeing the changes that informants see over time.

'...frankly, in the beginning, I was embarrassed. Going into the alleys like a debt collector. But over time, being able to realise that they owe millions of dollars, so it is something to be proud of...(C_M_12)'

2.2.2. Environmental Factors

From the interviews with the cadres, the working area adjusted to where the cadres live is a thing that benefits the cadres. Since Denpasar is an urban area, the working area of JKN-KIS cadres is not far apart. This certainly facilitates the performance of JKN-KIS cadres during field visits. JKN cadres are equipped with participant information in Form C to carry out their roles. Information includes the name, address, telephone number, amount of arrears and signatures of participants who have been visited. BPJS Kesehatan obtained the data based on what the participants had written at the time of registration. This information will be a supporting factor for JKN-KIS cadres to carry out their roles. However, if the information provided by the community needs to be completed or validated, this will be one of the obstacles for cadres in carrying out their functions.

'Occasionally, the address and phone number are missing from the C form. Sometimes the phone number can't be contacted. There have also been cases where persons have moved, but the neighbourhood leader is unaware of their new address.(C_M_12)'

By inquiring about the whereabouts of the residents with the local Environment Chief, several cadres were able to resolve this issue. Nonetheless, there are instances when certain Chiefs must find out the whereabouts, address, phone number, and movement of their citizenry. The participant cannot be passed by the cadre in that situation. Furthermore, the interview found that people are in arrears due to financial problems, negligence, rumors and disappointment with JKN.

As a result of several arrears holders claiming they lacked the funds to settle the debt, some cadres advised participants to seek assistance with their contributions by going to the Social Service Department. Another factor contributing to society's arrears is disappointment. Public dissatisfaction stems from several factors, including health services, the advantages of the medications offered, the length of payment lines, and rumours circulating through word of mouth and the media. However, people's irrational expectations of health services are what led to the disappointment rather than any shortcomings on the part of health services.

'Most of the time, it's the individuals themselves. People visit hospitals more frequently now that JKN has happened, expecting to be shot or given medication. It turns out that, upon arrival at the health service, the doctor just advised them to rest and may or may not have given them medicine. People were disappointed at that time. In reality, action must be taken based on medical indications. Even when they just have a cold, people frequently attend the service. Therefore, even though it is the doctor's responsibility to deliver treatments that meet expectations, they do not even accept it'(O_W_14).

Even though a large number of participants had premium arrears, some of the delinquent individuals eventually made up the difference. Participants finally paid off the arrears for some reasons, including the influence of the JKN cadre's attitude, their perception of JKN's significance, the necessity of activating their JKN cards, and the need to fulfil administrative requirements.

'...initially due to the cadre approach, and subsequently because they wish to use JKN. There was also a parent who desired to pay for their child to enrol in a college, but their BPJS (insurance) needed to be active.' (C_M_11)

2.2.3. Organizational Factors

Publications like newspapers, radio, and internet media were used by the BPJS Kesehatan Denpasar Branch Office to tell the public about JKN-KIS cadre openings. However according to two (2) of the three informants—all JKN cadres—information regarding available cadre positions was obtained through internal staff and an invitation from a friend who was a JKN cadre at the time.

'All of us were called at the beginning and collected for each subdistrict. Each subdistrict was then given two or three candidates. Next, we were instructed to bring photocopies of the KTP, BPJS card, KK, and the good-behaviour letter directly to the BPJS Kesehatan office. Our understanding of BPJS was the only thing tested in the first interview. Exams in writing make up the second. We also had questions regarding our experiences in the community. Do we join community organisations like STT (Karang Taruna), for instance? Its ability to facilitate communication with the community by making our work in the field easier is the issue..' (C_M_13).

As a token of appreciation, BPJS Kesehatan presented awards to JKN cadres who had the most premium collection achievements. At the beginning of the JKN cadre program, cadres with the highest achievement were granted monthly rewards in the form of electronic devices and vouchers by BPJS Kesehatan at the Branch level worth no more than Rp. 300,000 (equivalent to 17 euros).

However, as time passed, the policy evolved. The prize was then presented to the JKN-KIS cadre who had achieved the most at the national level through BPJS Kesehatan. Every six months, five (5) cadres

with the highest annual achievements are awarded prizes in the form of money and the opportunity to pursue comparative studies or training in Japan. BPJS Kesehatan also offers rewards to JKN-KIS cadres as a form of recognition and rights for their successes. At the start of the JKN-KIS cadre program, each cadre was given an incentive of Rp. 2,500 (equal to 0.14 Euro) per visit and Rp. 500,000 (equal to 28.34 Euro) per month for gasoline allowance. The program was then revised again, and the incentives for JKN cadres were increased to 25% of the total premium arrears successfully collected, as well as the elimination of the monthly gasoline allowance.

"...so the charge used to be Rp 2500 multiplied by the number of trips, and the petrol money used to be Rp 500,000 every month. But now no more petrol money, but the incentive has been doubled to 25% of the amount of fees we may collect. That's how our services as cadres were valued. So we are much more enthusiastic about working...."(C_W_13).

According to the interview, BPJS Kesehatan makes many measures to supervise cadres as they perform their duties, including spot checks. Spot Check is an endeavour by internal staff to determine whether the JKN-KIS cadre is performing its tasks properly in the field, such as examining photos of visits and signatures, as well as whether the explanation provided by the JKN-KIS cadre is thorough and correct. However, spot checks were conducted at random, without the knowledge of JKN-KIS cadres. On the other hand, cadres stated that BPJS Kesehatan's endeavour to support cadres includes a mentoring program. BPJS Kesehatan internal staff mentors JKN-KIS cadres by accompanying them to arrears to observe how they carry out their tasks and teach them how to carry out their functions. Every JKN cadre receives assistance once a month. The study also discovered that BPJS Kesehatan policies that are dynamic or rapidly changing can be problematic for Cadres in the field, particularly when information on policy changes must be effectively distributed by BPJS Kesehatan. This can be disappointing for those who are too late to learn about policy changes. People frequently complain to JKN cadres during visits.

Discussion

This study seeks to investigate the cadre's role in the JKN era and explore their supporting and obstacles factors while performing their duties. The findings of this study will shed light on the JKN cadre's role in Indonesian national health insurance. The present study found that there are five functions of the JKN cadre namely contribution reminder function, participation function, social marketing function, as well as education and complaint handling functions. In its implementation, the education function is carried out in conjunction with the complaint handling function.

JKN cadre program was established by BPJS Kesehatan to maximize efforts to achieve universal health coverage (UHC) through community empowerment with a 'ball pick-up' system. 'Ball pick-up' system means that in carrying out the function of reminding and collecting dues, cadres make house-to-house visits ("a ball pick-up system"). The ball pick-up system is very helpful for people in carrying out their obligations in paying JKN dues due to time and distance constraints [26]. "A ball pick-up system" enables

a more personal approach between cadres and participants, which is projected to hasten the attainment of universal health coverage in Indonesia.

Cadres can persuade and invite participants using intellectual, emotional, and moral messaging. The rationality messaging approach involves delivering messages based on scientific reasoning or empirical evidence. The emotional messaging strategy involves powerfully delivering messages based on affection to elicit empathy or touch one's emotions. Meanwhile, the moral messaging strategy involves communicating messages based on societal norms about right and wrong actions. The moral message technique is frequently employed in addressing societal issues [27]. The three communication techniques were effective in changing community attitudes, particularly those generated by misperceptions about JKN as a result of disappointment and rumour, as well as poor information transmission regarding JKN.

The public is disappointed with JKN implementation for a variety of reasons. The disappointment was generated not by the fault of health services, but by people's unreasonable expectations of them. This phenomenon is called moral hazard, which means expecting more health care because health insurance can cover financial costs associated with poor health behaviour and practices [28]. The case indicates that the public's perception of JKN was developed owing to the perceptual acceptance process, where something that the community expected even before doing health services, and when in reality, it was not what was expected, participants experienced disappointment [29].

Most of this happens due to people's perceptions. Perception is a process by which an individual is aware of a stimulus both from within and outside the individual that affects the individual's senses. In other words, perception is a unique psychological process that affects the absorption and meaning of a message both in forming memories, thoughts or perspectives and in the learning process [30]. A person's perception of something is influenced by several methods: perceptual accentuation, primacy review and stereotypes. Perceptual accentuation is a process that makes an individual see what the individual wants without seeing what is actually around him. Some individuals in this process will be more likely to expect something to be liked as something that should happen. Primacy review is a process in which an individual's initial information or stimulus is used as an overview. The information or stimulus received is then used to describe a subject. Stereotypes are processes when an individual has an inherent impression. Often an individual considers a person with certain characteristics inherent in all people in the same group [30].

Furthermore, many negative rumours are circulating that lack concrete evidence. As a result, the participants' first impression is formed, which makes the community sceptical of the good news even when it is true. This is the condition under which the primacy review method functions. This was also facilitated by participants who had never benefited from the JKN program, since they helped to spread the myth that everything about it was negative [31].

Furthermore, this research also explores supporting and inhibiting factors of JKN cadres in doing their tasks. From the results of in-depth interviews from the cadre side, several factors can affect their

performance in carrying out their functions or activities in society: environmental factors, organisational factors and individual factors [32],[33] . The most important inhibiting and supportive elements affecting JKN cadre performance are those that originate with the individual, including motivation. According to Robbins and Judge in Andjarwati (2015), motivation is a process that describes a person's strength, direction, and tenacity in achieving goals. Meanwhile, Yorks (2001) defines motivation as a force within a person that stimulates or moves them to satisfy their basic needs and desires factors [34]. The cadres were humiliated when they first joined the JKN because of unfavourable community preconceptions about their work as JKN cadres, which harmed their self-esteem. The foregoing concerns are frequently a hurdle since JKN- cadres tend to be discouraged [31],[35] . According to Maslow's hierarchy of needs, a person needs self-actualization and self-esteem, as well as the perception that others respect and value his self-worth. According to Maslow, a person requires a sense of security, not just in terms of protecting himself from danger, but also in terms of defending his job. This can be a barrier for the cadre who is pessimistic about his chances of reaching his goal. This melancholy feeling frequently leads to a person giving up on something [34].

Another form of organizational assistance is the reward and punishment administered by BPJS Kesehatan to JKN cadres. This is consistent with Skinner's Theory of Reinforcement. According to Skinner, offering positive reinforcement in the form of awards can boost a person's motivation after achieving success. Favourable reinforcement can be used whenever an individual makes a favourable achievement, causing the individual to automatically continue to create positive successes to receive a reward. Similarly, negative reinforcement in the form of punishment is provided after the individual acts, causing the individual to avoid repeating the same action in the future [36].

The study also found that BPJS Kesehatan policies are always changing, which can be problematic for Cadres in the field, especially when information about policy changes needs to be efficiently provided by BPJS Kesehatan. This could lead to disappointment for those who were late to learn about policy changes. As a result, participants routinely make complaints to JKN cadres during their visits. The JKN cadres are unaware of the policy changes [37] . Therefore, BPJS Kesehatan needs to optimise the use of ICT in the implementation of JKN. The digital solution might support a country toward the newest information, changes in JKN Policy, and other administrative information. The cadre of JKN can be a health promotor of BPJS Kesehatan to introduce Mobile JKN apps. Several studies believe that digital solutions can help financing arrangements because they save time and can reduce administrative costs more efficiently [38] . In terms of the implementation of ICT within the national health insurance system, Indonesia might learn from Taiwan's experience. Taiwan has an application to increase awareness of self-care and preventive health care for its citizens through the My Health Bank application. Beneficiaries can initiate their account by authenticating themselves on mobile phones or computers to access their health data anywhere. Taiwan also developed Smart card technology on 1 January 2004 [39].

Limitations

The findings in the study are expected to have implications for a better understanding of the function and role of JKN cadres in efforts to achieve UHC in Indonesia. Furthermore, these results are expected to be used as a theoretical reference for similar situations elsewhere in Indonesia. This study also has limitations, a small number of cadres were involved in the study's narrower findings. Furthermore, due to the nature of the qualitative study, the result of this study lacks generalisability.

Conclusion

As an agent of change to support the achievement of universal health coverage in Indonesia, the JKN cadre has five functions in carrying out their job. It spans from contribution reminder function, participation function, social marketing function, as well as education and complaint handling functions. There are numerous barriers and facilitators to implementing the role of JKN-KIS cadres in terms of individuals, the environment, and organizations. Improving synergy, quality, and information dissemination are essential to reduce negative public impressions of the JKN program. Given that the design of this study is a case study, it is too early to make definitive conclusions about the role of JKN cadres in achieving universal coverage in Indonesia. Nevertheless, this study providing a better understanding of the function and role of JKN cadres in efforts to achieve universal health coverage (UHC) in Indonesia. Replication at different locations can result in additional findings. Further research is urgently needed, especially from the community's perspective, to obtain a more comprehensive picture of the role and function of JKN-KIS cadres to achieve universal coverage.

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Author Contributions

PAI and AARSP conceptualised the study. Data curation, PAI. AARSP carried out a formal analysis. PAI and AARSP handled the study's methodology. LRK did validation. AARSP carried out the investigation. Writing the original draft was done by PAI. Writing review and editing were done by PAI and LRK.

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Conflicts of Interest

The authors declare no conflicts of interest.

Reference

- [1] World Health Organization, *What is universal coverage?*, WHO. World Health Organization, (2018). Available at: https://www.who.int/health_financing/universal_coverage_definition/en (Accessed March 12,2020)
- [2] Kementerian Kesehatan Republik Indonesia '*Buku Pegangan Sosialisasi Jaminan Kesehatan Nasional (JKN) dalam Sistem Jaminan Sosial Nasional*', 2013, Departemen Kesehatan RI, pp. 1–75. doi: 10.1017/CBO9781107415324.004.
- [3] Badan Penyelenggara Jaminan Sosial Kesehatan ,*Info BPJS Kesehatan Pentingnya Peran Kader untuk Sukseskan Program JKN-KIS. 53rd edn. Jakarta: Badan Penyelenggara Jaminan Sosial Kesehatan,* 2017, Available at: <https://bpjs-kesehatan.go.id/bpjs/dmdocuments/bcd9d7bfb5e5ecdb9bf958b33ab5c1ae.pdf> .
- [4] T.O. Abolade and A.E Durosinmi, The benefits and challenges of E-health applications in developing nations: a review, 2018. *Proceedings of the 14th iSTEAMS multidisciplinary conference* ALHikmah University; Ilorin, Nigeria
- [5] E.K. Achampong, The state of information and communication technology and health informatics in Ghana. *Online J Public Health Inform.* 4(2):1–13, 2012. doi: 10. 5210/ojphi.v4i2.4191
- [6] J. Antwi and D. Opoku-Mensah, Prospects and challenges of telemedicine at the primary health care level: a basis for certification of providers in Ghana. *Curr J Appl Sci Technol.* 40(2):46–65, 2021 doi: 10.9734/cjast/2021/ v40i231257
- [7] S, Asare, D. Otoo-Arthur, and K.O. Frimpong, Assessing the readiness of the digitization of health records: a case of a municipal hospital in Ghana. *Int J Comput Sci Inf Technol Res* ISSN 2348-120X. 5(4):76–90, 2017.
- [8] O. Okuzu, R. Malaga, K. Okereafor, U. Amos, A. Dosunmu, A. Oyenyin, V. Adeoye, M.N. Sambo and B. Ebenso, Role of digital health insurance management systems in scaling health insurance coverage in low- and Middle- Income Countries: A case study from Nigeria. *Front. Digit. Health* 4:1008458, 2022. doi: 10.3389/fdgth.2022.1008458
- [9] A. Omotosho, P. Ayegba, J. Emuoyibofarhe, and C. Meinel, Current state of ICT in healthcare delivery in developing countries. *Int. J. Online Eng(IJOE).* 15 (8):91–107, 2019. doi: 10.3991/joe.v15i08.10294
- [10] A. Rundqvist and A.V. Schinkel , *Digital transformation of healthcare services in developing countries: an exploratory research of healthtech opportunities in Bottom of the Pyramid (BOP)*

markets [Master of science thesis]. Stockholm: KTH Industrial Engineering and Management (TRITA-ITM-EX 2020:211), 2020.

- [11] M. Saleh and M.S. Konduga, Impact of Information Communication and Technology (ICT) in hospital management system of yobe state hospital management board in Nigeria. *J ICT Res Appl*:1–23, 2015. doi: 10.4107/ 13590091091432750
- [12] F. Shiferaw and M. Zolfo, The role of information communication technology (ICT) towards universal health coverage: the first steps of a telemedicine project in Ethiopia. *Glob Health Action*. 5:15638, 2012. doi: 10.3402/gha.v5i0. 15638
- [13] M.S. Thaiya, K. Julia, M. Joram, and M. Benard , Adoption of ICT to enhance access to healthcare in Kenya. *IOSR J Comput Eng(IOSR-JCE)*. 23(2):45–50, 2021. doi: 10.9790/0661-2302024550
- [14] L. Uadj , Health professionals' challenge in using ICTs to manage their patients: the case of hospitals in Addis Ababa, Ethiopia. *Online J. Nurs. Inform (OJNI)*. 20(2):1–15, 2016,. <http://www.himss.org/ojni>.
- [15] M.M. Willie and P. Nkomo, Digital transformation in healthcare – South Africa context. *Global J Immunol Allergic Dis*. 7:1–5, 2019. doi: 10.31907/2310-6980. 2019.07.01
- [16] L. M. Sitanggang, 'Ini Kiat BPJS Kesehatan Dorong Kolektabilitas Iuran', Kontan.co.id, 20 September 2018. Available at: <https://keuangan.kontan.co.id/news/ini-kiat-bpjs-kesehatan-dorong-kolektabilitas-iuran> (Accessed: 20 February 2021).
- [17] Badan Penyelenggara Jaminan Sosial Kesehatan, 2017 *Kader JKN-KIS BPJS Kesehatan: Testimoni Manis*. Available at: <https://testimonimanis.wordpress.com/2017/08/04/kader-jkn-kis-bpjs-kesehatan/>.
- [18] S. Sastroasmoro, 2014 *Dasar-Dasar Metodologi Penelitian Klinis*. 5th edn. Jakarta: Sagung Seto.
- [19] J Kirchherr and K Charles. Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti-dam movements in Southeast Asia. *PLoS One*. 2018 Aug 22;13(8):e0201710. doi: 10.1371/journal.pone.0201710. PMID: 30133457; PMCID: PMC6104950.
- [20] A.L. Conneeley, Methodological Issues in Qualitative Research for the Researcher/Practitioner', *British Journal of Occupational Therapy*, 65(4):185–190, 2002. doi:10.1177/030802260206500406.
- [21] S. Hesse-Biber, Qualitative approaches to mixed methods practice', *Qualitative Inquiry*, 16(6):455–468, 2010, doi:10.1177/1077800410364611.
- [22] V. Braun and V. Clarke , 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2):77–101, 2006 .doi:10.1191/1478088706qp063oa.

- [23] N. Carter, D. Bryant-Lukosius, A. Dicenso, J. Blythe and A.J. Neville, 'The use of triangulation in qualitative research', *Oncology Nursing Forum*, 41(5):545–547, 2014 doi:10.1188/14.ONF.545-547.
- [24] L.A. Curry, H.M. Krumholz, A. O’Cathain, VLP. Clark, E. Cherlin and E.H Bradley, 'Mixed methods in biomedical and health services research', *Circulation: Cardiovascular Quality and Outcomes*, 6(1):119–123, 2013.doi:10.1161/CIRCOUTCOMES.112.967885.
- [25] I. Vedel, N. Kaur, Q.N Hong, R. El Sherif, V. Khanassov, C. Godard-Sebillotte, N. Sourial, X.Q. Yang and P. Pluye , 'Why and how to use mixed methods in primary health care research', *Family Practice*, 36(3):365–368, 2018. doi:10.1093/fampra/cmz127.
- [26] P.A. Indrayathi, M.D. Kusumadewi, I.M.D. Fridayanti, Informal Workers and its role in Jaminan Kesehatan Nasional. *Proceeding 1st & 2nd Indonesian Health Economics Association (InaHEA) Congres 2014 & 2015*. ISBN : 978-979-9967 4-0-4, 2015
- [27] R. Sibarani and Y. Perbawaningsih, 'Persuasi, Perilaku Merokok, dan Preferensi Anak Muda terhadap Pesan Kampanye Berhenti Merokok', *Jurnal ASPIKOM*, 3(5), p. 986, 2018. doi: 10.24329/aspikom.v3i5.336.
- [28] L. Einav and A. Finkelstein, Moral Hazard in Health Insurance: What We Know and How We Know It?. *Journal Euro Economic Association*. 2018 Aug;16(4):957-982. doi: 10.1093/jeea/jvy017. Epub 2018 May 3. PMID: 30220888; PMCID: PMC6128379
- [29] K. Kirana, Tantangan BPJS Kesehatan: "Moral Hazard" atau, *Kompasiana*. Available at: <https://www.kompasiana.com/kriskirana/55b5c7af397b617f05db111f/tantangan-bpjs-kesehatan-moral-hazard-atau?page=all>, 2015.
- [30] P. B. Sulisty, (2016) *Modul Perkuliahan: Pengantar Ilmu Komunikasi - Persepsi*. Jakarta. Available at: <https://doc player.info/48898201-Pengantar-ilmu-komunikasi.html>
- [31] Humas Badan Penyelenggara Jaminan Sosial Kesehatan (2019) *Mulianah: Kader JKN merupakan Tugas Mulia, Badan Penyelenggara Jaminan Sosial Kesehatan*. Available at: <https://www.bpjs-kesehatan.go.id/bpjs/post/read/2019/1312/Mulianah-Kader-JKN-Merupakan-Tugas-Mulia>.
- [32] S. Sonnentag and M. Frese, Performance Concepts and Performance Theory', in *Psychological Management of Individual Performance*. Chichester, UK: John Wiley & Sons, Ltd, pp. 1–25, 2005 . doi: 10.1002/04700 13419.ch1.
- [33] U. Lehmann and D. Sanders, *Community Health Workers: What do We Know About Them?* Geneva. Available at: https://www.who.int/hrh/documents/community_health_workers.pdf, 2007.
- [34] T. Andjarwati, 'Motivasi dari Sudut Pandang Teori Hirarki Kebutuhan Maslow, Teori Dua Faktor Herzberg, Teori X Y Mc Gregor dan Teori Motivasi Prestasi Mc Clelland.', *Jurnal Ilmu Ekonomi dan Manajemen*, 1(1), pp. 45–54, 2015. Available at:

<https://media.neliti.com/media/publications/243527-motivasi-dari-sudut-pandang-teori-hirark-435de4b7.pdf>.

- [35] R. P. Irianto, 'DJSN Minta Kader JKN Jangan Dianggap Debt Collector', *Media Indonesia*. Available at: <https://mediaindonesia.com/read/detail/265809-djsn-minta-kader-jkn-jangan-dianggap-debt-collector>, 2019.
- [36] M. M. Braungart and R. G. Braungart, 'Applying Learning Theories to Healthcare Practice', in *Health Professional as Educator - Principal of Teaching and Learning*. 2nd edn. Burlington, M.A: Jones & Bartlett Learning, p. 51. 2019 Available at: <https://samples.jblearning.com/0763751375/chapter2.pdf>.
- [37] S. E. Pribadi, Bagaimana Bisa Mengobati Masyarakat, Kalau BPJS Saja Sedang 'Sakit'?, *Kompasiana*, 2019, Available at: <https://www.kompasiana.com/sigit19781986/5d6f4a300d823067b71d6fa2/bagaimana-bisa-mengobati-masyarakat-kalau-bpjs-saja-sedang-sakit%0D>.
- [38] B. Meessen, The role of digital strategies in financing health care for universal health coverage. *Global Health Science Practice*.,6(suppl 1):S29-S40, 2018. <https://doi.org/10.9745/GHSP-D-18-00271>
- [39] P.C Lee, Introduction to the National Health Insurance of Taiwan. In: Lee, PC., Wang, J.TH., Chen, TY., Peng, Ch. (eds) *Digital Health Care in Taiwan*. Springer, Cham, 2022. https://doi.org/10.1007/978-3-031-05160-9_1, available at https://link.springer.com/chapter/10.1007/978-3-031-05160-9_1



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