Article

PAMJ One Health

Research

Determinants of nonrenewal of National Health Insurance (NHI) membership cards among healthcare workers in the Kintampo North Municipality, Bono East Region of Ghana

Mustapha Hallidu, Issah Sumaila

Corresponding author: Issah Sumaila, Department of Public Health, Kintampo Municipal Hospital, Ghana Health Service, Bono East, Ghana. isumaila@st.ug.edu.gh

Received: 11 Jun 2022 - **Accepted:** 23 Aug 2022 - **Published:** 07 Sep 2022

Keywords: Healthcare, renewal, insurance

Cite this article: Mustapha Hallidu et al. Determinants of nonrenewal of National Health Insurance (NHI) membership cards among healthcare workers in the Kintampo North Municipality, Bono East Region of Ghana. PAMJ - One Health. 2022;9(2). 10.11604/pamj-oh.2022.9.2.35861

Available online at: https://www.one-health.panafrican-med-journal.com/content/article/9/2/full

Determinants of nonrenewal of National Health Insurance (NHI) membership cards among healthcare workers in the Kintampo North Municipality, Bono East Region of Ghana

Mustapha Hallidu[1], Issah Sumaila[2,&]

[1]Department of Nursing and Midwifery, Kintampo Municipal Hospital, Ghana Health Service, Bono East, Ghana, [2]Department of Public Health, Kintampo Municipal Hospital, Ghana Health Service, Bono East, Ghana.

[&]Corresponding author

Issah Sumaila, Department of Public Health, Kintampo Municipal Hospital, Ghana Health Service, Bono East, Ghana

Abstract

Introduction: *National Health Insurance Scheme (NHIS) was implemented in Ghana in 2004 to serve as the lifeline to realizing Universal Health Coverage (UHC). Available evidence suggests that formal sector workers do not promptly renew their expired NHIS membership cards. This study was therefore conducted to unearth factors responsible for the failure of healthcare workers in the Kintampo North Municipality to promptly renew their health insurance membership whenever it expires.* ***Methods:*** *a descriptive cross-sectional design was used to conduct this study, where three hundred and ninety-seven (397) participants were recruited using a proportionate stratified sampling technique. All variables with a p-value <0.25 at the bivariate analysis level were selected and put into multiple logistic regression analysis models for statistical significance (p-value <0.05). Odds ratios with their corresponding 95% Confidence Interval were reported. A p-value <0.05 was set as level of significance.* ***Results:*** *almost all the respondents (94.0%) had NHIS membership cards; out of which 70.7% had valid membership cards. Forty percent did not renew their expired NHIS membership cards for more than 7 months. From the study, reasons given for health workers´ inability to promptly renew NHIS membership included: 212 (19.8%) indicated forgetfulness, busy schedules 191 (17.9%), procrastination 167 (15.6%), self-medication 170 (15.9%) and utilization of spiritual homes (4.5%). All socio-economic factors were significantly associated at the bivariate level (p<0.05). However, in the multiple logistic regression model, employment status, the type of health staff and monthly salary lost their statistical significance.* ***Conclusion:*** *NHIS subscription and membership renewals are high among healthcare workers who participated in the study in Kintampo North District of the Bono East Region of Ghana. However, there is the need to encourage those who do not renew their expired cards by NHIA and its accredited facilities sensitizing the general populace on the utilization of mobile phones to renew NHIS membership cards in order to prevent* long waiting time and bureaucracies in renewing NHIS cards. It will be prudent for NHIS to liaise with Government of Ghana (GoG) to put measures in place to facilitate automatic membership renewals for public sector workers who for some other reasons often fail to renew their cards.

Introduction

The National Health Insurance (NHI) was established to be the lifeline of Universal Health Coverage (UHC) across the globe [1]. Universal Health Coverage (UHC) through advance payment funding modality has proven to be a formidable vehicle for realizing the sustainable development goal 3 (SDG 3) [2]. Most developed countries have implemented different modifications of Bismarck, Beveridge, or private health insurance models [1]. However, in Canada, all citizens and individuals who stay there legally have some form of fundamental health insurance coverage, which is provided by the state. This state-owned health insurance policy, however, only covers about a third of residents. This indicates that state-owned health insurance as practiced in Canada is the best option to achieve financial protection and equity [3]. Diverse types of Health Insurance (HI) could be identified in sub-Sahara African countries such as Ghana, Nigeria, Kenya, Tanzania and Uganda [1]. In Ghana, the National Health Insurance (NHI) has a predetermined benefit packages; out of which almost 95% caters for common disorders being treated at health facilities [2]. Benefits under the NHIS package include general out-patients and in-patients care, reproductive, child and maternal care, ophthalmic, oral and emergency care services, and a detail of essential drugs pre-qualified by the NHIA are also paid for by the scheme. Cosmetic surgeries, dialysis and organ transplants are not paid for by the scheme [2]. About half of the world´s population and nearly 800 million people spend about 10% of their household budgets on healthcare services expenditures due to nonrenewal of NHI membership cards. This renders over 100 million people into abject

poverty because of out-of-pockets healthcare services payments [4]. Similarly, it is predicted that, millions of people who fail to renew their NHIS membership cards encounter increased healthcare expenditures annually because of direct disbursements of healthcare delivery services [5].

According to [5], 66% of uninsured households and 70% of households with non-renewed NHIS membership cards could not afford to fully settle the cost incurred from healthcare services for their members. The study again revealed that NHIS enrolment and renewal of memberships in all family members would contribute to 5.9% and 2.0% of household non-food expenditures or overall expenses. Enrolment and renewal of NHI memberships are recognized to have helpful effects in advancing accessibility to healthcare delivery services and produce mechanisms of preventing exorbitant healthcare expenses that have the potential of plunging low resourced households into poverty [6]. Discovery from investigations carried out by [7] on the factors that influence enrolment and retention in Ghana´s NHIS showed that the determinants are multidimensional and encompass all shareholders. It further detected that subscribers register and renew their memberships with NHIS because of the benefits and healthcare service providers´ positive behaviors; limitations to enrolment and retention include but not limited to poverty, disappointments and attitudes of healthcare service providers. Again, traditional risk-sharing arrangements influenced the renewal of membership cards because they need healthcare services.

Formal sector workers are exempted from the flat rate premium deductions because their premiums are deducted from their SSNIT contributions to the scheme. However, that does not qualify them to be automatic members of the scheme until they enroll with any district health insurance management scheme (DHIMS) of their choices and pay the required registration fee [6]. National Health Insurance Scheme (NHIS) subscriptions have been explored by quite a number of scholars, however, these studies were carried out on the scheme managers and service providers with dearth focus directed at subscribers with little attention given to factors influencing nonrenewal of NHIS membership cards among healthcare workers [8]. Some studies have established the factors impacting the enrollment and retention of NHIS memberships in the Ashanti, Eastern, Central and Volta Regions of Ghana [3]. Searches in relevant literature produced no results of scholarly study conducted in Kintampo North Municipality of the Bono East Region regarding factors responsible for the renewal or otherwise of health insurance membership among healthcare workers. It is in view of this that this study was carried out to determine the factors that influence non-renewal of NHIS membership cards among healthcare providers in the Kintampo North Municipality of the Bono East Region, Ghana.

Methods

Study area: the study was conducted in the Kintampo North Municipality of the Bono East Region, Ghana, West Africa. Kintampo North Municipal is located between latitudes 8°45´N and 7°45´N and Longitudes 1°20´W and 2°1´E. It shares boundaries with five other Municipals namely; Central Gonja Municipal to the North; Bole Municipal to the West; East Gonja Municipal to the North East, Kintampo South District to the South; and Pru Municipal to the South-East. Kintampo is the capital of the municipality. The land size of the Municipality is about 5,108km^2. It is located at the centre of Ghana and is a point of transit between the country´s southern and northern sectors (GSS, 2014).

Study design: this was a municipality-based descriptive cross-sectional study that employed quantitative data collection methods. Participants were recruited within a duration of 12 weeks from October 2021 to December 2021 in the Kintampo North Municipality.

Study population: the population under study comprised healthcare workers within the Kintampo North Municipality who were in active service. A total of three hundred and ninety-seven participants were interviewed.

Inclusion and exclusion criteria: all healthcare workers within the Kintampo North Municipality who were in active service were given equal opportunity to participate in the study. Healthcare workers who were on retirement, those doing their national service, students on industrial/clinical attachments were not recruited to participate in the study. Healthcare providers who met the inclusion criteria but were unwilling to participate were excluded from the study.

Sample size estimation, sampling technique and procedure: the sample size was estimated using Yamane´s formula,

$$n = \frac{N}{1 + N(e)^2}$$

Where n = desired sample size, N = population size and e = margin of error [9]. A confidence level of 95% and a margin of error of 5% were used. The municipality had an estimated total healthcare provider of 1061. The final sample size was estimated as 320 including a 10% non-response rate. Eventually, a total of 397 healthcare workers were recruited during the data collection period using google forms from October 2021 to December 2021. Proportionate stratified sampling technique was used to organize participants into two strata, Mechanized staff (849) and casual staff (212). In the second stage, portions of the sample size were allocated to the two categories based on their ratio to the total staff population (mechanized staff = 256 and casual staff = 64). In the final stage of the technique, a link to the Google form questionnaire was sent to the WhatsApp platforms of each stratum. The first 397 entries by end of 31st December 2021 midnight were used for the study.

Data collection tools and procedures: the data was gathered using a structured questionnaire. The questionnaire was designed based on the objectives of the study to elicit information from the participants. The questionnaire was segmented into sections A and B. Whilst section A composed of the socio-economic and demographic characteristics of respondents, section B consisted of the proportion of respondents with valid NHIS membership cards. The questionnaire was piloted among 15 healthcare workers in the Kintampo South District, which shares a geological boundary with the study setting and has similar socio-economic and demographic characteristics as those in the study setting. This was to ensure the reliability and consistency of the instrument. The appropriate corrections were effected before the actual data collection was carried out on the study participants. The questionnaire was digitized and shared with only individuals met the inclusion criteria and consented to participate in the study through WhatsApp. The digitized questionnaire was restricted in such a way that multiple responses from the same device were not allowed.

Statistical analysis: data was downloaded from the Google forms using the embedded Excel extractor from the site and kept on a password-protected computer. It was then cleaned and managed using Microsoft Excel version 16. The data was later exported to Stata version 15 and analyzed. Gender, religion, marital status, and educational level were coded as categorical variables. Age was collected as continuous variable and categorized during analysis. Descriptive statistics were used to present the proportions on background characteristics of the respondents at the univariate level. Binary and multiple logistic analysis were performed to establish the strength of associations between socio-demographic and socio-economic factors influencing the nonrenewal of NHIS membership. All variables with p-value <0.25 at the bivariate analysis level were selected and put into a multiple logistic regression analysis model for statistical

significance (p-value < 0.05). Odds ratio with their corresponding 95% confidence interval were reported. A p-value < 0.05 was set as level of significance.

Ethics approval and consent to participate: the study was carried out in strict adherence to the 1964 Helsinki declaration as revised in 2013 [10]. Ethical clearance was sought and obtained from the Kintampo Municipal Hospital Institutional Review Committee before data was collected. Verbal and written consents were obtained from the participants before they were allowed to participate in the study. Adequate information about the study was provided to the participants regarding the aim of the study. Participants were assured and guaranteed of anonymity, privacy and confidentiality. Furthermore, they were guaranteed of data safety and appropriate data usage and storage on the digitized questionnaire. Only participants who consented were recruited into the study. The digitized questionnaire was shared with only individuals who met the inclusion criteria and consented to participate in the study through WhatsApp and e-mails. The digitized questionnaire was restricted in such a way that multiple responses from the same device were not allowed. All participants´ personal identifiers were deleted from the summarised data, ensuring confidentiality.

Results

Socio-demographic and economic characteristics of respondents: the study surveyed 397 healthcare workers in the Kintampo North Municipality to assess the determinants of nonrenewal of the National Health Insurance Membership card. The demographic characteristics are presented in Table 1. The minimum age of the respondents was 20 years, whiles the maximum age was 48 years. The mean age of the healthcare workers was 31.3±4.7 years. The majority of the healthcare workers (51.9) were in age group 30-39 years, 42.1% were in age group 20-29 years, while 6.0% were in age group 40-49 years. In terms of sex, the healthcare workers were approximately equally distributed, with the females (52.1%) slightly edging out the men (47.9%). More than half of the healthcare workers (75.3%) were Christians. The majority of the healthcare workers (98.5%) reported having attended school before. The healthcare workers were of varying educational levels. Only 1.5% of the healthcare workers had no formal education. Majority of them (96.0%) had tertiary education. More than half of the healthcare workers (48.9%) were married, while 1.5% were divorced. Most of the healthcare workers (98.5%) had a form of a certificate. About half of the healthcare workers (46.3%) have a diploma. Some of the healthcare workers (1.5%) did not have any form of qualification at all. Most of the healthcare workers (82.9%) were mechanized. The majority of the healthcare workers (75.3%) were clinical staff. Most of them (40.1%) had worked for 3-7 years only. Majority of the healthcare workers 41.6% earn at least 2000 Ghana Cedis while 2.6% of them earn less than 500 Ghana Cedis on monthly basis (Table 1).

Proportion of respondents with valid NHIS membership cards: the proportion of respondents who were willing to renew their NHIS membership upon expiration was 81.9% ((95%CI = 77.5 (95%CI = 77.5 - 85.1)). Most healthcare workers in this study 94.0% had NHIS membership card. Out of these, majority, 70.7% had a valid NHIS membership card. Most of the healthcare workers (40.0%) with expired NHIS membership card did not renew their membership for at least 7 months, while 24.4% of them had their cards expired between 0-3 months and 4-6 months respectively (Table 2).

Barriers to renewal of NHIS membership: when asked about factors that prevented healthcare workers from renewing their membership, 212 (19.8%) indicated forgetfulness as the reason why they did not renew their NHIS membership. Those who could not renew their membership due to busy schedules were 191 (17.9%) while 4.5% of the healthcare workers did not renew their NHIS

membership card because they preferred spiritual homes to attending a healthcare facility. Details are as shown in Figure 1.

Motivators for the renewal of NHIS membership: when quizzed about what should be done to encourage healthcare workers to renew their NHIS membership cards on time, it was observed that 271 (29.0%) expressed that strict measures should be put in place to stop self-medication. About a quarter of the healthcare workers were of the opinion that more institutional NHIS offices should be created so that members can easily renew their membership when it expires. Some of the healthcare (8.7%) workers were of the view that membership renewal should be deducted at source (Figure 2).

Demographic factors influencing the nonrenewal of health insurance membership: multiple logistic regression analysis was performed on all variables with p-value < 0.25 at 95% confidence interval. Adjusted odds' ratio showed that level of education, religious affiliation of healthcare workers and their marital status were significant predictors of nonrenewal of health insurance membership in the Kintampo North Municipality. Healthcare workers who have attained tertiary education were 5 times more likely not to renew their NHIS memberships compared to those without a formal education. Also, the healthcare workers who were affiliated to Christianity were 2.8 times likely not to renew their expired NHIS membership card compared to the traditional believers. Those who were divorced were 0.076 times likely not to renew their expired NHIS membership cards compared to those who were single. All other demographic characteristics were not significantly associated to nonrenewal of expired NHIS membership card (Table 3)

Socioeconomic factors influencing the nonrenewal of health insurance membership: all the socio-demographic factors were statistically significant at the bivariate level ($p<0.05$). However, employment status, category of health staff monthly salary lost their significance in the multiple logistic regression model. After adjusting for other variables in the multiple logistic regression model, there were 8.4 folds increased odds of NHIS nonrenewal among postgraduate participants compared to those without formal education (aOR = 8.419, 95% CI = 1.037 - 68.327). With all other socio-demographic factors controlled for, those with working experience of at least 8 years were 63.6% less likely to renew their health insurance membership compared to those who have worked for less than 3 years (aOR = 0.36, 95% CI = 0.153 - 0.868). All other factors that were not statistically adjusted were not significant after adjusting (Table 4).

Discussion

The outcome from this study indicated a higher and least monthly income earnings of 2000 Ghana Cedis (282.20 USD) and 500 Ghana Cedis (70.55USD) respectively. This revelation is inconsistent with a similar study carried out among households in the Ashanti Region which reported 412.94 Ghana Cedis (108.12USD) and 200 Ghana Cedis (52.35USD) respectively [11]. Also, further findings from this study on the socio-economic characteristics of the study participants do not agree with outcomes from similar studies that suggested minimum monthly earnings of 200 Ghana Cedis and 300 Ghana Cedis respectively [12,13]. These minimum monthly income earnings may be as a result of the kind of services they provide, their corresponding salaries, their market premiums and conditions of service, but, this may not translate into the real standard of living of the health workers in the municipality since the actual standard of living could be influenced by their families, household sizes and the state of the country´s economy.

Majority of the participants had some form of certificates. This is consistent with studies which revealed that majority (more than 60%) and more than a third had graduated from at least a senior high school [11,14]. Likewise, the finding in this study supports another one by [15]. However,

most of the participants in this study were tertiary graduates which do not support previous findings from studies carried out in Dormaa Municipality of Ghana and other settings [4,5,7,15]. Again, our finding on the level of education (tertiary) contradicts that of a similar study carried out in the Hohoe Municipality of Ghana [16]. A similar study carried out in Nigeria discovered higher level of education being first degree [17]. The difference in the level of education could be as a result of the kind of services they provide and the certificate requirements for that form of employment. Almost all the respondents were NHIS subscribers and majority of them had a valid NHIS membership cards. This finding is consistent with studies which reported higher proportions for those in the East Gonja District and patients who visited some selected healthcare delivery centers in some selected areas in Ghana [4,18]. However, it is inconsistent with a similar study which discovered that NHIS subscription and renewal rate were low [5]. Again, our finding does not support a similar one which revealed that Social Security and National Insurance Trust (SSNIT) contributors are unlikely to subscribe and renew their memberships with the NHIA [19]. This could be ascribed to the study participants´ job descriptions, knowledge and experience they have gained on how to prevent diseases and not falling sick. Inferences from the study points that, most of the healthcare providers in KNM use NHIS as the key means of seeking healthcare. However, the finding in this study is about two times more compared to the 2012 and 2013 national level of active NHIS membership which were 37% and 38% respectively [20]. Similarly, this study outcome is higher than that of a study established by Manortey *et al*. in Barekese in the Ashanti Region of Ghana [21]. It also supports a study that revealed increment in NHIS subscriptions [12]. Additionally, available literature from a similar work indicated that majority (63.0%) had not renewed their NHIS membership cards which is in contradiction to this current study which revealed less than half of the respondents not renewing their NHIS membership cards [5]. Majority of our study participants were however, willing to renew their NHIS memberships upon expirations. This discovery does not back previous studies findings that revealed that less than half of the people had previously renewed their memberships with NHIS and significant others not willing to renew their cards upon expirations [7,15,22,23].

A number of barriers were identified by the study to be responsible for the nonrenewal NHIS membership cards. These barriers included forgetfulness, busy schedules, self-medications, procrastination and the choice of spiritual homes which do not require NHIS membership cards. These challenges are in variance with studies which reported non affordability of renewal premiums, dissatisfaction of NHIS services, the need to buy drugs outside NHIS accredited facilities, vast distances to health facilities and no transportation fares, NHIS covered drugs are of low quality and feeling being healthy [5,7,12]. Again, this study finding is inconsistent with available literature that stated long waiting in queues to renew NHIS memberships due to administrative protocols as barriers to NHIS dropouts and non-renewals [24]. Evidence from the Hohoe Municipality of Ghana in a different study does not support our findings on the barriers to the renewals of NHIS membership cards [16]. A study conducted in Ghana on the informal sector workers also made discoveries that do not support our findings [25]. However, in the rural South - Western Uganda, findings from a similar study revealed high premiums as the major barrier [26]. The differences in the barriers to the renewal of NHIS membership cards may be due to differences in the geographical settings and the department participants work in. Interestingly, there were a significant number of factors that could be used motivate healthcare workers to renew their membership cards. These reasons included: the need to put in place strict measures to curb self-medications, establishment of institutional NHIS offices, at source deductions or deductions from the Controller and Accountant General's Department (CAGD) for automatic

renewals of NHIS membership cards, creation of renewal centers closer to health facilities and education/promotion of NHIS cards renewals. This is inconsistent with a similar study that reported on geographical accessibility of accredited health facilities in terms of expansion, stringent monitoring mechanisms on health providers and early reimbursement of health providers [27]. Again, our findings contradict that of another study that proposed that the introduction of instant NHIS membership cards at the point of registration and the electronic renewal methods are likely to alleviate and motivate the protracted registration and renewals process [2]. The high mobile phone penetration in Ghana gives a special chance for NHIA to apply the voice or short text messages as techniques to educate the general public about the procedures of the scheme, which can also include sending reminders to NHIS customers whose memberships are nearing expiration to avoid inadvertent loss of memberships; text messages have been confirmed to stay on mobiles phones for longer periods and could remind individuals better and further [2,28]. Above that, findings from our study on the motivators for renewals of NHIS membership cards are inconsistent with that of [7]. The variations in the motivators for the renewals of NHIS membership cards could be attributed to the fact that there are varied ways of motivating clients and they could be client specific depending on choices coupled with individual and group interests.

It was further revealed that, educational level (tertiary), religious affiliation (Christianity) and marital status (being divorced) were significant predictors of non-renewal of NHIS membership cards. This is consistent with previous studies carried out by [3,11]. However, it is in contrast with earlier studies which revealed that educational level, marital status and religious beliefs were insignificant predicators to non-renewal of NHIS membership cards [18,20]. In addition, our findings on educational level being a significant predictor to NHIS nonrenewal agrees with that of [29]. Again, our findings are inconsistent with other discoveries from different studies that suggested that educational level and religious affiliation were significant predictors to non-renewal of NHIS membership cards [28]. The results suggest that having a spouse/partner could be beneficial because of the financial assistance obtained from being in a dual-income household, which increases the probability of renewing NHIS membership cards. Those who had attained tertiary education being more likely not to renew their NHIS membership cards compared to those without a formal education may be because at that level of their educational status, they might have accumulated sufficient knowledge on primary prevention of diseases. Hence, no need to subscribe or renew their NHIS memberships. Furthermore, it is possible they have other alternative health insurance policies.

Limitations: as with self-reported surveys, there was recall bias among some of the study participants in determining exactly when their NHIS membership cards expired. It was a cross sectional study, hence, causality cannot be established. The sample size was not large enough for some factors that were statistically significant, as such they had wider confidence intervals.

Conclusion

Largely, NHIS memberships and retentions are considerably high among healthcare workers who participated in the study in Kintampo North Municipality of the Bono East Region of Ghana. However, forgetfulness, busy schedules, self-medications, procrastination and the choice of spiritual homes are perceived obstacles to the nonrenewal of expired NHIS cards. Hence, there is the need for the NHIA to put in place pragmatic efforts to encourage those who do not renew their expired cards to frequently and timeously renew them. The general public should be educated and conscientised on the use of mobile phones to renew their expired NHIS membership cards to prevent long waiting time and bureaucracies at

NHIA centers. Similarly, NHIA should coordinate with Government of Ghana (GoG) to facilitate automatic membership renewals for public sector workers from source. Assessing the risks associated with the nonrenewal of NHIS membership cards in a comprehensive qualitative study is needful.

Funding: the authors received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors for this work

What is known about this topic

- *The NHIS was implemented in Ghana to improve access to quality healthcare delivery for all populations no matter the social and financial backgrounds;*
- *Underprivileged households captured under health insurance policies have reduced mortality and improved accessibility to healthcare services;*
- *Formal sector workers are excluded from the flat rate premiums deductions because they are taken from their SSNIT contributions to the scheme, but that does not make them automatic members of the scheme unless they enroll with the scheme and pay the required registration fee.*

What this study adds

- *Nearly all the respondents were NHIS subscribers and majority of them had valid NHIS membership cards;*
- *A number of challenges (forgetfulness, busy schedules, self-medications, procrastination and the choice of spiritual homes) were identified by this study to be influencing the nonrenewal of NHIS membership cards;*
- *It will be prudent for NHIS to link up with Government of Ghana (GoG) to put measures in place to facilitate automatic membership renewals for public sector workers who for some other reasons often fail to renew their cards.*

Competing interests

The authors declare no competing interests.

Authors' contributions

Mustapha Hallidu conceptualized the topic, drafted the manuscript and collected the data. Issah Sumaila analyzed the data. All the authors have read, reviewed and agreed to the final manuscript.

Acknowledgments

The authors appreciate the efforts of Prof. Anthony Mawuli Sallar, Raphael Kumah Abolasom, the RHD/MHD, all staffs of Paediatric ward-KMH and all the study participants. All authors have read and consented to the final manuscript.

Tables and figures

Table 1: socio-demographic characteristics of respondents

Table 2: NHIS membership

Table 3: socio-demographic factors influencing the nonrenewal of health insurance membership

Table 4: socio-economic factors influencing the nonrenewal of health insurance membership

Figure 1: reasons why healthcare workers fail to renew their expired NHIS membership cards

Figure 2: what should be done to encourage healthcare workers to renew their NHIS membership cards on time

References

1. Christmals C Dela, Aidam K. Implementation of the national health insurance scheme (NHIS) in Ghana: lessons for South Africa and low-and middle-income countries. Risk Manag Healthc Policy. 2020 Oct 2;13: 1879-1904. **PubMed**| **Google Scholar**
2. Kwarteng A, Akazili J, Welaga P, Dalinjong PA, Asante KP, Sarpong D *et al*. The state of enrollment on the National Health Insurance Scheme in rural Ghana after eight years of implementation. Int J Equity Health. 2019;19(1): 1-14. **PubMed**| **Google Scholar**
3. Aku KM, Mensah KA, Twum P, Agyei-baffour P, Opoku D, Brenyah JK. Factors influencing Nonrenewal of Health Insurance Membership in Ejisu-Juaben Municipality of Ashanti Region. Ghana. 2021. **Google Scholar**
4. Akweongo P, Aikins M, Wyss K, Salari P, Tediosi F. Insured clients out-of-pocket payments for health care under the national health insurance scheme in. Ghana. 2021 May 8;21(1): 440. **PubMed**| **Google Scholar**
5. University of Ghana. University of Ghana digital collections. Accessed Jun 11, 2022.
6. Kusi A, Enemark U, Hansen KS, Asante FA. Refusal to enrol in Ghana´s National Health Insurance Scheme: is affordability the problem. Int J Equity Health. 2015 Jan 17;14: 2. **PubMed**| **Google Scholar**
7. Kotoh AM, Aryeetey GC, Geest S Van Der. Factors that influence enrolment and retention in Ghana' National Health Insurance Scheme. Int J Health Policy Manag. 2018 May;7(5): 443-454. **PubMed**
8. Kumi-Kyereme A, Amu H, Darteh EKM. Barriers and motivations for health insurance subscription in Cape Coast, Ghana: a qualitative study. Arch Public Heal. 2017 May 29;75: 24. **PubMed**| **Google Scholar**
9. Tejada J, Punzalan J. On the misuse of Slovin´s formula. Philipp Stat. 2012;61(1): 129-36. **Google Scholar**
10. World Medical Association. Declaration of Helsinki, ethical principles for scientific requirements and research protocols. Accessed Jun 11, 2022.
11. Badu E, Agyei-Baffour P, Ofori Acheampong I, Preprah Opoku M, Addai-Donkor K. Households sociodemographic profile as predictors of health insurance uptake and service utilization: a cross-sectional study in a Municipality of Ghana. Adv Public Heal. 2018;2018: 1-13. **Google Scholar**
12. Amo T, Management PH, Studies P, Management PH, Studies P. The National Health Insurance Scheme (NHIS) in the Dormaa Municipality, Ghana?: why some residents remain uninsured. Glob J Health Sci. 2014 May;6(3): 82-89. **Google Scholar**
13. Salari P, Akweongo P, Aikins M, Tediosi F. Determinants of health insurance enrolment in Ghana: evidence from three national household surveys. Health Policy Plan. 2019;34(8): 582-94. **PubMed**| **Google Scholar**
14. Nurhasana R, Hidayat B, Pujiyanto P, Ratih SP, Hartono RK, Dartanto T. The sustainability of premium payment of national health insurance´s self-enrolled members in Jakarta Greater Area. J Public health Res. 2021 Oct 21;11(1): 2392. **PubMed**| **Google Scholar**
15. Van Der Wielen N, Falkingham J, Channon AA. Determinants of National Health Insurance enrolment in Ghana across the life course: are the results consistent between surveys. Int J Equity Health. 2018 Apr 23;17(1): 49. **PubMed**| **Google Scholar**

16. Umar S, Id AF, Ayanore MA. The shared experiences of insured members and the uninsured in health care access and utilization under Ghana's national health insurance scheme: evidence from the Hohoe Municipality. PLoS One. 2020 Dec 23;15(12): e0244155. **PubMed**| **Google Scholar**
17. Shobiye HO, Dada I, Ndili N, Zamba E, Feeley F, de Wit TR. Determinants and perception of health insurance participation among healthcare providers in Nigeria: a mixed-methods study. PLoS One. 2021 Aug 4;16(8): e0255206. **PubMed**| **Google Scholar**
18. Awudu S. National Health Insurance Scheme: predictors of card renewal among subscribers in the East Gonja. District. University of Ghana. 2016;(10551904): 82. **Google Scholar**
19. Nsiah-boateng E, Nonvignon J, Aryeetey GC, Salari P, Tediosi F, Akweongo P *et al*. Sociodemographic determinants of health insurance enrolment and dropout in urban district of Ghana a cross-sectional study. Health Econ Rev. 2019 Jul 6;9(1): 23. **PubMed**| **Google Scholar**
20. Manortey S, Alder S, Crookston B, Dickerson T, VanDerslice J, Benson S. Social deterministic factors to participation in the National Health Insurance Scheme in the context of rural Ghanaian setting. J Public Health Africa. 2014;5(1): 1-18. **PubMed**| **Google Scholar**
21. Manortey S, Vanderslice J, Alder S, Henry KA, Crookston B, Dickerson T *et al*. Spatial analysis of factors associated with household subscription to the National Health Insurance Scheme in rural Ghana. J Public Health Africa. 2014;5(1): 1-8. **PubMed**| **Google Scholar**
22. Ayanore MA, Pavlova M, Kugbey N, Fusheini A, Tetteh J, Ayanore AA *et al*. Health insurance coverage, type of payment for health insurance, and reasons for not being insured under the National Health Insurance Scheme in Ghana. Health Econ Rev. 2019 Dec 29;9(1): 39. **PubMed**| **Google Scholar**
23. Fenny AP, Kusi A, Arhinful DK, Asante FA. Factors contributing to low uptake and renewal of health insurance: a qualitative study in Ghana. Glob Health Res Policy. 2016 Nov 22;1: 18. **PubMed**| **Google Scholar**
24. Atinga RA, Abiiro GA, Kuganab-lem RB. Factors influencing the decision to drop out of health insurance enrolment among urban slum dwellers in. Ghana. 2015;20(3): 312-21. **PubMed**| **Google Scholar**
25. Alfers L. The Ghana national health insurance scheme: barriers to access for informal workers. Women Informal Employ Glob Organ Work Pap. 2013;30(April): 1-22. **Google Scholar**
26. Nshakira-Rukundo E, Mussa EC, Cho MJ. Dropping out of voluntary community-based health insurance in rural Uganda: evidence from a cross-sectional study in rural southwestern Uganda. PLoS One. 2021 Jul 16;16(7): e0253368. **PubMed**| **Google Scholar**
27. Alhassan RK, Nketiah-amponsah E, Arhinful DK. A review of the National Health Insurance Scheme in Ghana; what are the sustainability threats and prospects. Plos One. 2016;1-16. **Google Scholar**
28. Lau YK, Cassidy T, Hacking D, Brittain K, Haricharan HJ, Heap M. Antenatal health promotion via short message service at a midwife obstetrics unit in South Africa. a mixed methods study. 2014 Aug 21;14: 284. **PubMed**| **Google Scholar**

29. Wiru K, Kumi-Kyereme A, Mahama EN, Amenga-Etego S, Owusu-Agyei S. Utilization of community-based health planning and services compounds in the Kintampo North Municipality: A cross-sectional descriptive correlational study. BMC Health Serv Res. 2017 Sep 26;17(1): 679. **PubMed**| **Google Scholar**

Table 1: socio-demographic characteristics of respondents		
Variables	**Frequency**	**Percentage**
Age group		
20-29	167	42.1
30-39	206	51.9
40-49	24	6.0
Sex		
Female	207	52.1
Male	190	47.9
Level of education		
No formal education	6	1.5
SHS	10	2.5
Tertiary	381	96.0
Religion		
Christianity	299	75.3
Islam	79	19.9
Traditional	19	4.8
Marital status		
Single	159	40.0
Married	194	48.9
Co-habitation	38	9.6
Divorced	6	1.5
Qualification		
None	6	1.5
Certificate	66	16.6
Diploma	184	46.3
Undergraduate	90	22.7
Postgraduate	51	12.9
Employment status		
Casual	68	17.1
Mechanized	329	82.9
Category of health staff		
Clinical staff	299	75.31
Non-Clinical Staff	98	24.69
Working experience		
< 3 years	101	25.4
3 -7 years	159	40.1
8 years and above	137	34.5
How much do you earn monthly		
<500	14	3.6
500-999	23	5.9
1000-1499	77	19.9
1500-1999	112	29.0
>2000	161	41.6

Table 2: NHIS membership		
Variables	**Frequency**	**Percentage**
Proportion of respondents willing to renew their NHIS card		
No	73	18.4
Yes	324	81.6
Do you have NHIS membership card?		
No	24	6.0
Yes	373	94.0
If "Yes" to question 13, is your NHIS membership card valid?		
Don't know	64	17.2
No	45	12.1
Yes	263	70.7
If "No" to question 14, how long has your NHIS membership card expired?		
0 - 3 months	11	24.4
4 - 6 months	11	24.4
7 months and above	18	40.0
Don't know	5	11.1

Table 3: socio-demographic factors influencing the nonrenewal of health insurance membership						
Variables	**Binary logistic regression**			**Multiple logistic regression**		
	cOR	95% CI	p-value	aOR	95% CI	p-value
Age						
20-29	Ref			Ref		
30-39	1.089	0.648 - 1.829	0.748	0.832	0.456 - 1.518	0.548
40-49	2.709	0.606 - 12.102	0.192	4.595	0.702 - 30.085	0.112
Sex						
Female	Ref			Ref		
Mae	0.711	0.427 - 1.184	0.19	0.627	0.361 - 1.086	0.096
Level of education						
No formal education	Ref			Ref		
SHS	0.667	0.087 - 5.127	0.697	0.574	0.07 - 4.685	0.605
Tertiary	4.953	0.978 - 25.096	0.053	5.616	1.049 - 30.069	0.044*
Religion						
Traditional	Ref			Ref		
Christianity	2.905	1.090 - 7.743	0.033*	2.875	1.026 - 8.056	0.045*
Islam	2.297	0.779 - 6.775	0.132	2.719	0.864 - 8.556	0.087
Marital status						
Single	Ref			Ref		
Married	1.436	0.820 - 2.515	0.206	1.194	0.636 - 2.244	0.581
Co-habitation	0.594	0.266 - 1.327	0.204	0.609	0.258 - 1.435	0.257
Divorced	0.242	0.047 - 1.258	0.092	0.076	0.011 - 0.555	0.011*
*Significance (p<0.05)						

Table 4: socio-economic factors influencing the nonrenewal of health insurance membership						
Variables	**Binary logistic regression**			**Multiple logistic regression**		
	cOR	95% CI	p-value	aOR	95% CI	p-value
Qualification						
None	Ref			Ref		
Certificate	11.2	1.804 - 69.532	0.01*	5.52	0.804 - 37.902	0.082
Diploma	7.436	1.313 - 42.103	0.023*	3.44	0.522 - 22.67	0.199
Undergraduate	11.846	1.966 - 71.396	0.007*	7.024	0.96 - 51.385	0.055
Postgraduate	12.571	1.927 - 82.01	0.008*	8.419	1.037 - 68.327	0.046*
Employment status						
Casual	Ref			Ref		
Mechanized	2.17	1.192 - 3.949	0.011*	1.888	0.765 - 4.655	0.168
Category of health staff						
Non-clinical staff	Ref			Ref		
Clinical staff	1.791	1.034 - 3.101	0.038*	1.062	0.508 - 2.221	0.872
Working experience						
< 3 years	Ref			Ref		
3 -7 years	0.375	0.177 - 0.796	0.011*	0.351	0.157 - 0.784	0.011*
8 years and above	0.448	0.206 - .974	0.043*	0.364	0.153 - 0.868	0.023*
How much do you earn monthly						
<500	Ref			Ref		
500-999	2.7	0.633 - 11.509	0.179	3.563	0.718 - 17.668	0.120
1000-1499	3.375	1.01 - 11.279	0.048*	2.579	0.574 - 11.591	0.217
1500-1999	3.917	1.213 - 12.651	0.022*	3.12	0.691 - 14.084	0.139
>2000	3.275	1.058 - 10.142	0.04*	1.763	0.358 - 8.677	0.486
***Significance (p<0.05)**						

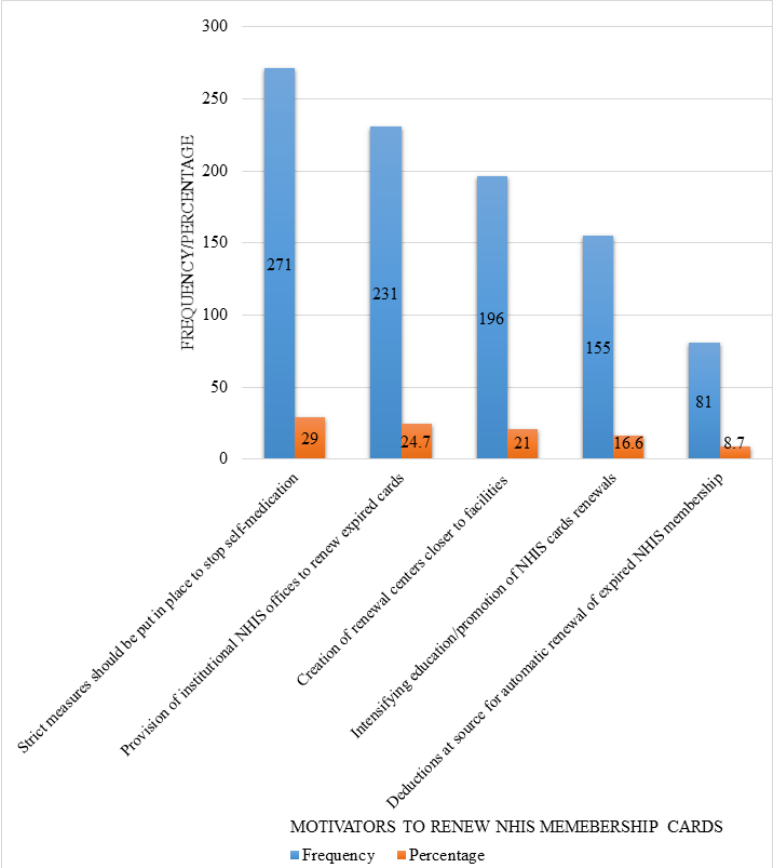

Figure 1: reasons why healthcare workers fail to renew their expired NHIS membership cards

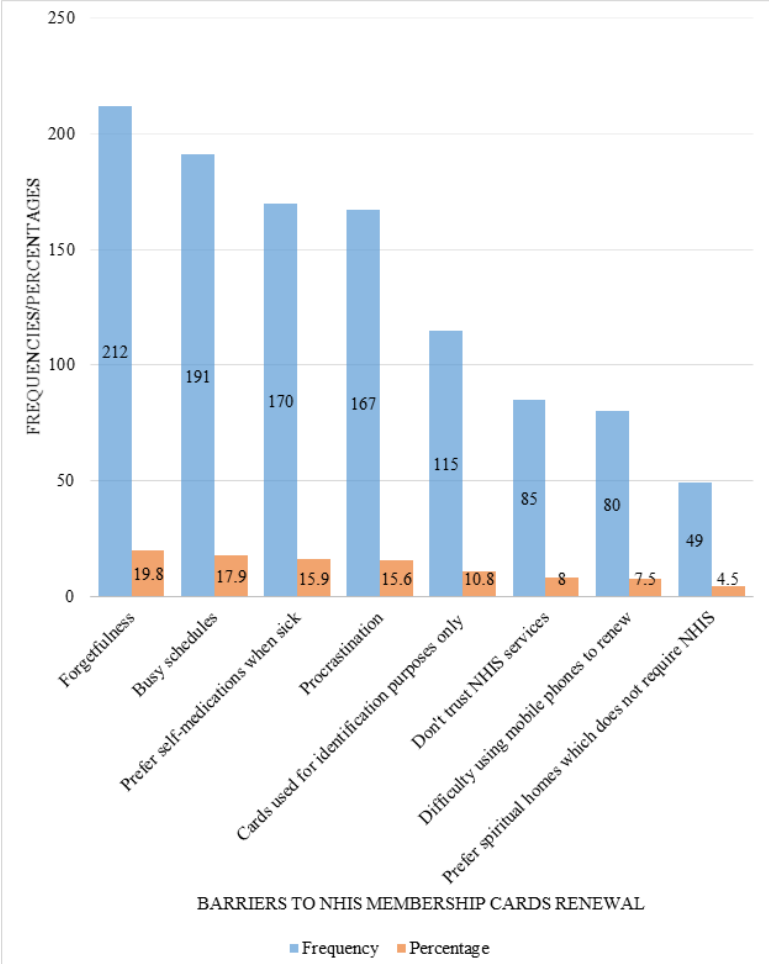

Figure 2: what should be done to encourage healthcare workers to renew their NHIS membership cards on time