

# Implementation of the National Health Insurance Scheme (NHIS) in Ghana: Lessons for South Africa and Low- and Middle-Income Countries

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**Background:** South Africa is having difficulties in rolling out the National Health Insurance (NHI) policy. There are ongoing arguments on whether the NHI will provide access to quality and equitable healthcare it is intended to and whether South Africa is ready to implement the policy. Many stakeholders believe the country needs more preparation if the policy will be successful. Ghana, on the other hand, has successfully implemented the National Health Insurance Scheme (NHIS) for over 15 years.

**Objective:** This paper sought to explore the implementation of the NHIS in Ghana and the lessons South Africa and other low- and middle-income countries can learn from such a process.

**Methods:** A scoping review was conducted using the Joanna Briggs Institute's System for the Unified Management, Assessment and Review of Information (SUMARI) and Mendeley reference manager to manage the review process. Journal articles published on the NHIS in Ghana from January 2003 to December 2018 were searched from Science Direct, PubMed, Scopus, CINAHL, and Medline using the keywords: Ghana, Health, and Insurance.

**Results:** The implementation of the NHIS has provided access to healthcare for the Ghanaian population, especially to poor and vulnerable. Despite the successful implementation of the NHIS in Ghana, the scheme is challenged with poor coverage; poor quality of care; corruption and ineffective governance; poor stakeholder participation; lack of clarity on concepts in the policy; intense political influence; and poor financing.

**Conclusion:** The marked inequity in the South African health system makes the implementation of the NHI inevitable. The challenges experienced in the implementation of the NHIS in Ghana are not new to the South African healthcare system. South Africa must learn from the experiences of Ghana, a context that shares common socio-cultural and economic factors and disease burden, in order to successfully implement the NHI.

**Keywords:** national health insurance, universal health coverage, Ghana, South Africa, lower-middle income countries, sub-Saharan Africa

## Introduction

National Health Insurance (NHI) is the lifeblood of Universal Health Coverage (UHC) globally, especially in sub-Saharan Africa.<sup>1,2</sup> Many advanced nations have implemented various modifications of the Beveridge, Bismarck, or private health insurance models.<sup>3</sup> In sub-Saharan African countries such as Ghana, Kenya, Nigeria, Tanzania, and Uganda, different forms of health insurance were observed. These health insurances are primarily community-based.<sup>4-6</sup>

In Ghana, the National Health Insurance Scheme (NHIS) was established in August 2003 to promote access to equitable and quality healthcare for all citizens,

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irrespective of the individual's socio-economic features.<sup>7</sup> The National Health Insurance Authority (NHIA) governs the scheme. The National Health Insurance Fund (NHIF), as stipulated in Act 650 of 2003, was set up to fund the healthcare of Ghanaians.<sup>7</sup> The NHIF generates its cash inflow from five sources including 2.5% of the 17.5% Value-Added Tax (VAT), 2.5% of the 17.5% Social Security and National Insurance Trust (SSNIT) from formal sector employees, dividends of investments made by the NHIA, donations, and premiums paid by scheme subscribers.<sup>8,9</sup> The scheme provides premium exemptions for the elderly (70 years and above), SSNIT pensioners, children below 18 years, pregnant women, and the beneficiaries of the Livelihood Empowerment Against Poverty (LEAP) – a pro-poor social intervention carried out by the central government.<sup>10</sup> The insurance scheme covers 95% of the burden of diseases in Ghana.<sup>10</sup> Services covered by the scheme include out-patient services, in-patient services, maternity care, eye care, and oral healthcare services.<sup>10</sup>

At the inception of the NHIS, the payment of healthcare providers was through itemized fee-for-service. However, in 2008, the Ghana Diagnostic Related Groupings (G-DRGs) for services and fee-for-service for medicines at all levels of service delivery was introduced in a reform. Under this system, the NHIS District/Municipal/Metropolitan offices engage the various NHIS certified health facilities on a contract basis. The health facilities then provide services for the NHIS subscribers and submit claims for services rendered to the NHIS District/Municipal/Metropolitan offices for reimbursement.<sup>11</sup>

Like any other policy, the implementation of the NHIS achieved some successes but had challenges. South Africa is having difficulties in rolling out the NHI policy. There are ongoing arguments on whether the NHI will produce the access, equity, and quality healthcare it is intended to, and whether South Africa is ready to implement the policy.<sup>12</sup> Many stakeholders believe the country needs more preparation if the policy will be successful.<sup>13</sup> Ghana, on the other hand, has successfully implemented the NHIS for over 15 years. South Africa and other countries with similar geography, disease burden, economic grouping, and sociocultural context could learn from the successes and the challenges of Ghana in developing National Health Insurance and Universal Health Coverage funding models for low- and middle-income countries.

## Aim

This scoping review sought to explore the 15 years of implementation of the NHIS in Ghana and the lessons South Africa and other low- and middle-income countries can learn from such a process.

## Design

A scoping review is either a pre-systematic review or a standalone review that seeks to map the breadth and depth of evidence in a field of study.<sup>14,15</sup> This scoping review was conducted using the Joanna Briggs Institute's (JBI) System for the Unified Management, Assessment, and Review of Information (SUMARI) and Mendeley reference manager to manage the review process.<sup>16</sup> The scoping review method was chosen because it better synthesizes findings from both the positivist and the constructivist paradigms than other review methods.<sup>17</sup> The JBI SUMARI provides a computerized framework for the reviewers to follow in conducting the review.

## Search and Inclusion

Journal articles published on the NHIS in Ghana from January 2003 to December 2018 were searched from Science Direct, PubMed, Scopus, CINAHL, and Medline using the keywords; Ghana, Health, and Insurance. The search terms used were made broad so as to find approximately all studies on the National Health Insurance Scheme of Ghana over the 15 years. The PCC criteria, representing Population of interest (P), Concept (C), and the Context (C) guided the inclusion of studies in this review.

- The population of interest (P): represents all institutions and individuals involved in the implementation of the National Health Insurance Scheme in Ghana.
- The Concept (C): is the Implementation of the National Health Insurance Scheme.
- Context (C): represents the healthcare system of Ghana.

The review question, “how was the National Health Insurance Scheme implemented in Ghana” guided the scoping review. Studies were included if they were full journal articles published in English, written on the implementation of the National Health Insurance Scheme of Ghana from January 2003 to December 2018.

## Critical Appraisal

The JBI evidence-based critical appraisal tools were used by three JBI trained reviewers to appraise the studies included in this study. A minimum of two recommendations were necessary for inclusion. A study was included if it met 80% of the quality criteria set by the appraisal tool. All full-text articles appraised were included.

## Data Collection

The second author extracted the findings from all studies included onto the SUMARI page for this review. The findings extracted onto the SUMARI were reviewed by the first author to ensure it was accurate. The finalized data extraction sheet is presented in a data matrix (Table 1).

## Data Synthesis

Quantitative data were transformed through a qualitzing process then synthesized with the qualitative data using a convergent integrated approach.<sup>18,19</sup> The assessment of the certainty of the evidence from the studies was not done due to the complexity of recommendations from studies included and the quantitative data transformation process. Also, this was a scoping review, and the reviewers did not seek to compare phenomena and make judgments, hence the exclusion of assessment of certainty. The review process and the results were reported according to the PRISMA Extension for Scoping Reviews (PRISMA-ScR) reporting checklist.<sup>20</sup> The findings extracted on the data matrix were coded independently by the two reviewers, and the codes were compared and discussed for intercoder agreement. The codes were refined based on the intercoder agreement for final coding. Similar codes were combined into sub-themes and related sub-themes into themes, as presented in the Results section.

## Results

Seventy-seven of the 418 studies found on the NHIS were included (Figure 1). Figure 2 shows the trend of publications from the year of inception until December 2018. There were no empirical studies published within the first 4 years (2003–2006) of the implementation stage. Studies increased from 2007 to 2012, decreased from 2012 to 2015, then recorded a sharp rise in 2016, which remained constant in 2017 and then sharply decreased in 2018. Generally, the trend line shows a steady increase in publications from the inception of the scheme in 2003 to December 2018. The findings from the studies included in the review were synthesized below.

## Clarity of Policy

Social policy affects the total population. The National Health Insurance policy is written in English only. Even the academics are seeking clarification on the content of the policy.<sup>4,21</sup> Aryeetey et al<sup>22</sup> discovered that the users do not understand the concept of poverty as stated in the NHIS document. Also Agyei-Baffour et al<sup>23</sup> found that some Ghanaians do not fully understand the premium payment concepts though they hear of them. Researchers are advocating for a white paper that clearly defines the major concepts, comprehensive stakeholder engagement, and public education on the NHIS policy document.<sup>4,21</sup>

## Coverage

The NHIS has made care accessible and affordable in Ghana.<sup>24–28</sup> Some groups of people such as the aged, children, and pregnant women are given immunity against premium payment.<sup>28,29</sup> This helped in removing some socio-economic barriers to healthcare.<sup>29,30</sup> In terms of healthcare-seeking behavior, people who are registered in the scheme use healthcare services more than those who are not insured.<sup>30–33</sup>

Though the NHIS increased access to healthcare, this access is far from universal, as it demands premium payment before one can access healthcare. Many studies<sup>8,32,34–36</sup> reported varying proportions of the population who are not covered by the scheme; a World Bank study<sup>7</sup> reported that only 40% of the Ghanaian population were enrolled in the scheme by 2013. The actual figures and percentage of the population covered by the scheme from 2005 to 2017 are presented in Figure 3.

Though the scheme covers the major disease burden of the country, other services are not under the scheme. Many citizens are not eligible to access care because they are not enrolled in the scheme due to financial problems. The scheme is expected to protect Ghanaians against the cost of healthcare but it rather excludes the very poor, thereby increasing the financial burden on the poor. Ghanaians should not use the international definition of poverty as exemption criteria for premium payment as many local context variables are unique to the concept of poverty in Ghana.<sup>22,32,37</sup> Fenny et al<sup>32</sup> also suggested that the poor should be exempted from making insurance payments. The financial barriers need to be eliminated if the scheme is to fulfil the Universal Health Coverage mandate.<sup>26,–37–39</sup> Asundep et al<sup>30</sup> believe that minimizing the premium and increasing access is essential. The free maternal, child, and aged care policy is laudable

**Table I** Data Matrix

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
<b>Qualitative Studies</b>					
1.	Abihiro & McIntyre, 2013 <sup>21</sup>	To examine the feasibility of one-time premium payment for the NHIS from stakeholders perspective	A combination of review of publications, and focus group discussion and key informant interviews	28 key informant interviews, and 2 FGD	There is not enough clarity about definition of one-time premium and its modus operandi. A whitepaper clearly spelling out the modalities of the proposed policy change is required.
2.	Aboagye et al, 2017 <sup>74</sup>	To evaluate the NHIS using the views of local community members	Qualitative study using in-depth interviews and focus group discussions	9 key informants and 72 FGD members	Lack of proper community participation in the NHIS decision-making process The NHIS is not the pro-poor intervention it was intended to be. Stakeholder consultations with community members to improve enrolment
3.	Adei et al, 2012 <sup>34</sup>	To evaluate the implementation of the NHIS	Qualitative study using interviews, and analysis of secondary data from the Kwabre East district directorate	12 interviews, and 862 persons from 203 households	Majority of the citizens are not registered unto the scheme The scheme is under financial stress due to high rates of non-renewal of insurance. Government should consider implementing the one time premium payment
4.	Agyepong & Adjei, 2008 <sup>78</sup>	To analyse the formation and execution of the NHIS	Qualitative case study involving a combination of review of secondary literature, and participant observation		Political goals and political actors played a dominant role in the policy process. Technical and bureaucratic actors should be given enhanced roles in the policy process
5.	Aryeetey et al, 2013 <sup>22</sup>	To compare community's contextual definition of poverty to the insurance pro-poor payment policies	Qualitative, using in-depth interviews	92 key informants	Community's understanding of poverty was based on common socio-economic indicators. Attention should be paid to the local context in setting guidelines on poverty related exemptions of the NHIS
6.	Ashigbie et al, 2016 <sup>24</sup>	To study the barriers to procuring and disbursing medical logistics under the NHIS	Qualitative study using in-depth interview and checklist	26 key informant interviews	NHIS has increased access to healthcare. Barriers to the scheme are mostly administrative in nature. The private sector is less efficient in rendering care to the insured. Systems are needed in place to serve as checks and balances

(Continued)

Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
7.	Awoonor-Williams et al, 2016 <sup>50</sup>	To examine the disharmony between the NHIS and primary healthcare	Qualitative using in-depth interviews	56 in-depth interviews	Key barrier to the implementation of the NHIS is delay in payments. The scheme is focused on curative care, at the expense of primary healthcare. Primary healthcare centers lack adequate resources to discharge their services. Stakeholder consultations are required to fill observed gaps
8.	Barimah & Mensah, 2013 <sup>25</sup>	To gather the perspective of stakeholders on the implementation of the NHIS	Data from focus group discussions	11 participants	NHIS has made healthcare services more affordable. There is the need to uproot deceitful practices that accompany the NHIS through proper record keeping.
9.	Debpuur et al, 2015 <sup>76</sup>	To identify service user and givers' practices that constitute abuse, and how to control them	Qualitative study	14 focused group discussion, and 4 individual in depth interviews	Both users and providers admitted engaging in fraudulent activities. Moral hazard risk the sustainability of the scheme, therefore should be addressed
10.	Fenny et al, 2016 <sup>80</sup>	To measure causes of subscription and re-subscription unto the insurance scheme	Qualitative study using focus group discussions and key informant interviews	40 members of FGD and 46 key informants	Causes of subscription and re-subscription are community related and administrative related. Advocated for reforms to expand coverage
11.	Fusheini, 2016 <sup>54</sup>	To study the governmental and financial challenges towards the execution of the NHIS	Qualitative study using in-depth interviews	33 participants	Propaganda and external meddling of political actors were barriers identified. Other factors include inadequate premiums, poor monitoring and evaluation, poor preventive practices, and immunities for large categories of persons. Good political leadership and a review of the NHIS policy was suggested
12.	Fusheini et al, 2017 <sup>79</sup>	To assess the barriers to the implementation of NHIS in four districts	Qualitative study using in-depth interview	33 participants	Human resources as well as structural and organizational challenges were noted. Important measures are necessary to ensure sustainability of the scheme

(Continued)

Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
13.	Wedam & Sanyare, 2017 <sup>85</sup>	To evaluate the theories regarding financing the NHIS	Analysis of secondary, and primary data from qualitative in-depth interviews	1007 sources	Political figures are pre-occupied with making political gains out of the subject of financing the NHIS, at the expense of the development of the scheme. Coordination among stakeholder to determine the way forward on the financing of the NHIS
14.	Wireko & Beland, 2017 <sup>121</sup>	To study why external actors begun supporting the NHIS even after initially resisting the idea	Analysis of secondary data from literature, and in-depth interviews	22 participants	The early fruits borne by the scheme changed the disposition of external actors towards the scheme. External actors are not always more powerful than local actors agenda setting
15.	Witter & Garshong, 2009 <sup>44</sup>	To evaluate the implementation of the NHIS	Analysis of secondary literature, and in-depth interviews	54 key informants	The scheme is predominantly funded through taxes. Enrolment increased in multiple folds since its inception. Low renewal rates puts financial stress on the scheme. The scheme is biased against the poor and rural dwellers. The uninsured are discriminated against in terms of service provision. Questions remain over accountability of the scheme
16.	Witter et al, 2007 <sup>53</sup>	To evaluate the operation of payment immunities under the NHIS	Qualitative using in-depth interviews	65 informants	The policy on payments immunities for pregnant mothers is a welcomed idea. However, financial challenges put in doubt its sustainability. Proper financing mechanisms should be implemented
17.	Yevutsey & Aikins, 2010 <sup>46</sup>	To examine the economic sustainability of the scheme in two districts in the Upper East region	Secondary analysis of district financial reports	Revenue and expenditure reports from 2004 to 2007	Operations are mainly funded by the insurance agency, and payments made by subscribers. The insurance agency should make prompt payments to facilities
Quantitative Studies					
1.	Abrokwa et al, 2017 <sup>122</sup>	To describe the connection between health choices and insurance status	Analysis of secondary data from the Ghana living standards survey	106,577 patient records	Insurance increase use of biomedical care facilities. Insurance protects against health financial burden. Expansion of the scheme was mooted

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Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
2.	Abrokwah et al, 2014 <sup>123</sup>	To understand the impact of NHIS on antenatal care	Analysis of secondary data from the Ghana Living Standards Survey	1012 records	The insured have good health seeking behaviour. The insured have increased accessibility to antenatal health care. The insured were protected against health financial cost
3.	Abuosi et al, 2016 <sup>124</sup>	To measure views on quality of care between the insured and uninsured	Cross-sectional survey	818 participants	No significant differences between the views of insured and uninsured patients on the quality of care. The insured believed that care was more affordable to them. Level of quality of care should be raised in the hospitals
4.	Addae-Korankye, 2013 <sup>38</sup>	To evaluate the economic barriers towards the implementation of the NHIS	Primary data (cross-sectional study), and analysis of secondary literature	250 primary respondents	There is inadequate funding for the NHIS. Government should enact a legislation making registration unto the scheme mandatory, and rich people should pay higher premiums
5.	Adomah-Afari & Chandler, 2018 <sup>83</sup>	To study the duties of national and local stakeholders in expanding and maintaining the NHIS	Analysis of secondary and primary data	48 males and 50 females between 18 and 70 years, and 30 peer reviewed articles	The NHIS will be effective when central policies are complemented with stakeholder consultation at the local level. State and local players should work hand-in-hand to secure the future of the scheme
6.	Agyei-Baffour et al, 2013 <sup>23</sup>	To gain insight into the awareness and attitude of clients towards the capitation system	Cross-sectional survey	422 NHIS members	A landslide of respondent heard of the new capitation system, but could not demonstrate an understanding of the concept in itself. Majority of the respondents viewed capitation as a useless innovation. Educational exercises to increase knowledge on capitation should be carried out
7.	Agyemang et al, 2013 <sup>64</sup>	To outline the successes and threats to the NHIS	Combination of primary data, and analysis of secondary data (review of annual and quarterly reports)	130 respondents	Insurance increased access to health. Insurance reduced risky health behaviors, such as self-medication. Threats to the NHIS should be aptly resolved
8.	Akazili et al, 2017 <sup>37</sup>	To understand the economic stress that point-of-service payments inflicted in the pre-NHIS age	Analysis of secondary data from the Ghana Living Standard Survey 5	36,488 individuals	Point-of-service payments led to a significant level of poverty in households. Poor should be protected from health-related financial risks

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Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
9.	Alhassan et al, 2015 <sup>110</sup>	To explore the attitude of providers and consumers towards quality in healthcare	Cross-sectional survey	1903 households and 324 health staff	Perception of providers and consumers showed an inverse relationship between technical quality and quality of service. Efforts should be carried out to increase consumer confidence in technical qualities of health personnel
10.	Alhassan et al, 2014 <sup>56</sup>	To assess the quality of healthcare rendered by NHIS institutions in the Wa Municipality	Cross-sectional survey	398 participants	The consumer level of satisfaction on the NHIS is below average. NHIS services should be improved
11.	Alhassan et al, 2015 <sup>55</sup>	To gauge the quality of services rendered by NHIS qualified facilities	Cross-sectional survey	64 facilities	One third of the facilities deliver efficient services. Public facilities deliver more efficient services than private and mission facilities. Rural facilities had the higher chances of being more competent. Stakeholders should take steps to exterminate waste from the system
12.	Alhassan et al, 2016 <sup>51</sup>	To compare the opinion of health professionals on the NHIS before and after community intervention	Randomized cluster trial	234 health professionals	Health providers noted late reimbursement as a key barrier to the NHIS. Community and stakeholder consultations are necessary in the growth of the scheme
13.	Apanga et al, 2014 <sup>125</sup>	To investigate the financial consequences of drugs overbilling under the NHIS	Retrospective cross-sectional study	4238 reimbursement requests	The difference in average cost of drugs and antibiotics was significantly higher in private health facilities than the public ones. WHO recommendation on optimal prescription should be used
14.	Aryeetey et al, 2016 <sup>42</sup>	To analyse the effects of NHIS on the service delivery of Christian health facilities	Retrospective cross-sectional	183 records	Attitude towards service delivery was positive. Both health revenue and expenditure increased as a result of NHIS. Default in terms of payments remains a challenge. Challenges should be addressed to improve service delivery
15.	Asibey & Agyemang, 2017 <sup>33</sup>	To examine the relationship between insurance status and healthcare utilization rates in rural Ghana	Cross-sectional survey	286 participants	Health seeking behavior was poor. The insured significantly had increased to healthcare. NHIS should be expanded, especially to the poor

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Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
16.	Asundep et al, 2013 <sup>60</sup>	To study factors influencing access to antenatal care, and maternal health outcomes in Kumasi	Cross-sectional study	643 expectant mothers	About 20% of women experienced adverse health outcomes. Occurrence of adverse health outcome was associated with cost. Minimizing cost of NHIS and increasing accessibility should be a priority
17.	Boateng & Awunyor-Vitor, 2013 <sup>35</sup>	To explore people's perception on the insurance policy and reasons why they renew upon expiration	Cross-sectional survey	300, consisting of 204 females, and 96 males	61.1% of respondents were enrolled in the NHIS, 23.9% had not renewed their insurance after enrolment and 15% had never enrolled. Gender, marital status, religion, and perception of health status of respondents significantly influenced their decision to continue with the NHIS. Awareness creation activities are required to expand access to the scheme
18.	Boateng et al, 2017 <sup>36</sup>	To investigate the causes of NHIS subscription, renewal, and consumption	Cross-sectional survey	392 female porters	Age, socioeconomic status, and quality of service lead to registration, continuation, and use of NHIS services. Long waiting times is a disincentive to register.
19.	Carapinha et al, 2011 <sup>4</sup>	To assess the policies on the distribution of medicines in Ghana, Tanzania, Kenya, Uganda, and Nigeria	Cross-sectional survey	33 health insurance programs	Policies related to medicine is not thoroughly clear. Stakeholders should come together to provide clarity on policies related to distribution of medicines
20.	Dalaba et al, 2014 <sup>26</sup>	To examine the financial implication on malaria treatment	Cross-sectional survey	4226 households	The insured accessed malaria treatment more than the uninsured. Measures to increase enrolment for the poor should be sped up.
21.	Dalinjong et al, 2017 <sup>31</sup>	To investigate the connection between insurance registration and use of healthcare services in rural areas of Northern Ghana	Cross-sectional survey	55,992 individuals	The insured significantly used health services more. Those with chronic health conditions and the poor used health services more. The poor mostly used community health centee, whilst the rich and the uninsured mostly patronized public hospitals and private centers, respectively. Sustenance of the NHIS is crucial.

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**Table I** (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
22.	Dixon et al, 2013 <sup>59</sup>	To investigate members' views on the services of the NHIS	Secondary data from the 2008 national demographic and health survey	Males 1422; females 2046	Wealthy men perceive the services of the scheme as inferior to that of other means, however, wealthy women do not perceive the services of the scheme to be inferior to other alternatives. Akan women are more likely to view services of the scheme as either better or at the same level with other alternatives. Views of service users on the scheme is important in ensuring its sustainability
23.	Duku et al, 2016 <sup>49</sup>	To measure lifetime and current prevalence of NHIS registration	Analysis of secondary data from NHIS records	9,408,819 entries	The probability of re-registering is proportion the use of healthcare. Compulsory enrolment should be implemented
24.	Duku et al, 2018 <sup>11</sup>	To determine if insurance status has any effect on people's views on quality of care	Cross-sectional survey	1903 household heads	Enrolled people has worse views on quality of healthcare as compared to the un-enrolled. Policy-makers should make the care given to the insured more attractive
25.	Dzakpasu et al, 2012 <sup>30</sup>	To determine the relationship between antenatal exemption and skilled delivery, and insurance coverage	Time series method	92,467	There was a substantial increase in the skilled attendance due to free maternal health policy. There was substantial increment in insurance coverage The poor benefited most from the free maternal policy. There should be a continuation of the free maternal policy
26.	Effah et al, 2016 <sup>81</sup>	To evaluate the implementation of the NHIS in the Juaboso district	Analysis of both secondary and primary data	200 primary respondents	Membership almost doubled in the district within the time frame of research. Increment was observed in both spending and income. Accountability measures should be put in place
27.	Fenny et al, 2014 <sup>32</sup>	To examine how insurance enrolment affects healthcare utilization	Cross-sectional survey	11,089 individuals from 2430 households	The insured are more likely to report their health problems to a formal health facility than the uninsured. Insurance payments are unfair towards the poor. The poor should be exempted from making insurance payments

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Table I (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
28.	(Fosu et al, 2014 <sup>27</sup> )	The effect of community insurance on healthcare seeking behavior	Analysis of secondary data from hospital archives		Insurance increased accessibility to health. Community insurance scheme can serve as a model for national insurance scheme
29.	Frimpong et al, 2014 <sup>29</sup>	To study the relationship between perinatal immunities and use of maternal health services	Retrospective cohort study	1641 women	Premium immunities increased access to insurance by women. Biomedical services were used more than ANC services. Unlike community health compounds, dominant proportions of women who sought ANC services at hospitals and health centers delivered at this centers. Special intervention aimed at improving delivery at CHIPS centers for the insured is advocated
30.	Goudge et al, 2012 <sup>126</sup>	To measure the attitude of Ghanaians, South Africans, and Tanzanians on social financing mechanism of national insurance scheme	Analysis of secondary data	4800 households in SA, 2986 households in Ghana, and 2234 households in Tanzania	Majority of the population in Ghana and South Africa are willing to cross-subsidize cost. Less than half of the population in Tanzania were willing to cross-subsidize
31.	Gyasi, 2015 <sup>66</sup>	To investigate the impact NHIS has on the use of unorthodox medicine	Retrospective cross-sectional	324	Use of traditional medicine was high amongst both insured and uninsured, but has no association with insurance status. Traditional medicines should be involved in the NHIS
32.	Ibrahim & O'Keefe, 2014 <sup>68</sup>	To compare the differences in birth outcomes during the out-of-pocket and NHIS period	Analysis of secondary data from the Tamale Teaching hospital	7895	No significant difference was observed in the birth of low birth weight children between the two periods
33.	Ibrahim et al, 2016 <sup>69</sup>	To compare rates of perinatal deaths between the health user fees and NHIS ages	Analysis of secondary birth registry data from the Tamale Teaching Hospital	8312	The proportion of infant mortality recorded in the health user fees period was halved during the insurance period. More maternal mortality were recorded in the pay-as-you-go period for elderly mothers. More cesarean sections were recorded in the NHIS period. More vulnerable groups should be exempted from paying NHIS fees

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**Table 1** (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
34.	Jehu-Appiah et al, 2012 <sup>10</sup>	To assess the marriage between opinions on healthcare services, and NHIS status	Cross-sectional survey	13,865 participants from 3301 households	Decision to subscribe and renew NHIS subscription is based on usefulness, accessibility, and affordability. Participants have welcoming opinions on the quality of services, its usefulness, and accessibility. However, they were cold towards posture of providers, and pricing. The insured were more dissatisfied than the uninsured. Perceptions should be addressed to increase enrolment
35.	(Jehu-Appiah et al, 2011 <sup>41</sup>	To determine fairness and determinants of enrolment unto the NHIS	Cross-sectional survey	13,865 participants from 3301 households	The poor are marginalized in terms of enrolment. There are varying determinants influencing both the poor and rich's decision to enrol unto the scheme. High premiums and lack of trust in the scheme work against re-subscription. Coverage should be extended to the poor
36.	Lambon,-Quayefio & Owoo, 2017 <sup>70</sup>	To effect the causes of health insurance subscription, and its impact on neonatal health	Analysis of secondary data from the Ghana demographic and health survey	12,000 households	Insurance significantly reduces neonatal deaths. Residents in urban areas are more prone to neonatal death. Longer distances to healthcare facility is a risk factor of neonatal death. Coverage should be increased for mothers and neonates
37.	Lamptey et al, 2017 <sup>63</sup>	To evaluate trend of NHIS certification for private sector healthcare providers	A cross-sectional quantitative analysis of administrative data	1600 records	A great majority of the facilities were NHIS certified. Majority of the facilities marginally passed the certification test. Private sector healthcare providers should raise their standard of services
38.	Mensah et al, 2010 <sup>40</sup>	To match the exploits of the NHIS to the Millennium develop goals	Propensity score matching of observational data	400 NHIS members and 1600 non-members	Insurance leads to improvement in perinatal health indicators for women. Promotion of NHIS in rural areas is encouraged
39.	Mills et al, 2012 <sup>75</sup>	To examine the role impartiality in financing and utilization of healthcare plays in universal access to health in Ghana, Tanzania, and South Africa	Analysis of primary and secondary data	NHIS data from Ghana, South Africa, and Tanzania	Health services benefited the rich more. Barriers to access to healthcare must be addressed

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Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
40.	Nguyen et al, 2011 <sup>8</sup>	To understand how the NHIS provides economic security	Cross-sectional survey	11,617 individuals	A little above one third of the population were insured. Insurances provides financial safety, most especially the poor. The uninsured made more health expenses. Other countries with similar socio-economic profile to Ghana should initiative an insurance scheme.
41.	Nsiah-Boateng & Aikins, 2013 <sup>45</sup>	To evaluate the execution of the NHIS in the Ga district	A combination of desk review and household based cross-sectional study	2007–2008 audited accounts, 2009 unaudited accounts, and 376 household heads	Membership enrolment was marginally higher than aggregate community enrolment. A huge chunk of financing of the district comes from the central NHIS level. Payments are usually behind schedule. A more efficient payment system should be implemented
42.	Nsiah-Boateng et al, 2016 <sup>52</sup>	To evaluate the financial performance of the NHIS	Analysis of secondary data from medical claims between January, 2010 to December, 2014	644,663 claims	Reimbursement claims were made to the tune of over \$3m. Between 2011 and 2014, there was at least 3 months delay in paying almost all the financial request made. A marginal increment in the proportion of claims rejected was observed between 2011 to 2014. Claims were rejected mainly because administrative hitches, fraudulent activities, and technical judgments. Reforms are necessary to ensure financial sustainability of the scheme
43.	Nsiah-Boateng et al, 2017 <sup>127</sup>	A study to review how NHIS bills can be minimized	A cross-sectional comparative assessment of data from paper and electronic based claims	173 claims	Electronic data saves cost. Government should implement the electronic system of making claims across the entire country
44.	Odame et al, 2014 <sup>47</sup>	To link the disbursement incurred by the free maternal policy of the NHIS to the financial sustainability of the scheme	Analysis of secondary data collected from the financial reports of hospitals	38,883 financial claims reports	Costs incurred in funding the free maternal health policy was almost 5-times the seed grant provided by donors. Donors should take the long-term sustainability of the project into account whilst giving start up grants

(Continued)

Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
45.	Piersson & Gorleku, 2017 <sup>61</sup>	To appraise the availability, accessibility, and affordability of magnetic resonance imaging services to patients in Ghana	Descriptive cross-sectional study	13 MRI suites in tertiary hospitals, private hospitals, and private diagnostic centers	High proportion of citizens do not have access to MRI scanner. Unlike private insurance subscribers, public insurance subscribers cannot benefit from MRI services. Government should provide more MRIs and make their services payable via the NHIS
46.	Sackey & Amponsah, 2017 <sup>128</sup>	To examine the relationship between positive attitude towards capitation and economic status	Descriptive cross-sectional survey	1299 participants	Persons of high economic standing, knowledge on capitation and in small households accepted capitation more readily. Capitation should be a complementary system, not a substitution
47.	Seddoh & Akor, 2012 <sup>86</sup>	To explore the lessons from political context of the NHIS policy formulation process	Participant observation based on retrospect recollection of information		Various stakeholders use all kinds of means to swing the pendulum in their favor during the policy formulation process. A four-way framework for policy formation which includes agenda setting, symbols manipulation, constituency preservation, and coalition building
48.	Sekyi & Domanban, 2012 <sup>73</sup>	To measure the impact NHIS has on healthcare utilization by out-patients and healthcare financing	Household based cross-sectional study	384 individuals	Insured persons used out-patient-department services more. Insured persons significantly made less out-of-pocket payments. Conscious efforts aimed at increasing enrolment is needed
49.	Sodzi-Tettey et al, 2012 <sup>43</sup>	To analyse the factors impeding on reimbursement	Combination of analysis of secondary data, and primary data (in-depth interviews, and interview guides)	40 health facilities in Kassena Nankana and 20 in Builsa Districts	Processing of payments requests were done manually. Barriers to reimbursement are administrative and human resource in nature. Not more than 1% of requests were rejected. A modern payment processing system should be implemented
50.	Strupat & Klohn, 2018 <sup>71</sup>	To investigate the impact of the NHIS on health-related outcomes	Secondary analysis of data from fourth and fifth waves of the Ghana Living Standards Survey	23,062 participants	NHIS reduces out-of-pocket payments. A further investigation to determine the association between the reduction in out-of-pocket payments and the saving habits of people

(Continued)

Table 1 (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
51.	Yawson et al, 2012 <sup>57</sup>	To explore how user health seeking behavior and health provider practices affect the NHIS	A combination of analytical cross-sectional study, and analysis of secondary data from Winneba Municipal Hospital records	175 uninsured and 170 insured outpatients	The insured sought health more regularly than the uninsured. The insured received better quality of care than the uninsured
52.	Yilma et al, 2012 <sup>129</sup>	To investigate whether insurance has adverse effects on healthcare utilization	A panel including two surveys in two years interval	400 households	Insurance makes people forgo preventive measures. Unintended behavioral consequences of insurance should be controlled
Mixed-Method Studies					
1.	Andoh-Adjei et al, 2016 <sup>67</sup>	To determine the attitude of people towards capitation payment, and its impact on the use of local health facilities	Mixed method study	344 participants	There is an overall positive attitude towards the payment of capitation and registration on the NHIS. Quality of care and proximity are two factors that influence choice of care provider. Some negative perceptions do exist, which need to be addressed by the insurance agency
2.	Andoh-Adjei et al, 2018 <sup>65</sup>	To explore attitude towards quality of services under the capitation payment regime	Mixed method study	NHIS membership in Ashanti, Volta, and Central regions	There was a positive perception, of quality of care. Occupation, region and length of NHIS membership are predictors of positive perception of quality of care. In terms of region specific analysis, Voltarians ranked quality of care better than the Ashanti's. Authorities should take measures to improve upon perception of the NHIS
3.	Agyepong & Nagai, 2011 <sup>84</sup>	To discover the disparities in the performance of the NHIS	Mixed methods including analysis of secondary and primary data	67 FGD members and 300 survey participants	Providers did not follow the regulations on exemptions to the letter. Clients who knew they were eligible for exemption did not demand their rights out of fear. Policy-makers should collaborate with frontline workers to address their concerns
4.	Agyepong et al, 2016 <sup>48</sup>	To investigate the challenges to establishing insurance in Ghana	A combination of analysis of primary (in-depth interviews, and focus group discussion) and secondary data	35 in-depth interviews, and 12 FGD	Re-subscription is a major barrier. Content of insurance package, and service related issues influence decision to subscribe. Enhanced strategies are needed to reach universal health coverage

(Continued)



**Table 1** (Continued).

No.	Author, Date	Purpose of the Study	Methodology	Sample	Key Findings and Recommendations
5.	Aryeetey et al, 2016 <sup>72</sup>	To examine the whether the NHIS provides financial security to the vulnerable	Mixed methods study	13,857	Membership insulates households against poverty and health inflicted financial stress. Enrolment should be expanded to the poor
6.	Dalinjong & Laar, 2012 <sup>58</sup>	To determine the relative treatments healthcare workers give out to the insured and uninsured	Mixed methods study	200 survey participants, 15 In-depth interviews and 8FGD	NHIS members have increased access to healthcare. Both insured and uninsured are satisfied with the quality of treatment they receive. Insured believe attitude of workers towards them is cold due to the cash of the uninsured. Rates of payment of claims are a concern. Challenges should be addressed to ensure customer satisfaction
7.	Dalinjong et al, 2018 <sup>39</sup>	To assess the opinion on pricing, and prevalence of out-patient-payments by antenatal women	Primary data collected using mixed methods approach	406 women for quantitative component, and 38 participants for qualitative component	Scheme only partially covers cost. GH¢17.50 (\$8.60) was the average out-of-pocket payment made. Measures should be put in place to reduce or eliminate all costs related to maternal services
8.	Hampshire et al, 2011 <sup>28</sup>	To investigate healthcare utilization by children	Mixed methods study	1005 quantitative and 131 qualitative respondents	There are socio-cultural and economic barriers to access to health. Insurance presents an opportunity to resolve these challenges. Enrolment should be increased strategically

and should be continued. The more vulnerable groups should be exempted from paying the NHIS premium. This will ensure that coverage is extended to the poor.<sup>40,41</sup>

## Financing

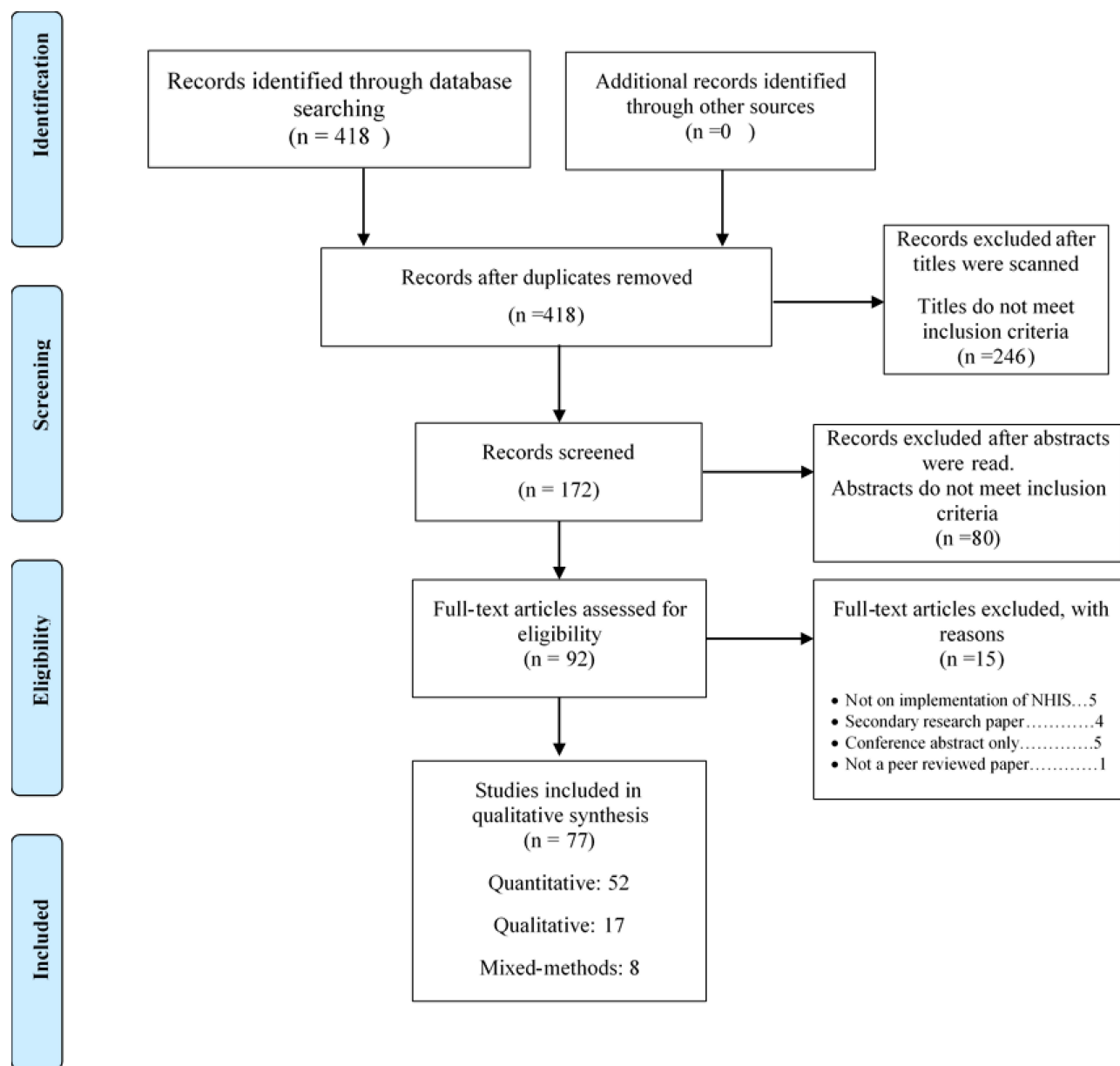
Both health revenue and expenditure increased because of NHIS.<sup>42</sup> Enrolment in the scheme increased continually, though there was a high rate of non-renewal putting the scheme under high financial stress. This section describes the sources of funding, subscription, and renewal. In a study to enlist the challenges that the implementation of the NHIS has encountered, Sodzi-Tettey et al<sup>43</sup> discovered that the scheme was threatened by organizational, financial, and administrative problems. The authors recommended, amongst other things, the adoption of a more modern payment system to salvage the future of the scheme.

## Funding

The scheme is predominantly funded through taxes, specifically 2.5% of the 17.5% VAT, 2.5% of the 17.5% SSNIT from formal sector employees, dividends of investments made by the NHIA Council, donations, and premium payments.<sup>44–46</sup> Addae-Korankye<sup>38</sup> revealed that there is inadequate funding for the NHIS. Costs incurred in funding the free maternal health policy were almost 5-times the seed grant provided by donors.<sup>47</sup>

## Enrolment and Resubscription

Enrolment and resubscription is a major barrier under the scheme.<sup>48</sup> Enrolment in the scheme increased in multiple folds since its inception.<sup>44</sup> Many studies<sup>8,32,34–36</sup> reported varying proportions of enrolment. Boateng and Awunyor-Vitor<sup>35</sup> discovered that out of the 61.1% of their



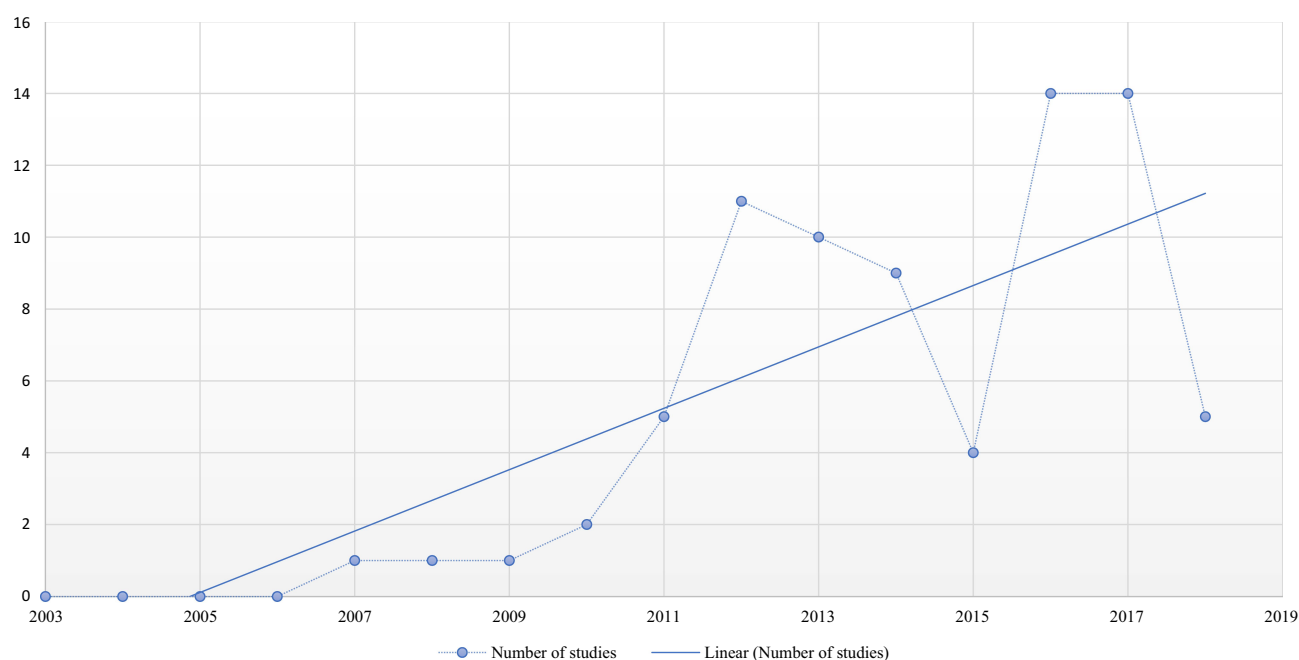
**Figure 1** Search, appraisal, and inclusion of studies.

**Note:** Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed100009.

respondents who were enrolled in the NHIS, 23.9% had not renewed their insurance after enrolment.<sup>35</sup> High rate of non-renewal put the scheme under financial stress.<sup>34</sup> Factors that influenced resubscription included age, economic status, usefulness, accessibility, affordability, and perception of the quality of service provided.<sup>36,41</sup> Also, the probability of resubscription was proportional to having used the services in the previous year.<sup>49</sup> Adei et al<sup>34</sup> advised that the government should consider implementing the one-time premium payment.

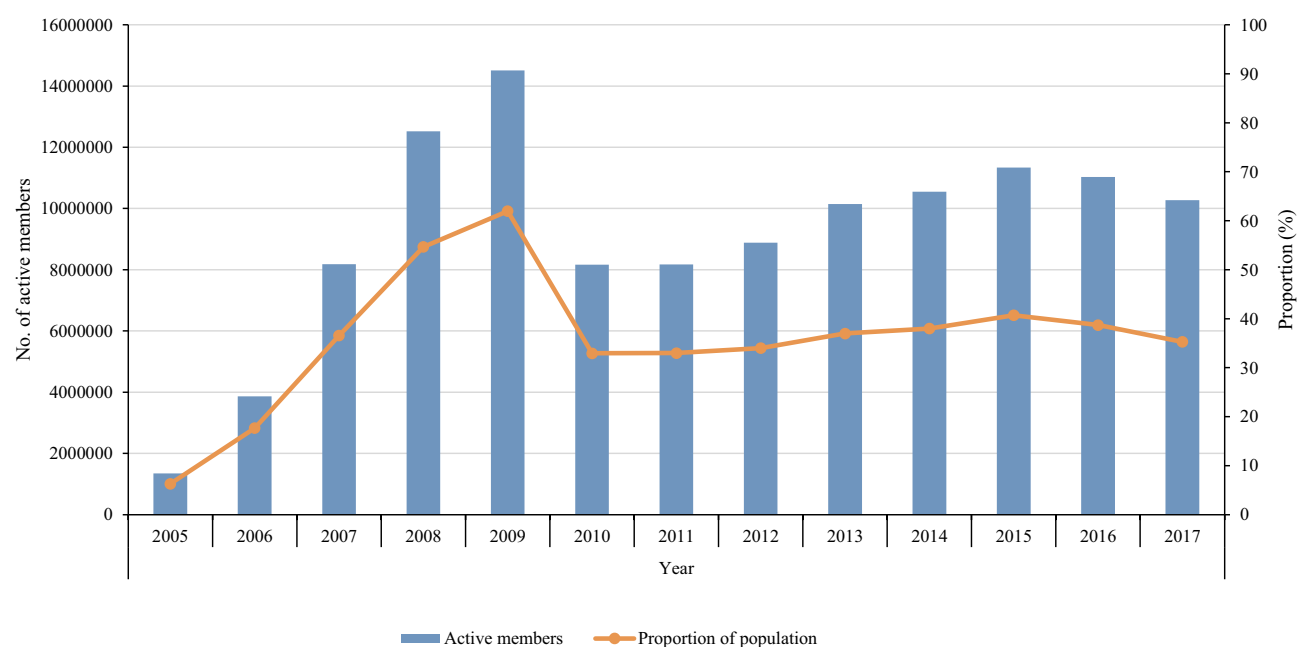
### Reimbursement of Providers

Default in paying service providers for the services provided for clients under the scheme negatively affected the implementation of the NHIS.<sup>42,50,51</sup> Between 2011 and 2014, there was at least 4 months delay in paying almost all the financial claims made.<sup>52</sup> This was as a result of poor funding, manual processing of claims, and mismanagement of scheme funds.<sup>43,53</sup> To tackle the financial challenges surrounding the scheme, researchers<sup>45,53</sup> advocated that proper financing mechanisms should be implemented.



**Figure 2** Yearly distribution of studies included in the review.

### NHIS Active Membership in Ghana (2005-2017)



**Figure 3** NHIS Active Membership from 2005 to 2017 (Source: National Health Insurance Authority<sup>118 119</sup>; Nsiah-Boateng & Aikins<sup>120</sup> 2018).

## Service Delivery

### Quality, Attitudes of Providers, and User Satisfaction

Primary healthcare centers lacked adequate resources to discharge their services, thereby providing poor quality of

preventative services under the scheme.<sup>50,54</sup> User satisfaction with the services provided under the NHIS was below average. Only one-third of the facilities delivered efficient services, public facilities delivered more efficient services

than private and mission facilities.<sup>55,56</sup> Those insured under the scheme were more dissatisfied with service provided than the uninsured,<sup>10,11</sup> in contrast to the findings of Yawson et al<sup>57</sup> that the insured received a better quality of care than the uninsured. Dalinjong and Laar<sup>58</sup> also reported that both insured and uninsured were satisfied with the quality of treatment they received.

The poor mostly used community health centers, whilst the rich and the uninsured mostly patronized public hospitals and private centers, respectively.<sup>31</sup> Wealthy men perceived the services of the scheme as inferior to other modes, however, wealthy women did not perceive the services of the scheme to be inferior to other alternatives.<sup>59</sup> Unlike community health compounds, dominant proportions of women who sought ANC services at hospitals and health centers delivered their babies at these facilities.<sup>29</sup> Rural facilities had higher chances of being more competent than urban ones.<sup>55</sup> Asundep et al<sup>60</sup> found that 20% of women accessing care through the scheme experienced adverse health outcomes.<sup>60</sup> A high proportion of citizens did not have access to an MRI scanner.<sup>61</sup> Also, long waiting time in the hospitals was a disincentive for people to subscribe to the scheme.<sup>36</sup> Quality improvement measures should be instituted to improve the quality of services provided to the clients, especially in the private healthcare facilities.<sup>62,63</sup>

The access and financial protection provided by the scheme have improved health-seeking behaviors and reduced risky health behaviors such as self-medication among Ghanaians.<sup>64</sup> Though some studies<sup>42,65</sup> reported a positive attitude of providers towards service delivery, others<sup>10</sup> reported poor attitudes of providers. Use of traditional medicine was high amongst both insured and uninsured but had no association with insurance status.<sup>66</sup> Quality of care and proximity were two factors that influenced the choice of care provider.<sup>67</sup>

## Outcomes

Those insured under the scheme believed that providers had poorer attitudes towards them than those who are not insured under the scheme.<sup>58</sup> There was no statistically significant difference in the occurrence of low birth weight in before and after the implementation of the NHIS.<sup>68</sup> However, the proportion of infant mortality recorded before the implementation of the scheme was halved during the insurance period; likewise, more maternal deaths were recorded in the previous system as compared to the NHIS regime.<sup>69</sup> Also, a higher number of cesarean

sections were conducted in the NHIS period than before.<sup>69</sup> Lambon-Quayefio and Owoo<sup>70</sup> observed that insurance significantly reduced neonatal death. Mensah et al<sup>40</sup> also recorded that insurance leads to improvements in perinatal health indicators for women. Nguyen et al,<sup>8</sup> Strupat and Klohn,<sup>71</sup> and Aryeetey et al<sup>72</sup> also found that the uninsured had more health expenses than the insured. Therefore, the insured sought to use health services more than the uninsured.<sup>57,58,73</sup>

## Failures/Challenges

After 10 years of implementation (2003–2013) less than 40% of the population of Ghana had subscribed to the NHIS. National coverage or UHC is far from reach at this pace. National Health Insurance as portrayed by the government and the policy document is to protect the population against the negative consequences of the cost of healthcare. Though the NHIS was envisaged to be more preventive than curative it has lost its preventive nature and is currently more curative.<sup>24</sup> The scheme is not as pro-poor as it has been envisaged.<sup>74</sup> Mills et al stated that the policy favored the rich rather than the poor it was intended to, creating much more burden on the poor.<sup>75</sup> Because, the rich and the poor pay the same amount to subscribe to the scheme but the rich access private fee-for-service healthcare when the NHI accredited facilities run out of medicines and other healthcare supplies.

Systemic corruption in sub-Saharan African institutions is a threat to the sustainability of the financial model in Ghana. Healthcare institutions issue false claims for reimbursement; some healthcare users admitted conniving with healthcare providers to defraud the scheme.<sup>25,76</sup> Systems need to be put in place to keep the policy relevant to its purpose. As the health system develops and the health needs of the population change, a policy review will be necessary to make it effective.

## Governance

This section covers system design, coalition building, transparency, oversight, and accountability.<sup>77</sup> The sustainability of the NHIS in Ghana is of grave concern. It seems as though the implementation of the scheme was rushed.<sup>78</sup> There was more emphasis on the roles of political actors than the technical insight provided by experts in the field of public health insurance policy.<sup>78</sup> Whilst recognizing the crucial role that the political elite play in the formulation of public policy, Agyepong and Adjei<sup>78</sup> cautioned that the overarching influence that the political class had on the

program design and implementation could be a threat to the realization of its goals and objectives .

### Financial Management

There are enough sources of funding for the scheme; corruption, mismanagement, lack of transparency in the funding, claims, and reimbursement issues should be checked by the leadership of the scheme. The government should implement the electronic claims, verification, and reimbursement system across the entire country to curb corruption and default in reimbursement of facilities.<sup>46,52</sup> There is too much wastage in the NHIS, which should be dealt with by various stakeholders.<sup>55</sup> Measures should be put in place to reach 100% subscription and resubscription status to raise more funds for the scheme.<sup>49</sup> Also, the rich should be made to pay more to increase the funds for the scheme.<sup>38</sup>

### System Design and Oversight

Political machinations and poor monitoring and evaluation hinder the smooth running of the scheme.<sup>54</sup> Other challenges to the scheme are in the form of inadequate workforce and weak institutional arrangements and transparency.<sup>43,44,79</sup> Administration at both central and local levels affect the decision of people to subscribe to the scheme and continue their subscription.<sup>80</sup> The NHIS needs to be reviewed to ensure good leadership and governance, transparent and accountable institutional arrangement, and effectiveness and sustainability of the scheme.<sup>79,81,82</sup>

### Community Participation

Lack of community participation is a common phenomenon in SSA. Many studies<sup>23,50,51,59,74,83</sup> reported lack of community participation in the NHIS policy formulation and implementation. The policy resulted from a political campaign and the stakeholders knew only the intended political messages. They were not further educated on the consequences of registering or not as well as the details of the technical language that was contained in the policy document. Many people cannot demand services because they either do not understand or are afraid to ask questions about the package.<sup>84</sup> People need to be empowered to demand services they are due.<sup>84</sup> Researchers recommended the need for stakeholder consultation in improving and sustaining the scheme.<sup>50,51,59,74,83</sup>

### Competing Interest

Politicians attempted to make political gains out of the finances of the scheme at the expense of the development

of the scheme.<sup>85</sup> Because it was a political campaign promise, stakeholder consultation and input produced friction, as the politicians pushed to achieve their campaign promises, whether realistic or not. It is necessary for the politicians to know their boundaries and delegate the technocrats to superintend policies of such a magnitude.<sup>78</sup> Other stakeholders of the scheme also tried to swing the policy in their favor using all means.<sup>86</sup> Institutional arrangements among all stakeholder groups should be determined with terms of reference that will enhance the policy implementation. There is need for all stakeholders to clearly understand the content of the policy to avoid ambiguity and role conflicts.<sup>4,85</sup>

## Discussion

From the results, Ghana has contributed much in efforts and funding to make the NHIS work but has struggled with issues of coverage, funding, stakeholder participation, and governance. Corruption and political interference are also seen as major threats to the sustenance of the scheme.

The proportion of the population enrolled in the NHIS from its inception has been less than 41%, apart from 2008 and 2009 where the scheme unexpectedly recorded 54.66% and 61.97%, respectively. This was attributed to the inability of the Scheme management to exclude the members who had not renewed their membership since the inception of the scheme. In 2008, the NHIS was at the center stage of the national election campaign, and politicians were seen enrolling people as part of the election campaign. This may also account for the higher figures in 2009 as elections were held in December 2008. Other reports cited indicated that the scheme had difficulty in reimbursing service providers coupled with administrative challenges, resulting in dissatisfaction of members who intentionally did not renew their membership. This resulted in a sharp decline in membership to 32.95% in 2010. The scheme recorded a slow increase in membership from 2010 to 2015; then took another downward stroke due to apathy among subscribers as a result of the delay in reimbursement of health service providers and charging of unapproved fees.<sup>87,88</sup>

Unlike Ghana, South Africa will not have issues with subscription, premium payment, and waivers for certain groups of people. The NHI bill provides for free healthcare for all South Africans.<sup>89</sup> This allows healthcare to be completely accessible to all the population. Many stakeholders in South Africa are seeking clarification on the source of funding, modes of facility reimbursement, and

the ability of the system to resist corruption.<sup>90–96</sup> These critical questions need to be addressed to avoid system collapse. Various forms of inclusive sources of funding should be prioritized as well as efficient use of resources within the NHI in South Africa.<sup>91,96</sup> The gross inequity in South Africa may be deepened if the system is not designed to address resource allocation and funding mechanisms.

The financial stress that the NHIS is subjected to is partly because 65% of the active members are exempted from paying premiums. This group is made up of mostly pregnant women, children under 18 years of age, the aged (70 years and above), and indigents. Though the exemption has led to increased access to quality healthcare by the exempted groupings, the burden of the care provided stresses the NHIS financially. Enough funding is made available from the various sources of funding, for example, the highest claims paid to health facilities was 81.1% of total income by the scheme. Poor governance and corruption as a result of poor stakeholder participation and political influence were cited as the major challenges threatening the financial sustainability of the scheme.<sup>43,45,47,52,53</sup>

Even though the private sector caters for the health needs of 16% of the South Africans as opposed to the 84% that the public sector serves, private sector consumers account for 52% of the nation's health sector budget, whilst the public sector accounts for a paltry 48%.<sup>97</sup> The gross inequality created by the huge but less funded public sector and small but heavily funded private healthcare system is alarming and needs a system redesign. The National Health Insurance is a strategic political attempt to bridge the healthcare access and quality gap between the poor and the rich by the African National Congress.<sup>98</sup> The entire NHI policy was expected to be rolled out in three phases within 14 years from 2012.<sup>99</sup> After 7 years, stakeholders are concerned about the implementation of the NHI, especially in the areas of quality of the healthcare, corruption, mismanagement of funds, fear of overcrowding of private hospitals, poor attitudes of healthcare workers, and reimbursement mechanism.<sup>90,98,100–103</sup>

As seen in Ghana, both private and public healthcare sectors in South Africa have come under intense criticism regarding the quality of healthcare provided.<sup>104</sup> Many believe that the current public health system needs a system clean-up and reorientation because of gross mismanagement, corruption, and poor quality of services provided.<sup>98</sup> Though there is a general positive perception about the quality of healthcare provided in the private

sector,<sup>104</sup> findings from a study conducted by the University of Cape Town revealed high malpractice within the private sector in South Africa.<sup>105</sup> Though the NHI/UHC policies increase access to healthcare, it is necessary to look at the quality of care provided within the UHC, as poor quality of care tends to be costly in the long-term.<sup>106–108</sup>

In South Africa, the majority of the stakeholders believe that the policy-shift is inevitable. The fear, however, is the clarity in the roles of all stakeholders.<sup>109</sup> General practitioners and specialists who practice or moonlight in the private sector, the private medical schemes, and the private hospital groups feel threatened and targeted by the policy. Stakeholders are calling for the NHI bill to clarify issues regarding the role of existing medical schemes, the NHI referral pathway, the benefit packages, and sources of funding.<sup>93,96</sup>

Polymakers should endeavor to involve frontline workers in addressing the concerns of the scheme.<sup>84</sup> Communities should be encouraged through public education to expand the coverage of the scheme.<sup>35</sup> Public awareness programs should be instituted to improve user knowledge and confidence in the scheme.<sup>110</sup> Encouraging stakeholder participation in decision-making is widely recommended.<sup>91,109,111–113</sup> Barker and Klopper<sup>112</sup> reported that the community studied resisted taking power and decision-making roles in planning and delivering care. Participation in decision-making is the constitutional right of the communities in South Africa and must be respected by engaging them in critical decisions that affect their livelihood.<sup>114</sup> Lastly, communities need to be empowered to demand accountability.

Many bright institutions have fallen because of poor and ineffective leadership in sub-Saharan Africa. Political influence in institutions that are expected to be autonomous is evident across the continent, especially when the government has a role in the appointment of the leadership and funding the institution. Corruption among healthcare leadership is a cancer that eats deep to the core of the healthcare sector in South Africa.<sup>95</sup> Corruption is capable of making healthcare institutions resource-poor, ineffective, and produce poor quality health outcomes. Therefore, the South African healthcare system needs to be redesigned to curb corruption, especially when the NHI bill seeks to consolidate healthcare funds to be managed by boards that are accountable to a political authority, the Minister of Health.<sup>95,115</sup>



Many stakeholders also believe that the policy confers too much power on the Minister of Health to appoint and superintend committees; an ineffective or corrupt Minister of Health could destroy the well-intended healthcare system and funding mechanism. Opposition parties in parliament also believe that the NHI is a mechanism for the ruling party and its appointees to steal taxpayers' money to enrich themselves. The Minister of Health, Dr Zweli Mkhize, however, said that the president recognizes the threat corruption poses to the insurance and has inaugurated health sector anti-corruption forum to check corruption within the NHI system.<sup>94</sup> Good leadership and governance are essential to the implementation of NHI. Despite the imminent need for the implementation of the NHI in South Africa, the systems need to be redesigned to provide quality and resist corruption and mismanagement.<sup>98</sup>

## Conclusion

The implementation of the NHIS in Ghana has provided access to healthcare for the underprivileged despite the numerous challenges. The scheme has successfully expanded care and protected the poor against the negative consequences of healthcare cost for a decade and a half. Nguyen et al<sup>8</sup> recommended that other countries learn from the NHIS policy in Ghana, and implement a similar policy towards UHC. South Africa has a more robust economy and double the population of Ghana but has historical and sociocultural similarities with Ghana. Despite the huge capital ingestion into the healthcare sector, South African health indicators have not improved compared to countries that have similar or lesser capital inputs. This has been mainly attributed to the public-private, rich-poor, and rural-urban inequalities in healthcare delivery.<sup>116,117</sup> The NHI policy is widely accepted as the means of eliminating inequalities in the healthcare system. Therefore, the success of NHI is imperative. Learning from a system that worked within the same region and building systems that overcome the mistakes, challenges, and roadblocks in the already implemented systems are essential.

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## Author Contributions

All authors made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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