Operational Capacity of Insurers in Implementing Community-Based Health Insurance and Mandatory Health Insurance in Low- and Middle- Income Countries in Sub-Saharan Africa : A Scoping Review[1]

一橋大学　国際・公共政策大学院

公共経済プログラム　修士 2 年

福嶋佳奈子

2020 年 1 月

[1] 本稿は、一橋大学国際・公共政策大学院公共経済プログラムにおけるコンサルティング・プロジェクトの成果物である。本稿の内容はすべて筆者の個人的見解であり、 本稿にあり得る誤りはすべて筆者個人の責任に帰するものである。

要約

本稿では、サブサハラアフリカ地域の低中所得国におけるコミュニティ医療保険及び強制医療保険の保険者の実務能力(資格管理・情報更新、保険料設定・徴収、給付範囲の設定、啓発、契約、支払審査、償還、モニタリングと評価)に関して、2010 年から 2018 年に発表された英語文献に対してスコーピング・レビューを行った。32 件の対象文献のうち、ガーナを対象にした文献は 17 件存在した。分析より次の点が明らかとなった。①支払審査以外の実務能力に関する量的調査が必要であること。②保険者人材の量的・質的な不足が保険料徴収、給付範囲の設定、支払審査、モニタリングと評価に影響を及ぼしていること。③最も文献が少なかったのは「契約」であること。対象文献の半数を占めるガーナにおいては、国民健康保険を採用しているため購買契約は国単位で行っている。郡・州単位では効率的でない実務を明らかにし、適切な組織が実施するように業務調整することも有益であると示唆された。

謝辞

本稿は、一橋大学国際・公共政策大学院公共経済プログラムにおけるコンサルティング・プロジェクトの一環として行われたものである。受入機関 として本プロジェクトにご協力いただいた一橋大学社会科学高等研究院医療政策・経済研究センターの中村良太准教授におかれては、多忙な中、貴重な時間を頂き、大変有益なご指導とご助言をいただき、心より感謝申し上げる。本田文子准教授(上智大学)、戸辺誠専門員(国際協力機構)、野田信一郎先生(国立国際医療研究センター)におかれては、数々の有益なご指導とご助言をいただき、心より感謝申し上げる。この研究を完成させるにあたり、多くの方々から有益なコメントを頂戴した。指導教官である佐藤主光教授(一橋大学)からは、構成から分析、執筆の段階まで何度もご助言をいただいた。また、公共政策大学院の先生方、そして公共経済プログラムの学生には、報告会の場で数多くの貴重なアドバイスをいただいた。

本プロジェクトを通して、貴重なご指導とご助言をいただいたすべての方 に、厚く御礼申し上げる。

Contents

Introduction

‘All people have access to services and do not suffer financial hardship paying for them’, is the goal defined as universal health coverage (UHC) in the world health report 2010. The United Nations resolution on UHC was adopted in 2012 and became Target 3.8 of the Sustainable Development Goal 3, Good Health and Well-Being (World Health Organization, 2010).

In 2007, more than 50% of total health expenditure in 33 countries (mostly low-income) was direct-out-of-pocket payments (World Health Organization, 2010). Study on catastrophic payment incidences in 133 countries suggest that the proportion of the population that is supposed to be covered by health insurance schemes or by national or subnational health services is a poor indicator of financial protection. Increasing the share of total health expenditure that is prepaid, particularly through taxes and mandatory contributions, is required instead of increasing the share of GDP spent on health (Wagstaff A. , et al., 2018). Another study on impoverishing health spending in 122 countries shows that out-of-pocket spending on health can add to the poverty head count and the depth of poverty by diverting household spending from non-health budget items. The scale of such impoverishment varies between countries and depends on the poverty line but increasing the share of total health expenditure that is prepaid, especially through taxes and mandatory contributions, can help reduce impoverishment (Wagstaff A. , et al., 2018). To reduce reliance on direct payments, governments should encourage the risk-pooling, prepayment approach, making the goal of UHC more realistic (World Health Organization, 2010). The financial commitment of each government is crucial for achieving UHC (Gottret, Schieber, & Waters, 2008) and, therefore, countries across Asia

and Africa are currently reforming their health sectors to achieve UHC (Maeda, et al., 2014).

Strategies to achieve UHC are diverse and vary according to economic conditions, geography, history or cultural context of each country (Maeda, et al., 2014) (McIntyre & Kutzin, Health financing country diagnostic: a foundation for national stategy development, 2016). UHC schemes vary considerably in their revenue collection strategy and most countries rely on mixed or hybrid sources of funding (Giedon, Alfonso, & Diaz, 2013). As developing an efficient tax-funded health system is a difficult task in low-income countries, various health financing arrangements are expected to assist the citizenry as financial protections for medical expenses (Habib, Perveen, & Khuwaja, 2016).

In sub-Saharan Africa (SSA), several health schemes exist, for instance community-based health insurance (CBHI) and Mandatory Health Insurance (MHI). Most CBHI schemes in SSA are voluntary-based and have fewer than 500 members. The number covered by CBHI schemes is still relatively small in most low-income countries. There are exceptions, such as Rwanda, where the CBHI scheme covers 74 % of the informal sector. However, evidence shows that most community-based schemes do not reach the very poor (Gottret, Schieber, & Waters, 2008) (Chemouni, 2018). The concept of MHI is relatively new in SSA and lacks evidence regarding actual impact. Establishing the MHI scheme is difficult in SSA, due to high poverty levels, large informal sector, weak revenue collection mechanisms and alike. Kenya, Ghana, and Tanzania are countries which have introduced MHI schemes (Chuma, Mulupi, & McIntyre, 2013), despite their fragmented healthcare systems (McIntyre, et al., 2008).

Although various health insurance schemes are in place, weak managerial

capacity of insurers has been detected in studies of CBHI (De Allegri, Sauerborn, Kouyate, & Flessa, 2009) (Schneider, 2005) (Carrin, Waelkens, & Criel, 2005) (Atim, 1998). De Allegri et al. (2009) describe them as follows: 'weak managerial capacity is reflected in all fields of operation, from setting actuarially fair premiums to designing risk management tools, from conducting social marketing campaigns to administering everyday bookkeeping, from performing financial management to handling cash flow control.' (De Allegri, Sauerborn, Kouyate, & Flessa, 2009). A systematic review which investigated the implementation, uptake and sustainability of CBHI schemes in low- and middle- income countries (LMIC) remarked that the management or administrative structure has influence in their implementation and sustainability (Fadlallah, et al., 2018). Several intuitive frameworks on capacity exists. Potter and Brough (2004) demonstrate the systemic capacity building and capacity pyramid. Grindle and Hilderbrand (1995) depict the dimensions of capacity. Certain studies on CBHI in Africa indicate that there are several aspects of managerial capacity ensuring operation (De Allegri, Sauerborn, Kouyate, & Flessa, 2009) (Carrin, Waelkens, & Criel, 2005) (Schneider, 2005) (Atim, 1998) (Tabor, 2005) (Baltussen, Bruce, Rhodes, Narh-Bana, & Agyepong, 2006) (Fadlallah, et al., 2018) (Ndiaye, Soors, & Criel, 2007):

- record keeping,
- accounting or bookkeeping,
- using management information system,
- reporting,
- collecting premiums,
- setting premium rates,
- determining the benefits package,

- marketing and communication,
- contracting with providers,
- pharmacies and clinics, and
- claims verification

Additionally, ensuring sustainability of insurance via:

- Managing Fund,
- Considering appropriate investment strategies for the fund,
- Keeping separate accounts,
- Training,
- Holding regular meetings,
- Monitoring and evaluation

A central role in implementing health insurance is played by insurers. This includes: efficient and effective administration, inevitable operational capacity, like deciding the eligibility and updating the information of each insured person, setting and collecting premiums, setting the fee schedule, reviewing bills from medical institutions, and reimbursing medical fees (Shimazaki, 2013). The assessment of necessary capacity for daily implementation of reforms in the health sector is inevitable (Mills, Bennett, & Russell, 2001), however, the description of operational capacity for insurers of MHI and CBHI does not exist, which this paper addresses. Herein, operational capacity refers to: deciding the eligibility and updating the information of each insured person, setting and collecting premiums, setting the fee schedule, reviewing bills from medical institutions, and reimbursing medical fees. We adopted the scoping review method to examine the extent, range and nature of the operational capacity of insurers and to identify research gaps for the future studies (Anderson, Allen, Peckham, & Goodwin, 2008) (Levac,

Colquhoun, & O'Brien, 2010).

Objectives

This paper aims to describe the operational capacity of insurers of both MHI and CBHI in implementing health insurance in SSA.

Research questions are as follows:

1) What are the operational capacities of insurers of MHI and CBHI in SSA?

   Operational capacity refers to deciding the eligibility and updating the information of each insured person, to set premiums, to collect premiums and to design benefit package, to conduct marketing and communication, to contract with providers, pharmacies and clinics, to check the bills from medical institutions to reimburse medical fees and to conduct monitoring and evaluation.

2) What are the research gaps in evidence underlying operational capacities of MHI and CBHI insurers in SSA?

Methods

Types of studies

This study is a scoping review. Studies chosen included insurers of public health insurance in SSA. As per the research question, focusing on the process of insurers rather than their effectiveness, this review includes qualitative research, survey and systematic reviews (Petticrew & Roberts, 2006).

Sources

The search parameters were as follows: literature published between 2000 and 2018, inclusive, was surveyed through the electronic databases of Medline and Google Scholar, bolstered by certain grey literature. Our review considers studies published in English only. Studies were included found via snowball searching, and those recommended by experts.

Data Collection and Analysis

Eligibility and inclusion criteria of surveyed studies:

1. Via Medline and Google Scholar database searches, grey literature with selected combinations of terms and keywords;
2. Published in English;
3. Published between 2000 and 2018, inclusive;
4. Including insurers of public health insurance in LMIC and SSA; and
5. Quantitative and qualitative studies.

Exclusion criteria of surveyed studies:

1. Published in languages other than English;
2. Not focusing on LMIC or SSA contexts;
3. Health insurance schemes other than public health insurance;
4. Outside of the designated publishing years; and
5. Not available with full text.

Search Strategy and Results

Please refer to the appendix for the search keywords utilised. Figure 1 below outlines the systematic process followed to identify and select literature included in the study.

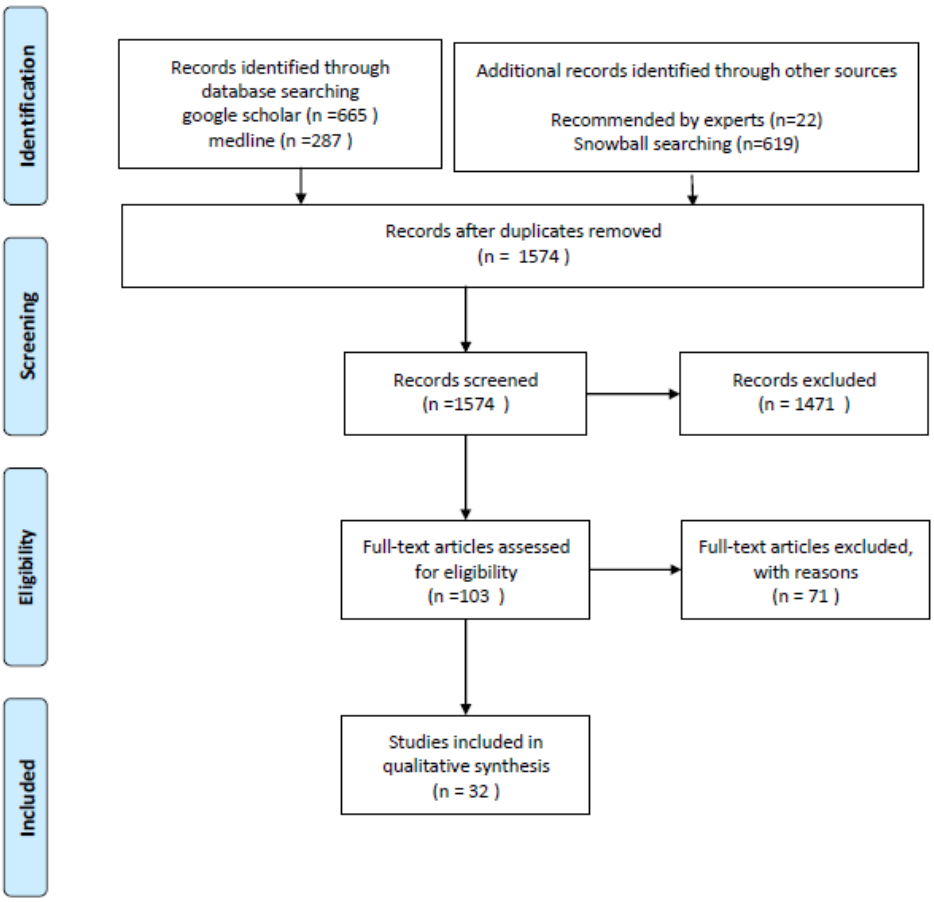

Figure.1 Flowchart of Article Selection

Data Management

Microsoft Excel was used to manage and store the reviewed studies. A checklist was developed according to the eligibility criteria of this review, following the PRISMA-ScR statement.

Data Selection

We identified potentially relevant studies, analysed titles and abstracts and assessed their eligibility. If there was uncertainty of eligibility, the study was temporarily included. Possible eligible studies were assessed in detail with their full text versions to determine their relevance as per the eligibility and inclusion criteria. Studies selected were used for the review and the results from each step were discussed and consensus reached. For each study excluded, justification was documented.

Data Extraction

Investigators independently extracted all data items of each included study with a standardised data collection form.

Data Items

Please refer to the appendix for the Data Extraction Form. The descriptive items collected were: (1) general information and characteristics of the study, country or place, and type of insurance scheme; (2) methodological characteristics, including the type of method and how data or information was collected, components that were analysed; and (3) operational barriers for the insurer in implementation.

Data Synthesis and Analysis

Extracted data were analysed and summarized in order to answer the research questions. Data were summarized in a chart according to the operational barriers found along with gaps in evidence identified.

Results

Summary of Selected Literature

Thirty-two articles were identified (see Table 1). Twelve of them were published between 2000 and 2010. Twenty of them were published between 2011 and 2018. Six articles were found in BMC, five articles are publications from The Partners for Health Reform Project. More than half of the articles were focused on Ghana.

Geographic Focus

Articles are heavily focused on Ghana (n=18). Other countries included are Rwanda (n=4), Senegal (n=2), Tanzania (n=2) and for each of the following areas, single article was found (Asia, Africa, LMIC, Mauritania, South Africa, Uganda and West Africa).

Insurance Schemes

Seventeen articles of the 32 focus on MHI, with 16 articles focusing on CBHI. There is one article which focuses on both MHI and CBHI in Ghana, hence the duplication.

Types of Article and Study Design

Twenty-nine articles are research-based, employing various methodologies. Three articles are government documents. Seventeen articles are of qualitative design (including five case study design), five were review articles, two were reports. Four articles were of mixed methodology (qualitative and quantitative). Four articles employed quantitative methodologies. Of eight articles with mixed methodologies, five were

investigating claims management; three utilised quantitative methodology to investigate participants' satisfaction, enrolment and financial sustainability.

Table1: Description and Analysis of Included Articles (in Alphabet order)

#	Author and Year	Journal or Source	Title	Study Design	Setting	Type of Insurance (NHI, CBHI etc.)	Study year	<Operational capacity>									
								(1) decide the eligibility of each insured person	(2) update the information of each insured person	(3) set premium rates	(4) premiums collection	(5) design of benefit package	(6) marketing and communication	(7) contract with providers, pharmacies and clinics	(8) claims verification/ check the bills from medical institutions	(9) reimburse medical fees	(10) monitoring and evaluation
1	Adei et al. (2012)	Current Research Journal of Social Sciences	An Assessment of the Kwabre District Mutual Health Insurance Scheme in Ghana	Qualitative and quantitative	Ghana	CBHI	2008-2010	✓		✓			✓			✓	
2	Agyepong et al. (2016)	BMC Health Services Research	The "Universal" in UHC and Ghana's National Health Insurance Scheme: policy and implementation challenges and dilemmas of a lower middle income country.	Mixed Mehod	Ghana	NHI	2010 – 2013	✓	✓	✓	✓	✓	✓			✓	
3	Alhassan et al. (2016)	Plos One	A Review of the National Health Insurance Scheme in Ghana: What Are the Sustainability Threats and Prospects?	Qualitative	Ghana	NHI	2003-2016	✓	✓	✓	✓	✓				✓	
4	Atim et al. (2000)	The Partners for Health Reform Project, Abt Associates Inc.	An External Evaluation of the Nkoranza Community Financing Health Insurance Scheme, Ghana.	Qualitative	Ghana	CBHI	1999						✓				✓
5	Atim et al. (2001)	The Partners for Health Reformplus Project, Abt Associates Inc.	A Survey of Health Financing Schemes in Ghana.	Qualitative and quantitative	Ghana	NHI	2001					✓					
						CBHI(MHO)						✓			✓		
6	Baltussen et al. (2006)	Tropical Medicine and International Health	Management of mutual health organizations in Ghana	Qualitative	Ghana	CBHI(MHO)	2004-2005		✓	✓		✓	✓		✓		
7	Borghi et al. (2013)	Health Research Policy and Systems	Promoting universal financial protection: a case study of new management of community health insurance in Tanzania.	Qualitative (Case Study)	Tanzania	CBHI	2011-2012	✓		✓	✓		✓		✓		✓
8	Chee et al. (2002)	The Partners for Health Reformplus Project, Abt Associates Inc.	Assessment of the community health fund in Hanang District, Tanzania.	Qualitative	Tanzania	CBHI	2001-2002	✓		✓	✓		✓				
9	Debpuur et al. (2015)	BMC Health Services Research	An exploration of moral hazard behaviors under the national health insurance scheme in Northern Ghana: a qualitative study.	Qualitative	Ghana	NHI	2009-2010	✓	✓							✓	
10	Derriennic et al. (2005)	The Partners for Health Reformplus Project, Abt Associates Inc.	An Assessment of Community-Based Health Financing Activities in Uganda.	Qualitative	Uganda	CBHI	2004	✓		✓		✓	✓				
11	Franco et al. (2004)	The Partners for Health Reformplus Project, Abt Associates Inc.	Social Participation in the Development of Mutual Health Organizations in Senegal.	Qualitative	Senegal	CBHI	2003			✓		✓					

Table1 (continued)

#	Author and Year	Journal or Source	Title	Study Design	Setting	Type of Insurance (NHI, CBHI etc.)	Study year	<Operational capacity>									
								(1) decide the eligibility of each insured person	(2) update the information of each insured person	(3) set premium rates	(4) premiums collection	(5) design of benefit package	(6) marketing and communication	(7) contract with providers, pharmacies and clinics	(8) claims verification/ check the bills from medical institutions	(9) reimburse medical fees	(10) monitoring and evaluation
12	Fusheini et al. (2012)	Conference paper (62nd Political Studies Association Annual International Conference in Defence of Politics)	The Implementation of the National Health Insurance Programme in Ghana - an Institutional Approach.	Qualitative (Case Study)	Ghana	NHI	2011-2012			✓		✓			✓		
13	Fusheini et al. (2016)	BMC Health Services Research	Achieving universal health coverage in South Africa through a district health system approach: conflicting ideologies of health care provision.	Review	South Africa	NHI	2014							✓	✓		
14	Huber et al. (2003)	GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH	Mutual Health Insurance (MHO) – Five Years Experience in West Africa.	Qualitative	WestAfrica	CBHI(MHO)	2001	✓		✓	✓	✓					✓
15	Jakab et al. (2001)	HNP Discussion Paper, World Bank	Community involvement in health care financing: A Survey of the Literature on the Impact, strengths and weaknesses	Review	Asia & Africa	CBHI	1990-2001							✓			
16	Mbau et al. (2018)	Global Health Action	Influence of organisational culture on the implementation of health sector reforms in low-and middle-income countries: a qualitative interpretive review	Qualitative	LMIC (incl. Ghana, Nigeria)	NHI	2000-2015						✓				
17	Ministry of Health, Ghana (2004)		National Health Insurance Policy Framework For Ghana	Review	Ghana	NHI				✓		✓					✓
18	(2016)		The Development of Community-Based Health Insurance in Rwanda: Experiences and Lessons	Report	Rwanda	CBHI		✓	✓	✓	✓	✓	✓		✓	✓	
19	Mladovsky et al. (2015)	Health Policy and Planning	The impact of stakeholder values and power relations on community-based health insurance coverage: qualitative evidence from three Senegalese case studies.	Qualitative (Case Study)	Senegal	CBHI	2009			✓	✓		✓	✓			
20	Musango et al. (2013)	African Health Monitor	Strategies towards universal health coverage in Rwanda : Lessons learned from extending coverage through mutual health organizations.	Review	Rwanda	CBHI		✓					✓				✓
21	National Health Insurance Authority, Ghana (2011)		National Health Insurance Scheme, Annual Report 2011	Report	Ghana	NHI	2011	✓					✓		✓		✓
22	Nsiah-Boateng et al. (2013)	Value In Health Regional Issues	Performance Assessment of Ga District Mutual Health insurance Scheme, Greater Accra Region, Ghana.	Quantitative	Ghana	NHI	2007-2009								✓		

Table1 (continued)

#	Author and Year	Journal or Source	Title	Study Design	Setting	Type of Insurance (NHI, CBHI etc.)	Study year	<Operational capacity>									
								(1) decide the eligibility of each insured person	(2) update the information of each insured person	(3) set premium rates	(4) premiums collection	(5) design of benefit package	(6) marketing and communication	(7) contract with providers, pharmacies and clinics	(8) claims verification/ check the bills from medical institutions	(9) reimburse medical fees	(10) monitoring and evaluation
23	Nsiah-Boateng et al. (2016)	Value In Heatlh Regional Issues	Value and Service Quality Assessment of the National Health Insurance Scheme in Ghana: Evidence from Ashiedu Keteke District.	Quantitative	Ghana	NHI	2010-2014								✓		
24	Nsiah-Boateng et al. (2017)	BMC Health Services Research	Reducing medical claims cost to Ghana's National Health Insurance scheme: a cross-sectional comparative assessment of the paper- and electronic-based claims reviews.	Quantitative	Ghana	NHI	2014	✓			✓				✓	✓	
25	Sakyi et al. (2011)	Journal of Health Organization and Management	Barriers to implementing health sector administrative decentralisation in Ghana: a study of the Nkwanta district health management team.	Qualitative	Ghana	NHI	2008										
26	Sakyi et al. (2008)	Leadership in Health Services	Implementing decentralised management in Ghana: the experience of the Sekyere West District health administration	Qualitative (Case Study)	Ghana	NHI	2008										
27	Schneider et al. (2000)	International Affairs	Development and Implementation of Prepayment Schemes in Rwanda.	Review	Rwanda	CBHI	1999	✓				✓	✓				✓
28	Schneider P. (2005)	Social Science & Medicine	Trust in micro-health insurance: an exploratory study in Rwanda.	Qualitative (Case Study)	Rwanda	CBHI	2000			✓		✓				✓	
29	Sodzi-Tettey et al. (2012)	Ghana Medical Journal	Challenges in provider payment under the Ghana National Health Insurance Scheme: a case study of claims management in two districts.	Qualitative and quantitative	Ghana	NHI	2008, 2009		✓					✓	✓	✓	
30	Waelkens et al. (2017)	BMC Health Services Research	An in-depth investigation of the causes of persistent low membership of community-based health insurance: a case study of the mutual health organisation of Dar Naïm, Mauritania.	Qualitative	Mauritania	CBHI (MHO)	2003-2012	✓	✓	✓	✓	✓	✓	✓		✓	
31	Wang et al. (2017)	World bank	Ghana National Health Insurance SchemeImproving Financial Sustainability Based on Expenditure Review	Quantitative	Ghana	NHI	2008, 2014			✓		✓	✓		✓		✓
32	Witter et al. (2009)	BMC International Health and Human Rights	Something old or something new? Social health insurance in Ghana.	Qualitative	Ghana	NHI	2005-2009	✓				✓			✓		

Operational Capacity

Considering the identified study variables to investigate operational capacity: 16 articles (50%) referred to 'decide the eligibility of each insured person', 16 articles (50%) referred to 'set premiums rates', 16 articles (50%) referred to 'design of benefit package', 15 articles (47%) referred to 'marketing and communication', 13 articles (41%) referred to 'claims verification/ check the bills from medical institutions', nine articles (28%) referred to 'premium collection', nine articles (28%) referred to 'reimburse medical fees', eight articles (25%) referred to 'update the information of each insured person', eight articles (25%) referred to 'monitoring and evaluation', five articles (16%) referred to 'contract with providers, pharmacies and clinics'. (see Table 2)

Table 2 Number of articles by each operational capacity

Operational capacity	number of articles
decide the eligibility of each insured person	16/32
update the information of each insured person	08/32
set premiums rates	16/32
premium collection	09/32
design of benefit package	16/32
marketing and communication	15/32
contract with providers, pharmacies and clinics	05/32
claims verification/ check the bills from medical institutions	13/32
reimburse medical fees	09/32
monitoring and evaluation	08/32

Regarding, 'decide the eligibility of each insured person', six articles refer to the decision making of indigent people or exemption (as per Table 1: #2, #3, #8, #20, #27 and #32). Two articles find the abuse of membership card (#9 and #18).

Regarding, 'update the information of each insured person', two articles refer to delays in issuing membership cards (#2 and #3). Two articles indicate that the schemes

adopt some measure to avoid membership card fraud (#6 and #9). Insurers find that people are unaware of expiry dates of insurance cards (#2) and think it unnecessary when they did not use the insurance the previous year (#18). Three articles suggest the lack of adequate databases for insurance members, which cause miscommunication among stakeholders regarding expiry dates, undetected forgery of membership cards, and complicated entitlement procedures (#18, #29 and #30).

Regarding, 'set premiums rates', four articles mentioned the actual premium rates according to the category of people (#1, #18, #30 and #31). Six articles refer to the decision-making process of premium rates (#7, #10, #11, #12, #19 and #28). In Ghana, high premiums and registration fees are thought to be the barrier of enrolment (#2), conversely, there is a need for policy reforms on low premiums and the generous broad benefits package (#3).

Regarding, 'premium collection', three articles refer to the responsible person for premiums collection (#19, #24 and #30). Low revenue is mentioned in two articles (#3 and #8), however, figures on the collection rate is available from one article (#3). The schemes, which are run by volunteers, the premiums collection is a challenging task, due to the shortage of time and travel costs (#19 and #30).

Regarding, 'design of benefit package', four articles discuss the content of benefit package (#5,#27,#31 and #32); two articles focus on autonomy of benefit packages (#2 and #6); two articles focus on considerations of designing benefit packages by local context or by health facility level (#12 and #18); and one article on the process of deciding benefit packages (#28). One article mentions that actuarial methods are rarely used to set premiums and define the benefit package (#6).

Regarding, 'marketing and communication', nine articles refer to the lack of

communication within the insurers or between the insurers and the local community, due to the lack of marketing strategy, communication skills, human resources or sometimes the sensitisation policy not being shared (#2, #4, #6, #7, #8, #10, #16, #30 and #31). Three articles describe the strategies of marketing utilised (#1, #20 and #27).

Regarding, 'contract with providers, pharmacies and clinics', there is only one article which took place in Ghana (#29). Other articles mention the number of contracts (#13), and the process behind securing contracts (#15, #19, #30).

Regarding, 'claims verification/check the bills from medical institutions', six articles describe procedures (#5, #6, #7, #13, #24 and #32). These articles show that there are several reasons for ineffective procedures being, the lack of skills to verify claims (#8, #18 and #29), shortage of personnel (#22, #29 and #31), and ineffective equipment (#22 and #31). Certain articles show figures on rejection rates (#29), claims processing rates (#22), and claims adjustment rates (#23).

Regarding, 'reimburse medical fees', six articles refer to the reimbursement procedure (#2, #3, #18, #24, #28 and #29). Five articles refer to the delay in reimbursements (#1, #2, #3, #18 and #29) and point out that such delay leads to the deficit of medical supplies or salaries (#1).

Lastly, regarding 'monitoring and evaluation', two articles describe the content of monitoring (#7, #20 and #27), one article mentions the lack of skills in monitoring (#4), and one article refers the inadequate use of data for monitoring (#31).

Discussion

Key Findings

Our findings suggest that the operational capacity of insurers is not always focused as a main topic of health insurance. Although the deficit of management capacity is noted in many articles, few studies focused on the achievement of operational capacity. Considering the volume of literature focused on Ghana, there seems to be a wide gap in insurers between countries and within countries. Few articles apply the quantitative methods only found in the 'claim verification' category—the key function of the insurer.

It shows that common problems exist behind several operational capacities. The shortage of personnel problem is found in both 'premium collection' and 'claims verification'. The lack of adequate skills problem is found in the categories of 'design of benefit package', 'claims verification' and 'monitoring and evaluation'. The problem of the inadequate use of data is found in both categories of 'update the information of each insured person' and 'monitoring and evaluation'. Lack of communication is a major problem found in the 'marketing and communication' category.

Articles analysed are scarce in the 'contract with providers, pharmacies and clinics' category. Purchasing is one of the three core health financing functions (Kutzin, 2001), and within five articles there is only one article on Ghana. In Ghana, the District Mutual Health Insurance Schemes is a provider of health insurance and the National Health Insurance Authority (NHIA) is responsible for entering into purchase agreements with providers and reimbursing them (Sodzi-Tettey, Aikins, Awoonor-Williams, & Agyepong, 2012).

Gaps and Potential for the Future Research

There are limited quantitative studies on categories other than 'claim verification'. Depending on the availability of data, the capacity of 'monitoring and evaluation', for example, can accumulate data using the monitoring sheet. The articles analysed mostly focus on Ghana, since it has a long tradition of national health insurance. Considering the context of SSA, we recommended including articles written in French. The geographic focus was narrow, and to generalise the operational capacity of the insurer, widening the area will be inevitable. Gaps in specific skills are indicated from the supporting factors, however, it might need further investigation since the specific skills for each insurance organization might be different considering the background of each country and district.

Implications

Our findings suggest that there is a need for personnel with a review from quality and quantity. The lack of insurers simply delays many operations and insurers with inadequate skills leads to stifling the whole procedure. Certain operations could be integrated with the superior institution, for example the purchasing of health insurance in Ghana was transferred from the district level to the national level, which can profit from the larger scale of benefits and efficacy of operations. There seems to be a deficit in adequate skill of insurers, which is a crucial factor in operation. Therefore, it is suggested to assess the specific skill of insurers, to decide the strategy to fill the gap of operational deficit by training or by task shifting, before implementing the insurance.

Limitations

A limitation of this review is the exclusion of articles not published in English. Although using Google Scholar and Medline platforms, and the direct search, some literature may have been missed and publication bias cannot be excluded.

Conclusions

This scoping review provides a descriptive map of the academic literature on the operational capacity and supporting factors of health insurers. Since many countries are reforming their health sectors to reduce out-of-pocket expense, focus on the operating capacity of health insurers is increasingly important. More research is needed to address the gap in operational capacity and clarify the competency of health insurers and the demarcation of operation at different levels.

Conflict of Interest

None.

References

Anderson, S., Allen, P., Peckham, S., & Goodwin, N. (2008). Asking the right questions: Scoping studies in the commissioning of research on the organisation and delivery of health services. *Health Research Policy and Systems, 6*(7).

Atim, C. (1998). *The Contribution of Mutual Health Organizations to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries.*

Baltussen, R., Bruce, E., Rhodes, G., Narh-Bana, S. A., & Agyepong, I. (2006). Management of mutual health organizations in Ghana. *Tropical Medicine & International Health, 11*(5), 654-659.

Carrin, G., Waelkens, M., & Criel, B. (2005). Community-based health insurance in developing countries: a study of its contribution to the performance of health financing systems. *Tropical Medicine and International Health, 10*(8), 799-811.

Chemouni, B. (2018). The political path to universal health coverage: Power, ideas and community-based health insurance in Rwanda. *World Development*, 87-98.

Chuma, J., Mulupi, S., & McIntyre, D. (2013). *Providing Financial Protection and Funding Health Service Benefits for the Informanl Sector: Evidence from sub-Saharan Africa.* RESYST.

De Allegri, M., Sauerborn, R., Kouyate, B., & Flessa, S. (2009). Community health insurance in sub-Saharan Africa: what operational difficulties hamper its successful development? *Tropical Medicine and International Health, 14*(5), 586-596.

Dror, D. M., & Preker, A. S. (2002). *Social Reinsurance A New Approach to Sustainable Community.* Washington DC: World Bank, International Labour Office.

Fadlallah, R., El-Jardali, F., Hemadi, N., Morsi, R. Z., Samra, C. A., Ahmad, A., . . . Akl, A. E. (2018). Barriers and facilitators to implementation, uptake and sustainability of communitybased health insurance schemes in lowand middle-income countries: a systematic review. *International Journal for Equity in Health, 17*(13).

Giedon, U., Alfonso, E. A., & Diaz, Y. (2013). *The Impact of Universal: A Review of the Existing.* Washington DC: The World Bank.

Gottret, P., Schieber, G. J., & Waters, H. R. (2008). *Good Practices in Health Financing.* Washington DC: World Bank.

Grindle, M. S., & Hilderbrand, M. E. (1995). Building sustainable capacity in the public sector:what can be done? *Public Administration and Developmen, 15*, 441-463.

Habib, S. S., Perveen, S., & Khuwaja, H. M. (2016). The Role of Micro Health Insurance in Providing Financial Risk Protection in Developing Countries--a Systematic Review. *BMC Public Health*.

Kutzin, J. (2001). A descriptive framework for country-level analysis of health care financing

arrangements. *Health Policy*, 171-204.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: advancing the methodology. *Implementation Science, 5*(69).

Maeda, A., Araujo, E., Cashin, C., Harris, J., Ikegami, N., & Reich, M. R. (2014). *Universal Health Coverage for Inclusive and Sustainable Development.* Washington, D.C.: The World Bank.

McIntyre, D., & Kutzin, J. (2016). *Health financing country diagnostic: a foundation for national stategy development.* Geneva: World Health Organization.

McIntyre, D., Garshong, B., Mtei, G., Meheus, F., Thiede, M., Akazili, J., . . . Goudge, J. (2008). Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania. *Bulletin of the World Health Organization*.

Mills, A., Bennett, S., & Russell, S. (2001). Taking Account of Capacity. In A. Mills, S. Bennett, & S. Russell, *The Challenge of Health Sector Reform : What Must Governments Do?* (pp. 170-199). Oxford: Macmillan Press.

Ndiaye, P., Soors, W., & Criel, B. (2007). Editorial: A view from beneath: Community Health Insurance in Africa. *Tropical Medicine and International Health, 12*(2), 157-161.

Petticrew, M., & Roberts, H. (2006). *Systematic Reviews in the Social Science.* Oxford: Blackwell Publishing.

Potter, C., & Brough, R. (2004). Systemic capacity building: a hierarchy of needs. *Health Policy and Planning, 19*(5), 336-345.

Preker, A. S., Lindner, M. E., Chernichovsky, D., & Schellekens, O. P. (2013). *Scaling Up Affordable Health Insurance: Staying the Course.* Washington DC: World Bank.

Savedoff, W. D., & Gottret, P. (2008). *Governing Mandatory Health Insurance Learning from Experience.* Washington DC: The World Bank.

Schneider, P. (2005). Trust in micro-health insurance: an exploratory study in Rwanda. *Social Science & Medicine, 61*, 1430–1438.

Shimazaki, K. (2013). *The Path to Universal Health Coverage .* Tokyo: Japan International Cooperation Agency.

Sodzi-Tettey, S., Aikins, M., Awoonor-Williams, J. K., & Agyepong, I. A. (2012). Challenges in Provider Payment Under the Ghana National Health Insurance Scheme : A Case Study of Claims Management in Two Districts. *Ghana Medical Journal*.

Tabor, S. R. (2005). *Community-Based Health Insurance and Social Protection Policy.* Washington, D.C.: The World Bank.

Wagstaff, A., Flores, G., Hsu, J., Smitz, M.-F., Chepynoga, K., Buisman, L. R., . . . Eozenou, P. (2018). Progress on Catastrophic Health Spending in 133 Countries: A Retrospective Observational Study. *Lancet Global Heallth*, e169-79.

Wagstaff, A., Flores, G., Smitz, M.-F., Hsu, J., Chepynoga, K., & Eozenou, P. (2018). Progress on Impoverishing Health Spending in 122 Countries: A Retrospective Observational Study. *Lancet Gloabl Health*, e180-92.

World Health Organization. (2010). *World Health Report, 2010: Health Sytems Financing the path to universal coverage.* Geneva: World Health Organization.

Appendix

Search Keywords

Google Scholar

(“low* middle* incom* countr*” OR “low* incom* countr*” OR “middle* incom* countr*” OR “underdevelop* countr*” OR “developing countr*” OR “low* middle* income* nation*” OR “third*world* nation*” OR “underdevelop* nation*” OR “less* developed nation*” OR “low* income nation*” OR “developing nation*” OR “least* developed countr*” OR “less-developed countr*” OR “developing world*” OR “undeveloped world*” OR Africa OR Angola OR Benin OR Botswana OR “Burkina Faso” OR Burundi OR “Cabo Verde” OR Cameroon OR “Central African Republic” OR Chad OR Comoros OR “Congo, Dem* Rep*” OR “Congo, Rep*” OR “Cote d'Ivoire” OR Djibouti OR “Equatorial Guinea” OR Eritrea OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR “Guinea-Bissau” OR Kenya OR Lesotho OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Reunion OR Rwanda OR “Sao Tome and Principe” OR Senegal OR Seychelles OR “Sierra Leone” OR Somalia OR “South Africa” OR “South Sudan” OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe)

AND

(CBHI OR “community based health insurance” OR “community based health” OR “community based insurance” OR ”community financing” OR “compulsory health insurance” OR “mandatory health insurance” OR “micro*credit” OR microfinance OR “micro health insurance” OR “micro*savings” OR “mutual health” OR “mutual health organization” OR “mutuelles de santé” OR “national health insurance”)

AND

(access OR account* OR admin* OR authority OR barrier OR “benefit package” OR bookkeeping OR catastrophic OR challenges OR “claims verification” OR communication OR community OR compliance OR contribution OR corruption OR coverage OR cooperation OR culture OR determinants OR difficulties OR “drop out" OR economic OR eligib* OR empowerment OR equity OR emergence OR enrol* OR equipment OR evaluation OR evidence OR exemption OR expenditure OR facilitator OR facility OR financ* OR “formal sector” OR fragmentation OR funding OR “global health” OR govern* OR health OR “human resources” OR impact OR implement* OR impoverishing OR inclusion OR “informal sector” OR information OR invest* OR insurance OR legislation OR marketing OR manag* OR membership OR mobilization OR monitoring OR obstacles OR operation OR outcome OR participation OR perceptions OR performance OR policy OR politic* OR pooling OR poverty OR premium OR “public sector” OR purchasing OR quality OR role OR record OR regulation OR relevance OR remuneration OR report OR resource OR risk OR stewardship OR skill OR social OR sustainab* OR social OR strateg* OR strength OR technical OR trust OR universal coverage OR “universal health coverage” OR UHC OR uptake OR value OR weakness)

Data Extraction Sheet

1. General Information and Characteristics of the studies

Author's name	
Title	
Journal or Source	
Year of publication	
Setting (district, region/state, country)	
Study Design	

2. Insurer

Type of Insurance (NHI, CBHI etc.)	
Membership	
Characteristics of insurance organization (level, body of insurer, etc.)	
Operational capacity of insurer	
- decide the eligibility of each insured person - update the information of each insured person - set premium rates - premiums collection - design of benefit package - marketing and communication - contract with providers, pharmacies and clinics -claims verification/ check the bills from medical institutions -reimburse medical fees - monitoring and evaluation - others	
Others	
Recognized barriers in implementing insurance	
Recognized promoting factors in implementing insurance	