micro insurance network

Performance evaluation framework for government-sponsored health insurance programmes

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List of abbreviations

AusAID Australian Agency for International Development
BPL   Below Poverty Line
CBHIS   Community-based Health Insurance Scheme (Rwanda)
CPA   Consolidated Premium Account
CTAMS   Cellule Technique d'Appui aux Mutuelles de Santé (Rwanda)
DHS   Demographic and Health Surveys (Rwanda)
DJSN   Dewan Jaminan Sosial Nasional (Indonesia's National Social Security Council)
DMHIS   District Mutual Health Insurance Schemes
G-DRG   Ghana Diagnosis Related Groupings
GDP   Gross Domestic Product
GIZ   Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Society for
        International Cooperation)
GPRS II Growth and Poverty Reduction Strategy (Ghana)
HAI   Healthcare Accreditation Institute (Thailand)
HC   Health Centre
HWS   Health Welfare Survey (Thailand)
ILO   International Labour Organisation
JKN   Jaminan Kesehatan Nasional (Indonesia's National Health Insurance)
KPIs   Key Performance Indicators
LEAP   Livelihood Empowerment Against Poverty (Ghana)
M&E   Monitoring and Evaluation
MDGs   Millennium Development Goals
MIS   Management Information System
MMI   Military Medical Insurance (Rwanda)
MoLE   Ministry of Labour and Employment (India)
NHIA   National Health Insurance Authority (Ghana)
NHIL   National Health Insurance Levy (Ghana)
NHIS   National Health Insurance Scheme (Ghana)
NHSO   National Health Security Office (Thailand)
OASIS   The WHO's Organizational Assessment for Improving and Strengthening Health Financing
OECD   Organisation for Economic Co-operation and Development
OOP   Out-of-Pocket Health Expenditures
PAS   Point Assessment System
PMHIS   Private Mutual Health Insurance Schemes
POW   Programme of Work
PPP   Public-Private Partnership
PPP   Purchasing Power Parity
RAMA   La Rwandaise d'Assurance Maladie (Rwanda)
RDHS   Rwandan Demographic and Health Survey
RMHC   Rural Mutual Health Care (China)
RSBY   Rhastriya Swasthya Bima Yojna (India's National Health Insurance Scheme)
RSSB   Rwanda Social Security Board

SNA   State Nodal Agency (India)
SSNIT   Social Security and National Insurance Trust (Ghana)
THE   Total Health Expenditure
UHC   Universal Health Coverage
UI   University of Indonesia
USAID   U.S. Agency for International Development
WB   World Bank
WHO   World Health Organization

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Executive summary

The attainment of Universal Health Coverage (UHC) is one of the key goals of the Sustainable Development Goals (SDGs), with a special emphasis on cost-effectiveness as a key success factor. So far, a number of countries have initiated health insurance programmes as a means to provide healthcare coverage, financial protection and to achieve the final goal of UHC. These programmes are based on the principles of risk pooling and purchasing of health services on behalf of the insured. They are mostly financed by government budgetary allocations and typically subsidise premiums for the poor and vulnerable. As more countries implement and scale up such insurance schemes, it becomes essential to be able to assess how these programmes are performing. This requires a comprehensive performance measurement framework, to help policy makers and programme administrators to assess the impact of the programmes and identify gaps for improvement in on-going and future design.

This paper proposes a preliminary assessment and framework for the performance evaluation of government-sponsored health insurance programmes. It consolidates different performance measurement criteria used by five country programmes and builds on previous work conducted by the Microinsurance Network, devising Key Performance Indicators (KPIs) for microinsurance and highlighting key indicators that can help programmes make effective and sustainable management decisions. The five country programmes are Rhastriya Swasthya Bima Yojna (India), National Health Insurance Scheme (Ghana), Universal Coverage Scheme (Thailand), Cellule Technique d'Appui aux Mutuelles de Sante (Rwanda), and Jaminan Kesehatan Nasional (Indonesia). We also reviewed conceptual frameworks recommended by international organisations such as the World Health Organization (WHO) and the World Bank.

Generally, the countries' performance evaluation frameworks are guided by national policies, as well as academic research and recommendations of international organizations (the WHO, the World Bank and other organisations). The existing theoretical frameworks acknowledge improvement in health status and financial protection against health shocks as key outcomes with access, equity, and efficiency as intermediate objectives that need to be monitored. However, in the global monitoring framework for Universal Health Coverage, developed by the WHO and the World Bank jointly, efficiency-related measures were not included. The focus was on coverage and financial protection. We argue in this paper that efficiency is as important as the aforementioned goals, as it has an implication for the long-term viability of the programmes. Linking cost of the system to health indicators of the population over time can bring efficiency to the system.

The reviewed countries have common characteristics, including a large poor population, poorly developed health infrastructure, poor health status and a relatively high proportion of out-of-pocket health expenditure. Thus, the insurance schemes were started as strategic government intervention measures. With the exception of India, which is focused solely on the poor, the other country programmes aim at universal coverage. Further, all the programmes have instituted functional monitoring and evaluation frameworks which vary from comprehensive (Thailand) to limited (India). Interestingly, all the

programmes primarily track process level indicators with a few outcome measures[1]. Enrolment and utilisation rates are the two most common indicators tracked by all the programmes. Claim-related measures such as claim ratio and average claim size are also tracked. Typically, programmes do not track impact level indicators such as impoverishment or health status (impact evidence are usually from external research studies and often involve a comprehensive and long period of monitoring). Further, they depend on external sources such as national household surveys conducted by other public agencies for data relating to impact. Programmes face challenges such as incomplete report of KPIs (Thailand), inadequate managerial and technical capacity (Ghana and Rwanda) and delay in devising KPIs (India and Indonesia).

Based on the findings, indicators are proposed and classified into three categories as presented in Table 1.

1. Financial performance and medical costs of the programme determine the long-term effectiveness of the programme, which pertain to sustainability over time.
2. Client value indicators measure value to the insured by tracking administrative efficiency, money spent on claims, and overall impact of the programme.
3. Quality indicators (clinical and non-clinical/services) measure how well the programme relates to the insured and health service providers.

Table 1 Proposed Key Performance Indicators for government-sponsored health insurance programmes

CATEGORY	INDICATOR	DEFINITION	SIGNIFICANCE
Long-term effectiveness	Net income ratio	Net income/Earned premium	Measures the overall viability/profitability
	Subsidies/Total revenue	Subsidies/Total revenue	Proportion of subsidies relative to total revenue
	Incurred claims per capita	Amount of incurred claims/ Total enrolled population (number of individuals)	Overview of the cost of coverage
	Poverty outreach ratio	Poor insured under the programme/Total poor population of the country	Measures outreach among the country's poor
Client value	Incurred expense ratio	Incurred expenses/Earned premium	Primary indicator of administrative efficiency
	Incurred claims ratio	Incurred claims/Earned premium	Value to the beneficiaries and programme viability
	Mortality rates (infant and maternal) and life expectancy	Number of deaths/Live births	Measures overall health impact on the target population
	Out-of-pocket (OOP) spending on health	OOP as a % of total health expenditure	
Quality	Benefit coverage rate	(Number of reported medical cases covered under the health	Measures service coverage, i.e. quality of the benefit package

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[1] Process indicators measure how well a programme is running its activities and can be classified as input, referring to the resources needed for the implementation of an activity or intervention, and as output which add more details in relation to the product ("output") of the activity. Outcome indicators measure how well a programme's interventions have achieved the intended objective. Impact indicators measure how the programme has contributed to the overall health status of its beneficiaries. (Source: http://www.emro.who.int/child-health/research-and-evaluation/indicators/All-Pages.html)

		insurance scheme/Total reported medical cases)*100	
	Complaint ratio	Total number of complaints registered/Total number of insured individuals	Measures insured's satisfaction with product and processes as well as the effectiveness of programme's complaint resolution mechanisms
	Promptness of payment to providers	Time taken in payment to the providers from the date claim was incurred	Measures service quality and effectiveness of programme processes

It is proposed that an ideal performance evaluation framework should be a mix of process, outcome and impact indicators that can measure administrative efficiency, financial performance of the insurance product and value of the programme to the insured, in terms of service quality and overall health outcomes.

1. Introduction

The right to health has been enshrined in international and regional human rights treaties as well as national constitutions all over the world.[2] Several international conventions have reaffirmed the "Right to Health", including the Universal Declaration of Human Rights[3]. In spite of this, access to quality and affordable healthcare remains a challenge, especially for low and middle-income countries. The World Health Report published in 2010 identified inadequate healthcare resources, overreliance on direct payments and inefficient as well as inequitable use of resources, as the fundamental and interrelated barriers towards achieving universal healthcare.[4] One of the manifestations of these barriers is the financial burden that households face when accessing healthcare. The same report highlights that globally about 150 million people suffer financial catastrophe annually, while 100 million are pushed below the poverty line due to high healthcare costs. A study of 59 countries found that the lack of health insurance is a major factor behind catastrophic health expenses[5]. Health financing mechanisms, such as insurance, reduce the financial barriers and drive the efficient use of healthcare. The literature enumerates two primary goals for health financing programmes[6]:

a) To provide all people with access to sufficient quality health services (including prevention, promotion, treatment and rehabilitation); and
b) To ensure that the use of these services does not expose the user to financial hardship.

In this paper, we argue that alongside service coverage and financial protection, programmes must also prioritise efficiency as a primary goal as this is critical for long-term viability. Thus, efficiency must be a core objective of any health insurance monitoring frameworks.

In the past two decades, several countries have initiated various health-financing reforms as a means toward universal health coverage for its citizens. These reforms have led to the establishment of government-sponsored health insurance programmes. As more and more countries strive to achieve universal coverage, it has become essential to devise a mechanism that can help the initiated programmes to measure effectively their progress and activities. Such a mechanism requires a comprehensive performance measurement framework which has a mix of input, output, outcome and impact indicators and they are also simpler to implement.

This paper consolidates the Key Performance Indicators (KPIs) used by the five government-sponsored health insurance programmes, as well as reviews the conceptual frameworks recommended by the WHO and the World Bank. It also identifies the underlying principles and generates a preliminary health insurance performance evaluation framework[7]. It is expected that this paper is a work in progress and is

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[2] The right to health (World Health Organization, 2013) http://www.who.int/mediacentre/factsheets/fs323/en/
[3] Article 25, The Universal Declaration of Human Rights, http://www.un.org/en/documents/udhr/ (Accessed on 20th August, 2015).
[4] The World Health Report 2010, WHO.
[5] Xu K, Evans D, Kawabata K, Zeramdini R, Klavus J and Murray C. Household catastrophic health expenditure: a multi-country analysis. *The Lancet* July 12, 2003; Vol 362.
[6] Carrin G, James C and Evans DB. Achieving universal health coverage: developing the health financing system. Geneva, WHO, 2005.
[7] Key Performance Indicators are business metrics used to evaluate factors that are crucial to the success of a programme or organisation.

a precursor to further discussion, leading to the formulation of a comprehensive set of Key Performance Indicators for government-sponsored health insurance programmes.

1.1 Need for the study

The Microinsurance Network has been instrumental in developing key social and financial performance indicators for microinsurance[8]. These SMART (Specific, Measurable, Achievable, Relevant and Time-bound) and effective tools have since been adopted by microinsurance practitioners to monitor and transparently measure both business and social performance of their programmes.

The microinsurance key performance indicators

The microinsurance key performance indicators are a set of 15 ratios to monitor, master and improve financial and social performance of microinsurance products. They are the result of a two year sector wide consensus building process led by the Microinsurance Network, in which a fair representation of microinsurance practitioners from different geographic zones, organisational types and product lines took the lead role. This sector wide participatory approach ensures that the financial and social key performance indicators are applicable to all microinsurance providers, irrespective of legal structure, environment, delivery model and type of microinsurance product offered. The microinsurance KPIs are recognised and used by microinsurance practitioners worldwide and are adapted into several microinsurance regulatory frameworks.

For more information, visit www.microfact.org

However, as microinsurance programmes become more comprehensive and protect against a wide range of risks, there is a growing need to customise performance measurement for specific risks, including health. Although government-sponsored health insurance programmes may be different from private health microinsurance[9], their focus still remains the same, i.e., to provide health service coverage and financial risk protection to the general population especially the poor and vulnerable. This exercise, therefore, provides valuable inputs for the development of a comprehensive and SMART framework for health microinsurance in future. As the health risk of the end beneficiaries remains a priority of all the government-sponsored health insurance programmes, the framework is discussed from the perspective of the insured.

Additionally, the Sustainable Development Goals[10] acknowledge the importance of health and recognise that to achieve sustainable universal coverage, the cost-effectiveness of medical care should be taken into consideration when planning heath care systems[11]. This corroborates a major highlight of this paper that programmes must put prominence on efficient provision of health insurance.

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[8] Performance Indicators for Microinsurance : A Handbook for Microinsurance Practitioners, 2nd Edition.
[9] Health microinsurance provides a defined set of health benefits and services and is tailored to those who can't afford conventional insurance
  (Leatherman, S., Christensen, L., Holtz, J., "Innovations and barriers in health microinsurance" 2010, International Labour Organization).
[10] https://sustainabledevelopment.un.org/index.php?menu=1565

1.2 Methodology

A four-step methodological approach was followed in this exercise:

a) A literature review of previous studies and publications by international organisations, such as the WHO, the World Bank, USAID and AUSAID, was undertaken. This was aimed at understanding the global context and frameworks recommended by these organisations. In 2014, the WHO and the World Bank collaborated to publish a monitoring framework for universal health coverage, and in 2015, a global monitoring report based on this framework was released. These two documents have been extensively referred to in this exercise.[12]

b) The performance evaluation practises, including the KPIs of the five country programmes namely Rhastriya Swasthya Bima Yojna (India), National Health Insurance Scheme (Ghana), Universal Coverage Scheme (Thailand), Cellule Technique d'Appui aux Mutuelles de Sante (Rwanda), and Jaminan Kesehatan Nasional (Indonesia), were studied. Administrators and advisors of the programmes were interviewed. Annual reports, programme documents and research papers on these programmes were also reviewed.

c) The KPIs programmes were consolidated and common themes identified. This was aimed at isolating underlying principles which can inform the formulation of a standard evaluation framework.

d) Finally, a preliminary framework was devised based on the findings.

The paper is structured as follows:

- The second section presents the conceptual frameworks which have been recommended in several studies and by international organisations for performance evaluation.
- The third section contains details of countries and their health care status profile, followed by an overview of the government-sponsored health insurance programmes in these countries and key findings from the review of their respective performance evaluation practises.
- The last section consists of a preliminary framework suggested by the authors, along with a list of KPIs and the underlying principles used to define these KPIs.

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[12] http://www.who.int/healthinfo/universal_health_coverage/report/2015/en/

2. Existing frameworks to measure performance

The link between interventions and outcomes is often difficult to establish in existing government-sponsored health insurance programmes. Constraints of financial and human resources also impede a comprehensive performance evaluation. Therefore, it is important to have well defined goals to guide performance measurement.

During our literature review, we identified that the existing studies on universal health care follow a theory of change approach, which links:[13][14]

- Health financing system functions (revenue collection, pooling and purchasing), to
- Final goals (health gain, equity, financial protection and responsiveness or customer satisfaction), with
- A set of intermediate objectives (access, efficiency, equity in utilisation and resource distribution).

The literature acknowledges improvement in financial risk protection against health shocks and overall health status, as key outcomes as well as access, equity and efficiency as intermediate objectives.

Similarly, WHO has proposed two frameworks to measure performance: a set of indicators jointly developed with the World Bank to monitor progress toward UHC, and a tool known as OASIS (Organizational Assessment for Improving and Strengthening Health Financing) to assess the health financing system of a country[15][16](see Annex 6.3 and 6.4 for details). However, it **is interesting to note that the framework focuses only on the outcomes of a UHC programme and not** on **its intermediate inputs, outputs or efficiency[17]**. Further, the service coverage aspect of the framework includes indicators for specific preventive and treatment services, such as vaccination[18], skilled birth attendance, hypertension, diabetes and HIV treatment. Measures for financial protection include indicators on impoverishing and catastrophic health expenses.

The distinguishing factor in the OASIS tool is that it includes input indicators that measure, for example, the level of funding and administrative efficiency. However, the OASIS tool does not look at system efficiency, which should include the actuarial perspective of the insurance product as well.

This paper argues that a comprehensive evaluation framework should not be limited to outcomes but should also include inputs and intermediate outputs. This will help to comprehensively assess the efficiency of the programme, as it progresses towards achieving its expected outcomes.

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[13] Varian H, Microeconomic Analysis, New York: W.W. Norton and Co, 1994.

[14] Conceptual frameworks, health financing data and assessing performance: A stock-take of tools for health financing analysis in the Asia-Pacific region (2010, Health Policy and health finance knowledge hub).

[15] http://www.who.int/healthinfo/universal_health_coverage/en/

[16] User manual for OASIS (http://www.who.int/health_financing/tools/systems_review/en/).

[17] The 58th World Health Assembly held in 2005 emphasized the need for sustainable health financing, highlighting the importance of efficiency (World Health Report, 2010. Background paper No. 28). However, efficiency as a key indicator is not included in the UHC monitoring framework.

[18] Some of these measures are laudable and will help in providing efficient services in the long term.

3. Country review

The evaluation studied five government-sponsored health insurance programmes, namely Rhastriya Swasthya Bima Yojna (India), National Health Insurance Scheme (Ghana), Universal Coverage Scheme (Thailand), Cellule Technique d'Appui aux Mutuelles de Sante (Rwanda) and Jaminan Kesehatan Nasional (Indonesia). The socio-economic and health status, including country facts, are summarized in Annex 6.1.

3.1 Findings from the country programme reviews

Individual country status:

Each of the programmes, with the exception of Indonesia, has established a performance-monitoring framework overseen by their monitoring and evaluation departments. Indonesia is still in the process of setting up a new framework, following recent structural changes resulting from the consolidation of three health insurance programmes into one. Nevertheless, the new programme is tracking indicators inherited from the previous programmes.

Generally, the evaluated frameworks vary from being comprehensive (with over 30 indicators) to being simple (with only few indicators as is the case with India's RSBY).

Table 2 Overview of performance evaluation setups[19]

PROGRAM	GHANA	INDIA	INDONESIA	RWANDA	THAILAND
Key Indicators	Specific KPIs defined under law (others have been added)	Recently introduced operational manual for KPIs	In process of formulating the M&E framework	Specific KPIs defined under law (others have been added)	Long list of 81 KPIs
Monitoring and Evaluation (M&E) setup	Full functional division	As part of Ministry's structure with a robust MIS platform	Department under autonomous administrator agency	A part of the Ministry of health M&E system	Established M&E bureau with self-auditing committees
Types of indicators monitored	Process with few outcomes and no impact level indicators	Process with few outcomes, but no impact indicators	Plan to monitor process and outcome indicators, but no impact level indicators	Process and outcome indicators, but no impact indicators	Process and outcome indicators, but no impact indicators
External Dependency	Dependency on external sources for outcome and impact level data	Independent surveys for customer satisfaction	Support of international agencies in development of framework	Dependency on external sources for outcome and impact level data	Impact indicators are not internally monitored and depend on external evaluations
Key challenge for Monitoring	Inadequate technical and	Insufficient attribution of	Integration of three previously	Insufficient staff and limited management	Partial reporting of KPIs at provincial level

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[19] This table has been prepared by the authors based on the reviews of country programmes' performance monitoring and evaluation frameworks.

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and Evaluation	managerial capacity	programme impact	separate programmes has delayed M&E framework	capabilities of existing staff	

As it can be seen in Table 2, all the countries have well defined indicators. So far, only Ghana and Rwanda have a number of KPIs defined in their health insurance laws. As with the rest, India did not initially have a set of KPIs until an RSBY review committee[20] highlighted it. Since then, an operational manual with KPIs for hospitals, insurance companies and administrative agencies have been developed. In terms of scope, Thailand has the most extensive performance-monitoring framework which consists of 81 KPIs. The challenge with such a long list, however, is how to effectively monitor them.

Key Performance Indicators (KPIs) measured by programmes:

In terms of direction, all the countries have clearly defined objectives with a performance evaluation framework developed around them. These frameworks have many similarities, as the major objective of the programmes remains to improve access health care and to provide financial risk protection.

Table 3 Types of KPIs currently used

AREA OF INTERVENTION	INDICATORS
PROCESS INDICATORS	
Enrolment	Total number of enrolled beneficiaries, coverage ratio (ratio of total enrolled to target population), growth ratio, renewals
	Number of poor and vulnerable per total active members, gender breakup of enrolled beneficiaries, enrolment across different income and age groups
Funding	Income and expenditure, total premium, investment income, investment income as a percentage of total income, health expenditure per capita, administrative costs, programme allocation, co-payments, subsidies
Financial ratios	Claims ratio, liquidity ratio, solvency ratio, net income
Claims	Incurred claims, claims paid as percentage of income, claims turnaround time , average claim size
Awareness generation	Number of awareness generation activities, awareness and satisfaction levels among beneficiaries
Health infrastructure	Number of empanelled facilities, health personnel ratio, health facility to population ratio
OUTCOME INDICATORS	
Service quality and customer satisfaction	Number of complaints received, number of complaints resolved, number of accredited health services providers, waiting time for procedures, increased responsiveness, awareness and satisfaction levels among beneficiaries
Utilisation	Number of inpatient and outpatient cases, utilisation ratios (number of cases to total enrolled beneficiaries), average cost per visit
	Female and child utilisation rates
	Unmet health care needs (% age)

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[20] Accessed on the RSBY website: http://rsby.gov.in/Docs/RSBY%20Committee%20Final%20Draft%20Report%20for%20Comments.pdf

Service coverage	Number of cases for specific diseases/procedures (HIV, DM, measles, DTP)
IMPACT INDICATORS	
Financial risk protection	Out-of-pocket expenditure, incidence of catastrophic health expenditure, incidence of impoverishment
Health status	Mortality rates, life expectancy

A more detailed review of each country's performance evaluation framework is provided in the Annex 6.5.

Type of indicators tracked: All the programmes track process level indicators, mainly enrolment, coverage ratios, renewals, claim ratio and net income ratios. A few outcome indicators are measured including utilisation rate. **None of the programmes are tracking impact level indicators internally**. The available impact evidences are usually based on the national averages or gathered from externally conducted studies. It was also observed that programmes often lack the skills to conduct impact studies.

Status of monitoring and reporting: Effective monitoring remains a major challenge of all the programmes. For instance, in 2013 a study in Thailand showed that 25% of their KPIs were not reported[21]. Rwanda and Ghana face the challenges of inadequate technical and managerial capacity to measure impact indicators. The delay in setting up a framework for its new programme is a major challenge for Indonesia and remains a priority.

Risk of attribution error is high: In a health system, it is often difficult to attribute impact to specific interventions. The insurance programmes cover only a portion of health expenses and are present in a larger healthcare ecosystem. Any change in performance measures can be caused by multiple factors which include, but are not limited to other financing mechanisms, broader health infrastructure and care seeking behaviour of the target population. The risk of attribution error is even higher in programmes such as RSBY which covers only a portion of health expenses of their beneficiaries.

Multiple sources of impact data: The programmes are often dependent on external agencies for data related to impact, such as from the national statistical services. While this is understandable, as these programmes cannot collect all the information on their own, there must however be a strategy on how to use this data. Programmes, for instance, can help to formulate the periodic national surveys to suit their purpose. This will mean a customised set of questions specific to the programmes and minimal cost in conducting such exercises internally.

Low programme capabilities: Developing countries often don't have the capabilities and resources to implement complex monitoring framework. This is especially true in the case of Ghana and Rwanda where technical know-how and financial resources are low. In such instances, there is always the trade-off in the effectiveness of the programme and its ability to track progress and gaps. The decision of what to monitor or not is an expensive choice in the long term. Therefore, defining "What is Key" in terms of performance indicators can help in informing this decision.

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[21] Tangcharoensathien V., Limwattananon S., Patcharanarumol W., Thammatacharee J. (2014). Monitoring and Evaluating Progress towards Universal Health Coverage in Thailand. PLoS Med 11(9): e1001726. doi:10.1371/journal.pmed.1001726.

4. Proposed performance evaluation framework

As in the case of the social and financial performance indicators for microinsurance, the main goal of this framework is to provide a set of key indicators for measuring the performance of health insurance programmes[22] [23]. Tracer indicators are developed in each of the key areas for quick and comprehensive assessment. The indicators are discussed from the beneficiaries' perspective as they form the core of the programmes' goals and objectives.

4.1 Rationale of the framework

The design is primarily informed by conceptual frameworks as well as by the performance monitoring experiences, including strengths and weaknesses, of the five country programmes. Establishing which indicators are "key" is a painstaking process and should be carefully done with the programme's goals and objectives in mind, as well as their long-term survival. We have considered the following principles while designing the framework[24]:

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[22] The main goal is on the similar lines as the Key Performance Indicators for Microinsurance, which were earlier developed by the Microinsurance Network. (Wipf, J., Garand, D., (2010) "Performance Indicators for Microinsurance: A handbook for Microinsurance practitioners.").

[23] Social performance indicators for microinsurance: A handbook for microinsurance practitioners. (2010, ADA ADA / BRS / Microinsurance Network).

[24] Hanvoravongchai, P., (2013). Health Financing Reform in Thailand: Towards universal coverage under fiscal constraints. (The World Bank).

EFFICIENCY

- Efficient management will ensure optimal use of resources and will build the case for long-term sustainability.
- Generally, these programmes are funded by government and donors, and thus exposed to the risk of collapse if there is a sudden cut or decrease in any of these funding streams. For instance, the per capita budget allocation to the Thailand's UCS has more than doubled since inception (Hanvoravongchai, 2013) (see Annex 1.3).
- Thus, the framework puts prominence on the need to effectively monitor the efficiency of the programmes in terms of health service delivery, administration and financial management.

MEASURABILITY

- Indicators can be easy or difficult to measure depending on the availability of data, nature of the indicator and the managerial capability of the programme.
- Indicators such as the impact level indicators (change in health or financial status of beneficiaries) are the most difficult to measure, because they are often not recorded internally at the programme operation level. Therefore, we tried as much as possible to include indicators that are relatively easier to measure (SMART) and exclude those that are important but difficult to measure (e.g. decrease in impoverishment due to catastrophic health expenses).

COMPREHENSIVENESS

- Performance evaluation should include a mix of input, output, outcome and impact indicators. Our proposed framework is comprehensive in the sense that it covers all the key areas of a typical health insurance programme.
- In the framework, we have included both measures of efficiency: financial performance and health outcomes, aiming for a comprehensive performance measurement approach.

COMMONALITY

- In spite of the inherent differences among the programmes, both in terms of design and operation, we have tried to identify indicators that are common across the programmes.

The authors believe performance monitoring should not overwhelm the core business of the health insurance programmes which is to provide Universal Health Coverage (UHC). Thus, it should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound). However, we also acknowledge that a couple of indicators may not fit the SMART criteria, but are included as they are representative of critical performance areas and should not be excluded.

The suggested framework is not intended to be conclusive but should be understood as a standard guide, which should be customised to the specifics of the individual health insurance programmes.

4.2 Proposed set of Key Performance Indicators

Indicators which produce a comprehensive picture of the programme form the primary focus of this proposed framework. Additionally, monitoring trends over time, of the proposed indicators below, will provide significant insights for decision making. The indicators are categorised as follows:
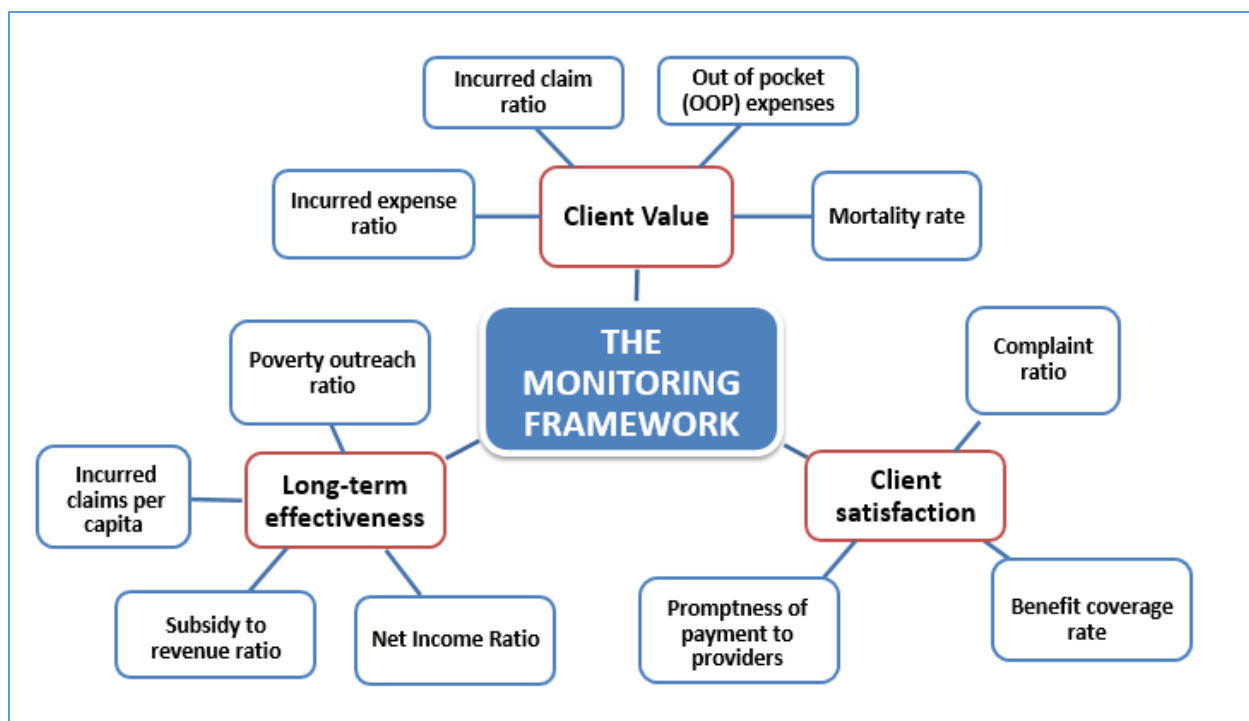
A. Long-term effectiveness

We define long-term effectiveness as positive health outcomes for population versus expenditure, and its indicators focus on financial performance including the medical costs of the programme[25]. An actuarially sound programme will be sustainable and effective in providing access over a long period of time. Therefore, financial performance of the insurance programme, which affect the actuarial costs, should be tracked to measure long-term effectiveness. This includes tracking subsidies to the poor and vulnerable. Four indicators are identified under this:

Indicator 1: Net Income Ratio

The net income ratio indicator is defined as the net income (profit) for a period divided by the earned premium in the same period. Earned premium comprises premiums plus any subsidies[26].

Net Income ratio = Net Income/Earned Premium

Significance: It is a key indicator as it measures the overall viability/profitability of the programme and summarises the key results for a time period. A negative value indicates that the programme will not be

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[25] To understand long-term effectiveness, a comparison of the United States of America and Sri Lanka can be made. The USA spends 30 times more on health per capita (USD 9,146) than Sri Lanka (USD 304) but their population level health indicators are comparable. Life expectancy for males in the US is 76, while it is 72 in Sri Lanka. This implies higher long-term effectiveness for Sri Lanka's health system. (Data source: WHO).

[26] Earned premium is the amount of total premiums collected over a period that have been earned based on the ratio of the time passed on the policies to their effective life. In case of government-sponsored programmes it includes contribution by paying and subsidised beneficiaries.

viable, while consistently high positive value should prompt re-evaluation of benefits and premium[27]. In fact, in government-sponsored programmes, where profit is not a motivation, positive values closer to zero are more desirable.

Indicator 2: Subsidy to revenue ratio

Subsidy to revenue ratio is defined as the total subsidies provided to the programme divided by the total revenue of the programme. The source of subsidies can be government and/or donor funds as in the case of Rwanda. This indicator may not be applicable to programmes that are fully funded by government or

Subsidy to revenue ratio = Subsidies/Total revenue

donors.

Significance: Subsidies constitute a major funding source for all the programmes. For instance, Rwanda gets 53% of its funds from donors (primarily US government and global fund against AIDS, tuberculosis and malaria)[28]. Similarly, in the case of RSBY, the premiums are fully subsidised by the government, with a small contribution (USD 0.5) from the beneficiary. This illustrates the importance of subsidies in the continuous operation of the programmes. As a practice, when governments over-stretch their resources, they turn to implement budget cuts. This may be a major risk to programmes that are overly dependent on the government for their source of funding. Consequently, it is important for the programmes to constantly track the proportion of subsidies relative to their total revenue. In Ghana, for instance, the NHIS is persistently indebted to service providers because of delays in the release of funds by the government. As a result, there have been cases where providers have threatened to take legal action against the scheme. The implication of this could be devastating both on the institution and the beneficiaries as they may be denied access to service[29].

Indicator 3: Incurred claims per capita

Incurred claims per capita is defined as the total amount of incurred claims divided by insured population under the programme. Cost of claims includes both outpatient and inpatient treatment costs.

Incurred claims per capita = Total amount of Incurred claims/ Insured population (Number of individuals)

Significance: Costs of a health insurance programme is comprised of two components: Medical costs and administrative costs. This indicator measures the medical cost and highlights the per capita cost of providing health service to the scheme's beneficiaries. It is also an important determinant of the amount of funds to be allocated to the programmes on a yearly basis in relation to enrolment under the programme.

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[27] The microinsurance KPIs suggest that there should be a positive net income ratio in the range of zero to ten percent. Values consistently above this range indicate poor value for clients and may result in loss of business or the entry of other competitors. Persistent negative values may indicate that the programme requires some changes to achieve viability, for example, due to higher-than-anticipated expenses or higher than-anticipated claims. The authors would add that this perspective should be viewed over long term for the health system.

[28] Kalk et al. (2010) "Health system strengthening through insurance subsidies: the GFATM experience in Rwanda." Tropical medicine and international health.

[29] Owusu-Sekyere, E., Bagah, D. Towards a sustainable health care financing in Ghana: Is the National Health insurance the solution? (2014, Scientific and academic publishing) doi:10.5923/j.phr.20140405.06.

Indicator 4: Poverty outreach ratio

Poverty outreach ratio[30] is defined as the total number of poor insured under the programme divided by the total poor population of the country.

> Poverty outreach ratio = (Poor insured under the programme / Total poor population of the

The definition of poverty is country specific and should be applied accordingly. However, in 2015 the World Bank defined the global poverty line as people making less than $1.90 a day using 2011 prices[31]. Some programmes have taken a much broader perspective by looking at both the poor and vulnerable population. This was of particular interest in Ghana where the government, under the Livelihood Empowerment Against Poverty (LEAP) programme, has placed greater importance on enrolling all the vulnerable people within the programme's catchment areas.

Significance: Premiums for the poor population are subsidised in all the five evaluated programmes. Thus, the Poverty outreach ratio helps in measuring what proportion of the poor are covered. A 100% coverage is desirable, however, as premiums for these groups are entirely subsidised, the challenge will be to develop a sustainable health financing model. Governments have changing priorities and the programmes' survival remains threatened as long as a self-financing model is not put in place.

B. Client Value to insured population

The client value indicators focus on how much value is provided to the insured population through the programme. Value can be measured by two types of indicators: Firstly, administrative indicators which measure how much money is paid for medical costs compared to money spent on operations; and secondly, outcome and impact indicators which measure the overall impact of the programme. While such indicators are difficult to measure, they represent the actual value to the insured thus should be tracked.

Indicator 5: Incurred expense ratio

The incurred expense ratio indicator is defined as the incurred expenses in a period divided by the earned premium in the same period. Incurred expenses in this case include only the operational costs and not the claim costs.

> Incurred expense ratio = Incurred expenses/Earned premium

Significance: This is the primary indicator of administrative efficiency. A lower value is desirable which means that a higher proportion of funds are available for medical costs, implying a higher value to the beneficiaries. However, low operational expenses can also mean that less money is spent on beneficiary awareness creation and education. This implies that incurred expenses should be further broken down to review the heads that require additional attention. As it captures efficiency, this indicator allows

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[30] This indicator is closely related to the indicator "Percentage of insured below poverty line" from the social KPIs of microinsurance. In microinsurance programmes, objective is to have maximum proportion of poor among total insured in the programme, therefore, the KPI measures the percentage of poor out of total insured. In government-sponsored programmes, the objective is to increase the outreach among total poor of the country, therefore, the KPI is modified.

[31] http://www.worldbank.org/en/topic/poverty/brief/global-poverty-line-faq

government-sponsored programmes to ensure that maximum benefits are extended to the beneficiaries in an efficient manner.

Indicator 6: Incurred claim ratio

The incurred claim ratio indicator is defined as the incurred claims in a period divided by the earned premium in the same period.

$$\text{Incurred claim ratio} = \text{Incurred claims/Earned premium}$$

Significance: As it measures the proportion of premium that is returned to the beneficiaries, it directly indicates the value of the programme[32]. While a higher claim ratio is desirable, consistent values over 100% can affect the viability of the programme. For instance, studies have shown that increasingly high claim costs are major cost drivers for the Ghana programme[33]. This should prompt analysis of claims data to identify if the high costs are due to medical cost inflation, disease burden, treatment-seeking behaviour or a combination of these.

Additionally, this measure can highlight gaps in utilisation as well. For example, a study of Indonesia's JKN programme found that the poor/near poor population have much lower claim ratios than the non-subsidised population[34]. The study reported that the claim ratio for the non-subsidised population is a staggering 1,380%, while the claim ratio for government-sponsored population was only 88%[35]. This is an overwhelming gap highlighting the unequal utilisation. Adverse selection among the non-poor population is a possible cause of the high claims rate. Therefore, this indicator is important to highlight such gaps and to measure both client value and long-term viability of the programme.

Indicator 7: Out-of-pocket (OOP) spending on health (as a percentage of total health expenditure)

OOP payment is defined as a direct payment made to health-care providers by individuals at the time of service use, i.e., excluding prepayment for health services[36]. In this framework, the indicator measures the OOP spending on health as a percentage of the total health expenditure among the insured population[37].

$$\text{Out-of-pocket spending indicator} = (\text{OOP spending on health/ Total health expenditure})*100$$

Significance: OOP spending is a key indicator which can be influenced by health insurance programmes. Thus, it directly captures the value provided to the insured. While this highlights the significance of tracking this indicator, **it should also be acknowledged that it is more difficult to track**. It is not generated through administrative processes and programmes need to conduct surveys to be able to track it. This

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[32] Claims per capita and claim ratio have been included as separate indicators as they capture different performance areas. While the former measures the non–operating cost of extending coverage to one enrolled individual, the latter measures the value of the insurance product to the client.

[33] Owusu-Sekyere, E., Bagah, D. Towards a sustainable health care financing in Ghana: Is the National Health insurance the solution? (2014, Scientific and academic publishing) doi:10.5923/j.phr.20140405.06.

[34] Studies shed doubt on future of universal healthcare (January 15, 2015, The Jakarta Post), Accessed on 26th July 2015.

http://www.thejakartapost.com/news/2015/01/15/studies-shed-doubt-future-universal-healthcare.html

[35] Ibid.

[36] Tracking Universal Health Coverage: First global monitoring report (2015,WHO).

[37] Total health expenditure is the sum of public and private health expenditure.

could be part of the periodic national household surveys conducted in the respective countries, and can be incorporated into programme's monitoring frameworks.

In addition to OOP spending, programmes may also track catastrophic health expenses. The WHO, in its monitoring framework for Universal Health Coverage, identified OOP and catastrophic health expenses as the two most important measures of financial protection[38].

Indicator 8: Population health outcomes related to mortality

Maternal mortality rate: Maternal mortality rate is the number of women who die from pregnancy related causes, while pregnant or within 42 days of pregnancy termination, per 100,000 live births[39].

Infant mortality rate: Infant mortality rate is the number of infants who die before reaching one year of age, per 1,000 live births in a given year.

> Maternal mortality rate = (Number of women who die from pregnancy and related causes/ 100,000 live births)
>
> Infant mortality rate = (Number of infants who die before reaching one year of age/1,000 live births)

Significance: Mortality measures are important as they reflect the health status of the overall population and the quality of health care. It can be argued that attributing changes in mortality rates to a specific health insurance programme can be challenging as there are multiple factors affecting these rates. Ideally, these indicators should be measured only among the insured. However, this will require considerable amount of time and resources from the programmes. Nevertheless, as they are the most reliable and tangible outcomes, they remain an important policy statement and a justification of impact on the overall national health. Life expectancy is another long-term indicator that could also be tracked.

C. Quality

Quality indicators focus on two performance areas: Firstly, how effectively the programme is serving its end beneficiaries in terms of health conditions coverage; and secondly, how well the programme relates to its health care providers and clients.

Indicator 9: Benefit coverage rate

Benefit coverage rate is defined as the number of reported medical cases which were covered in the benefit package over the total reported medical cases. A case refers to either diagnosis, consultation or therapeutic procedure. For instance, with regards to RSBY, one hospitalisation episode is recorded as one case and it includes doctor's consultation, medicines and operative procedure.

> Benefit coverage rate = (Number of reported medical cases covered under the health insurance scheme/Total reported medical cases)*100

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[38] Ibid.
[39] http://data.worldbank.org/indicator/SH.STA.MMRT, Accessed on 1st Sept, 2015.

Significance: Programmes often don't cover all medical conditions and procedures. With Universal Health Coverage as an objective, some programmes have now also included high cost treatments such as Anti-retroviral and Chronic Kidney disease treatment. However, certain programmes (e.g. RSBY) still cover a set of fixed medical conditions, leaving out others. The benefit coverage rate measures what proportion of health services are covered. There can be concerns regarding whether programmes have the capability to record all cases, both the covered and non-covered cases, as the recording is typically done at the health facility level. Although challenging, its importance in the UHC agenda makes it a necessary and key indicator.

Indicator 10: Complaints ratio

It is defined as the number of complaints registered over the number of insured. It reflects the overall satisfaction levels, as well as the ease with which clients can submit complaints[40].

Complaint ratio = (Total number of complaints registered/Total number of insured individuals)

Significance: This indicator is also reported under the social KPIs for microinsurance. In the case of the insured, complaints may pertain to enrolment, benefit coverage or denial of care among others. Such complaints can highlight deficiencies in both design and implementation of the programme. The interpretation of the ratio can vary and it is, therefore, necessary to contextualise the data with a more in-depth understanding. Although a high ratio will generally mean that many insured individuals have something to complain about, it can also indicate a flaw in the product or in the process design. Similarly, a low ratio may indicate that insured individuals are very satisfied with the product and processes; however, it could equally reflect a poorly designed or implemented complaints mechanism as well as a lack of awareness among insured[41].

Additionally, the programmes can conduct periodic surveys to collect information on awareness and satisfaction. While the indicators suggested in this framework are helpful in indirectly measuring awareness and satisfaction, surveys can provide more detailed information on these aspects.

Indicator 11: Promptness of payment to providers

Promptness of payment is defined as the number of days taken to pay healthcare providers from the date when claim is incurred.

Promptness of payment to providers = Number of days taken to pay healthcare providers from the date when claim is incurred

Significance: Payment or reimbursement of medical costs is a major issue in a number of health insurance programmes. During interviews with programme administrators, it was found that often payment to providers is delayed, which discourages health service providers from participating. Delay in payment can also bankrupt the providers and adversely affect the health systems' ability to provide quality universal health care. For instance, it has been reported that the Ghana National Catholic Health Services is

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[40] Social performance indicators for microinsurance: A handbook for microinsurance practitioners. (2010, ADA).
[41] Ibid.

contemplating legal action against the NHIS programme because of non-payment – an action that could threaten the very existence of the NHIS[42]. Typically, programmes can set a mutually agreed time limit for payment which can then be tracked both at the national and regional levels. The microinsurance KPIs proposed to tabulate the days taken for claim payment as follows:

Number of days	Number of claims	Percentage of total claims
Less than 8 days	_____	__%
8 to 30 days	_____	__%
31 to 90 days	_____	__%
More than 90 days	_____	__%
Total	_____	100%

It is expected that the suggested framework can evaluate the performance of the programme across key areas. However, the inherent complexity of the programmes means that each of the indicators needs to be broken down and studied in further detail, including stratification the indicators according to age, income and geographical groups. This deep analysis will add further value to the evaluation framework as well as serve as a good basis for better decision making.

Health system level indicators, such as health expenditure as percentage of GDP, government health expenditure as percentage of annual budget and budget deficit/surplus as percentage of GDP, were also considered. However, the programme itself has little impact on these indicators as they are dependent on the national strategies. Therefore, these indicators assume more importance when the country level health system is to be evaluated.

5. Concluding remarks

Every government-sponsored health insurance programme is unique in terms of its structure, financing, management and target groups. Nevertheless, each aims to provide sustainable financial risk protection and service coverage to its clients. We propose a performance-monitoring framework that applies to all of the programmes and can be adapted on an individual programme level monitoring basis. We conclude that the framework should first and foremost monitor the core functions and objectives of the programmes, and secondly the long-term viability of the programmes with efficiency and effectiveness as the key focus. An ideal performance evaluation framework for a government-sponsored health insurance programme should include a mix of process, outcome and impact level indicators, and must measure the administrative efficiency, financial performance and value proposition of the programme, in terms of service quality and overall health outcomes. The proposed framework in this paper introduces the important concept of efficiency and paves the way for future discussions on how health outcomes can be linked to it.

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[42] http://graphic.com.gh/news/general-news/51436-catholic-health-services-threatens-legal-action-against-nhia.html

6. Annexes

Annex 6.1 Country profile

Socio-economic and health profile as well as summarised information of the government-sponsored health insurance programmes of five countries under review is presented here.

Table 4 Socio-economic country profiles[43]

PARAMETER	GHANA	INDIA	INDONESIA	RWANDA	THAILAND
Region	Sub-Saharan Africa	South Asia	East Asia	Sub-Saharan Africa	East Asia
Income level (according to the World Bank)	Lower middle income	Lower middle income	Lower middle income	Low income	Upper middle income
Population	26.4 million	1.3 billion	253 million	12.1 million	67.2 million
GDP (current USD)	USD 38.7 billion	USD 2.1 trillion	USD 888.5 billion	USD 7.9 billion	USD 373.8 billion
GDP per capita (current USD)	USD 1,461.6	USD 1,630.8	USD 3,514.6	USD 652.1	USD 5,560.7
GDP Growth (Annual % age)	4.2%	7.4%	5%	7%	0.7%
Percentage of population living on less than USD 2 (PPP)	51.8%	59.2%	43.3%	82.3%	3.5%

Table 5 Health profile[44]

PARAMETER	GHANA	INDIA	INDONESIA	RWANDA	THAILAND	OECD
Life expectancy (2013)	61.09 years	66.5 years	70.8 years	~64 years	74.36 years	80 years
Maternal mortality rates (per 100,000 live births)	380	190	190	320	26	21
Infant mortality rates (per 1,000 live births)	52	41	25	37	11	6.5
Physicians per 1,000 (Year)	0.1 (2010)	0.6 (2010) 0.7 (2012)	0.3 (2010) 0.2 (2012)	0.1 (2010)	0.4 (2010)	2.8 (2011)
Health expenditure per capita (current USD)	USD 100	USD 61	USD 107	USD 71	USD 264	USD 4,657
Public health expenditure (% age of total health expenditure, 2013)	60.6%	32.2%	39%	58.8%	80.1%	61.4%

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[43] Data reproduced from the World Bank data repository (http://data.worldbank.org/indicator) and represent 2014 level of indicators. Accessed on 20th August 2015. Poverty headcount for Ghana is presented for the year 2005 (http://www.indexmundi.com/facts/ghana/poverty-headcount-ratio).

[44] Data reproduced from the World Bank data repository (http://data.worldbank.org/indicator) and represent 2013 level of indicators. Accessed on 20th August 2015.

Out-of-pocket expenditure[45] (% age of total expenditure on health, 2013)	36.2%	58.2%	45.8%	18.4%	11.3%	14.0%

Table 6 Government-sponsored health insurance programmes[46]

PROGRAM	GHANA	INDIA	INDONESIA	RWANDA	THAILAND
Name	National Health Insurance Scheme (NHIS)	Rhastriya Swasthya Bima Yojna (RSBY)	Jaminan Kesehatan Nasional (JKN)	Cellule Technique d'Appui aux Mutuelles de Sante	Universal Coverage Scheme
Launched in	2003	2008	2014	2005	2002
Scale	8.9 million individuals (2012)	~148 million individuals	120 million individuals	7.9 million individuals	60 million individuals
Target group	General population	Below-poverty-line households	General population	General population	General population
Funded by	Health insurance levy, deductions from pension contribution, formal sector contributions and government funds	Insurance premium subsidised by the central and federal government	Subsidised for poor and salary contribution for other groups	Government funds, member contribution, donor subsidies and levy on private schemes	General tax revenue
Coverage	Comprehensive (primary, sec and tertiary)	Hospitalization	Comprehensive (primary, sec and tertiary)	Comprehensive (primary, sec and tertiary)	Comprehensive (primary, sec and tertiary)
Provider payment	Fee-for-service, Capitation and G-DRG		Capitation (Primary) and Case mix (Hospitals)	Demand-based payments	Capitation (Primary) and Case mix (Hospitals)

Annex 6.2. List of KPIs used in country programmes

Table 7 NHIS Ghana Key Performance Indicators

Indicators	Remarks
PROCESS INDICATORS	
Membership and Enrolment	
Active members ▪ **Renewals (1 month waiting period only if card expires over 3 months)** ▪ **New members (observe a 1-month waiting period)**	Active cardholding members. Cards are required by law to be processed within 60 days

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[45] OOP payment is defined as a direct payment made to health-care providers by individuals at the time of service use, i.e., excluding prepayment for health services. Prepayment can be in the form of taxes or specific insurance premiums or contributions.
[46] This table has been prepared by the authors based on the reviews of country programmes' performance monitoring and evaluation frameworks.

% of private health insurance holders who are also members of the NHIS	
Informal Sector Members	They are the only group that pay direct premiums
National Pension (SSNIT) contributors	Deductions are made through their pension contributions
Number of poor and vulnerable per total active members - **Indigents*** - **School children under the national school feeding programme**** - **LEAP[47] beneficiaries*** - **Orphans**** - **Under 5 year*** - **Under 18 years**** - **Above 70 years**** - **Pregnant women*** - **Number junior high school students**** - **Number senior high school students****	These are all free riders and it is part of the gov't's strategy to achieve MDGs 1, 4 and 5 *Excluded from all payments, including 1-month waiting period **Pay only processing fee but exempted from premiums. Observe a 1-month waiting period
Pensioners who had contributed to the national pension trust	Exempted from all payments
Coverage rate	% of total population covered
Growth rate	% of total population cover per annum
Fund mobilisation and fund efficiency	
Total premium	
Premium as a percentage of total income	Premiums are currently 4-5% of total income
Investment income	
Investment income as a percentage of total income	
% of premiums collected that are deposited into the Consolidated Premium Account (CPA)	These are the contributions from clients from the informal sector
Months of claims that can be paid from investment fund	
% of funds (NHIL) received from Government	Government subsidies as a percentage of total income
NHIS allocation per total government expenditure on health	
Health expenditure per capita - **Out-patient** - **In-patient** - **Per visit**	
Expenditure on non-core NHIS activities	The law stipulated not more than **10%** expending
Claims	
Incurred claims - **Disease/diagnosis categories**	
Total claims submitted - **In-patient treatment** - **Out-patient treatment** - **Medicine**	
Claims paid as a percentage of total income	
Claims turn-around time (% of claims processed in a certain duration)	Date of claim received to when it was processed. Excludes when payment is made
% of claims paid in a certain duration	The stipulated four-week claims reimbursement period after submission is far from reach. The current duration is about 3 Months (Kotoh 2013)
% of claims processed electronically	

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[47] The Livelihood Empowerment against Poverty (LEAP) program is a social cash transfer programme which provides cash and health insurance to extremely poor households across Ghana, to alleviate short-term poverty and encourage long term human capital development. Eligibility: single parent with orphan or vulnerable child (OVC), elderly poor or person with extreme disability unable to work (PWD).

% of claims processed manually	
No. of months of indebtedness to providers	Claims are currently paid on either capitation (piloted in 1 region and will be extended to 3 others), fee for services or G-DRG[48] bases
Public Education and communication	
No. of media campaigns	This is to address the media misrepresentation of facts about NHIS
No. of stakeholders engagements	
No. of publications	
No. of community sensitisation	Durbars, radio programmes, etc.
Health Personnel Ratio	
Doctor-patient ratio (per 100,000 people)	
Nurse-patient ratio (per 100,000 people)	
Service Quality & Customer Satisfaction	
No. of complaints received	
No. of complains resolved	A call centre has been established. Data from the centre are analysis periodically
Periodic customer satisfaction surveys	
No. of meetings with credential service providers	
No. of non-complaint schemes sanctioned	
No. of credential providers monitored during the period	Periodic claims verification
No. of credentialed facilities audited	Post credentialing monitoring tools have been in development and awaiting pre-testing Current periodic prescriptions checks are conducted. The level of a provider (health centre, clinic, district hospital, regional hospital and referral hospital) defines what medication can be prescribed
No. of accredited health services providers **Type of health care providers credentialed (% of each type)**	This includes ranking the accredited facilities. Currently, of the 3,701 NHIS health facilities surveyed, only 2.5% of them were either grade A+ or A. The majority were either C (42.2%) or D (30.9%). (Tweneboa & Addo-Cobbiah 2013)
OUTCOME INDICATORS	
Health utilisation rate ▪ **No. of In-patient (IPD) visit per year** ▪ **No. of OPD visit per year**	Data received from the Ghana Health Service/Ministry of Health (MoH)
IMPACT INDICATORS	
Infant mortality rate	Although updates are received on these from the MoH, NHIS currently has no capacity/framework to scientifically measure its direct impact on them
Maternal mortality rate	
Neonatal mortality rate	
Under 5 mortality rate	
NHIS DESIRABLE INDICATORS (Not yet monitored)	
Out-of-pocket payees per total population	One of the main reasons for the establishment of NHIS is to replace user fees "cash and carry"
% of people who use health services at any given time	
% of the free NHIS riders who actually receive medical care	
% of people who actually need health services and receive it without payment of user fees	This will be difficult to measure
% of prescriptions on medicine list	OOP spending will increase if most prescriptions are outside the medicine list. NHIA is required to review the medicine list annually
WHAT ARE MEASURING BY OTHERS	
Out-of-pocket health expenditure	See impact studies table in the annex
Cost per hospital visit (WHO)	

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[48] Ghana diagnosis-related grouping (G-DRG)

Prenatal visits per pregnancy	
Deliveries at health centres	
Knowledge and awareness	Study: 2008 Citizens' Survey
Clients satisfaction	

Table 8 RSBY India Performance evaluation framework

PARAMETER	INDICATOR	DEFINITION	SOURCE OF DATA
Enrolment	Families enrolled (in thousand)	Number of families enrolled in one year	Web MIS and enrolment data from insurance companies
	Average family size	Average size of household enrolled under RSBY	
	Enrolment conversion ratio	Issued cards as a percentage of enrolment list	
Utilisation	Card ratio	Percentage of issued cards used for hospitalisation	Transaction Management Software (TMS) at the hospitals
	Beneficiary ratio	Number of beneficiaries hospitalised as percentage of number of cards issued	
	Wellness check ratio	Percentage of issued cards used for wellness checks	
Pure claim	Claim ratio	Claims made as percentage of premium received	Web MIS and Insurance companies' portal
	Claim ratio	Claims paid as percentage of premium received	

Table 9 RSBY other performance indicators

SNo	Indicator	Source
1	Central government budget allocation and expenditure (amount and percentage)	Annual reports
2	Gender breakup of enrolled beneficiaries	Enrolment data and sample surveys
3	Number of beds/1,000 population	Hospital empanelment and enrolment data
4	Female and child utilisation rates	Program MIS
5	Average claim size and settlement rates (used to review performance of the insurance companies)	Web portal
6	Additional costs to the programme (service tax and smart card costs)	Annual tenders for the programme
7	Service quality indicators (awareness and satisfaction levels among beneficiaries)	Household sample surveys
8	Waiting time for procedures	Transaction Management Software

Table 10 Evaluation framework for Universal Health Coverage in Thailand[49]

INDICATORS	DATA PLATFORMS	FREQUENCY	RESPONSIBLE AGENCIES
DIMENSION: INPUTS			
1. Financing ▪ Total Health Expenditure (THE), % GDP ▪ Government Health Expenditure, %	▪ Socio-Economic Survey (SES) ▪ National Health Account (NHA) ▪ National AIDS Spending Assessment (NASA)	▪ Biannual until 2008, then annual ▪ Annual NHA since 1994	▪ National Statistical Office (NSO) ▪ International Health Policy Program for NHA and NASA

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[49] Sourced from: Tangcharoensathien V, Limwattananon S, Patcharanarumol W, Thammatacharee J (2014) Monitoring and Evaluating Progress towards Universal Health Coverage in Thailand. PLoS Med 11(9): e1001726. doi:10.1371/journal.pmed.1001726.

▪ THE per capita ▪ OOP, % of THE ▪ Total HIV/AIDS expenditure, % THE		▪ NASA: biannual since 2000	
2. Infrastructure and health workforce ▪ Health facility per 1,000 population (pop) ▪ Hospital bed per 1,000 pop ▪ Doctor per 1,000 pop ▪ Nurse and midwives per 1,000 pop	▪ Ministry Of Public Health annual Health Resource Survey	Annual survey since 1980s	MOPH
DIMENSION: OUTPUTS			
1. Population coverage ▪ Number of population coverage by insurance fund	▪ Civil Registration [high coverage 96.7% for all birth, 95.2% for all deaths]	▪ Daily update by Ministry Of Interior Civil Registration Bureau, ▪ Weekly linked with membership registration dataset by 3 insurance schemes	▪ Civil registration Bureau, ▪ NHSO
2. Utilisation and profiles ▪ OP visit per capita, ▪ Admission rate per capita, ▪ OP/IP use profile: public, private, level of care (primary, secondary, tertiary) ▪ Unmet healthcare needs, % total needs ▪ Contraceptive prevalence rate ▪ Adolescent unmet family planning services, %	▪ Health and Welfare Survey (HWS) ▪ Other NSO regular national representative household surveys ▪ 3 Health Insurance Scheme throughput datasets (e.g. OP, IP, high cost care)	▪ HWS: every five years until 2001, then annual between 2003 and 2007, biannual thereafter, 2009, 2011, 2013 ▪ Others: Elderly Survey every five years, Disable survey, every five years, Reproductive Health Survey, every five years	▪ NSO
3. Service quality and safety ▪ Accredited health facilities, % total ▪ TB treatment success rate, % ▪ 30 day hospital case fatality rate acute myocardial infarction, stroke ▪ Waiting time elective surgery: cataract, hip replacement ▪ Surgical wound infection, % total clean surgeries	▪ Accreditation status certified by Healthcare Accreditation Institute (HAI),	▪ Re-accreditation required every three years ▪ improvement valid for three years	HAI
DIMENSION: OUTCOMES			
1. Service coverage ▪ Skill birth attendants, institutional births, % total ▪ DTP3 and measles coverage, % children <1 ▪ Contraceptive prevalence rate and profiles	▪ Health Welfare Survey (HWS) ▪ Special programmes databases: National AIDS programme, Renal Replacement Therapy, Pap-smear, Influenza vaccine	▪ HWS biannual ▪ Routine NHSO admin dataset and specific disease registries such as ART, Dialysis	▪ NSO ▪ UNICEF ▪ NHSO

▪ % eligible HIV positive pregnancies ▪ ART coverage, % eligible adults, children ▪ Coverage of renal replacement therapy			
2. Financial risk protection ▪ OOP, % THE ▪ Incidence of catastrophic health expenditure ▪ Incidence of impoverishment	▪ Socio Economic Survey (SES) ▪ National poverty line	▪ Annual SES ▪ Regular update urban/rural poverty lines	▪ NSO
3. Benefit Incidence ▪ Concentration index -1 to + 1	▪ SES ▪ HWS ▪ Unit cost	▪ SES: annual ▪ HWS: biannual ▪ Unit cost: infrequent research studies	▪ NSO ▪ Independent Research institutes
DIMENSION: IMPACT			
1. Improved health ▪ Effective coverage of DM and HT: % knowing of having the disease, % under treatment, % well control ▪ Disease specific mortality rates ▪ Survival curve of specific diseases: end stage renal patients under renal replacement therapy	▪ National Health Examination Survey (NHES) ▪ MOI Civil Registry linked with national IP dataset ▪ Specific disease registries: RRT, Thalassemia	▪ NHES, Four waves: 1990, 1997, 2004 and 2009 ▪ MICS 2006, 2012 ▪ Daily update of vital events in Civil Registration ▪ Routine updates	▪ HSRI for NHES ▪ NSO/UNICEF for MICS ▪ MOI Civil Registration Bureau ▪ Three insurance scheme patient IP dataset ▪ Kidney Foundation, and NHSO for disease registries
2. Increased responsiveness ▪ % satisfaction to UCS by members and healthcare providers ▪ % IP reported being treated badly by health staffs on confidentiality, prompt attention, communication and information, respectful treatment with dignity, with the application of vignettes for standardisation ▪ % OP and IP satisfied with hospital services	▪ Independent Poll monitoring (ABAC 2011, latest) ▪ Responsiveness Survey (HWS 2013) ▪ OP and IP surveys by hospitals ▪ Call centre data	▪ Poll survey: annual ▪ HWS: biannual ▪ Hospital OP/IP surveys ▪ Call centre annual report	▪ NHSO for annual poll surveys ▪ NSO for HWS ▪ Hospital survey: ad hoc ▪ NHSO for complaining report

Table 11 Rwanda Key Performance Indicators

Process Indicators	Source of Data
1 Enrolment	
New Clients	CBHI office at HC
Renewals	CBHI office at HC
Total Clients	CBHI National Office
2 Coverage - 90.74% of total population in 2012	
Diseases covered	Key but not yet monitored
Passive members (indigents: umukene, umukire, umutindi, umutindi nyakujya, umukene wifashije, umukungu)	CBHI office at HC
Active members (formal)	CHBI National Office
Active members (informal)	CHBI National Office
Health facilities	CHBI National Office

% of target population covered (excludes private health insurance holders)	CHBI National Office
3 Income	
Population contribution	CHBI National Office
Co-payments (200 RWF per visit)	CBHI office at HC
Co-payments (10% of total cost)	CHBI District/National Office
MMI Levies (1% of premium)	RSSB
RAMA Levies (1% of premium)	RSSB
Government allocations	CHBI National Office
Government Subsidies	CHBI National Office
Global fund (donor subsidies etc.)	CHBI National Office
Other income	CHBI National Office
Total premium	CHBI National Office
4 Expenditure	
Cost of premium mobilisation	CHBI National Office
Cost of claims	CHBI National Office
Operating cost	CHBI National Office
Total claims (reimbursements and transfers): Health Centres, District Hospitals, Referral Hospitals	CHBI National Office
Overhead cost	CHBI National Office
Incurred expenses	CHBI National Office
5 Net income (income – expenditure)	CHBI National Office
6 Ratios	CHBI National Office
Incurred expense ratio (incurred expenses/earned premium)	CHBI National Office
Claims ratio	CHBI National Office
Liquidity ratio	CHBI National Office
Solvency ratio	CHBI National Office
Percentage of insured below the poverty line	CHBI National Office
Outcome Indicators	
1 Medical care utilisation	
Utilisation rate (average admissions / pp / yr) – 1.07 in 2012	Ministry of Health
Out-patient utilisation rate (average out-patient admissions / pp / yr)	Ministry of Health
In-patient utilisation rate (average in-patient admissions / pp / yr)	Ministry of Health
Average cost per visit	Ministry of Health
Per capita spending on health	Ministry of Health
Per capita gov't spending on health	Ministry of Health
2 Out-of-Pocket spending	
Out-of-pocket spending on health	Demographic Health Survey
Out-of-pocket spending on health (as a % of private spending on health)	Demographic Health Survey
Out-of-pocket expenditures (as % of total health expenditures	Demographic Health Survey
Impact Indicators (Key but not yet monitored internally – Research plans underway)	
1 Mortality	Demographic Health Survey
Infant	Demographic Health Survey
Neonatal	Demographic Health Survey
Under 5 years	Demographic Health Survey
Maternal	Demographic Health Survey
Adult	Demographic Health Survey
2 Maternal Health	Demographic Health Survey
3 Children (under 18yrs) health	Demographic Health Survey
Prevalence of stunting (Ht/Age)	Demographic Health Survey
Malaria prevalence in children	Demographic Health Survey
Children <1 yr immunised for measles	Demographic Health Survey
Prevalence of wasting (Ht/Wt)	Demographic Health Survey
4 Life expectancy at birth	Demographic Health Survey

Table 12 JKN Indonesia Indicative list of monitoring indicators

SNo	Indicators
A. Enrolment	
1	Target beneficiaries (number)
2	New enrolments (number)
3	Enrolment ratio (enrolled clients/target beneficiaries)
4	Population covered (% age)
5	Renewals
6	Active Clients
B. Coverage	
7	Disease incidence
8	Minor subscribers (number and % age)
9	Senior citizen subscribers (number and % age)
10	Below poverty line subscribers (number and % age)
11	Pregnant and Nursing mothers (number)
12	Formal sector participants (number and % age)
13	Informal sector participants (number and % age)
14	Empanelled Health facilities (number)
C. Income	
15	Government funds (amount)
16	Mandatory contribution by subscribers (amount)
17	Expenditure to GDP
18	Expenditure to gov't spending on health
19	Expenditure to overall government expenditure
20	Per capita spending on health
D. Expenditure	
21	Cost of premium (subscriber contribution) mobilisation
22	Cost of claims processing
23	Total claims paid
24	Overhead cost
25	Incurred expenses
26	Net income (income – expenditure)
E. Program financial ratios	
27	Net income ratio (net income/earned premium)
28	Incurred expense ratio (incurred expenses/earned premium)
29	Claims ratio
30	Claims rejection ratio (number of claims rejected/total claims reported)
31	Promptness of claims payment
32	Percentage of insured below the poverty line
33	Percentage of female insured
34	Percentage of insured above retirement age
35	Complaints ratio (number of complaints registered/total number of clients)
F. Service quality	
36	Patients to doctor ratio
37	Accreditation of health facilities
38	Health centres (clinics, hospitals) within 10km radius
G. Medical care utilisation	
39	In-patient (no. of admissions)
40	Out Patient (no. of visits)
41	Utilisation rate (no. of visits/total enrolled clients)
42	Average cost per visit
43	Preventive programmes (no. of cases)
44	Institutionalised deliveries (no. of cases)

45	Out-of-pocket spending on health (% age of THE)
H. Mortality	
46	Infant
47	Neonatal
48	Under 5 years
49	Maternal

Annex 6.3 WHO UHC monitoring framework[50]

This framework comprises of the following underlying principles:

a) Monitoring UHC **should be a part of the country's regular system** of health progress review and health system performance assessment.
b) It must focus on **two interrelated but separate measures**:
   - coverage of the population with essential health services (<u>Measures of service coverage</u>) and
   - coverage of the population with financial protection against catastrophic Out-of-pocket health payments (<u>Measures of financial protection</u>).
c) All the measures in A) and B) should be **disaggregated by socioeconomic and demographic characteristics.** For instance, all the measures should be stratified across different income and gender groups**.**
d) Measures of service coverage **should comprise the full spectrum of essential health interventions,** including promotion, prevention, treatment, rehabilitation and palliation**.**
e) Regular monitoring of **a set of tracer indicators with targets** should be undertaken.

Based on these principles, the two following categories of measures are proposed:

A. Measures of service coverage

Table 13 Measures of service coverage

Indicator	Primary data source	Numerator	Denominator	Equity measurements
Prevention/promotion				
Family planning coverage with modern methods	Household surveys	Sexually active women 15–49 years who are currently using a modern contraceptive method	Women 15–49 years of age who are sexually active and do not wish to become pregnant	Wealth, education, urban/rural residence
Antenatal care coverage	Household surveys, administrative records	At least 4 visits to any care provider during pregnancy	Live births	Wealth, education, urban/rural residence
Skilled birth attendance	Household surveys, administrative records	Live births attended by skilled health personnel (doctors, nurses or midwives)	Live births	Wealth, education, urban/rural residence

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[50] Reproduced from the WHO UHC global monitoring report 2015.

Diphtheria, tetanus and pertussis (DTP3) immunisation coverage among 1-year-old	Administrative records	1-year-old children who have received 3 doses of a vaccine containing diphtheria, tetanus and pertussis	1-year-old children	Wealth, education, urban/rural residence, sex
Prevalence of no tobacco smoking in the past 30 days among adults age ≥ 15 years	Household surveys	Adults 15 years and older who have not smoked tobacco in the past 30 days	Adults 15 years and older	Sex
Percentage of population using improved drinking water sources	Household surveys	Population living in a household with drinking water from: piped water into dwelling, plot or yard; public tap/stand pipe; tube well/borehole; protected dug well; protected spring; or rainwater collection	Total population	Wealth, urban/rural residence
Percentage of population using improved sanitation facilities	Household surveys	Population living in a household with: flush or pour-flush to piped sewer system, septic tank or pit latrine; ventilated improved pit latrine; pit latrine with slab; or composting toilet	Total population	Wealth, urban/rural residence
Preventive chemotherapy (PC) coverage against neglected tropical diseases (ntds)	Administrative records	People requiring PC who have received PC (at least one NTD)	People requiring PC (at least one NTD)	None
Treatment indicators				
Antiretroviral therapy coverage	Administrative records, household surveys including HIV test	People who are currently receiving antiretroviral combination therapy	People living with HIV	None
Tuberculosis treatment coverage	Administrative records	New cases of TB that have been diagnosed and completed treatment in a given year	New cases of TB in a given year	None

Hypertension coverage	Health examination surveys including blood pressure measurement	Adults 18 years and older currently taking antihypertensive medication	Adults 18 years and older taking medication for hypertension, with systolic blood pressure ≥ 140 mmHg, or with diastolic blood pressure ≥ 90 mmHg	Wealth, sex (not shown)
Diabetes coverage	Health examination surveys including blood glucose measurement	Adults 18 years and older currently taking medication for diabetes (insulin or glycaemic control pills)	Adults 18 years and older taking medication for diabetes or with fasting plasma glucose ≥7.0 mmol/l	Sex (not shown)
Cataract surgical coverage	Health examination surveys including visual acuity and basic causes of vision impairment	Adults 50 years and older who have received bilateral cataract surgery or who have received unilateral cataract surgery with operable cataract and visual acuity < 6/18 in the non-operated eye	Adults 50 years and older with bilateral operable cataract and visual acuity < 6/18, who have received cataract surgery in both eyes, or who have received cataract surgery in one eye and have operable cataract with visual acuity < 6/18 in the non-operated eye	Sex

B) Measures of financial protection

Table 14 Measures of financial protection

Concept	Lack of Financial Protection indicators (LFP) LFP headcount ratios = Numerator/Total population	Financial protection indicators FP headcount ratios are rescaled versions of the lack of financial protection ones, i.e., FP ratios = 1-LFP ratios
Catastrophic health expenditures		
Budget shares approach	Number of people spending 25% or more of their total expenditure on Out-of-pocket (OOP) health expenditures	Share of the population spending less than 25% of their total expenditure on OOP
Capacity to pay based on subsistence needs (WHO approach)	Number of people spending 40% or more of their capacity to pay on OOP. Capacity to pay is defined as total expenditure net of expenses for basic necessities. Food is obviously one such basic necessity but not all food spending is non-discretionary. Hence a subsistence level of food expenditure is estimated, as the average food expenditure per equivalent adults of households in the 45th–55th food budget share distribution	Share of the population spending less than 40% of their non-subsistence expenditures on OOP

Capacity to pay based on food expenditure	Number of people spending 40% or more of their non-food expenditures on OOP	Share of the population spending less than 40% of their non-food expenditure on OOP
Impoverishing health expenditures		
Absolute approach using the international poverty line	Number of people with expenditures net of OOP below an international poverty line, but with expenses gross of OOP above such an international poverty line (e.g. USD 1.25 per capita per day)	• Share of the population not pushed into poverty, i.e. with expenditures net and gross of OOP above an international poverty line/level of subsistence food consumption/multiple poverty lines • Share of the population not further pushed, i.e. with expenses below an international poverty line/level of subsistence food consumption/multiple poverty lines and no OOP • Share of the population that are neither pushed nor further pushed into poverty
WHO approach using subsistence food expenditure	Number of people with expenditure net of OOP below levels corresponding to subsistence food expenditure, but with expenses gross of OOP above subsistence levels of food. Subsistence food expenditure is estimated following the same approach used to identify catastrophic health expenditures in the WHO capacity to pay approach. In other words, the incidence of catastrophic and impoverishing OOP expenditures is based on a function using the same benchmark	
Absolute approach using different international poverty lines	Number of people with expenditures net of OOP below the international poverty line applied to the country according to its World Bank income group classification (USD 1.25 for low-income countries, USD 2.00 for lower-middle-income countries, USD 4.00 for upper-middle-income countries and USD 5.00 for high-income countries). But with expenses gross of OOP above its corresponding international poverty line	

Annex 6.4 WHO OASIS tool for evaluating health financing systems[51]

Health financing performance indicator		
Operationalization	**Guidance**	**Further observations**
1. Level of funding		
▪ Total health expenditure (THE) per capita ▪ THE/GDP *Time trends & comparison with similar countries* *· General government health expenditure (GGHE)* *· GGHE/THE* *· General government expenditure (GGE)/GDP (fiscal space)* *· GGHE/GGE (fiscal space for health)* *· External funding for health/THE (donor dependency)*	↑ For low income countries	Costs to provide a package to reach MDGs and strengthen health systems: US$ 54 per capita (2005 prices) (High Level Task Force, 2009) Average THE p.c. (in PPP int. US$) in countries of: AFR[a] 147, AMR[b] 771, EMR[c] 402, EUR[d] 1818, SEAR[e] 640, WPR[f] 183. Average THE as a share of GDP in low middle-income and low-income countries is 4.8% and 4.6%, respectively (Durairaj 2010)[g] *GGHE/GGE ≥ 15% for Africa (OAU 2001).* *High donor dependency may reveal a concern for financial sustainability*
2. Level of population coverage		
▪ Percentage of population covered by a financial risk protection mechanism (this means that a person is not put at financial risk due to the costs of care) *Differentiated by quintiles/population groups:* ▪ *percentage of people covered by a financial risk protection mechanism in each quintile or population group*	100% *Equal population coverage across quintiles or population groups*	Carrin & James (2005)[h]
3. Degree of financial risk protection		
▪ Prepayment ratio[i]: GGHE/THE (in %) ▪ Percentage of households experiencing catastrophic expenditure in each scheme[j] ▪ Percentage of households impoverished by out-of-pocket (OOP) expenditures on health *Differentiated by quintiles/population group:* ▪ *percentage of households experiencing catastrophic expenditure in each income quintile/population group*	≥ 70% 0% 0% *0% in all quintiles/population groups* *0% in all quintiles/population groups*	The average prepayment ratio among OECD countries is 72.5% (OECD data from 1990–2006); the minimum and maximum for 2006 is 44.2% and 90.9%, respectively. 21 OECD countries report having a prepayment ratio ≥ 70% since 2000 (Carrin & James 2005).[k] Average THE minus OOPs as a share of THE is ≥ 79% in OECD countries (data from 1990–2007)
▪ *percentage of households impoverished by OOP health expenditures in all income quintiles/population groups*		Countries with an OOP share below 15% have few households experiencing catastrophic expenditure (Xu et al. 2003) Note that so far no OECD country has a percentage of 0% households, but the share is below 1% (Xu et al. 2007)
4. Level of equity in health financing		
▪ Total and specific health financing payments (e.g. taxes, contributions, insurance premiums, co-payments, OOP health expenditure)/household income	Health financing payments as a share of non-food consumption is equal across all households	Cf. WHO (2000) *How to assess:* analysis of household survey data, or else approximation through available data on tax burden and share in national income per quintile, OOPs per quintile and insurance contribution rules
5. Level of pooling across the health financing system		
Health care spending per pool member set in relation to overall health risks of pool members *Within health financing schemes:* ▪ *link between resource allocation to sub-pools and health care needs/ costs*	Equal health care spending per pool member across pools when set in relation to health risks of pool members *Resource allocation to sub-pools aligned with health care needs/costs*	Health risks are determined, for example, by sex, age, HIV/AIDS status, epidemiological and poverty profile of district and distribution of chronic diseases *How to assess:* 1st step – estimate health care spending per member, divide estimated total health care spending per pool by estimated number of pool members; 2nd step – compare average pool spending per member with overall health risk profile of pool members Higher health risks should go hand in hand with higher average spending per pool member

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[51] Reproduced from: User Manual for OASIS: A tool for health financing review performance assessment options for improvement (2010, Department of Health Systems Financing, WHO).

6. Level of operational efficiency and

7. Level of equity in the delivery of a given benefit package[1] at a given level of quality standards

For each health financing scheme:	No indication for and minimized incentives set by provider remuneration systems for over-provision or under-provision, cost-shifting and cream-skimming	Cf. Carrin & James (2005)
▪ absence of over-provision (e.g. providing too many services and medicines, up-coding), under-provision (e.g. providing too few services and medicines, or of substandard quality), cost-shifting, cream-skimming	Outpatient and inpatient utilization rates in line with regional trends	*How to assess:* qualitative analysis through discussion with purchasers and providers, as well as assessment of incentives set by provider remuneration schemes
	Service quality in line with the country's quality standards	
	Remuneration rates cover costs and provide appropriate pay to health workers	
▪ absence of over-consumption and under-consumption of services in relation to real health needs	No indication of and minimized incentive for over-consumption, and mechanisms to avoid under-consumption in place (e.g. differentiated co-payments, patient appeal mechanisms)	
	Health-care seeking rate as a percentage of illness reporting rate is equal across population groups/quintiles	

	Utilization rates equal across quintiles when accounting for health-care needs, and not lower for poorer quintiles	See also explanations under indicator No. 5

8. Degree of cost-effectiveness and equity considerations in benefit package definition

For each health financing scheme:	The benefit package fulfills cost-effectiveness and equity considerations	Cf. Carrin & James (2005)
▪ cost-effectiveness and equity considerations as part of benefit package definition logic	Cost-effectiveness analyses are being undertaken or its results are being considered	*How to assess:* analysis of actual contents of the benefit package in order to check, inter alia, for services addressing chronic diseases and the disease burden of the poor, services with positive externalities, preventive health services or those with demonstrated high cost-effectiveness

9. Level of administrative efficiency

▪ Total administrative costs for all health financing schemes as a share of total health expenditure	↓	The average from national health accounts data for low- and middle-income countries for 2008 is < 8%, with similar averages since 1995 (Nicolle/Mathauer 2010).

Annex 6.5. SWOT Analysis of country programmes

Strengths	Weakness	Opportunities	Threats
Ghana Health Insurance Scheme (NHIS)			
▪ NHIA is autonomous ▪ NHIS Law defined some specific KPIs ▪ Clear objectives and goals ▪ Linking objective and goals to the MDGs and government health financing strategies and policies ▪ Strong Management interest ▪ Medium term strategic plans with performance targets ▪ Fully functional M&E division ▪ Functional R&D division ▪ M&E plan (which includes an M&E Matrix) ▪ Point Assessment Systems (PAS) for measuring performance of regional offices ▪ Annual Programme of Work (POW) with targets ▪ Signing of performance contract with the scheme administrators ▪ Comprehensive process level indicators ▪ Functional Management Information System (MIS) ▪ Biometric Cards for members ▪ Good understanding of M&E requirements ▪ Rely on consultants for some performance elevations ▪ Regular Monitoring of performance (monthly, quarterly, mid-year and annual) ▪ Bi-annual performance review ▪ An established compliance unit: follows-up on activities of the accredited health facilities ▪ Independent customer complain centre (outsourced) ▪ Functional clinical and Internal Audit divisions to audit claims and NHIA's finances ▪ Annual review of drugs list ▪ Indictors on the poor and vulnerable ▪ Centralised premium account	▪ New M&E Division ▪ Impact level indicators not yet internally monitored ▪ Few outcome level indicators (data from the Ghana health services and MoH) ▪ Dependence on external sources for certain data ▪ High financial deficit ▪ Inadequate technical and managerial capacity ▪ Under-developed M&E system (a comprehensive M&E Policy is due by the end of 2015)	▪ Availability of external data sources (MoH, WHO, Statistics department, Censors Data etc) ▪ Several independent scientific studies on NHIS Impact ▪ High political (bi-partisan) interest ▪ High donor interest ▪ Experiences from other health insurance schemes	▪ Politicisation of schemes performance (could lead to false presentation of facts) ▪ Pressure from Donors ▪ Untimely government reimbursement ▪ Inefficient pharmaceutical supply chain ▪ Inadequate health care delivery system/facilities
Rwanda Community-based Health Insurance Scheme			
▪ The CBHI Law defined some specific KPIs ▪ Clear objectives and goals ▪ Decentralised management of scheme ▪ Centralised management of risk pool ▪ Wealth-based categorisation of subscribers ▪ A CBHI policy (2010) has clear strategic objectives	▪ CBHI not autonomous (is a division of the MoH) ▪ Impact level indicators not yet internally monitored ▪ Dependence on MoH and the DHS for data on outcome indicators	▪ Several independent scientific studies on NHIS Impact ▪ The 2015 Rwanda health financing policy propose to have a standard health indicators ▪ Experiences from other health insurance schemes	▪ Political pressure

Strengths	Weakness	Opportunities	Threats
▪ Clear process and outcome (depends on the MoH and the DHS[52] Data) levels indicators ▪ Functional Web-Based M&E database ▪ Weekly reporting system ▪ Monthly, quarterly and annual reports ▪ Financial modelling tool ▪ Annual performance contracts (with targets) signed with the CBHI coordinators ▪ Local government oversees regional CBHI activities ▪ Biometric ID cards	▪ Depend on the MoH M&E system ▪ Insufficient staff and limited management capabilities of existing staff ▪ Most internal auditors have no medical background ▪ Poor data management ▪ High financial deficit	▪ High political and donor interest in CBHI performance ▪ Multiple sources of data (MoPH, WHO, demographic Health Survey, Censors Data etc.) ▪ Excellent network of health facilities in all districts ▪ A decentralised health system	
Thailand Universal Coverage Scheme			
▪ UCS is managed by an autonomous body (NHSO) ▪ Clear objectives and goals ▪ A Health Service Standard and Quality Control Board responsible for controlling, monitoring and supporting standard and quality of health care providers ▪ An established M&E Bureau ▪ Two sub-committees in charge of monitoring NHSO functions ▪ A functional auditing sub-committee ▪ National health security fund ▪ Comprehensive benefit package ▪ Surveillance of all the services offered under the benefit package ▪ UCS is tax financed ▪ Issued 81 KPIs ▪ Provinces report their performance based on the 81 KPIs ▪ Established sub-committee in charge of complaints ▪ Independent evaluation of specific components of the UCS programme ▪ Clear process level indicators ▪ Some internally monitored outcome indicators ▪ Functional MIS infrastructure ▪ Independent accreditation of health facilities ▪ Daily, weekly, monthly, and biannual reports	▪ Only 75% of the 81 issued KPIs were reported in 2014 ▪ Depend on external sources for some data ▪ Impact level indicators not yet internally monitored	▪ Multiple sources of data (MoH, National health account, National statistical office, Censors Data etc.) ▪ Several independent scientific impact studies ▪ Experiences from other health insurance schemes	▪ Cost inflation over time, higher than GDP growth, making it harder to be viable.
India Rashtriya Swasthya Bima Yojana (RSBY)			
▪ Clear objective and goals ▪ Biometric ID cards for members ▪ Robust MIS platform ▪ Centralised data management ▪ It is a Public Private Partnership (PPP)	▪ RSBY is not autonomous (under MoH) ▪ Not universal scheme (target is low-income households) ▪ Limited health benefit package	▪ Several independent scientific impact studies ▪ Experiences from other health insurance schemes ▪ High donor interest (ILO etc.)	▪ Lack of integration with primary care, creating a costlier scheme

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[52] Demographic Health Survey.

Strengths	Weakness	Opportunities	Threats
▪ An established committee to review different aspects of RSBY including M&E ▪ An operational manual with an M&E framework ▪ Internally monitored process indicators ▪ Freemium scheme (entirely subsidies by central and state governments)	▪ Few outcome indicators monitored internally ▪ Impact level indicators not yet internally monitored	▪ Recent transition in overseeing authority (from MoLE to MoH)"	
Indonesia Jaminan Kesehatan National (JKN)			
▪ Universal approach (since 2014) ▪ JKN is managed by autonomous agency under MoH (BPJS Health) ▪ Clear objectives and goals ▪ Handbook delineating M&E set ▪ Independent evaluation (DJSN and independent supervisory agencies) ▪ Comprehensive benefit package ▪ Prioritised KPIs	▪ Formulating an M&E framework (due by end of 2015) ▪ Developing KPIs (support from GIZ and AusAID) ▪ High financial deficit	▪ Lessons from previous schemes that have been integrated ▪ High political interest ▪ High donor interest (GIZ and AusAID) ▪ Independent impact studies	

Annex 6.6 Similarities and differences of the Performance Monitoring Systems of the selected Government-sponsored Health Insurance Schemes

Ghana NHIS	Rwanda CBHI	Thailand UCS	India RSBY	Indonesia JKN
Differences				

▪ NHIS is autonomous
▪ Medium term strategic plans with performance targets
▪ Functional Management Information System (MIS)
▪ Indicators on
  – Health personnel ratio
  – Service quality
  – Customer satisfaction
  – Indicators on public education and communication
▪ Bi-annual performance review
▪ Fully functional M&E and R&D divisions
▪ Functional M&E system (Plan & Matrix)
▪ Point Assessment Systems (PAS) for measuring performance of regional offices
▪ Programme of Work (POW) with targets
▪ Rely on consultants for some performance elevations
▪ An established compliance unit: follows-up on activities of the accredited health facilities
▪ Functional clinical and internal audit divisions to audit claims and NHIA's finances
▪ Independent customer complain centre (outsourced)
▪ Annual review of drugs list
▪ Under-developed M&E system (a comprehensive M&E policy is due by the end of 2015)
▪ Universal scheme
▪ Linked performance to the MDGs and government health financing strategies
▪ Law has specific KPIs
▪ Annual performance contracts (with targets) signed with the CBHI coordinators
	▪ CBHI is not autonomous
	▪ CBHI Policy (2010)
	▪ Functional Web-Based M&E database
	▪ Indicators on
	  – Co-payments
	  – Solvency
	  – Liquidity
	  – Per capita cost
	  – Out-of-pocket spending
	▪ Annual performance review
	▪ Decentralised management of scheme
	▪ Depend on the MoH M&E system
	▪ Wealth-based categorisation of subscribers
	▪ Financial modelling tool
	▪ Local government oversees regional CBHI activities
	▪ Most internal auditors have no medical background
	▪ Poor data management
	▪ A decentralised health system
	▪ Universal scheme
	▪ Linked performance to the MDGs and government health financing strategies
	▪ Law has specific KPIs
	▪ Annual performance contracts (with targets) signed with the CBHI coordinators
	▪ Impact indicators not yet internally monitored
	▪ Biometric cards for members
	▪ Comprehensive benefit package
	▪ High financial deficit
		▪ UCS is autonomous (NHSO)
		▪ Universal scheme
		▪ Functional MIS infrastructure
		▪ Indicators on
		  – Macroeconomic indicators (THE etc.)
		  – OOP
		  – Health personnel ratio
		  – Diseases incidence
		  – Service coverage
		  – Service quality
		  – Incidence of catastrophic health expenditure
		  – Benefit incidence
		  – Health improvement
		  – Customer satisfaction
		▪ An established M&E Bureau
		▪ UCS is tax financed scheme
		▪ Two sub-committees in charge of monitoring NHSO functions
		▪ A Health Service Standard and Quality Control Board responsible for controlling, monitoring and supporting standard and quality of health care providers
		▪ A functional auditing sub-committee
		▪ Surveillance of all services offered under the benefit package
		▪ Issued 81 KPIs
		▪ Independent evaluation of specific components of the UCS programme
		▪ Clear process level indicators
		▪ Some internally monitored outcome indicators
		▪ Daily, weekly, monthly, and biannual reports
			▪ RSBY is not autonomous (under MoH)
			▪ Not universal scheme (target is low-income households)
			▪ Biometric ID cards for members
			▪ Robust MIS platform
			▪ Indicators on
			  – Service quality
			  – OOP
			  – Health personnel ratio
			  – Subsidies
			  – Diseases incidence
			  – Customer satisfaction
			▪ Centralised data management
			▪ Limited health benefit package
			▪ It is a Public Private Partnership (PPP)
			▪ High donor interest
			▪ An established committee to review different aspects of RSBY including M&E
			▪ An operational manual with an M&E framework
			▪ Desire to conduct further evaluate outcome
			▪ Internally monitored process and outcome indicators
			▪ Freemium scheme (entirely subsidies by
				▪ Universal scheme (until 2014, it targeted the poor/near poor)
				▪ Comprehensive benefit package
				▪ Subsidies
				▪ Independent evaluation (by DJSN and independent supervisory agencies)
				▪ Indicators on
				  – Subsidies
				  – Diseases incidence
				  – Service quality
				  – Health personnel ratio
				  – OOP
				  – Mortality
				  – Macroeconomic indicators (THE etc.)
				▪ High financial deficit

▪ Impact indicators not yet internally monitored ▪ Biometric cards for members ▪ Comprehensive benefit package ▪ High financial deficit ▪ Inadequate technical and managerial capacity ▪ Centralised premium account ▪ Weekly, monthly, biannual reporting system	▪ Inadequate technical and managerial capacity ▪ Centralised premium account ▪ Weekly, monthly, biannual reporting system	▪ Provinces report their performance based on the 81 KPIs ▪ An established sub-committee in charge of complaints ▪ Independent accreditation of health facilities ▪ Centralised premium account	central and state governments) ▪

Similarities

▪ Clear objective and goals
▪ Indicators on:
  − Enrolment and membership
  − Poor and vulnerable
  − Health utilisation
  − Income
  − Expenditure
  − Claims
  − Quality of health facilities
▪ Several independent scientific impact studies
▪ Desire to start monitoring impact
▪ Multiple sources of data
▪ Comprehensive process indicators
▪ List of outcome indicators (data from external sources)