

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

1. Introduction

This paper presents the background information for the discussion paper, “Performance Evaluation Framework for Government-Sponsored Health Insurance Programmes” published by the Microinsurance Network. The country profiles, overview of their government-sponsored health insurance programmes, and performance evaluation frameworks presently used in these programmes are discussed in detail in the discussion paper.

1.1 Country profiles

The socio-economic and health profile, as well as summarised information of the government-sponsored health insurance programmes, of the five countries under review are presented in Table 1 and 2. This is followed by the reports on individual country programmes (Table 3).

Table 1 Socio-economic country profiles¹

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 USUSD)	USD 38.7 billion	USD2.1 trillion	USD 888.5 billion	USD 7.9 billion	USD 373.8 billion
GDP per capita (current USUSD)	USD 1461.6	USD 1630.8	USD 3514.6	USD 652.1	USD 5560.7
GDP growth (annual %)	4.2%	7.4%	5%	7%	0.7%
Percentage of the population living on less than USDUSD 2 (PPP)	51.8%	59.2%	43.3%	82.3%	3.5%

¹ Data reproduced from the World Bank data repository (<http://data.worldbank.org/indicator>) and represents 2014 levels 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>).

Thailand has the best health indicators with the highest life expectancy and lowest maternal and infant mortality rates (Table 2). India, with its big population, has the lowest per capita expenditure on health. Its health sector is also characterised by low public share, in total health expenditure and a very high Out-of-pocket expenditure. Similarly, Ghana and Indonesia have high proportion of out-of-pocket (OOP) expenditure. Compared to OECD countries (whose OOP out of total expenditure on health is 14.0%²), which generally have high incomes, this high proportion is due to the low public expenditure and low penetration of health insurance in these three countries. **Health infrastructure in all the five countries is underdeveloped** with very low number of physicians per 1,000 individuals. It is notable that Thailand surprisingly has favourable health indicators, even with a low percentage of physicians. Generally, it can be argued that all the study countries have **poor health indicators**, especially compared to OECD countries, except Thailand which recorded indicators comparable to the OECD countries.

Table 2 Health profile³

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 (% of total health expenditure, 2013)	60.6%	32.2%	39%	58.8%	80.1%	61.4%
Out-of-pocket expenditure ⁴ (% of total expenditure on health, 2013)	36.2%	58.2%	45.8%	18.4%	11.3%	14.0%

² In many OECD countries the private OPP is covered under employer financed schemes.

³ Data reproduced from the World Bank data repository (<http://data.worldbank.org/indicator>) and represent 2013 level of indicators. Accessed on 20th August 2015.

⁴ OOP payment is defined as 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.

All the government-sponsored programmes target the general population, except India whose programme only targets low-income individuals. Its programme is also the largest in terms of absolute number of individuals covered, followed by Indonesia. In 2014, Indonesia integrated its three programmes which targeted different income groups. The unified programme is discussed in the discussion paper. All the programmes provide comprehensive coverage, including primary, secondary and tertiary care, with India again being an exception. India's programme, RSBY, provides a fixed hospitalisation cover and is the programme with the smallest benefit package. This could be to control programme costs as it has the largest number of individuals targeted.

Being government-sponsored programmes, the major source of funding has been through government budget allocations. Indonesia, Rwanda and Ghana also take salary contributions from the non-poor beneficiaries. Donor contributions form a huge proportion of funds for Rwanda's programme. Ghana's NHIS is financed from the following sources: a National Health Insurance Levy (NHIL) which is a 2.5% tax on selected goods and services, a 2.5% deduction from individuals' contribution to the Social Security and National Insurance Trust (SSNIT), contributions from clients of the informal sector, government subsidies and budgetary allocations. Rwanda also has mixed sources of funding which include government subsidies, member contributions, donor subsidies and tax levied on private schemes. In the case of Indonesia, non-poor population groups have to make fixed contributions in the form of fixed monthly premiums. Thailand and India's programmes are funded by general tax revenue of the government.

Table 3 Government-sponsored health insurance programmes⁵

PROGRAMME	GHANA	INDIA	INDONESIA	RWANDA	THAILAND
Name	National Health Insurance Scheme (NHIS)	Rhastriya Swasthya Bima Yojna (RSBY)	Jaminan Kesehatan Nasional (JKN)	Cellule Technique d'Appui Mutuelles de Santé	Universal Coverage Scheme
Year of launching	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 contributions, formal sector contributions government funds	Insurance premium subsidised by the centre and federal government	Subsidised for poor, salary contribution for other groups	Government funds, member contribution, donor subsidies levy on private schemes	General tax revenue

⁵ This table has been prepared by the authors based on the reviews of country programmes' performance monitoring and evaluation frameworks.

Coverage	Comprehensive (primary, sec and tertiary)	Hospitalisation	Comprehensive (primary, secondary and tertiary)	Comprehensive (primary, secondary and tertiary)	Comprehensive (primary, secondary and tertiary)
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2. Country programmes

2.1 Ghana’s National Health Insurance Scheme (NHIS)

2.1.1 Background to the NHIS

In the 1990s, the Ghana government initiated a health policy reform, including the establishment of a national health insurance programme, to minimise the financial burden of accessing health care, especially among the vulnerable population. This led to the introduction of a compulsory social health insurance for all Social Security and National Insurance Trust (SSNIT) contributors and registered cocoa farmers in 1995, and the proliferation of district mutual health insurance schemes in the early 2000s⁶. Prior to this, only about 1% of the population was covered under 168 smaller Mutual Health Organisations⁷. In 2003, a National insurance Law Act 2003 (Act 650) was formerly launched to provide financial risk protection against the cost of quality basic health care for all residents in Ghana. The new law allowed District Mutual Health Insurance Schemes to operate semi-autonomously until 2012, when the law was revised (Act 852) to integrate all existing schemes into a single-payer system with the intention of streamlining and ensuring efficiency in the operation, and management of the programme. Consequently, the National Health Insurance Authority (NHIA) was established to regulate and ensure the implementation of the National Health Insurance Scheme (NHIS) towards the attainment of a universal health insurance coverage for all, both residents and visiting non-residents. Since its introduction, the scheme has increased its registered membership from 1.3 million active members in 2015 to 8.9 million active members (representing approximately 35% of the total population). Currently, the NHIS operates in 155 districts and 3,575 accredited health care facilities across the country⁸.

2.1.2 Structure of NHIS

The NHIS is divided into District Mutual Health Insurance Schemes (DMHIS), Private Commercial Health Insurance Schemes (PCHIS) and Private Mutual Health Insurance Schemes (PMHIS). However, only the DMHIS receives subsidy from the National Health Insurance Fund (NHIF) (see Figure 5 in Annex 3.1 for further details on the structure).

⁶ Kotoh A. M. (2013). Improving health insurance coverage in Ghana: A case study. African Studies Centre, Ipskamp Drukkers, Enschede.

⁷ Sulzbach, S., B. Garshong & G. Owusu-Banahene (2005). Effect of National Health Insurance Act in Ghana: Baseline report. Bethesda, Maryland: ABT associates Inc.

⁸ NHIA (2010): The National Health Insurance Authority Annual Report and NHIA (2012): The National Health Insurance Authority Annual Report.

NHIS is financed by a National Health Insurance Levy (NHIL) of 2.5% tax on selected goods and services, a 2.5% deduction from individuals' contribution to the Social Security and National Insurance Trust (SSNIT), contributions from individuals working in the informal sector and budget allocations. All subscribers have access to full benefits of the scheme with no additional coinsurance, co-payment or deductibles required. In 2009, the NHIL accounted for about 61% of total income, with pension deductions and contributions from clients of the informal sector accounting for 15.6% and 3.8% respectively⁹.

The benefit package of NHIS includes GP consultations and diagnostic testing (including, laboratory investigation, X-rays and ultrasound scanning), administration of NHIS listed medicines, surgical operations, physiotherapy, blood and blood products, general ward accommodation, feeding (where available), tooth extraction, dental restoration, ante and post-natal care, deliveries, caesarean section and medical emergencies. Generally, about 95% of diseases typically reported at health centres are covered. The package is assessed every six months and adjusted when necessary.

Children under 18 years, persons in need of ante-natal, delivery and post-natal healthcare services, persons with mental disorder, persons classified by the Ministry of Employment and Social Welfare as indigents, categories of differently-abled persons determined by the Ministry, pensioners of the Social Security and National Insurance Trust, contributors to the Social Security and National Insurance Trust (their contribution is deducted from SSNIT), persons above 70 years of age, and other categories prescribed by the Ministry are exempted from payment of contribution. Contributions of the vulnerable groups are subsidised by the government. In 2012, 64.5% of the total subscribers did not pay premiums directly of which 51.2% were children, 4.5% above 70 years, 4.2% pension contributors, 4.4% indigents and 0.33% pensioners (who were contributors to the national pension scheme). Membership of the NHIS is mandatory unless a person has an alternative health insurance arrangement. Given the high level of poverty, in 2012, the premium of 60.3% of the NHIS subscribers were subsidised by government (NHIA, 2012).

2.1.3 Ghana NHIS Performance Indicators

To achieve its overall objective of providing universal healthcare coverage, the NHIS has set itself to accomplish the following specific objectives:

- To provide universal and equitable health insurance coverage, within the scope of sustainable health benefits and exemption policy, for all residents in Ghana and those visiting Ghana;
- To ensure efficiency in the fund mobilisation and the financial operations of the National Health Insurance Scheme;
- To purchase effective and quality health care services in a cost-efficient manner for members of the National Health Insurance Scheme;
- To develop and maintain a robust institutional and managerial capacity for the efficient management of health insurance scheme in Ghana;
- To attain a vibrant and progressive health insurance industry in Ghana;

⁹ Ibid.

- To promote a sustained public education on the National Health Insurance Scheme;
- To strengthen the accountability and control systems to maximise efficiency-gains from the core functions of the accountability and control sub-systems;
- To strengthen support systems to further enhance efficiency of the NHIS operations.

These objectives form the basis for the development and implementation of various Mid-term Strategic Plans. Below were the targets set for the 2011-2014 Plan:

- Mobilise 100% of its required funds by 2014;
- Increase efficiency in its finance operations;
- Increase active membership to 60% of the total population by 2014;
- Increase coverage of the vulnerable, including the poor and the indigents, to 70% by 2014;
- Provide support to increase access to quality basic health care services in all districts;
- Strengthen governance systems and improve human resources capacity;
- Improve the quality of services accessed by members;
- Improve the level of provider experience with the NHIS; and
- Improve involvement and participation in health insurance programmes

The 2015-2018 Strategic Plan has similar targets. Evaluation of these plans is conducted on a mid-term and end-of-term basis. While the mid-term evaluation is conducted internally, the end-of-term evaluation is often conducted jointly by an in-house team and external evaluators.

Given its importance, the NHIA has established a fully functional M&E division, which among other functions, is currently implementing an M&E Plan which includes an M&E matrix. The authority is also drafting a comprehensive M&E policy which is expected to be in operation by the end of the year.

In order to have a better appreciation of the schemes M&E matrix and key performance matrix, telephone interviews were conducted with district, regional and headquarters staffs, including the acting CEO and head of M&E. The indicators in Table 4 were highlighted as important performance indicators to the NHIS operation:

Table 4 NHIS Key Performance Indicators

Indicators	Remarks
PROCESS INDICATORS	
Membership and Enrolment	
Active members <ul style="list-style-type: none"> ▪ 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
% 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 <ul style="list-style-type: none"> ▪ Indigents* ▪ School children under the national school feeding programme** ▪ LEAP¹⁰ beneficiaries* ▪ Orphans** ▪ Under 5 year* ▪ Under 18 years** ▪ Above 70 years** ▪ Pregnant women* ▪ Number junior high school students** ▪ Number senior high school students** 	<p>These are all free riders and it is part of the gov't's strategy to achieve MDGs 1, 4 and 5</p> <p>*Excluded from all payments including a 1-month waiting period</p> <p>**Pay only processing fee but exempted from premiums. Observe a 1-month waiting period</p>
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 <ul style="list-style-type: none"> ▪ Out-patient ▪ In-patient ▪ Per visit 	
Expenditure on non-core NHIS activities	The law stipulated not more than 10% expending
Claims	
Incurring claims	
<ul style="list-style-type: none"> ▪ Disease/diagnosis categories 	
Total claims submitted	
<ul style="list-style-type: none"> ▪ 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 reached. The current duration is about 3 months (Kotoh 2013)
% of claims processed electronically	
% 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 ¹¹ bases
Public Education and communication	

¹⁰ The Livelihood Empowerment against Poverty (LEAP) Programme 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).

¹¹ Ghana diagnosis-related grouping (G-DRG).

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 and Customer satisfaction	
Number of complaints received	
Number of complains resolved	A call centre has been established. Data from the centre are analysed 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 development and awaiting pre-testing. Current periodic prescriptions checks are conducted. The level of a provider (health centre, clinic, district hospital, regional hospital, 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	Data received from the Ghana Health Service/Ministry of Health (MoH)
▪ No. of In-patient (IPD) visit per year	
▪ No. of OPD visit per year	
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 who 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
Measured by external agencies	
Out-of-pocket health expenditure	See impact studies table in the annex
Cost per hospital visit (WHO)	
Prenatal visits per pregnancy	
Deliveries at health centres	
Knowledge and awareness	Study: 2008 Citizens' Survey
Clients satisfaction	

As it can be seen from the above, some of the listed indicators, although important, are yet to be monitored. The process and outcome level indicators are the main focus of the Authority now, and are monitored on a monthly, quarterly, mid-year and annual basis.

Each directorate under the scheme reports to management on a monthly basis. A two-day mini management retreat is held to provide directors an opportunity to give a full account of their directorate's performance. Actual reviews of the directorates' performances are done during the mid-year and annual management retreats. In 2016, the NHIA plans to assess and evaluate its internal processes in relation to the implementation of the scheme's strategic objectives and initiatives. An external consultant is expected to lead this exercise.

Although seen as a very important measure towards the achievement of the government's poverty reduction strategy (GPRS II) and millennium development goals 1, 4, and 5, management of the NHIS noted that not much effort has been made so far to measure the scheme's direct impact. Accordingly, the NHIA lacks the science, skills and capacity to attribute impacts to the NHIS interventions. However, some scientific studies have shown some positive impacts of the NHIS so far. Mensah et al. (2010) reported that NHIS members are more likely to use medical care compared to non-members¹². This was corroborated by Brugiavini and Pace (2010) who, after analysing the 2008 Demographic and Health Survey (DHS), reported higher medical care utilisation among NHIS members¹³ (see also Blanchet et al. 2012¹⁴, Kotoh 2013¹⁵ & Nketiah-Amponsah et al. 2013¹⁶). Further, the Health Systems 20/20 (2009) study found that patients, covered under NHIS, paid approximately 20% of the amount paid by the uninsured for medical care¹⁷. This also supports the findings of Sulzbach (2008) who noted that NHIS members have less OOP expenditures compared to non-members¹⁸. On the contrary, recent studies have reported otherwise. The findings of Brugiavini and Pace (2010) and Nguyen, Rajkotia, and Wang (2010) concluded that enrolment to a National Health Insurance Scheme has little effect on OOP expenditure¹⁹.

Although challenging, the NHIA indicated its desire to measure the scheme's direct impact in the future. This will be a way to further justify that they are an important and effective health financing measure.

¹² Mensah, J., J.R. Opong & C.M. Schmidt (2010). Ghana's National Health Insurance Scheme in the context of the health MDGs: An empirical evaluation using propensity score matching. *Health Economics*, 19: 95-106.

¹³ Brugiavini, A. & Pace, N. (2010). Extending health insurance: effects of the national health insurance scheme in Ghana. Paper presented at the Conference "Promoting Resilience through Social Protection in Sub-Saharan Africa", Dakar, Senegal.

¹⁴ Blanchet N. J., G. Fink and I. Osei-Akoto (2012). The Effect of Ghana's National Health Insurance Scheme on Health Care Utilization. *Ghana Medical Journal*, June 2012; 46(2): 76-84.

¹⁵ Kotoh A. M. (2013). Improving health insurance coverage in Ghana: A case study. African Studies Centre, Ipskamp Drukkers, Enschede.

¹⁶ Nketiah-Amponsah E., S. Duku, C. Fenenga, R. K. Alhassan, T. Rinke de Wit, I. Hutter, M. Pradhan, & D. Arhinful (2013). Towards a client-oriented health insurance system in Ghana. Some key findings. PowerPoint Presentation, NHIS 10th Anniversary Conference.

¹⁷ An evaluation of the effects of the national health insurance scheme in Ghana. Project and Research and Development Division of the Ghana Health Service. Bethesda, MD: Health Systems 20/20 project, 2010, Abt Associates Inc.

¹⁸ Sulzbach, S. (2008). Evaluating the Impact of National Health Insurance in Ghana. *Health Systems 20/20*, Accra.

¹⁹ Nguyen, H., Rajkotia, Y. & Wang, H. (2010). Financial protection effect of health insurance evidence from Ghana national health insurance scheme. Paper presented at the APHA Conference, Denver.

2.1.4 Other NHIA Strategic Measures

The NHIA has put in place a number of activities and infrastructure to facilitate its operations, including:

Membership, Provider Relations and Regional Operations (MPRO): This is a division created with regional offices with the sole function to monitor the operations of the District Offices and Health Care Providers (HCPs).

The Point Assessment System (PAS): Established to introduce healthy competition among districts and regional offices. It is designed along the performance targets of the MPRO mainly with targets on membership, revenue mobilisation and enforcement of internal controls. These indicators are then weighted and scored.

The Annual Programme of Work (POW): In line with the strategic objective and key activities of the Mid-term plans, each directorate and department develops a detailed annual programme with corresponding budget. The POWs also include specific measurable targets which form the basis for **signing a performance contract between the CEO and respective directors**. The contracts are evaluated at the end of the accounting year.

Consolidated Premium Account (CPA): Established to ensure the NHIA's full oversight of all revenues, including contributions received from the informal sector clients and links treatment to diagnosis.

Claims Processing Centres (CPC): Four centres have been established and equipped with experts, including medical doctors and pharmacists to speed-up claims processing.

Clinical and Internal Audit Divisions: Their capacity has been strengthened to ensure effective auditing of claims.

Provider payment reform: To minimise the cost and delays in claims payment, the NHIA introduced capitation as an alternative to its fee for services and G-DRG provider payment system.

Accreditation of Health Services Providers: A set of protocols have been laid out for accreditation of health services providers to the NHIS.

Independent call centre: Provides NHIS information and receives complains on behalf of NHIA.

Compliance Unit: Established to investigate the astronomical increases in claims. It includes both internal and external clinicians.

Research and Development Directorates: This was created in 2007 and has since led the review of tariffs and medicines list; and developed a number of concept papers aimed at enhancing the efficiency of the scheme's operations, including papers which linked diagnosis to treatment and levels of prescription.

Management Information System (MIS): A Data Centre Upgrade project involved the replacement of the old 32-bit hardware and operating systems with 64-bit ones. It has been completed. The Line-of-Business Application (Oracle E-Business Suite) was also upgraded from version 11 to 12. In 2013, NHIA introduced biometric membership registration and instant ID card issuance system. This is intended to improve the integrity of the membership database and subscribers' authentication at healthcare facilities, and generate unique code (Claims Check Code) for subscribers who access health care, for claims processing.

2.1.5 General impression about the NHIS

A study conducted by Nketiah-Amponsah et al. (2013) found that of the 2,620 people who have never enrolled in the NHIS, 40.5% said the scheme was expensive, 0.4% have never heard of it, 19.4% have no

confident in it, 1% said they did not have the scheme in their area, and 4.6% had other health insurance cover²⁰. Low enrolment was recorded among the poorest quintile, informal sector, smaller households, males, urban dwellers and young adults. Generally, clients were reported to be satisfied with the quality of service they received from the NHIS accredited health facilities, except the 3-month waiting period for ID cards.

A related study conducted by Kotoh (2013) found that of the 3,301 people surveyed, 72.5% said they didn't enrol because they had no money to pay premiums²¹. Using multinomial logistic regression, the study showed that current enrolment is significantly higher among the richest quintile (41%) than the poorest quintile (27%). She further noted that, although NHIS has increased utilisation of healthcare, there has been no corresponding expansion in the capacity of health facilities to cater for the increasing number of patients. Additionally, delays in reimbursement have made it very difficult for health providers to meet all the drug requirements of their clients, resulting in providers giving preference to uninsured patients who are ready to pay cash.

The Ghana National Development Planning Commission, in its 2008 Citizens' assessment of the NHIS, reported that on average, 77% of individuals who have not registered with the scheme attributed their non-registration status to affordability issues, and nearly 92% of those insured with the NHIS were either satisfied or very satisfied with the performance of the scheme²².

2.2 India's Rastriya Swasthya Bima Yojna (RSBY)

2.2.1 Country context and health profile

With a population of more than 1.2 billion, India is the world's second most populous country²³. Economic growth and development in recent years have led India to become the world's fourth largest economy²⁴. However, in spite of being one of the world's fastest growing economies (annual GDP growth rate was 7.4% in 2014²⁵), more than 400 million of India's people still live in poverty²⁶. Economic growth has also led to socio-economic inequality in the population. Although India's health indicators have improved to some extent, a number of indicators such as maternal and child mortality rates remain very poor²⁷, and healthcare is characterised by high out-of-pocket expenditure (86% of private expenditure and 59% of total expenditure on health)²⁸. Public spending on health is much lower than global standards. For

²⁰ Nketiah-Amponsah E., S. Duku, C. Fenenga, R. K. Alhassan, T. Rinke de Wit, I. Hutter, M. Pradhan, & D. Arhinful (2013). Towards a client-oriented health insurance system in Ghana. Some key findings. PowerPoint Presentation, NHIS 10th Anniversary Conference.

²¹ Kotoh A. M. (2013). Improving health insurance coverage in Ghana: A case study, African Studies Centre, Ipskamp Drukkers, Enschede.

²² National Development Planning Commission (2009). Towards a Sustainable Health Care Financing Arrangement that Protects the Poor, 2008 Citizens' Assessment of the National Health Insurance Scheme.

²³ The World Bank. Accessed on 16th July, 2015. <http://databank.worldbank.org/data/download/POP.pdf>.

²⁴ Country overview, The World Bank. Accessed on 16th July, 2015. <http://www.worldbank.org/en/country/india/overview>

²⁵ Ibid.

²⁶ Ibid.

²⁷ The World Bank country review. Accessed on 16th July, 2015. <http://www.worldbank.org/en/country>

²⁸ The World Bank Data repository.

instance, India's government health expenditure per capita is lower than other similar developing nations. For example, USD 61 in India is compared with USD 1,056, USD 645 and USD 322 in Brasil, South Africa and China respectively²⁹. This has resulted in a grossly inadequate public health care infrastructure. Studies have found that the number of medical workers in India is less than a fourth of the WHO benchmark³⁰. A study using the data from the Consumer and Expenditure Survey highlighted that about 3.5% of families are pushed into poverty every year due to healthcare expenditure³¹. Considering these challenges, Rashtriya Swasthya Bima Yojana (RSBY) was launched by the Ministry of Labour and Employment (MoLE) of the Government of India in 2008, with the primary objective of shielding low-income households from the burden of major health expenses due to hospitalisation.

2.2.2 Structure of the programme

RSBY was designed by a department of the central government, however, implementation and management are undertaken together with respective state governments. Premium subsidies are co-financed by central government and the states to a ratio of 75% and 25% respectively, thereby ensuring mutual ownership and control. While the programme was started by MoLE, it is under shared responsibility with the Ministry of Health and Family Welfare (MoHFW) since 2015³². MoLE is responsible for the enrolment of beneficiaries on the smartcard, while MoHFW is responsible for the services under RSBY, including the empanelment of hospitals, service delivery, budget and quality management. The structure at the state level remains the same where a State Nodal Agency (SNA), which is either a health or labour department in different states, is responsible for implementation. A key feature of RSBY is Public Private Partnership (PPP) in which SNA's partner, with either public or private insurance companies, which further empanel both public and private hospitals to provide the benefits. The SNA uses a list of low-income households prepared by the government and provides it to the insurers, who are then responsible for enrolling the beneficiaries, empanelling hospitals and operationalising the scheme in a cashless mode with the help of a third party administrator. Since the scheme targets Below Poverty Line (BPL) households, paperwork was minimised by using biometric identification that enabled instant enrolment and facilitated control over fraud. The scheme offers financial empowerment to patients by providing them with a value-loaded smart card, which offers cashless access to medical facilities, covering almost all procedures. The smart card can be used at any empanelled hospital in the national network³³, allowing the convenience of portability to the country's considerable migratory population. Data collected from the administration of the scheme is stored and maintained by the respective state government, facilitating future actuarial calculations and market development. Data is

²⁹ Ibid.

³⁰ Rao, M., Choudhury, M. (2012). Health care financing reforms in India. Working paper No: 2012-100, 2012, National Institute of Public finance and policy.

³¹ Shahrawat, Renu, and Krishna D. Rao. 2011. Insured Yet Vulnerable: Out-of- Pocket Payments and India's Poor. *Health Policy and Planning* (April): 19.

³² Teena Thacker, 2015. Health ministry to present revised RSBY scheme. *The Asian Age*, June 27th, 2015.

³³ Evaluation of RSBY's Key Performance Indicators: A biennial study, (Accessed 16th November, 2016) <http://www.impactinsurance.org/sites/default/files/RP%2042.pdf>

also compiled at the central level. As of 31st of March 2015, more than 36 million households were enrolled, with more than 9 million hospitalisation cases administered under the programme³⁴.

2.2.3 Benefit package and member contribution

RSBY covers hospitalisation expenses of up to INR 30,000 (USD 500) per household for most procedures at the national network of 12,123 private and public empanelled hospitals³⁵. Government has fixed the package rates for the hospitals and for a large number of interventions. Pre-existing conditions are covered from day one and there is no age limit. Coverage extends to five members of the family which includes the head of household, spouse and up to three dependents. Beneficiaries need to pay only INR 30 (USD 0.5) as registration fee, while Central and State Government pays the premium to the insurer selected by the State Government on the basis of a competitive bidding³⁶. The annual premium per household, which is entirely subsidised by the government, ranges from INR 323 (USD 5) to INR 1,100 (USD 18)³⁷.

In 2011, RSBY also launched pilot experiments funded by the International Labour Organization's Impact Insurance Facility to add outpatient care coverage to the existing hospitalisation coverage. The pilot scheme was launched in eight districts across six states. The outpatient benefits included free-of-cost consultation and drugs for 10 outpatient visits per household per year. Each visit allowed doctor consultations for up to seven days. The per visit reimbursement package was INR 100 (USD 1.67), inclusive of consultation fees and drugs³⁸. However, the pilots have been discontinued and presently only hospitalisation benefits are available under the scheme.

2.2.4 Monitoring and evaluation

RSBY has a robust MIS platform which was developed to enable biometric identification and cashless benefits to the enrollees. This also enables efficient tracking of the programme's progress. However, in its initial years of implementation, the monitoring framework of the programme was still under development. The Ministry of Labour and Employment instituted a RSBY committee whose objective was to review different aspects of RSBY, including monitoring and evaluation. In its 2014 report, the committee identified that there were no Key Performance Indicators defined to evaluate the performance of both SNAs and insurance companies³⁹. Following this, RSBY released an operational manual which was earlier in development and laid out the monitoring framework for the programme. The framework identifies three levels of performance reviews:

³⁴ RSBY website.

³⁵ Shoree, S., Ruchismita, R. and Desai K. (2014). Evaluation of RSBY's Key Performance Indicators: A biennial study. Research paper no 42, Impact Insurance Facility, ILO.

³⁶ Adapted from the RSBY website.

³⁷ Shoree, S., Ruchismita, R. and Desai K. (2014). Evaluation of RSBY's Key Performance Indicators: A biennial study. Research paper no 42, Impact Insurance Facility, ILO.

³⁸ Shoree, S., Sharma, S. and Ruchismita, R. (2014). Outpatient Care in RSBY: A study of programme's pilot experiments. Research paper no 43, Impact Insurance Facility, ILO.

³⁹ RSBY Committee Final Draft Report. Accessed on the RSBY website

<http://rsby.gov.in/Docs/RSBY%20Committee%20Final%20Draft%20Report%20for%20Comments.pdf>

- a) National level
- b) State level
- c) Insurer specific (both company and state-wise)

Further, the guidelines detail the parameters and indicators for these parameters at each level. These indicators are provided in Table 5 below.

Table 5 RSBY 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	

These parameters pertain to the three key operational aspects of the programme. In case of enrolment ratio, a study commissioned by the Ministry of Labour and Employment found that the enrolment ratio has been stagnant at around 54% for districts that have implemented the scheme for 2 or 3 years⁴⁰. The authors also did not find a trend of enrolment ratios increasing yearly. In 47% of districts, the enrolment ratio decreased over that in the previous year. It was observed that, with previous year enrolments acting as a key benchmark, the enrolments achieved the following year may be either higher or lower⁴¹.

Further, the card or hospitalisation ratio has also been studied as a Key Performance Indicator. All India hospitalisation rate has varied from 2.3% in the first year of the scheme to 3.1% in the fourth year. RSBY was implemented in a staggered fashion with additional districts included over time. Therefore, different districts are in different years of implementation and indicators such as hospitalisation ratios vary accordingly. Studies report that the hospitalisation ratios rose in year two and three before starting to

⁴⁰ Shoree, S., Ruchismita, R. and Desai K. (2014). Evaluation of RSBY's Key Performance Indicators: A biennial study. Research paper no 42, Impact Insurance Facility, ILO.

⁴¹ Ibid.

stabilise in later years (Table 6). (RSBY was implemented in a staggered fashion with additional districts included over time.)

Table 6 District-wise hospitalisation rates by year of operation⁴²

	Number of districts	Year 1	Year 2	Year 3	Year 4
Districts with 2 years	180	1.8%	1.8%		
Districts with 3 years	86	3.1%	3.7%	2.6%	
Districts with 4 years	23	3.8%	4.9%	5.9%	3.1%

Claim ratio across all states and insurance companies has been found to be 87% compared to the health insurance industry average of 113% in India⁴³. This is on expected lines as private health insurance policies are voluntary and also cover high cost tertiary medical procedures, leading to higher claim ratios. Claim ratios have also experienced stabilisation over time.

In addition to the above MIS based performance monitoring, the programme also commissions external studies and surveys which are used to review other aspects of the programme. This also includes indicators which are extracted from the programme database but are not included in the summary reports. These indicators are summarised in Table 7.

Table 7 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	Programme 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

⁴² Ibid.

⁴³ Ibid.

These indicators represent different aspects of the programme including access, service quality, financing and utilisation patterns. Studies have also evaluated the enrolment and utilisation patterns across different geographies, gender and age groups^{44,45}. These studies supplement the programme's internal monitoring mechanisms and provide additional information on implementation.

In discussions with the programme advisors,⁴⁶ it was found that RSBY also intends to review outcome measures such as out-of-pocket expenditure and disease incidence. However, the main reason these measures are not included is the attribution risk. RSBY covers a small portion of health expenditure for its target beneficiaries where they still have to pay out-of-pocket for primary and tertiary care. Additionally, there are other state level financing programmes and vertical disease programmes which work parallel to RSBY. Therefore, it might be difficult to attribute any changes in outcome measures exclusively to RSBY.

2.2.5 Key issues

Since its inception, labour ministry has been able to setup a robust MIS which facilitates the operationalisation of the programme. The Information Technology aspects of the programme have been highlighted as key elements for the success of the programme⁴⁷.

Another common theme across different studies on RSBY has been the varying experience across different states. Hospitalisation rates in the first years have varied from 0.9% to 5.2% across different states (Table 26 in the Annex 3.3). Similarly, enrolment and claim ratios have also varied across different states. There is a need to address the regional issues which can ensure streamlined implementation across the country.

Finally, the benefit package of RSBY has been limited to specific hospitalisation procedures. This is in contrast to the programme in countries like Thailand and Indonesia which provide coverage for all levels of care. The pilot on outpatient care was characterised by low utilisation due to non-participation of private players⁴⁸. Expenses on outpatient care constitute a major portion of health expenditure for households and it remains to be seen how the programme adapts to this challenge in the future.

The monitoring framework of RSBY entails the various operational aspects of the programme. This has been facilitated by a robust MIS which enables effective monitoring. However, this framework is lacking in parameters for outcomes and impacts of the programme on impoverishment, health status or expenditure. At the same time, it should be understood that the programme covers only one proportion of health expenses and is present in a larger healthcare ecosystem. Due to these measuring outcomes of health status or expenses, attribution errors might happen, as any change in such measures will be a factor of multiple conditions which include, but are not limited to other financing mechanisms, broader health infrastructure and care-seeking behaviour of the target population. The present focus on performance

⁴⁴ Evaluation of Implementation Process of Rashtriya Swasthya Bima Yojana in Select Districts of Bihar, Uttarakhand and Karnataka (2012, GIZ).

⁴⁵ Hospitalisation patterns in RSBY: preliminary evidence from the MIS (RSBY Working paper No 6, 2010).

⁴⁶ GIZ has been an advisor to the MoLE since the inception of the programme and its staff was referred for information on the programme.

⁴⁷ Insuring health of millions: Smart use of technology (2010, IRDA Journal).

⁴⁸ Shoree, S., Sharma, S., Ruchismita, R., Outpatient Care in RSBY: A Study of programme's pilot experiments (Research paper no 43, Impact Insurance Facility, ILO).

measurement of the operational aspects is crucial in improving the implementation, but RSBY also needs to find ways to measure the broader impact of the programme. This will be critical in shaping the way forward for the programme.

2.3 Thailand's Universal Coverage Scheme

2.3.1 Country context and health profile

Thailand, recognised as an upper middle-income level country by the World Bank, has a population of 67.22 million out of which approximately 13% is considered poor at national poverty lines⁴⁹. The country has made significant progress from being a low-income country in the 1980s to its present status⁵⁰. It is often cited as a development success story which is reflected in various health indicators as well. Thailand has comparatively the best health indicators among the five countries reviewed in this study. Life expectancy of 74 years and neonatal mortality rate of 7.9 are respectively the highest and the lowest among the five countries with similar pattern observed in other indicators⁵¹. In 2013, the out-of-pocket expenditure, as a percentage of total expenditure on health, was approximately 11% compared to 58% and 46% for its Asian counterparts, India and Indonesia respectively⁵². The number of impoverished households decreased from 3.4% in 1996 to 0.8-1.3% between 2006 and 2009⁵³. This success on the health care front has been attributed to some extent to the Universal Health Coverage Scheme (UCS)⁵⁴. UCS was initially launched in six pilot provinces as the 30 Baht scheme (The name referred to an initial co-payment of 30 baht or USD 0.70 per visit. This was terminated in 2006). It was later officially established across the nation after promulgation of the National Health Security Act in 2002.

2.3.2 Structure of the programme

Set up under the 2002 Act, the National Health Security Office (NHSO) is the administrative body which runs UCS with the two governing boards, the National Health Security Board and the Health Service and Quality Control Board. The National Health Security Board is chaired by the Minister of Public Health and consists of members from various public and private institutions including ministries of labour and finance. The board is responsible for policy setting and system development. The Health Service Standard and Quality Control Board is responsible for controlling, monitoring and supporting the standard and quality of health care providers. NHSO is an autonomous organisation acting as a secretariat office for both national boards to manage and ensure the attainment of universal coverage for all⁵⁵. The internal operations of NHSO are divided into two main sections: The headquarter and the regional offices. The headquarter office consists of 15 bureaus responsible for policy and planning, system support as well as monitoring and evaluation. 13 regional NHS Offices take responsibility for administering and monitoring

⁴⁹ World Bank Data, Accessed on 13th July, 2015. <http://data.worldbank.org/country/thailand>

⁵⁰ World Bank, Country overview, Accessed on 13th July, 2015 <http://www.worldbank.org/en/country/thailand/overview#1>

⁵¹ World Bank Data, Accessed on 13th July, 2015.

⁵² Ibid.

⁵³ New research shows success of Thailand's universal healthcare scheme. (2013, Asian Correspondent).

⁵⁴ Ibid.

⁵⁵ The National Health Security Office Website, Accessed on 14th July, 2015
<http://www.nhso.go.th/eng/Site/ContentItems.aspx?type=Mg%3d%3d>

the fund management at the regional level⁵⁶. Two sub-committees are also instituted to monitor the functioning of NHSO. The structure of the programme is presented in the Figure 1 below.

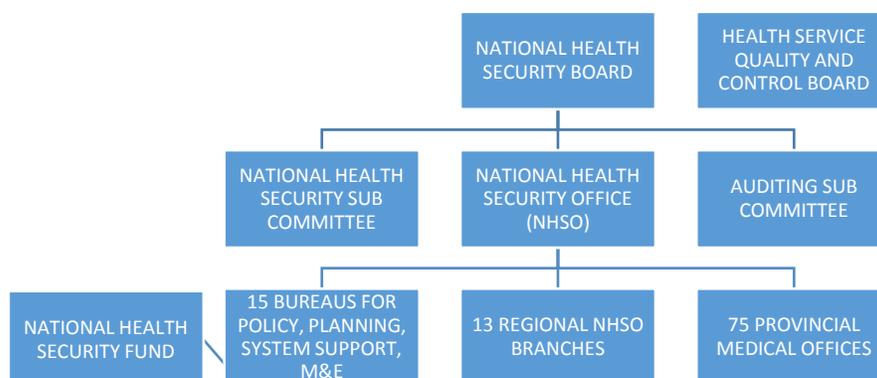


Figure 1 Administrative structure of UCS

The major difference between UCS and the previous financing system was the introduction of strategic purchasing where, instead of budget allocation, a capitation fund is provided to the public health care providers. NHSO contracts with the Ministry of Public Health and its network of providers. Capitation fees per beneficiary are decided annually and the funds are transferred to each provider by NSHO, based on the number of UCS beneficiaries registered with them. Private providers can also join the programme through an individual contracting process. While the capitation payment structure is followed for outpatient services, payment for inpatient services is allocated using case-based payment (following Diagnosis Related Groups) under a global budget ceiling. Additional funding mechanisms such as fixed fee schedules are used for specific high-cost clinical conditions such as myocardial infarction, haemophilia etc.

2.3.3 Benefit package and member contribution

UCS has a comprehensive benefit package which, in addition to curative (outpatient and inpatient) services, includes preventive and promotive, emergency, rehabilitative services and specific high-cost clinical conditions. The UCS gives special incentive payments to encourage early detection and care of diabetes and hypertension patients. The Antiretroviral Fund and Renal Replacement Therapy Fund are special funds under the UCS that were created to cover medical care for HIV/AIDS patients and renal replacement therapy for end-stage renal disease patients. The monitoring of the programme entails surveillance of all these separate services as will be discussed in a later section.

⁵⁶ The National Health Security Office Website, NHSO (Accessed 16th November, 2016), <http://www.nhso.go.th/eng/Files/content/255503/d0bf51c2-1121-4d35-aeae-691c1fdc1>.

UCS is a tax financed scheme which is free at the point of service. This was done to follow the principle of universality and to avoid targeting errors. Review of a previous medical welfare scheme found that there were exclusion and inclusion errors when subsidies were targeted only towards the poor⁵⁷. Initially, a minimal co-payment amount of 30 baht (USD 0.70) was collected from the non-poor but it was terminated in 2006. Finally, the UCS budget allocation depends on the negotiation between NHSO and the budget bureau over the per beneficiary capitation fees. It can be observed in Figure 2 that per capita UCS budget has increased over time implying increasing costs for the programme. This has implications on the sustainability of the programme as will be discussed in the last section.

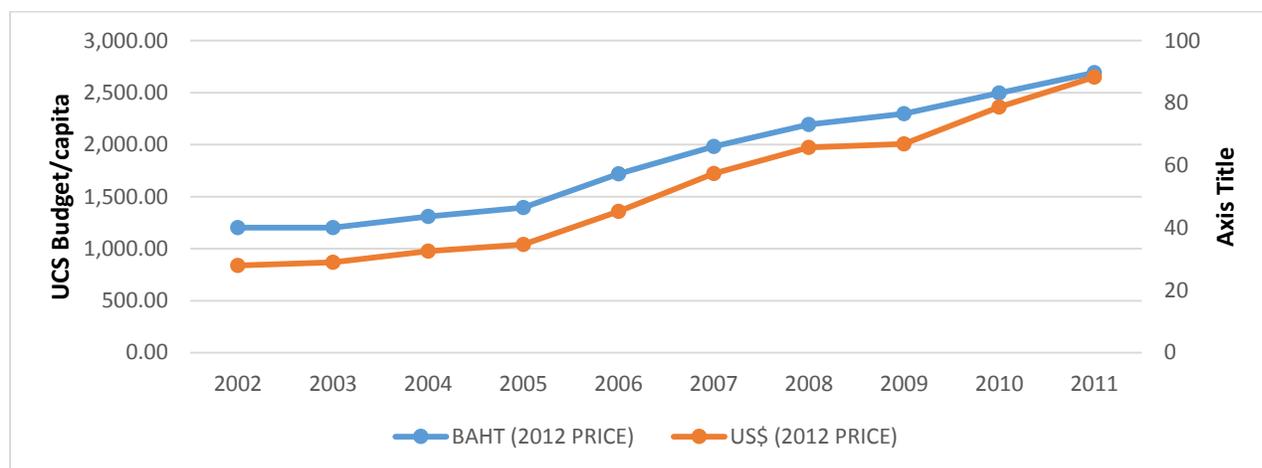


Figure 2 UCS budget per capita over time⁵⁸

2.3.4 Monitoring and Evaluation

This section derives from the annual reports of NHSO and research papers, specifically a case study developed by the Ministry of Public Health, NHSO and Khon Kaen University, which compiled the monitoring and evaluation framework for Universal Health Coverage in Thailand⁵⁹. This framework has evolved over time in response to the progress of the UCS programme.

NHSO is the primary agency responsible for monitoring the implementation of the programme and it uses four mechanisms for this purpose:

- a) **Claim audits using administrative data:** NHSO conducts claim audits to identify specific erroneous cases, such as inappropriate length of stay or treatment procedures not compatible with diagnosis. These audits help NHSO in monitoring the registered health care providers.

⁵⁷ Pannarunothai, S. (2002). Medical Welfare Scheme: Financing and Targeting the Poor. In Health Insurance Systems in Thailand, published by Health Systems Research Institute (HSRI).

⁵⁸ Hanvoravongchai, Piya. (2013). Health Financing Reform in Thailand: Toward Universal Coverage under Fiscal Constraints. UNICO Study Series; No. 20. World Bank, Washington DC. <https://openknowledge.worldbank.org/handle/10986/13297> License: CC BY 3.0 IGO.

⁵⁹ Tangcharoensathien V., Limwattananon S., Patcharanarumol W. and Thammatacharee J. (2014). Monitoring and Evaluating Progress towards Universal Health Coverage in Thailand. PLOS Medicine 11(9). doi:10.1371/journal.pmed.1001726.

- b) **Key Performance Indicator (KPIs) reporting:** In 2013, NHSO instituted a set of 81 KPIs which are further reported to the National Health Security Board and are thus used for external monitoring of NHSO. Every province had to report its performance on these KPIs but in 2013 there was only 75% reporting⁶⁰. A list of the KPIs is provided in the Table 28 in the Annex 3.4.
- c) **Complaint redressal system:** The National Health Security Board also has a sub-committee which is responsible for handling issues and complaints submitted by the beneficiaries. A World Bank study reported that the majority of the complaints in 2011 were because of not receiving care according to eligible benefits (1,696 cases), service inconvenience (972 cases), service charges (965 cases) and substandard service (753 cases)⁶¹.
- d) **Independent evaluations:** NHSO also commissions independent evaluations to external agencies with a mandate of evaluating specific components of the UCS programme. These evaluations have looked at indicators such as enrolment, health care utilisation, unmet need for health care, catastrophic expenses, spill-over effects on the health system including health MIS infrastructure, and self-reported utilisation levels among beneficiaries.

While the above four mechanisms represent the monitoring strategy of NHSO, the evaluation of progress of UCS at the national level entails other institutions and data sources as well. NHSO's monitoring framework primarily looks at the operational aspects of the programme to monitor progress, but the data generated by it is collated with data from other sources to generate a more comprehensive evaluation of the programme. The International Health Policy Program under the Ministry of Public Health has developed a framework which includes four dimensions and covers two other schemes for civil servants and private sector employees, in addition to UCS.

- a) **Inputs:** Indicators on health financing, infrastructure and workforce are generated through socio-economic surveys conducted by the National Statistical Office and annual health resource surveys conducted by the Ministry of Public Health (MOPH). A specific indicator on AIDS expenditure is reported by the National AIDS Spending Account.
- b) **Outputs:** This includes indicators on insurance coverage, utilisation, utilisation across different profiles and service quality. Data on coverage and utilisation has two sources: Administrative data of NHSO and Health Welfare Survey (HWS) conducted periodically by the National Statistical Office (NSO). HWS is a household sample survey and its data acts as an additional source to NHSO data. Information on service quality is primarily provided by the Healthcare Accreditation Institute (HAI) which accredits the health care providers.
- c) **Outcomes:** Outcome indicators primarily deal with the incidence and coverage of various services, covered under UCS, and the degree of financial protection as an outcome of UCS. For example, the former includes prevalence of contraceptive use and institutionalised deliveries, while the latter includes out-of-pocket expenditure and incidence of catastrophic expenditure. The data for these indicators is generated through two household sample surveys conducted by the National Statistical

⁶⁰ Ibid.

⁶¹ Hanvoravongchai, Piya. (2013). Health Financing Reform in Thailand: Toward Universal Coverage under Fiscal Constraints. UNICO Study Series; No. 20. World Bank, Washington DC.
<https://openknowledge.worldbank.org/handle/10986/13297> License: CC BY 3.0 IGO.

Office (NSO), i.e., Socio-economic survey and health welfare survey. Results from these sample surveys are extrapolated to examine the outcomes on overall population.

- d) **Impact:** The impact of UCS has been defined across two dimensions: improved health and increased responsiveness of the programme itself. Indicators for improved health include disease specific data such as mortality rates and survival curve for specific diseases, and coverage of preventive programmes for hypertension, diabetes etc. While disease registries and NHSO data are used, a National Health Examination Survey is also conducted to collect this data. NHSO also conducts annual polls with its members and health care providers to examine their satisfaction with the programme which is used to increase the responsiveness.

Different types of indicators across the four dimensions are presented in Table 8.

Table 8 Evaluation framework for Universal Health Coverage in Thailand⁶²

INDICATORS	DATA PLATFORMS	FREQUENCY	RESPONSIBLE AGENCIES
DIMENSION: INPUTS			
1. Financing <ul style="list-style-type: none"> ▪ Total Health Expenditure (THE), % GDP ▪ Government Health Expenditure, % THE ▪ THE per capita ▪ OOP, % of THE ▪ Total HIV/AIDS expenditure, % THE 	<ul style="list-style-type: none"> ▪ Socio-Economic Survey (SES) ▪ National Health Account (NHA) ▪ National AIDS Spending Assessment (NASA) 	<ul style="list-style-type: none"> ▪ Biannual until 2008, then annual ▪ Annual NHA since 1994 ▪ NASA: biannual since 2000 	<ul style="list-style-type: none"> ▪ National Statistical Office (NSO) ▪ International Health Policy Program for NHA and NASA
2. Infrastructure and health workforce <ul style="list-style-type: none"> ▪ Health facilities per 1,000 population (pop) ▪ Hospital beds per 1,000 pop ▪ Doctors per 1,000 pop ▪ Nurses and midwives per 1,000 pop 	<ul style="list-style-type: none"> ▪ Ministry of Public Health annual Health Resource Survey 	Annual survey since 1980s	MOPH
DIMENSION: OUTPUTS			
1. Population coverage <ul style="list-style-type: none"> ▪ Number of population coverage by insurance fund 	<ul style="list-style-type: none"> ▪ Civil Registration [high coverage 96.7% for all birth, 95.2% for all deaths] 	<ul style="list-style-type: none"> ▪ Daily update by Ministry of Interior Civil Registration Bureau, ▪ Weekly linked with membership registration 	<ul style="list-style-type: none"> ▪ Civil registration Bureau, ▪ NHSO

⁶² Tangcharoensathien V., Limwattananon S., Patcharanarumol W. and Thammatacharee J. (2014). Monitoring and Evaluating Progress towards Universal Health Coverage in Thailand. PLOS Medicine 11(9). doi:10.1371/journal.pmed.1001726.

		dataset by 3 insurance schemes	
<p>2. Utilisation and profiles</p> <ul style="list-style-type: none"> ▪ 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, % 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ NSO
<p>3. Service quality and safety</p> <ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ Accreditation status certified by Healthcare Accreditation Institute (HAI), 	<ul style="list-style-type: none"> ▪ Re-accreditation required every three years ▪ Improvement valid for 3 years 	HAI
DIMENSION: OUTCOMES			
<p>1. Service coverage</p> <ul style="list-style-type: none"> ▪ Skill birth attendants, institutional births, % total ▪ DTP3 and measles coverage, % children <1 ▪ Contraceptive prevalence rate and profiles ▪ % eligible HIV positive pregnancies 	<ul style="list-style-type: none"> ▪ Health Welfare Survey (HWS) ▪ Special programmes databases: National AIDS programme, Renal Replacement Therapy, Pap-smear, Influenza vaccine 	<ul style="list-style-type: none"> ▪ HWS biannual ▪ Routine NHSO admin dataset and specific disease registries such as ART, Dialysis 	<ul style="list-style-type: none"> ▪ NSO ▪ UNICEF ▪ NHSO

<ul style="list-style-type: none"> ▪ ART coverage, % eligible adults, children ▪ Coverage of renal replacement therapy 			
<p>2. Financial risk protection</p> <ul style="list-style-type: none"> ▪ OOP, % THE ▪ Incidence of catastrophic health expenditure ▪ Incidence of impoverishment 	<ul style="list-style-type: none"> ▪ Socio Economic Survey (SES) ▪ National poverty line 	<ul style="list-style-type: none"> ▪ Annual SES ▪ Regular update urban/rural poverty lines 	<ul style="list-style-type: none"> ▪ NSO
<p>3. Benefit Incidence</p> <ul style="list-style-type: none"> ▪ Concentration index -1 to + 1 	<ul style="list-style-type: none"> ▪ SES ▪ HWS ▪ Unit cost 	<ul style="list-style-type: none"> ▪ SES: annual ▪ HWS: biannual ▪ Unit cost: infrequent research studies 	<ul style="list-style-type: none"> ▪ NSO ▪ Independent Research institutes
DIMENSION: IMPACT			
<p>1. Improved health</p> <ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ National Health Examination Survey (NHES) ▪ MOI Civil Registry linked with national IP dataset ▪ Specific disease registries: RRT, Thalassemia 	<ul style="list-style-type: none"> ▪ NHES, Four waves: 1990, 1997, 2004 and 2009 ▪ MICS 2006, 2012 ▪ Daily update of vital events in Civil Registration ▪ Routine updates 	<ul style="list-style-type: none"> ▪ HSRI for NHES ▪ NSO/UNICEF for MICS ▪ MOI Civil Registration Bureau ▪ Three insurance scheme patient IP dataset ▪ Kidney Foundation, and NHSO for disease registries
<p>2. Increased responsiveness</p> <ul style="list-style-type: none"> ▪ % 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 	<ul style="list-style-type: none"> ▪ Independent Poll monitoring (ABAC 2011, latest) ▪ Responsiveness Survey (HWS 2013) ▪ OP and IP surveys by hospitals ▪ Call centre data 	<ul style="list-style-type: none"> ▪ Poll survey: annual ▪ HWS: biannual ▪ Hospital OP/IP surveys ▪ Call centre annual report 	<ul style="list-style-type: none"> ▪ NHSO for annual poll surveys ▪ NSO for HWS ▪ Hospital survey: ad hoc ▪ NHSO for complaining report

Universal Health Coverage entails multiple dimensions of service coverage, equity, degree of financial protection and level of operation efficiency which require a comprehensive framework to ensure useful evaluation. With time, due to positive spill-over effect on the healthcare MIS infrastructure programme, Thailand has been able to establish such a framework⁶³. This involves participation of multiple state institutions and includes both operational (inputs and outputs) and outcome (outcomes and impact) dimensions. Additionally, the participation of multiple institutions in data generation also facilitates cross-validation. On the other hand, it can also lead to time inefficiencies in collating data from such multiple sources. As discussed earlier, in 2013, 25% of data required for KPIs was not reported. While the framework is comprehensive, another indicator that can be measured is the waiting period for different treatment procedures, as it will indicate the efficiency of the UCS system and will also help in identifying such procedures.

2.3.5 Sustainability of the programme

In recent years, there have been some questions on the sustainability of the UCS programme. In an earlier section, it was discussed that the per capita budget has increased over time. However, in the same time period, positive impacts of UCS have also been experienced. An evaluation of ten years of the programme by the Health Insurance System Research Office in 2012 identified that there have been an increase in utilisation (Figure 3) and a decrease in unmet need for health care⁶⁴.

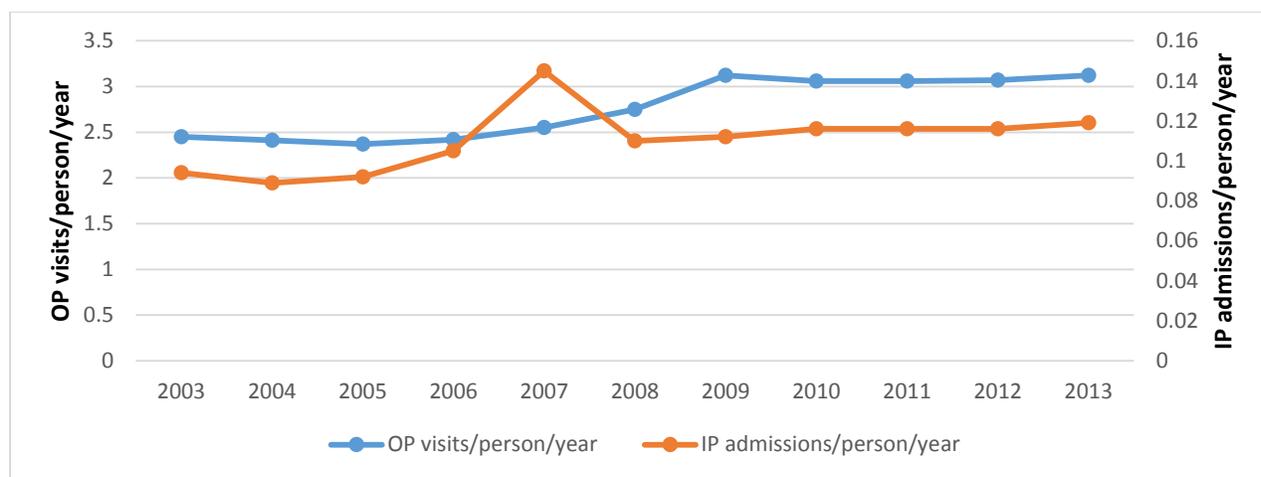


Figure 3 Utilisation rates

Similarly, one of the most significant achievements has been a declining trend in the incidence of ‘catastrophic health expenditures’ or out-of-pocket payments, exceeding 10% of total household consumption expenditures. It has dropped to 2.8% in 2010 compared to 6.8% in 1996 among the poorest section of the population⁶⁵. These results highlight the positive changes brought by UCS and have led to

⁶³ Kijsanayotin, B. (2013). Impact of Thailand Universal Coverage Scheme on the Country’s Health Information Systems and Health Information Technology. Stud. Health Technol. Inform. 2013; 192:989.

⁶⁴ Thailand’s Universal Coverage Scheme: Achievements and Challenges. An independent assessment of the first 10 years (2001-2010). Nonthaburi, Thailand: Health Insurance System Research Office, 2012. 120 p.

⁶⁵ World Bank, Country overview, Accessed on 13th July, 2015. <http://www.worldbank.org/en/country/thailand/overview#1>

continuation of the programme, even though newspapers have reported that the present government was initially reluctant to carry forward the programme in its present form⁶⁶⁶⁷. In a recent interview, the Prime Minister of Thailand also asked for donations to support the programme⁶⁸. There has been some discussion around limiting the covered population to include only the poor segments, but for now the programme will continue in its present form.

UCS entailed development of a health MIS infrastructure which has contributed towards development of a comprehensive monitoring framework for the programme. This framework has helped in identifying and highlighting the positive impacts of the programme in political discourse. Moving forward, the programme can focus on improving the present reporting systems and also to streamline data collection which is presently undertaken by multiple institutions.

2.4 The Rwanda Community-based Health Insurance Scheme (CBHIS) Mutuelle de Santé

2.4.1 Country context and health profile

Rwanda is among a few countries making significant progress with the Millennium Development Goals (MDGs). In the sub-Saharan African region, Rwanda provides some of the best health and development indicators, including a reduction in poverty from 60% of total population in 2000 to 44.9% in 2012, maternal mortality rate from 1,071 in 2000 to 320 in 2012, infant mortality from 107 in 2000 to 37 in 2012, physician ratio from 0.015 per 1,000 inhabitants to 0.06 in 2012, life expectancy from 49 years in 2000 to 64 years in 2013, and finally out-of-pocket health expenditure (% of THE) from 26% in 2006 to 18.4% in 2013⁶⁹ (WHO; Republic of Rwanda 2013; Bethesda 2008). This feat has been achieved due to the government's commitment as embodied in its Vision 2020 and mid-term strategies (the Economic Development and Poverty Reduction Strategy I & II), as well as increasing expenditure on health. In 2006 for instance, the government's total health expenditure (THE) per capita increased from USD 17 in 2003 to USD 71⁷⁰.

2.4.2 Background to CBHIS

As in most countries, universal access to health care remains a key priority of and a challenge to the Rwanda government. As such, the country has experimented with a number of health financing approaches including the fee-for-service system and free⁷¹ medical care, following the periods after the genocide with the primary objective of financing and operating a sustainable health care system. In 1997,

⁶⁶ Bo Kyeong Seo (2015). Thai Public Health Care suffering by association. East Asia Forum. Accessed on 20th July, 2015. <http://www.eastasiaforum.org/2015/04/15/thai-public-health-care-suffering-by-association/>

⁶⁷ Thai Editorial: Keep Politics out of the healthcare debate (8th July, 2015, Thai Visa News) Accessed on 20th July, 2015. <http://news.thaivisa.com/thailand/thai-editorial-keep-politics-out-of-the-healthcare-debate/106433/>

⁶⁸ Prayut asks for donations to support universal healthcare (7th July, 2015, Thai Visa News). Accessed on 20th July 2015. <http://news.thaivisa.com/thailand/prayut-asks-for-donations-to-support-universal-healthcare-scheme/106147/>

⁶⁹ National Health Accounts Rwanda 2006 with HIV/AIDS, Malaria, and Reproductive Health Subaccounts: Health Systems 20/20 Project (June 2008), Abt Associates.

⁷⁰ Ibid.

⁷¹ Donor sponsored.

the high medical expenses resulted in the introduction of a fee-for-service system. However, the unaffordable cost of medical services resulted in a decrease in health care utilisation. Schneider (2005) reported that in 1997 every third person went for one medical consultation per year, whereas only one in four was reported in 1999⁷². Aiming to make health services more accessible, especially among the poor, the government in 1999 piloted pre-payment community based mutual insurance schemes in three districts. The experience and success of this pilot was leveraged and extended to other districts. In 2005, the community-based health insurance scheme, the *Mutuelle de Santé*, was formerly established as a national programme and received legal backing when the health insurance law was passed in 2007. The *Mutuelle de Santé* thereafter became compulsory for the population. Since then, there has been an exponential increase in enrolment from 44% of the target population in 2005 to 73% in 2013/14⁷³. Empirical evidence shows some positive effects on health care utilisation, out-of-pocket health expenditure and improvement in children health⁷⁴⁷⁵⁷⁶⁷⁷. After analysing the Integrated Living Conditions Survey 2005-2006 (EICV2), Saksena et al. (2010) found that households with mutual health insurance (MHI) had low OOP health expenditure (USD 43.7 representing 6.8% of capacity to pay) compared to those without (USD 70.3 representing 13.4% of capacity to pay)⁷⁸. Additionally, the MHI households used more health services (52%) compared to those without insurance (25.8%).

Besides the successes, the *Mutuelle de Santé* also experienced various challenges including insufficient funds, weak pooling mechanisms, inadequate staffing and moral hazards⁷⁹. Consequently, a new CBHI policy was developed in 2010 which served as the basis for the 2015 CBHI law. The policy provided a framework towards ensuring equity and fairness in subscription, avenues for new funding streams, as well as a better corporate governance and management structure.

2.4.3 Structure of *Mutuelle de Santé*

Management of the *Mutuelle de Santé* is decentralised with its activities coordinated by the local governments of the 30 districts in the country and elected community representatives. Each district holds separate mutual insurance funds called the “*Fonds Mutuelle de Santé*” which is managed by a director and an auditor. In each health centre (HC), there is a CBHI section managed by an administrator. In every village, cell and sector, there is a mobilisation committee for CBHI, consisting of members elected by the population for a two-year renewable mandate. The CBHI offices at the HCs are responsible for enrollment,

⁷² Schneider, P. and Hanson K. (2006). Horizontal equity in utilisation of care and fairness of health financing: a comparison of micro-health insurance and user fees in Rwanda. *Health Economics*, 15:19-31.

⁷³ Ministry of Health (2013). Rwanda Annual Health Statistics Booklet.

⁷⁴ Shimeles, A. (2010). Community Based Health Insurance Schemes in Africa: the Case of Rwanda. African Development Bank Group Working Paper Series, Working Paper No. 120 (December 2010). Tunis: African Development Bank.

⁷⁵ Schneider, P. and Hanson K. (2006). Horizontal equity in utilisation of care and fairness of health financing: a comparison of micro-health insurance and user fees in Rwanda. *Health Economics*, 15:19-31.

⁷⁶ Saksena, P., A. Fernandes Antunes, K. Xu, L. Musango, and G. Carrin (2011). Mutual health insurance in Rwanda: Evidence on access to care and financial risk protection. *Health Policy*, 99:203-209.

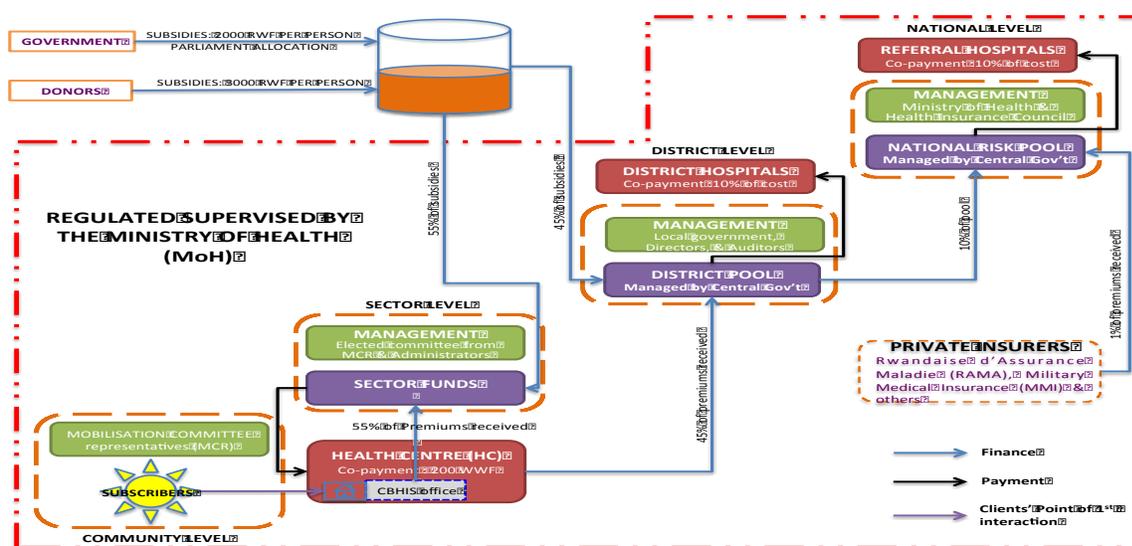
⁷⁷ Binagwaho A., R. Hartwig, D. Ingeri & A. Makaka (2012). Mutual Health Insurance and the Contribution to Improvements in Child Health in Rwanda ((Draft, preliminary and incomplete).

⁷⁸ Saksena, P., A. Fernandes Antunes, K. Xu, L. Musango, and G. Carrin (2011). Mutual health insurance in Rwanda: Evidence on access to care and financial risk protection. *Health Policy*, 99:203-209.

⁷⁹ Ministry of Health (2012). Annual Report: Community Based Health Insurance.

verification of patients' records and mobilising premiums. Given difficulties of some districts to meet their claims obligations, a single national pool is being implemented to ensure equity transfer of funds. The pools are managed by the central government. Currently, the Health Financing Unit (HFU) of the Ministry of Health (MoH) represented by the "Cellule Technique d'Appui aux Mutuelles de Santé" (CTAMS) is in charge for the implementation of the CBHI activities nationally. However, a Board of Directors has been established with the full powers and permanent responsibilities of managing the activities of the mutual Health Insurance Fund, its personnel and property. The new 2015 CBHI law has moved this function of the MoH to the Rwanda Social Security Board (RSSB), which already regulates the private health insurance schemes (illustration of the structure can be found in Figure 4 below). Implementation of this arrangement is in the transition phase.

Figure 4: Structure and flow of funds of the Rwanda CBHIS



Source: Authors, 2015 (Adapted from CBHIS Annual Report 2012 and Law)

It must be noted that CBHI is implemented along side other private and public health insurance schemes, including *La Rwandaise d'Assurance Maladie* (RAMA), which is for public servants and individuals working in the formal sector and their dependents, and the Military Medical Insurance (MMI).

CBHI enrolment is on a group (family) subscription basis with a waiting period of 30 days. However, fees are calculated on individual basis. Table 9 shows the stratified payment structure according to the national wealth (*Ubudehe*) categories⁸⁰. In addition, subscribers are expected to make co-payment of **RwF200** (ca. EUR 0.25) for medical service received at the health centre level, and 10% of total medical cost for services

⁸⁰ Ubudehe categories are poverty or wealth categories used in the country for household classification. Categorization is a community participatory approach and the classification comprises of 6 categories: Category 1: the abject poverty (umutindi nyakujya), Category 2: the very poor (umutindi), Category 3: the poor (umukene), Category 4: the resourceful poor (umukene wifashije), Category 5: the food rich (umukungu) and Category 6: the money rich (umukire).

received at district and referral hospitals including ambulance service. Indigents are however exempted from all payments.

Table 9 Rwanda's Wealth "Ubudehe" Categorisation

Categories	Annual contribution	Percentage of population (2011/12)
Group 1: Very Poor category (Ubudehe category 1 and 2)	RWF 2,000 (USD 3.34) Fully supported by government & partners. No co-payments	24.8%
Group 2: Poor category but can afford to pay (Ubudehe category 3 and 4)	RWF 3,000 (USD 5) With co-payments: 10% at District and referral hospitals and 200 RWF at health centres	65.9%
Group 3: Rich category (Ubudehe category 5 and 6)	RWF 7,000 (USD 11.69) With co-payments: 10% at District and referral hospitals and 200 RWF at health centres	0.04%

Source: Ministry of Health 2012 Annual Report on Community Based Health Insurance.

The benefit package of CBHI includes vaccination, consultations, medical surgery (excluding cosmetic surgeries), dental care, medical radiology and scanning, laboratory tests, physiotherapy, hospitalisation, listed medicine supply, pre-natal, perinatal or post-natal care, ambulance fee, and prosthesis and orthosis not exceeding the CBHI approved value.

2.4.4 Performance indicators

Following the establishment of the *Mutuelle de Santé*, various strategies and policies have been implemented to ensure its success. The 2010 CBHI policy, which has the goal to provide the population of Rwanda with universal and equitable access to quality health services, outlined the following as its main objectives:

- To promote CBHI membership for people in the non-public sector and rural areas
- To strengthen the financial viability of CBHI
- To strengthen management capacities of the CBHI system
- To reinforce equity and fairness in the payment of contributions⁸¹

To achieve these objectives, the CBHI law defined the following as Key Performance Indicators that have to be recorded, computerised and reported annually:

- Percentage of the members who joined the mutual health insurance scheme;
- Percentage of the recurrent members of the mutual health insurance scheme;
- Percentage of the received contributions;
- Percentage of the members who received medical care;

⁸¹ Government of Rwanda, MOH, (Accessed on 16th November, 2016).
http://moh.gov.rw/fileadmin/templates/Docs/CBHI-Annual-Report-2011-2012f-3__1_.p

- Cost of treatment relating to the members who received medical care;
- Amount paid for members who received medical care.

In addition to the above, the CBHI defined other KPIs as shown in Table 10:

Table 10 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 (excluding 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 & 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

As it can be seen from the above, the outcome and impact level indicators are not internally monitored by the CBHI. The impact figures are the national average and does not show the portion that is attributable to the *Mutuelle de Santé*. Some independent researchers have tried to measure the specific impact of the CBHI.

Lu et al. (2012)⁸² and Saksena et al. (2011)⁸³ after analysing the Rwanda Integrated Living Conditions Survey and the Demographic Health Survey, both reported positive effects of the CBHI on health care utilisation and catastrophic risk protection. Between 2000 and 2008, Lu et al. (2012) reported that under-five child mortality, infant mortality and maternal mortality declined drastically far below the sub-Saharan regional average (see Table 21 and 22 in the Annex 3.2). Also, they noted that between 2000 and 2006, the average Rwandan annual household OOPs reduced significantly from 16,883 to 7,967 RWF, while the percentage of households incurring catastrophic health spending fell from 11.9% to 7.7%. Moreover, in 2006, the average annual household OOPs for *Mutuelles* holders was lower (5,744 RWF) than that of the uninsured households (8,755 RWF). Additionally, the catastrophic spending of households with *Mutuelles* was 5.1% compared to 10.5% of uninsured households.

Also after analysing the 2010 Rwandan Demographic and Health Survey (RDHS) and administrative records on insurance coverage, Binagwaho et al. (2012)⁸⁴ identified that enrolment with CBHI has increased the probability of children receiving medical treatment when they are ill, as well as an improvement on their health status.

⁸² Lu C., B. Chin, J. L. Lewandowski, P. Basinga, L. R. Hirschhorn, K. Hill, M. Murray, & A. Binagwaho (2012). Towards Universal Health Coverage: An Evaluation of Rwanda Mutuelles in Its First Eight Years. www.plosone.org

⁸³ Saksena, P., Antunes A., Xu, K.,m Musango, L., Carrin, G. (2011). Mutual health insurance in Rwanda: Evidence on access to care and financial risk protection. *Health Policy*. March 2011. Volume 99, Issue 3, Pages 203–209.
DOI: <http://dx.doi.org/10.1016/j.healthpol.2010.09.009>

⁸⁴ Binagwaho A., R. Hartwig, D. Ingeri & A. Makaka (2012). Mutual Health Insurance and the Contribution to Improvements in Child Health in Rwanda (Draft, preliminary and incomplete).

The CBHI has underestimated the challenges of monitoring impact. This is supported by Levy and Melzer (2008) who, after reviewing evidence on Community-based Health Insurance (CBHI) in low income countries, pointed out that most of the studies have not been able to establish causal links to the complex relationships between health insurance, utilisation and outcomes⁸⁵. In a related review, Ekman (2004) also concluded that CBHIs should only be seen as complementary to other health financing systems, as it is difficult to measure their direct impact⁸⁶. This, as noted by Binagwaho A. et al. (2012), is even more complicated in the context of a less developed country where infrastructure is less developed. A notable impact study of CBHI was conducted by Wang et al. (2009) who provided some evidence on the impact of China's Rural Mutual Health Care (RMHC) scheme on health outcomes⁸⁷ (see Table 18 in Annex 3.2 for references on impact studies).

To ensure an effective and efficient M&E system, CBHI has put in place a number of structures as follows:

- A web-based CBHI M&E Data Base to monitor and measure CBHI indicators online
- A weekly reporting system that provides up to date information on the coverage rate, the premiums collected and all expenditures by each section
- Monthly reports that provide a more detailed report on the CBHI membership rate and the CBHI financial statement
- Quarterly reports which summarise membership and financial data across a three-month period
- An annual report summarising the activities conducted across the year and the financial position of the CBHI at year end
- A CBHI Financial Modeling Tool to harmonise and improve financial management for CBHI and allow the development of financial projections
- A performance contract with specified targets is signed between the CBHI coordinators and the board. It must be noted that because of the decentralised nature of the CBHI, the annual performance contracts (*Imihigo*) signed between the local government authorities and the President of Rwanda include CBHI specific targets⁸⁸.

2.4.5 Conclusion

In the Rwanda Ministry of Health 2015 health financing policy, it is stated that the health financing system currently lacks “data to inform evidence-based decision-making, including cost-effectiveness analysis and data on health insurance, user fees, transaction costs and private providers of health services”⁸⁹. This has limited the effective monitoring and evaluation of the health system. As such, the ministry is exploring the establishment of standard health indicators informed by international best practices, which will

⁸⁵ Levy, H. and D. Meltzer (2008). The Impact of Health Insurance on Health. Annual Review of Public Health, 29:399-409.

⁸⁶ Ekman, B. (2004). Community-based health insurance in low-income countries: a systematic review of the evidence. Health Policy and Planning, 19(5):249-270.

⁸⁷ Wang, H. W. Yip, L. Zhang, and W. C. Hsiao (2009). The Impact of Rural Mutual Health Care on Health Status: Evaluation of a Social Experiment in Rural China. Health Economics, 18:S65-S82.

⁸⁸ Government of Rwanda (2012). DISTRICT IMIHIGO EVALUATION REPORT 2011 – 2012.

⁸⁹ Rwanda Ministry of Health (2015). Health Financing Sustainability Policy.

include appropriate tools for data collection and analysis. This evaluation therefore provides a basis for further development.

2.5 Indonesia's Jaminan Kesehatan National (JKN, National Health Insurance)

2.5.1 Country context and health profile

Similar to its neighbouring countries in South East Asia, Indonesia has experienced healthy economic growth in last two decades. The country has managed to halve its poverty rate since 1999 to 11.3% in 2014⁹⁰. As part of a twenty-year development plan, the 5-year medium term plan from 2015-20 puts special emphasis on social assistance programmes in the health and education sectors. This comes at a time when the under-availability of health infrastructure has been much highlighted. The number of hospital beds per 1,000 population stands at 0.94 compared to the average of 4 beds in OECD countries⁹¹. The number of physicians per 1,000 population is 0.2 which is one of the lowest in the region⁹². The impact of inadequate health infrastructure is reflected in poor health indicators. For example, Indonesia still suffers from 228 infant deaths for every 100,000 live births, which is much higher than the Millennium Development Goal of 105 deaths by the end of 2015⁹³. Similarly, maternal mortality rate of 190 per 100,000 live births also remains high⁹⁴. These challenges in the healthcare sector are similar to other developing countries. As one of the strategies to address these challenges, the Indonesian government has decided to provide universal coverage to the entire population by 2019 through the social health insurance programme, JKN⁹⁵. The programme is based on two social security laws: Law No. 40/2004 on National Social Security Scheme and Law No. 24/2011 with an aim of covering the entire population of around 250 million by 2019⁹⁶. It was launched on the 1st January 2014 and had enrolled 126 million individuals by August of the same year. As stated by the Ministry of Health, JKN has four specific objectives⁹⁷:

- a) To enable people to access healthcare services without financial hardship.
- b) To perform cost contained and quality controlled healthcare services.
- c) To strengthen healthcare services at primary and referral health facilities.
- d) To prioritise preventive and promotive measures in rendering healthcare services to reduce prevalence of diseases and lower the numbers of sick-people with efficient healthcare service.

⁹⁰ Indonesia country overview, The World Bank (Accessed on 22nd July, 2013)

<http://www.worldbank.org/en/country/indonesia/overview#1>

⁹¹ Universal Health Coverage in Indonesia: One year on (2015, The Economist).

⁹² Ibid.

⁹³ Indonesia country overview, The World Bank (Accessed on 22nd July, 2013)

<http://www.worldbank.org/en/country/indonesia/overview#1>

⁹⁴ Ibid.

⁹⁵ Universal Health Coverage and Health Care Financing Indonesia, The WHO (Accessed on 22nd July, 2013)

<http://www.searo.who.int/indonesia/topics/hs-uhc/en/>

⁹⁶ Ibid.

⁹⁷ Ibid.

2.5.2 Structure, benefit package and member contribution

Before 2014, there were four different types of schemes providing healthcare coverage to different population groups. Jamkesmas targeted poor/near poor groups with coverage of 87 million individuals. Similarly, there were other schemes for civil servants (Askes/Asabri), formal sector employees (Jamsostek) and provincial regions (Jamkesda). The social security management agency (BPJS-kesehatan) was later established to integrate the four programmes and establish a single payer mechanism for providing universal coverage under JKN. This programme stipulated funding mechanisms for each of the above-mentioned groups with comprehensive benefits. The details about the new programme are provided in the table below. A potential roadmap to Universal Health Coverage developed by the Ministry of Health is provided in the Figure 7 in the Annex 3.5.

Table 11 Summary of the JKN programme⁹⁸

Target group	Poor/near poor	Civil servants/Formal sector employees	Informal sector/Self-employed
Funding	Fixed monthly premium (Rp 19,225 (USD 1.75) Contributed by the central government from general taxation	Salary based contributions of 5% of monthly salary to be paid by employers (4%) and employees (1%)	Fixed monthly premium contribution (ranging from USD 2.3 to USD 5.4 paid by the member)
Facility type	Class 3 hospital beds in public hospitals and selected private hospitals ⁹⁹	Class 2 and 3 hospital beds in public hospitals and selected private hospitals based on premium paid	Class 2 and 3 hospital beds in public hospitals and selected private hospitals based on premium paid
Benefits	Comprehensive, covering treatment for infectious disease such as influenza, as well as expensive medical interventions such as open-heart surgery, dialysis and cancer therapies		
Provider payer mechanisms	Case mix for hospitalisation and capitation model for primary care providers		

The programme is entirely subsidised for the poor/near poor groups, while other population groups have to make fixed contributions. There is some difference in the type of healthcare facilities available for each of these groups. Self-paying members are entitled to higher grade of wards/beds based on their contribution level. However, the service coverage is the same for all the groups, following the principle of universality.

⁹⁸ Adapted from Universal Health Coverage in Indonesia: One year on (2015, The Economist).

⁹⁹ Hospital beds are classified into four categories in Indonesia. Class 1 includes beds where extensive specialist medical services plus extensive sub-specialists are available. Class 2 includes former but only limited sub-specialists. Class 3 beds have a minimum of four basic specialist medical services, while Class 4 provides basic medical facilities. Source: Awofeso, N. et al. Exploring Indonesia's "low hospital bed utilization-low bed occupancy-high disease burden" paradox (Journal of hospital administration, 2013).

As earlier mentioned, BPJS health is an independent management agency, working as a non-profit entity, which is implementing the programme. It manages the programme, including recruitment of members, payment to service providers and collection of fees. Health care delivery depends on a mix of public and private providers. BPJS also ensures the availability of medications and services appropriate with medical indication in the facilities registered with it. As of 31st of August 2014, 17,285 primary-level providers and 1,583 referral hospitals were registered with BPJS health¹⁰⁰. Of these providers, about 36% of primary level facilities and 42% of referral-level facilities were private.

The Ministry of Health is responsible for setting clinical guidelines and technical norms. National Social Security Council (DJSN) is the Board which serves to assist the President in the formulation of public policies and coordinates the implementation of the National Social Security System. It also acts as an external monitoring body for the BPJS health.

2.5.3 Monitoring and evaluation

The Ministry of Health has published a handbook on JKN which also delineates the monitoring and evaluation set up in addition to other aspects of the programme. The handbook states that monitoring and evaluation are part of a quality and costs control system, and Ministry of Health and BPJS Health are together responsible for it. Both internal and external supervision are undertaken to monitor the programme:

- a) Internal monitoring: This is undertaken by BPJS and includes a council and internal supervisory unit
- b) External monitoring: This is undertaken by National Social Security Council (DJSN) and independent supervisory agencies

Previously, the monitoring activities for different programmes were conducted separately and reports suggest that indicators on enrolment, utilisation and financial status were tracked¹⁰¹. In interviews with the programme administrators, it was found that currently there is an exercise to formulate a performance evaluation framework, which is expected to be completed by end of this year. This framework will derive lessons from previous schemes and will adapt the indicators to the JKN programme. Previously, it was reported that the Ministry of Health is working with external agencies such as GIZ, AusAID and Joint Learning Network to understand current state data availability and quality, and to develop Key Performance Indicators¹⁰². The objective of this partnership was to develop a customised information dashboard which will capture the Key Performance Indicators and will facilitate decision making. The Ministry of Health prioritised indicators for enrolment followed by utilisation and financial management indicators. Information on the different categories of indicators and a sample of the dashboard are provided in the Table 30 of Annex 3.5.

¹⁰⁰ Nafsiah, Mboi (2015). Indonesia: On the Way to Universal Health Care, Health Systems & Reform, 1:2, 91-97, DOI: 10.1080/23288604.2015.1020642.

¹⁰¹ Health financing and universal health coverage: Compilation of policy notes (2015, Australia Indonesia Partnership for Health Systems Strengthening).

¹⁰² Ibid.

An indicative list of monitoring indicators provided by the programme administrators is given below. However, it should be noted that as the exercise on defining the monitoring and evaluation framework for JKN is still under way, this list is indicative in nature and the final set of indicators might change. Nevertheless, it provides an overview of the kind of information being collected for the programme.

Table 12 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 spending
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. Programme 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

It can be observed that a comprehensive set of indicators are tracked to monitor the performance of the programme. One of the reasons behind integrating the previous programmes was to improve targeting of the programme. An evaluation by the World Bank in 2013 reported that there were significant leakages to non-eligible beneficiaries in the Jamkesmas programme, which was intended for the poor/near poor population groups¹⁰³. It was reported that 47.6% of Jamkesmas beneficiaries were poor or near-poor, indicating a very high leakage rate of 52.4%¹⁰⁴. Two reasons were identified for the leakage: Variation in criteria used to identify target beneficiaries across districts and lack of awareness among potential beneficiaries. JKN intends to improve targeting by addressing these issues and a single payer system for all the population groups is also expected to reduce inclusion errors in the programme. Another major challenge experienced in the programme was supply side constraints. As discussed in the first section, health infrastructure is considered to be inadequate. The World Bank report also identified that there were significant geographic deficiencies in the availability and quality of the basic benefits package, especially for those living in relatively remote and rural locations of the country, and this limited the effective availability of benefits for many Jamkesmas beneficiaries¹⁰⁵. As JKN is in its second year of implementation, it remains to be seen how the programme can address these supply side constraints.

2.5.4 Key issues

A number of issues has been identified in the first year of the JKN programme. A major issue identified is the unequal access to health care where remote areas have faced low utilisation (potentially due to supply side constraints). A study conducted by the Gadjah Mada University found that the poor/near poor population (known as contribution assistance recipients or PBI), whose premium is subsidised entirely by the government, has much lower claim ratios than the non-subsidised population¹⁰⁶. Citing data from BPJS Health, the study reported that the claim ratio for non-subsidised population is a staggering 1,380%, while claim ratio for government subsidised population was only 88%¹⁰⁷. This is an overwhelming gap and

¹⁰³ The Nuts and Bolts of Jamkesmas: Indonesia's Government Financed Health coverage programme (The World Bank, 2013).

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ 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>

¹⁰⁷ Ibid.

highlights the unequal utilisation. Even though the programme is in its initial stages, this challenge needs immediate attention.

Another major issue has been the financial sustainability challenge faced by the programme. A study conducted by the University of Indonesia's (UI) public health department predicted an accumulated deficit between revenue and costs of Rp 173 trillion (USD 12.9 billion) by 2019¹⁰⁸. The programme is considering increasing the premium levels as one of the ways to counter this deficit.

In spite of these challenges, there have been a few improvements over the previous programmes. Based on an independent survey, customer satisfaction under JKN was reported to be 81% and awareness of the new social health insurance system was 95%¹⁰⁹. Complaints have been resolved within 1.5 days on average¹¹⁰. High awareness levels can be attributed to the much publicised launch of the programme. This is a major improvement over Jamkesmas where low awareness was cited as a major challenge.

By adopting a universal approach, Indonesia has taken the right step towards providing health coverage to its entire population. However, the programme faces a number of challenges including unequal utilisation and financial deficit. This highlights the need for prudent monitoring mechanisms which can track relevant indicators, such as utilisation across different population groups and financial management. Indicators to monitor access to health care (both overall and across different geographies) are also very relevant in Indonesia's country context due to its supply side constraints. It can be hoped that the framework to be adopted this year will include these indicators as well as other policy relevant monitoring indicators.

¹⁰⁸ Poor cost control will worsen JKN deficit (July 22, 2015, The Jakarta Post), Accessed on 26th July, 2015. <http://www.thejakartapost.com/news/2015/07/22/poor-cost-control-will-worsen-jkn-deficit-study.html>

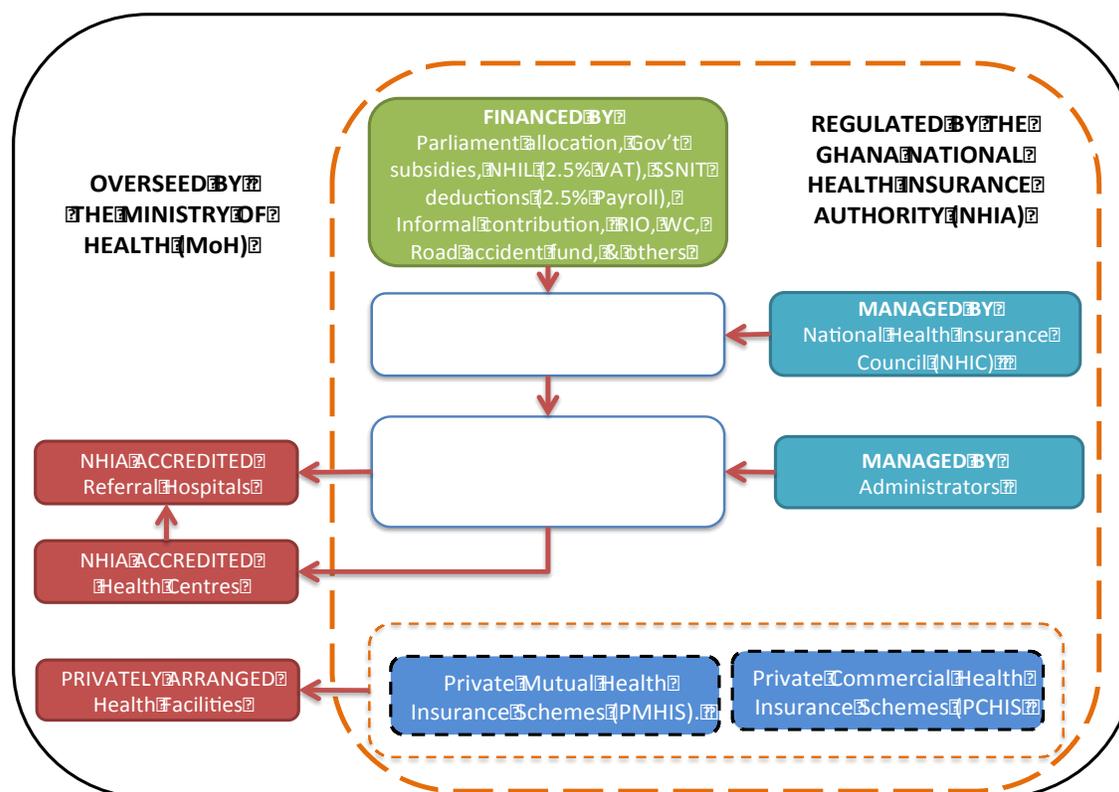
¹⁰⁹ Indonesia's universal health coverage scheme: one year on, what's the verdict (15th May, 2015, The Guardian), Accessed on 26th July, 2015. <http://www.theguardian.com/global-development-professionals-network/2015/may/15/indonesias-universal-healthcare-insurance-verdict>

¹¹⁰ Ibid.

3. Annex

Annex 3.1 Tables and Figures for Ghana's NHIS

Figure 5: Structure of Ghana's National Health Insurance Scheme (NHIS)



Source: Authors, 2015

Table 13: Ghana health status baseline data

Indicator	Amount	Source and Year
Population	24 million	GPH Census 2010**
Annual GDP per capita in USD	1,230	2010 World Development Indicators
Government budget for health for 2012 in GH¢ (Ghana Cedi)	1,593.43 million	MOH 2011
MOH budget as % of GOG total domestic financing	10.00%	MOH 2011
Annual population growth rate	2.40%	GPH Census 2010
% of Households with piped drinking water	44%	DHS 2008
% of Households no access to improved drinking water	22%	DHS 2008
% of Households lacking access to improved sanitation facilities	89%	DHS 2008
Life expectancy at birth	63 years	World Bank 2011

Fertility rate	4	DHS 2008
Contraceptive prevalence, modern method, women 15-49	13.50%	DHS 2008
Contraceptive prevalence, modern method, married women 15-49	16.60%	DHS 2008
Unmet need for family planning, married women	35%	DHS 2008
Births attended by skilled provider	58.70%	DHS 2008
Births attended by skilled provider, lowest quintile	24.00%	DHS 2008
Births attended by skilled provider, rural	43.00%	DHS 2008
Maternal mortality rate per 100,000 live births	450	MM survey 2009
Pregnant women who received 4+ ANC visit	78%	DHS 2008
Infant mortality rate per 1,000 live births	50	DHS 2008
Neonatal mortality rate per 1,000 live births	30	DHS 2008
Under 5 mortality rate per 1,000 live births	80	DHS 2008
% Children under 5 who are anaemic	78%	DHS 2008
% Children under 5 who are underweight	14%	DHS 2008
% Children under 5 who are wasted	9%	DHS 2008
% Children under 5 who are stunted	28%	DHS 2008
Children 12-23 months, fully vaccinated by 12 months	69.80%	DHS 2008
Children under 5 with diarrhoea treated with ORS/RHF	35%	DHS 2008
Households with at least one ITN	32.60%	DHS 2008
Pregnant women who slept under ITN previous night	32.60%	DHS 2008
Children under 5 who slept under ITN previous night	28.20%	DHS 2008
Malaria cases per year	3.1-3.5 million	GHS 2009
Percentage of pregnant women, 2+ doses IPTp	44%	DHS 2008
Prevalence of HIV in adults estimate	1.50%	NHPAER 2010*
People eligible for ART estimate	106,800	NHPAER, 2012
People receiving ART	59,000	NHPAER, 2011
% People eligible for ART who are receiving ART	55%	NHPAER 2010-2015
People Living with HIV (PLHIV) estimate	214,423	NHPAER 2012
Pregnant women tested for HIV in ANC with results	40%	NACP 2009
New HIV infections per year estimate	10,600	NHPAER 2012
Annual AIDS deaths	11,650	NHPAER 2012
Estimated incidence of TB (WHO)	21,000	WHO 2011
# new TB cases reported each year	14,124	NTP 2010
Case detection rate for TB	70%	WHO 2011
Treatment success rate for smear positive TB cases	87%	NTP 2010
*National HIV Prevalence and AIDS Estimate Report 2010-2015		
**Ghana Population and Household Census 2010		

Source: Global Health Initiative 2012

Table 14: Ghana health-related MDGs Targets

MDGs	National Target
1: Eradicate extreme poverty and hunger	Reduce underweight to 15.5%
4: Reduce child mortality	Reduce under-five mortality from 80 per 1,000 live births in 2008 to <50 by 2013
5: Improve maternal health	Reduce maternal mortality rate from 450 per 100,000 live births in 2009 to 185 by 2015
6. Combat HIV/AIDS, malaria and other diseases	HIV prevalence of 2.2% in 2008 to <1.5%. Universal access to treatment for HIV and decrease incidence of malaria

Sources: Global Health Initiative 2012

Table 15: NHIS Overview 2005 – 2012 (utilisation, claims and enrolment)

Years	Out-patient utilisation (No. of visits)	In-patient utilisation (No. of admissions)	Claim payment (Millions of Cedis)	*Active members	*Percentage of population active
2005	597,859	28,906	7,600,000	1,300,000	
2006	2,434,008	135,221	35,480,000	2,422,097	11
2007	4,648,119	303,930	79,260,000	6,674,270	30
2008	9,339,296	627,795	183,010,000	9,969,846	44
2009	16,629,692	973,524	362,640,000	10,638,119	
2010	16,931,263	724,440	397,610,000	8,163,714	
2011	25,486,081	1,451,596	548,710,000		
2012	23,875,182	1,428,192	616,470,000	8,900,000	

Sources: NHIA 2010 & 2012; *Blanchet et al. 2012

Table 16: Ghana health system statistics

Tertiary care centres	12
Secondary care centres	283
Primary health care centres	2,700
Medical schools	3
Nursing schools	28
Midwifery schools	21
Skilled health providers per 1,000 people	0.1 doctors 0.6 nurses 0.05 pharmacists
CHPs zones (staffed by CHOs)	1,034 (goal=4,000)

Source: Global Health Initiative 2012

Table 17: NHIA Income statement (2005 - 2012)

Year	Income (Millions of Cedis)	Expenditure (Millions of Cedis)
------	----------------------------	---------------------------------

2005	191.16	19.08
2006	173.41	86.10
2007	259.49	130.53
2008	360.02	264.17
2009	425.03	441.39
2010	484.58	536.11
2011	618.55	763.39
2012	784.13	802.74

Sources: Amarteyfio 2013

Table 18: Impact Studies of Health Insurance Schemes

Reference	Utilisation	OOP expenditure	Financial risk protection	Child health	General impact	Study country
Schneider & Hanson 2006	+					Rwanda
Saksena et al. 2011	+	+	+			Rwanda
Shimeles A., 2011	+	+		+		Rwanda
Sekabaraga et al. 2011	+					Rwanda
Dhillon et al. 2011			+			Rwanda
Ekman 2004		+			Inconclusive	Global
Levy & Melzer 2008					Inconclusive	Global
Wang et al. 2009					+	China
Wagstaff & Pradhan 2005					+	Vietnam
Ansah et al.	+				Inconclusive	Ghana
Quimbo et al. 2011					+	Philippines
Chankova et al. 2008	+	No effect				W/Africa
Lu et al. 2012	+	+	+			Rwanda
National Development Planning Commission 2009	+	+	+			Ghana
Mensah et al. 2010	+					Ghana
Brugiavini and Pace 2010	+	Little effect				Ghana
Blanchet et al. 2012	+					Ghana
Health Systems 20/20 (2010).		+				Ghana
Sulzbach (2008)		+				Ghana

Nguyen, Rajkotia and Wang 2010		Little effect	Little effect			Ghana
Note: “+” means positive effect and “blank” means it was not a study variable.						

Sources: Authors, 2015

The impact studies and other references for Ghana and Rwanda are given below:

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Annex 3.2 Tables and figures for Rwanda's Mutuelles

Table 19: Services provided at health centre and district hospitals covered by Mutuelles

Facilities	Service provided	Contents of the service
Health centers	Minimum Package of Activities (PMA)	Promotional activities
		Child growth monitoring, community-based health insurance, psychosocial support, community involvement, home visits, information, education and communication for health
		Preventive activities
		Vaccination, pre-nuptial consultations, prenatal and postnatal care, voluntary consultation and testing for HIV, family planning, water and sanitation, school health services and epidemiological monitoring
		Curative activities
		Curative consultations, child health care, management of chronic illnesses, nutritional rehabilitation, HIV/AIDS patient treatment, curative care, normal deliveries, minor surgery, and laboratory tests drug provision
District hospitals	Complementary Package of Activities (PCA)	Prevention, including preventive consultations for referred cases and prenatal consultations for at-risk pregnancies; family planning, with all methods available for those referred, including tubal ligation and vasectomy; curative case for those referred, including the management of difficult and caesarean deliveries, medical and surgical emergencies, minor and major surgery, hospital care, drug provision, laboratory analyses and medical imaging; and management, including training for paramedical staff and supervision
Source: Ministry of Health, Rwanda. doi:10.1371/journal.pone.0039282.t001		

Table 20: Rwanda Health Indicators: Progress 2010 (DHS and EICV) Sector Performance Indicators HSSP I+ II and III, 2000 - 2010 Trends 2000 - 2010 (baseline) and targets for MDG (2015)

Source of information	DHS 2000	DHS 2005	I-DHS 2007-2008	DHS 2010 Rwanda HMIS	Target MDGs 2015
Impact indicators					
Population (Million)	7.7 M	8.6 M	9.31 M	10.4 M	?
Life expectancy at birth				54.2	58
Neonatal mortality rate	28	37	28	27 (DHS)	
Infant mortality rate per 1,000	107	86	62	50 (DHS)	25
Under 5 mortality rate per 1,000	196	152	103	76 (DHS)	30
Stillbirth rate (per 1,000 live births)					
Maternal mortality ratio per 100,000	1,071	750		487 (DHS)	287
Adult mortality rate (per 1,000)				3.7 (Men) 3.3 (Women) DHS	
Total Fertility Rate (TFR %)	6.5	6.1	5.5	4.6 (DHS)	4.5
Modern Contraceptive Prevalence Rate (CPR)	4	10	27	45 (DHS)	70
HIV prevalence rate in 15-49 years (%)		3.0	NA	3.0 (DHS)	0.5
Incidence of Malaria (per 1,000) (HMIS 2011)	129	192	80	61 (HMIS 2011)	
Incidence of TB (per 100,000) (Source: WHO 2011 TB)	286	162	123	106 (WHO)	
Prevalence of TB (per 100,000) (Source: WHO 2011 TB)	361	192	143	128 (WHO)	
Prevalence of raised blood pressure (%)				NA	
Prevalence of raised fasting blood glucose (%)				NA	
TB detection rate (%) (Source: WHO 2011 TB report)	26	48	61	60 (WHO)	NA
Outcome/output indicators					
Prevalence of underweight (Wt/Age)	30	18	NA	11 (DHS)	6
Prevalence of stunting (Ht/Age)	--	51	NA	44 (DHS)	27
Prevalence of wasting (Ht/Wt)	--	5	NA	3 (DHS)	2.5
% Births attended in health facilities		39	52	69 (DHS)	75

% Under 5 receiving vitamin A supplements (HMIS)				108 (HMIS)	
% Children born with < 2.5 kg (low weight)				6.1 (DHS)	
% Pregnant women receiving 1 ANC visit		94	96	98 (DHS)	
% Pregnant women receiving 4 ANC visits		13	24	35 (DHS)	50
% Children 12-23 months fully immunised		75	80	90	
% Children <1 year immunised for measles		76	90	1992: 91 2000: 76 2005: 76 2008: 90 2010: 95 (DHS)	95
% Children <1 year immunised with DPT3				97 (DHS)	
HIV prevalence among PW attending ANC				1.6 (Tracnet)	1%
% Health facilities with VCT services				96.4 (Tracnet)	100/100
% New born post-natal care 23 hours				4.7 (DHS)	
Malaria prevalence women/Children (%)		NA	1,4	0.7 (DHS)	0.5
Malaria prevalence in children (%)			2.6	1.4 (DHS)	1
% HH with at least one LLITN		18	60	82 (DHS)	90
% TB treatment success rate/DOTS	61	83	87	87(HMIS)	88%
% Comprehensive knowledge HIV/AIDS (women and men aged 15-49 years)				56 (women) 52 (men) (DHS)	
% TB/HIV patients receiving ART (Source: TB & ORD annual reports)	NA	12	62	67 (ORD report)	85
# new cases of diarrheal diseases (HMIS)				148,400 (HMIS)	120,000
Average OPD attendance/pp/year (HMIS)		0.33	0.72	0.95 (HMIS)	1.1
% ORT diarrhoea treatment				48 (46.5 at home) (DHS)	
Input indicators					

% of GOR budget allocated to health	4 (NHA 2000)	9 (NHA 2003)	8 (NHA 2006)	11.5 (MTR Aug 2011)	12
Total health expenditures per capita (USD)	10.4 (NHA 2000)	16.94 (NHA 2003)	33.93 (NHA 2006)	38.5 (NHA 2009-2010)	
% Annual GOR expenditures on health	4.7 (NHA 2000)	9 (NHA 2003)	6.5 (NHA 2006)	9.8 (NHA 2009-2010)	
Total expenditures on health as % of GDP	4% (NHA 2000)	8.8 (NHA 2003)	11 (NHA 2006)	NA	
General GoR expenditures on health as % of total expenditures on health	18 (NHA 2000)	32 (NHA 2003)	19 (NHA 2006)	18 (NHA 2009-2010)	
General GoR expenditures on health as % of total GoR expenditures	4.7 (NHA 2000)	8.4 (NHA 2003)	6.5 (NHA 2006)	13 (NHA 2009-2010)	
External resources for health as % of total expenditures on health	52 (NHA 2000)	42 (NHA 2003)	53 (NHA 2006)	63 (NHA 2009-2010)	
% Population covered by Community Based Health Insurance	-	44.1	85	91(CBHI database)	91
% Total population covered by any health insurance scheme	-		91	96 (CBHI database)	96%
Per capita allocation to PBF (USD)		NA	1.65	1.8 (Annual report)	
Out-of-pocket expenditures/patient (DHS)				4.37 USD (DHS)	
# Community Health Workers (CHW/village)			NA	3/village (45,000) (Annual report)	3/village (45,000)
Doctor / Pop Ratio	1/75,000	1/50,000	1/33,000	1/16,001	1/15,000
Nurse / Pop	1/6,250	1/3,900	1/1,700	1/1,291	1/1,100
Midwives / Pop Ratio	NA	NA	1/100,000	1/44,584	1/50,000
Pharmacists (MoH report 2010-2011)				331 (1/30,565)	
Lab technician				1/10,626	
Number of environmental health officers				160	
Source: MoH Single Action Plan 2012-2013, Baselines					

Source: Rwanda Health Indicators: Progress 2010 (DHS and EICV), Sector Performance Indicators HSSP I-II and III, 2000-2010.

Table 21: Improved Rwanda health outcome indicators over time

	2000	2005	2008	2010
Under-five mortality rate (per 1,000 live births)	196	152	103 (133: sub-Saharan area)	76
Infant mortality rate (per 1,000 live births)	107	86	62 (83: sub-Saharan area)	50
Maternal mortality ratio (per 100,000 live births)	1,071	750	540 (640: sub-Saharan are)	NA

Source: WHO, UNICEF, UNFPA and the World Bank (http://www.childinfo.org/maternal_mortality.htm).
doi:10.1371/journal.pone.0039282.t013

	2000	2005	2008	2010
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Source: WHO, UNICEF, UNFPA and the World Bank (http://www.childinfo.org/maternal_mortality.htm).
doi:10.1371/journal.pone.0039282.t013

Source: Lu et al., 2012

Table 22: Self-reported medical care utilisation when ill by Mutuelles status

Use of medical care	
Mean (95% CI)	
Under-five children 2005 (RDHS 2005)	
No insurance	0.206 (0.186, 0.227)
With Mutuelles	0.327 (0.299, 0.355)
Under-five children 2008 (RDHS 2008)	
No insurance	0.208 (0.175, 0.240)
With Mutuelles	0.393 (0.362, 0.423)
Use of skilled-birth attendance	
Women 2005 (RDHS 2005)	
No insurance	0.379 (0.330, 0.428)
With Mutuelles	0.535 (0.478, 0.592)
Women 2008 (RDHS 2008)	
No insurance	0.595 (0.542, 0.648)
With Mutuelles	0.719 (0.683, 0.756)

doi:10.1371/journal.pone.0039282.t012

Use of medical care	
Mean (95% CI)	
Under-five children 2005 (RDHS 2005)	
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With Mutuelles	0.719 (0.683, 0.756)

doi:10.1371/journal.pone.0039282.t012

Source: Lu et al., 2012

Annex 3.3 Tables and figures for India’s RSBY

Table 23: National summary for RSBY for a particular financial year

National Summary for RSBY for the year (year)		
Parameter	Attributes	Value
Enrolment	Families Enrolled (In Thousand)	
	Average Family Size	
	Enrolment Conversion Ratio as %age of Enrolment List	
Utilization	Card Ratio	
	Beneficiary Ratio	
	Wellness check Ratio	
Pure Claim	Claims Made as % of Premium Received	
	Claims Paid as % of Premium Received	

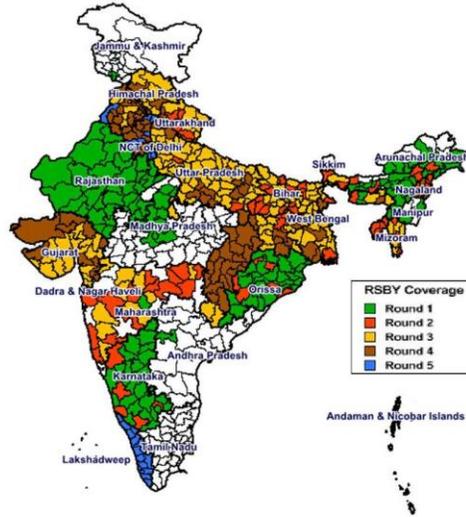
Table 24: Performance summary of India states for a particular financial year

State Summary for the Financial Year <Year>																		Date
No.	State	Enrolment using 64KB cards (source: Web MIS - enrolment data from ICs)				Utilization				Pure Claim								
		Source of Hospital data: TMS - updated by Hospitals				Source of Hospital data: Web MIS - aggregate data from ICs				Source of Claims data: Claims Settlement Portal from ICs, claim wise				Source of Claims data: Web MIS - aggregate data from ICs				
		Families Enrolled (Thousand)	Average Family Size	Conversion Ratio (% of Enrolment List Issued Cards)	Last Updated (By ICs)	Card Ratio (% of Issued Cards used for Hospitalization)	Beneficiary Ratio (No. of beneficiaries hospitalized as % of No. of Cards Issued)	Wellness check ratio (% of issued card used for wellness check)	Last Updated (By Hospitals)	Card Ratio (% of Issued Cards used for Hospitalization)	Beneficiary Ratio (No. of beneficiaries hospitalized as % of No. of Cards Issued)	Wellness check ratio (% of issued card used for wellness check)	Last Updated (By ICs)	Claims made as % of Premium Received	Claims paid as % of Premium Received	Last Updated (By ICs)	Claims made as % of Premium Received	Claims settled as % of Premium Received
A	B	C	D	E	F1	G1	H1	I1	F2	G2	H2	I2	J1	K1	L1	J2	K2	L2
1																		
2																		
3																		
4																		
	Total																	

Table 25: Performance summary of Indian insurance companies for a particular financial year

Performance Summary for Insurance Companies for the Financial Year <year>																		Date of report
NO	Insurance Company	Enrolment using 64KB cards (source: Web MIS - enrolment data from ICs)				Utilization				Pure Claim								
		Source of Hospital data: TMS - updated by Hospitals				Source of Hospital data: Web MIS - aggregate data from ICs				Source of Claims data: Claims Settlement Portal from ICs, claim wise				Source of Claims data: Web MIS - aggregate data from ICs				
		Families Enrolled (Thousands)	Average Family Size	Conversion Ratio (% of Enrolment List Issued Cards)	Last Updated (By ICs)	Card Ratio (% of Issued Cards used for Hospitalization)	Beneficiary Ratio (No. of beneficiaries hospitalized as % of No. of Cards Issued)	Wellness check ratio (% of issued card used for wellness check)	Last Updated (By Hospitals)	Card Ratio (% of Issued Cards used for Hospitalization)	Beneficiary Ratio (No. of beneficiaries hospitalized as % of No. of Cards Issued)	Wellness check ratio (% of issued card used for wellness check)	Last Updated (By ICs)	Claims made as % of Premium Received	Claims paid as % of Premium Received	Last Updated (By ICs)	Claims made as % of Premium Received	Claims settled as % of Premium Received
A	B	C	D	E	F1	G1	H1	I1	F2	G2	H2	I2	J1	K1	L1	J2	K2	L2
1																		
2																		
3																		
4																		
5																		

Figure 6. Implementation of RSBY over time



Adapted from the RSBY Website (Accessed on 17th July, 2015)

Table 26: State-wise hospitalisation rates in RSBY

Name of state/RSBY Year	Year 1	Year 2	Year 3	Year 4	NSSO hospitalization for BPL households	Average RSBY > NSSO	Average RSBY Significantly > NSSO
Assam	5.2%				1.2%	Yes	Yes
Bihar	1.4%	1.5%			0.8%	Yes	Yes
Chhattisgarh	1.0%	2.0%	2.8%		1.2%	Yes	Yes
Delhi	3.6%	5.4%	2.6%	1.3%	1.6%	Yes	Yes
Gujarat	2.6%	2.3%	3.9%		2.4%	Yes	No
Haryana	2.8%	2.5%	2.5%	2.2%	1.8%	Yes	No
HP	2.5%	5.2%	5.9%		2.9%	Yes	Yes
Jharkhand	0.9%	1.0%	1.4%		0.9%	Yes	No
Punjab	1.8%	2.2%	2.0%	1.4%	1.2%	Yes	No
Tamil Nadu	3.1%				2.9%	Yes	No
U.P.	3.6%	3.3%	2.7%		0.9%	Yes	Yes
Uttarakhand	1.1%	1.6%	2.2%		1.4%	Yes	No
Goa	0.1%				2.9%	No	No
Karnataka	1.0%				1.5%	No	No
Kerala	5.3%	6.6%	8.5%	3.7%	9.6%	No	No
Maharashtra	1.8%	2.0%	1.7%		2.7%	No	No
Orissa	0.6%	1.4%			1.9%	No	No
West Bengal	0.9%	1.3%	1.9%		2.1%	No	No
All India	2.3%	2.6%	3.4%	3.1%	1.8%	Yes	No

Adapted from the study: Shoree, S., et al. (2014) Evaluation of RSBY's Key Performance Indicators: A biennial Study (Research paper no. 42, Impact Insurance Facility, ILO).

Annex 3.4 Tables and figures for Thailand's UCS

Benefit package, as defined in the Section 3 of the National Health Security Act, includes:

Table 27: Benefit package of UCS Thailand

Health service cover provided by a health care unit	
Promotive and preventive cares	Diagnosis
Ante-natal care	Curative care
Medicine, medical supplies, organ substitutes and medical equipment	Delivery
Boarding expense within health care unit	New-born and child care
Ambulance or transportation for patient	Transportation for disability person
Physical and mental rehabilitation	Other expenses necessary as prescribed
Benefit package	
Prevention: annual physical examination, immunisation, family planning, ANC, antiretroviral drug for pregnancy women and dental preventive services	Medical service includes ambulatory and in-patient service, and basic dental services
Curative benefits	
General examination, curative and rehabilitative services	Medical examination, diagnosis, treatment and rehabilitation until the treatment ends, including alternative medical care as recognised by the Medical Registration Committee
Childbirth delivery services, totalling no more than 2 deliveries	Meals and room charges for in-patients in common rooms
Dental services: extraction, filling, scaling, plastic-based denture, milk-tooth nerve-cavity treatment and placement of artificial palate in children with harelip and cleft palate	Medicines and medical supplies according to the national essential drug list. Referrals for further treatment among health facilities
High-cost medical services, including artificial organs and prostheses (both inside and outside the body), as per the payment criteria set by the NHSB	Care for accident and emergency illnesses: any accident or emergency case can go for medical care at any health facility (participating in the scheme) located nearest to the scene
Prevention benefits	
Having and using personal health record-books	Examination and pre-natal care for pregnant women
Services related to child health, child development and nutrition, including immunisations, according to the national immunisation programme.	Annual physical check-ups for the general public and high-risk groups
Antiretroviral medications for the prevention of mother-to-child transmission of HIV	Family planning services
Home visits and home health care	Provision of knowledge about health care for patients
Counselling and support for people's participation in health promotion	Oral health promotion and disease prevention

Table 28: List of KPIs monitored by NHSO Thailand

KPIs	Units	Goal (according to budget allocation)	Performance	% of performance
Targeted population				
- Thai citizens	Cases	65,404,188	65,747,528	100.52
- UCS beneficiaries	Cases	48,445,000	48,612,007	100.34
1. medical service capitation				
1.1 out-patient services (OP)				
- utilization rate	visits/person/yr	3.43	3.12	90.96
- total OP visits	Visits	175,288,591	151,864,201	86.64
1.2 in-patient services (IP)				
- utilization rate	Admissions /person/yr.	0.113	0.119	105.31
- total admissions	admissions	5,450,063	5,786,414	106.17
- sum Adj. RW		5,848,925	6,334,206	108.30
1.3 Accident and Emergency (AE), High cost care (HC), disease management or vertical programs				
1.3.1 High cost care (HC)				
1.3.1.1 Accessibility to high cost drug in specific diseases				
1) Hemophilia	Cases	1,201	1,309	108.99
2) acute myocardia infraction type ST-elevation (STEMI)	Cases	4,660	3,380	72.53
3) Stroke (Stroke Fast Track)	Cases	1,223	1,374	112.35
4) Methadone Maintenance Therapy (MMT)	Cases	2,923	5,308	181.59
5) Drugs for opportunistic infection in AIDS (Crpyto/CMV)	Visits	5,677	3,426	60.35
6) J2-list drugs Cases	13,716	13,326	97.16	
7) Compulsory licensing drugs (Clopidogrel)	Cases	164,684	173,745	105.50
8) Orphan drugs of rare diseases	Cases	353	1381	391.22
	Items	10	20	200.00

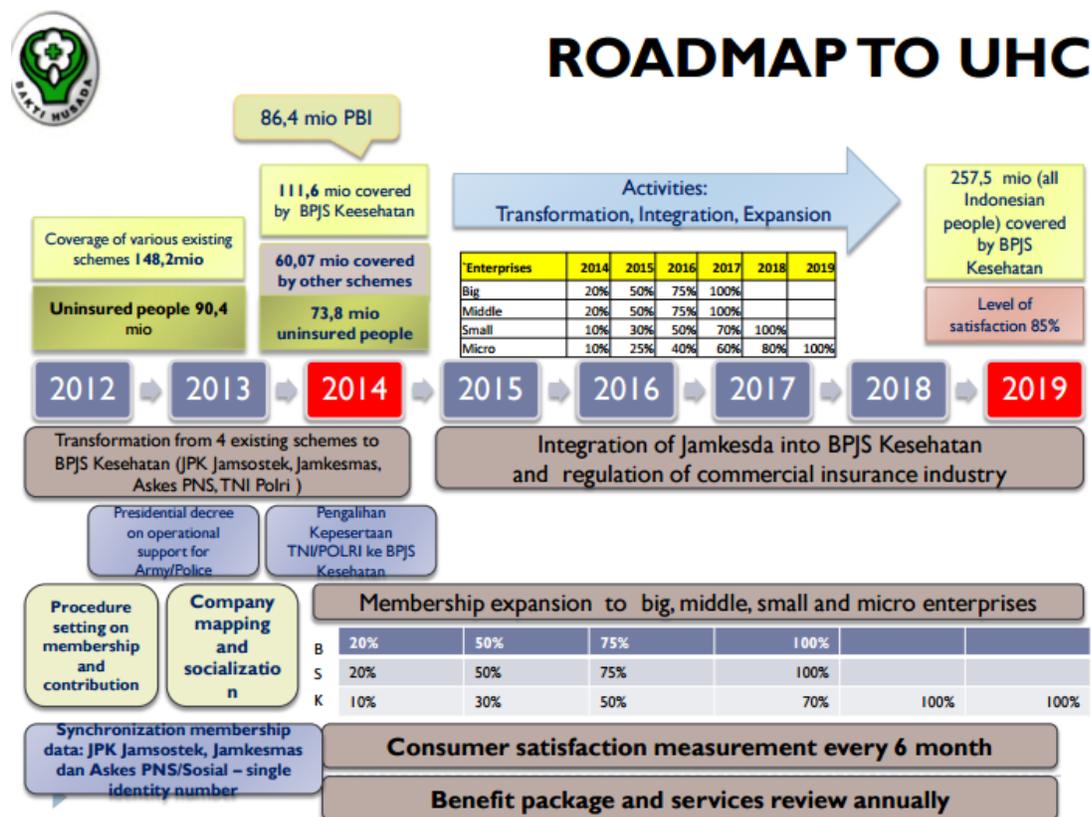
1.3.1.2 Accessibility to specific diagnosis or procedures				
1) Instrument-OP&IP	items	1,220,435	1,360,196	111.45
2) OP visits for Chemotherapy/ Radiotherapy in cancers	Visits	398,187	388,359	97.53
3) Hemodialysis in acute case	Cases	33,799	15,222	45.04
4) Hyperbaric Oxygen therapy	Cases	105	121	115.24
5) High cost diagnosis and procedure of heart diseases in ambulatory care	Visits	1,248	4,509	361.30
6) Orthodontics services for cleft lip and cleft palate	Cases	384	251	65.36
1.3.2 Accident and Emergency (AE)				
1) AE in hospitals located outside their registered province, and service outside registered hospital in disabled people	Visits	891,325	1,215,266	136.34
2) Co-paid and referred OP	Visits	249,293	1,391,694	558.26
3) referred cases with transportation cost	Visits	220,446	229,381	104.05
4) newborn admissions	Admissions	625,232	636,890	101.86
5) admissions that are claims in non-registration UCS or new employment (the first 3 months) of SSS	admissions	41,240	26,089	63.26
1.3.3 disease management or vertical programs				

1) Asthma	Cases	197,756	172,069	87.01
2) Tuberculosis	Cases	45,000	52,498	116.66
3) new cases of Leukemia & Lymphoma	Cases	1,235	2,777	224.86
4) surgeries in cataract	Visits	100,000	157,498	157.50
5) Corneal Transplantation	Items	360	360	100.00
6) kidney stone cases	52,687	19,880	37.73	
7) Morphine treatment in palliative cases	cases	3,136	7,847	250.22
8) Organ transplantation				
- Liver transplantation in children	cases	55	22	40.00
- Heart transplant	cases	54	9	16.67
- Bone marrow transplantation	cases	30	23	76.67
- seasoning influenza vaccines	Cases	3,471,649	2,848,989	82.06
	doses	3,645,232		
1.4 Rehabilitation				
1) disables	cases	1,300,274	1,123,273	86.39
2) instruments for disables	cases	44,786	37,311	
3) rehabilitation services				
- for disables	cases	302,377	190,765	63.09
- for elders	cases	477,557	142,200	29.78
- for other patients	cases		166,816	
4) Orientation and Mobility (O&M) for disables	cases	7,920	4,779	60.34
1.5 Thai traditional medicines				
- Massage, hot compress, herbal steam	visits	3,914,113	4,017,170	102.63
- registered hospitals having Thai traditional medicine center	hospitals	400	492	123.00
- post-partum care	cases	15,678	26,725	170.46
1.6 preliminary compensations for consumers according to section 41 of the Act.				
- approved cases	cases	1,101	995	90.37
1.7 preliminary compensations for providers according to section 41 of the Act.				
- approved cases	cases	614	454	73.94
2. HIV/AIDS health service package	cases	174,400	176,926	101.45
3. CKD health service package	cases	31,434	29,668	94.38
4. Health promotion and prevention in chronic diseases (DM and hypertension)				
- secondary prevention in DM and HT patients	cases	1,267,600	3,173,107	250.32

Sourced from: NHSO Annual Report 2013

Annex 3.5 Tables and figures for Indonesia's JKN

Figure 7. Roadmap to UHC in Indonesia



Source: Adapted from the Ministry of Health, Indonesia¹¹¹

Table 29: KPIs under development in Indonesia

CATEGORY	INDICATORS
Enrolment and re-enrolment	Percentage of beneficiaries enrolled (out of eligible population): <ul style="list-style-type: none"> • Net enrolment • Percentage of beneficiaries re-enrolled • Percentage of beneficiaries newly enrolled
Utilisation of health services	Number of out-patient visits per capita: <ul style="list-style-type: none"> • Number of admissions per capita • Average length of stay
Financial management	Total revenue compared to total expenditure of the scheme: <ul style="list-style-type: none"> • Net financial result • Per capita revenue

¹¹¹ http://www.rsui.info/files/2014-03/Wamenkes_21%20Maret.pdf.

	<ul style="list-style-type: none"> • Per capita expenditure
Expansion of provider network	Net accreditation: <ul style="list-style-type: none"> • Percentage of previously accredited facilities that renew or retain their accreditation • Percentage of newly accredited facilities
Accessibility of provider network	Health facilities per 10,000 beneficiaries
Quality of care	<ul style="list-style-type: none"> • Average number of readmissions within 30 days • Number of deaths per 1,000 hospital admissions • Percentage of beneficiaries with reported complaints of care

Table 30: KPI dashboard developed by Joint Learning Network

Indicator	Status
Percentage of beneficiaries enrolled (out of eligible population)	
Net enrollment	
Percentage of previously enrolled beneficiaries re-enrolled	
Enrollment of new beneficiaries	
Number of outpatient visits per capita	
Number of admissions per capita	
Average length of stay	
Percentage difference between total revenue and expenditure	
Net financial result	
Per capita revenue	
Per capita expenditure	
Net accreditation	
Percentage of previously accredited health facilities retained	
Percentage of newly accredited health facilities	
Health facilities per 10,000 beneficiaries	
Average number of readmissions within 30 days	
Number of deaths per 1,000 hospital admissions	
Percentage of beneficiaries with reported complaints with care	

The above information in Table 29 and 30 has been adapted from policy notes prepared by the Australia Indonesia Partnership for Health Systems Strengthening, and presents the overview of discussion on

monitoring and evaluation platform in JKN. The colour code in the above dashboard indicates the status of the particular indicator with respect to its target value.

Annex 3.6 Universal Health Care conceptual frameworks¹¹²

Figure 8. The Kutzin framework

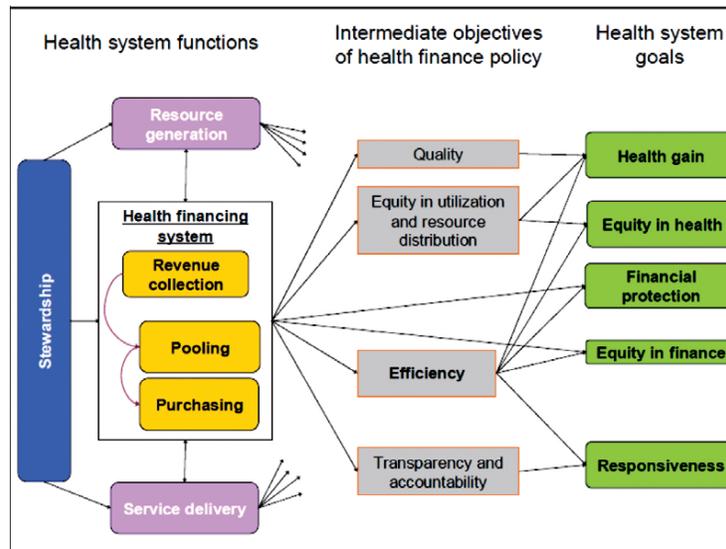
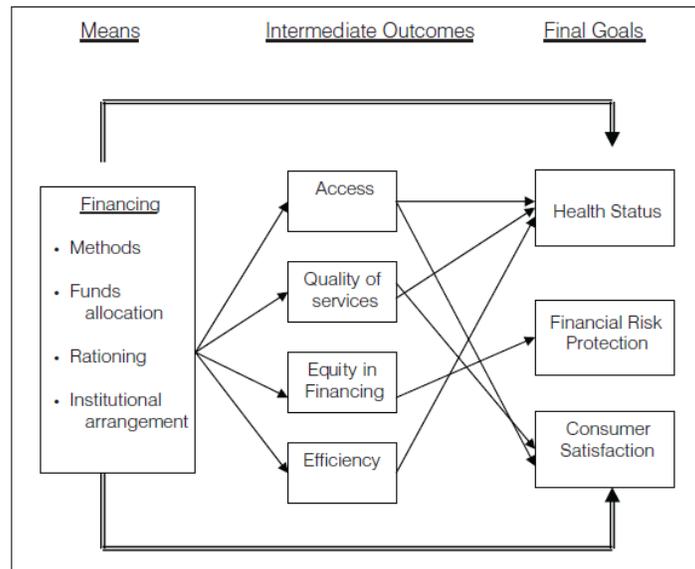


Figure 9 The Hsiao framework



¹¹² Hort, K., Goss, J., Hopkins, S., Annear, P. (2010). Conceptual frameworks, health financing data and assessing performance: A stock-take of tools for health financing analysis in the Asia-Pacific region. The Nossal Institute for Global Health.