

Examining the Financial Feasibility of Universal Health Insurance in India

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Abstract

Financing health care has been a major subject of concern for many years for the policy in India. Biggest concern is out of pocket expenditure on health making poor the poorer and pushing or holding them below the poverty line. Many schemes have been introduced by the Governments at State as well as central levels, to tackle the problem but the schemes and initiatives have been marred by different issues and gaps identified in this study. There exists a plethora of schemes that have been targeted to specific region, population, specific group or occupation, e.g., Rashtriya Swasthya Bima Yojana (RSBY) is targeted only towards below poverty line (BPL) population. Another government supported scheme, Universal Health Insurance Scheme (UHIS), which also covers people from Above Poverty Line, is mainly a premium subsidized scheme for them and not a fully funded scheme.

The purpose of this study is to assess the financial feasibility of universal Health Insurance for the population in India. In this paper we have studied the existing schemes related to Health insurance supported by the government. Based on this evaluation we have tried to provide an analytical framework to calculate the fiscal burden of providing universal health cover to meet the health for all objective of the Government.

I Introduction

The clichéd saying 'Health is wealth', comes alive for financially weaker households when the need to spend on health care pushes it further below on the income level.. The expenditure on health care can be either financed by the beneficiaries themselves through out of pocket spending or it can be financed through health insurance. In India, large section of population depends on publicly funded health insurance schemes like PMJSBY or RSBY. However these schemes are limited in their population coverage and outreach. Public financing of health insurance adopts tremendous value not only at micro-level for individuals but also at macro level for nations. Health is regarded as a quasi- public good rendering positive externalities in terms of higher productivity and economic development. In India the importance of providing publicly financed health care cannot be overestimated given its vast human resources. On the contrary India comes at a very high level of out of pocket expenditure on health. To remove this anomaly and to achieve better outreach of

health care for entire population, it is important to consider the universalization of health care. Universal health insurance means a mandatory health insurance cover for entire population with full or partial Government contribution in the premium payment. The constraints on public financing of health care can be the resources at the disposal of Government. However, the literature on health economics in India does not examine the financial feasibility of universalization of health insurance.

The present study aims at removing this gap in the literature by assessing the financial feasibility of public financing health insurance in India. The study also evaluates the feasibility of universal health insurance cover based on the estimation of costs. The analysis of the fiscal feasibility of public funding of universal health insurance is provided. The study has important policy implications as the findings indicate that the public financing of universal health insurance is not beyond the financial capacity of the Government. The purpose of this study is to assess the financial feasibility of universal Health Insurance. The study is divided into five sections. After the introduction in Section I, Section II discusses the need of health insurance and the existing status of health care financing in India. Section III explains the design of the proposed health insurance product. Section IV provides the estimated costs of the proposed scheme and its fiscal feasibility. The study is concluded in Section V.

II Need for Health Insurance and Status of Financing Health Care: India *vis a vis* World

Health Indicators in comparison to the World

The idea of universal healthcare had its origins at the Alma Ata Conference in 1978, where Health for All was agreed upon by all of the 13,411 participants from different countries. India too is a signatory to the Alma Ata Declaration which affirmed that health, which is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, is a fundamental human right for all mankind (Kurian 2014).

Life expectancy at birth in India has increased by almost 25 years since 1960 to reach 66.3 years in 2012. Nonetheless, it still remains 14 years lower than the OECD average (80.2 years). The Organisation for Economic Co-operation and Development (OECD).

The infant mortality rate in India has been reduced by half over the past two decades, coming down from 88.2 deaths per 1000 live births in 1990 to 43.8 deaths in 2012. Still, it remains more than ten times higher than the OECD average (4.0 deaths per 1000 births). The percentage of low birth weight infants in India is also much higher than in OECD countries: 27.6 per cent of newborns in India in 2011 were defined as having a low birth weight (weighing less than 2500 grams) compared with 6.8 per cent on average in OECD countries. While genetic factors play a role, the proportion of low birth weight infants is generally higher in lower-income families in India as is the case also in other countries. (“The Organisation for Economic Co-operation and Development (OECD),”). This indicates that it’s related to the affordability of health care with the lower income families. The availability of health facilities in India is comparatively much lower (about 1:1000 bed per population ratio) than the developed nations, about 7:1000 (WHS 2009).

The data on morbidity in India is not available, however, the NSSO data on proportion of Ailing Persons per 1000, reflects the extent of need for health care in India for various age groups.

PAP or Proportion (per 1000) of ailing persons (PAP) is one of the parameters to assess the health of the people in India is the number of people fall sick in a particular period under observation.

Table 3 below shows the PAP during 15 days for various age groups.

Table 1 : Proportion (per 1000) of ailing persons (PAP) during last 15 days for different age groups separately for gender: rural, urban.

Age -group	Rural			Urban		
	Male	Female	Persons	Male	Female	Persons
0-4	119	86	103	111	117	114
5-9	65	50	58	87	71	80
10-14	43	47	45	57	53	56
15-29	35	57	46	38	59	48
30-44	60	94	77	71	126	98
45-59	109	163	135	173	239	206
60-69	247	270	259	331	379	355
70+	327	286	306	376	371	373
all	80	99	89	101	135	118

Source: NSSO 71th round report (*Government Of India Ministry Of Statistics And Programme Implementation National Sample Survey Office, 2015*).

- The table above shows the data of the people w.r.t their age reporting ailments giving the age-wise cross-section of ailing people. The Proportion (per 1000) of ailing persons (PAPs) were found to be high for children and much higher for the higher age groups and low for the younger age groups.
- The data suggests that the PAP increases with age and highest for the age group of 70 plus. So the vulnerable age groups need to be taken care of.
- The data also shows that for younger age groups, the PAP is higher in rural areas than that in the urban areas in India however, this trend reverts for the older age groups from age 45 years and above and we observe higher PAP in urban areas as compared to the rural areas.

The 71th round NSSO survey 2015 also reveals following trends:

Inclination towards allopathy treatment was prevalent (around 90 per cent in both the sectors) and which in most cases is the costly treatment. Secondly the private doctors are the most important single source of treatment in both the sectors (Rural and Urban). More than 70 per cent (72 per cent in the rural areas and 79 per cent in the urban areas) spells of ailment were treated in the private sector (consisting of private doctors, nursing homes, private hospitals, charitable institutions, etc.). But the cost of treatment is generally more in case of private doctors.

Un-treated spell was higher in rural (both for male and female) than in urban areas. So the rural areas probably need reinforced focus.

Cost of treatment in India

It is seen that expenditure on medicines consists of about three-fourths of total out-of-pocket spending. Financial reasons prevented around a quarter of the population from accessing health services. It was estimated that 35 per cent of hospitalizations caused the respective families to be pushed into poverty. In real terms, it meant health payments pushed 60 million people below the poverty line, per year. To put this into perspective, it is equivalent to the total population of the United Kingdom! (Kurian 2014).

As per the report of NSSO 71st Round 2015, (*Government of India Ministry of Statistics and Programme Implementation National Sample Survey Office, 2015*):

- Average medical expenditure per hospitalization case: Higher amount was spent for treatment per hospitalized case by people in the private hospitals (₹ 25850) than in the public hospitals (₹ 6120). The highest expenditure was recorded for treatment of Cancer (₹ 56712) followed by that for Cardio-vascular diseases (₹ 31647).
- Average medical expenditure per non-hospitalization case was ₹ 509 in rural India and ₹ 639 in urban India.
- As much as 86 per cent of rural population and 82 per cent of urban population were still not covered under any scheme of health expenditure support. Government, however, was able to bring about 12 per cent urban and 13 per cent rural populations under health protection coverage through Rastriya Swasthya BimaYojana (RSBY) or similar plan. Only 12 per cent households of the fifth quintile class (Usual Monthly Per Capita Consumer Expenditure) of urban area had some arrangement of medical insurance from private provider. Hence the coverage seems less in the government supported health insurance scheme.

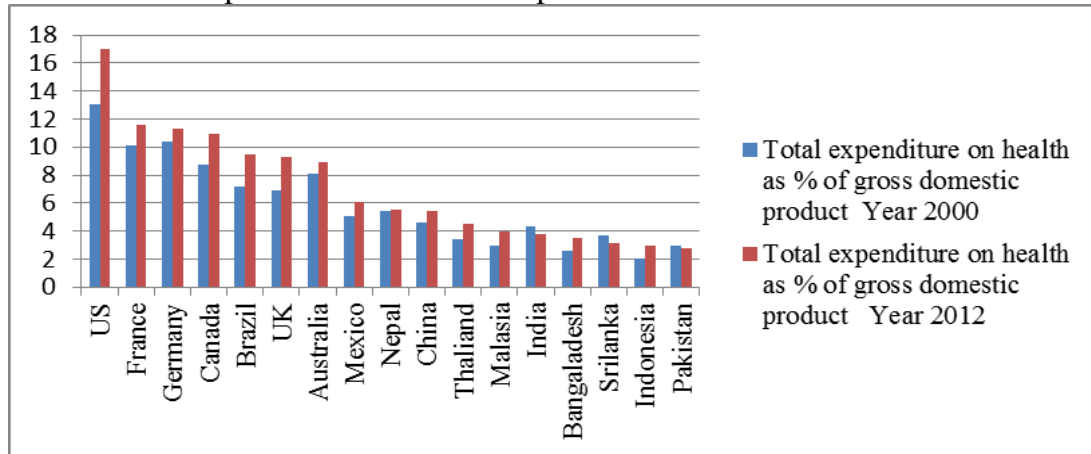
Health Spending –Who is Financing Health Care?

Total expenditure of health represents government expenditure on health, private expenditure on health, including externally funded expenditure on health. Sub-components of government expenditure on health (“social security expenditure”) and private expenditure on health (“out-of-pocket expenditure” and “private prepaid plans”) are also included.

It is established that the countries with high level of public spending in health have secured better health outcomes compared to the countries with low level of spending in health (Mills, Amoako, and Kato 2002). Thus, size of the public fund in health sector matters for better health outcomes. Beside the level of spending, health outcomes are most affected by allocation pattern of public funds in health sector (Hooda 2013).

A comparison of Health care financing in India *vis a vis the* other countries is provided in the charts below.

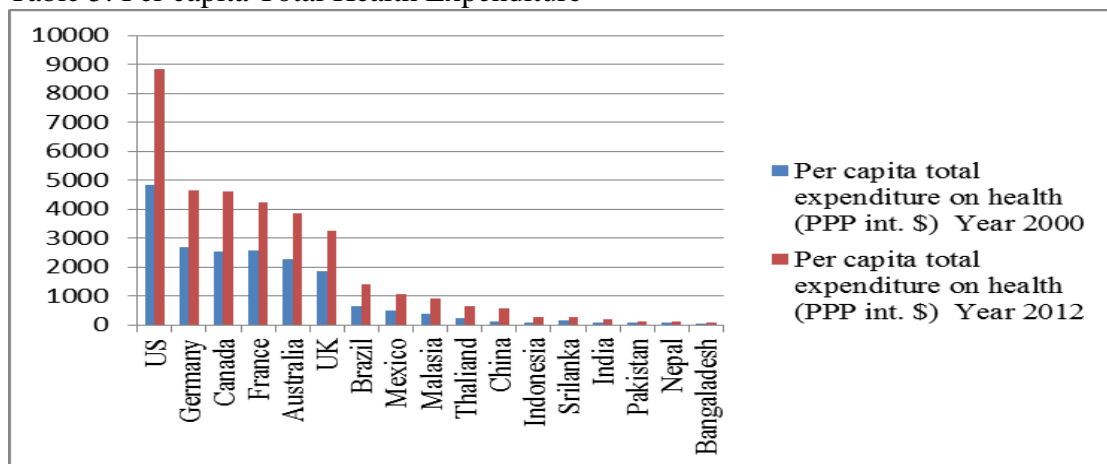
Table 2: Total Expenditure on health as a per cent of GDP



Source: World Health Statistics, 2015.

India is in the lower order of rank with less than five per cent of the total Expenditure on health as a per cent of GDP.

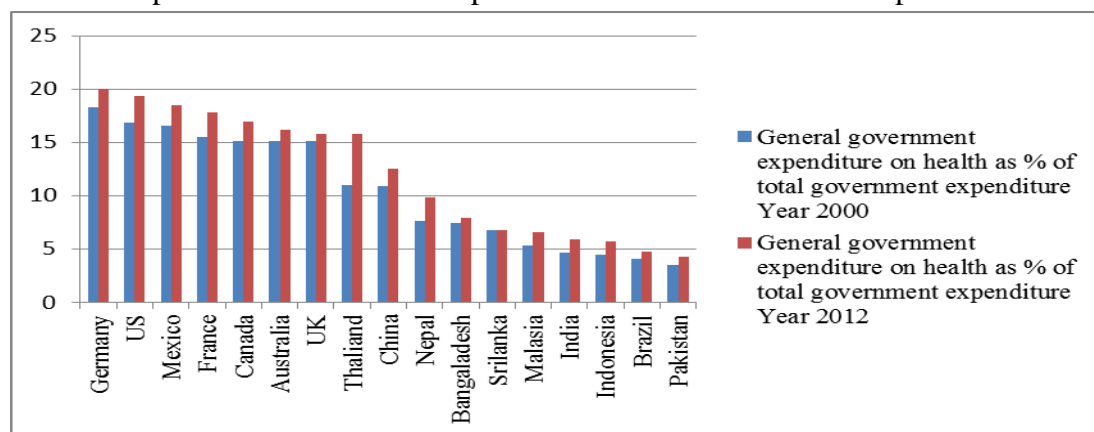
Table 5: Per capita Total Health Expenditure



Source: World Health Statistics, 2015.

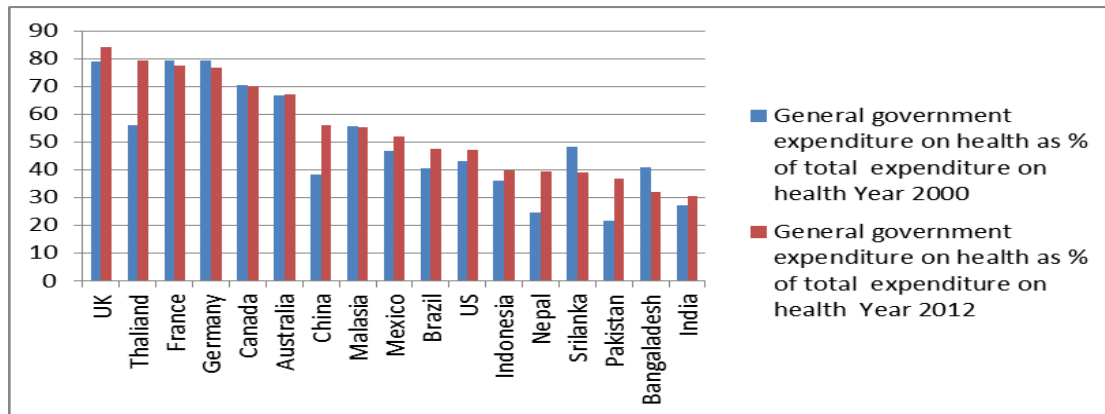
- Per capita total expenditure on health (\$196) and per capita government expenditure on health (\$60) – in both of these cases India fares among the lowest.

Table 6: Expenditure on Health as a per cent of Total Government Expenditure



Source: World Health Statistics, 2015.

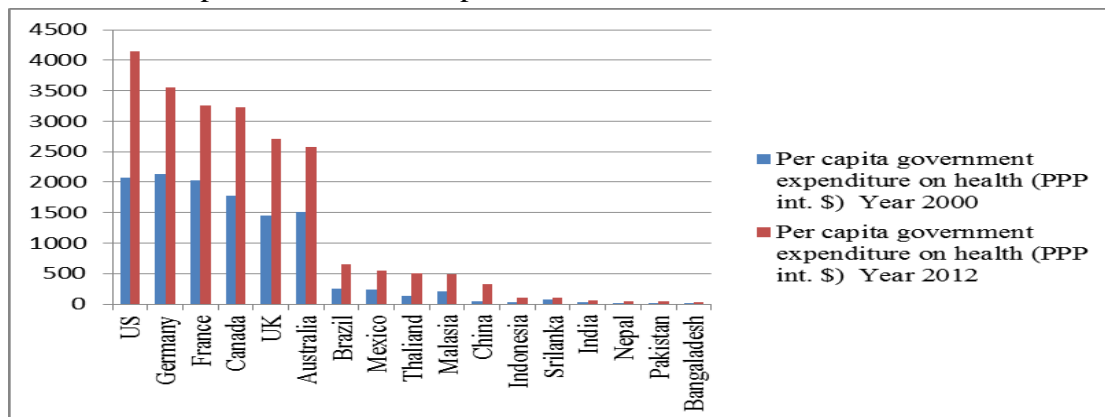
Table 7: Government Expenditure on Health as a per cent of Total Health Expenditure



Source: World Health Statistics 2015.

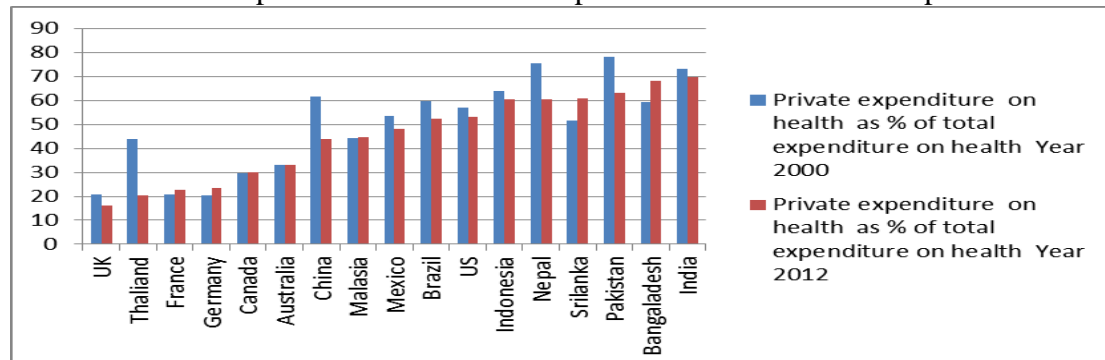
- The general government expenditure on health as a percentage of total expenditure of health is very low in India at 30.5 per cent of total health expenditure. Other developing countries in Asia like Pakistan, Nepal, Sri Lanka and Bangladesh surpass India in the same in spite of having low per capita income.

Table 8: Per capita Government Expenditure on Health



Source: World Health Statistics 2015.

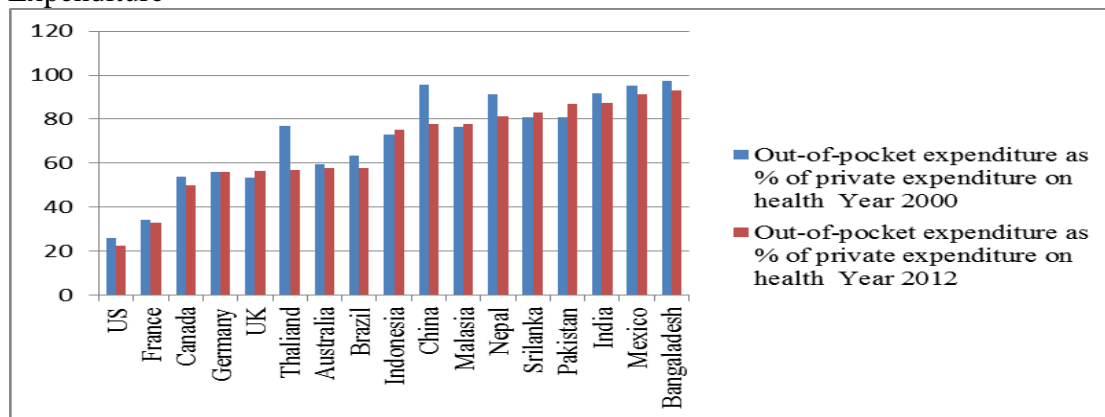
Table 9: Private Expenditure on Health as a per cent of Total Health Expenditure



Source: World Health Statistics 2015.

- The private spending on health in India as a percent of the total spending on health (69.5 per cent) is more in India compared to the countries being compared with.

Table 3 : Out of Pocket Expenditure on Health as a per cent of Private Health Expenditure



Source: World Health Statistics 2015.

- Out of pocket expenditure in India as a percent of private expenditure on health (87.2 per cent) is also among the maximum in India.
- To summarize:
- Except in the area of Per capita government expenditure on health (PPP int. \$) there is a degradation of India's standing, in all of the following areas, *vis-à-vis* other countries in consideration from year 2000 to year 2012:
 - Total health expenditure as a percent of GDP is lowest at 4 per cent.
 - General government expenditure on health as per cent of total expenditure on health. Within total health spending, India has the lowest percentage of government (both central and state) health spending, at 31 per cent.
 - Private expenditure on health as per cent of total expenditure on health. This means there are countries which have improved in this from year 2000 to 2012 by decreasing the private expenditure as compared to the total expenditure.
 - General government expenditure on health as per cent of total government expenditure.
 - Out-of-pocket expenditure as per cent of private expenditure on health.
 - Per capita total expenditure on health (PPP int. \$).

Health expenditures are known to account for a significant proportion of a poor household's income. According to a High Level Expert Group (HLEG), total health spending in India in 2011 was ` 2,500 per capita. Out of pocket spending (OOPS) accounts for 5.73 per cent of household consumption (Selvaraj and Karan 2012).

This probably forces the less privileged to seek unregulated private healthcare with significant adverse impact on out-of-pocket (OOP) expenditure. This not only pushes the non-poor into poverty but also affect the final outcomes. It is worth to mention that the health outcomes (like, infant mortality rate) recorded better in most of the countries where public spending on health is high. This clearly indicates that the efforts in this direction have to be increased with a holistic approach in mind since the health situation in India has not progressed with the comparable pace, if we consider the progress made by the other countries under consideration.

Rashtriya Swasthya Bima Yojana (RSBY)

Rashtriya Swasthya Bima Yojana (RSBY) was launched by the Government of India in 2007, to provide BPL families with access, choice and financial-risk protection for in-patient health care services. The average medical expenditure for hospitalized treatment in India over 365 days is ` 5,695 in rural areas, and ` 8,851 in urban areas (NSSO 2006).

RSBY has two main objectives

1. To provide financial protection against catastrophic health costs by reducing out.
2. To improve access to quality health care for below poverty line households of pocket expenditure for hospitalization and other vulnerable groups in the unorganized sector.

RSBY was launched in early 2008 and was initially designed to target only the Below Poverty Line (BPL) households, but has been expanded to cover other defined categories of unorganised workers,

The premium cost for enrolled beneficiaries under the scheme is shared by Government of India and the State Governments. The program has the target to cover 70 million households by the end of the Twelfth Five Year Plan (2012-17). The beneficiaries need to pay only ` 30/- as registration fee for a year while Central and State Government pays the premium as per their sharing ratio to the insurer selected by the State Government on the basis of a competitive bidding. By paying only a maximum sum up to ` 750/- per family per year, the Government is able to provide access to quality health care to the below poverty line population.

Many empirical studies report various problems in implementation of RSBY. Some commonly reported problems are:

1. Enrolment is done at the family level and covers up to five members: head, spouse and 3 dependents. Only BPL households are eligible.
2. Inpatient care, restricted by package limits (700 procedures, five days post hospitalization drugs and transportation costs of ` 100) and subject to an annual ceiling of ` 30, 000 per family, are covered on a cash-less basis.

The scheme has restrictions based on the category of population and also the size of the family which surely hampers the objective of providing health to the weaker sections. The above restrictions and limitation calls for consideration of the universal coverage to the whole population and also with a more realistic amount instead of a fixed one. So we are going to try and do this calculation to arrive at any conclusion.

Universal Health Insurance Scheme (UHS)

The four public sector general insurance companies offer Universal Health Insurance Scheme for improving the access of health care to poor families. The scheme provides for reimbursement of medical expenses up to ` 30,000/- towards hospitalization

floated amongst the entire family, death cover due to an accident @ ` 25,000/- to the earning head of the family and compensation due to loss of earning of the earning member @ ` 50/- per day upto maximum of 15 days. The Universal Health Insurance Scheme (UHS) has been redesigned targeting only the BPL families. The premium subsidy is ` 200 for an individual, ` 300 for a family of five and ` 400 for a family of seven. This scheme has not become very popular and the population coverage remains restricted for lack of incentive to the insurance providers to expand the scheme coverage and high costs.

These experiences show the government's failure in serving and providing the adequate health services to the population. India, despite its low health outcomes, no major lesson has been learnt from the past. The results show that even the Primary Health Care approach never been implemented effectively; the goals for 'Health for All by 2000' were not met and the spending commitments have not been fulfilled. This reflects that governments (both center and states) have given less priority to health sector in India. In the proposal, the Universal Health Coverage, 2012 proposed to increase government (central and state combined) spending in health from the then level of 1.2 per cent of GDP to at least 2.5 per cent by the end of the 12th Plan and to at least three per cent of GDP by 2022 (Hooda 2013).

The health insurance in India gives a fragmented picture with number of different schemes for various occupations, questions regarding inefficient implantation of RSBY, very low penetration of health insurance in overall population. This leads to almost 70 per cent of the total spending from private sector 87 per cent of the private sector health expenditure from out of pocket expenditure.

On this background we moot that the issue of financial feasibility of providing health insurance for all must be considered in India. The following sections present the product design and fiscal feasibility of Government financing of universal health insurance in India.

III Health Insurance for All – Proposed Product Design

(Duggal 2006) states that it is important to understand that a fragmented approach to social security makes it non-sustainable and hence need a rethink and pursue the option of categorizing the workforce under a common social security umbrella and also include the nonworking population to achieve a comprehensive universal system of social security.

ILO report (Conference 2001), studies the social security status at an International level .Some areas are identified as well as evaluated in relation to financing of the schemes .The study suggests the universalization of the schemes instead of each one concentrating on one individual and separate sector of the population. Secondly the state should play a major role in financing the schemes instead of making them contributory.

(Mor and Ananth 2007) says that the need of inclusive financial growth and says that besides facilitating overall economic growth, finance can help individuals smoothen their income, insure themselves against risks and broaden investment opportunities.

Empirical evidence shows that inclusive financial systems significantly raise growth, alleviate poverty and expand economic opportunity. This paper goes on to lay out several principles that should be kept in mind when designing such systems.

(Pryor 1968) Virtually all advocates of the narrow social control perspective ignore the fact that most social security programs are universal among urban, industrial societies. That is, programs that provide at least a minimum level of income support (via disability insurance, old age pensions, rent subsidies, family allowances and health insurance or service programs) are found in all capitalist, socialist, and communist forms of modern society.

(Ashuthosh 2009) The study shows that 90 per cent of the working population in India does not have any kind of social protection. Particularly the people in the informal sector are not covered by any type of social security protection, i.e., either by a contribution based insurance scheme or by any social assistance scheme.

Finance ministry estimates that the informal sector contributes 65 per cent of the GDP of the country and they account for more than 420 million work forces in number (Jha 2009)

Standard Product Design for a Health Insurance Policy

How do the insurers calculate the health insurance, what do they consider while calculating the risk?

1. Some private health insurance schemes calculate flat premiums for specified age groups and have a limitation on entry age into the schemes.
2. Some calculate premiums according to detailed schedules by age and sex.
3. Some private health insurance schemes build up reserves, in order to avoid high premiums for the elderly members of the scheme.
4. Others charge premiums that change each year in accordance with the age of the insured person.

Normally, in addition to the calculation of the premium itself, there are some elements in private health insurance schemes, such as co-payments, exclusions of risks by not covering pre-existing illnesses, and health examination upon entry into scheme, which sometimes form part of any individual insurance policy.

Some health insurance schemes reserve the right to cancel the contract when an individual falls ill, or annually renew individual contracts, while other insurance schemes guarantee life-long, full service as long as the premium is paid. In this context, national insurance legislation and the nature of public insurance supervision play an important role.

Analytical Framework

Traditionally the premium is calculated as below

Let us assume constant premium of a person who enters the scheme at age x as P_x . We assume, for simplicity of argument, that the flow of money, such as for benefit or

premium payments, occurs at the beginning of each period. The present value of the series of premiums is

$$V_{P_x} = P_x * \ddot{a}_x$$

Which should be equal to the present value of the benefit ie:

$$V_{P_x} = v^n * V_{\beta x}$$

In case of single premium the formula could be

The present value of benefit should be equal to the premium.

$$P_x = v^n * V_{\beta x}$$

where n denotes the number of years the policy in force.

Calculation of the Risk Premium (RP)

The risk premium (RP) is the average amount of claims per person in a particular age group is covered by the premium every year.

One of the main determining factors of health insurance premiums is the average amount of claim per capita. The per capita claim is the expected value of insurance payments for a single risk during a certain period, normally for a calendar year. If the group of insured persons is large enough, according to the law of large numbers, the expected value can be estimated as the average per capita claim:

$$C = P/L$$

Where:

C = average per capita claim

P = total payments in a period

L = number of insured persons

The above formula could be interpreted as the overall risk premium (RP) for the entire insured population of a specific health insurance scheme. However, premiums are, in practice, set for each subgroups of insured persons. The level of disaggregation is based on an analysis of the claim structure for various subgroups of insured persons. General patterns may be observed, such as a significant correlation between per capita claims and age of the insured person, or the type and nature of the specific benefit (e.g. ambulatory care or inpatient care). Another determinant of utilization may be the profession of a beneficiary, especially for daily sickness cash benefits.

The general trend of increase in health care costs is also very important, especially for tariffs without upper ceilings on total annual reimbursement.

Pre-existing illnesses are another factor that influences personal risk. Although it may be important, in theory, to distinguish as many influencing factors as possible, in practice there is a limitation on the depth of differentiation of risks, because the law of large numbers is only applicable for a certain number of samples of each risk group.

A compromise should be made, taking the limited number of insured persons into consideration.

Thus, the various risk groups should be determined, so that on the one hand each group is large enough, while on the other hand the differentiation according to risk is sufficient to allow prudent future premium calculations. Individual risks to large extent are usually related to the age and sex of the insured persons, directly or indirectly. Hence, average per capita claim amounts must be determined according to the age and sex.

Taking into account special effects in the starting period of every insurance policy (e.g., any waiting period, or savings due to selection), per capita claims are usually computed using data that exclude new contracts- for example, those with a duration of less than one year.

The structures of claims may vary according to the type of benefits, age and sex. For example, in many countries, although there is no great difference between the development of costs according to age and sex in ambulatory care, the cost patterns of men and woman by age in hospital care normally quite different, because of deliveries in hospitals and lower health costs of women aged 60 and more.

The RP necessary to cover a subscribed risk in the short term is equivalent to the average per capita claim amount. It is composed of a series of average per capita claim amounts, classified by type of benefits, age and sex.

In the case of pre-existing illnesses, the normal premium may be adjusted by risk-related surcharges. More detailed, differentiated statistics are necessary in order to calculate these surcharges. If a private insurance company were to work on an RP basis, it would also multiply the above net risk premium by a certain factor in order to cover administrative expenditure.

In order to calculate the present value of income and expenditure, an actuarial interest rate is assumed. Since actual interest rates change remarkably over time, the actuarial rate should be assumed prudently, and with a margin of safety.

In order to calculate the net premium, we need the present value of the benefit premium. The claim amounts increase due to ageing of the group, as well as any general increase in the cost of medical care.

IV Cost Calculations for Proposed Health Insurance by Government to Every Individual Citizen in India

Government can provide the health insurance to every individual ranging from 18 to 100 years of age. The premium can be calculated considering the following factors in addition to what's conventionally considered:

1. Age wise distribution of the population.
2. Claim Probability for each age.
3. Average claim amount for each age.

Below is the analytical framework based these considerations.

Data Source

For modelling the cost calculation for Health insurance for all, we have taken the secondary sources of data published by various government organizations as well as individuals who have already undertaken the related research work related to this field.

For this paper we have taken the claim data from “Review of Mediclaim Policy and Design of Long Term Health Insurance Products for United India Insurance Co. Ltd. (Parchure, Joshi May 2006)”, the study of Claim Probability for each age.

Age wise distribution of the population is taken from Census 2011 and

Average claim amount for each age is taken from 60th round (January - June 2004) of the NSSO. The aim of these surveys was to evolve an appropriate data collection method for studying morbidity profile in India. ‘Morbidity and Health care’ at the request of Ministry of Health and Family Welfare, during the period January to June, 2004. This survey covered the curative aspects of the general health care system in India and also the utilization of health care services provided by the public and private sector, together with the expenditure incurred by the households for availing these services.

Premium Calculation for Providing Health Insurance to Every Individual of the Country

Instead of going the traditional way let us calculate the amount (P) needed to pay the claim benefit to the population based on the below:

$$P = DP_{\text{age}} * P(C_{\text{age}}) * A_{\text{age}}$$

- Age wise distribution of the population(DP_{age}) (Census of India 2011)
- Claim Probability for each age, $P(C_{\text{age}})$ (Parchure 2006)
- Average claim amount for each age. (A_{age}) (Bureau 2012)

So with the help of this data we can calculate claim amount and hence the budget needed to pay the same for the whole population of the informal sector workers.

Table 4 shows the budgetary requirement for the population of different age groups and consolidated the information using the formula mentioned above.

Calculation of Budgetary Requirement for the Health Insurance Proposal

Table 4.1: Total Expenditure for Female

Age	Total female Population (DP_{age})	Claim Probability ($P(C_{age})$)	Average Claim Amount (A_{age})	Total Expense P
18	12937296	0.03072	21716	863.07
19	10014673	0.031468	21716	684.36
20	13990570	0.032195	23126	1041.66
21	9446694	0.032901	23126	718.77
22	11135249	0.033589	23126	864.96
23	9479866	0.03426	23126	751.09
24	9787150	0.034915	23126	790.26
25	13456554	0.035555	26909	1287.46
26	9761967	0.036181	26909	950.42
27	8157318	0.036794	26909	807.65
28	11407090	0.037395	26909	1147.85
29	7286828	0.037984	26909	744.80
30	14770033	0.038561	31204	1777.22
31	6665743	0.039128	31204	813.85
32	8812439	0.039685	31204	1091.27
33	6655662	0.040233	31204	835.57
34	7030400	0.040771	31204	894.42
35	13385965	0.041301	33686	1862.34
36	7760149	0.041822	33686	1093.26
37	5907352	0.042335	33686	842.45
38	9381357	0.042841	33686	1353.86
39	5786480	0.04334	33686	844.80
40	13355581	0.043831	34142	1998.63
41	5395597	0.044316	34142	816.37
42	6523816	0.044794	34142	997.72
43	4865438	0.045266	34142	751.94
44	4752294	0.045732	34142	742.01
45	11187786	0.046192	34632	1789.73
46	5257138	0.046647	34632	849.28
47	3908175	0.047096	34632	637.43
48	6081038	0.04754	34632	1001.19
49	3746076	0.047978	34632	622.44
50	10083093	0.048412	35779	1746.53
51	3562382	0.049633278	35779	632.62
52	3666464	0.050178947	35779	658.26
53	2782747	0.050724616	35779	505.03
54	3131302	0.051270285	35779	574.41
55	7838194	0.051815954	34943	1419.19
56	3405033	0.052361622	34943	623.01
57	2259635	0.052907291	34943	417.75
58	3646426	0.05345296	34943	681.08
59	2540755	0.053998629	34943	479.41
60	9133643	0.054544297	41702	2077.54
61	2931365	0.055089966	41702	673.44
62	2853128	0.055635635	41702	661.96
63	2016898	0.056181304	41702	472.53
64	2026924	0.056726973	41702	479.49

65	6746498	0.057272641	43994	1699.88
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Table 4.1: Total Expenditure for Female

Age	Total female Population (DP_{age})	Claim Probability $P(C_{age})$	Average Claim Amount (A_{age})	Total Expense P
66	2233276	0.05781831	43994	568.07
67	1251371	0.058363979	43994	321.31
68	1908339	0.058909648	43994	494.58
69	1371173	0.059455317	43994	358.65
70	5592566	0.060000985	47186	1583.37
71	1499310	0.060546654	47186	428.35
72	1074202	0.061092323	47186	309.66
73	658155	0.061637992	47186	191.42
74	733110	0.06218366	47186	215.11
75	2493642	0.062729329	48713	761.99
76	834882	0.063274998	48713	257.34
77	396654	0.063820667	48713	123.32
78	561458	0.064366336	48713	176.04
79	455264	0.064912004	48713	143.96
80	2059738	0.065457673	62584	843.79
81	536294	0.066003342	62584	221.53
82	297415	0.066549011	62584	123.87
83	187239	0.067094679	62584	78.62
84	212503	0.067640348	62584	89.96
85	684271	0.068186017	39792	185.66
86	232048	0.068731686	39792	63.46
87	109063	0.069277355	39792	30.07
88	123266	0.069823023	39792	34.25
89	114413	0.070368692	39792	32.04
90	472835	0.070914361	39792	133.43
91	139691	0.07146003	39792	39.72
92	78131	0.072005699	39792	22.39
93	48410	0.072551367	39792	13.98
94	55002	0.073097036	39792	16.00
95	147584	0.073642705	39792	43.25
96	62374	0.074188374	39792	18.41
97	36175	0.074734042	39792	10.76
98	56118	0.075279711	39792	16.81
99	36287	0.07582538	39792	10.95
100+	316453	0.076371049	39792	96.17
Aggregate Expenditure for all Female aged 18-100 years(in Cr.)				54,129

Table 4.2: Total Expenditure for Male

Age	Total male Population (DP_{age})	Claim Probability $P(C_{age})$	Average Claim Amount (A_{age})	Total Expense P
18	15020851	0.03072	26667	1230.52
19	10844415	0.031468	26667	910.02
20	14892165	0.032195	27848	1335.18
21	10532278	0.032901	27848	965.00
22	12392976	0.033589	27848	1159.22
23	9674189	0.03426	27848	922.99
24	10093085	0.034915	27848	981.36
25	14311524	0.035555	31301	1592.74
26	10315030	0.036181	31301	1168.18
27	8552032	0.036794	31301	984.93
28	10719926	0.037395	31301	1254.77
29	7445696	0.037984	31301	885.25
30	15628996	0.038561	32687	1969.95
31	7157502	0.039128	32687	915.43
32	8801105	0.039685	32687	1141.66
33	6108879	0.040233	32687	803.38
34	6964192	0.040771	32687	928.11
35	15036666	0.041301	34438	2138.70
36	8067568	0.041822	34438	1161.94
37	5784879	0.042335	34438	843.40
38	8090401	0.042841	34438	1193.62
39	5939867	0.04334	34438	886.55
40	15173411	0.043831	38670	2571.81
41	6172297	0.044316	38670	1057.75
42	6856826	0.044794	38670	1187.73
43	4468914	0.045266	38670	782.25
44	4873938	0.045732	38670	861.93
45	12685175	0.046192	40445	2369.89
46	5735540	0.046647	40445	1082.09
47	4043122	0.047096	40445	770.13
48	5568554	0.04754	40445	1070.70
49	4105723	0.047978	40445	796.70
50	11379329	0.048412	41648	2294.37
51	4323584	0.049633278	41648	893.74
52	4068700	0.050178947	41648	850.30
53	2808043	0.050724616	41648	593.22
54	3263610	0.051270285	41648	696.88
55	7769352	0.051815954	42664	1717.55
56	3666804	0.052361622	42664	819.15
57	2339391	0.052907291	42664	528.06
58	3072508	0.05345296	42664	700.69
59	2607957	0.053998629	42664	600.82
60	8677046	0.054544297	42865	2028.73
61	3095448	0.055089966	42865	730.97
62	2892015	0.055635635	42865	689.69
63	1977207	0.056181304	42865	476.15

64	2060033	0.056726973	42865	500.92
65	6275854	0.057272641	44866	1612.64

Contd...

Table 4.2: Total Expenditure for Male

Age	Total male Population (DP _{age})	Claim Probability P(C _{age})	Average Claim Amount (A _{age})	Total Expense P
66	2278670	0.05781831	44866	591.10
67	1353711	0.058363979	44866	354.48
68	1640034	0.058909648	44866	433.47
69	1396057	0.059455317	44866	372.40
70	5393714	0.060000985	46699	1511.31
71	1584873	0.060546654	46699	448.12
72	1176727	0.061092323	46699	335.71
73	708381	0.061637992	46699	203.90
74	787804	0.06218366	46699	228.77
75	2278704	0.062729329	52111	744.88
76	832251	0.063274998	52111	274.42
77	438394	0.063820667	52111	145.80
78	506957	0.064366336	52111	170.04
79	434297	0.064912004	52111	146.91
80	1725200	0.065457673	51730	584.17
81	491522	0.066003342	51730	167.82
82	306378	0.066549011	51730	105.47
83	192946	0.067094679	51730	66.97
84	210994	0.067640348	51730	73.83
85	580527	0.068186017	54691	216.49
86	215850	0.068731686	54691	81.14
87	112348	0.069277355	54691	42.57
88	112374	0.069823023	54691	42.91
89	99007	0.070368692	54691	38.10
90	360237	0.070914361	54691	139.71
91	118606	0.07146003	54691	46.35
92	75430	0.072005699	54691	29.70
93	46220	0.072551367	54691	18.34
94	51972	0.073097036	54691	20.78
95	124950	0.073642705	54691	50.32
96	57894	0.074188374	54691	23.49
97	35238	0.074734042	54691	14.40
98	48393	0.075279711	54691	19.92
99	28284	0.07582538	54691	11.73
100+	289325	0.076371049	54691	120.85
Aggregate Expenditure for all Male aged 18-100 years (in Cr.)				61,534.16

Fiscal Feasibility of the proposed Universal Scheme

Observations

(1) Aggregate calculated Expenditure for health insurance for whole population aged 18-100 years (crores) Rs.115663.

(2) Aggregate calculated Expenditure for health insurance for whole population aged

18-100 years of age = Rs.115663 cr.

GDP(2014-15) = Rs.11350962cr

Percent of GDP = 1.02 per cent

(3) Aggregate calculated Expenditure for health insurance for whole population aged 18-100 years as Percentage of Fiscal Exchequer:

Case 1: As percentage of Union Government Total Expenditure

Union Government expenditure for 2014-15 : Rs. 5765549.57cr.

Aggregate calculated Expenditure for health insurance for whole population aged 18-100 years (crores) Rs.115662.

Aggregate calculated Expenditure for health insurance for whole population aged 18-100 years as Percentage of government expenditure is 6.94 per cent

Case 2: 50 per cent percent cost sharing with States

Percentage of cost when equally shared between states and central is 3.47 per cent

Case 3: As percentage of Combined Total Expenditure of Central and State Governments

Aggregate calculated Expenditure for health insurance for whole population aged 18-100 years is 1.61 per cent of combined total expenditure of Central and State Governments.

V Conclusion

The literature reports arguments for as well as against the provision of universal health insurance. Main argument is the fiscal burden on Governments. In India, given its unprecedented human wealth, the importance of healthy productive population cannot be overestimated. The consideration of universal health insurance cannot be discarded only on the basis of fiscal burden argument. A rigorous cost benefit analysis of the economic as well as non- economic costs and benefits of this scheme should be undertaken to arrive at any conclusion applying the social cost –benefit methods.

The proposed scheme has the following distinct advantages:

1. It considers every adult person in the whole population i.e. from the age of 18 years of age to 100 years of age and doesn't impose any restriction of the claim amount per family as is the case with RSBY.
2. It considers a more realistic figure for the claim amount based on the average claim amount specific to an age.
3. It doesn't impose the eligibility restriction and hence it's applicable for people across all sections and not limited to people below BPL.

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