Deepak Singh

The Unmet Objective of Health Financing in India. Affordable Health Care for All

Master's Thesis

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AFFORDABLE HEALTH CARE FOR ALL:
THE UNMET OBJECTIVE OF HEALTH FINANCING IN INDIA

Deepak Singh
India

55 Master of Public Health/ International Course in Health Development

KIT (Royal Tropical Institute)
Vrije Universiteit Amsterdam (VU)

A thesis submitted in partial fulfillment of the requirement for the degree of

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by

Deepak Singh

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CONTENTS:

LIST OF TABLES:

LIST OF FIGURES:

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LIST OF ABBREVIATION:

GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GGE	General Government Expenditure
GSGE	General State Government Expenditure
GGHE	General Government Health Expenditure
GGHE	General Government Health Expenditure
GSGHE	General State Government Health Expenditure
OOPE	Out Of Pocket Expenditure
THE	Total Health Expenditure
CGHS	Central Government Health Scheme
ESIC	Employees' State Insurance Corporation
RSBY	Rashtriya Swasthya Bima Yojana
HDI	Human Development Index
UHC	Universal Health Coverage
NFHS	National Family Health Survey
WHO	World Health Organization
MOH	Ministry Of Health
GOI	Government Of India
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
INR	Indian Nation Rupee

GLOSSARY:

Capital Expenditure: Expenditure on building capital assets, renovations and expansions of buildings, purchasing of vehicles, machines, equipment, medical/ AYUSH/ paramedical education, research and development, training (except on the job training), major repair work(50).

Current Health Expenditure: Final consumption expenditure of resident units on healthcare goods and services(50).

Household Health Expenditure: Sum of direct expenditures (out of pocket payments) and indirect expenditures (prepayments as health insurance contributions or premiums)(50).

Out-of-Pocket Expenditure: Out-of-pocket expenditure(OOP), medical costs that households bear at the time of availing healthcare service(50).

Total Health Expenditure (THE): Total health expenditure is the sum of current health expenditure and capital health expenditure in the same financial year(50).

Public Health Care Facilities (Public Facilities): It includes medical college hospitals, district hospitals, sub-district hospitals, and community health centers(50).

Government Health Expenditure: It includes expenditures from union and state government, rural and urban local bodies including quasi-governmental organizations and donors in case funds are channeled through government organizations(50).

Government Transfers: It includes funds allocated from government domestic revenues for health purposes. fund is allocated through internal transfers and grants(50).

Gross Domestic Product(GDP): The total money value of all final goods and services produced in an economy over a period of one year(28).

Total Health Expenditure (THE) as percent of GDP and Per Capita: THE constitutes current and capital expenditures incurred by government and private sources including external funds. Total health expenditure as percentage of GDP indicates health spending relative to the country's economic development. THE per capita indicates health expenditure per person in the country(50).

Current Health Expenditures (CHE) as percent of THE: Current health expenditure constitutes only recurrent expenditures for healthcare purposes net all capital expenditures. Current health expenditure as percent of THE indicate the operational expenditures on healthcare that impact the health outcomes of the population in that particular(50).

Government Health Expenditure (GHE) as percent of THE: government health expenditure constitutes spending under all schemes funded and managed by union, state and local governments including quasi-governmental organizations and donors in case funds are channeled through government organizations(48).

Social Security Expenditure on health as per cent of THE: Social security expenditures include finances allocated by the government towards payment of premiums for union and state government financed health insurance schemes (RSBY and other state specific health insurance schemes), employees' benefit schemes or any reimbursements made to government employees' for healthcare purposes and social health insurance scheme

expenditures. This indicates extent of pooled funds available for specific categories of population(49).

External/Donor Funding for health as percent of THE: This constitutes all funding available to the country by assistance from donors agencies(50).

Out of Pocket Expenditures (OOPE) as percent of THE: This indicates extent of financial protection available for households towards healthcare payments(50).

Private Health Insurance Expenditures as percent of THE: Private health insurance expenditures constitute spending through health insurance companies wherein households or employers pay a premium to be covered under a specific health plan. This indicates the extent to which there are voluntary prepayments plans to provide financial protection.

Government Health Expenditure as % of General Government Expenditure (GGE): This is a proportion of share of government expenditures towards healthcare in the general government expenditures and indicates government's priority towards healthcare(50).

Household Health Expenditure as % of THE: Household health expenditures constitute both direct expenditures (OOPE) and indirect expenditures (prepayments as health insurance contributions or premiums)(50).

Union and State Government Health Expenditure as % of GHE: The union government health expenditures includes the funds allocated by different ministries and departments of union government towards healthcare of general population and its employees. Similarly the state government health expenditure includes the funds allocated by different departments under all the state governments towards healthcare of general population and its employees'(50).

Pharmaceutical Expenditures as % of CHE: This includes spending on prescription medicines during a health system contact and self-medication(often referred to as over-the-counter products) and the expenditure on pharmaceuticals as part of inpatient and outpatient care from prescribing physicians(50).

ABSTRACT

Introduction: In India, healthcare costs are increasing and India's health financing system is exacerbating economic burden on household because of health expenditure and influence treatment-seeking behaviors. As a result, health inequity and unequal access, come up as the main concern for the Indian Health care system. This study aims to report the bottlenecks in health financing functions resulting in financial barrios in health care access.

Methodology: Literature review and desk study were done by reviewing, analyzing the data from national health account and National Family Health Survey conducted during 2012-13 to 2015-16 and analysis of studies done on health system and Health financing functions in India were included. The OASIS framework used to guide the study.

Result: Inability of the state government to utilize available funds and inadequate public spending on health result in out-of-pocket expenses, as the most significant source of revenue for health financing, and poses a barrier to access for healthcare, as inadequate availability and poor-quality of services given by public facilities push the patient to costly private health-care services.

Twenty eight percent of the Indian population have medical insurance indicating inadequate financial protection against unseen medical cot; Fragmentation of Health insurance schemes and corruption are factors for low coverage.

Also, benefit-packages varies among schemes in respect of number of available packages and the annual spending limit.

Discussion: Inadequate financial protection and high household expenditure on health including out of pocket expenditure, resulting in catastrophic spending and may push the household below the poverty line and have negative impact on health seeking behavior and utilization of available health care services.

Recommendations: To remove financial barrier, government must priorities health in public policy, public spending on health should increase, state government should utilization available funds efficiently and should consider one nation one health insurance.

Keywords: Sources of financing, intersectional approach, out-of-pocket payments, health care financing, India

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INTRODUCTION

Globally, total spending on health is increasing faster than the gross domestic product (GDP). The trend in public spending on health is also increased over time, in terms of total health spending, but it is still inadequate in most of the LMICs(1). With economic growth and advancement in medical science life expectancy in India has increased; however, this advancement is accompanied by costly medicines, and the diagnostic procedure has increased the healthcare cost. Increased health care cost has limited the affordability of health care services to most of the Indians(2).

The government of India recognizes the need for quality health services which is affordable to all and attempting to increase government spending on health, the Indian government launched national schemes to ensure affordable health care services and financial protection to its citizens and aiming better health outcomes and(3). However, despite these measures, India is still among the top ten countries with high out of pocket payments(8).

Out of pocket payment expenditure(OOPE) is considered to be a most regressive form of financing and indicates an inefficient mechanism of prepayment, risk-pooling, and cross-subsidization and as a consequence, OOP results in catastrophic expenditure on health and may end in impoverishment.

In my clinical practice, I had experienced a scenario where patients had to stop receiving therapy due to financial hardship or lend cash in order to continue therapy.

I have seen families who do not even go to a health care provider due to their inability to pay user fees

This paper will look at the challenges of existing health financing systems to answer why the existing health financing mechanism in India is not able to provide needed health care without financial hardship.

CHAPTER 1 BACKGROUND INFORMATION

The Republic of India is not only a "Union of State" and a sovereign, secular, socialist, democratic republic, as described by its constitution (5) but is a home for different ethnic groups from the different races following different religion and cultural practices and speaks different languages.

PICTURE 1 POLITICAL MAP OF INDIA (6)

1.1. GEOGRAPHY:

The land of the country consists of four regions, namely, the mountain zone, plains of the Ganga and the Indus river, the desert region, and the southern peninsula (7)

1.2. GOVERNANCE AND ADMINISTRATION:

Governance and administration of the country is done by a parliamentary form of government which is federal in structure and comprises union government, a council of ministers headed by prime minister, similarly state government a council of minister's head by chief minister, and local bodies denominated as municipalities in cities/towns and

panchayats in villages. All the ministers in the government and local bodies are elected democratically as per the constitution of India (8).

India, geographically located in the south Asia region is the second most populated country in the world, has an annual population growth rate of 1.19% (9).

1.3. POPULATION:

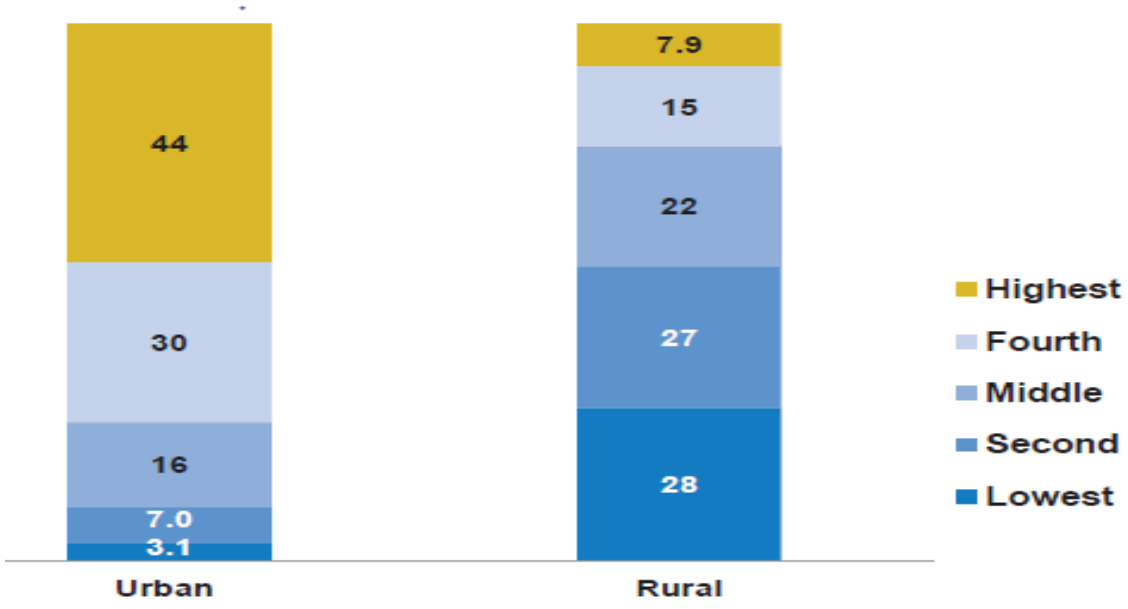
An estimated current population of India is 1.3 billion, of which 750 million, are in the age group of 15-59 who are considered as an economically active population and 350 million are in age bracket of 0-14 whereas 125 million are aged more than 60 years(10), living in urban area (27%) comprises (640 districts, 5988 sub-districts, 7933 town) and rural (73%) area (640932 villages), of 29 states and 7 union territories (11).

1.4. NATIONAL CURRENCY:

The national currency of India is Indian national rupee (INR), and 1 INR is equivalent to 0.015 united state dollars and 0.013 Euros (1 USD = 68.50 INR and 1 Euro = 77.39 INR)(12). The current gross domestic product (GDP) of India is 2971.996 Billion USD / 11,468.022 international dollars purchasing power parity(PPP)(13).

Wealth quintile in India is calculated based on consumption goods (House, television or motorbike or other) owned by a household and divided into five wealth quintiles of which first is the poorest and fifth is the wealthiest quintile. Percent distribution of the urban and rural population according to wealth quintile is shown in figure 1.

FIGURE 1 PERCENT DISTRIBUTION OF THE URBAN AND RURAL POPULATION BY WEALTH QUINTILE(14)



CHAPTER 2 PROBLEM STATEMENT, OBJECTIVES, METHODOLOGY:

2.1. PROBLEM STATEMENT:

Human development index(HDI), reflects on the progress of a country in terms of health, education, and income together.

In comparison to neighboring countries like Bhutan, Nepal, Bangladesh, Pakistan, and Sri Lanka, India is only below Sri Lanka in terms of the HDI. It should reflect on better health, education, and income in India in comparison to neighboring countries.

However, comparing health outcome indicators of India with the neighboring countries which are below in rank in terms of HDI, it becomes evident that health outcomes in India are even poor that the neighboring countries as depicted in Table 1.

TABLE 1 HUMAN DEVELOPMENT INDEX, CHILD MORTALITY INDICATORS AND INCIDENCE OF TUBERCULOSIS IN INDIA AND NEIGHBORING COUNTRIES; 2016(15)

Country	HDI rank	Infant mortality rate/ 1000 live birth	Under-five mortality rate / 1000 live birth	Incidence of tuberculosis/ 100000 people
Sri Lanka	74	8	9.4	32
Bangladesh	134	28	34	221
Nepal	149	28	34	154
Bhutan	134	26	32	178
India	130	34	43	211

Infant mortality and under-five mortality is higher in India in comparison to Bhutan, Nepal, and Bangladesh. Table 1

Despite national programs to control tuberculosis in India, the incidence of tuberculosis is only less than Bangladesh as depicted in Table 1. It reflects on how the efforts of the country to improve health has been failed.

One of the factors which result in poor health outcomes in the country is inadequate access to health care access and poor quality of care(16).

Health care access and quality (HAQ) index, which measures the access and quality of healthcare services, India scored less than neighboring countries like Bangladesh, Nepal, Bhutan(17).

It reflects, as inadequate and disproportionate access to primary and preventive health care services across the wealth quintile, and is one of the factors resulting in poor health outcomes in India(18).

TABLE 2 INSTITUTIONAL DELIVERY, ANTENATAL CARE AND IMMUNIZATION ACROSS THE WEALTH QUINTILE IN INDIA(14)

Wealth Quintile	% of Institutional delivery	% Women Not Received Antenatal Care (ANC)	% Of Children Age 12-23 Months Not Immunization
Lowest	59.6%	34.7%	10%
second	75%	18%	6.3%
Middle	85%	11%	4.8%
fourth	90%	7.3%	3.7%
Highest	95%	5%	3.7%
India	78.6%	16%	6%

Households in the lowest wealth quintile are the ones who are deprived of service coverage which become evident by the difference in service coverage indictors like Institutional deliveries, Antenatal care, and Immunization of children across the wealth quintiles(WQ), as depicted in Table 2.

Inadequate service coverage among the lowest WQ also reflects on their health outcomes. Poor in India bear a disproportionately high burden of poor health outcomes as compared to the household in the higher wealth quintile. For instance, Under-five mortality rate, infant mortality rate, neonatal mortality rate, all are high among the households in the lowest wealth quintile as compared to a household in the highest wealth quintile. These inequalities are inversely proportional to wealth, as depicted in Table 3.

TABLE 3 PERCENTAGE DISTRIBUTION OF UNDER-FIVE MORTALITY, INFANT MORTALITY, NEONATAL MORTALITY, ACROSS THE WEALTH QUINTILE(14)

Wealth quintile	Under-five mortality rate	Infant mortality	Neonatal mortality
Lowest	59.3%	56%	40%
Second	51.2%	47%	34%
Middle	49.7%	39%	28%
Fourth	32.6%	29%	21%
Highest	21.1%	19%	14%

Along with other factors, unaffordable healthcare costs and no available health care facilities are the factors contributing to inadequate access to health care services. For instance, high costs(23%), facility too far (18%) are reason the given for not using antenatal care. Similarly, high costs(16%), facilities to far (18%) are the reason given for no institutional birth.

Money incurred to fulfill medical needs by an individual is not only a user fee which is paid at the time of service but also includes travel cost, time spent on waiting at the expense of absence from the work.

Irrespective of the socio-economic status, all these costs together affect the behavior of the user and reflect on his decision to access health care services(19).

The extent of out-of-pocket expenditure(OOPE) is an indicator of financial protection against unseen health expenditures(20). In the financial year, 2015-16 OOPE estimated 60.59% of Total Health Expenditure, indicating 60.59% of total health expenditure was done by a household at the point of receiving health services and reflects on financial protection towards health care payment.

The share of OOPE in healthcare spending determines the extent of catastrophic health expenditure (CHE) and impoverishment due to health expenditure and impacts on behavior utilize healthcare services if needed due to financial hardship(21).

Borrowing and sale of assets are sources of OOPE for health care spending across all WQ. However, borrowing and sale of asset as a sources of OOPE is more common among rural population as compare to their urban counterparts, as depicted in table 4.

TABLE 4 PERCENT OF HOUSEHOLD REPORTING AS A SOURCE OF FINANCE FOR MEETING THE MEDICAL EXPENDITURE FROM A RURAL AND URBAN AREA FROM DIFFERENT WEALTH QUINTILE 2015-16(7)

Wealth quintile Rural	Household Income saving	Borrowing	sale of assets
Lowest	65%	26%	1.1%
Second	67%	25%	1.4%
Middle	68%	26%	0.6%
Fourth	68%	23%	0.4%
Highest	68%	23%	0.9%
Wealth Quintile Urban			
Lowest	68%	21%	0.04%
Second	71%	21%	0.4%
Middle	74%	20.7%	0.3%
Fourth	74%	16%	0.3%
Highest	80%	13%	0.4%

Financial hardship also affects the ability to access health care facilities; In 2015-16, 25% of the India families identified insufficient money as a factor for not going to any health care facilities for their medical needs(14).

Besides medical cost, nonmedical costs incurred on transportation and time spent on waiting at the expense of absence from the work also prevent a household from seeking

needed health care services(22). For instance, poor perceived quality of care by the patient (48%), followed by no nearby government facilities (45%) and long waiting time (41%) are factors for not using public healthcare facilities(23). It also influences their Affordability to Healthcare services and increases out of the pocket expenditure (24).

2.2. JUSTIFICATION:

For equity in access to health services, it is essential to establish a health financing system that enables access to quality health care at an affordable cost(32).

A number of studies are done at the state level to identify bottlenecks of health financing in India, but the finding of those studies cannot be generalized for the country. However, few studies are done at the country level are before 2015, so the use of these studies is limited as a recent fourth report by national family health survey, 2015-16 has shown changed scenario in health and healthcare function since 2005-06, and the result of those studies might be outdated.

Indian is aiming for universal health coverage by 2030, for which new innovative strategies in the health policies are required.

Any change in the health financing strategy depends on negotiation and political will. However, it is worthy of analyzing existing health financing system to find out flaws so that appropriate measures can be taken and move towards universal coverage
This study, therefore, tries to find the bottleneck in current health financing in India.

2.3. OBJECTIVES:

2.3.1. GENERAL OBJECTIVES:

To do performance analyses of the health financing system and explore bottlenecks affecting financial accessibility to health care services, and to make necessary recommendations to relevant stakeholders.

2.3.1. SPECIFIC OBJECTIVES:

I. To analyze the performance and challenges in the existing mechanism of resource collection affecting financial accessibility.
II. To analyze the performance and challenges in existing mechanism pooling affecting financial accessibility.
III. To analyze the performance and challenges in the existing mechanism of purchasing, affecting financial accessibility.
IV. To make recommendations to appropriate stakeholders about the measures to strengthen health financing functions to improve financial accessibility.

2.4. METHODOLOGY:

This study is a literature review, and an analysis of works of literature on health financing and health financing systems in India is done. However, to analyze the performance of health financing functions desk study is done.

2.5. STRATEGY:

To search for peer-reviewed articles, I used Google scholar, pub med, Cochrane library, and Vrije University (VU) library. Snowballing was done form journals, newspaper articles, published reports to find out relevant information for the objectives.

The constitution of India was referred to find out the institutional design of the health system in India.

Online databases of relevant agencies such as The World Bank, World Health Organization, Indian Ministry of Health and family welfare, National Institute for Transforming India (NITI) Aayog, Planning Commission of India, Comptroller and Auditor General (CAG)of India. National Health Account (NHA), National Family Health Survey (NFHS) are all reviewed to obtain policies, programs, and statistic reports..

Keywords used to find literature and grey article are tabulated in Table 7. However, besides Keywords, boolean operations like "AND," "OR" were used.

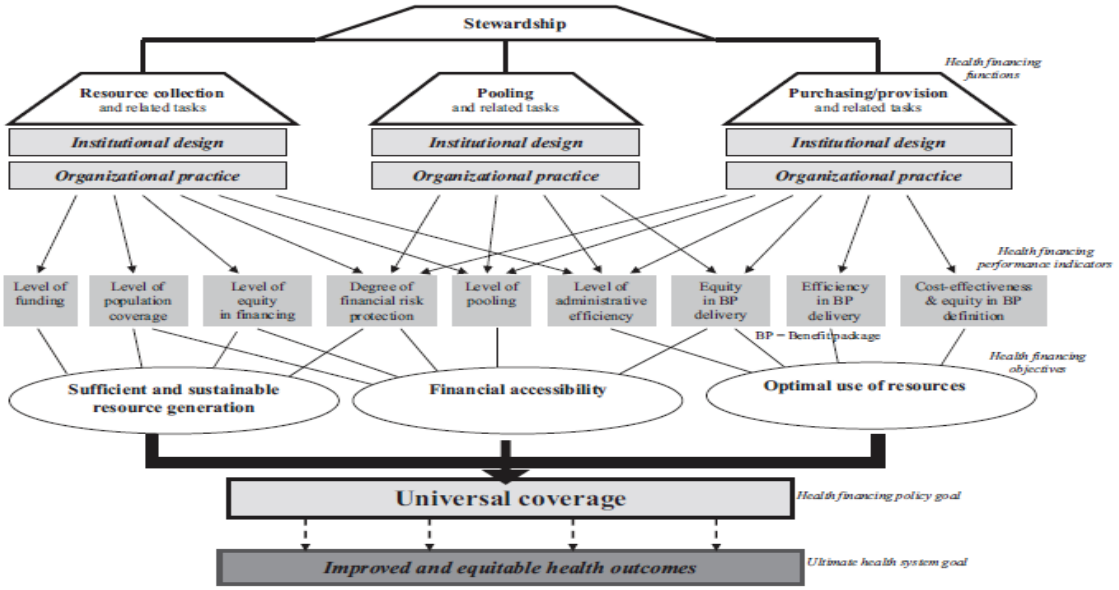
2.6. EXCLUSION CRITERIA:

Literature and data available in a language other than English are not included because of the language barrier. However, all the relevant information available in the Hindi language is included from its officially translated English script. Article published before the year 2005 is not included to avoid obsolete information.

2.7. FRAMEWORK:

Despite other frameworks available to analyze the health financing system, OASIS analytical framework, as seen in figure 2, proposed by Mathauer and Carrinis(25) is chosen because OASIS framework guides to identify strength and weakness of health financing function with performance indicator focusing financial accessibility as one of the goals of health financing function.

FIGURE 2 INSTITUTIONAL AND ORGANIZATIONAL ASSESSMENT FOR IMPROVEMENT AND STRENGTHENING HEALTH FINANCING(OASIS) ANALYTICAL FRAMEWORK**(25)**



The framework analyzes the stewardship function of the ministry of health and guides how three health financing functions: resource collection, pooling, purchasing, are shaped.

Further, nine performance indicators reflect on how well three health financing objectives: sufficient and sustainable resource generation, financial accessibility and optimal use of resources of health financing function followed by health financing policy goal: universal health coverage and ultimate health system goal: improved and equitable outcome.

However, to meet the objective of the study, only health financing performance indicators related to financial accessibility were analyzed, as tabulated in Table 5.

In this framework, most of the performance indicators apply to more than one health financing functions. However, in the context of this study, all three health financing functions will be analyzed by specific performance indicators with their Operationalizations, as depicted in Table 5 and Table 6.

TABLE 5 HEALTH FINANCING FUNCTION WITH THEIR PERFORMANCE INDICATOR(25)

Health Financing Function	Performance Indicator
Resource Collection	Level of Population Coverage, Level of Equity in Financing
Pooling	Degree of Financial Risk Protection, Level of Pooling
Purchasing	Equity in Benefits Package Delivery.

Each performance indicator relevant to financial accessibility will be analyzed by the key financial indicator tabulated in Table 6. However, besides the performance indicator of

health financing function, the health system and stewardship function will be overviewed by the points mentioned in Table 6.

Financial indicators looked at are suggested by the author of the framework; however, any relevant finding not suggested by the author will be included in the findings and will be discussed in the discussion section.

TABLE 6 OPERATIONALIZATION OF EACH INDICATOR(25)

Country Context And Health System Overview, Stewardship And Governance	• Gross domestic product (GDP) growth rates • Health infrastructure • Key actors in health financing • Human resources for health • The legal and regulatory framework for health financing • Actors involved in stewardship functions
Level of Equity In Financing	• Total and specific health financing payments (for example, taxes, contributions, insurance premiums, co-payments, OOP health expenditure)/household income
Level Of Population Coverage	• Percentage of population covered by a financial risk protection mechanism • Percentage of people covered by a financial risk protection mechanism in each quintile or population group
Degree Of Financial Risk Protection	• Prepayment ratio GGHE/THE (%) • Percentage of households experiencing catastrophic expenditure • Percentage of households impoverished by out-of-pocket (OOP) expenditures on health
Level Of Pooling	• Health care spending per pool member set in relation to the overall health risks of pool members • The link between resource allocation to sub-pools and health care needs/ costs
Equity In The Delivery Of A Given Benefit Package	Benefit Package And Payment Provider Mechanism

2.8. KEYWORDS:

Keywords used to search literature are tabulated in Table 7.

TABLE 7 HEALTH FINANCING FUNCTION WITH KEYWORDS USED

Health Financing Function	Keywords
Stewardship	Ministry Of Health, Health Administration, Health Governance, India
Resource collection	Health Financing, Sources Of Financing, Public Spending Health, Out-Of-Pocket Payments Health, Total Health Expenditure (THE), Revenue Health Insurance, Equity, India, Universal Healthcare Donor Fund, Health Insurance, Government General Tax; Collection Rule, National Health Account, India
Pooling	Social Health Protection, Social Health Insurance, Government Health Schemes, Voluntary Insurance.
Purchasing	Benefits Package, Provider Payment Mechanism, Equity, Provider Payment methods, Fee-for-Service, Intersectional approach, India

2.9. LIMITATIONS:

The study does not focus on a particular state or district in India, so there is a possibility that some state/ district-specific issues might not have covered.

Available data on health expenditure in India from the data source National Health Account and the World Health Organization(WHO) database are not the same.

The national health account present estimates in decimal where WHO presents in round figures. However, for inter-state comparison, the National health account is followed, whereas the country comparison WHO database is supported.

The national health account and WHO both present data up to the financial year 2015-16, so the amount estimates of health expenditure presented in this study are from 2015-16, which might be different from 2018-19 estimates.

This study does not analyze private health care providers and health insurance schemes, and only focus on public health care providers. However, data available from different state health insurance schemes in India were included.

This paper only included literature published in English and had free access. So the possibility of exclusion of some relevant study results cannot be denied.

However, all the government official documents found relevant to the study are included with its English version, made available by the government of India.

CHAPTER 3 STUDY RESULTS FINDINGS

This chapter will look at the health system overview, stewardship function in the health system, and analyze health financing function(Resource collection, Pooling, Purchasing) with their Operationalizations.

To explore the stewardship function, institutional design and organizational structure of the Health care system in India. This subsection is organized as follow.

3.1. Gross domestic product (GDP) growth rates
3.2. Actors involved in stewardship functions
3.3. Healthcare system, service delivery and infrastructure
3.4. Human resources for health
3.5. The legal and regulatory framework for health financing
3.6. Key actors in health financing
3.7. Health Expenditure in India
3.8. Resource collection
3.9. Pooling
3.10. Purchasing

3.1. GROSS DOMESTIC PRODUCT (GDP) GROWTH RATES:

Indian is the seventh-large economy in the world in terms of GDP(26). In 2018 estimated GDP of India was 2.7 trillion international united state dollars (INR 187.7 million) with the annual growth rate of 6.9% (27). However, by looking at per-capita GDP in terms of purchasing power parity, India ranks 119 among the countries in the world and is even below then neighboring countries like Bhutan and Sri Lanka(28). In comparison to the annual growth rate of GDP, per capita, the annual growth rate is 5.8%(28).

3.2. ACTORS INVOLVED IN STEWARDSHIP FUNCTIONS:

By the mandate of the constitution of India article 47, the state government is accountable for offering health care services as per the guidelines of Indian public health standards(5). However, governance and administration of the healthcare system in India are provided by both union and state government as per the seventh Indian constitutional schedule(29) (5). For instance, Union government is responsible for national disease-specific programs (National AIDS Control Programme, Revised National Tuberculosis Programme, National Non-Communicable Disease Programme, Janani Shishu Suraksha Karyakram, National Health Mission to mention a few) aimed to stop and control communicable and non-communicable diseases, enhancing maternity and child health. However, maintaining public health, hospitals, sanitation, nutrition is the duty of state government.

Both (union and state) governments collectively control quality in drug manufacturing, medical education, population control programs, and programs to ensure economic safety against invisible medical expenses and food adulteration avoidance.

3.3. HEALTHCARE SYSTEM, SERVICE DELIVERY AND INFRASTRUCTURE:

3.3.1. HEALTH CARE SYSTEM:

A health system is an organization whose main objective is to enhance health and health equity through the most effective use of accessible resources in financially fair and responsive ways and primary actions intended to promote, restore or maintain health(30).

India has seven health systems, namely Allopathic and AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy), which are legally acknowledged and practiced to fulfill the health care needs of countrymen(31).

Governance and administration of Allopathic and AYUSH are done by different ministries, departments, and councils.

The allopathic health system, for instance, is under the ministry of health and family welfare. However, AYUSH is governed and administered by the ministry of AYUSH(32).

3.3.2. SERVICE DELIVERY:

To achieve this goal, India has organized a three-tiered health-care system for preventive and curative health care needs and categorized as primary, secondary, and tertiary health care systems (34). Public and private healthcare providers give health care services in rural and urban areas(33).

The primary health care system is the first contact point between patient and healthcare system responsible for providing primary care through sub centers (SC) the first point of contact between community and health services(35) and primary health care centers(PHC) responsible for providing integrated curative and preventive health care services (36).

The second tier of the health system is designed to provide care to patients referred from primary health care in need of specialist care the second tier of the health system in India includes district hospitals, sub-district hospitals, and community health center at the block level(33). Five thousand six hundred twenty-four community health centers, 12000 sub-district hospitals, and 605 district hospitals are functioning across India(7).

The third tier of the health system offers services such as specialized intensive care units, advanced diagnostic support services, and specialized consultative care to a patient referred from primary and secondary medical care. Medical colleges and research institutes provide the third tire of the health care system(33).

Private healthcare providers ranging from multi-specialty corporate hospitals to private clinics and solo medical practitioners, including registered medical practitioners and informal healthcare providers(healers without a valid medical license) are part of the private

healthcare industry in India(37). Private healthcare provider primarily provide secondary and tertiary care(38)

3.3.3. HEALTH CARE INFRASTRUCTURE:

Health care infrastructure reflects on the commitment of the government to ensure the necessary support for the delivery of public health activities(39).

The country has total 1,56,231 sub-centers(23), 25,650 PHCs, 476 medical colleges, 562 dental colleges, 3,215 institutions for general nurse midwives courses, and 777 colleges for pharmaceutical studies.

All together public facilities have 7,10,761 total number of hospital beds in the country of which 19,810 public hospitals are in a rural area offering 2,79,588 beds, and 3,772 public hospitals are in the urban area with 43,1,173 beds. Also, dispensaries (27,698 total in number) and hospitals (3,943 total in number) are delivering their services under AYUSH management status (7).

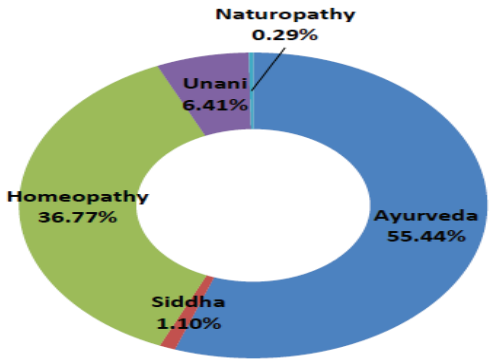
3.4. HUMAN RESOURCES FOR HEALTH:

Human resource for health is one of the vital pillars of the healthcare system and to ensure the effective functioning of healthcare facilities; it is essential to have an adequate skill mix human resource for health.

Across the country number of allopathic practicing, doctors are 1.4 million, whereas doctors practicing AYUSH all together are 773668. Also dental (251207), auxiliary nurse midwives(ANM) (841,279), registered nurses & registered midwives(1,980,536), lady health visitors (56,367) and pharmacist (907,132) work across the country(7).

Among the AYUSH practicing doctors number of doctors practicing Ayurveda is more as compared to the rest of the counterpart, as shown in figure 3.

FIGURE 3 PERCENTAGE OF REGISTERED AYUSH DOCTORS IN INDIA(7)



The distribution of health care facilities and human resources for health varies across the state, and their numbers are associated with state government spending on health care.

The general government health expenditure(GGHE) of state Assam is 7.5% of general government expenditure (GGE), and on average one allopathic doctor is present over the population of 539 people and one government hospital bed serves 1914 people whereas in Bihar GGHE is 4.4% of GGE, and one allopathic doctor is present over the population of 28,391 and one bed is available for the population of 5654 which is far more in comparison to Assam (Table 8). World Health Organization(WHO) has recommended one doctor per 1000 population(40). However, in Indian states, this ratio far low in comparison to the recommended ratio.

TABLE 8 FINANCING INDICATORS AND PUBLIC HEALTH SERVICES(7)

STATE; AVERAGE POPULATION SERVED PER GOVERNMENT ALLOPATHIC DOCTORS AND HOSPITAL BEDS, AND GENERAL HEALTH EXPENDITURE AS A PERCENT OF GENERAL GOVERNMENT HEALTH EXPENDITURE AS PERCENT OF GENERAL GOVERNMENT EXPENDITURE; FINANCIAL YEAR 2015-16					
State	General Government Health Expenditure as percent of General Government Expenditure (State Government)	Average Population Served/Government Allopathic Doctors	Average Population Served Per Government Hospital Bed	General Government Health Expenditure As Percent Of General Government Expenditure	Poor Quality of Care; Reason For Not Using Public Facilities(%)
Assam	7.5%	539	1914	7.5%	30%
Gujarat	6.5%	11,475	1946	6.5%	34%
Maharashtra	5.9%	16000	2306	5.9%	36%
Madhya Pradesh	5.2%	17,192	2661	5.2%	48%
Bihar	4.4%	28,391	8654	4.4%	59%

Inadequate numbers of medical staff and health care facilities affect the utilization of public facilities. For instance, in Assam, 30% of households who do not use public healthcare facilities gave poor quality of care as a reason whereas in Bihar, 59% said so, as seen in Table 8.

This also can be seen as these people are forced towards expensive private health care providers, which may become a barrier to access needed health care services due to financial hardship. It is also a violation of the right to access health care services.

Health care services in private facilities are expensive as compared to public facilities. For instance, in 2014, estimated total expenditure on per childbirth in public facilities in the rural area(INR 1587/ 23 USD) and urban area(INR 2217/30 USD). However, in private

facilities, it was estimated at rural (INR 14778/214 USD) and in urban (INR 20238/ 293 USD)(7)

Despite private health facilities are expensive compared to public facilities, services of private facilities are preferred over public health facilities, across the rural-urban population and lowest, fourth and highest wealth quintiles. However, a household in second and middle wealth quintiles use public facilities for their health care needs, as depicted in Table 9.

TABLE 9 SOURCE OF HEALTH CARE PROVIDER ACROSS THE WEALTH INDEX AND RURAL-URBAN AREA(14)

	Residence		Wealth Index				
Main source of health care Provider	Urban	Rural	Lowest	Second	Middle	Fourth	Highest
Private healthcare facilities	56%	49%	48.1%	43.7%	46.1%	52.2%	66.8%
Public facilities	42%	46%	45.7%	51.7%	50.6%	45.7%	31.5%

To look at the possible cause for Inter-state disparity in spending on health, it is important to look at the legal and regulatory framework and identify why this disparity exists.

3.5. LEGAL AND REGULATORY FRAMEWORK FOR HEALTH FINANCING:

Health financing is an arrangement by which financial resources for health are mobilized, accumulated, and utilized within the health system, to provide needed health care services to people without financial hardship(41).

Health care financing models countries follow to manage the healthcare system can be categories as follow.

Bismarck Model: Named after Otto von Bismarck, first chancellor of the German empire who invented this model(42). In this model of financing, the healthcare system is financed by the compulsory contribution of employer and employee to employer insurance fund and managed by nonprofit agencies, for those who are not covered by employ insurance funds are covered by public funds. This system is also known as social health insurance(41).

Beveridge System: named after Lord William Beveridge(41), who designed National Health Services in Britain, this model uses tax money to finance the healthcare system to provide needed healthcare to all citizens(43).

Mixed Model: In this model with an element of Bismark (tax money) and Beveridge models (compulsory employer-employee contribution), private funding by voluntary health insurance also has a significant contribution to finance health care system(44).

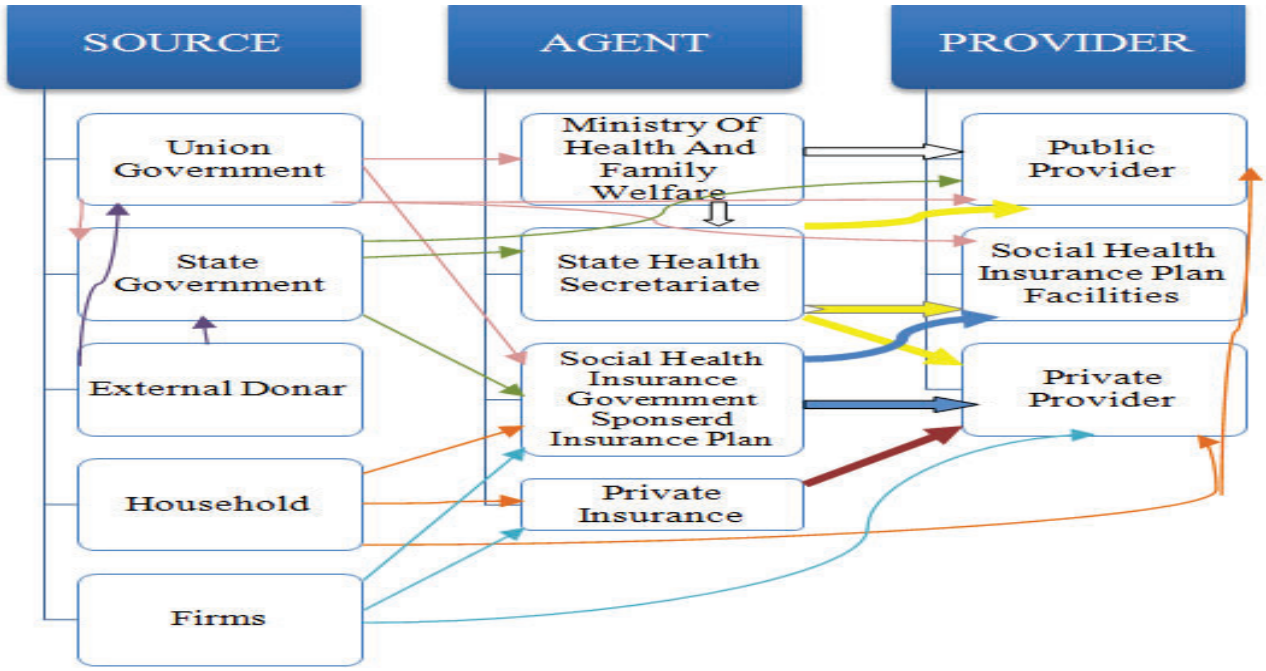
In India, the healthcare financing system is a combination of all these models. As for government employees', the Bismarck model is in place, schemes like the central government health scheme(CGHS) covering union government employee and ex-employees (including their dependents) (45). Whereas state government schemes, employ state insurance scheme(ESIC) covering employees (including their dependents)working in organizations registered under factories act are in place(46). Also, government-financed and

private health insurance schemes which are in place to provide financial protection against unseen health expenditure. However, at the same time, public health facilities are funded by tax money and are liable to provide healthcare services at free of cost to below poverty line families and subsidized prices to rest of rural and urban populations(33).

3.6. KEY ACTORS IN HEALTH FINANCING:

Key actors in health financing in India are government (union, state, local bodies), external donor, household and firms [public firms (railways and army) and private firms have their network of health facilities and provide services to their employees and dependents or may reimburse the medical bills of the employee]. Figure 4 provides an overview of the main actors and fund flow in the Indian health system.

FIGURE 4 FLOW OF FUNDS**(47)**



3.7. HEALTH EXPENDITURE IN INDIA:

Total health expenditure (THE), is current plus capital expenditures incurred by the government and private sources including external/donor funds, and household spending on health, as a percent of GDP indicate expenditure relative to the economic development of the country, whereas per capita THE identifies health expenditure per person in the country.

With the economic development of the country, health expenditure has not increased, on the contrary, it has decreased in the financial year 2015-16 by 0.2% and 0.1 % in comparison of the fiscal year 2013-14 and 2014-15 respectively. However, per capita expenditure on health increased in 2015-16 over three years, as depicted in Table 10.

General Government Health Expenditure (GGHE) per capita, which includes the current plus capital cost on health, is a health expenditure done by the Indian government (Union and State government together with local bodies) on per countrymen whereas GGHE as % of GDP indicates GGHE concerning economic development. Also, fiscal space for health in the country is reflected by GGHE as % of general government expenditure (GGE). GGHE per capita has increased over three years. However, GGHE in 2015-16 has only increased by 0.03% and 0.08% in comparison to the financial year 2013-14 and 2014-15. Also, fiscal space for health has increased by 0.29%, whereas donor dependency has increased by 0.4% over three years, as shown in Table 10.

TABLE 10 KEY HEALTH FINANCING INDICATORS FOR INDIA 2015-16 **(48),(49),(50)**

Financial Years	Total Health Expenditure Per Capita	Total Health Expenditure as % GDP	General Government Health Expenditure Per Capita	General Government Health Expenditure as % of GDP	General Government Health Expenditure as % of General Government Expenditure (fiscal space for health)	External Funding For Health (donor dependency)as % THE
2015-16	INR 4116(58 USD/51 Euro	3.8%	1261(17 USD/15 Euro)	1.18%	4.07%	0.7%
2014-15	INR 3826(54 USD/48 Euro)	3.9%	INR 1108 (15.5 USD/14 Euro)	1.1%	3%	0.7%
2013-14	INR 3638(51 USD/45 Euro)	4%	INR 786 (11USD/ 10 Euro)	1.15%	3.78%	0.3%

3.8. RESOURCE COLLECTION:

Resource collection is one of the three functions of health financing function, aiming to raise revenue for health in equitable and efficient way in order to provide needed health services to people without financial hardship(41).

This section will look at the resource collection function of healthcare financing in the country context affecting financial accessibility, and the performance indicator used will be as follows.

3.8.1. Level of Equity in Financing
3.8.2. Level of Population Coverage

3.8.1. LEVEL OF EQUITY IN FINANCING:

The level of equality measures the degree of contribution by households according to their ability to pay(42).

In India, sources for financing health care are tax money(collected by Union and state government and the local bodies), health insurance (social, private and government-sponsored schemes), and out-of-pocket payments.

3.8.1.1. GOVERNMENT GENERAL TAX; COLLECTION RULE:

For union and state governments, the main source of funds is from tax money. Responsibility for raising taxes is shared by the union and, state government, and local bodies(52). Union government is responsible for collecting, income tax, customs duties, central excise and sales, and service tax, whereas the state government collects sales tax(tax on interstate sales of goods), stamp duty state excise, land revenues, local body is empowered to levy a tax on properties tax on markets user charges like water supply, drainage(53).

The total number of income taxpayers has increased over time. For instance, in the 2013-14 total number of the income taxpayer was 52.79 million, and by 2017-18, their number increased to 74.13 million(54). However, a significant portion of the population does not pay income tax, as out of 1.33 billion people (current approximate population), only 1% of the entire population paid their income taxes in 2016-17(54).

Revenue from indirect taxes [tax collected by the third person from the consumer against the purchase of goods or services(53)] has significant share in total tax revenue as percent of GDP compared to direct taxes[tax imposed on income or profit of the person(52)] as shown in the Table 11(55).

TABLE 11 SOURCE OF TAX AS A PERCENT OF GDP FROM THE FINANCIAL YEAR; 2013-14 TO 2016-17

Financial Year	Direct Tax Revenue As % Of GDP	Indirect Tax Revenue As % Of GDP	Total Tax Revenue As % Of GDP
2013-14	5.78	10.95	16.73
2014-15	5.64	10.72	16.36
2015-16	5.63	11.95	17.57
2016-17	5.72	12.10	17.82

The provision of indirect taxing is a regressive meaning percent of income given as tax money by households in lower wealth quintile is more than the percentage of income given by households in higher wealth quintile; on the other hand, a direct taxes are considered progressive (41).

However, a higher contribution of indirect tax is seen as a result of new policy reforms in taxing. For instance under "swachh bharat mission" tax were increased on polymer bags, and lignite, also subsidies on petroleum were decreased.

Studies done in order to find the effect of macro-economy and public health expenditure found that taxes(direct and indirect) can increase public health expenditure by decreasing the fiscal deficit and debt burden(56).

All broad-based and redistributive taxes, money supply function, and borrowing powers are predominantly assigned to the union government(52). At the same time, most expenditure functions including healthcare services, are obliged to state, given by the constitution of India(24), due to their comparative advantage in better understanding of community-based need(53). This results in a gap between revenue collected and expenditure needed by the state government(57), and vertical imbalance in terms of wealth, among state and union governments(48). Furthermore, horizontal inequality among states is another worry, due to differences in raise revenues ability and unit cost for providing public healthcare services(58).

In the constitution of India, the issue of fiscal imbalances has been recognized and addressed by the provision of intergovernmental transfers of funds from the union government to the state government(16).

Sharing of funds between union and state government can be is categorized into "General Purpose" and "Specific Purpose."

The general purpose is unconditional transfers aiming to make available comparable levels of public services at similar tax rates. Whereas specific purpose transfer is conditional transfer, for union government-sponsored and administered health schemes, aiming to ensure minimum standards of public health services(59).

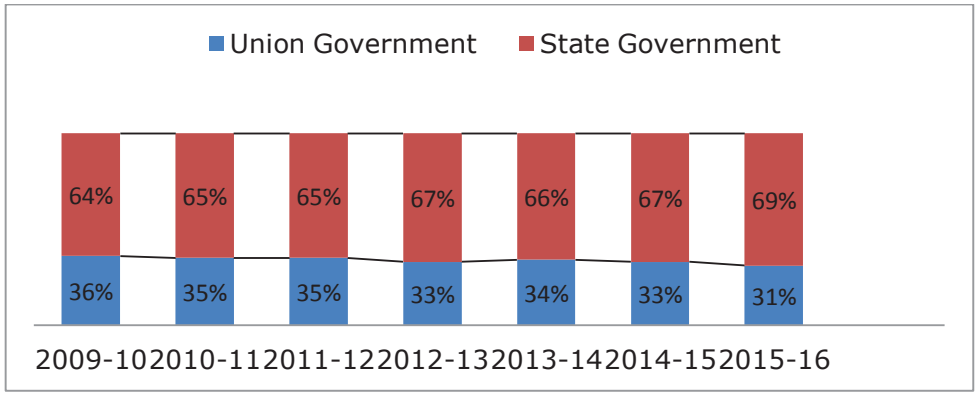
There are three main channels for intergovernmental transfer of funds mainly from the union government to state government.

The first channel is based on the recommendation of the finance commission, appointed by the president of India every five years, to put a suggestion on the sharing of taxes between union and state government(60). Secondly is by the planning commission of India- a central government body that releases funds as per formula- based standard central assistance, and also for state-specific priority and development of infrastructure(57). Third is by different ministries to their counterpart ministries in the state in the form of full union government-funded programs or by union government-sponsored program with a contribution of state government. National Health Mission is one of the examples of such a union government-sponsored scheme(60) where funds are released as(7).

- National Rural Health Mission (NRHM) Flexi pool, National Urban Health Mission (NUHM) Flexi pool, for Routine Immunization, Pulse Polio Immunization, Iodine Deficiency Disorder Control Programme.
- Reproductive and child health (RCH) flexi pool,
- Flexible pool for communicable diseases national vector-borne disease control(49)
- The program, national T.B. control programme, national leprosy eradication programme, integrated
- Disease surveillance programme
- Flexible pool for non communicable diseases including injury and trauma and infrastructure maintenance covering national programme for control of blindness, national mental health programme, health care for the elderly, national programme for prevention &control of deafness, national tobacco control programme, national oral health programme, assistance to states for capacity building, national programme for prevention and control of cancer, diabetes, cardiovascular diseases and stroke, other new initiatives under non-communicable diseases.

The state governments, release funds to the district health societies, for further release to the local bodies (municipal corporations and village councils also known as panchayats) who in turn, further disburse funds to various implementing units (community health centers/ primary health centers/ sub-centers) (24). The trend in union-state government share as % in total public expenditure on health is shown in figure 5.

FIGURE 5 TREND OF UNION, STATE GOVERNMENT SHARE AS % IN TOTAL PUBLIC EXPENDITURE ON HEALTH 2009-10 TO 2015-16**(7)**

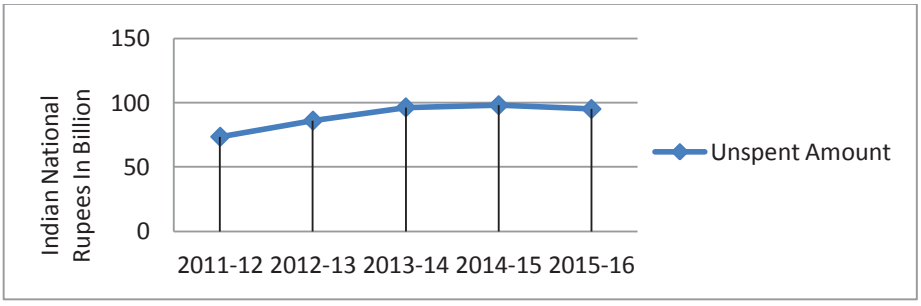


The contribution of the union government in total public expenditure on health has remained in the range of 36% to 31% over seven years. It is also noted that share of the union government in total public expenditure on health(GHE) is gradually decreasing over time, as in the financial year 2009-10 union government contributed 36% in total GHE which reduced to 31 % in 2015-16, as shown in figure 5.

The low share of from union government is due to the inability of the state government to utilize available funds for health. However, due to the unspent amount by the state government, the union government reduces the share of funds given to the state government in succeeding financial year, because 25% of the total estimated amount given by union government to the state government, depends on the unspent amount(61).

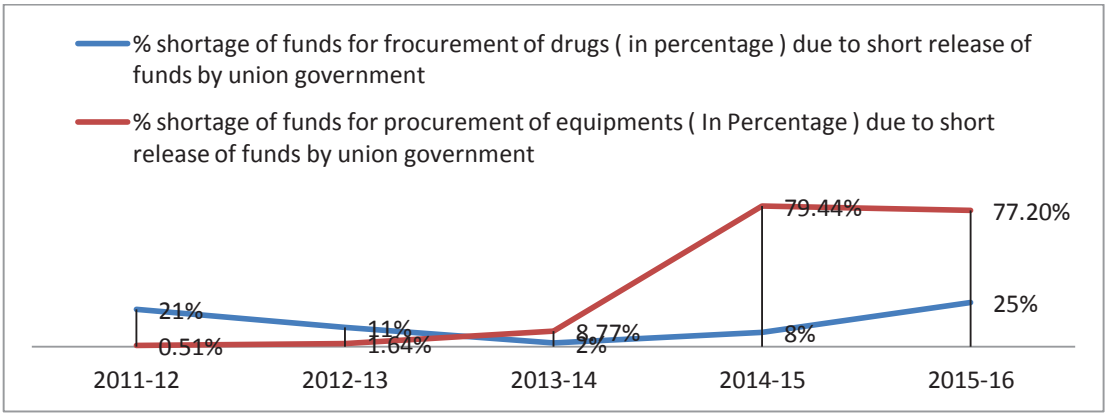
An increasing trend of unspent funds is noted over the years, as depicted in figure 6. Unspent funds for health question the commitment and capacity of the state government to improve health.

FIGURE 6 TREND IN UNSPENT BALANCE(2011-12 TO 2015-16) **(61)**



Less release of funds from the union government reduces the ability of the state government to spend on the procurement of medical supplies. After the financial year 2013-14, a sharp increase in the trend of a shortage of money for the procurement of drugs and equipment for the health facilities is noted, as shown in figure 7.

FIGURE 7 SHORT RELEASE OF FUNDS BY THE UNION GOVERNMENT AND SHORTAGE OF FUNDS FOR PROCUREMENT OF MEDICAL GOODS 2011-12 TO 2015-1 **(62)**

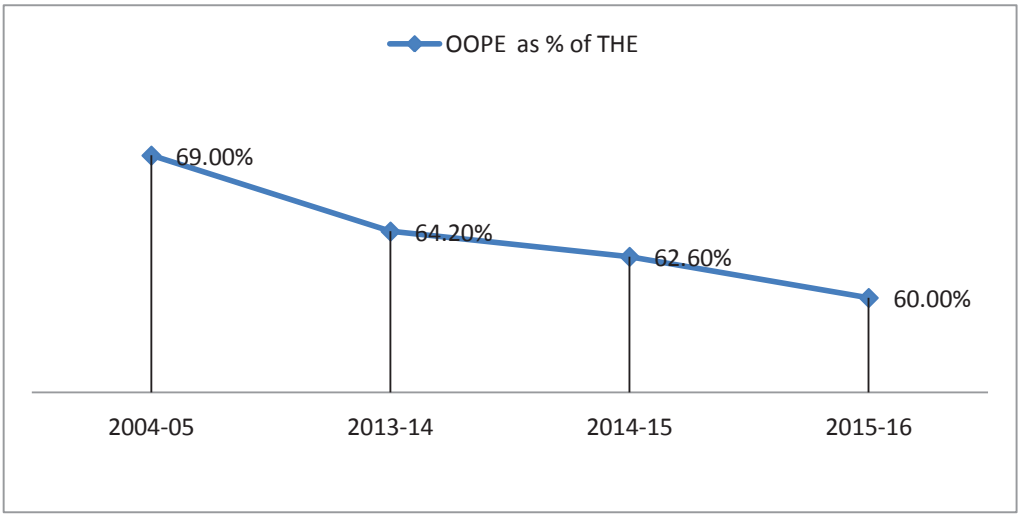


3.8.1.2. REVENUE FROM HEALTH INSURANCE(HI) SCHEMES:

The revenue generated from different health care financing schemes is increased over time. In the financial year, 2013-14 total revenue generated from different HI schemes was 5.2% of current health expenditure; however, by the financial year, 2015-16 it rose to 6.21%, as seen in figure 8. This can be seen as an overall increase in coverage of household under financial risk protection mechanism which also reflects as decreasing trend of out- of-pocket expenditure(OOPE) as % total health expenditure(THE).

Out-of-pocket expenditure as % of total health expenditure in 2004-05 was 69%, which reduces 60.59% by 2015-16 as depicted in figure 8. However, OOPE as % of THE is still too high in the comparison to the recommended limit of below 20% by the world bank and world health organization for reducing catastrophic expenditure(63).

FIGURE 8 TREND IN OUT-OF-POCKET EXPENDITURE(OOPE) AS % OF TOTAL HEALTH EXPENDITURE



Revenue from voluntary prepayment is increased over time, whereas revenue from rest other schemes has not seen any substantial growth. This indicates that voluntary HI schemes are a major contributors in revenue generated from any other HI scheme, as seen in Table 12.

TABLE 12 REVENUE FROM HEALTH INSURANCE SCHEMES(7)

Distribution of Current Health Expenditure(%) by Revenue From Health Insurance Schemes						
Financial Year	Social Insurance Schemes(SIS)			Voluntary Prepayment From Individuals	Voluntary Prepayment From Employers	Total Revenue From All HI Schemes
	Contributions From Employee	Contributions From Employer	Total Revenue From SIS			
2015-16	0.54%	1.22%	1.76%	3.86%	0.59%	6.21%
2014-15	0.5%	1%	1.5%	3.5%	0.5%	5.5%
2013-14	0.5%	1.3%	1.8%	2.9%	0.5%	5.2%

3.8.1.3. REVENUE FROM OUT OF POCKET EXPENDITURE:

Out- of –pocket expenditure(OOPE) is any health expenditure done at the point of receiving health care services. However, OOPE does not include any prepayment for health service like insurance premium or payroll tax paid(20).

FIGURE 9 TREND OF OOPE AS % OF CHE (64)

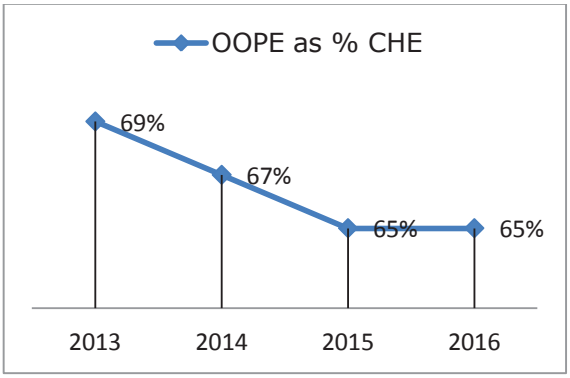
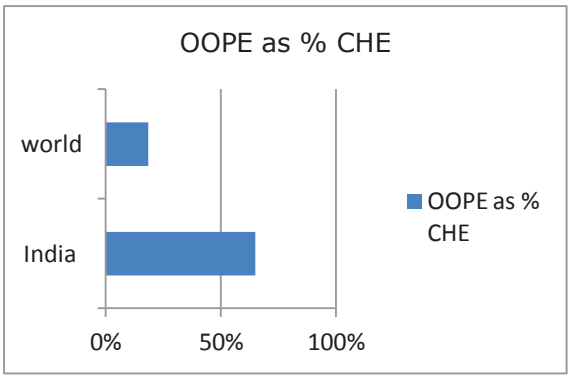


FIGURE 10 COMPARISON OF INDIA WITH THE WORLD(65)



Out of pocket expenditure (OOPE) is the most dominating mechanism for health financing in India, OOPE is 65% of CHE which is very high in comparison to the global average (OOPE as 18% of CHE), as depicted in figure 9 and 10. However, over the period of time OOPE as % CHE was decreased from 69% in 2013 to 65% in 2016.

3.8.1.4. REVENUE FROM EXTERNAL DONOR FUNDS:

External donor funds for health is the money available from a donor, share of donor fund in total health expenditure indicate the dependency of the country on external resources for the health care needs, and reflects on the inability of the country to mobilize domestic resources(63).

Over a period of time, India has reduced its donor dependency for health care needs. For instance, in 2004-05 share of donor money was 2.3% of total health expenditure, which reduced to 0.7 % in 2015-16(7).

The money received as an aid from the donor agencies is dedicated to disease-specific programs and cannot be used for general health services, as a result, funds for selected health programs are increased only(60).

However, with inadequacy in the fund management by the government (union and state), it is also important to look at its effect on government expenditure on health.

3.8.2. LEVEL OF POPULATION COVERAGE:

The level of population coverage indicates the extent of the population covered by a financial risk protection mechanism and not put at financial risk due to the cost of care.

Health Insurance (HI) schemes and tax-based government subsidies are the two mechanisms to provide financial protection.

Health insurance is the arrangement that provides payment of benefit as a result of sickness or injury(66), whereas health insurance policy is an agreement between the insurer and individual or group where insurer provided financial protection against medical expenditure subject to terms and conditions in the plan(67).

Recent policy reforms by insurance regulatory and development authority(IRDA) of India in health financing have changed the paradigm towards Demand Side Financing(68), aiming to enhance the purchasing power of the user and to give him an option to chose for a healthcare services provider made changes in its policy to promote private insurance companies. Currently, 30 different private health insurance companies offer their services in India.

3.8.2.1. GOVERNMENT HEALTH INSURANCE SCHEMES:

Central government health insurance(HI) scheme(CGHS), a compulsory HI by the union government for its employs where contribution by the employ per month is INR 250 to 1000(3.52 $ to 14 $) as per monthly income(69).Similarly, the state government also has employees' state insurance scheme(ESIS) where the contribution is by employ (0.75% of wages) and employers (3.25% of employees' wages) (70).

Since 2007 the government (union and state) have launched multiple health insurance schemes for below the poverty line population. For instance, the Rashtriya Swasthya Bima Yojana (RSBY) government-sponsored voluntary health insurance scheme, a joint venture of union and state government launched at the national level to ensure health insurance among families living below the poverty line by taking one-time registration fees of INR 30 (0.45 USD), insured person(IP) (including their dependents) is entitled to get cashless health benefit package prescribed by government of India, in impaneled hospitals for one year after which enrolment has to be renewed, 75% of this scheme is financed by the union government and 25% by the state government(71).

Similarly, health insurance schemes like Yeshaswini and Vajpayee arogyasri in Karnataka, Rajiv arogyasri scheme in Andhra Pradesh and Telangana, Chief minister's comprehensive health insurance scheme in Tamil Nadu and are state-sponsored schemes run by the state government(7). Government-sponsored HI schemes contribute least as compared to other HI schemes and have not increased over time, as shown in Table 13.

TABLE 13 HEALTH INSURANCE SCHEME BY RESIDENCE AND WEALTH QUINTILE 2015-16(14)

Background Characteristic	Total (%)of Household covered by any Health Insurance scheme	Health Insurance scheme-wise percent distribution of household who are covered by any health insurance scheme						
		Employ State Insurance Scheme(ESIC)	Central Government Health Scheme (CGHS)	State Government Health Insurance Scheme	Rashtriya Swasthya Bima Yojana (RSBY)	Other Health Insurance Through Employer	Medical Reimbursement from employer	Private Health Insurance
Urban	28.2%	10.6%	8%	45.8%	19.5%	3.8%	3.7%	8.5%
Rural	28.9%	1.9%	3.3%	50.1%	41.4%	0.7%	0.5%	1.8%
Wealth Quintile								
Lowest	21.6%	0.7%	1.9%	34.3%	63.5%	0.2%	0.1%	0.4%
Second	28.4%	0.9%	2.2%	47.9%	47.1%	0.3%	0.3%	0.7%
Middle	32.3%	2.1%	2.8%	61.6%	30.2%	0.7%	0.3%	1.4%
Fourth	30.6%	5.7%	4.7%	58.7%	24.9%	1.7%	0.9%	3.2%
Highest	30.5%	13.6%	11.9%	36.2%	13.5%	5.4%	6%	13.8%
Total	28.7%	4.9%	4.9%	48.7%	33.9%	1.8%	1.6%	4.1%

However, seventy-one percent of Indians do not have financial cover for their healthcare needs, and the distribution of financial cove is disproportionate among the wealth quintiles. For instance, percent of household covered by HI scheme is more compared to lower wealth quintile, as seen in Table 13.

However, state-sponsored scheme and RSBY covers the majority of household, in comparison to any other scheme. However beneficiaries of RSBY are mostly from a rural area and lower wealth quintile, as RSBY only covers household from below poverty line, but household from highest wealth quintile are also beneficiary of RSBY scheme, as seen in Table 13. This indicates corruption in the scheme.

On the contrary government HI scheme, beneficiaries of private HI schemes are commonly from the highest wealth quintile urban area, as seen in Table 13.

3.8.2.2. EXPENDITURES THROUGH THE HEALTH INSURANCE AGENCIES HEALTH INSURANCE (HI) SCHEMES:

Expenditures through the social health insurance(HI) agencies for providing healthcare services to their beneficiaries is 3.2% of the current health expenditure, and this expenditure is increased over time and is more in comparison to any other HI agencies, as seen in Table 14.

Higher expenditure by social health insurance agencies indicates the extent of services offered by the agencies is more as compared to any other scheme.

TABLE 14 EXPENDITURE OF HEALTH INSURANCE AGENCIES**(50) (48) (49)**

All expenditures through the Health Insurance agencies for providing healthcare services to their beneficiaries as (%) of Current Health Expenditure				
Financial Year	Social Insurance schemes	Government Financed Health Insurance Schemes	Employ Based Health Insurance Schemes (private organizations)	Private Individual Health Insurance
2015-16	3.2 %	1%	2.3%	2.1%
2014-15	2.7%	1%	2%	1.9%
2013-14	2.9%	1.1%	1.9%	1.6%

3.9. POOLING:

Pooling is one of the functions of health financing policies aiming at financial risk-sharing against unseen and unpredictable medical expenditure among the population from different risk groups (72).

This section will look at the Pooling function of Healthcare financing in the country context. The following performance indicator will be used with their operationalization.

3.9.1. Degree of Financial Risk Protection
3.9.2. Level of Pooling

3.9.1. DEGREE OF FINANCIAL RISK PROTECTION:

Degree of financial risk protection measures the share pre-payment and risk pooling to health care costs in the country and estimated as follows.

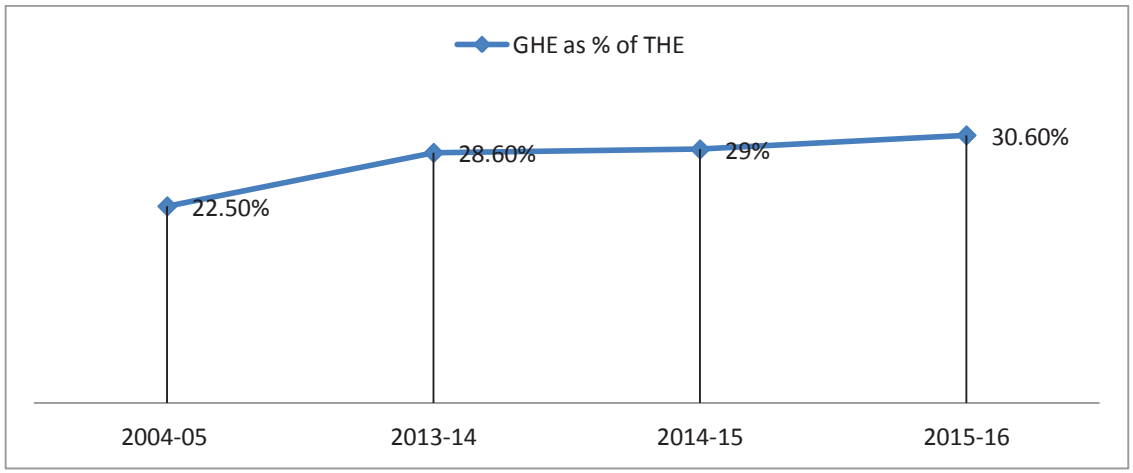
- Health financing indicator[general government health expenditure(GGHE) as a percent of total health expenditure(THE)] referring to financial resources for health collected and pooled by public agencies(27).
- By evaluating percent of the household experiencing catastrophic cost

Government health expenditure is money incurred on all public-funded schemes by union and state governments together with local bodies, as low government spending can bring high dependence on household out of pocket expenditures(18).

Government health expenditure as a percent of total health expenditure has increased over time. In the financial year 2004-05, GHE was 22.5% of total health expenditure; however, by 2015-16, it increased to 30.6%, as depicted in figure 11.

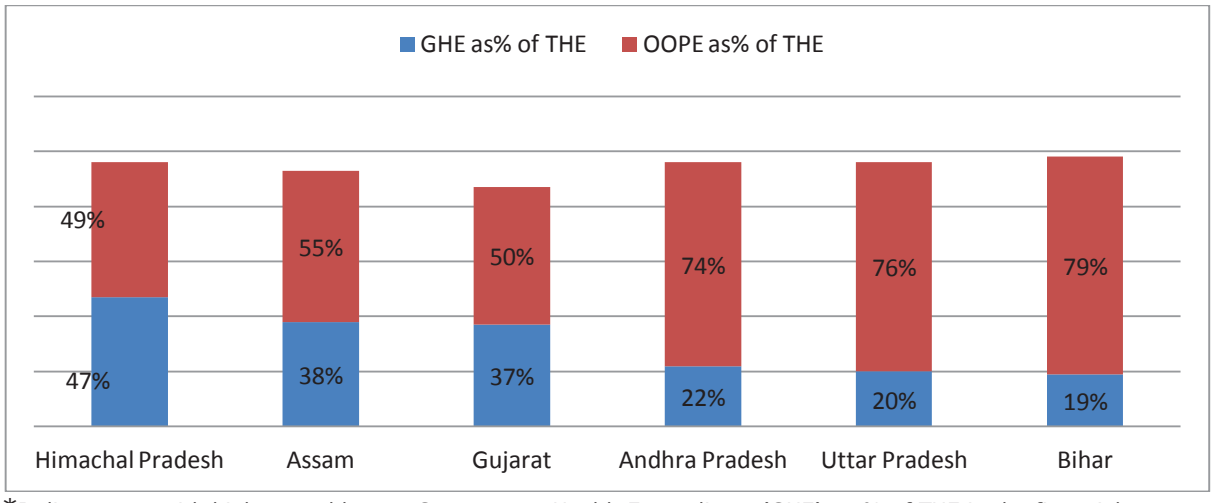
It can be noted that in the period of 3 years (2013-14 to 2015-16) there is no substantial change in government spending on health as percent of total health expenditure.

FIGURE 11 TREND IN GOVERNMENT HEALTH EXPENDITURE**(50)**



Himachal Pradesh, the state with high public expenditure have low OOPE as a percent of THE whereas in a state like Bihar with low public spending have high OOPE as a percent of THE, also trend between OOPE and government expenditure can be noted as government health expenditure decrease OOPE expenditure increase, as seen in figure 12.

FIGURE 12 STATE GOVERNMENT HEALTH EXPENDITURE AND OUT-OF-POCKET EXPENDITURE AS % OF TOTAL HEALTH EXPENDITURE**(50)**



*Indian states with highest and lowest Government Health Expenditure (GHE) as % of THE in the financial year 2015-16 has been selected, for all states
* Here GHE is an expenditure of the state governments
* Total Health Expenditure (THE) here is THE of state not of India

Out of pocket payment(OOPE) may result in catastrophic expenditure on health(73). Health expenditure is considered to be catastrophic if total OOPE is more than 10% of the total household monthly expenditure or OOPE more than or equal to 40% ability to pay(74).

However, in this study, health expenditure is considered catastrophic if the total OOP is more than 10% of the total household monthly expenditure.

In the year 2014, all together (rural and urban population from all wealth quintile) 18% of households incurred catastrophic health expenditure.

Since 1995-96, catastrophic health expenditure has increased 12.24-fold by 2014(75). Studies show(21), households in the wealthiest quintile more frequent have catastrophic health expenditure compare to poorest quintile, however, over time (1995–1996 and 2014) the proportion increased of CHE in increased by 3.00-fold in the lowest quintile compare to 1.74-fold in the richest. Households with older people, children, and inhabitant of rural areas are the more vulnerable group for catastrophic health expenditure (76).

3.9.2. LEVEL OF POOLING:

The level of pooling as a performance indicator estimates differences in spending per member and reveals the inequity in health spending per member. Table 15 shows parameter of different public sponsored health insurance scheme in India

TABLE 15 PUBLIC HEALTH INSURANCE SCHEME INSTITUTIONAL DESIGN(77)(78)(79)

How Many Pools are Present	How many Beneficiaries are there as % of Population covered by any type of health insurance	what is the Per capita expenditure	What Occupation groups are there in this pool	Enrolment Process	Premium collection process
CGHS	4.9 %	INR 7219(104 $)	Union Government Employees' and Pensioners Semi-autonomous Government Organizations Member of parliaments and their dependents	Compulsory	A premium of INR 50(0.72 $,) to INR 500(7.23 $) per month as per annual salary
ESIC	4.9%	INR 505(7.3 $)	Employees' are working in the factories registered	Compulsory	Employees' 1.75% of monthly salary and

			under the factory act and earning INR 15000(216$) per month or below.		Employer 4.75 % of Employee salary
RSBY	33.9%	INR 180(2.6$)	Below poverty line (BPL) households(5 members in the family)	Voluntary	Annual registration fees of INR 30(0.3 $)per household rest of the premium is shared by union (75%) state (25%)
State Health Insurance (HI) Schemes which altogether covers 48.7% of the population having any type of HI					
Yeshasvini Co-operative Farmers Healthcare scheme, Karnataka	3 million households	INR 183(2.6 $)	The entire state of Karnataka	Voluntary	58 % of the total treatment cost by the beneficiary and 42 % by the state government
Rajiv Aarogyasri Community Health Insurance Schemes	20 million households	INR 171(2.47$)	Household in Below poverty line in the state of Andhra Pradesh	Voluntary	100% from the state government through health budget
Chief Minister KALAIGNAR'S Insurance Schemes	13. 4 million households	INR 148(2.14$)	Household Below Poverty line in the entire state of Tamil Nadu	Voluntary	Premium price INR 469(6.78$) per household annually rest financed by TN state.
RSBY Plus Scheme Himachal Pradesh	0.24 million	INR 200(2.89$)	For all citizen having domicile of HP	Voluntary	Annual premium of INR 345(5$),

Central government health scheme(CGHS) operated by the union government, covering union government employee and ex-servicemen including their dependents(77), and employees' state insurance corporation(ESIC), operated by labor ministry, covering factories workers and their dependents registered under factories act and having the annual salary less than INR 15000(214$) per month(78).

These two are the primary social health insurance schemes in the country with a component of compulsory contribution by employees' and employers(46). Whereas , government-sponsored health insurance schemes, except RSBY PLUS and Yeshasvini Co-operative Farmers Healthcare scheme, Karnataka rest all covers only households who are below the poverty line, which is 22% of the population(the poverty line defined in India as monthly per capita consumption expenditure less than INR 972(14.06 $) in rural whereas INR 1407(20.35 $) in the urban area(79), as presented in Table 15.

Inter-sate equity in the coverage of the population by the HI scheme is not seen states like Kerala and Telangana have their state-sponsored health insurance schemes together with union government HI schemes.

However, states who have more population like Bihar and Uttar Pradesh, do not have any state-specific insurance scheme and rely on union government HI schemes. It reflects on the total number of the person having insurance in these states like Kerala(47.7%), Uttar Pradesh(6%), Bihar(12%) have population covered under any HI scheme(14). It results in duplication of efforts and utilization of scarce resources.

Difference in the per capita expenditure under these HI schemes exist, as central government health insurance scheme(CGHS), manage and funded by the department of health and family welfare have 128 million beneficiaries under the scheme, and per capita expenditure is INR 7219(101.5$), whereas employ state insurance scheme ESIS managed and financed by the labor ministry also has 128 million beneficiaries and per capita expenditure is INR 505(7$) on medical benefits, reported in 2017. Similarly, all state-specific HI schemes also have a difference in the per capita expenditure, as shown in Table 15.

The difference in per capita expenditure across HI schemes is examined on the grounds of the scheme focus, maturity, and benefits package and cost-sharing provisions benefit package in a further section.

3.10. PURCHASING:

Purchasing is one of the functions of health financing, which refers to the existing provisions of the benefits package and processes for allocating pooled funds to healthcare suppliers(80). The impact of purchasing on financial accessibility will be analyzed in this section by looking at equity in benefit package delivery, and benefits package and payment provider mechanism of different health insurance schemes will be explored.

3.10.1. BENEFITS PACKAGE AND PAYMENT PROVIDER MECHANISM:

The benefits package is a minimum set of cost-effective healthcare services, which add more value for money and available without socioeconomic demographic barriers(81).

All public health services financed through general tax money provide their services at free of cost to a household below the poverty line and at a subsidized cost to the rest of the population are. It is a societal, pooling arrangement that covers the entire community(82).

All public sponsored HI schemes follow prospective payment methods, where the rate for set of services is defined and agreed between purchaser and provider(health care facility) before the treatment takes place. However, health care staff follow salary based contract with organizations (public or private)to provide their services. However, medical practitioners who do not work with any organization, instead work for them self charge fee for service(98).

All public sponsored health insurance cover pre-existing conditions and are cashless, meaning the beneficiary has not to pay at the time of using services predefined under the package. However, benefits package under different health insurance schemes varies by level of health services covered(Primary, secondary, tertiary care) and monetary cap, Table 16 and 17 show differences in the services covered under each HI scheme.

Beneficiaries of central government health insurance scheme(CGHS) and employ state insurance scheme(ESIC) are entitled to have medical services(inpatient, outpatient, dental care, investigations, and drugs) with a cashless facility and without any ceilings, through the chain of public / ESIC health centers and private healthcare centers impaneled with CGHS/ ESIC schemes. These two schemes also cover preexisting disease and treatment under homeopathy and Ayurvedic system of medicines (77) (78). Cash benefits(70% of the daily wedges) against the salary lost due to sickness and funeral expenses is an additional benefit under the ESIC scheme(83)

TABLE 16 HEALTH INSURANCE SCHEME WITH BENEFIT PACKAGE AND PAYMENT MECHANISM(78)(76)

HI Scheme	Service Provider	Sharing Networks	Benefit ceiling	Cash Less Or With Copayment
RSBY	A network of public and private impaneled hospital.	Inter-state	Fixed close-ended prices INR 30000(422$) per year	Cashless
Yeshasvini Co-operative Farmers Health Care Scheme, Karnataka	Network of public and private impaneled hospital.	Only within the state	INR 200,000(2815$) per person ceiling	Cashless
Rajiv Aarogyasri Community Health Insurance Schemes	A network of public and private impaneled hospital.	Only within the state	INR 150,000(2111$) per family per year with an additional buffer of INR 50,000(703$)	Cashless
Chief Minister KALAIGNAR'S Insurance Schemes	A network of public and private impaneled hospital.	Only within the state	INR. 100,000(1407$) over four years, per family	Cashless
RSBY Plus	A network of a public and private impaneled hospital.	Only within the state	INR. 175,000(2463$) beyond the INR. 30,000(422$) covered by RSBY	Cashless

TABLE 17 HEALTH INSURANCE SCHEME-WISE BENEFIT PACKAGE(7)

	Sharing Networks Service Covered	Services Not Covered
RSBY	Inpatient care, preexisting conditions including 700 procedures classified by 18 broad categories of interventions, include dental, ear, nose, and throat, obstetrics and gynecology, endoscopic, hysteroscopy, neurosurgery, ophthalmology, orthopedic, pediatrics, endocrinology, urology, oncology	Congenital diseases, drug, alcohol-induced illness, sterilization, and family planning-related procedures, vaccination. conditions resulting from war and attempted suicide. treatments using AYUSH
Yeshasvini Co-operative Farmers Health Care Scheme, Karnataka	Preexisting conditions, drugs, diagnostics, hospital bed charges, and the surgeries. normal delivery, neonatal care, angioplasty, and selected medical emergencies (e.g., accidents, snake and dog bites) free outpatient consultation facilities and discounted diagnostic tests	Any treatment but the defined surgeries, ambulatory treatment, joint replacement surgeries, transplants, burns, chemotherapy for malignancies, cosmetic surgery, injuries from road accidents or other medico-legal cases, dialysis, surgical consumables (implants, prostheses, meshes, heart valves, stents, bone screws and nails or grafts except for lens for cataract surgeries)
Rajiv Aarogyasri Community Health Insurance Schemes	Complete inpatient costs for 938 surgical and medical procedures pertain to defined specialties including cardiology, neurology, urology, and oncology. Treatment for burns and polytrauma are also covered. transportation costs One-year follow-up packages, including consultation, medication, and diagnostics, for selected 125 procedures.	
Chief Minister KALAIGNAR'S Insurance Schemes	400 listed inpatient conditions under 14 broad specialties, including surgical corrections for congenital disorders. In cardiac Cases, drugs worth INR. 500 (covering a two-month, post discharge supply)	Transportation cost

	402 surgical procedures cardiology, cardiothoracic surgery, cardiovascular surgery, neurosurgery, genitourinary surgery, oncology (medical, surgical, and Radiation), pediatric surgery, polytrauma, and burns. In addition, the the scheme covers 50 defined follow-up packages that include post hospitalization care for a subset of covered procedures, including consultations, Diagnostics and drugs for a year. costs of medicines for ten days post-discharge, and reimbursement of public transport	
RSBY Plus	326 procedures(preexisting conditions) within the broad specialties of cardiac and cardiothoracic surgeries, genitor-urinary surgery, neurosurgery, radiation Oncology, trauma, transplant surgeries, spinal surgeries, and surgical gastroenterology. to 15 days prior to hospitalization and up to 60 days post-discharge, AYUSH	

Rashtriya Swasthya Bima Yojana(RSBY), designed for households below the poverty line(BPL), covers only inpatient services including emergency services, meaning medical condition in which hospitalization is required whereas the cost for outpatient services and medicine is not included and to be paid from out of pocket.

Beneficiaries of RSBY can use services anywhere in India through the chain of impaneled public and private hospitals.

State-sponsored health insurance(HI) schemes, unlike RSBY, covers inpatient and outpatient services. However, most of the services covered are surgical procedures and do not include medical conditions other than those require a surgical procedure. Also, services under state-sponsored HI schemes can only be availed within the state, as shown in Table 17.

Also, equity in the coverage of the population within the scheme is also not seen, for instance, 38 % CGHS beneficiaries are from Delhi consuming 57% of the total CGHS budget where Kolkata (8%) consuming 4% of the total budget(78).

On the other hand, despite increasing the profit margin, 8% of the eligible population is left uncovered from ESIC due to the low-concentration of employers and employees' in the region(84).

Coverage by a public sponsored scheme like RSBY also varies among the states of India. For instance, 40% of households living below the poverty line in Chhattisgarh and 23% in Rajasthan are covered under the scheme. Also, studies done to evaluate the RSBY program in Maharashtra state found that the enrolment rate and implementation of the program in the districts are poor(85).

The extent of financial protection by the HI schemes can be understood by the cost incurred on health care goods and services covered. From the Table 18, it can be seen that over a period of time, expenditure on prescribe medicine as a percent of current health expenditure(CHE) increased from 1.7% in 2013-14 to 27% in 2015-16. Similarly, the share of expenditure on laboratory and imaging services and general inpatient curative care also increased in relation to current health expenditure. However, the proportional increase in the expenditure is maximum for prescribed medicine, in comparison to expenditure on any other health care goods.

TABLE 18 CURRENT HEALTH EXPENDITURE BY HEALTH CARE GOODS AND SERVICES(2013-14 TO 2015-16)**(50)**

Year	Prescribe Medicine	General inpatient curative care	Specialize inpatient curative care	Laboratory and Imaging Services	General Out-Patient Care	Specialize Out-Patient Care
2015-16	27%	21%	12%	4.30	13%	4.24%
2014-15	28%	21%	13%	4.7%	12%	4.1%
2103-14	1.7%	20%	14%	0.1%	29%	15.6%

A scheme like RSBY, which intended to provide financial protection against unseen health care costs to the below the poverty line households does not cover the cost incurred on medicine and has to be paid out of pocket. Studies also show that beneficiaries under the different health insurance scheme suffer from catastrophic expenditure despite having health insurance scheme(86).

Benefits Package offered by different Health insurance (HI)scheme differs not only in services covered or amount caped but also, the price provided by the package for the particular set of services, as depicted in Table 19.

TABLE 19 PACKAGE RATE DIFFERENCE BY HEALTH INSURANCE SCHEME**(87)(88)(89)**

Package For	Health Insurance Scheme		
	Central government health scheme	Rashtriya Swasthya Bima Yojana	Chief Minister Kalaignar's Insurance Schemes
Femoral Hernia	18926/270 USD	8750/125 USD	7500-15000(110-230 USD)
MRI abdomen	2444/35 USD	3125/44 USD	2500/500
Cesarean Section	16,158.00/231 USD	8625/123 USD	10000-20000/ 143 -287 USD

Flat rate-based payment mechanism may not be aligned with the market cost, which further results in extra payment to be given by the beneficiary. Also, the service provider may priorities patient on the bases of HI scheme rather than their medical condition.

CHAPTER 4 DISCUSSION

This section summaries the bottleneck of the existing health financing function identified in the literature, which impacts on the financial accessibility of India's countrymen.

Fee for service is not the only cost incurred on needed health care but also the transportation cost and money lost due to absence from work is the amount which is paid by the household for the needed health care.

Existing mechanism in the health financing functions enhance the challenges of financial accessibility directly due to inadequate financial protection mechanism reliance on high out of the pocket expenditure (OOPE) and indirectly as result of insufficient health care facilities and human resource for health.

It ultimately impacts on quality of the services offered by public facilities and finally push household to seek needed healthcare services from private health care facilities at higher cost compared to public counterpart, and ultimately increase the household expenditure on health which may be unaffordable to some household and influence there behavior to see health care service when needed.

Despite of being 7th largest economy in the world, government of India spent only 1.5% of its GDP on health and 3.78% of the general government expenditure on health which is lower than the World Health Organization recommended [general government health expenditure (GGHE)should be at least 5% of GDP or 80% of the total health expenditure(THE) or 15 % of general government expenditure(GGE)] to achieve universal health coverage.

Low public spending on health across the country is not equal, a state like Himachal Pradesh, government spending on health is 47% of THE whereas, in Andhra Pradesh public spending constitutes 22% of THE.

The low public spending on health is not only due to low fiscal space for health, but also political will has been identified as a responsible factor as state governments do not utilize all the available funds for health.

Low public spending on health affects the procurement and availability of medical supplies, limit the capability to recruit health care staff, built new health care facilities and maintenance of available health facilities where needed, ultimately compromise the quality of care given in public facilities and deprives needy patients from health care services.

States like Bihar and Madhya Pradesh with low government health expenditure (current and capital expenditure) as % of general government expenditure which reflects on fiscal space for health, have a high average number of the population served by a doctor and less number of government hospital bed available per patient compared to states like Assam and

Gujarat who have higher government health expenditure and low average number of population per doctor and more government hospital beds per patient.

Inadequate medical supplies, health care staff, and health care facilities negatively influence the behavior of patients to utilize government facilities for their health care needs. For instance, Bihar is one of the states with lowest public spending on health and 77% of the population in Bihar do not use public facilities for their health care needs, whereas in Assam where public spending on health is more compared to Bihar state, 20% population in Assam state do not use public facilities.

Reason given for not using use public facilities are poor quality of care (59%) in Bihar, (30%) in Assam, long waiting time in government facilities(38%) in Bihar and (34%) in Assam, no nearby public facility(42%) in Bihar and(20%) in Assam.

Due to poor services and the unavailability of public facilities, people are forced to use private facilities. However, the health care in private facilities is expensive, and that's why the health care needs of poor and marginalized people are compromised and reflect as disproportionate distribution burden of disease and health outcomes across the country as well as wealth quintiles.

Out-of-the-pocket expenditure(OOPE) is one of the main source for financing health in India. In the financial year 2015-16, out-of-pocket expenditure was 65% of current health expenditure which far more than the recommended OOPE as 20% of current health expenditure(CHE) by the world health organization(WHO).

Government health expenditure determines the extent of OOPE. For example, low public spending increase OOPE. For instance government health expenditure of Himachal state is 47% of total health expenditure of state, and 49% of total health expenditure(THE) of state is done as OOPE whereas 19% of THE of Bihar state is done by the government of Bihar and 79% of total health expenditure of state is out of pocket.

Association between government health expenditure and out of pocket expenditure is also found in the studies done in India(74,90).

Out of pocket payment is a regressive form of financing and put the burden of health care cost on the household. A most common source of OOPE is household savings but in some case treatment cost may exceed the saving in which case the patient has to borrow the money from the relatives and friend or have to sales assets as seen in Table 4. This indicates the catastrophic health expenditure which occurs due to OOPE.

Out of pocket expenditure occurs on medical goods and services used, It is worth noting that expenditure on prescribed medicine is 27% if current health expenditure(CHE) which is maximum in comparison to others medical goods and services followed by general inpatient curative care (21%) and general outpatient curative care (13%). However, over a period of time, the proportional increase in expenditure on prescribed medicine as a percent of CHE is highest in comparison to any other medical goods and services.

The extent of catastrophic health expenditure in India has increased 12.24- fold over time(1995-96 to 2014015). An increase in the catastrophic expenditure is noted across the wealth quintile. However, the extent of increase is more among the household in lower wealth quintiles.

Households who do not have assets to sell and financially not strong enough to have savings are vulnerable to compromise with quality of care and their health care needs, and the result is a disproportionately higher burden of disease among these groups.

These findings have implications for risk pooling mechanisms and benefits packages offered by different health insurance schemes in India.

The Health system in India is financed by tax money, which is collected by union and state government together, in the form of direct (income tax, payroll tax, name to few) and indirect tax(form sale or purchase of goods, value-added tax, name to few).

In tax-based financing health services, the pooling of health risk is among all countrymen irrespective of their health status, age, sex, and amount contributed. Moreover, in tax-based financing, the extent of adverse selection(pool of high health risk) and risk selection (pool of low health risk) is less.

In India, only one percent of people pay direct taxes, due to the high informal working population and high tax evasion.

The contribution of indirect tax is more than the direct tax and has increased over time. Indirect taxes are regressive meaning poor pay more percent of his income compared to rich counterparts.

Many researchers debate on the effectiveness of the direct and indirect tax on health. Indirect taxes put a burden on household expenditure and may influence the behavior of users towards services, which is not seen with direct taxes. However, indirect taxes are important for economic growth and can contribute to increase fiscal space for health.

In the context of India, the relation between indirect tax and fiscal space for health is noted in the study findings. For instance in the financial year 2014-15 and 2015-16 contribution of direct tax decreased by 0.01% (5.64% and 5.63% respectively), however, contribution of indirect tax increased by 1.23% (10.72% and 11.95% respectively), and in the same financial year contribution of general government health expenditure as % of general government expenditure increase by 1.07% (3 % and 4.07% respectively) as seen in Table 10. There is only one study(56), which showed the association between indirect tax and fiscal space for public expenditure on health. However, this association is not consistent among other studies done so far and requires further research in the context of India.

Revenue from the taxes is not the only source; revenue generated by means of heal health insurance is considered as, more progressive than the household expenditure on health.

In India, only 28% population have any kind of health insurance scheme, meaning 72% are not covered by any form of health insurance and depend on their savings for their health care expenses, which may not be sufficient and result in catastrophic expenditure.

From 28% of household who have health insurance, 4.9% are beneficiary of central government health insurance scheme (CGHS) and another 4.9% are beneficiary of employ state insurance scheme(ESIS). These two health insurance schemes are the only social insurance scheme with a compulsory contribution. Rest all other health insurance schemes are based on voluntary contribution.

Health insurance provides financial protection and reduces the extent of out-of-pocket expenditure by ensuring risk related to financial health intervention is distributed among all the pooled members instead of individual contributors in the scheme.

Health insurance schemes in India, have successfully reduced the extent of out-of-pocket expenditure(OOPE) and catastrophic health expenditure, which is consistent with other studies done in India(91,92), and other lower-middle-income countries(93).

One of the findings of this study is the fragmentation of health insurance schemes according to population segment covered, implementing body is noted. Social health insurance scheme (central government health insurance scheme and employ state health insurance scheme) government-sponsored health insurance scheme (RSBY and state government health insurance schemes), private health insurance schemes are in place.

Fragmentation in the health insurance schemes brings inequity in financial protection and health outcomes among the beneficiaries of different plans, which is also evident in the studies done in other lower-middle-income countries(94), and BRICS countries(95).

Inequity in the financial protection and health outcome in case of fragmented health insurance mechanism is due to the population covered and the benefits package, varies for each health insurance scheme. For instance benefit package offered by central government health insurance scheme and employees' state insurance offers unlimited and uncapped medical services to its beneficiaries, besides the heath related expense these two schemes also include cash benefits, funeral, and rehabilitation expenses(in ESIC), also dental care services are covered which is not seen with other health insurance scheme.

On the other hand, a scheme like RSBY which covers households from low socio-economic class only covers inpatient services and excludes cost incurred on medicines and outpatient services.

This indicates that beneficiaries of health insurance schemes other than ESIS and CGHS schemes have to bear the cost incurred on prescribed medicine and outpatient services from their pockets.

It reflects on inequity in the distribution of benefit package, as households below poverty line as are the main beneficiary of the RSBY scheme and cost of prescribed medicine is not covered which is one of the major source of out of pocket expenditure, whereas benefit package under CGHS and ESIC scheme whose beneficiary are usually not below poverty line and are employed cover dental services and funeral cost which is not common for any other public and private health insurance scheme in India.

This indicates the inability of RSBY scheme to reduce Out of pocket expenditure among the poor. Two studies are done to analyze the impact of RSBY (96), (97) also noted out of pocket payment up to the extent of catastrophic expenditure in some cases among the beneficiaries of RSBY scheme.

Equity in the coverage of the population within the insurance scheme is not seen. For instance, 38% of total beneficiaries of the CGHS scheme live in Delhi and consume 57% of the total CGHS budget whereas in Kolkata only 8% are beneficiaries under the CGHS scheme and consume 4% of the total budget.

On the other hand, despite increasing the profit margin ESIC, 8% of the eligible population is left uncovered across the country from ESIC due to the low-concentration of employers and employees' in the particular region.

Coverage by a public sponsored insurance scheme like RSBY which covers the only household below the poverty line also varies among the states of India. For instance, 40% of families living below the poverty line in Chhattisgarh and 23% in Rajasthan are covered under the scheme, indicating not all eligible population is covered under the scheme on contrary it is found during the literature review that household from above poverty line are also covered under the RSBY scheme this indicates leakage in the coverage of scheme

It is also noted that RSBY has yet not covered all the eligible households under the scheme but on contrary scheme also have beneficiaries who are not below the poverty line despite the fact that this scheme is only for household below the poverty line. This indicates corruption in the management and implementation of the programs.

Benefits packages in health insurance schemes have a fixed price for a predefined set of services, which generally include room charge, drugs cost, fees of health care staff, and diagnostic service.

Issues with fixed price benefit packages are, the cost of services offered by the package may vary from the usual fee for services.

The difference in the cost for the service covered in the package and fee for service result in overpayment by the benefit package in the cities where services cost low in comparison to the cities where services cost are more. It may attract services providers in underserved regions. However, in the region where service costs are higher than the package cost, providers may not offer their services under the scheme.

As seen in Table 17, a benefits package under the schemes is not clearly defined. For instance, prostate surgery is covered, but it is not specified which method to be adopted, and the duration of stay.

No clear definition of the benefits package may result in misuse of the benefits package by the provider by advising expensive consumables, drugs and providers may provide services aiming to increase their profit margin at the cost of patient health.

Cost defined for the similar package under various health insurance benefit package varies as seen in Table 19.

The difference in the price for the same service covered by the benefit packages under the different health insurance schemes may influence the behavior of providers to offer his service and may result in cream-skimming for the patient, meaning priority given to the patient according to their health insurance scheme and not as per medical condition of the patient.

The analysis performed above, have some limitations. I aim to analyze bottlenecks in the performance of health financing function obstructing financial accessibility.

The issue of low fiscal space for health in the government budget is identified. However, the reason for not utilizing available funds by the government is not clear due to no exact literature, also, for effective payment provider mechanism inadequate literature found during analysis.

Despite official data presents corruption in the RSBY scheme why the government is not able to control it is not clear. Further study is required to answer these questions.

Overall, the argument from different studies about low public spending as a bottleneck is not convincing, as an increase in government spending has to be aligned with capacity building to utilize the funds.

Also, health insurance, as a factor for financial security, however, is advocated by multiple studies(24)(31). However, my finding suggests that benefits packages offered by the health insurance has to align with the market cost and should include a big pool of risk-sharing with the best-suited payment provider mechanism, which needs further research.

To put it simple, only by increasing government spending and multiple health insurance schemes will not accomplish the objective of financial accessibility. Government should consider to strengthen revenue generation mechanism together with pooling and purchasing mechanism.

On the basis of my analysis my key recommendation are discussed in the next chapter.

CHAPTER 5 CONCLUSION AND RECOMMENDATION

5.1. RECOMMENDATION:

By managing available financial resources for health strategically by state and union government, it is possible for them to ensure financial protection for all.

On the basis of finding my key recommendations will be as follow.

5.1.1. INCREASE PUBLIC SPENDING ON HEALTH

Both Union and state governments should prioritize health and boost public expenditure, as an investment in health increase the country's economic development. For instance poor health conditions such as anemia and malnutrition influence labor productivity in the short-run and in long-run results in inter-generational issues like low-birth weight, increase in Neonatal mortality and poverty.

Low public spending results in an increase in private out of pocket expenditure and may result in catastrophic expenditure which may end in impoverishment and reduce economic growth.

Increase in public spending depends on fiscal space for health and political will. To increase fiscal space beside the general tax, the government must also think about mandatory tax for health which can be levied with general tax(direct and indirect)revenue collected will go to the Ministry of health. This will increase fiscal space for health. For instance, 0.01 % of salary and form any sort of money transaction (buy or sell) 0.01 % will go to health account. To avoid duplication, only the state government must levy this tax.

5.1.2. CAPACITY BUILDING OF STATE GOVERNMENT HEALTH MINISTRY

The states' governments are not able to utilize their available funds despite the current needs for health care spending.

Union government must ensure that the state government spends their available health budgets efficiently, and can use the annual report which comptroller and auditor general **(**CAG) of India submit annually**.**

In case the state government fails to utilize available funds despite the scope to do so, then union government must do capacity building of the health ministry of the state.

Also qualitative study should be done to identify the possible bottlenecks in administration and management of state government health ministry, district and sub-district level.

5.1.3. INVESTMENT IN THE HEALTH CARE FACILITIES AND HUMAN RESOURCE FOR HEALTH

The State governments should consider increasing the number of health care facilities besides the quality of care given by the public facilities. State governments must take accountability to assure the availability of health care facilities(primary, secondary, and tertiary), health care goods, and human resources in public facilities, as per the norms of Indian public health standards.

Increase public spending on health and capacity building of the government to utilize available funds as per the requirement, will allow the government to invest more on human resource for health and public facilities aiming to increase coverage and improve quality of services offered by the public facilities.

It will increase the use of public facilities and decrease the extent of household expenditure on health as public facilities are cheaper than the private counterpart.

5.1.4. ONE NATION ONE HEALTH INSURANCE SCHEMES POLICY

Currently, India has multiple health insurance(HI) schemes pooling different risk groups, resulting in the disproportionate availability of HI schemes across the country, and duplication of efforts.

Instead of multiple HI schemes, the government (union and state) must consider one HI scheme covering all citizens, irrespective of age, sex, socio-economic status.

Enrolment to the scheme must be compulsory, and contribution to the scheme must be as per economic status with the provision of minimum contribution amount by the beneficiary.

State and union government should share the remaining cost left after the compulsory contribution of beneficiaries as per the economic status of the state to ensure solidarity.

Benefits package should be capped with a set amount covering health conditions require treatment as per medical indication and can be used across the country within public and government impaneled private hospital.

The provision of voluntary health insurance schemes by the public and private organizations is advocated, as voluntary health insurance scheme can cover services not covered by the compulsory health insurance scheme in their benefits package.

The benefits packages offered by voluntary health insurance schemes will be an extension of the compulsory health insurance scheme.

5.1.5. ANNUAL ANALYSIS OF BENEFIT PACKAGE

With industrialization and advancement in medical science, health care needs and cost both have changed over time.

The government should consider the annual analysis of cost covered and services offered by the health insurance scheme they prefer to operate in the country in order to make necessary changes in the benefits package if required.

5.1.6. RESEARCH FOR PAYMENT PROVIDER MECHANISM IN INDIA

The government should invest in research for the best-suited payment provider mechanism for the Indian health care system, as the payment provider mechanism plays an important role in determining the overall cost of care and its burden on the household.

5.2. CONCLUSION:

From the study result, it can be summarized that financing is an important pillar of the health system. Mechanisms adopted for financing health care services influence the behavior of patients to seek healthcare services and health outcomes.

Bottlenecks of the current healthcare system function, which impacts financial accessibility not only among the household in the lowest wealth quintile but also among the household in the highest wealth quintile are due to inadequate political commitment, multiple fragmented risk pool and provider payment mechanism which has not been changed since.

This has resulted in an inadequate number of public healthcare facilities and human resources for health with their uneven distribution among the rural and urban populations. As a result, the perceived quality of care offered by the public facilities is not good and resulted in the diversion of the user towards expensive private healthcare facilities.

On top of that high out of pocket expenditure due to inadequate risk pooling mechanism has resulted in borrowing and sale of assets besides savings as a source of money required for the healthcare needs this indicates that households from lower wealth quintiles may compromise their medical needs due to no financial protection.

The government of India aiming to provide financial protection against unseen health expenses to households living below the poverty line has come up with health insurance schemes targeting households living below the poverty line. However, voluntary enrolment, inadequate coverage of the eligible population, and corruption have reduced the impact of these schemes to provide financial protection.

Benefits package offered by Health insurance(HI) schemes differs in terms risk covered. Schemes like CGHS and ESIC seems to cover services not covered by any other HI scheme in India. On other hand schemes like RSBY, and other state government HI schemes provide cover against inpatient services and neglect out patient services.

Health insurance can play an important role in expanding fiscal space for health and provide financial protection and improve financial accessibility and ultimately health outcome the only need is to make HI schemes in such a way that it covers everyone and provide benefit package as per need of the community.

Further study with a wide range of financing methods as per the needs of a household from different wealth quintiles and from a rural-urban population with flexibility in features of the benefits package offered is required.

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