

**GOVERNMENT OF KARNATAKA**

**EVALUATION OF OUT-OF-POCKET EXPENDITURE  
INCURRED FOR MATERNAL HEALTH CARE BY BPL  
WOMEN IN KARNATAKA IN PUBLIC HEALTH  
FACILITIES**



ಕರ್ನಾಟಕ ಮೌಲ್ಯಮಾಪನ ಪ್ರಾಧಿಕಾರ  
Karnataka Evaluation Authority

**KARNATAKA EVALUATION AUTHORITY**  
**DEPARTMENT OF PLANNING, PROGRAMME MONITORING AND STATISTICS**  
**GOVERNMENT OF KARNATAKA**  
**AUGUST 2020**



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## Foreword

Public Health issues became prominent with the adoption of human development agenda during 1990s and now with more focused approach under Sustainable Development Goals 2030. Under SDG-3 the State has a mandate of reducing Maternal Mortality Ratio to 70, under-five mortality rate to 25 and neonatal mortality to 12 per 1,000 live births and IMR of 10 per thousand which can be achieved through maximising institutional deliveries. But the DLHS-4 (2012-13) has brought out the fact that out-of-pocket expenditure (OOPE) is high amongst Below Poverty Line (BPL) women in public health facilities in Karnataka State. Hence, Department of Health and Family Welfare initiated a study through Karnataka Evaluation Authority to get field evidence about the nature and components of OOPE. The study was undertaken by GRAAM.

The study used mixed methods approach both qualitative and quantitative. It explored levels and components of OOPE among 2104 BPL families in five districts of Karnataka -Bangalore Rural, Belgaum, Bellary, Chikmagalur and Haveri. The findings indicate that 82.67% of the respondents delivered in public institutions. The mean spending on delivery in public facilities was INR 8,441/- which was 4.2 times higher than the benefits received from the schemes like JSY and Prasoothi Aarika (Rs. 2000). 91.37 percent women felt that the financial support provided through schemes was not adequate. Overall women did express transportation is one of the major expenses during the maternity care. Transportation costs and health services related costs were the major contributors to the delivery cost. Beneficiaries have resorted to various sources like utilizing savings, borrowing from relatives or friends, availing loans from SHG/societies, and pledging gold, land to meet the expenditure. ASHA is major source of information for beneficiaries. The specific recommendations of the study are: enhancing the number of deliveries in PHCs by converting more PHCs into 24 X 7 PHCs and ensure that they provide basic maternity and neonatal services. Improve the service availability at CHCs by converting more CHCs into FRUs and reduce the transportation and referral costs for patients. Have accountability mechanisms for informal payments in public facilities, which is one of the major components of OOPE for delivery cost. The Arogya Rakshana Samithi's to get feedback from people about services and act accordingly.

I expect that the findings and recommendations of the study will be useful to the Government, Department of Health and Family Welfare and Department of Women and Child

Development for taking up the necessary measures to increase the assistance under various schemes and their effective implementation that may help to achieve the targets set under SDG-3 for 2030.

The study received support and guidance of the Additional Chief Secretary Planning, Programme Monitoring and Statistics Department, Government of Karnataka. The report was approved in 47<sup>th</sup> Technical Committee meeting. The review of the draft report by KEA, members of the Technical Committee and an Independent Assessor, has provided useful insights and suggestions to enhance the quality of the report. I duly acknowledge the assistance rendered by all in successful completion of the study.

  
Chief Evaluation Officer  
Karnataka Evaluation Authority

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Our special thanks to data enumerators and GRAAM's Field NGO Partners who helped us complete the data collection despite difficulties because of flood and other field challenges.

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Sd/-  
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## ABBREVIATIONS

ANM- Axillary Nurse Mid Wife  
ASHA-Accredited Social Health Activist  
BPL- Below Poverty Line  
CBR- Crude Birth Rate  
CDR- Crude Death Rate  
CHC- Community Health Centre  
DH- District Hospital  
DLHS- District Level Household Survey  
GDP- Gross Domestic Produce  
FRU- First Referral Unit  
HMIS- Health Management Information Systems  
IMR- Infant Mortality Rate  
INR- Indian National Rupees  
JSSK- Janani Shishu Suraksha Karyakram  
JSY- Janani Suraksha Yojana  
MMR- Maternal Mortality Ratio  
NFHS- National Family Health Survey  
NHM- National Health Mission  
NRHM- National Rural Health Mission  
NHSRC- National Health Systems Resource Centre  
NSS- National Sample Survey  
OOPE- Out of Pocket Expenditures.  
CHE- Catastrophic Health Expenditure  
PA- Prasoothi Aarika  
PHC- Primary Health Centre  
RHS- Rural Health Statistics  
SDH/TH- Sub Divisional Hospital /Taluka Hospital  
SHC- Sub Health Centre  
SRS- Sample Registration Systems



## Executive Summary

Out-of-pocket expenditure (OOPE) and catastrophic health spending (CHS) on institutional delivery are high amongst Below Poverty Line (BPL) women across the state of Karnataka, in spite of large investment in the form of central and state sponsored schemes for maternal care. Keeping with Targets under SDG Goal 3 for Good health and well-being, by the end of 2030, Karnataka should reduce Maternal Mortality Ratio to 70, under-five mortality rate to 25 and neonatal mortality to 12 per 1,000 live births. The present study aimed at examining the magnitude and dimensions of OOPE at macro and micro levels, identifying the various sources through which OOPE was met and assessing the implications of OOPE. Maternity expenditure includes not only institutional delivery expenditure but also covers expenditure on ANCs and PNCs.

This study explored levels and components of OOPE among 2104 BPL families in five districts of Karnataka —Belgaum, Haveri in Belgaum division, Bellary in Gulbarga Division, Chikmagalur in Mysore Division, and Bangalore Rural in Bangalore Division. The survey captured OOPE data on maternal health, covering the period from the confirmation of pregnancy to the end of the post-natal period of 45 days. The expenditure data on utilization or purchase of services, such as consultations, lab tests, scanning, medicines purchase, in-kind payments, transportation and food were documented. The estimates include transactional costs made to health care staff. Overall, an effort has been made to capture the economic status of household and sources for out of pocket expenditure during maternity care. The main outcome of interest was the magnitude of out-of-pocket payments on maternal health care services in the public facilities for the reference period of 2014-15 to 2015-16.

**Methodology:** The study used mixed methods approach both qualitative and quantitative. Pre-tested questionnaire, was used to collect data on various components like antenatal care, delivery and postnatal care which examined the expenditure on events and purchase of services by women. At total of 2104 beneficiaries' survey were done. Parallel to this qualitative method like focused group discussion about 52 were held at the selected facility level. The health department officials at district level, block level and facility level were interviewed. Apart from this Interviews were also conducted among ASHA's and ANM's at the facility level.

**Sampling:** 10% of the total public health facilities in each district were selected. In order to capture the reasons for variation in OOPE across the geographical areas, 10% of the PHCs

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

covering urban, rural and remote/ difficult areas was done. From these facilities 5% of BPL women beneficiaries (in possession of Tayicard) enrolled during 2014-15 and 2015-16 were randomly selected for detailed investigations.

### **Study Findings:**

**Beneficiary profile:** The mean age of the beneficiaries at the time of pregnancy was 23.53 years. 68.44 % of the women belonged to other backward class and minorities, 23.57% belonged to scheduled castes and 7.87% belonged to scheduled tribes. 8.2% of the respondents did not have any schooling. About 62 % of the beneficiaries were homemakers, 2% of the women were engaged in small-scale business, and 2% were employed in the private sector. 0.4% of them were employed in government jobs. About 10.6% of the women were daily wage workers. Only about 10.17% of the women were working before pregnancy.

**OOPE and its components and its variations:** This study found that 82.67% of the respondents delivered in public institutions. The average ANC cost was INR 6021. The average delivery cost irrespective of the type of delivery was INR 8442/-, and the mean post-natal cost was INR 622/- for women who utilised public facilities for delivery. The average cost for maternity expenditure was INR 18,654/- which is slightly higher than the figures shown in the 71st round of the National Sample Survey (2014), which estimated INR 17,642/- for the southern region.

The average cost of normal delivery in public facilities was INR 6004/- with total maternity cost of INR 13,035/-. The average cost of caesarean in public facility was INR 12,478/- with total maternity cost of around INR 22,435/-. The caesarean delivery costs twice the amount of normal delivery. When we separate the transportation cost from the other expenditures, the average transportation cost constitutes INR 3911/- which is 26.67% of the overall average maternity expenditures. The delivery related transportation cost constitutes 40% of the total transportation cost. The transportation costs vary by means of transportation utilized and number of times commuted. In our sample the delivery cost was INR 0 /- for 86 beneficiaries and total maternity expenditure was INR 0/- for 4 beneficiaries. 61% of women who delivered in public facilities had catastrophic expenditures, i.e. out of pocket expenditures which exceeded 10% of their annual income.

Services like scanning are available only at taluka-level government facilities such as Sub District Hospitals. Non-availability of radiologists to perform scanning has led to a situation which forces the beneficiaries to depend on the purchase of services from the private sector,

which costed INR 1871/- for 71.13% of beneficiaries. 35% women who got their blood and urine checked in the private sector spent an average of INR 621/ on such tests. Apart from this, 11% of beneficiaries also opted for thyroid check-up which averaged INR 533/-. 34% of beneficiaries who utilised public systems for delivery spent on an average INR 3290/- for medicines. Food expenditure on an average was INR 800/-. ANC happens on fixed days and it usually takes from half a working day to a full working day to complete the ANC check-up or scanning.

Transaction costs (informal payments) for service providers constitute one of the major chunks in OOPE. The informal payments vary by type of institutions, place and service providers. Majority of the beneficiaries who delivered in public institutes paid informal payments to the service providers. The informal system operational in public facilities has different rates fixed for different services, and different categories of caregivers charge separately and independently of each other. It is very difficult to measure these prevailing practices because of the individual variations; people have negotiated and paid the demanded money based on their ability. People who may potentially use the same public facility in future hesitate to talk about it due to the fear of consequences.

Financial Adequacy of schemes: The maternity benefit schemes like JSY and Prasoothi Aarika are intended to promote institutional deliveries. These schemes together contributed INR 2,000/- for eligible women. 44% of women received JSY and Prasoothi Aarika. This was not enough to lift households out of spending because the mean spending on delivery in public facilities was INR 8,441/- which was 4.2 times higher than the benefits received from the schemes. 62.49% of the women had heard about the financial incentive schemes of the government through ASHA workers, ANM workers and other sources. 91.37% felt that the financial support provided through these schemes was inadequate.

Sources for Meeting OOPE: Beneficiaries resorted to utilizing savings, borrowing from relatives or friends, availing loans from SHG/societies, and pledging gold, land or other assets to meet the OOPE. Usually, it takes 1-2 years to repay the loan availed which is also inclusive of interest. 21.50% of beneficiaries who utilized private institutions and 29.57% of beneficiaries who utilized public institutions depended exclusively on loan with interest. Rest of the options were combinations of various options like, savings, loan without interest, support from wife's house and other relatives, philanthropists and trusts.

From a health systems point of view, we observed that in our areas of study, only 35% of normal deliveries happened at the PHC level. The maximum utilisation of PHCs was in Haveri where 47% of deliveries happened in PHCs, whereas in Bangalore rural only 9% of deliveries occurred in the PHC. CHCs accounted for 13% of the delivery load and an overall 11% of Caesarean births. Taluk Hospitals (SDH) accounted for 30% of deliveries and 31% of caesarean deliveries. District hospitals (DH) accounted for 24% of deliveries and 50% of caesarean sections. A detailed account of infrastructure and man power status is provided in chapter 3, and the results of the study are discussed in chapter 4.

Our recommendations are for better performance of health systems where the majority of non-complicated deliveries would be managed at PHCs, and basic emergency services would be handled at CHC level and the rest would be escalated to district hospitals and tertiary care centres. Based on our estimates of OOPE and reasons for it, along with its variations at different levels, we recommended for increased uptake of intrapartum care (delivery load) at the lower level facilities like PHC/CHCs. The specific recommendations are to:

- Pay a sum of 100/- towards meeting the travel and food expenses during ANC visits.
- Enhance the number of deliveries in PHCs and ensure that they provide basic maternity and neonatal services.
- Improve the service availability at CHCs by converting more CHCs into FRUs and reduce the transportation and referral costs for patients.
- Have accountability mechanisms for informal payments in public facilities, which is a major component of OOPE for delivery cost. Allow the Arogya Rakshana Samithi's to get feedback from people about services which could lead to discussions about accountability. The Ombudsman (Public Health) would play a proactive role in monitoring the functioning of the facilities and suggesting systemic improvements by directly interacting with citizens, which would provide citizens' perspectives and bring their voice to the table. (Details given in Appendix)

If Karnataka is to achieve the targets of Sustainable Development Goals by 2030, there needs to be more focussed intervention on health systems as suggested above through ensuring well-



trained human resources. This could lead to efficient and better performing health systems with better maternal and child health outcomes.



# CHAPTER - 1

## INTRODUCTION

Reducing maternal mortality, infant mortality and achieving universal access to reproductive health are among the global health, human rights and development challenges that India is aspiring to achieve. Maternal and child health has been the prime focus areas for resource allocation to demonstrate development through improvement in mother and child health indices. Sustainable development goals have set the target of reducing the maternal mortality ratio to 70 per 100 000 live births, and neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births.

According to Sustainable Development Goals Base Line Report in 2018, Karnataka has a maternal mortality ratio of 108, under-five mortality rate of 32 per 1,000 live births, 62.60 % of children aged 12-23 months are fully immunized, and there are 452.93 governmental physicians, nurses and midwives per 1,00,000 population. By the end of 2030, Karnataka should reduce Maternal Mortality Ratio to 70, Under-five mortality rate per 1,000 live births to 11, achieve 100% immunization of children aged 12-23 months, increase the number of governmental physicians, nurses and midwives per 1,00,000 population to 550. (*SDG INDIA INDEX*, 2018.). As a comprehensive strategy to achieve the internationally set goals on health India, National Rural Health Mission (NRHM) was launched in 2005. Now NRHM has become National Health Mission (NHM) with the central goal of increasing public expenditure on health from 0.9 per cent of GDP to about 2 – 3 per cent of GDP, with an intention to bring improvements in life expectancy at birth, IMR (Infant Mortality Rate), CMR (Child Mortality rate) and MMR (Maternal Mortality ratio). The span of the mission was further expanded to continue until March 2020.

NHM adopted Demand Side Financial (DSF) incentives in the form of conditional cash transfers (CCT) as one of the main strategies to improve maternal health care utilization among the below poverty line (BPL) families. The CCTs would provide cash incentives to the beneficiary based upon the beneficiary's actions (output-based financing) in order to raise the rate of institutional deliveries which could help bring down the IMR and MMR. This is because during the maternity period medical attention is required at various points such as antenatal check-ups, immunizations, diagnostics, surgical charges, transport costs, and postnatal check-ups. Further, in the total health expenditure, out of pocket health expenditure constitutes a

major portion. According to World Health Organization's Global Health Expenditure Database, Out-Of-Pocket Expenditure (OOPE) in India is among the highest in the world and even higher than many developing countries in Africa and Asia. WHO reports that almost 86% of total healthcare expenditure in India involves OOPE incurred by households. Estimates from the Ministry of Health and Family Welfare (MoHFW), Government of India, also shows that this figure could be around 71%. The nature of expenditure on maternal health care is not an exception as a major share of it comes from OOPE of the households. High maternity-related health care (Antenatal Care Services [ANCs], Delivery and Postnatal Care Services [PNCs]) expenditure is often considered as an important barrier in the utilization of health care during pregnancy and childbirth which may also be catastrophic for households. (Goli, Rammohan, & Moradhvaj, 2018).

The out of pocket expenditure on health care is the only option for majority of households (about 64.70%) as they have no financial protection. Periodic surveys such as district level household Surveys-4 (DLHS-4) and National Health and Family Survey -4 (NFHS-4) and journal articles have documented the out of pocket expenditure for delivery in public institutions. These expenditures are being incurred despite the services being made available free of cost. As per DLHS-4, the OOPE was highest among southern districts of Karnataka (top five districts) as compared to northern districts. Rural OOPE was more than total OOPE in eleven districts, highest difference being in southern districts of Bangalore Urban and Ramanagara. With the above background and perspectives in focus the present study has been undertaken.

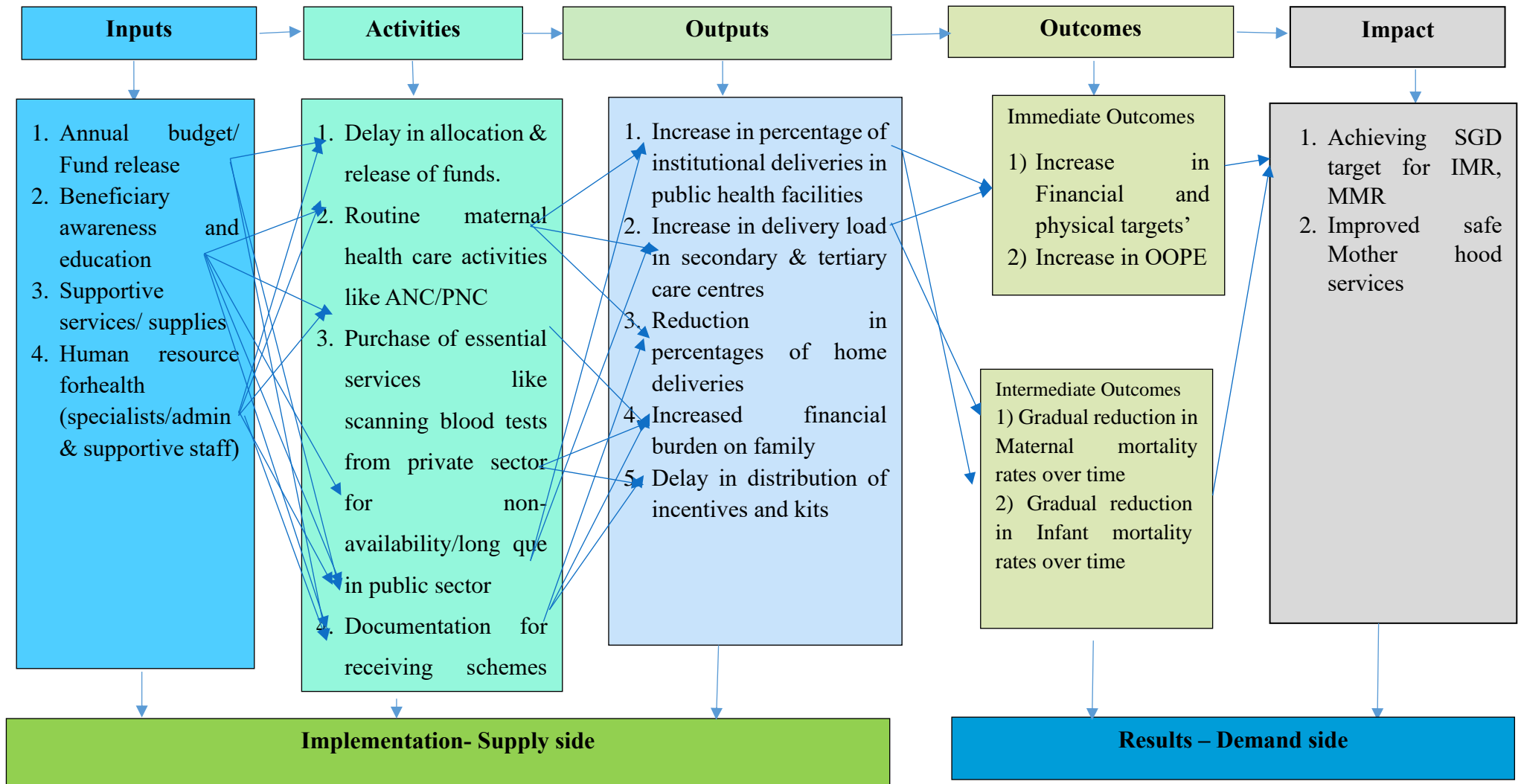
The first chapter of this report is about the Theory of Change, progress review, methodology and evaluation frame work; the second chapter covers the literature review; the third chapter presents the data on secondary sources and fourth chapter, analysis of primary data. The fifth chapter concludes on the study's findings, and the sixth chapter is on the study's recommendations.

## **1.1 Theory of Change**

Here, we have tried to picture the comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. Long-term goals and identified necessary preconditions for reaching the goals have been defined.

The process of change is identified by outlining causal linkages in the initiative, i.e., short term, intermediate, and longer-term outcomes. The distinction between desired and actual outcomes is also processed by including many perspectives of people within the system and of beneficiaries. Theory of Change has been developed retrospectively by reading program documents, talking to stakeholders, and analysing data (details have been shown in the Model below).

**Figure 1.1 Understanding objectives of evaluation through Results Chain Model**



## Assumptions for Theory of change:

- 1) Timely allocation and expenditure of budget
- 2) Required human power will be deployed
- 3) Efficiency in supply chain
- 4) Recall bias
- 5) Individual PHC level variation in the quality of services offered
- 6) Effectiveness of knowledge dissemination
- 7) Path dependency in program implementation
- 8) Health seeking behaviour of beneficiaries and families, key financial and health decision makers
- 9) Effective functioning of monitoring mechanisms
- 10) Provision of financial benefits has motivated institutional deliveries

## Risks:

- 1) Lack of transportation during delivery and high costs associated with it
- 2) Emergency transportation coverage is poor
- 3) Informal costs
- 4) Opportunity costs
- 5) Absence of functional CEmONC Services at sub district level
- 6) Absence of functional BEmONC Services at PHCs
- 7) Maintaining quality as well as efficiency in programme implementation
- 8) Real time disbursement of Financial incentives as institutional deliveries is a major contributing factor for OOPE
- 9) One of the main reasons for improvement in institutional deliveries among the BPL, SC and ST categories is the provision of cash benefits
- 10) BPL/ SC/ ST Woman is the primary decision maker with regard to time and continuation of pregnancy
- 11) BPL/ SC/ ST Woman is the key health and financial decision maker with regard to pregnancy and child care
- 12) BPL cards are issued only to the people with real financial constraints.
- 13) Process of BPL card enrolment is authentic.
- 14) Institutional deliveries will ensure 100% protection to the life of mother and child hence reduce MMR and IMR

## **1.2 Problem Statement**

In spite of many schemes and services provided by the governments that claim to be free of cost, the internal and external survey reports reveal that there have been out-of-pocket expenditures (OOPE) for deliveries in the public health facilities. Hence, this evaluation is being carried out in order to know the maternal health cost for BPL women, what are the reasons and its different components. The purpose of the evaluation is to examine the magnitude and dimensions of OOPE at the macro as well as micro household level and the sources through which it is being met and its implications. The survey is carried out in 5 districts of Karnataka, one district from each division and one district Belgaum where out of pocket expenditures is relatively low when compared to other districts. Also, institutional deliveries in Belgaum are at par with the state level figures. Hence, Belgaum district has been selected as the 5<sup>th</sup> district of our sample to study it as a model district.

There has been a considerable amount of new capacity building initiatives and infrastructure, supplies and resource allocation focussed on maternal and child health care services and institutionalisation of deliveries have increased since the onset of National Health Mission. Despite these facilities being made available free of cost, most of the BPL women end up paying significant amount for delivery services in institutes. This aspect of increased out of pocket expenditure in public health institutes is captured by both internal (DLHS) and external surveys (NFHS).

### **1.2.1 Definition of Out of Pocket Expenditures**

The World Bank defines out-of-pocket expenditures as any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services, the primary intent of which is to contribute to the restoration or enhancement of health status. This definition can include transport costs for accessing healthcare and over-the-counter medicines and supplies, but does not include pre-paid fees for health-related taxes or insurance.

Out-of-pocket payments (OOPs) are defined as direct payments made by individuals to health care providers at the time of service use. This excludes any prepayment for health services, for example in the form of taxes or specific insurance premiums or contributions and, where



possible, net of any reimbursements to the individual who made the payments. (“WHO | Out-of-pocket payments, user fees and catastrophic expenditure,” n.d.)

### **1.3 Aims and Objectives of the Evaluation**

- 1 To examine the magnitude and dimensions of OOPE at macro and micro household level
- 2 To identify various sources through which OOP expenditure is met by the family.
- 3 To assess the implications of OOPE

### **1.4 Specific objectives of the evaluation**

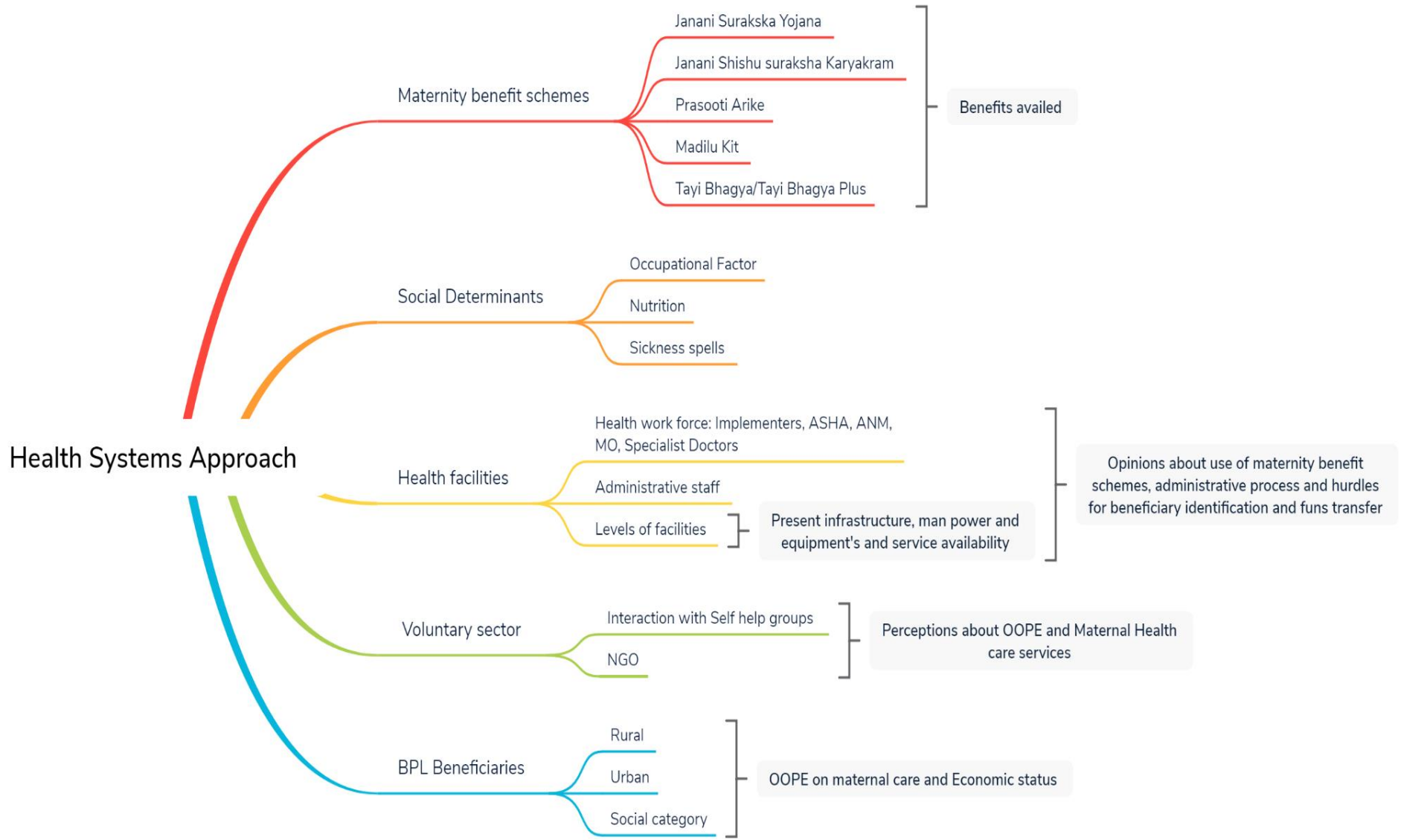
- 1 To assess the awareness of the government maternal health schemes among the sample of mothers who delivered in public health facilities.
- 2 To assess the items of out-of-pocket expenditures incurred by the family per delivery in the public health facility.
- 3 To find out the reach of the maternal health schemes to the targeted beneficiaries across the regions.
- 4 To examine the financial adequacy of various maternal health schemes.
- 5 To examine the regularity, and real time disbursement of the cash and other incentives under the schemes.
- 6 To analyze the sources through which the OOP expenditure is met by the family.
- 7 To examine the component of transport cost in the OOP expenditure.
- 8 To suggest appropriate measures for improving the "better reach" of the maternal schemes and in turn improving their effectiveness.

### **1.5 Evaluation methodology**

This study followed a mixed methods approach using both qualitative and quantitative methods for assessing the overall situation. It tries to look at the problems from a health systems approach using the mixed methods. The qualitative bits are in the form of focus group discussions and interviews with various stakeholders and with the beneficiaries. The quantitative bits with diverse questions cover the OOPE aspects with beneficiary opinion and suggestions as how and what causes it and how it could be prevented. There is also enough emphasis on the background of the beneficiaries and benefits enjoyed by them in the form of cash incentives and schemes.

Our approach to this evaluation is described in the following graph / diagram. The evaluation methodology has also been described in detail in Table-1.1 below. Our evaluation is based on systems approach as described in the diagram below. There are several components which affects the public health care and in particular, maternal and child health care. At the foremost are the social determinants followed by infrastructure and facilities at the health care providing institutions. To assess the impact of health benefits, it is imperative to analyse and understand the status of social determinants and the public health care facilities.

Figure 1.2 Health Systems Approach in Evaluation



**Table 1.1 Health Systems Approach in Evaluation**

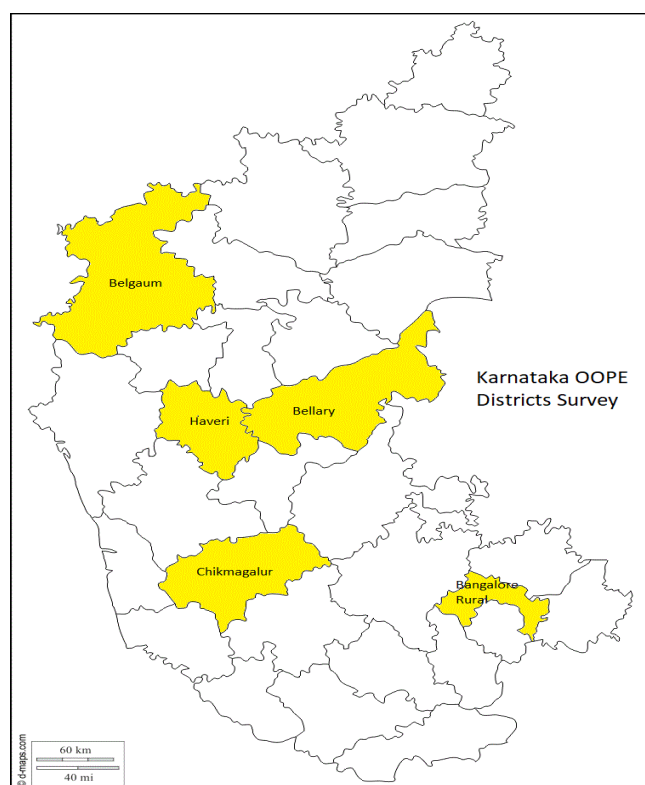
Evaluation Parameters	Data Source	Tool	Key result
<p>Programme Objective:</p> <ul style="list-style-type: none"> <li>• To assess the awareness of the government maternal health care schemes among the sample of mothers who delivered in public health facilities.</li> <li>• To find out the reach of the Maternal Health care schemes to the targeted beneficiaries across the regions.</li> </ul>			
<p>-Level of knowledge about cash incentives through various maternal health schemes</p> <p>-Reasons for choosing institutional deliveries over home deliveries among BPL, SC and ST pregnant women</p>	<p>-Reports on percentage of institutional deliveries before and after program implementation (Secondary)</p> <p>-Interviews with beneficiaries (Primary)</p>	<p>- Questionnaire</p> <p>- Interview schedules</p> <p>- FGD protocol</p>	<p>To check whether the high level of awareness about cash incentives was the main motivating factor to opt for institutional deliveries</p>
<p>Programme Objective:</p> <ul style="list-style-type: none"> <li>• To assess the items of out-of-pocket expenditures incurred by the family per delivery in the public health facility.</li> <li>• To examine the component of transport cost in the OOP expenditure.</li> <li>• To analyze the sources through which the OOP expenditure is met by the family.</li> </ul>			

<ul style="list-style-type: none"> <li>-Extent of reach of cash incentives for purpose of maternal and child health care</li> <li>-Amount of OOPE on maternal and child health care among BPL women beneficiaries</li> <li>-Average transport cost involved at various phases of maternal and child health care</li> <li>-Assessment of sources of OOPE</li> </ul>	<ul style="list-style-type: none"> <li>-Questionnaire interview with BPL women beneficiaries (Primary)</li> <li>-Interviews with health personnel, ASHA workers (Primary)</li> <li>-FGD with BPL women beneficiaries (Primary)</li> </ul>	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview schedules</li> <li>- FGD protocol</li> <li>- Interview schedule</li> <li>- Report review</li> </ul>	<p>To check whether there is lack of timely release/ reach of cash benefits to the beneficiaries</p> <p>To check whether there is proper utilization of cash incentives</p> <p>To check whether transport cost is the major contributor to OOPE</p> <p>To check availability of various means to meet with OOPE</p>
<p>Programme Objective:</p> <ul style="list-style-type: none"> <li>• To examine the financial adequacy of various Maternal Health care schemes.</li> <li>• To examine the regularity, and real time disbursement of the cash and other incentives under the schemes.</li> <li>• To suggest appropriate measures for improving the "better reach" of the maternal schemes and in turn improving their effectiveness.</li> </ul>			
<ul style="list-style-type: none"> <li>-Timely release of funds under maternal and child health services under the existing programmes</li> <li>-Assessment of actual cost required for maternal and child health care</li> <li>-Extent of reach of cash benefits to beneficiary mothers</li> </ul>	<ul style="list-style-type: none"> <li>-Documents on handing over the cash benefits to the beneficiaries</li> <li>-Interviews with beneficiaries and their families, health workers, ASHAs (Primary)</li> <li>-Interview/FGD within the field (Primary)</li> </ul>	<ul style="list-style-type: none"> <li>- Interview schedules</li> <li>- FGD</li> <li>- INTERVIEW schedule</li> </ul>	<p>To check whether the cash benefits are reaching the truly under privileged- BPL, SC and ST women</p> <p>To check whether the cash incentives are being used for the purpose it is supposed to</p>

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

-Eliciting suggestions about prevention of OOPE from beneficiaries and other stake holders			To check whether there are useful suggestions/ means to reduce OOPE
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**Figure 1.3 Selected districts in Karnataka for OOPE study**



Through a pre-tested questionnaire, the survey was carried out in five districts across the four administrative divisions in Karnataka. Data has been collected on various components like antenatal care, delivery and postnatal care which examines the expenditure on events and purchase of services by women. This has been extended to also look at transactional costs made to health care staff. Overall, an effort has been made to capture the economic status of household and sources for out of pocket expenditure during maternity care. The five districts are Belgaum, Haveri in Belgaum division, Bellary in Gulbarga Division, Chikmagalur in Mysore Division, and Bangalore Rural in Bangalore Division.

10% of the total public health facilities in each district were selected. From these PHCs 5% of BPL women beneficiaries (those who got Tayi card from the selected PHC) enrolled during 2014-15 and 2015-16 were selected for detailed investigations. Since one of the objectives of the evaluation was to capture the reasons for variation in OOPE across the geographical areas, sampling strategy of selecting 10% of the PHCs randomly covering urban, rural and remote/difficult areas has been done. In most of the districts the taluks having maximum clustering of remote/difficult and/ or urban PHCs (as they are limited in numbers compared to rural PHCs), was used as the criteria to choose next level of sampling for logistic reasons. Within the chosen

taluks, the urban, remote and rural PHCs were chosen randomly. Details of selected PHCs can be seen from table 1.2.

**Table 1.2 Summary of selected PHCs**

District	Geographical category (R- rural, U- urban, D- difficult) DH- District Hospital, TH-Taluk Hospital, SDH-Sub District Hospital, CHC- Community Health center.	Total number of Facilities
Bangalore (R)	5R, SDH, 0D	6
Chickmagalur	5R, 1U, 3D, CHC	10
Haveri	5R, DH, TH, 2D	9
Bellary	3R, 3U, 2D, CHC	9
Belgaum	15R, 1D, 2CHC,	18
Grand Total	33R, 4U, 8D, 4 CHC, 2TH, 1DH	52

Since the geographical category of PHCs as remote/ difficult was available in a list from a different source other than HMIS data provided by line department, the same was used to select the remote/ difficult PHCs.

NHSRC has assessed the country wide PHC based on, distances of PHC from urban centres, road access, public transport availability, hilly /desert/ forest/ island area, govt housing availability- for doctors/nurses, electricity supply for > 8 hours per day, distance to school. The definition used for classification of difficult PHC is Difficult and Most difficult: If the facility is more than 60 km from urban area/ district headquarters it would be considered difficult and in addition if

- a) The facility is more than 30 km from block headquarter and over 10 km away from national highway or other main busy highway- irrespective of other adverse environment or housing criteria: OR
- b) The facility is less in one of the above two distances (from block and from highway) but there are adverse environment factors or housing factors to compensate for it.  
OR
- c) If the road gets cut off for more than a month every year.



Excel sheets on above criteria were downloaded for the selected districts from NHSRC website and difficult PHC were selected based on the above criteria. (<http://nhsrcindia.org/resource-detail/karnataka/MjU3>) NHSRC (2020).

The year-wise numbers of BPL women beneficiaries in selected PHCs were retrieved from Maternal and Child Tracking Systems (MCTS) portal of the line department. Since the month-wise data was available on the HMIS Portal, month-wise data was downloaded from portal for the year 2013-14, 2014-15, 2015-16, and 2016-17.

From this data, set expected date of delivery was calculated by adding 40 weeks to last menstrual period (LMP) date. The Expected Delivery Dates (EDD) between 1-6-2014 and 30-6-2016 were selected. Furthermore, BPL category was selected. From the Annual sheets district level universe and further institutional wise universe was created. Beneficiaries were listed year wise and caste wise at the institutional level i.e. at PHC/CHC/TH/DH level.

A separate list of beneficiaries for Scheduled Caste, Scheduled Tribes and others was generated at the institutional (institutional) level (PHC/CHC/TH/DH). From this list, 5% of the sample was drawn proportionately from each year and caste wise. To this 5% of the sample, 10% non-response was added to cover the non-availability and non-responsiveness among beneficiaries to be identified. In some cases, the list of beneficiaries in PHC/CHC/TH/DH were used to meet the set sample requirements, once the list of selected beneficiaries was exhausted due to non-availability and non-responsiveness. Sample size across districts can be seen from table 1.3 below.

**Table 1.3 Sample size for district**

<b>District</b>	<b>Total beneficiaries</b>	<b>Sample data collected</b>
<b>Bangalore Rural</b>	5521	294
<b>Chickmagalur</b>	5204	281
<b>Haveri</b>	7634	414
<b>Bellary</b>	7337	399
<b>Belgaum</b>	13591	716
<b>Total</b>	39287	2104

Source: Survey

## 1.6 Districts and Sample

The evaluation has been carried out among 5% of those BPL women beneficiaries enrolled during 2014 - 2015 and 2015 – 2016 in the selected PHC areas, proportionately divided across the two-time spans. In each district 5% of women were interviewed for 2 years 2014-15, 2015-16 taking the figure to 5% of Thayi card beneficiaries under each facility. Details can be accessed from table 1.4.

**Table 1.4 Beneficiaries across years and Districts**

<i>Districts</i>	<i>Difficult</i>			<i>Rural</i>			<i>Urban</i>			<i>No info</i>	<i>Grand Total</i>
	June 2014- May 2015	June 2015- May 2016	difficult Total	June 2014- May 2015	June 2015- May 2016	rural Total	June 2014- May 2015	June 2015- May 2016	urban Total		
<i>Bangalore Rural</i>				83	50	133	117	44	161		294
<i>(%) →</i>				14.07	8.77	11.47	35.24	11.61	22.64		13.97
<i>Belgaum</i>	24	22	46	250	268	518	69	80	149	3	716
<i>(%) →</i>	19.35	21.57	20.35	42.37	47.02	44.66	20.78	21.11	20.96	42.86	34.03
<i>Bellary</i>	39	28	67	65	71	136	57	138	195	1	399
<i>(%) →</i>	31.45	27.45	29.65	11.02	12.46	11.72	17.17	36.41	27.43	14.29	18.96
<i>Chikmagalur</i>	18	11	29	94	72	166	62	22	84	2	281
<i>(%) →</i>	14.52	10.78	12.83	15.93	12.63	14.31	18.67	5.80	11.81	28.57	13.36
<i>Haveri</i>	43	41	84	98	109	207	27	95	122	1	414
<i>(%) →</i>	34.68	40.20	37.17	16.61	19.12	17.84	8.13	25.07	17.16	14.29	19.68
<i>Grand Total</i>	124	102	226	590	570	1160	332	379	711	7	2104
<i>(%) →</i>	5.89	4.85	10.74	28.04	27.09	55.13	15.78	18.01	33.79	0.33	100.00

Source: Survey

Our survey has covered 10.74% of respondents from difficult area i.e. they are located at a distance of 30 kms away from the block headquarters. 55.13% respondents are from rural areas and 33.79% respondents residing in urban areas. A total of 294 respondents constituting 13.97 % respondents were from Bangalore rural, 716 respondents i.e. 34% from Belgaum, 399 respondents, i.e. 18.96% from Bellary, 281 respondents i.e. 13.36% from Chickmagalur and 414 respondents i.e. 19.68% were from Haveri. A total of 1046 i.e. 49.7% of the respondents were from June 2014- May 2015 and 1050 i.e. 50% of the respondents were from June 2015- May 2016, 0.3% were missing values.

**Table 1.5 Sampled institutes across the districts**

<i>Districts</i>	<i>DH</i>	<i>SDH/TH</i>	<i>CHC</i>	<i>24X7 PHC</i>	<i>Rural PHC</i>	<i>Urban PHC</i>	<i>All</i>
<i>Bangalore Rural</i>	0	1	0	3	2	0	6
<i>Belgaum</i>	0	0	2	7	9	0	18
<i>Bellary</i>	0	0	1	4	1	3	9
<i>Chikmagalur</i>	0	0	1	6	2	1	10
<i>Haveri</i>	1	1	0	5	2	0	9
<i>All</i>	1	2	4	25	16	4	52

A total of 52 public institutes were covered in 5 districts which include 45 Primary health centres of which 33 were rural, 4 were urban, 8 were difficult to reach. Of these 45 Primary health centres, 25 i.e. 56% were 24X7 PHCs which has man power to conduct deliveries 24 X7 and Basic neonatal care facility. 16 were rural PHCs which offered delivery facilities and ANC services, Urban PHCs offer only ANCs. There were 4 CHCs and 2 taluka hospitals and one district hospital which were included in the survey. Altogether, these constituted 39287 women who had Thai cards from these institutes. We conducted surveys among 2104 women who resided in proximity to these areas. Institute wise break up is given below.

**Table 1.6 Institute wise caste wise and year wise breakup of the beneficiaries**

<i>Districts</i>	<i>June-2014-May2015</i>				<i>June-2015-May2016</i>				<i>No Info Total</i>	<i>Grand Total</i>
	<i>OBC</i>	<i>SC</i>	<i>ST</i>	<i>Total</i>	<i>OBC</i>	<i>SC</i>	<i>ST</i>	<i>Total</i>		
<i>Bangalore_Rural</i>	165	30	5	200	71	17	6	94	0	294
<i>Bylanarasapura</i>	20	3	2	25	6	3	1	10	0	35
<i>Doddahejjaji</i>	10	4	1	15	11	3	1	15	0	30
<i>Jadigenahalli</i>	25	12	1	38	12	3	1	16	0	54
<i>K_Malladsandra</i>	4			4	4	2		6	0	10
<i>Kadnur</i>	1			1	2	1		3	0	4
<i>SDH Doddaballapura</i>	105	11	1	117	36	5	3	44	0	161
<i>Belgaum</i>	251	82	10	343	287	63	20	370	3	716
<i>Akkol</i>	15	1		16	13	2		15	0	31
<i>Ashok Nagar</i>	9	1		10	18	1	1	20	0	30
<i>Beedi</i>	14	1		15	12			12	0	27
<i>CHC Kabburu</i>	24	15		39	41	4		45	2	86

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<i>Ganebail</i>	18	5	3	26	15	2	2	19	0	45
<i>Halasi</i>	5	1	2	8	8	1		9	0	17
<i>Itagi</i>	8		2	10	12	1	4	17	0	27
<i>Kakkeri</i>	7	3		10	14	2	4	20	0	30
<i>Kankumbi</i>	22		2	24	20		2	22	0	46
<i>Kerur</i>	18	15		33	23	15		38	0	71
<i>Khanapur</i>	1			1	1			1	0	2
<i>Londa</i>	9	2		11	12		2	14	0	25
<i>Manakpur</i>	5	7		12	1	6		7	0	19
<i>Manjari</i>	7	2		9	5	3		8	0	17
<i>Nippani CHC</i>	14	16		30	23	9	3	35	0	65
<i>Parishwad</i>	33	1		34	26	5		31	0	65
<i>Patakudi</i>	11	3	1	15	21	4	1	26	0	41
<i>Sadalga</i>	16	6		22	19	6	1	26	1	49
<i>Yadur</i>	15	3		18	3	2		5	0	23
<b><i>Bellary</i></b>	<b>77</b>	<b>63</b>	<b>21</b>	<b>161</b>	<b>125</b>	<b>85</b>	<b>26</b>	<b>237</b>	<b>2</b>	<b>399</b>
<i>Devasamudra</i>	7	8	6	21	12	7	3	22	0	43
<i>Holalu</i>	12	6	1	19	22	8	2	32	0	51
<i>Kampli_Ufwc</i>	7	6	5	18	11	9	1	21	0	39
<i>Kattebennur</i>	12	3	3	18	8	3	2	13	1	32
<i>Kotturu_CHC</i>	13	6	2	21	14	25	1	40	0	61
<i>M_M_Wada</i>	6	19		25	4	13		17	0	42
<i>Magala</i>	11	8	2	21	10	3	2	15	0	36
<i>Uphc_Akashawani</i>	1			1	15		1	16	0	17
<i>Uphc_Gandhichowku</i>	8	7	2	17	29	17	14	61	1	78
<b><i>Chikmagalur</i></b>	<b>106</b>	<b>53</b>	<b>15</b>	<b>174</b>	<b>69</b>	<b>32</b>	<b>4</b>	<b>105</b>	<b>2</b>	<b>281</b>
<i>Aldur</i>	10	6	1	17	2	4		6	1	24
<i>Chikmagalur</i>	45	15	2	62	18	4		22	0	84
<i>Hariharapura</i>	3	1		4	3	2		5	0	9
<i>Jayapura</i>	7	4	1	12	1	2		3	0	15
<i>K.R. Pette</i>	14	6		20	20	6		26	0	46
<i>Kalasa CHC</i>	4	3	10	17	3	2	4	9	0	26

<i>Kalasapura</i>	13	5		18	15	3		18	0	35
<i>Kammaradi</i>	2			2	1	2		3	0	5
<i>Mallandur</i>	6	11	1	18	3	4		7	0	25
<i>Vasthare</i>	2	2		4	3	3		6	1	11
<b><i>Haveri</i></b>	<b>119</b>	<b>24</b>	<b>25</b>	<b>168</b>	<b>167</b>	<b>44</b>	<b>33</b>	<b>245</b>	<b>2</b>	<b>414</b>
<i>Hattimattur</i>	12	6	2	20	19	4	3	26	1	47
<i>Haveri_DH</i>	10	3	1	14	11	7	16	34	0	48
<i>Hosaritti</i>	13	2	8	23	8	6	1	15	0	38
<i>Kabbur</i>	9		1	10	15	4		19	0	29
<i>Kadacol</i>	17	4	4	25	15	4	4	23	0	48
<i>Kalasur</i>	13	3	3	19	9	5	6	20	0	39
<i>Karadagi</i>	15	3	2	20	19	4	2	26	1	46
<i>Katenahalli</i>	20	1	3	24	19	2		21	0	45
<i>Savanur TH</i>	10	2	1	13	52	8	1	61	0	74
<b><i>Grand Total</i></b>	<b>718</b>	<b>252</b>	<b>76</b>	<b>1046</b>	<b>719</b>	<b>241</b>	<b>89</b>	<b>1049</b>	<b>9</b>	<b>2104</b>

Source: HMIS

**Table 1.7 Survey methods**

<i>Stakeholders</i>	<i>Method of data collection</i>	<i>Total/ Sample Size</i>	<i>Sampling principle</i>
<i>Beneficiaries</i>	Survey	2014	5% of beneficiaries
<i>Beneficiaries</i>	FGD	52	1 per PHC
<i>Health department officials at district level</i>	Interview	15	3 per District
<i>Health department officials at taluk level</i>	Interview	12	1 per Taluk
<i>Health department officials at PHC /CHC/TH/DH level</i>	Interview	52	1 MO per PHC
<i>ASHAs</i>	Interview	52	1 per PHC
<i>Health workers- ANMs, or JrHA-F</i>	Interview	52	1 per PHC

## **1.7 Risks and limitations**

In this evaluation, enumerators visited beneficiary households to conduct survey, conducted Focus Group Discussions among beneficiaries, interviews among ASHA workers and other health systems stake holders. The data collection in the evaluation was successfully completed on the cooperation from selected districts, taluks and PHCs. Further, the declaration of Lok Sabha elections and the enforcement of code of conduct, and north Karnataka floods caused delay in collection of data.

The evaluation looks only at fifty-two PHC areas of five districts selected under the study. The status and reasons for OOPE in other PHC areas in five selected districts, which were not selected have not been studied. Further, while analysing slip-backs and determining whether quality of maternal and child health services have improved/ declined during 2014 – 2015 and 2015 - 2016, the analysis assumes that the quality of maternal and child health services had reached highest levels that met the eligibility criterion in the year when it was being assessed. Hence, there is no fail-safe way of measuring the extent of real slip-back through this evaluation.

1. As the beneficiaries had to recall the expenditure details from latest of past five years to an earliest of past three years, recall bias was a major influence of the study results. Recall bias is one of the limitations of the study.
2. The costs covered are direct costs and indirect costs are not taken into account.
3. This evaluation study design does not include comparison with baseline data.
4. This evaluation study does not embody an experimental design and does not involve comparison of beneficiaries with persons who did not receive the benefits.

## **CHAPTER - 2**

### **LITERATURE REVIEW**

#### **2.1 Historical Trends in Maternal and Child Health**

The maternal and child health is one of the major components of public health programme in India since independence. From 1947-60 the focus was on expansion of services in un-served areas, maternal and child health was priority area with expanded programming in first five-year plan. From 1960-80 India adopted target-based family planning approach; in 1980-90 Vertical programmes on immunization and maternal health were launched. Structural Adjustment Programme leads to rise in private sector health investment in India and Reproductive and Child Health programme introduces integrated maternal and child health, family planning and reproductive health services (1990-2000). Post 2000 Reproductive and Child Health strategy had set specific maternal and infant mortality reduction goals. In 2005 National Rural Health Mission was launched, leading to expanded funding and decentralized programme implementation on RMNCHA. Quality initiatives included Indian Public Health Standards for quality assurance in primary care; (Avan, Srivastava, Bhattacharyya, & Clar, 2014). In 2014 National Quality Assurance Standards (NQAS) were developed keeping in mind the specific requirements for public health facilities as well as best global practices. Quality Assurance Committees at district/State level for quality certification have been set up. Since 2017, Government of India has adapted *Laqshya*- a quality initiative for services offered in the labour room.

The outset of National Rural Health Mission brought in conditional cash transfer for institutional delivery. At the same time there are some state sponsored programmes which also provide Conditional cash transfers. Conditional cash transfer programmes (CCT) give money to the people in return of fulfilling specific behavioural conditions. In the present case, regular visits to a health care facility for ante natal care and delivering in public facility by pregnant women. CCTs are a new type of social programme with the primary objective of alleviating poverty. (WHO, 2008). Conditional cash transfers stimulate the demand for health services. (WHO, 2008) This trend is seen in increase in institutional deliveries over years since NRHM started. This conditional cash transfers intend to reduce social and economic impact of out-of-pocket expenses incurred by households for maternal health care. During the period of 2014-15 and 2015-16, eligible BPL pregnant women received a sum of up to Rs. 2000/- for delivering

in a public institute and up to Rs. 1000/- for delivering in an empanelled private hospital from Government of Karnataka. Apart from these, eligible women with BPL cards delivering in public institute received Madilu kit.

## **2.2 Out of pocket Expenditures (OOPE):**

Out-of-pocket payments (OOPs) are defined as direct payments made by individuals to health care providers at the time of service use. Studies have projected that Out-of-pocket payments for health can cause households to incur catastrophic expenditures, which in turn can push them into poverty. Many studies have looked at impoverishment for various disease conditions for inpatient admissions. Measuring out of pocket expenditures for delivery care was introduced into Indian large-scale surveys through District Level Household Survey -4 (DLHS-4) and National Family Health Survey -4 (NFHS-4) which provide the estimates of out of pocket expenditure for delivery at a district level, state level and country level. NFHS 4 which covers 568 200 households, DLHS-4 covered 350 00 households in Karnataka. Apart from this National Sample Survey Organization conducts the surveys on social consumption relating to health providing quantitative information on health like morbidity, hospitalization, extent of receipt of pre- and post-natal care by women, expenditures incurred on treatment received from health services in public and private facilities. Other studies on OOPE for maternal health in various small pockets have focused on particular geographical area.

Karnataka ranks 6<sup>th</sup> at the national level for Out of pocket expenditure for delivery in public facilities, first place is occupied by Manipur followed by West Bengal, Kerala, Arunachal Pradesh, Nagaland and Goa. As per the NFHS-4 reports Karnataka's average out of pocket expenditure for delivery is 4,824 for public facilities, 22,882 for private facilities and 11,630 is the average for any facility.

Among the districts in Karnataka, Bangalore ranks first with an average of 9933 and Yadagiri is ranked the lowest with an average of 1966. Among the survey districts Bangalore rural is 6<sup>th</sup> with an average of 5600. Belagavi is ranked 11<sup>th</sup> with an average of 4521. Bellary is ranked 13<sup>th</sup> with an average of 4,413. Chikmagalur is ranked 17<sup>th</sup> with an average of 3920 and Haveri is ranked 24<sup>th</sup> with an average of 2886. There are District wise variations in OOPE, we intend to find out why those district wise variations happen.



### 2.3 Rural urban variations:

It is reported in the study by Shankar Prinja et, al (2018) that respondents in urban areas reportedly had a higher OOP expenditure than rural areas for Out patients care services. Anamika Pandey, (2018) looked at out-of-pocket health-care payments and catastrophic health expenditure in India by household age composition. The study found that proportion of catastrophic health expenditure increased 1.47-fold between 1993-94 expenditure survey (12.4%) and the 2011-12 expenditure survey (18.2%) and 2.24-fold between the 1995–1996 utilization survey (11.1%) and the 2014 utilization survey (24.9%). The proportion increased more in the poorest than the richest across the study area. The risk was also increased among households with both older people and children with a female head of the household and with rural background.

Sanjay K. Mohanty and Anshul Kastor (2017) estimate OOPE and Catastrophic Health Spending (CHS) on maternal care by public and private health providers in pre and post NHM periods using data from 60th and 71st rounds of national sample survey. Women delivering in private health centres, residing in rural areas and poor households are more likely to face CHS on maternal care.

Sanjay K Mohanty and Akanksha Srivastava (2013) attempt to understand the regional pattern and socio-economic differentials in out-of-pocket (OOP) expenditure on institutional delivery by a source of provider in India through DLHS-3 data. They found that OOP expenditure in public health centres, adjusting for inflation, has declined over time, possibly due to increased spending under the National Rural Health Mission.

Saradiya Mukherjee (2013) tries to analyse the incidence and intensity of ‘catastrophic’ maternal health care expenditure, he threw light on socio-economic correlates in urban and rural areas and tries to examine the factors associated with such impoverishment due to maternal health care payments. He found that maternal health care expenditure in urban households was almost twice that of rural households. Out of pocket expenditure on maternal health care expenditure incidence on poverty is increased equally in urban and rural areas. There are rural urban and caste wise variations, we intend to find out what those variations could be due to.

## **2.4 Public Private Institute variations**

Tiziana Leone (2013) examines the levels of expenditure incurred in public and private health care institutions at the national, state and community levels through 2004 National Sample Survey Organization data on the women received maternal health care services. The study found that the majority of the households are paying for maternal health services, with those using private care facilities were paying almost four times more than those using public facilities those living in rural areas and poorer communities who are increasingly seeking care in private facilities.

The study by Sulakshana Nandi (2017) uses the 71st round NSSO data for analysis. Women, rural residents, schedule tribes and poorer groups were more likely to utilize the public sector for hospitalization. Although the insured were less likely to incur out of pocket (OOP) expenditure, the majority of the insured using both private and public sector services still incurred costs for hospitalization. There are Public private variations, we intend to find out what those variations could be due to.

## **2.5 Government Institutes level variations**

Study of the performance of 24 X 7 PHCs in the 'C' Category districts of Karnataka Grassroots Research and Advocacy Movement (2015).

Many Primary Health Centres in Karnataka were upgraded to function round the clock, with additional financial and human resources, to enhance the reach of public health services in rural areas and to give thrust to the efforts to reduce MMR and IMR in the state. The Evaluation recommended that:

- Including number of deliveries as a performance criterion with the highest weights, for performance-based funding of Untied Grants.
- Exploring the options of special grants (or upgrading H level PHCs to CHCs) for provision of extra beds, staff, transportation facilities, medicine and other infrastructure, for PHCs recording high level of pregnancies and deliveries.
- Exploring possibilities of integrated interventions (poverty alleviation, sanitation, nutrition and women empowerment) on pilot basis, using opportunities like Sansad Adarsh Gaon Yojana, BRGF etc

Using this as back ground we want to see if the out of pocket expenditures varies by type of government institutes.

## 2.6 Summary of literature review

The out of pocket expenditures done on the smaller samples in different states quote an average of less than 4500/- for delivery, while the larger publications using secondary data largely from NSSO and NFHS give a high proportion of expenditures for delivery alone (Rs.10,000/- and above) The literature search for this study didn't find any study which quotes the total maternity expenditure as envisaged in this study. None of the studies have looked at transportation in detail. Most of the studies only look at expenditures till delivery and does not focus on post-delivery expenditures. As per the NFHS-4 reports Karnataka's average out of pocket expenditure for delivery is INR4,824 for public facilities, INR22,882 for private facilities and INR11,630 is the average for any facility. Among the districts in Karnataka (NFHS-4), Bangalore ranks first with an average of INR9933 and Yadagiri ranks the lowest with an average of INR1966. Among the survey districts, Bangalore rural is 6th with an average of INR5600. Belagavi is ranked 11th with an average of INR4521. Bellary is ranked 13th with an average of INR4,413. Chikmagalur is ranked 17th with an average of INR3920 and Haveri is ranked 24th with an average of INR2886.

71st round of the National Sample Survey (2014), which estimated INR 17642/- for southern region (Goli, Moradhvaj, Rammohan, Shruti, & Pradhan, 2016). None of the literature gives a comprehensive and detailed outlook of expenditures at district level or analysis at district level. The estimates involving larger samples (NSSO and NFHS) have projected higher expenditures for institutional births. Some studies have commented about the effectiveness of JSY and JSSK on reducing the out of the pocket expenditures but the evidence is mixed with some studies suggesting against it. There are some studies which also comment on the role of insurance schemes but they do indicate instances of OOPE even after the possession of financial protection but they cover the larger aspect of hospitalization and not maternity care alone. Overall Literature indicate high OOPE for people who utilize private facilities compared with that of the government higher expenditures for urban area residents when compared with rural areas. Form the literature themes for hypothesis were arrived by adding additional features like birth order and type of delivery.



## **CHAPTER –3**

### **DATA COLLECTION AND ANALYSIS**

#### **HEALTH INDICATORS, PUBLIC HEALTH CARE FACILITIES AND MATERNAL AND CHILD HEALTH CARE SCHEMES: A MACRO PERSPECTIVE**

### **3.1 Situation analysis**

This chapter provides an overview of health systems functioning during the reference period. This analysis is based on the secondary data obtained from various sources and pooled together to get insights into functioning of the health systems at that point in time. It looks at the demographic indicators, spending on health by states, functioning of health systems in terms of health indicators, maternal and child health indicators in particular and insights into schemes, thereby providing the macro picture of the state and selected districts.

Karnataka has a total land area of 191,791 sq.km and accounts for 5.83% of the total area of the country. It is the 7<sup>th</sup> largest state in terms of size. It has a population of 6,11,30,704, as per the census 2011. It occupies the eighth place in terms of population. The population density is 319 persons per km<sup>2</sup> which is lower than the all-India average of 382 persons per km<sup>2</sup>. There are altogether 30 districts in Karnataka and these districts are administratively grouped into 4 divisions, Bangalore, Belgaum, Gulbarga and Mysore. In this section of the report which is based on the secondary data, the focus will be on consolidation of position of Karnataka in India and variations within districts in Karnataka and focussed on survey districts viz, Bangalore rural, Belgaum, Bellary, Chikmagalur, and Haveri.

### **3.2 Demographic Indicators**

Demographics helps us to learn more about a population's characteristics for many purposes, including policy development, population growth and fertility rates. As per Census 2011, Karnataka has population of 6.11 Crores, an increase from figure of 5.29 Crore in 2001 census. Total population of Karnataka as per last census is 61,095,297 of which 30,966,657 i.e. 51% are male and 30,128,640, 49% are female respectively. The total population growth in this decade was 15.60 % while in previous decade it was 17.25 %. The population of Karnataka is 5.05 % of India's population. Karnataka has a literacy rate of 75.36%, with 82.47% of males and 68.08% of females being literate. In 2001, the literacy rate of the state was 67.04%, with 76.29% of males and 57.45% for females.

### **3.2.1 Urban area population sex ratio and literacy rate**

Out of total population of Karnataka, 38.67% people live in urban regions. The total figure of population living in urban areas is 23,625,962 of which 12,037,303, 51% are males and while remaining 11,588,659, i.e., 49% are females. The urban population in the last 10 years has increased by 38.67%. Sex Ratio in urban regions of Karnataka was 963 females per 1000 males. For child (0-6) sex ratio the figure for urban region stood at 946 girls per 1000 boys. Of total population in urban region, 11.19% were children (0-6). Average literacy rate in Karnataka for Urban regions was 85.78% in which males were 90.04% literate while female literacy stood at 77.97%.

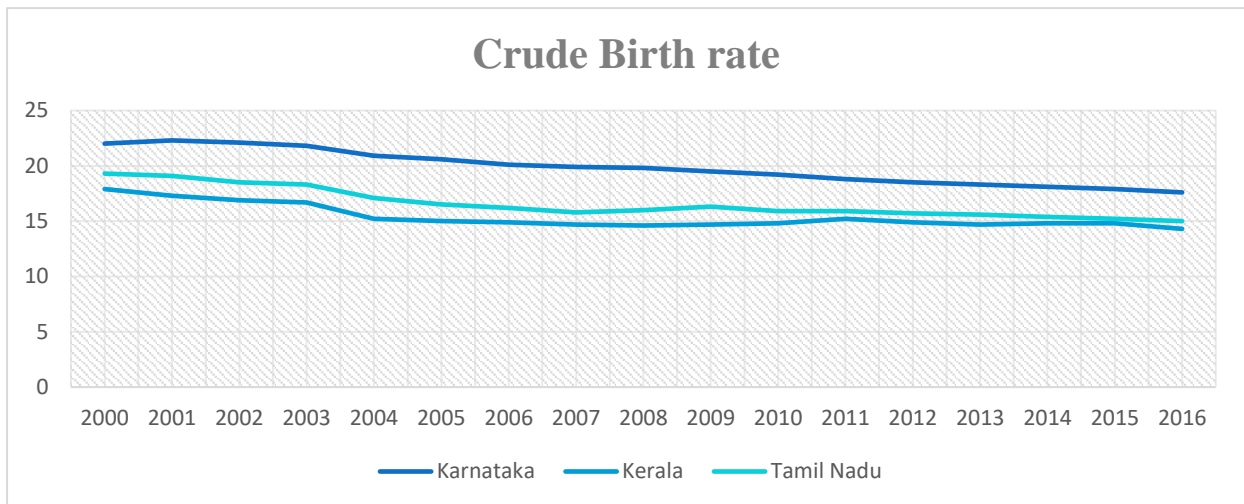
### **3.2.2 Rural area population sex ratio and literacy rate**

61.33% of population live in the villages of rural areas, males and females were 18,929,354 50.52% and 18,539,981 49.48% respectively. Total population of rural areas of Karnataka state was 37,469,335 i.e. 61.32%. The population growth rate recorded for the decade (2001-2011) was 61.33%. Female sex ratio per 1000 males was 979 while same for the child (0-6 age) was 950 girls per 1000 boys. Child population forms 12.06% of total rural population. In rural areas of Karnataka, literacy rate for males and female stood at 77.61% and 58.32%. Average literacy rate in Karnataka for rural areas was 68.73 percent.

### **3.2.3 Crude birth Rate**

The crude birth rate (CBR) and crude death rate (CDR) are both measured by the rate of births or deaths respectively among a population of 1,000. The CBR and CDR are determined by taking the total number of births or deaths in a population and dividing both values by a mid-year total population of the given geographical area during the same year to obtain the rate per 1,000. The crude birth rate in Karnataka was around 22 in 2000 and it has steadily declined to 17.6 in 2016, as of now Karnataka is maintaining the lower birth-rate compared to EAG states which have CBR of more than 20. Overall birth rate fell from 22/1000 to 17.6/1000 in 16 years. Overall Crude birth rates of more than 30 per 1,000 are considered high, and rates of less than 18 per 1,000 are considered low. In 2011, population decadal growth for Karnataka was 15.6%. Population decadal growth of Karnataka fell gradually from 24.22% in 1971 to 15.6% in 2011.

**Figure 3.1 Crude birth Rate**

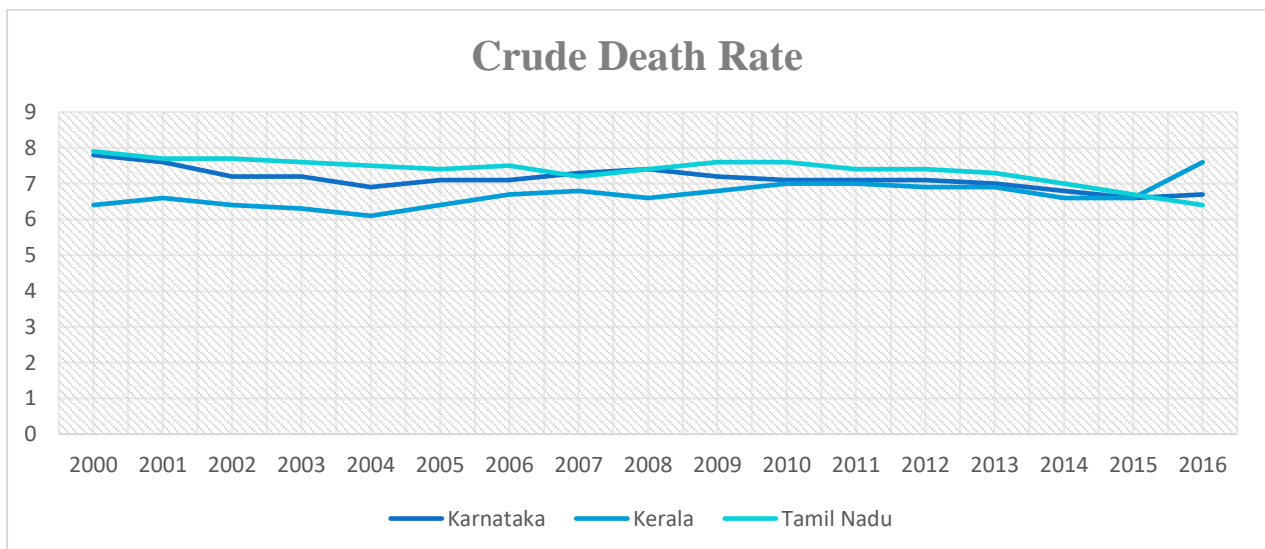


Source; SRS Bulletins

### 3.2.4 Crude Death rate

The crude death rate measures the rate of deaths for every 1,000 people in a given population. Crude death rates of below 10 are considered low, while crude death rates above 20 per 1,000 are considered high. Karnataka had crude death rate of about 7.8 in 2000 which has steadily declined to 6.7 in 2016. Karnataka has lower crude death rate.

**Figure 3.2 Crude death Rate**

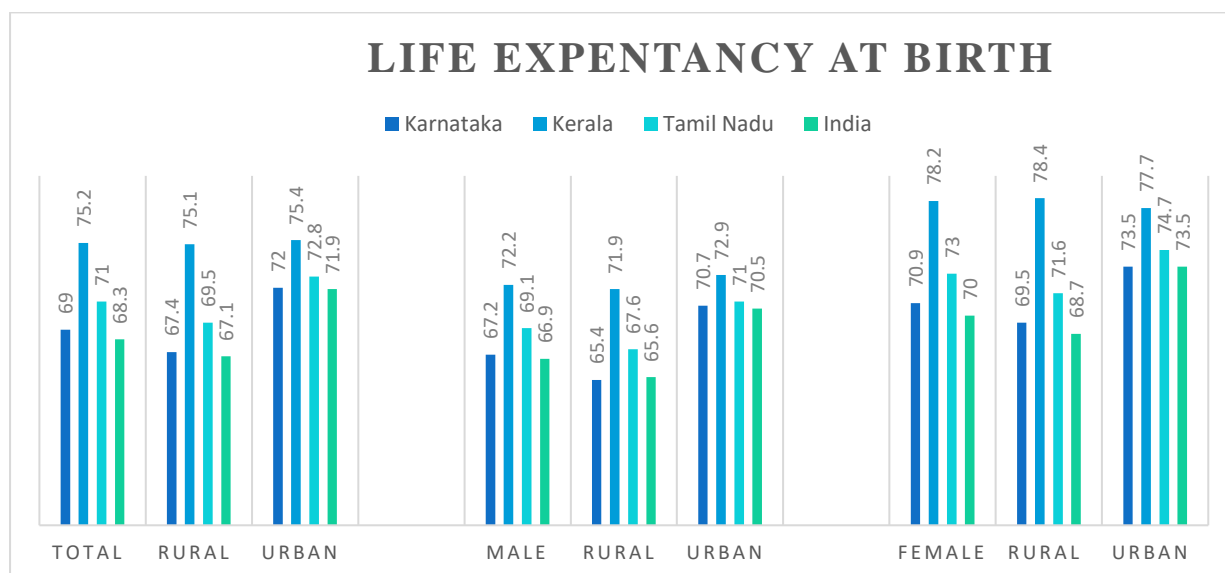


Source: SRS Bulletins

### 3.2.5 Life expectancy at Birth

Life expectancy at birth in India has risen marginally to 69 in 2013-17 from 68.7 in 2012-16. The life expectancy at birth for the country has undergone a significant change from 49.7 in 1970-75 to 69 in the latest survey, registering an increase of 19.3 years in the last four decades, according to the latest Sample Registration Survey. Life expectancy in general has risen marginally across all Indian states, signalling an overall improvement in the health of the population. The average male lifespan is catching up with that of the female, which is growing at a slower pace. While the average lifespan of women increased by 6-7 months over three years, that of men rose by a year and a half over the same period.

**Figure 3.3 Life expectancy at birth**



Source: Health and Family Welfare Statistics 2015

The life expectancy at birth measures the average number of years a person is expected to live under prevailing mortality conditions. Kerala with 74.9 years has retained the top position, while Assam with 63.9 years has the lowest life expectancy at birth. For Karnataka, it is 69 years —67.2 for men and 70.9 for women. Within Karnataka the life expectancy in rural areas is 67.4 in total with 65.4 for men and 69.5 for women and in urban areas its 72 in total with 70.7 for male 73.5 for female. These differences could be due to differences in health status when compared to the overall population, often characterized by indicators such as higher incidence of disease and/or disability, increased mortality rates, lower life expectancies, and higher rates of pain and suffering. Rural risk factors for health disparities include geographic isolation, lower socioeconomic status, higher rates of health risk behaviours, limited access to



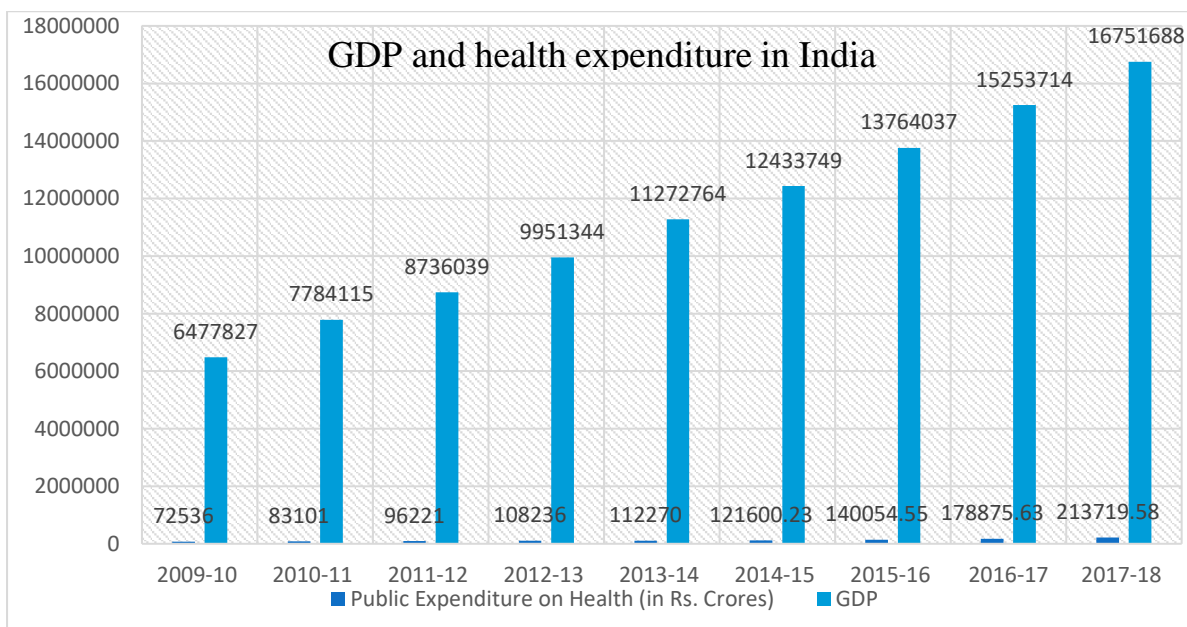
healthcare specialists and subspecialists. (“Rural Health Disparities Introduction - Rural Health Information Hub,” n.d.).

### 3.3 Public spending on Health

Health is an important determinant of economic development; a healthy population means higher productivity, thus higher income per head (Piabuo & Tieguhong, 2017). Yet health outcomes across countries are not strongly related to the level of spending on health services, once other factors and other kinds of spending are considered (Savedoff, 2007).

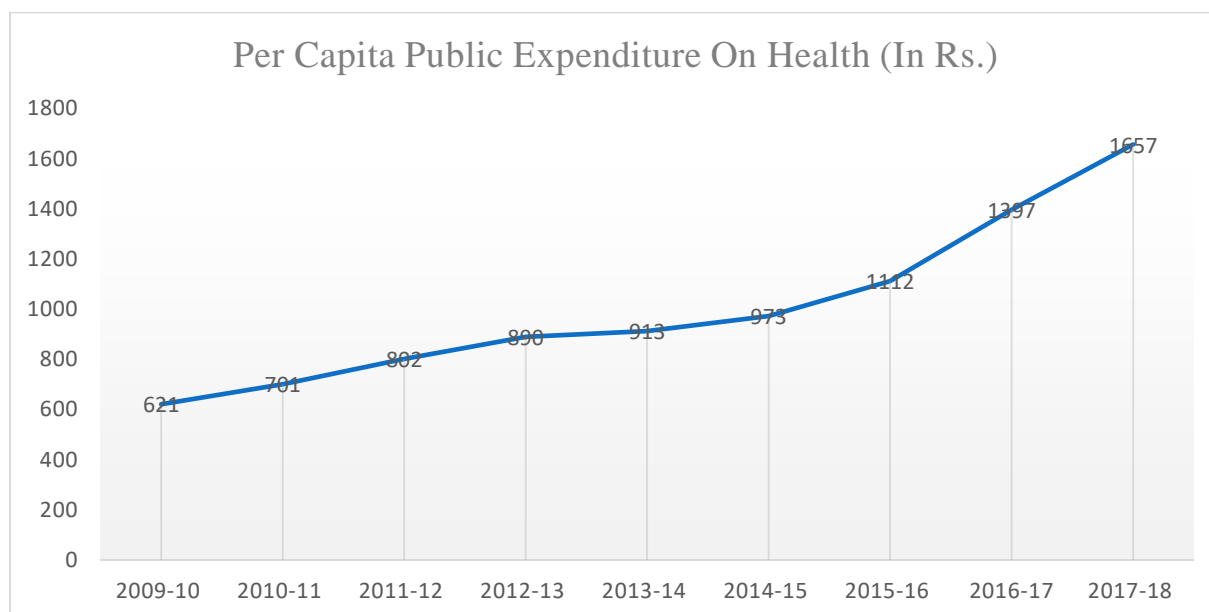
GDP of India was Rs. 6477827 crores in the year 2009 -10, it increased to Rs. 12433749 in 2014-15, then it increased to Rs. 16751688 in 2017-18. Public Expenditure on health in India also follows the GDP trends, health expenditure increased from Rs. 72536 in 2009-10 to Rs. 213719.58 in 2017-18. Per capita Public Expenditure on health in India is increasing from 621 in the year 2009-10 to 1657 in 2017 -18, per capita health expenditure has increased almost three times in 10 years’ duration. Public Expenditure on Health as the percentage of GDP in India is around one percent from 2009 -10 to 2017-18. Compared to developed countries, India’s public expenditure on Health as percentage of GDP is less.

**Figure 3.4 GDP and Health Expenditure**



Source: National Health Profile 2018

**Figure 3.5 Per capita expenditure on health by government**



Source: National Health Profile 2018

### 3.3.1 State expenditure on health

Delhi is spending 11.45 percent of total expenditure on health, followed by Himachal Pradesh (6.67 percent), Goa (6.07 percent) and other non EAG states are spending 4-5 percent of their total expenditure on health. In terms of Health Expenditure as a % of GSDP, Jammu & Kashmir is spending 2.46%, followed by Himachal Pradesh (1.68%), Goa (1.34%) and remaining states are spending less than one percent of GSDP on health.

In EAG states Assam is spending 7.09 % of total expenditure on health, Uttarakhand is spending 6.07% and remaining EAG states are spending 4-5 % total expenditure on health. In terms of GSDP, Assam is spending highest at 2.21% and the remaining states are spending one or two percent of GSDP on health.

Mizoram spends the highest (8.34%) of its total expenditure on health expenditure among North East States, followed by Meghalaya (6.73%), Tripura (6.62%) and other North eastern states are spending around 5 percent of the total expenditure on health. In terms of Health Expenditure as a % of GSDP, Mizoram spends 4.20% of GSDP on health followed by Arunachal Pradesh 3.29%. Remaining states are spending 1.5 % to 3 percent of GSDP on health.

Average non-EAG states' Total State Expenditure on health was 5.34 %, EAG states was 5.5% and north east states 6.30% in the year 2017-18. Average health Expenditure as a % of GSDP in non EAG states was 0.76%, EAG states was 1.36% and North-eastern states was 2.76%.

### 3.3.2 State spending on MCH

In the non- EAG states, Maharashtra spends the highest (12066 crores) on health, followed by Tamil Nadu (8543 crores), Gujarat (7432 crores), Karnataka (6980 crores), West Bengal (7239 crores), and Kerala (4626 crores). Other non-EAG states also spend thousands of crores on health expenditure. In state-wise percentage of public expenditures on MCH in non–EAG states Tamil Nadu spends 13.08 % on public expenditure on MCH, Gujarat spends 4.36% on MCH, and the remaining non-EAG states spend less than 1 percent of public expenditure on MCH.

In the EAG states, Uttar Pradesh spent the highest (15872 crores) on public expenditure on health in the year 2015-16, followed by Rajasthan which spent 9858 crores. Uttar Pradesh spent 1.72 percent of total health spending on MCH, but remaining states have spent less than one percent of the total health expenditure on MCH.

### 3.3.3 Sources for health expenditure

**Table 3.1**Source of health expenditure

<i>National Healthcare Financing Schemes</i>	<i>Percent of Total Financing Schemes (Values in %)</i>
<i>Household out of pocket expenditures</i>	64.70
<i>State government</i>	11.20
<i>Government health insurance</i>	4.20
<i>Union government</i>	8.60
<i>Private health insurance</i>	4.40
<i>Local bodies schemes</i>	1.70
<i>Other schemes</i>	5.20

Source: National Health profile 2018.

Out of pocket expenditures are the major sources for expenditure on health and it constitutes 64.7% of total expenditure on health. State government spends about 11.2% and 8.6% is spent by union government on various health initiatives.

### 3.4 Health Infrastructure in Karnataka

Public health infrastructure provides communities and the states the capacity to prevent disease, promote health, and prepare for and respond to both acute and chronic challenges to health. Karnataka follows 3-tier health system. At the primary level are the institutes like Subcentre and Primary health centres. The secondary level constitutes the Community Health Centres and District Hospital and the tertiary level covers the medical colleges and super-speciality hospitals.

There have been efforts to raise the public health infrastructure over a period of time based on the population covered which also means increasing the human resource availability in the health sector. There has been an increase in the number of subcentres by 6.45% within a span of 6 years and there was a marginal increase in the PHC by 2.12% in the same period. The subcentre increase rate is parallel with that of India level.

**Table 3.2 Primary care infrastructure in Karnataka and India**

<i>Health Care Facilities Created</i>	<i>Sub centres 2012</i>	<i>Sub centres 2018</i>	<i>SC % Change</i>	<i>PHC 2012</i>	<i>PHC 2018</i>	<i>PHC % Change</i>
<i>Source</i>	RHS 2012	RHS 2018		RHS 2012	RHS 2018	
<i>India Total</i>	148366	158417	6.77	24049	26743	11.20
<i>Karnataka</i>	8871	9443	6.45	2310	2359	2.12

Source: RHS 2012 and 2018.

As of 2018 Karnataka had 9443 subcentres with a population of 6,474; 2,359 Primary health centres with average population 25,914; 206 Community Health centres with average population of 2,96,751; 146 subdistrict hospitals with an average population 4,18,703; and 15 district hospitals covering an average population of 40,75,380. There are regional disparities - southern districts of the state such as Mysuru and Hassan have 81 PHCs in excess of the recommended Indian Public Health Standards (IPHS). The seven districts of north Karnataka namely, Yadagir, Gulbarga, Raichur, Koppal, Ballary, Bidar and Bagalkot and one district in south Karnataka, Chamarajanagar have poor health indicators, compared to other districts. For example, the average population coverage of a PHC in Raichur is 41,842 as against 30,000 prescribed by IPHS, whereas in Tumkur it is 18,224. There also exists regional disparities in the distribution of infrastructure at the secondary and tertiary levels.

### 3.4.1 Primary Health centres

Primary health centre (PHC) is the basic structural and functional unit of the public health services in India to provide accessible, affordable, and available primary health care to people. PHCs are the cornerstone of rural health services which is the first port of call to a qualified doctor of the public sector in rural areas for the sick and those who directly report or referred from sub-centres for curative, preventive and promotive health care. A typical PHC covers a population of 20,000 in hilly, tribal, or difficult areas and 30,000 populations in plain areas with six indoor/observation beds.

All sub-centres and some PHCs which have not yet reached the next level of 24 x 7 PHCs, deliveries are conducted by a skilled-birth attendant (SBA) they are referred to as Level 1. There were 16 such level 1 PHCs in 5 districts where the survey was conducted. These PHC had very low delivery rates These institutes have nearly low such as 5-6 deliveries or within 10 deliveries in a year and they do not function 24X7 and do ANC services to the pregnant women. Deliveries are not so frequent in these facilities.

Approximately 15% of expected births worldwide will result in life-threatening complications during pregnancy, delivery, or the postpartum period. A set of seven key obstetric services, or ‘signal functions,’ has been identified as critical to basic emergency obstetric and new-born care (BEmONC). (Otolorin, Gomez, Currie, Thapa, & Dao, 2015) BEmONC is a primary health care level initiative promoted in low- and middle-income countries to reduce maternal and new-born mortality. All 24 x 7 facilities (PHC/Non-FRU CHC/others) providing BEmONC services; conducting deliveries and management of medical complications not requiring surgery or blood transfusion and have either a New Born Care Corner (NBCC) or New Born Stabilization Unit (NBSU) They are called Level 2 or L-2 Facilities. In the survey we did there were 25 i.e. 48% such facilities which functioned 24X7 in the survey districts.

**Table 3.3 PHC Infrastructure in Karnataka and OOPE survey Districts**

<i>Districts</i>	<i>PHC</i>	<i>Pop per PHC</i>	<i>PHCs Functioning 24 X 7 (%)</i>	<i>Conducting 10+ deliveries (%)</i>	<i>PHC with 4 beds (%)</i>
<i>Bengaluru (R)</i>	48	20644.23	16.667	14.3	86.4
<i>Belagavi</i>	148	32295.01	45.946	71.4	97
<i>Bellary</i>	73	33597.19	57.534	85.7	95.2
<i>Chikmagalur</i>	90	12644.01	12.222	40	62.5
<i>Haveri</i>	69	23154.61	49.275	81.8	100
<i>All Districts</i>	2359	25898.81	55.6	62.4	90.9

Source: RHS, HMIS and DLHS-4

On an average Primary health centres in Karnataka cover a population of 25,899 while places like Belgaum and Bellary cover 32295.01 and 33597.19 per PHC. Chikmagalur being a hilly area covers around 12644 population per PHC. In Bangalore rural, one PHC covered an average of 20644 people. Approximately 28.74 PHC's in Karnataka are operational 24X7. Bellary had the highest number of 24X7 PHC's i.e., about 57.52% followed by Haveri 49.27% and Belagavi Chikmagalur had the lowest number of 24X7 PHC's with 12.22%. As per DLHS 4 survey, 64.2% of the 24X7 PHC's conducted more than 10 deliveries in a month Bellary was highest among 24X7 PHC's conducting 10 deliveries in month. 62.5% of the PHC's had at least 4 beds in Chikmagalur and it was 85% in Bangalore rural, and the rest of the district was 95% and above. Overall, 90% of PHC's in Karnataka have at least 4 beds. PHC's accounted for 24.01% of the total deliveries in our survey.

### **3.4.2 Community Health Centres**

These are also called the Level 3 – (Comprehensive Level-FRU): All FRU-CHC/SDH/DH/area hospitals/referral hospitals/tertiary hospitals where complications are managed including C-section and blood transfusion. Such an FRU would be equipped also with a New-born Stabilization Unit (NBSU) at CHC/SDH/others or Special New-born Care Unit (SNCU) at the district hospital and above. A District Hospital, irrespective of caseload has to be a Level 3 institution.

Overall, if we look at adequacy of health infrastructure for rural population there are no shortfalls for Subcentre's and PHC's in rural areas but there is shortfall of about 37% i.e. around 120 CHC's in rural areas as per the RHS-2018. The number of first referral units are around 230. Only 40 i.e., 17.39% are functional at CHC Level and 147 i.e., 63.91% are functional at taluk level or SDH level. There are 227 taluks in Karnataka i.e. around 65% of taluk level

hospitals are equipped with an operation theatre, labour room and 30 beds while 60.4% of these FRU have blood storage and transfusion facility. Remaining 43, i.e., 18.7% of the FRUs function at the district level.

**Table 3.4 CHC Infrastructure in Karnataka and OOPE survey Districts**

Districts	CHC	Pop per CHC	CHCs Delivery Services 24 X 7	CHCs New born Care 24 X 7	CHCs having Obstetrician/ Gynaecologist;	CHCs having Anaesthetist;	CHCs having functional Operation Theatre	CHCs designated as FRUs offering caesarean section
Bangalore rural	2	495461.5	2	1	1	0	1	0
Belgaum	16	298728.8	14	11	8	2	12	4
Bellary	11	222963.2	11	11	2	2	8	0
Chikmagalur	5	227592.2	5	4	4	1	4	2
Haveri	5	319533.6	5	5	4	1	4	1
All Districts	206	296579.1	95.7	82.3	36.6	10.8	67.2	23.1

Source: RHS, and DLHS-4

On an average CHCs cover about 2, 96, 579 population in Karnataka. In Bangalore rural, CHC covers nearly 5 lakh population, in Belgaum they cover a population of 2, 98, 728, in Bellary and Chikmagalur the CHC covers population of 2,22,000 and above Haveri is the highest with population coverage of nearly 3,20,000. As per DLHS 4, in Karnataka only 36.6% of the CHCS have gynaecologist and 10.8% of CHC's have anaesthetists. Overall, 67.2% of CHC's have functional operation theatre, and 23% of them are designated as FRU's and offer C-section. The survey of 4 CHC's was conducted for this study, of which only one was an FRU and rest of other three provided Level 2 facilities. Overall, CHC's accounted for 10.41% of deliveries in our survey.

### 3.4.3 Sub district hospitals/ Taluk Hospitals

There are 227 Taluks in Karnataka and 146 sub divisional hospitals. Only 17 CHC's are functioning as FRU i.e. another 7.4 and assuming them to be at taluk headquarters i.e. nearly 28.28 of taluks do not have Subdistrict Facility i.e. 2 taluks among 10 Taluks do not have an FRU at the Taluk level. As per DLHS 4 Survey, 51.4% of Sub District Hospital in the state had paediatricians and 37.8% of SDH had ultrasound facility. These facilities took the load of deliveries and accounted for 24.63% of deliveries in our survey. On an average SDH covered

4,18,460 people in Karnataka, Belgaum was in the upper limit covering 5,31,073. While Chikmagalur was at the lower limit covering 1,89,660 population.

**Table 3.5 Infrastructure of Taluk Hospital in Karnataka and OOPE survey Districts**

<i>Districts</i>	<i>SDH</i>	<i>Pop per SDH</i>	<i>SDHs having Paediatrician</i>	<i>SDHs having regular radiographer</i>	<i>SDHs having Ultrasound facility</i>	<i>SDHs having critical care area</i>
<i>Bangalore rural</i>	4	247730.8	4	0	4	1
<i>Belgaum</i>	9	531073.4	4	1	9	6
<i>Bellary</i>	6	408765.8	1	0	2	0
<i>Chikmagalur</i>	6	189660.2	1	0	2	0
<i>Haveri</i>	6	266278	4	1	3	1
<i>All Districts</i>	146	418460.9	51.4	16.2	37.8	46

Source RHS 2018 and DLHS -4

### 3.4.4 District hospitals

Health systems are often organized in a "hub-and-spoke" arrangement, with a large district hospital (the hub) having more and better-trained personnel and better equipment than more peripheral clinics (the spokes). District hospitals also, in theory, may serve a gatekeeping role for those patients with less common problems (English, Lanata, Ngugi, & Smith, 2006). This eventually is found in all district hospitals with more equipment, and staff. District hospitals accounted for 20.6% of deliveries in our survey.

**Table 3.6 District Hospital Infrastructure in Karnataka and OOPE survey Districts**

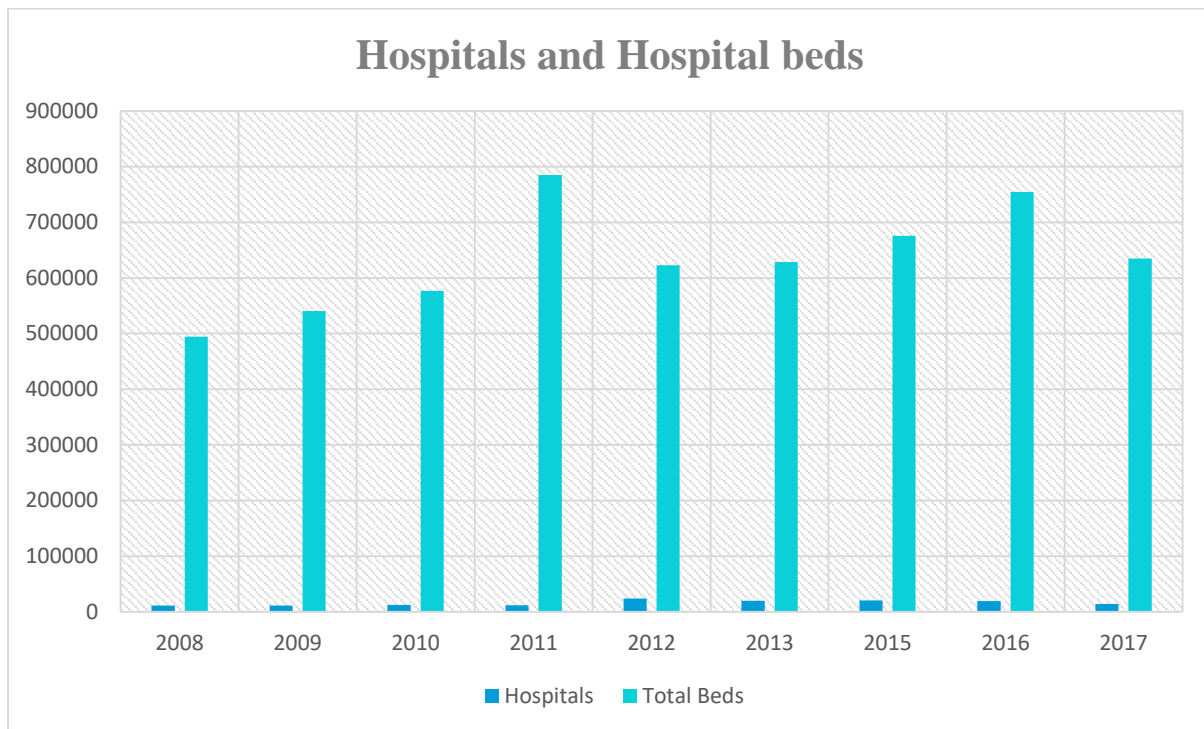
<i>Districts</i>	<i>DH</i>	<i>Pop per DH</i>	<i>DHs having Paediatrician</i>	<i>DHs having Ultrasound facility</i>	<i>DHs having critical care area</i>
<i>Bangalore rural</i>	0	0	NA	NA	NA
<i>Belgaum</i>	1	47,79,661	1	1	1
<i>Bellary</i>	1	2452595	1	1	1
<i>Chikmagalur</i>	1	1137961	1	0	1
<i>Haveri</i>	1	1597668	1	1	1
<i>All Districts</i>	15	4073019.8	86.2	89.7	75.9

Source: RHS 2018, DLHS-4



### 3.5 Hospitals and Hospital Beds

Figure 3.6 Hospitals and Hospital beds



Source: National Health Profile 2018

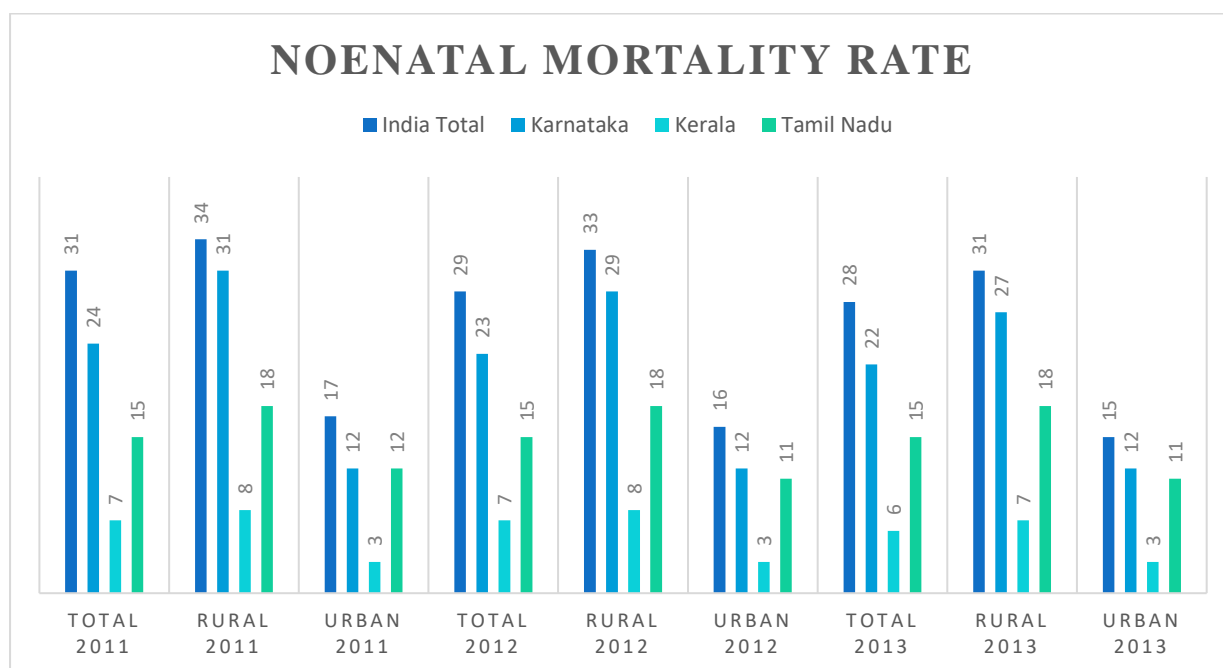
Since Health is a State subject, it is the responsibility of the State Governments to make efforts for increasing the bed strength in the hospitals under their jurisdiction in accordance with requirement and fund availability. The Government of India provides assistance to the state governments in their efforts for expansion and upgradation of infrastructure, including increase in bed strength of hospitals through various schemes including NRHM. The population served per government hospital is 90,343, and population served per hospital bed is 2046. In 2015, 61,011 population was served per government hospital and population served per hospital bed is 1833.

#### 3.5.1 Neonatal Mortality rates

The neonatal period—the first 28 days of life—carries the highest risk of mortality per day than any other period during the childhood. The daily risk of mortality in the first 4 weeks of life is 30-fold higher than the post-neonatal period, India contributes to one-fifth of global live births and more than a quarter of neonatal death in 2013 (Sankar et al., 2016). The neonatal death rate is calculated as the number of infant deaths that occur between 0-27 days of life (often referred to as the 1st month of life) divided by the number of live births, multiplied by 1000. The NMR

is a key outcome indicator for new-born care and directly reflects prenatal, intrapartum, and neonatal care. Early neonatal deaths are more closely associated with pregnancy-related factors and maternal health, whereas late neonatal deaths are associated more with factors in the new-born’s environment. (The data table used below to indicate neonatal mortality rate could only be found in the NITI Aayog site. However, it is presently unavailable).

**Figure 3.7 Neonatal Mortality rates**

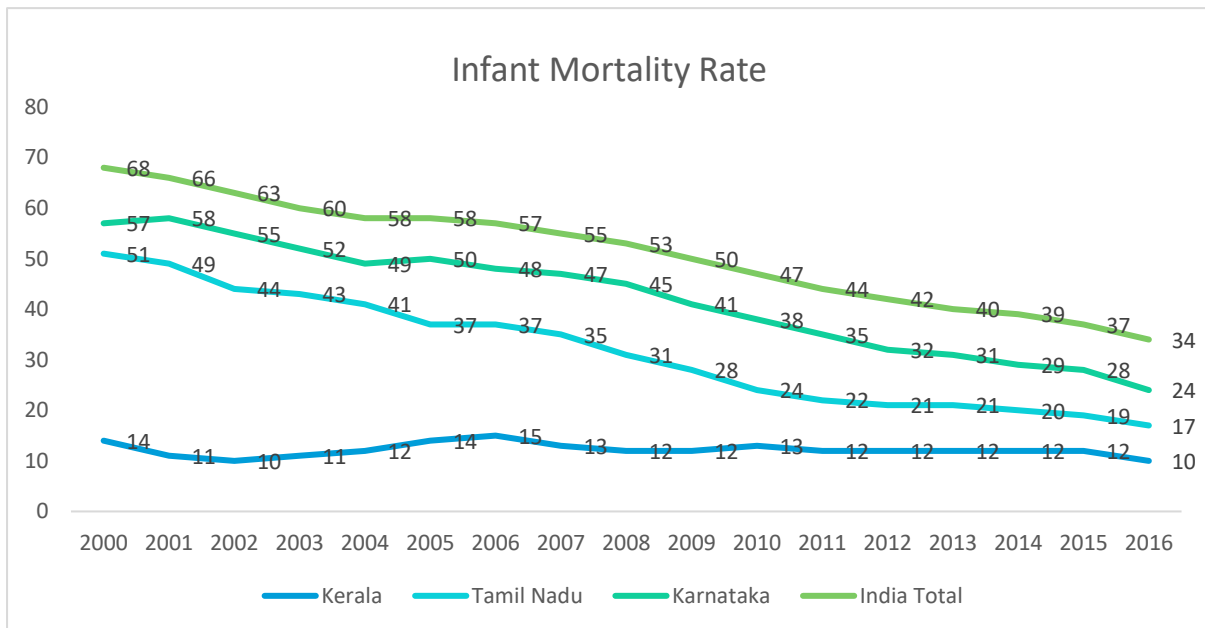


Source: Niti Aayog

The EAG states have a neonatal mortality of above 30 per thousand live births. Rural neonatal mortality is way above the state average and urban neonatal mortality is actually half or less than half of the state average. Kerala had the least neonatal mortality among Indian states while Karnataka ranks 9th in among the Indian States. Neonatal mortality rates declined from 24 in 2011 22 in 2013 a decline of 8.3% in 2 years.

### 3.5.2 Infant Mortality rates

The infant mortality rate (IMR), defined as the number of deaths in children under 1 year of age per 1000 live births in the same year, has been regarded as a highly sensitive (proxy) measure of population health. This reflects the apparent association between the causes of infant mortality and other factors that are likely to influence the health status of whole populations such as their economic development, general living conditions, social well-being, rates of illness, and the quality of the environment. (Reidpath & Allotey, 2003).

**Figure 3.8 Infant Mortality rates**

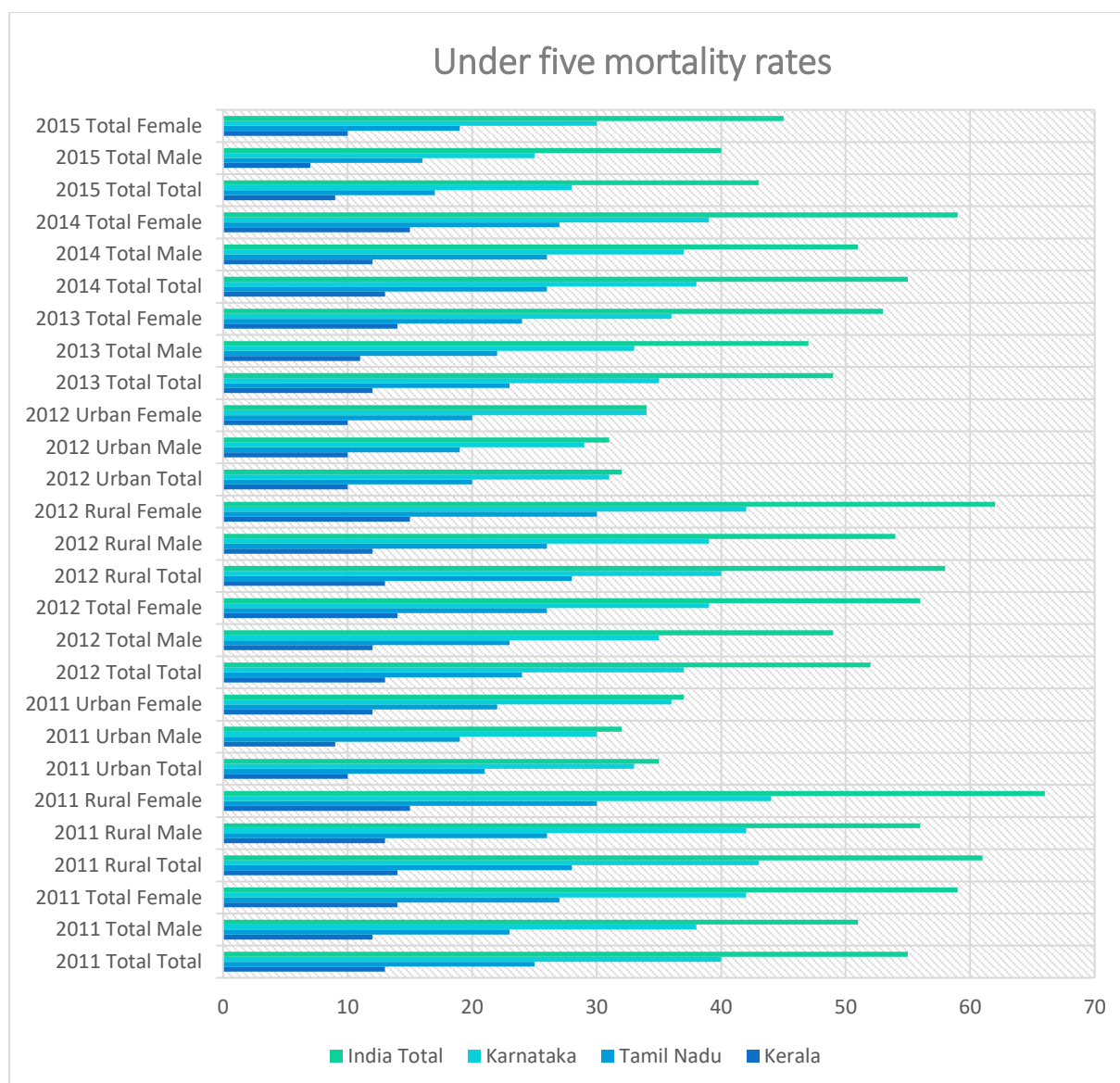
Source: SRS Bulletin

The Infant mortality rates for India has reduced by half from 68 to 34 since 2000 to 2016. Kerala tops the list with less IMR and securing a position at the bottom of the list EAG States whose infant mortality ranges from 36 -47 Madhya Pradesh is the bottom of the list with IMR of 47. The IMR rates in Karnataka has declined from 57 from 2000 to 24 in 2016. This declining trends of IMR in India by 50% and 57.89% in Karnataka is due to the process and programmes adapted through National health mission for better maternal and new born care mechanisms despite hindrances and gaps in implementation.

### 3.5.3 Under five Mortality rates

Under-5 mortality rate is a leading indicator of the level of child health and overall development in countries. The under-five mortality rate (U5MR) is the probability for a child born in a specified year to die before reaching the age of five. SDG recommends the lowering of under-five mortality rates to at least as low as 25 per 1,000 live births. The under-five mortality rates in Karnataka has declined from 40 /1000 live births in 2011 to 28 / 1000 live births in 2015, thereby showing a decline of 30% in 4 years. Under-five mortality rates declined by 25% all over India. Overall, there was reduction in children dying from childhood pneumonia and diarrhoea.

**Figure 3.9 Under five mortality rates**



Source; SRS Bulletin

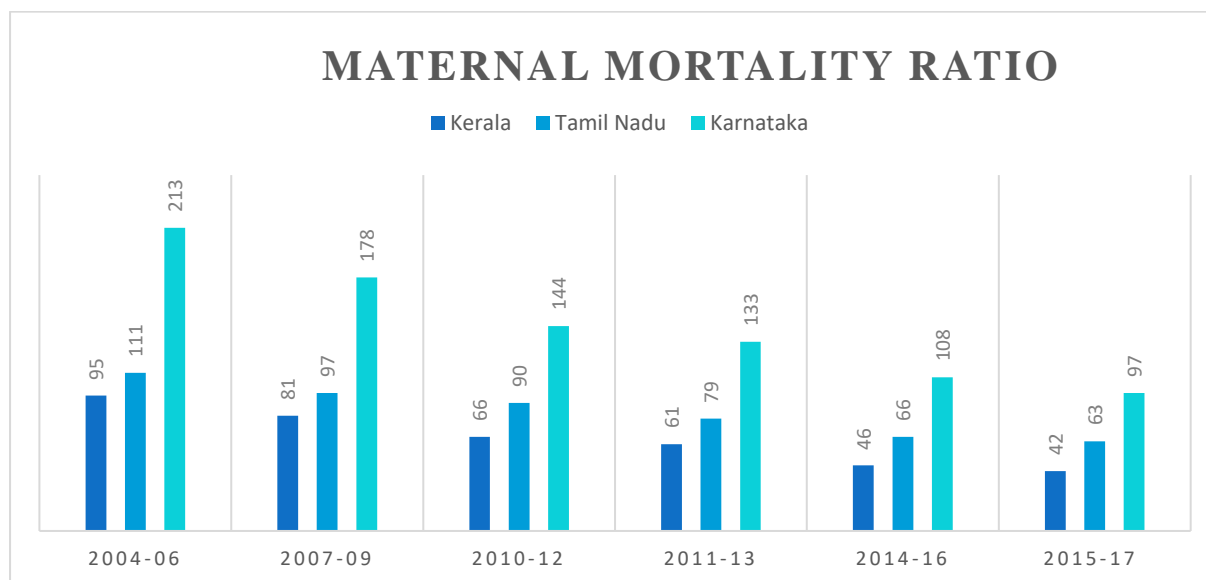
### 3.5.4 Maternal Mortality ratios

The high number of maternal deaths in some areas reflects inequalities in access to quality health services and highlights the gap between rich and poor. Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and most are preventable or treatable. The major complications that account for nearly 75% of all maternal deaths are: (Say et al., 2014)

- severe bleeding (mostly bleeding after childbirth)
- infections (usually after childbirth)

- high blood pressure during pregnancy (pre-eclampsia and eclampsia)
- complications from delivery
- Unsafe abortion.

**Figure 3.10 Maternal mortality ratio**



Source: SRS

The maternal mortality ratio in Karnataka fell from 213/ 100000 live births in 2004-06 to 97 in 2015-17 a decrease by 54.46%. In Kerala, it fell by 55.79% and in Tamil Nadu it fell by 43.24% in over a decade's time. Maternal mortality in India declined by 51.97%. This reduction in numbers could be probably due to increased institutional deliveries and increased ANC coverage and improved functioning of health systems.

### 3.6 Ante natal Care

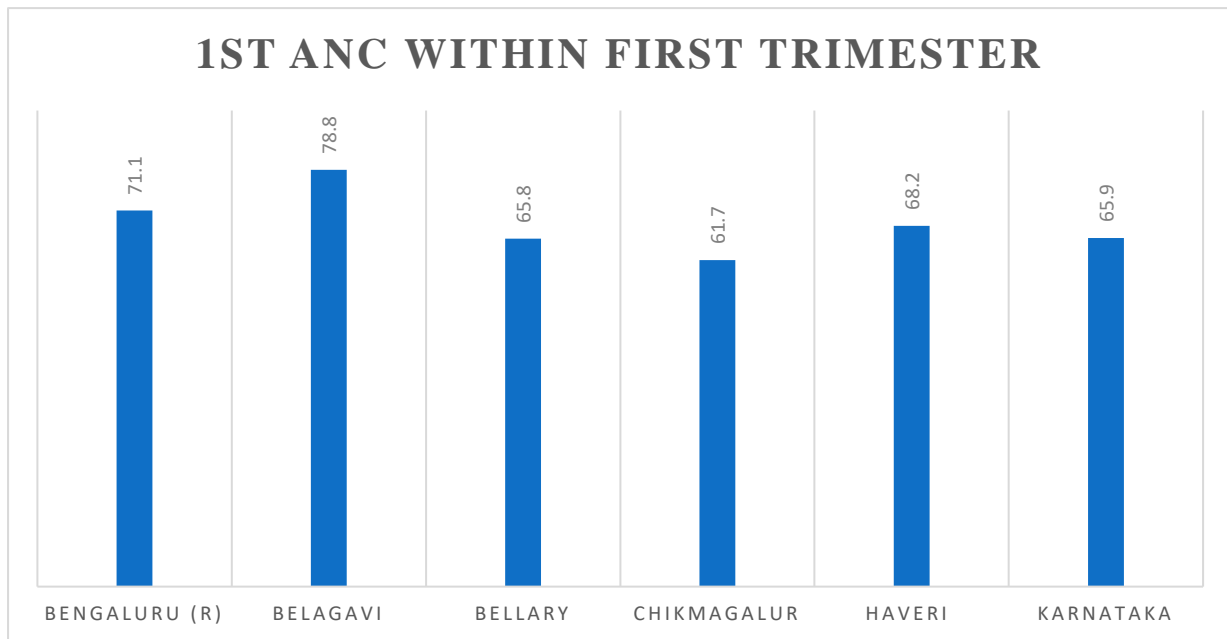
Antenatal care (ANC) can be defined as the care provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. ANC also includes identification of women and girls at increased risk of developing complications during labour and delivery, thus ensuring referral to an appropriate level of care (“Introduction - WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience - NCBI Bookshelf,” n.d.) National Health and Family Survey defines full antenatal care as “having received at least four antenatal care visits, having received at least one TT injection, and having taken IFA tablets syrup for 100 or more days”.

First visit and Registration - The first visit or registration of a pregnant woman for ANC should take place as soon as the pregnancy is suspected. Ideally, the first visit should take place within 12 weeks, as part of the registration, Tayi Card (MCP card) needs to be provided to the pregnant women which contains instructions for pregnant women and entitlements for them. During first visit Urine Pregnancy Test (UPT), blood investigations for Haemoglobin estimation and blood grouping including Rh factor, urine test to assess the presence of sugar and proteins, rapid test for HIV, HBSAg and VDRL are done. Second ANC visit is scheduled between 14 and 26 weeks; third ANC visit is scheduled between 28 and 34 weeks and fourth ANC visit are scheduled between 36 weeks and term (completion of 37 weeks). Based on the secondary sources the status of Antenatal care is described below;

In Karnataka 89.3% of the pregnancies were registered and were issued a mother and child protection card (MCP Card). As per the NFHS 4 data in Belgaum and Bangalore about 96% of the pregnancies were registered, similarly the registrations were about 94 % in Chikmagalur and 93.4% in Haveri and Bellary was least with 86.5%.

### **3.7 ANC visit during first Trimester**

There has been an increase of 2% in the women visiting health centres during the first trimester, it was 68% in NFHS 3 and 70.1% in NFHS 4, and there is also a difference by 1% among rural and urban women. On an average, 65.9% of women in Karnataka have their first ANC in the first trimester, in urban areas it was 69.4%, and rural areas it was 67.1%. It ranged from 61.7% in Chikmagalur to 78.8% Belagavi, Bangalore rural had 71.1% of women getting ANC done in first trimester, while Haveri figures stood at 68.2%.

**Figure 3.11 ANC in First trimester**

Source: NFHS 4

### 3.7.1 Percentage who took IFA for at least 100 days

Pregnant women require additional iron and folic acid (IFA) to meet their own nutritional needs as well as those of the developing foetus. Deficiencies in iron and folic acid during pregnancy can potentially, negatively impact the health of the mother, her pregnancy, as well as foetal development. Evidence has shown that the use of iron and folic acid supplements is associated with a reduced risk of iron deficiency and anaemia in pregnant women. (Peña-Rosas, De-Regil, Garcia-Casal, & Dowswell, 2015)

As NFHS-4, 45% of women consumed iron and folic acid tablets for 100 days or more when they were pregnant. The figures for IFA consumption for 100 days is as low as 22% in Chikmagalur to a maximum of 62% in Belagavi. IFA consumption rates were about 27.2% in Haveri, and 44.9% in Bellary, while Bangalore rural stood at a rate of 46.5%.

### 3.7.2 Women who had Full ANC

Women who have received at least four antenatal care visits, having received at least one TT injection, and having taken IFA tablets syrup for 100 or more days in Karnataka was 32.8%. Chikmagalur had the lowest ANC coverage 13.7%, followed by Haveri with 19.5%. Bellary and Belgaum estimates shows 42.5% and 45.2% each, while Bangalore rural had 30.4%.

### **3.7.3 Government Facility utilization for ANC**

As per DLHS 4 (2012-13), utilization of government facilities for ANC in Karnataka was 64.7%, with Haveri topping the list with 73.5%, followed by Bellary 71.2%. Utilization rates for Chikmagalur and Bangalore rural were at 65.9% and 63.2%. Belagavi was at the bottom of the list with 55.3% among the survey districts.

## **3.8 Delivery**

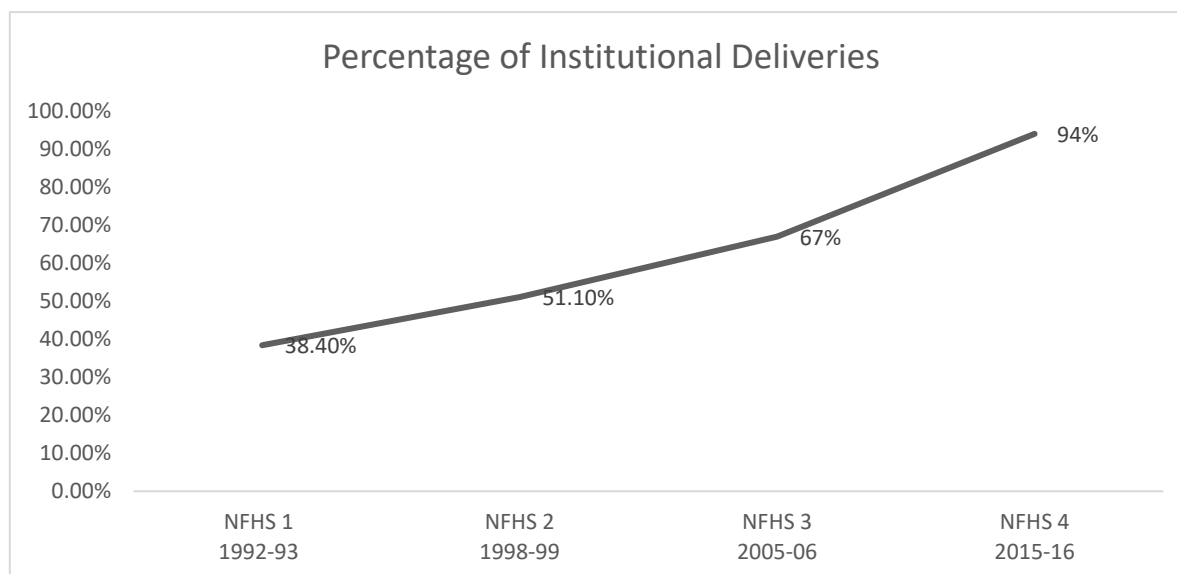
### **3.8.1 Institutional deliveries:**

Skilled attendance at delivery is an important indicator in monitoring progress towards Sustainable development Goal 3 to reduce the maternal mortality ratio to less than 70 per 100 0 live births. In addition to professional attention, it is important that mothers deliver their babies in an appropriate setting, where lifesaving equipment and hygienic conditions can also help reduce the risk of complications that may cause death or illness to mother and child. (“LSHTM Research Online,” n.d.)

Institutional deliveries in Karnataka are on an average on rise starting at 38.4% in NFHS-1 (1992-93) to 94% in NFHS-4 (2015-16), there are an increase 55%. With NRHM the cash incentives were provided for institutional deliveries under JSY scheme thus leading to an increase in institutional deliveries by 27% from 2005-2016. It can be commented that introduction of Conditional cash transfer alone has resulted in increased institutional deliveries by about 27% a steep increase in a decade as compared to 28.6% increase from 1992-2005.

The institutional deliveries in Karnataka was 93.3% as per NFHS 4 with Bangalore rural topping the list with 98%, followed by Belagavi and Haveri at rate of 96.6% and 96.7%. 95.2% of births in Chikmagalur were institutional while Bellary recorded 86.2%.



**Figure 3.12 Institutional Deliveries**

### 3.8.2 Utilization of Government services for pregnancy complications

As per DLHS 4 (2012-13) 48% of the people sought government services for complications of pregnancy related issues, Belagavi was the least with 33.7% followed by Bangalore rural 49.4%, in Bellary 57.3% while in Chikmagalur 56.4%. In Haveri 60% of women sought government services for pregnancy related complications. As per the survey, 80.7% of the complications were related to mother and children who used public facilities in total.

**Table 3.7 Complications and use of facilities**

<i>Delivery type</i>	<i>No complications</i>	<i>child</i>	<i>mother</i>	<i>Total</i>
<i>No info</i>	1	0	0	1
Values in %	.1	0.0	0.0	.0
<i>Abortion</i>	1	0	0	1
Values in %	.1	0.0	0.0	.0
<i>home delivery</i>	6	0	0	6
Values in %	.3	0.0	0.0	.3
<i>private facility</i>	337	8	13	358
Values in %	16.9	18.2	20.0	17.0
<i>public facility</i>	1650	36	52	1738
Values in %	82.7	81.8	80.0	82.6
<i>Total</i>	1995	44	65	2104
Values in %	94.8	2.1	3.1	100.0

Source: Survey

### 3.8.3 Births assisted by a doctor/nurse/LHV/ANM/other health personnel

As per NFHS -4 births assisted by doctor/nurse/LHV/ANM/Other health professional was about 93.7% for all districts of Karnataka. In Haveri it was 91%. Bangalore rural is top of the list with all most 100% skilled birth attendance, followed by Belgaum at 99%. Chikmagalur recorded 83.2% and Bellary had 93.1% skilled birth attendance during delivery.

## 3.9 Post Natal period (PNC)

The postnatal period is commonly defined as the six weeks after childbirth. The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and new-born deaths occur during the postnatal period.

### 3.9.1 Government Facility utilization for PNC

The proportion of people utilizing government services for post-natal care as per DLHS-4 in Karnataka is 50.5%. Chikmagalur tops the list among districts with 68.9% utilization, preceded by Bangalore rural which records around 52%. Belagavi utilization is 42.6% while Haveri records 47%. Bellary has the lowest utilization rates of 31.8%.

## 3.10 Schemes

### 3.10.1 Janani Suraksha Yojana (JSY)

100% central sponsored scheme where the women would get cash incentives for delivering in public facilities. For rural women the benefits would be Rs. 700/- and for women residing in urban area the same benefits would be 600/-.

**Table 3.8 Beneficiaries of JSY Schemes**

Districts	2014-15		2015-16		2016-17	
	Beneficiaries	Values in %	Beneficiaries	Values in %	Beneficiaries	Values in %
Bangalore (R)	5691	60	6150	69	6476	74
Belgaum	22357	32	37567	50	21001	27
Bellary	16931	38	27868	65	17044	37
Chikmagalur	8110	59	8224	60	9197	68
Haveri	17608	70	19551	83	14625	63
Karnataka	411423	47	425711	47	396840	44

Source: DHFW, MoHFW, GoK

Percentages have been drawn against the total number of deliveries that happened in the particular districts and at Karnataka level. 47% of women who gave birth during 2014-15 and 2015-16 received JSY. The figures came down to 44% which is a reduction of 3% for the financial year 2016-17. Overall, there was no increase in the coverage of the number of beneficiaries. In fact, it dropped by 3 % for the successive year. District wise there was an improved coverage from 60% to 74% for Bangalore rural indicating increasing number of beneficiaries over years. For Belgaum, the percentage of beneficiaries dropped by nearly half for 2016-17. For the base year in consideration (2014-15), the total was 32%. Bellary also showed an increased coverage by 27% for the year 2015-16 and again dropped by 28% for the year 2016-17. Chikmagalur follows Bangalore rural with increase in coverage over years from 59% in base year to 68% in 2016-17. Haveri has the highest coverage among all the districts. While the beneficiary's coverage improved from 70% to 83% in consecutive financial years, it dropped by 20% during 2016-17.

### 3.10.2 Janani Shishu Suraksha Karyakram (JSSK)

**Table 3.9 Beneficiaries of JSSK Schemes**

Name of the District	Values in %											
	2014-15				2015-16				2016-17			
	Drugs and Consumables (%)	Free Diet (%)	Diagnos-tics (%)	Blood (%)	Drugs and Consumables (%)	Free Diet (%)	Diagnos-tics (%)	Blood (%)	Drugs and Consumables (%)	Free Diet (%)	Diagnost-ics (%)	Blood (%)
Bangalore (R)	22	22	18	0	51	48	49	0	50	54	58	0
Belgaum	56	36	20	2	47	14	16	3	46	19	24	2
Bellary	736	171	26	2	83	44	16	0	56	40	21	4
Chikmagalur	88	85	153	1	98	98	84	1	131	89	216	2
Haveri	111	42	84	4	68	44	72	0	90	40	53	0
Karnataka	88	44	39	3	63	43	39	7	62	50	52	3

Source: DHFW, MoHFW, GoK

JSSK was started to benefit pregnant women who access Government health facilities for their delivery to compensate for high out of pocket expenses incurred by them on delivery and treatment of sick- new-born. The percentages are drawn from number of beneficiaries against the total number of deliveries in the district and at Karnataka level.

The JSSK beneficiaries in Karnataka have progressively declined from the base year 2014-15. The coverage reduced by 25% for the next financial year and kept steady. JSSK has ensured

the supply of drugs and consumables at the institute level which has reduced the expenditure on drugs and consumables required for intrapartum care and post-partum care. Drugs and consumables and diagnostics followed by free diet is the most utilised service under JSSK. Free blood is one of the components which is the least utilised. Overall, there had been a decline in the number of beneficiaries over the years. To start with, there were more of beneficiaries than the actual number of deliveries especially in Bellary and Haveri. However, the programme looked to regularise itself with actual number of deliveries over the years. In the case of Bellary, the actual number of beneficiaries have declined bringing it to the ambit of the realistic version where the beneficiaries match with the number of deliveries. In Belgaum, the percentage of diagnostics have steadily gone up. Haveri sees a decline in the number of beneficiaries particularly in diagnostics.

### 3.10.3 Madilu kits

Madilu Kit is a unique kit which contains 19 items like linen, mosquito net, consumables and other items which are very useful to the newly delivered poor mother and her infant. 50% of the funding for this scheme is by NHM and the remaining 50% is by the state government. The percentages are drawn from the number of beneficiaries against the total number of deliveries in the district and at Karnataka level.

**Table 3.10 Beneficiaries of madilu Scheme**

<i>Districts</i>	<i>2014-15</i>		<i>2015-16</i>		<i>2016-17</i>	
	Beneficiaries	(%)	Beneficiaries	(%)	Beneficiaries	(%)
<i>Bangalore (R)</i>	3550	37	3399	38	3484	40
<i>Belgaum</i>	16109	23	17736	24	17766	23
<i>Bellary</i>	12173	27	16057	38	28398	62
<i>Chikmagalur</i>	6062	44	8511	62	7272	54
<i>Haveri</i>	12560	50	16606	71	12192	53
<i>Karnataka</i>	271815	31	334189	37	339365	37

Source: DHFW, MoHFW, GoK

Over the years, Madilu scheme coverage has been as low as 31 % for the base year and increased by 6% in constitutive year and remained unchanged for the last year of its implementation. In Bangalore rural, the beneficiaries increased from 37% to 40% over the consecutive years. In Belgaum, the percentage of beneficiaries remained the same over years.

Madilu kit beneficiaries almost doubled in 3 years from 27% to 62% in Bellary. In Chikmagalur there were 44% of beneficiaries in the base year which went up to 62% in the following year and declines to 54% in 2016-17. Haveri had the highest reach of beneficiaries with over 50% of women who delivered during the financial year and received madilu kits. Monitoring these trends, some districts provide more and some district provide less. For example, Belgaum being the large districts with more beneficiaries seems to be utilising the schemes less, and even smaller districts like Bangalore rural seems to be utilizing it less, with only 40% coverage. This shows that either it is logistical issues of availability of madilu kits or with the availability of documents among beneficiaries. JSY beneficiaries are 47% and there is 10% deficit for madilu scheme.

### 3.10.4 Prasoothi Aarike

It is a cash incentive to pregnant women of SC, ST and BPL categories to address their nutritional needs during pregnancy and post-natal period. The main goal of this scheme is to ensure that poor pregnant women take nutritional foods to ensure their nutritional needs and also to ensure improvement of birth weights of their new-borns. The percentages are drawn from number of beneficiaries against the total number of deliveries in the district and at Karnataka level.

**Table 3.11 Beneficiaries of Prasoothi Aarike Scheme**

<i>Districts</i>	<i>2014-15</i>		<i>2015-16</i>		<i>2016-17</i>	
	Beneficiaries	(%)	Beneficiaries	(%)	Beneficiaries	(%)
<i>Bangalore (R)</i>	5729	60	1129	13	2196	25
<i>Belgaum</i>	14881	21	1274	2	3272	4
<i>Bellary</i>	10982	25	3883	9	177	0
<i>Chikmagalur</i>	3568	26	371	3	1357	10
<i>Haveri</i>	6038	24	0	0	2145	9
<i>Karnataka</i>	260584	29	45940	5	66587	7

Source: DHFW, MoHFW, GoK

The beneficiaries in Prasoothi Aarike have been declining at the state level from 29% to 7% of the total beneficiaries who enjoyed its benefits. Overall, benefits have dwindled over time. The programme was stopped in 2017-18.

### **3.11 Out of Pocket Expenditures**

Out-of-pocket payments (OOPs) are defined as direct payments made by individuals to health care providers at the time of service use. This excludes any prepayment for health services, for example in the form of taxes or specific insurance premiums or contributions and, where possible, net of any reimbursements to the individual who made the payments. Out-of-pocket payments for health can cause households to incur catastrophic expenditures, which in turn can push them into poverty.

Catastrophic health expenditure is defined as out-of-pocket spending for health care that exceeds a certain proportion of a household's income with the consequence that households suffer the burden of disease. Review article suggests that S. Pandey A et.al (2018), in recent years, an increasing number of countries have initiated health financing policy reforms and actions to address concerns over high levels of out-of-pocket payments. Karnataka government has exempted poor and vulnerable (BPL Families), from official payments; DLHS-4 and NFHS-4 have given the estimates of out of pocket expenditure for delivery at a district level, state level and country level. Other studies have focused on particular geographical area. A comparison of states at the national level is given in the table below. The survey shows increasing trends in out of pocket expenditure over the years of the first survey.

**Table 3.12 Out of Pocket Expenditure for Delivery in Public Facilities of different states**

<i>State</i>	<i>NFHS 4</i>			<i>DLHS 4</i>		
	Urban	Rural	Total	Urban	Rural	Total
<i>Andhra Pradesh</i>	2339	2316	2322	3800	3000	3300
<i>Arunachal Pradesh</i>	9630	5028	6473	4800	5900	5600
<i>Assam</i>	5244	3646	3821			
<i>Bihar</i>	1835	1778	1784			
<i>Chhattisgarh</i>	2157	1310	1480	2860	2930	2330
<i>Goa</i>	4372	6017	5012	2260	8210	3770
<i>Gujarat</i>	2331	2020	2136			
<i>Haryana</i>	2371	1160	1569	1560	1470	1480
<i>Himachal Pradesh</i>	3985	3262	3329	4700	4600	4600
<i>Jammu and Kashmir</i>	4436	4104	4192			
<i>Jharkhand</i>	1889	1391	1476			
<i>Karnataka</i>	5994	4210	4824	3390	3000	3130
<i>Kerala</i>	6848	6944	6901	5500	5100	5300
<i>Madhya Pradesh</i>	1841	1352	1481			
<i>Maharashtra</i>	3331	3758	3578	2240	1580	1840
<i>Manipur</i>	11007	9886	10348	10580	9730	10080

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

<i>Meghalaya</i>	2915	3408	3319	2500	3900	3700
<i>Mizoram</i>	5019	3274	4298	2900	2900	2900
<i>Nagaland</i>	6448	5492	5880	4500	5000	4800
<i>Orissa</i>	4900	4126	4226			
<i>Punjab</i>	1576	2043	1890	2900	3100	3100
<i>Rajasthan</i>	3387	2969	3052			
<i>Sikkim</i>	4032	3975	3993	5900	7400	7200
<i>Tamil Nadu</i>	2556	2649	2609	2200	2200	2200
<i>Telangana</i>	4121	4289	4218	4200	3200	3600
<i>Tripura</i>	5449	4571	4784	5900	4300	4600
<i>Uttaranchal</i>	2617	2619	2618			
<i>Uttar Pradesh</i>	2419	1879	1956			
<i>West Bengal</i>	9022	7504	7919	3900	3100	3300
<i>India</i>	3,913	2,946	3,197			

Source: NFHS-4, and DLHS 4 Reports

Karnataka ranks 6<sup>th</sup> at the national level for Out of pocket expenditure for delivery in public facilities, first place is occupied by Manipur followed by West Bengal, Kerala, Arunachal Pradesh, Nagaland and Goa. As per the NFHS-4 reports Karnataka's average out of pocket expenditure for delivery is 4,824 for public facilities, 22,882 for private facilities and 11,630 is the average for any facility.



**Table 3.13 Out of Pocket Expenditure for Delivery in Public Facilities of different districts**

<i>Districts</i>	<i>NFHS -4</i>			<i>Ranking</i>	<i>DLHS -4</i>	
	Urban	Rural	Total		Rural	Total
<i>Bengaluru</i>	9933		9933	1	6650	5410
<i>Shivamogga</i>	10962	7789	8515	2	4780	4680
<i>Tumakuru</i>		6239	6011	3	3390	3250
<i>Kodagu</i>		6111	5980	4	3330	3220
<i>Bidar</i>		5586	5689	5	1730	1590
<i>Bengaluru (R)</i>	5587		5600	6	6160	5590
<i>Mysuru</i>	4785	5095	4981	7	3200	3300
<i>Chitradurga</i>		4937	4826	8	1810	3220
<i>Chikkaballapura</i>		4779	4722	9	4410	4340
<i>Kolar</i>	4589	4560	4569	10	3170	3390
<i>Belagavi</i>		4998	4521	11	1400	1500
<i>Hassan</i>		4720	4493	12	3890	4020
<i>Ballari</i>	4,598	4,322	4,413	13	3690	3850
<i>Udupi</i>		4289	4405	14	1900	3800
<i>Dharwad</i>	3628	4490	4058	15	2120	2270
<i>Gadag</i>	3674	4148	3994	16	2600	2490

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

<i>Chikmagalur</i>		4036	3920	17	5670	5920
<i>D. Kannada</i>		4171	3741	18	2910	3150
<i>Chamarajnagar</i>		3659	3626	19	2330	3060
<i>Uttara Kannada</i>		2958	3500	20	3840	3580
<i>Mandya</i>		2920	3051	21	2010	2310
<i>Davangere</i>	1621	3499	2988	22	2680	2910
<i>Vijayapura</i>		2841	2914	23	1800	1800
<i>Haveri</i>		3019	2886	24	4020	3700
<i>Ramanagara</i>		2189	2420	25	5360	5340
<i>Raichur</i>		2710	2397	26	1820	2180
<i>Koppal</i>		2286	2345	27	2160	2710
<i>Bagalkote</i>	3642	1,751	2249	28	1500	1600
<i>Kalaburagi</i>	1387	2526	2134	29	1700	1700
<i>Yadagiri</i>		2034	1966	30	2980	3120
<i>All Districts</i>	5994	4210	4824		3000	3130

Source: NFHS-4, and DLHS 4, District Fact Sheets.

Among the districts in Karnataka, Bangalore ranks first with an average of 9933 and Yadagiri is ranked the lowest with an average of 1966. Among the survey districts Bangalore rural is 6<sup>th</sup> with an average of 5600. Belagavi is ranked 11<sup>th</sup> with an average of 4521. Bellary is ranked 13<sup>th</sup> with an average of 4,413. Chikmagalur is ranked 17<sup>th</sup> with an average of 3920 and Haveri is ranked 24<sup>th</sup> with an average of 2886. The difference in OOPE projected by DLHS-4 and NFHS-4 is basically due to years of assessment 2011-12 for DLHS-4 2015-16 for NFHS-4. Basically, a difference of 4 years assessment is just for the delivery cost alone with no components specified. It just specifies cost of deliveries in public facilities. The National Family Health Survey (NFHS) is the equivalent of demographic and health surveys done in many countries around the world. The NFHS is overseen by the Ministry of Health and is coordinated by the International Institute for Population Sciences (IIPS) in Mumbai, as the nodal agency, with support from ORC Macro and other agencies. The primary aim of the NFHS has been to provide information on maternal, child health and reproductive health. Three rounds of the NFHS were conducted in 1992–1993, 1998–1999 and 2005–2006, and the fourth round in 2015-16. The District Level Household Survey (DLHS) was launched in response to the need for district-level data on the Reproductive and Child Health Programme. The DLHS is carried out by the International Institute for Population Sciences with oversight by the Ministry of Health. Four rounds of DLHS have been undertaken: 1998–1999, 2002–2004, 2007–2008 and 2012–2014. (Dandona, Pandey, & Dandona, 2016). There are methodological differences in data collection which could be the reason for variations in OOPE.

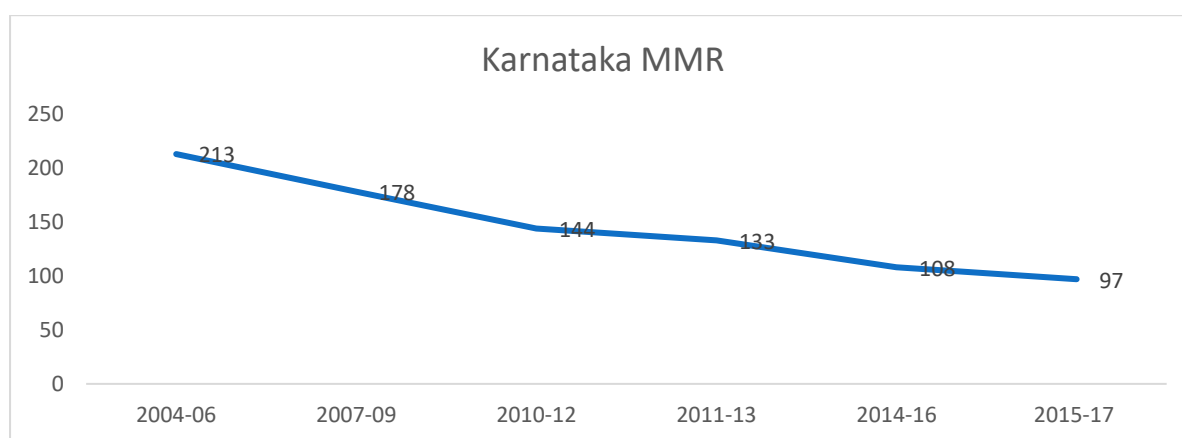
The district wise analysis of OOPE varies basically due to inflation in the rates of services available at that time in year during which the survey was done. NFHS-4 OOPE estimates for delivery in public facilities for districts like Bangalore rural, Chikmagalur, and Haveri which is less than that of DLHS-4 estimates. In districts like Bellary and Belgaum, NFHS-4 estimates are more than that of DLHS-4. This difference may be reflected in sample covered in NFHS 4 which covers 568 200 households, DLHS-4 covered 350 00 households in Karnataka, DHLS-4 covered 47,200 households, and 44,028 married women and 2,155 health facilities. NFHS-4 covered 23,842 households, and 26,291 women across Karnataka. These samples would actually vary by districts and the sampling methodology used.

### 3.12 Performance of Karnataka state in terms of Reproductive and child health care.

The growth rate of population for Karnataka in the last decade was 15.67%. The growth rate of population in rural and urban areas was 6.49% and 27.16% respectively. Population growth recorded a decline of 1.91 per cent against the growth of 17.51 per cent registered during the 2001 Census. The urban population registered a growth rate of 31.54 per cent, slightly higher than the growth rate of 29.15 per cent recorded in 2001 Census, showing increasing trends in urbanization. There is an increase in the female literacy by 11.21 percentage points against a male literacy rate increase of 6.37 percentage points narrowing the gap between male and female literacy rates. The sex ratio for rural population has increased from 977 in 2001 to 979 in 2011. For the urban population, the sex ratio has registered an increase of 21 points, from 942 in 2001 to 963 in 2011. This could be seen in the use of family planning method 58.2% of married women used contraceptives among them 56.1% used female sterilization methods. The survey also found that two-thirds (65%) of married women with no schooling use female sterilisation.

The health infrastructure has grown over years by establishing new health care units reflected in the rural health statistics across years and are being manned with human resources for health. However, community health centres need to be the focus area for infrastructure development and placement of doctor triad like Pediatrician, gynaecologist and anaesthetists which will help in better RCH care in rural areas.

Figure 3.13 MMR trend in Karnataka

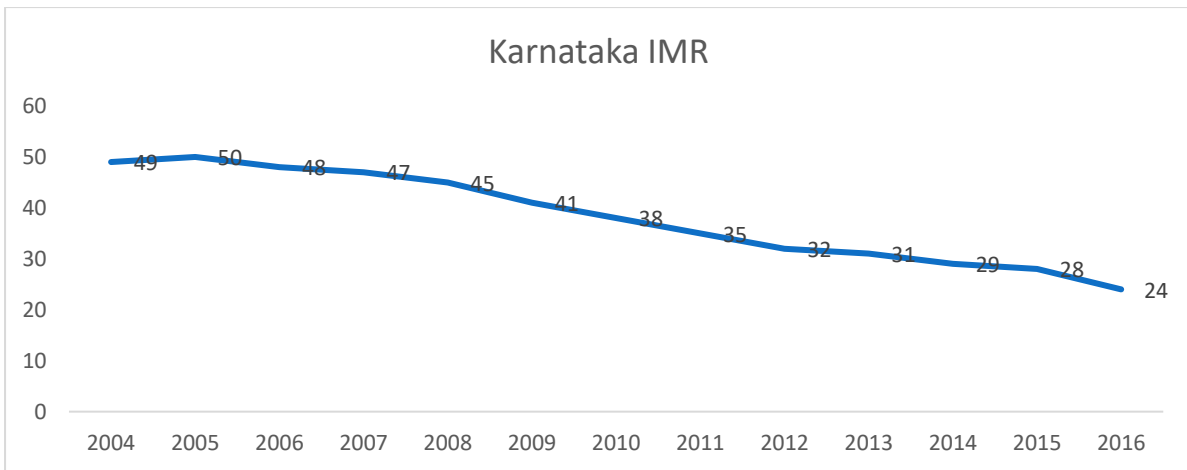


Source: SRS Special Bulletin on Maternal Mortality in India

Karnataka had an MMR of 213 for 2004- 06 which has declined to 97 in 2015-17 a decrease of 54.46% overall, it is still behind Kerala, Tamil Nadu, Telangana and, Andhra Pradesh.

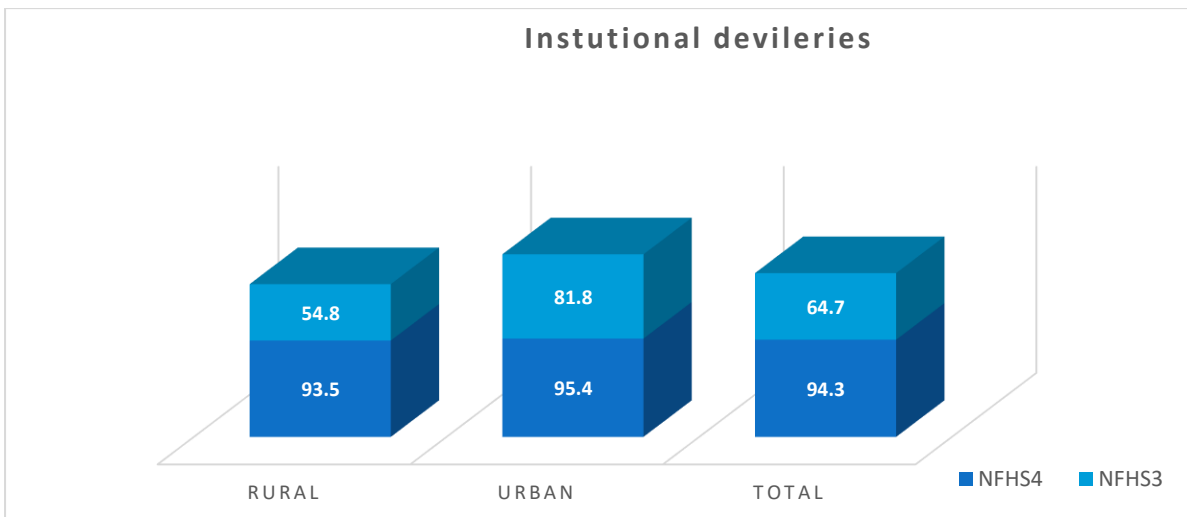
Karnataka had an IMR of 49 in 2004 which declined to 24 in 2016. A total reduction of 48.5% in 13 years. This declining trend in IMR and MMR can be largely due to institutionalization of deliveries and improved capacity of staff to handle the neonatal emergencies and specialised institutes to handle infant & neonatal emergencies at taluka and district level.

**Figure 3.14 IMR trend in Karnataka**



Source: Sample Registration System (SRS) Bulletins

**Figure 3.15 Institutional Deliveries**



Source: NFHS

The percentage of increase in deliveries reflected in external survey is largely due to key steps taken by the government of Karnataka under the National Health Mission (NHM), these

include demand promotion through Prasoothi Aarika, and Janani Suraksha Yojana, a conditional cash transfer scheme to promote nutritional status and ensuring antenatal and postnatal check-ups while promoting institutional deliveries. Operationalising the comprehensive emergency obstetric and new born care (CEmONC) and Basic Emergency Obstetric and New born Care (BEmONC) services in health facilities. Strengthening of facility based new born care by setting up New Born Care Corners (NBCC) in all health facilities where deliveries take place; Special New Born Care Units (SNCUs) at District Hospitals and New Born Stabilization Units (NBSUs) at First Referral Units for the care of sick new born. There were also special programmes like Thaiy Bhagya carved out for high priority districts in the state. Thaiy Bhagya Plus provided incentives for BPL women delivering in private facilities.

The health care providers had a capacity building through training programmes in basic and comprehensive obstetric care, skilled attendance at birth, Integrated Management of Neo-natal and Childhood Illness (IMNCI) and Navjaat Shishu Suraksha Karyakram (NSSK), facility & home based new born care. At the community level, Village Health and Nutrition Days (VHND) in rural areas as an outreach activity, for provision of maternal and child health services and creating awareness on maternal and child care including health and nutrition education is established.

Overall, training of health personnel, equipping them with knowledge to manage and handle emergencies have helped in reducing the maternal mortality, infant mortality rates and availability of emergency referral transportation has helped in quick transfer of mothers and children to higher centres.

## CHAPTER - 4

### RESULTS AND DISCUSSION

#### 4.1 Beneficiary Profile.

##### 4.1.1 Age

Mean age of the beneficiary during the pregnancy was 23.53 years and median age was 23. Most of the women were 22 when they gave birth. The age of beneficiaries ranged from minimum of 16 to maximum of 52 years. 2% of the respondents were aged 18 and only 2 of them were less than 18. 17% of the women were aged 19-20. Majority of the respondents i.e. about 57.70% belonged to age group of 21-25, another 20.5% belonged to age group of 26-30. 2.4% of respondents were in the age group of 31-35. Rest of the respondents about 0.4% were above the age of 36.

**Table 4.1 Age groups across districts**

<i>Age group</i>	<i>Bangalore Rural</i>	<i>Belgaum</i>	<i>Bellary</i>	<i>Chikmagalur</i>	<i>Haveri</i>	<i>Total</i>
<18	8	23	4	7	0	42
Values in %	2.70	3.20	1.00	2.50	0.00	2.00
19-20	77	136	63	29	53	358
Values in %	26.30	19.00	15.80	10.30	12.80	17.00
21-25	161	401	231	135	286	1214
Values in %	54.90	56.00	57.90	48.00	69.10	57.70
26-30	44	134	88	98	67	431
Values in %	15.00	18.70	22.10	34.90	16.20	20.50
31-35	2	18	13	11	7	51
Values in %	0.70	2.50	3.30	3.90	1.70	2.40
36-40	1	2	0	0	1	4
Values in %	0.30	0.30	0.00	0.00	0.20	0.20
41-45	0	0	0	1	0	1
Values in %	0.00	0.00	0.00	0.40	0.00	0.00
>46	0	2	0	0	0	2
Values in %	0.00	0.30	0.00	0.00	0.00	0.10
<i>Total</i>	293	716	399	281	414	2103
Values in %	100.00	100.00	100.00	100.00	100.00	100.00

Source: Survey

#### 4.1.2 Religion:

Overall, 81.23% of the respondents were Hindus, 17.63% were Muslims, approximately 0.5% were Jains; Christians constituted 0.5% of the total respondents.

**Table 4.2 Religion of beneficiaries**

	<i>No info</i>	<i>Christian</i>	<i>Hindu</i>	<i>Jain</i>	<i>Muslim</i>	<i>Total</i>
<i>Bangalore Rural</i>	1	2	207	0	84	294
<i>Values in %</i>	100.00	18.20	12.10	0.00	22.60	14.00
<i>Belgaum</i>	0	4	617	12	83	716
<i>Values in %</i>	0.00	36.40	36.10	100.00	22.40	34.00
<i>Bellary</i>	0	2	363	0	34	399
<i>Values in %</i>	0.00	18.20	21.20	0.00	9.20	19.00
<i>Chikmagalur</i>	0	2	211	0	68	281
<i>Values in %</i>	0.00	18.20	12.30	0.00	18.30	13.40
<i>Haveri</i>	0	1	311	0	102	414
<i>Values in %</i>	0.00	9.10	18.20	0.00	27.50	19.70
<i>Total</i>	1	11	1709	12	371	2104
<i>Values in %</i>	0.05	0.52	81.23	0.57	17.63	100.00

Source: Survey

#### 4.1.3 Caste

**Table 4.3 Caste of beneficiaries**

<i>Districts</i>	<i>No Info</i>	<i>OBC&amp; M</i>	<i>SC</i>	<i>ST</i>	<i>TOTAL</i>
<i>Bangalore Rural</i>	1	235	47	11	294
<i>Values in %</i>	0.30	79.90	16.00	3.70	100.00
<i>Belgaum</i>	0	539	147	30	716
<i>Values in %</i>	0.00	75.30	20.50	4.20	100.00
<i>Bellary</i>	1	202	149	47	399
<i>Values in %</i>	0.30	50.60	37.30	11.80	100.00
<i>Chikmagalur</i>	0	177	85	19	281
<i>Values in %</i>	0.00	63.00	30.20	6.80	100.00
<i>Haveri</i>	1	287	68	58	414
<i>Values in %</i>	0.20	69.30	16.40	14.00	100.00
<i>Total</i>	3	1440	496	165	2104
<i>Values in %</i>	0.10	68.40	23.60	7.80	100.00

Source: Survey

Nearly 68.44 % of the people belonged to other backward class and minorities, while 23.60% belonged to schedule caste and 7.80% belonged to scheduled tribes. Throughout the districts



the proportion of OBC and minorities were in the range of 50-80%. Scheduled castes were in the range of 16-37.3%, and scheduled tribes constituted 4- 14% of the respondents throughout the districts.

#### 4.1.4 Education

8.2% of the respondents did not have any schooling, 15.5% had attended primary schools and had at least 5 years of education. Same proportion of women had completed their education up to 7<sup>th</sup> standard and had at least 7 years of education. 22.07% of women had entered or completed high school education. The percentage of women who had completed PUC is 12.3%, 2.10% of beneficiaries had completed their bachelor's degree, only 0.4% of them had completed their post-graduation. 23.2% of the respondents did not have any information on education due to missing data under the demographic section.

**Table 4.4 Education of beneficiaries**

<i>Education</i>		<18	19-20	21-25	26-30	31-35	36-40	41-45	>46	<i>Total</i>
<i>No Info</i>		8	72	304	99	4	1	0	0	488
	<i>Values in %</i>	19.00	20.10	25.00	23.00	7.80	25.00	0.00	0.00	23.20
<i>No Schooling</i>		2	22	84	58	7	0	0	0	173
	<i>Values in %</i>	4.80	6.10	7.00	13.40	13.80	0.00	0.00	0.00	8.20
<i>Primary</i>		5	53	188	64	13	0	0	2	325
	<i>Values in %</i>	11.90	14.80	15.50	14.80	25.50	0.00	0.00	100.00	15.50
<i>Middle</i>		7	56	199	56	4	2	1	0	325
	<i>Values in %</i>	16.70	15.60	16.40	13.00	7.80	50.00	100.00	0.00	15.50
<i>High</i>		15	104	260	87	10	1	0	0	477
	<i>Values in %</i>	35.70	29.10	21.40	20.20	19.60	25.00	0.00	0.00	22.70
<i>PUC/Diploma</i>		5	44	145	55	10	0	0	0	259
	<i>Values in %</i>	11.90	12.30	11.90	12.80	19.60	0.00	0.00	0.00	12.30
<i>Bachelor</i>		0	6	27	9	2	0	0	0	44
	<i>Values in %</i>	0.00	1.70	2.20	2.10	3.90	0.00	0.00	0.00	2.10
<i>PG</i>		0	0	5	3	0	0	0	0	8
	<i>Values in %</i>	0.00	0.00	0.40	0.70	0.00	0.00	0.00	0.00	0.40
<i>Other</i>		0	1	2	0	1	0	0	0	4
	<i>Values in %</i>	0.00	0.30	0.20	0.00	2.00	0.00	0.00	0.00	0.20
<i>Total</i>		42	358	1214	431	51	4	1	2	2103
	<i>Values in %</i>	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Survey

#### 4.1.5 Employment

Majority of the women about 62 % of the beneficiaries were homemakers, 2% of the women did small business, and another 2% were employed in private sector organisations. 0.4% of them were in government jobs. About 10.6% of the women were daily wage workers. It is 10.6% because 2.2% listed as others that are included in this in other options and are specified as coolies. About 23.2% of the beneficiaries did not have any response for occupation due to missing data under demographic section.

**Table 4.5 Occupation of beneficiaries**

<i>Occupation</i>	<i>Bangalore Rural</i>	<i>Belgaum</i>	<i>Bellary</i>	<i>Chikmagalur</i>	<i>Haveri</i>	<i>Total</i>
<i>No Info</i>	80	132	80	53	143	488
Values in %	27.2	18.4	20.1	18.9	34.5	23.2
<i>Business</i>	20	4	8	5	2	39
Values in %	6.8	.6	2.0	1.8	.5	1.9
<i>Daily Wage</i>	25	16	29	12	94	176
Values in %	8.5	2.2	7.3	4.3	22.7	8.4
<i>Govt</i>	1	3	2	2	1	9
Values in %	.3	.4	.5	.7	.2	.4
<i>Homemaker</i>	144	543	236	208	174	1305
Values in %	49.0	75.8	59.1	74.0	42.0	62.0
<i>Other</i>	0	5	42	0	0	47
Values in %	0.0	.7	10.5	0.0	0.0	2.2
<i>Private</i>	24	13	2	1	0	40
Values in %	8.2	1.8	.5	.4	0.0	1.9
<i>Total</i>	294	716	399	281	414	2104
Values in %	100.0	100.0	100.0	100.0	100.0	100.0

Source: Survey

#### 4.1.6 Social Economic status

For considering the socio economic status of the people, wealth index score using principal component analysis was generated based on the assets possessed by the households which include house type, ownership of the house, type of access to drinking water, gas, electricity, fan, refrigerator, furniture's, television, radio, mobile, internet, sewing machine, bicycle, motorcycle, car, cattle, tractor, and toilets (a total of 19 assets) and grouped them into 4 quartiles based on the score. The wealth index is been used because of unreliable income and expenditure data. The people in the first category had lesser assets and access to basic types of facilities. 7.3% of the population were in lowest quartile, majority of them about 55.3% were

based in Haveri and another 29% were based in Belgaum. 37.4% were in second quartile, 48.2% were in 3<sup>rd</sup> quartile and 7.1% were in 4<sup>th</sup> quartile who had more assets and had better access to basic facilities like drinking water (piped water to premises) compared with that of 1<sup>st</sup> quartile.

**Table 4.6 Socioeconomic status of the beneficiaries**

<i>Districts</i>	<i>1<sup>st</sup></i>	<i>2<sup>nd</sup></i>	<i>3<sup>rd</sup></i>	<i>4<sup>th</sup></i>	<i>Total</i>
<i>Bangalore Rural</i>	7	69	199	15	290
values in %	4.7	9.0	20.1	10.3	14.1
<i>Belgaum</i>	43	308	281	56	688
values in %	28.7	40.1	28.4	38.6	33.5
<i>Bellary</i>	14	169	191	10	384
values in %	9.3	22.0	19.3	6.9	18.7
<i>Chikmagalur</i>	3	86	146	41	276
values in %	2.0	11.2	14.8	28.3	13.5
<i>Haveri</i>	83	136	171	23	413
values in %	55.3	17.7	17.3	15.9	20.1
<i>Total</i>	150	768	988	145	2051
values in %	7.3	37.4	48.2	7.1	100.0

Source: Survey

#### 4.1.7 Order of birth

About 47.5 of the women gave birth to their first child, 36.7 of women give birth to their second child. 12 of women gave birth to their third child, 2.4 of women gave birth to their fourth child and 1.4 of children were in the fifth birth order or above. The first birth order ranged from 38 in Belgaum to 58.2 in Bangalore rural. The second birth order ranged from 32.4 in Haveri to nearly 40 in Chikmagalur. Belgaum recorded the 3<sup>rd</sup> highest birth order with nearly 17 to the lowest of 4.4 in Bangalore rural. Belgaum has the highest fourth and fifth birth order to nearly 0 in Bangalore rural. About 10 of the beneficiaries had one abortion, 3.4 of them had at least 2 abortions, and about 1.3 of women had 3 or more abortions.

**Table 4.7 Birth order in Districts**

<i>Birth Order</i>	<i>Bangalore Rural</i>	<i>Belgaum</i>	<i>Bellary</i>	<i>Chikmagalur</i>	<i>Haveri</i>	<i>Total</i>
<i>Missing</i>	1	0	0	0	0	1
<i>Values in %</i>	0.30	0.00	0.00	0.00	0.00	0.00
<i>1<sup>st</sup></i>	171	272	193	145	218	999
<i>Values in %</i>	58.20	38.00	48.40	51.60	52.70	47.50
<i>2<sup>nd</sup></i>	108	270	149	112	134	773
<i>Values in %</i>	36.70	37.70	37.30	39.90	32.40	36.70
<i>3<sup>rd</sup></i>	13	121	46	23	49	252
<i>Values in %</i>	4.40	16.90	11.50	8.20	11.80	12.00
<i>4<sup>th</sup></i>	1	32	8	1	8	50
	0.30	4.50	2.00	0.40	1.90	2.40
<i>5<sup>th</sup></i>	0	21	3	0	5	29
<i>Values in %</i>	0.00	2.90	0.80	0.00	1.20	1.40
<i>Total</i>	294	716	399	281	414	2104
<i>Values in %</i>	100.00	100.00	100.00	100.00	100.00	100.00

Source: Survey

#### 4.1.8 Work before delivery

Only about 10.17 of the women were working before pregnancy and 89.69 were not working. Considering the present proportion of working women i.e., 14.78, there is only an increase of 4.6 post pregnancy. The percentage of working women was low in Bangalore rural which was about 7.9, followed by Belgaum 9.3 to highest in Bellary 41.6. Working women did not work for the period of 9 months to 2 years following pregnancy. The average earning of the women was INR234.10 which ranged from INR80INRto INR500 per day.

**Table 4.8 Women working before pregnancy**

<i>District</i>	<i>No</i>	<i>No Info</i>	<i>Yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	276	1	17	294
<i>Values in %</i>	14.6	33.3	7.9	14.0
<i>Belgaum</i>	694	2	20	716
<i>Values in %</i>	36.8	66.7	9.3	34.0
<i>Bellary</i>	310	0	89	399
<i>Values in %</i>	16.4	0.0	41.6	19.0
<i>Chikmagalur</i>	232	0	49	281
<i>Values in %</i>	12.3	0.0	22.9	13.4
<i>Haveri</i>	375	0	39	414
<i>Values in %</i>	19.9	0.0	18.2	19.7
<i>Total</i>	1887	3	214	2104
<i>Values in %</i>	89.69	0.14	10.17	100.00

Source: Survey

### 4.1.9 Delivery

About 82.68 of deliveries happened in public facilities, 17.03 in private facilities and 0.29 were home deliveries. 22.4 of the deliveries were Caesarean and 77.6 were normal deliveries.

**Table 4.9 Deliveries by districts**

Districts and Delivery Type	Home Delivery	Private Facility	Public Facility	Grand Total
<b>Bangalore Rural</b>	40		254	294
<i>Values in %</i>		11.17	14.61	13.98
<b>Caesarean</b>		15	48	63
<i>Values in %</i>		4.19	2.76	3.00
<b>Normal</b>		25	206	231
<i>Values in %</i>		6.98	11.85	10.98
<b>Belgaum</b>	3	186	527	716
<i>Values in %</i>	50.00	51.96	30.30	34.05
<b>Caesarean</b>		88	79	167
<i>Values in %</i>		24.58	4.54	7.94
<b>Normal</b>	3	98	448	549
<i>Values in %</i>	50.00	27.37	25.76	26.11
<b>Bellary</b>	3	62	334	399
<i>Values in %</i>	50.00	17.32	19.21	18.97
<b>Caesarean</b>		39	42	81
<i>Values in %</i>		10.89	2.42	3.85
<b>Normal</b>	3	23	292	318
<i>Values in %</i>	50.00	6.42	16.79	15.12
<b>Chikmagalur</b>	39		242	281
<i>Values in %</i>		10.89	13.92	13.36
<b>Caesarean</b>		21	87	108
<i>Values in %</i>		5.87	5.00	5.14
<b>Normal</b>		18	155	173
<i>Values in %</i>		5.03	8.91	8.23
<b>Haveri</b>		31	382	413
<i>Values in %</i>		8.66	21.97	19.64
<b>Caesarean</b>		12	40	52
<i>Values in %</i>		3.35	2.30	2.47
<b>Normal</b>		19	342	361
<i>Values in %</i>		5.31	19.67	17.17
<b>Grand Total</b>	6	358	1739	2103
<i>Values in %</i>	0.29	17.02	82.69	100.00
<b>Caesarean</b>	0	175	296	471
<i>Values in %</i>	0.00	48.90	17.00	22.40
<b>Normal</b>	6	183	1442	1632
<i>Values in %</i>	0.29	51.10	83.00	77.60

Source: Survey;\* One observation excluded as it was an abortion.

## 4.2 Awareness of the government maternal health schemes among the beneficiaries who delivered in public health facilities.

The word awareness means knowledge or perception of a situation or fact. Awareness can lead to action. It is about having more information about something. Awareness is a process distinguished from observing and perceiving. In other words, it can be referred to as knowing what is going on.

**Table 4.10 Awareness among beneficiaries about different schemes in total**

<i>Districts</i>	<i>No</i>	<i>No Info</i>	<i>Yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	104	0	150	254
<i>Values in %</i>	6.0	0.0	8.6	14.6
<i>Belgaum</i>	213	3	311	527
<i>Values in %</i>	12.2	.2	17.9	30.3
<i>Bellary</i>	124	3	207	334
<i>Values in %</i>	7.1	.2	11.9	19.2
<i>Chikmagalur</i>	114	1	127	242
<i>Values in %</i>	6.6	.1	7.3	13.9
<i>Haveri</i>	91	0	291	382
<i>Values in %</i>	5.2	0.0	16.7	22.0
<i>Total</i>	646	7	1086	1739
<i>Values in %</i>	37.1	.4	62.4	100.0
<i>Geographical Category</i>				
<i>Difficult</i>	72	1	124	197
<i>Values in %</i>	4.1	.1	7.1	11.3
<i>Rural</i>	311	2	604	917
<i>Values in %</i>	17.9	.1	34.7	52.7
<i>Urban</i>	263	4	358	625
<i>Values in %</i>	15.1	.2	20.6	35.9
<i>Total</i>	646	7	1086	1739
<i>Values in %</i>	37.1	.4	62.4	100.0
<i>Education</i>				
<i>Bachelor</i>	12	0	19	31
<i>Values in %</i>	.7	0.0	1.1	1.8
<i>High</i>	127	1	253	381
<i>Values in %</i>	7.3	.1	14.5	21.9
<i>Illiterate</i>	42	0	44	86
<i>Values in %</i>	2.4	0.0	2.5	4.9
<i>Middle</i>	90	1	179	270
<i>Values in %</i>	5.2	.1	10.3	15.5
<i>No Info</i>	182	2	248	432
<i>Values in %</i>	10.5	.1	14.3	24.8
<i>No Schooling</i>	18	0	49	67
<i>Values in %</i>	1.0	0.0	2.8	3.9

<i>Other</i>	3	0	0	3
<i>Values in %</i>	.2	0.0	0.0	.2
<i>PG</i>	1	1	3	5
<i>Values in %</i>	.1	.1	.2	.3
<i>Primary</i>	109	1	170	280
<i>Values in %</i>	6.3	.1	9.8	16.1
<i>PUC / Diploma</i>	62	1	121	184
<i>Values in %</i>	3.6	.1	7.0	10.6
<i>Total</i>	646	7	1086	1739
<i>Values in %</i>	37.1	.4	62.4	100.0
<i>Occupation</i>				
<i>Business</i>	10	0	23	33
<i>Values in %</i>	.6	0.0	1.3	1.9
<i>Daily Wage</i>	66	0	129	195
<i>Values in %</i>	3.8	0.0	7.4	11.2
<i>Govt</i>	2	0	3	5
<i>Values in %</i>	.1	0.0	.2	.3
<i>Home Maker</i>	373	5	668	1046
<i>Values in %</i>	21.4	.3	38.4	60.1
<i>No Info</i>	181	2	248	431
<i>Values in %</i>	10.4	.1	14.3	24.8
<i>Private</i>	14	0	15	29
<i>Values in %</i>	.8	0.0	.9	1.7
<i>Total</i>	646	7	1086	1739
<i>Values in %</i>	37.1	.4	62.4	100.0
<i>Caste</i>				
<i>No Info</i>	1	0	0	1
<i>Values in %</i>	.1	0.0	0.0	.1
<i>OBC</i>	439	3	717	1159
<i>Values in %</i>	25.2	.2	41.2	66.6
<i>SC</i>	171	4	262	437
<i>Values in %</i>	9.8	.2	15.1	25.1
<i>ST</i>	35	0	107	142
<i>Values in %</i>	2.0	0.0	6.2	8.2
<i>Total</i>	646	7	1086	1739
<i>Values in %</i>	37.1	.4	62.4	100.0

Source: Survey

Beneficiaries (People who have received thayi card) were asked about the knowledge of the schemes in total. The intent was to understand the number of beneficiaries who knew about the various programme which are being run by the government especially for BPL women. Overall, 62.49 of the women were aware about the different schemes across age groups, education, occupation, caste and geographical territory. 37.11 of the beneficiaries did not have any idea about the schemes.

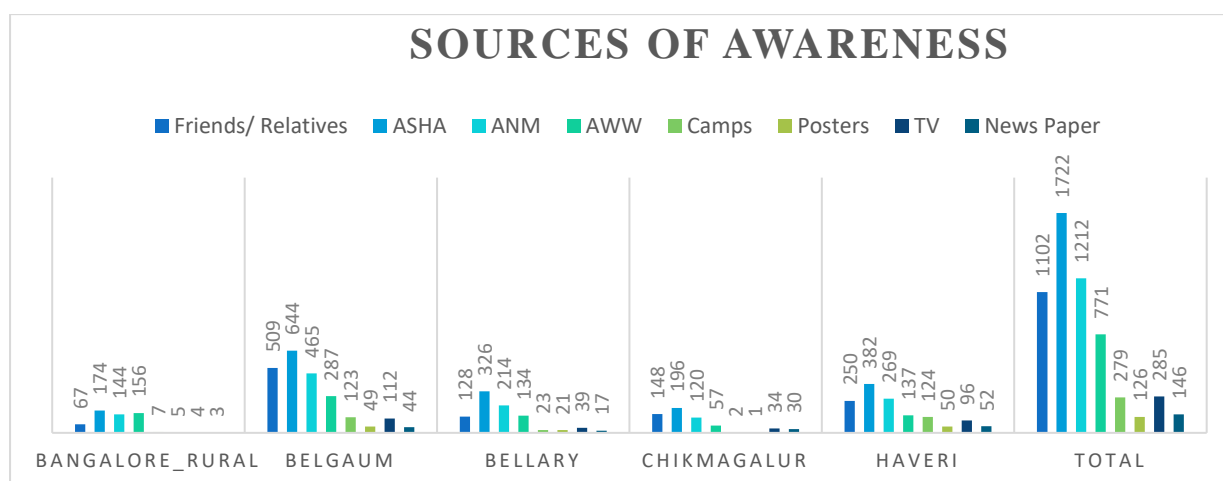
Looking at the awareness at district level, about 76 of people in Haveri had known about the schemes and it stands first among the district-wise awareness levels. This is followed by Bellary with 62.28, Belgaum stood third with 59, followed by Bangalore rural in fourth position with 58.89 and Chikmagalur had the least awareness with 52.48. 41.92 of people in urban areas had no information on schemes, rural area figures stood at 34 while 36.55 of people from remote areas did not have information about schemes. The awareness of all schemes varied across 49.44 to 73.53. The highest level of awareness was among the mothers who did not have schooling. 60-66.40 of people who were schooled or went to college/completed post-graduation were aware of the different schemes.

There was more government scheme related awareness among Scheduled tribes i.e. 75.35. Awareness among other back ward class and minorities was around 61.88. Less number of people from Scheduled caste were aware about the schemes. Among occupation, home makers were the largest proportions and 64 of the beneficiaries were aware of these schemes. Daily wage workers were second largest groups with 65.89 of the beneficiaries being aware about the programmes. People who worked in private sector were least aware of the schemes and their benefits with 51.72. People who did their own business had highest awareness with 69.70.

#### 4.2.1 Source of Awareness

ASHA was the major source of awareness about schemes across districts, followed by ANM and Anganwadi workers. Television and newspapers were also sources of information for some. Camps and posters form the least used sources of information among beneficiaries.

Figure 4.1 Sources of awareness among beneficiaries

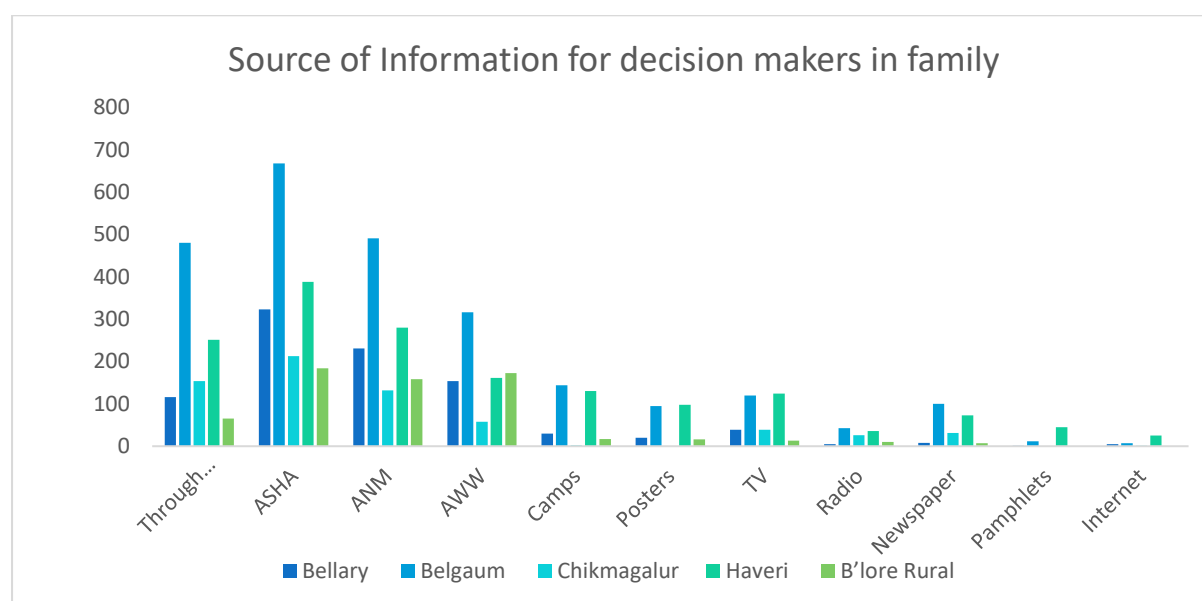




#### 4.2.2 Decision making on pregnancy and child care

65.54 of families were nuclear and majority of the decisions were made by husband and wife. In-laws also influenced the decision on pregnancies and child care related matters, while the parents of beneficiaries had least influence on decisions related to pregnancy and child care.

**Figure 4.2 Sources of awareness for decision makes for pregnancy and child care.**



Even for decision makers ASHA and ANM were the major source of information followed by friends/relatives and Anganwadi worker. Camps, posters, TV, radio, newspapers, also helped with information on schemes and government programmes, while internet was the least preferred source of information.

Most of the information received by the beneficiaries is through ASHA, ANM & AWW. Some other major sources were TV, advertisement, newspapers and media. Apart from the above sources, some received information through hospital workers, forms, family and relatives. Some of the beneficiaries also read tayi card in detail which provides information about the various schemes.

ASHA is the major source of information for many as she is one who facilitates the registration of the pregnancy and follows up with ANC check-ups and ensures the institutional delivery. She resides near to the locality of expectant mother and thereby acts as the source of contact for information and facilitates various maternity related processes. Currently, AWW may hold fort for information as she is one who processes the maternity benefit schemes and she is the

main link for Women child welfare department which is currently disbursing the maternity benefit schemes.

### **4.3 Items of out-of-pocket expenditures incurred by the family per delivery in the public health facility.**

Karnataka ranks 6th at the national level for Out of pocket expenditure for delivery in public facilities. First place is occupied by Manipur, followed by West Bengal, Kerala, Arunachal Pradesh, Nagaland and Goa. As per the NFHS-4 reports Karnataka's average out of pocket expenditure for delivery is INR4,824 for public facilities, INR22,882 for private facilities and INR11,630 is the average for any facility. Among the districts in Karnataka (NFHS-4), Bangalore ranks first with an average of INR9933 and Yadagiri ranks the lowest with an average of INR1966. Among the survey districts, Bangalore rural is 6th with an average of INR5600. Belagavi is ranked 11th with an average of INR4521. Bellary is ranked 13th with an average of INR4,413. Chikmagalur is ranked 17th with an average of INR3920 and Haveri is ranked 24th with an average of INR2886.

As mentioned earlier in the report, there is an increased per-capita spending on health and the percentage of GDP spending on health is also increasing. The government services are free for BPL SC and ST women and conditional cash transfers are being used to encourage institutional delivery and provide free antenatal check-ups, delivery and post-natal check-ups for mothers and children up to one month, following delivery. The findings of the evaluation show that average expenditure on maternal health care is as high as INR14664 for public facilities and the same would be INR38037 for private facility. Overall maternity expenditure will amount to INR18654 in the study population. Findings suggest that factors such as place, and number of ANC's, type, and place of institutional delivery are associated with both absolute and relative expenditure on maternity care. The expenditure also varies with the number of times the various ANC and PNC components are utilised. Four out of ten mothers resorted to borrowing money on interest to meet the OOPE on maternity care. Increasing use of public health facilities through conditional cash transfers, improving the availability of delivery services in PHC's, making more PHC's 24X7, providing facilities like scanning, making the more FRU's at CHC level and curbing the informal payments for health care staff at point of delivery can reduce the extent out of pocket expenditure in public facilities.

Central tendency measures like mean are used to describe the out of pocket expenditures. The methods used to calculate the descriptive statistics are mentioned below specifically.

Mean: To calculate the mean the values of items are simply summed and divided by the number of observations. The formula for calculation was  $\text{Mean} = \frac{\sum X}{N}$ ,

Standard Deviation: standard deviation is the dispersion of a dataset relative to its mean. The greater the standard deviation, the greater the variance between each price and the mean. First step mean is calculated, each observation is subtracted with the mean and square the result, the mean of those squared differences is calculated and the square root of that is the standard deviation. The formula for calculating standard deviation is

$$\sigma = \sqrt{\frac{\sum [x - \bar{x}]^2}{n}}$$

95 confidence Intervals: Confidence intervals show us the range of values of the population mean. Mean is one estimate of our metric; confidence intervals give a richer data and show the likely values of the true population mean. Confidence interval is calculated using the formula  $\bar{X} \pm Z (s/\sqrt{n})$

$\bar{X}$  is the mean

Z is the 1.96 for 95 confidence interval

s is the standard deviation

n is the number of observations

Winsorization was done by limiting the upper bound values to reduce the effect of possibly spurious outliers. Winsorization was done by changing the value so that it is close to other values in the set. The data points are modified, not trimmed/removed.

**Table 4.11 Average of Out of Pocket Expenditure components for maternal care related to pregnancy.**

District	Bangalore rural								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1049	1043	623-1475	1600			1072	1026	662-1483
Blood Test	435	602	316-555	303	494	81-525	414	586	307-520
Doctors Fee	3414	10983	-584-7411	919	368	664-1174	2874	9743	-265-6014
Food	633	830	449-817	600	693	-7-1207	631	818	455-807
In Kind Payments	1462	1528	809-2115	500			1418	1505	789-2047
Medicine	2559	4357	1705-3413	4539	2999	3313-5765	2929	4198	2188-3671
Other Illness	2875	2216	1339-4411				2875	2216	1339-4411
Referral	7741	6004	4887-10595	1688	2230	-498-3873	6588	5959	4039-9137
Referral Transport	1296	1173	682-1911	200	227	-23-423	1053	1132	530-1576
Scanning	1528	1177	1348-1708	1597	1021	1249-1945	1540	1151	1379-1700
Thyroid	463	491	318-608	235	282	81-388	411	460	292-530
ANC Cost	4594	5602	3905-5283	7030	10488	3779-10280	4926	6514	4181-5670
Delivery Cost	10245	7707	9297-11193	15934	7892	13488-18380	11019	7962	10109-11929
PNC cost	570	641	491-649	1894	7895	-553-4340	752	2986	410-1093
Transportation cost	3213	2825	2865-3560	4611	9456	1680-7541	3403	4361	2904-3902
Total Maternity Expenditure	15188	11045	13830-16546	31113	28419	22306-39920	17354	15580	15574-19135

District	Belgaum								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1565	1061	1197-1933	3367	1690	2511-4222	2140	1533	1702-2578
Blood Test	697	659	599-795	768	633	638-899	722	650	643-800
Doctors Fee	1202	1398	814-1589	1627	1666	1090-2164	1382	1523	1062-1703
Food	827	638	748-906	929	678	776-1083	850	648	780-921
In Kind Payments	751	1138	245-964	1475	2052	0-800	848	1270	393-1302
Medicine	3076	2850	2679-3473	4107	3386	3501-4713	3465	3099	3125-3806
Other Illness	2269	2011	1283-3254	4200	1643	2760-5640	2729	2070	1843-3614
Referral	2330	3006	1480-3181	3666	4592	1994-5337	2833	3712	2004-3662
Referral Transport	819	1136	326-1152	739	1135	501-1137	789	1129	538-1039
Scanning	2055	1283	1926-2184	2776	1249	2589-2964	2278	1315	2169-2388
Thyroid	381	532	2395-3684	781	1224	3219-2714	497	805	285-710
ANC Cost	5964	5520	5492-6435	10307	8369	9104-11509	7097	6660	6608-7585
Delivery Cost	7028	7109	6421-7634	17380	11176	15774-18986	9728	9512	9030-10426
PNC cost	564	668	507-621	1147	2729	753-1541	716	1525	604-828
Transportation cost	3573	3229	3298-3849	6740	9365	5394-8085	4399	5695	3981-4817
Total Maternity Expenditure	13219	27469	12330-14109	37228	10419	33281-41176	19483	19686	18038-20928

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

District	Bellary								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1296	957	1039-1554	2035	1523	1091-2979	1414	1086	1145-1682
Blood Test	390	506	297-482	503	345	380-627	773	652	665-1682
Doctors Fee	1129	1226	723-1535	925	919	444-1406	1070	1141	751-1390
Food	652	519	572-732	988	696	735-1241	703	561	624-783
In Kind Payments	1261	1570	555-1967	1000			1248	1529	577-1918
Medicine	4401	4453	4700-5194	5785	3454	3607-6869	4738	4263	4078-5399
Other Illness	3100	1833	1830-4370	7000			3533	2152	2158-4939
Referral	5608	5533	-360-7734	4550	7086	3481-9460	5359	5835	3397-7320
Referral Transport	957	883	580-1335	611	611	212-1010	853	817	561-1146
Scanning	1962	997	1850-2073	2339	1106	2052-2626	2020	1022	1915-2124
Thyroid	565	461	391-739	715	350	498-932	605	434	466-745
ANC Cost	7808	6420	7120-8497	12843	9031	10595-15091	8597	7121	7895-9298
Delivery Cost	7579	7021	6826-8332	19375	12786	16193-22558	9426	9232	8516-10335
PNC cost	515	688	441-589	2138	7889	174-4102	788	3333	459-1118
Transportation cost	4622	4439	4146-5098	8750	11018	6007-11493	5268	6133	4664-5872
Total Maternity Expenditure	15472	10176	14381-16563	43378	25086	37134-49623	19841	16958	18171-21512

District	Chikmagalur								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1127	1028	623-1630	800	283	408-1192	1088	970	640-1536
Blood Test	738	617	612-865	728	640	447-1008	737	618	622-851
Doctors Fee	1794	1670	1356-2232	1942	1579	1171-2713	1833	1592	1455-2212
Food	1140	698	1014-1232	954	696	676-1266	1109	699	994-1224
In Kind Payments	1448	1321	1127-3016	1800	1755	584-1769	1486	1365	1173-1799
Medicine	3452	3110	2920-3985	4432	3740	3093-5770	3635	3247	3133-4136
Other Illness	1718	2824	49-3387	5500	4387	1654-9346	2900	3705	1085-4715
Referral	6564	7876	3647-9482	8888	7637	3595-14180	7081	7777	4540-9621
Referral Transport	2172	1876	1500-2843	2120	3132	179-4061	2159	2209	1474-2843
Scanning	2062	1146	1897-2227	2288	1258	1838-2739	2094	1162	1939-2249
Thyroid	687	460	565-808	609	489	395-823	666	466	561-772
ANC Cost	8389	6086	7622-9156	12186	10038	9035-15336	8916	6877	8112-9720
Delivery Cost	13049	8445	11985-14113	22821	19410	16730-28913	14405	11134	13103-15707
PNC cost	842	706	753-931	2061	7946	-433-4554	1015	3060	656-1373
Transportation cost	5201	4650	4615-5787	10110	17603	4585-15634	5882	7972	4950-6814
Total Maternity Expenditure	21764	11416	20326-23202	51288	42764	37866-64709	25862	21562	23340-28383

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

District	Haveri								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1704	934	1273-2136	1500	707	520-2480	1684	901	1289-2079
Blood Test	457	428	363-550	592	461	331-853	474	432	386-563
Doctors Fee	1236	1228	817-1655	2600	2128	192-5008	1350	1336	914-1786
Food	456	493	352-560	936	761	487-1386	510	546	402-618
In Kind Payments	983	1443	366-1600	300	0	300-300	924	1389	356-1492
Medicine	2490	2547	1784-3196	845	690	417-1273	2216	2417	1604-2827
Other Illness	750	354	260-1240				750	354	260-1240
Referral	4120	500	-1760-10000	15750	6708	15260-16240	9289	7757	4221-14356
Referral Transport	5100	9781	-2726-12926	1025	685	354-1696	3470	7598	-1239-8179
Scanning	1490	607	1406-1573	1400	648	1129-1671	1481	610	1401-1561
Thyroid	500	319	312-689	450	71	352-548	493	292	334-652
ANC Cost	3987	3172	3669-4305	4053	3263	2944-5241	3995	3175	3689-4301
Delivery Cost	7029	5091	6518-7539	13534	7383	10935-16133	7517	6256	6043-7015
PNC cost	683	742	609-758	358	509	179-537	659	732	588-730
Transportation cost	3403	2520	3147-3659	2981	2553	2094-3868	3372	2250	3126-3618
Total Maternity Expenditure	11105	6230	10480-11730	24469	19526	17595-31342	12108	8723	11267-12949



Cumulative	Total								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1351	1010	1185-1517	2568	1695	1962-3175	1565	1243	1379-1750
Blood Test	621	621	569-673	758	628	664-853	653	625	608-699
Doctors Fee	1670	4410	1055-2286	1541	1523	1207-1874	1633	3805	1185-2081
Food	771	663	722-820	934	685	822-1046	799	669	754-844
In Kind Payments	1243	1381	1023-1463	1400	1610	611-2189	1258	1400	1046-1470
Medicine	3290	3581	3004-3577	4343	3454	3889-4798	3575	3576	3330-3819
Other Illness	2322	2209	1677-2968	5045	3102	3212-6879	2857	2616	2172-3542
Referral	4788	5821	3763-5812	5350	6263	3664-7036	4956	5944	4080-5832
Referral Transport	1451	2587	988-1914	947	1636	518-1375	1291	2334	946-1635
Scanning	1871	1116	1809-1933	2429	1253	2290-2568	1983	1166	1925-2041
Thyroid	533	487	461-605	587	725	405-768	547	557	476-618
ANC Cost	6021	5624	5757-6286	10046	8937	9121-10972	6708	6491	6431-6986
Delivery Cost	8442	7319	8098-8786	17824	12223	16558-19090	10043	9074	9655-10432
PNC cost	622	698	589-655	1432	5327	879-1986	763	2324	663-862
Transportation cost	3911	3607	3742-4081	6892	10636	5790-7993	4420	5596	4180-4660
Total Maternity Expenditure	14664	10375	14177-15152	38037	29314	35000-41073	18654	17691	17897-19412

Source: Survey; \* some of the values in the confidence intervals are in negatives as most of the values were zero.

## **Out of Pocket Expenditure incurred for Maternal Health Care by BPL women in Karnataka in Public Health Facilities**

The above table describes the out of pocket expenditure in public and private facilities and total expenditure of various components related to pregnancy care, child birth and post-natal care district wise. Some of the beneficiaries have purchased services and components like scanning, thyroid test, medicine, UPT, blood test, referral, other illness, blood transfusion for which the average cost has been drawn up. The cost of services for people who have utilised private facilities about (17) is nearly 3 times higher than that of public facility. Cost of services are also dependent on the place and number of times the services were purchased. The absolute cost of each component was summed up to get the total maternity expenditure. Average of the total maternity benefits is specified in the table.

The ANC cost includes the cost of services and consumables purchased along with the transportation cost. Delivery cost is the actual cost of delivery incurred with transportation, purchase of commodities and food expenses. PNC cost includes transportation and goods and services purchased. Transportation cost is the sum of all the trimester-wise transportation cost, delivery transportation cost, referral transportation and PNC transportation cost.

### **4.3.1 Scanning:**

Ultrasound scans may be recommended at various stages of pregnancy for several reasons. Starting from confirmation of pregnancy to check the position of the baby before delivery. On an average 4 scans are recommended, during 6 weeks of pregnancy, 11 and 13 weeks, 18-20 weeks and before the delivery.

Since the scanning facilities are not available in government facilities as depicted in the earlier part of the report, 71.13 of beneficiaries who utilised public facilities sought to purchase scanning services from outside of the system. It was 95 in Bellary, 78 in Chikmagalur, 72 in Belgaum, 59 in Bangalore Rural and 53 in Haveri. Overall, 73.86 of BPL beneficiaries purchased scanning services outside the public systems. On an average, 3 scans were done and in total, it costed INR1871/- for people who utilised public facilities for deliveries and INR2429/-. For people who utilised private facilities, the overall scanning costed INR1985/-. There are district wise variations in the scanning the difference in mean which can be attributed to the cost incurred at that particular place and number of times the scanning was done. The inflation adjusted values for scanning were INR2325/- For people who utilised public facilities, it costed INR3020/-. Beneficiaries who utilised private facilities, it amounted to an overall of INR2467/-, an average irrespective of public and private. The difference in mean is explained

by number of times the scanning was done in public facilities which was 2-3 scans on average, and in private, it was 3-4 scans on an average.

### **4.3.2 Thyroid**

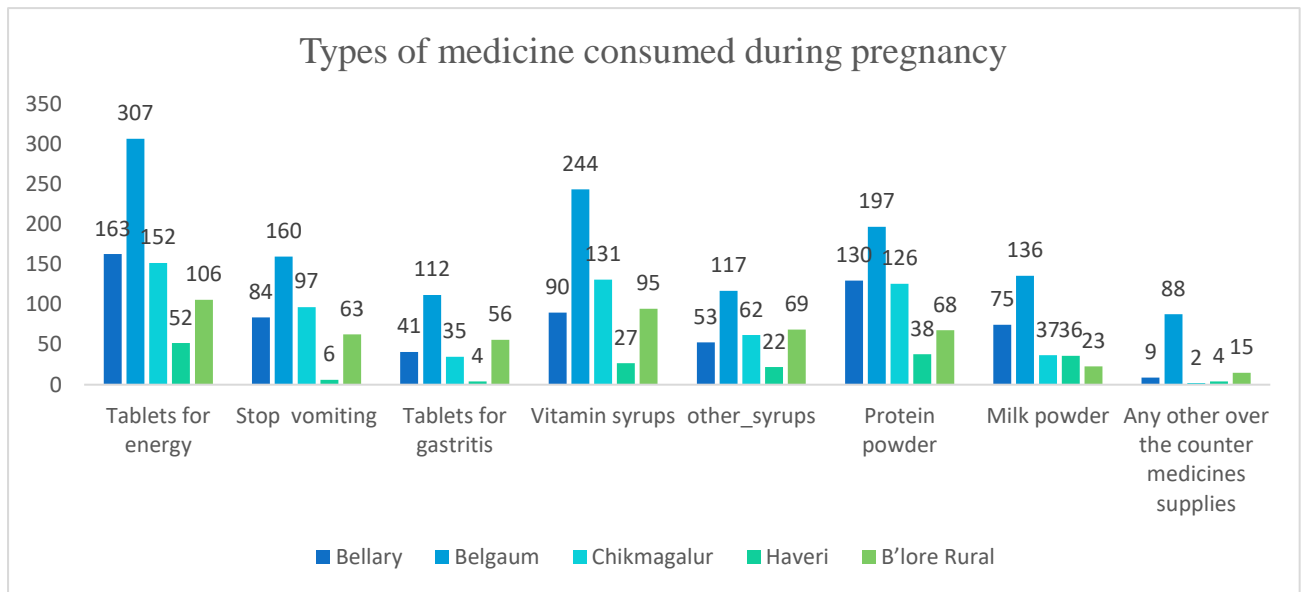
Thyroid hormones are crucial for normal development of your baby's brain and nervous system. During pregnancy the thyroid is hyper stimulated, resulting in changes in thyroid hormone concentrations. Accurate assessment of thyroid function during pregnancy is critical, for both the initiation of thyroid hormone therapy, and for the adjustment of thyroid hormone dose in those already receiving thyroid hormone.(Soldin, 2006).

The facility for testing thyroid hormone levels in pregnant women is not available in government health centres and hence, the services had to be purchased from outside. Overall, 11 of beneficiaries got their thyroid hormone levels tested, Chikmagalur saw the highest with 31 of beneficiaries getting their thyroid levels tested, followed by Bangalore rural with 17. In Belgaum and Bellary 7 and 9 of beneficiaries had their thyroid levels tested Haveri had least number of beneficiaries about 2 of them getting the tests done. On an average, from a greater number of people who utilised private facilities, 18 got their thyroid levels examined. On an average, the thyroid level was checked at least 2 times by the beneficiaries.

### **4.3.3 Medicine**

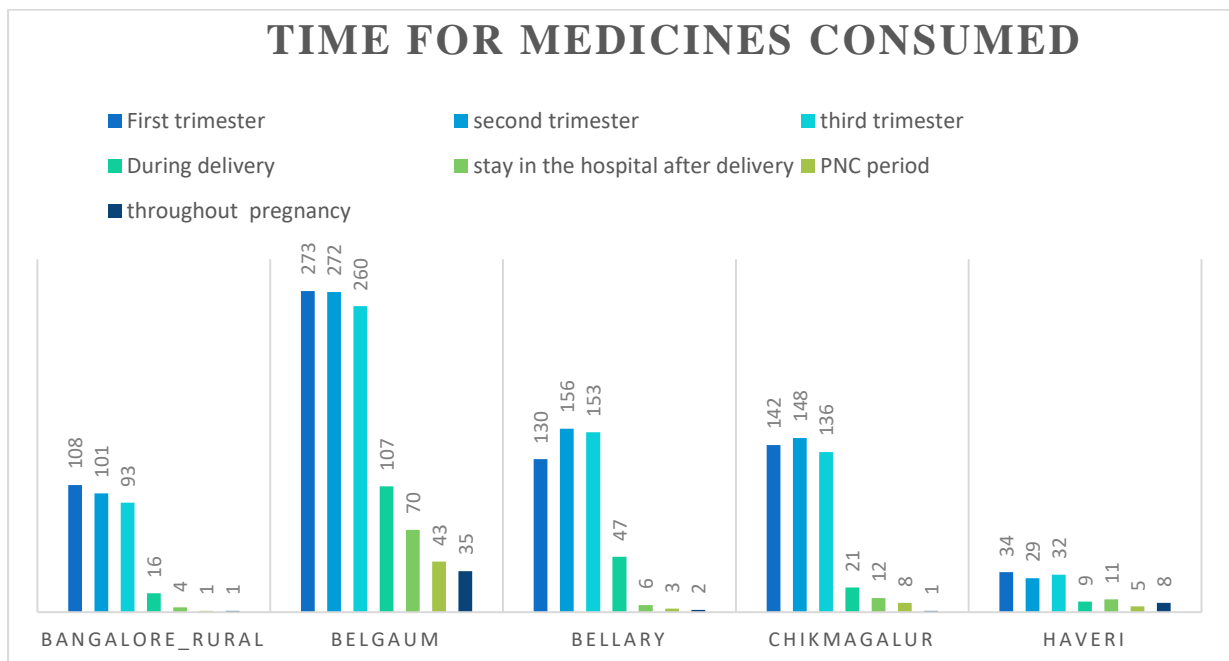
The status of consumption of IFA during pregnancy has been described in the earlier part of the chapter. This section tries to understand what type of medicines were purchased from outside of public health systems where the medicines are available free of cost to BPL women. Overall, 39 of beneficiaries sought to purchase medicines and other nutraceuticals from pharmacy. From the greater number of women who utilised private facilities, around 64 of women sought to purchase medicines from outside while it was 34 of beneficiaries who utilised public systems for delivery. Overall, 60 of beneficiaries in Chikmagalur bought medicines and nutraceuticals outside public system, followed by 45 in Belgaum, and 41 in Bellary. In Haveri, beneficiaries utilised government system more with only 14 resorting to purchase of medicines from outside. The figures for Bangalore rural was 39 with that of an overall average. On an average, beneficiary purchased medicines at least 5 times.

**Figure 4.3 Types of medicines consumed by beneficiaries**



The Beneficiaries consumed, tablets for energy, tablets for stopping vomiting, tablets for gastritis, vitamin syrups, other syrups, protein powder and milk powder in general. More medicines were up to delivery and post-delivery the consumption of medicines was declined.

**Figure 4.4 Time when the medicines were consumed by beneficiaries**



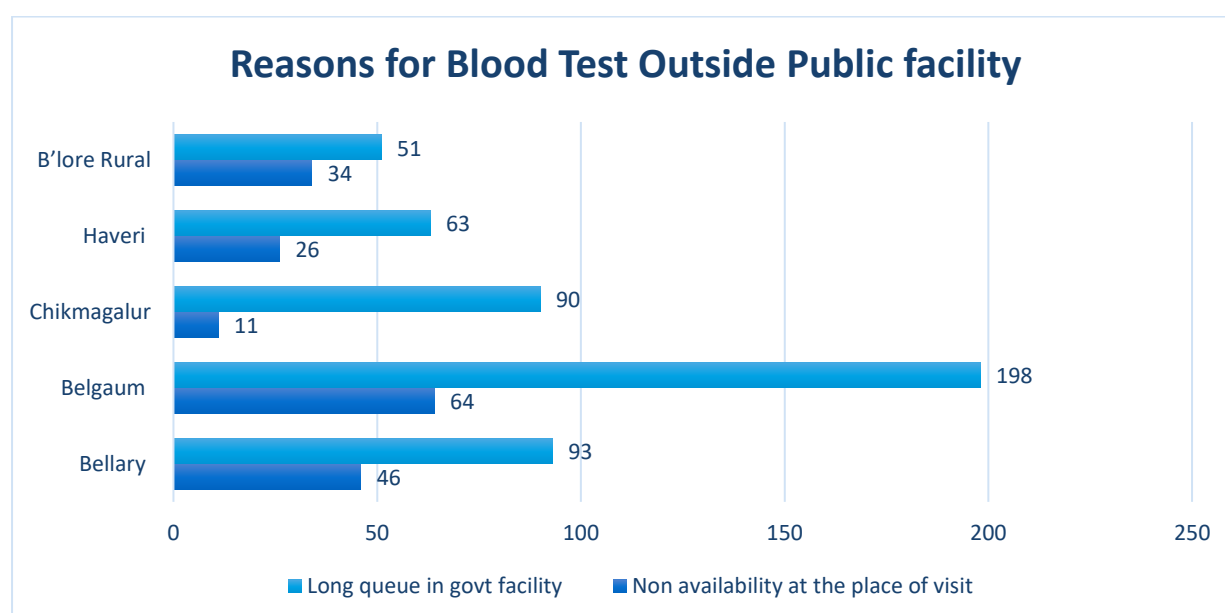
The cost of medicines on average was INR3572/-. In total, people who utilised private facilities for delivery spent more on medicine, which costed INR4343/- when compared to cost of INR3290/- the amount that people spent in utilising public facilities for delivery. The difference in mean can be explained by the number of times the medicines were bought. It is

an average of 4 times for people who utilised public facilities v/s 6 times for people who utilised private sector. The district wise average variation can be explained in terms of number of people who purchased medicines in that particular district and number of times the medicines were purchased. Medicines constitute 19.17 of the total maternity expenditure.

#### 4.3.4 Blood test

The ANC check-ups provide free of cost blood and urine tests during pregnancy and 35 of people are said to have done blood and urine tests outside public facility for reasons like long queues in government facilities and non-availability at the places of visits.

Figure 4.5 Reasons for blood test outside facility



The average blood tests cost INR653/-, in total with INR621/- for people who utilised public facilities for delivery and INR758/- for people who utilised private sector for delivery. Overall, the cost of blood test was 3.50 of total maternity expenditure

#### 4.3.5 Food Expenditure

The food expenditure is part of various visits like ANC delivery and PNC visits. Overall, 40 of beneficiaries across sectors with same proportions mentioned food as an expenditure component during the visits. 58 beneficiaries from Chikmagalur, 50 from Bellary, 46 from Belgaum, 19 in Bangalore rural, and 23 Haveri expressed food as an expenditure component. Food expenditure constituted 2 of total maternity expenditure and the mean food expenditure was INR800/-.

#### **4.3.6 Doctor fees**

10.5 of beneficiaries have paid doctors' fees for utilization of antenatal services which include consultation for which an average of INR 1670/- was spent. Many of the beneficiaries who consult private providers for ANC have paid for consultation. Some of the beneficiaries may have paid high doctors' fees following the illness during pregnancy.

#### **4.3.7 ANC cost**

The Ante natal cost calculated for the beneficiaries include the total sum of all the costs which include Scanning, Thyroid tests, Medicine, Doctors Fee, UPT, Blood Test, Other Illness, Blood Transfusion, and Food along with trimester wise transportation cost. The overall average ANC cost was INR6709/-, for people who accessed private facilities for delivery, it was INR10046/-, constituting 26.1 of total maternity expenditure for people who utilised public institutes for delivery the average cost was INR 6023/- constituting 41 of total maternity expenditure. The variations in the district wise mean is due to variations in the cost of ANC components district wise, which are dependent on the place of service purchase and cost of service purchase.

The reasons why ANC cost are high is majority of the people are forced to take the facilities like scanning and sometimes even blood tests outside the facility like what has been explained earlier under each component. However, these costs are added up to derive the average. At the same time, people who are residing in Belgaum often go to Maharashtra for better livelihood and they come back to their native for ANC and Delivery. This also partly increases the travel costs as they travel at least 4 times. One of the reasons why travel cost increases with stage of pregnancy is the travel for scanning purpose which is not available in rural areas. They either have to travel to district or taluk headquarters. At a later stage in pregnancy people would go for personal transport which costs more and that's the main reason why transportation cost goes up. As the ANC component cost goes up the ANC average also goes up.

#### **4.3.8 Delivery cost**

The delivery cost is the sum total of amount spent for delivery which includes formal and informal payments to the service provider, food cost, medicine cost and other expenses occurred during the delivery time, it includes delivery transport also. The mean delivery cost irrespective of delivery type and delivery institute type is INR10043/- which constitutes 53.18 of the total maternity expenditure. For people who delivered in public institutes, the average

delivery cost was INR8442/- constituting 57.56 of total maternity expenditure. For beneficiaries who delivered in private institutes, the total delivery related expenditures were INR17824/- constituting 46.86 of total maternity expenditure.

#### **4.3.9 PNC cost**

The PNC cost mainly includes transportation cost for mother and child illness post-delivery, overall PNC cost was INR 737/- constituting 4 of total maternity expenditure. For people who utilized public institutes for delivery the average transportation cost was INR 601/- which constituted 4.10 for people who utilised private hospitals for delivery the transportation cost was 1408/- constituting 4 of total maternity expenditure.

#### **4.3.10 Total maternity expenditure**

The total maternity expenditure is the sum total of all the expenditure components like ANC, delivery and PNC and transportation costs. Overall, the maternity cost irrespective of the institutes and delivery type was INR18654/-, for people delivering in private institute the average maternity expenditure was INR38037/-. The average maternity expenditure for people delivering in public institutes is INR14664/-. This expenditure is irrespective of the type of delivery. The district wise variations in the average cost is due to the number of beneficiaries in district, their purchase of goods and services related to care of pregnant women and number of times the goods and services were purchased, mode of the transportation used and amount spent for the transportation, cost of delivery, type of delivery and institute and place where the delivery happened. If a person received all the 4 schemes, their average total maternity expenditure which was INR10439, would be INR4226/- lesser than the total maternity expenditure in public facilities which is INR14665/-.

### 4.3.11 OOPE by Caste

**Table 4.12 Out of Pocket Expenditure components for maternal care related to pregnancy among OBC, SC, ST.**

Institutes	OBC								
	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1335	1027	1133-1537	2258	1491	1569-2947	1477	1153	1268-1686
Blood Test	635	622	571-699	722	597	615-829	656	616	601-711
Doctors Fee	1367	1448	1116-1618	1534	1466	1075-1858	1399	1472	1187-1610
Food	784	670	722-846	977	702	842-1112	820	680	763-876
In Kind Payments	1365	1414	1094-1637	1262	1529	430-2094	1354	1421	1096-1611
Medicine	3075	2977	2778-3372	4417	3484	3901-4933	3493	3202	3229-3758
Other Illness	2374	2360	1592-3156	5050	3270	3023-7077	2969	2785	2155-3783
Referral	4718	5346	3554-5882	5749	6320	3837-7660	5070	5693	4064-6076
Referral Transport	1205	1444	888-1521	934	1725	419-1450	1110	1546	837-1383
Scanning	1829	1104	1752-1905	2430	1244	2275-2586	1970	1166	1899-2041
Thyroid	530	497	439-621	610	788	382-838	553	593	461-644
ANC Cost	5727	5358	5418-6035	10100	9285	9009-11192	6573	6540	6235-6911
Delivery Cost	8288	7100	7879-8696	17819	12629	16335-19304	10132	9252	9653-10610
PNC cost	636	708	595-677	1537	5976	832-2242	812	2734	670-954
Transportation cost	3768	3522	3565-3971	6970	11250	5647-8292	4388	6002	4077-4698
Total Maternity Expenditure	14261	10148	13677-14846	38320	29755	38823-41818	18916	18553	17957-19875



	Scheduled Castes								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1330	891	1006-1655	3156	1870	1934-4377	1774	1415	1324-2224
Blood Test	595	645	601-699	718	832	491-1064	642	665	547-738
Doctors Fee	2408	2408	-19-4834	1778	1778	1026-2531	2250	7451	425-4076
Food	747	619	655-839	944	669	682-1206	771	627	684-858
In Kind Payments	811	1129	452-1170	2000	2179	-466-4466	898	1231	522-1275
Medicine	3693	4635	3014-4372	4212	3191	3123-5301	3774	4439	3176-4372
Other Illness	1711	1019	1045-2377	5000	5000		2040	1416	1162-2918
Referral	5357	7107	3067-7647	3050	5330	-643-6743	4947	6829	2951-6942
Referral Transport	2022	4300	577-3467	1206	1613	152-2260	1851	3890	688-3014
Scanning	1945	1157	1825-2065	2640	1354	2257-3023	2028	1202	1911-2145
Thyroid	568	501	425-711	440	479	144-737	546	495	417-674
ANC Cost	6778	6246	6192-7363	9950	7645	7965-11934	7144	6494	6571-7716
Delivery Cost	9016	8009	8265-9766	18464	11896	15376-21552	10106	9052	9308-10904
PNC cost	617	688	552-682	1234	1817	762-1706	691	921	610-773
Transportation cost	4235	4010	3859-4611	7158	9287	4747-9569	4572	4989	4132-5012
Total Maternity Expenditure	15862	10865	14844-16881	39133	31164	31042-47223	18548	16435	17098-19997
	Scheduled Tribes								
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1507	1169	895-2120	2667	2517	-181-5514	1712	1452	1022-2402

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Blood Test	594	543	433-754	933	663	558-1308	666	581	514-819
Doctors Fee	1833	1561	266-2501	1860	1590	1166-3054	1800	1536	1210-2390
Food	752	727	582-892	624	531	355-922	729	696	581-877
In Kind Payments	1610	1665	578-2642				1610	1665	578-2642
Medicine	3609	3407	1720-4737	3732	3840	2480-5744	3644	3496	2665-4623
Other Illness	6000						6000		
Referral	2217	1511	1008-3425	5900	8747	-3998-15798	3444	4893	247-6641
Referral Transport	1500	1056	500-500	500	0	655-2345	1100	942	516-1684
Scanning	1947	1052	1734-2160	1910	986	1478-2342	1940	1037	1750-2131
Thyroid	438	357	251-625	666	553	181-1151	498	413	312-684
ANC Cost	6142	5545	5230-7054	10052	7758	6810-13294	6667	6012	5747-7587
Delivery Cost	7953	6822	13600-9075	16621	7229	6831-19642	9116	7468	7973-10259
PNC cost	528	633	424-632	637	737	329-945	542	646	443-641
Transportation cost	4105	2854	3636-4575	5345	4529	3452-7237	4271	3142	3791-4752
Total Maternity Expenditure	14328	10463	12607-16049	32914	16400	26061-39767	16821	13028	14828-18815

Source: Survey

The mean ANC cost for people delivering in public institutes among OBC was INR5727/- and Scheduled castes it was INR6778/- and INR6412/-. On an average, the scheduled castes and tribes paid more than OBC's. This could be due to their ability to purchase goods and services related to care of pregnant women and number of times the goods and services were purchased, mode of the transportation used and amount spent for the transportation. The ANC costs comprised 40-43 of total maternity expenditure.

The mean delivery cost was for OBC INR6981/-, and Scheduled caste beneficiaries spent INR7515/- while scheduled tribes spent an average of INR6798/- for delivery in public institutes. On an average the Scheduled tribes spent less amount compared to OBC and SC's.

The variations could be due to difference in the amount of informal payments to the service provider, type of food purchased, buying of consumable for new born if they were not eligible for madilu or did not get madilu kit and amount spent for transportation during delivery time. The delivery costs comprised of 47-49 of total maternity expenditure. PNC costs were almost similar constituting 4 of total maternity expenditure.

The average total maternity expenditure was INR14262/- for OBC women it was slightly higher for scheduled castes which was around INR15863/- and INR14328/- scheduled tribes. The average maternity expenditure varied by INR66/- when OBC are compared with Scheduled tribes, it varied by INR1600/- when OBCs are compared with Scheduled caste. The reason could be due to variation in difference in the amount of informal payments to the service provider, type of food purchased, buying of consumable for new born, if they were not eligible for madilu or did not get madilu kit and amount spent for transportation during delivery time.

#### 4.3.12 OOPE by Type of Delivery

**Table 4.13 Average Out of Pocket Expenditure by type of delivery**

District	Normal				Cesarean			
	Public		Private		Public		Private	
	Delivery Cost	Delivery Cost Inflation Adjusted	Delivery Cost	Delivery Cost Inflation Adjusted	Delivery Cost	Delivery Cost Inflation Adjusted	Delivery Cost	Delivery Cost Inflation Adjusted
<i>Blr Rural</i>	7717	11371	11420	17194	13323	18596	18333	24161
<i>Belgaum</i>	4598	7163	10294	16305	12615	17652	18830	27507
<i>Bellary</i>	5517	8367	14087	19822	11976	16747	17167	26598
<i>Chikmagalur</i>	9987	14626	17000	25591	12621	19061	16452	30749
<i>Haveri</i>	5416	7951	8947	12375	11263	15461	18083	23867
<i>Geography</i>								
<i>Difficult</i>	5732	8261	11967	17954	10013	14565	17286	23547
<i>Rural</i>	5933	8806	11248	17720	12637	18128	18270	26962
<i>Urban</i>	6192	9522	11783	16295	12853	18197	17769	29065
<i>Caste</i>								
<i>OBC</i>	5844	8812	11046	17208	12187	17105	18243	27023
<i>SC</i>	6410	9563	11547	17022	13510	20128	18480	30542
<i>ST</i>	5994	8714	15423	20000	11700	17033	15889	21616
<i>Place of Delivery</i>								
<i>PHC</i>	5611	8346						
<i>CHC</i>	5595	8475			14721	19970		
<i>Taluk Hospital</i>	5951	8973			12714	17956		

<i>District Hospital</i>	6947	10463			11843	16784		
<i>Medical College</i>	10158	14014			12625	19283		

Source: Survey

The cost of giving birth in Karnataka varies by type of delivery, family has to spend double the amount of a normal delivery for the caesarean delivery. The mean cost of normal delivery in public institute is INR6003/- and Caesarean delivery INR12478/- the same in private costs about INR11496/-and INR18209/-. On an average, normal delivery in Bangalore costed INR7717/- in Belgaum it costed INR4598/- the same in Bellary costed INR5517/- Chikmagalur recorded the highest (INR9987), the cost of normal delivery in Haveri is INR5416/-. The cost of normal delivery in public facilities among urban residents was INR6192/- it costed nearly INR6000/-. For rural residents for people residing in difficult areas the cost was INR5732/-. Scheduled caste beneficiaries paid an extra sum of INR400/- to INR500/- for normal delivery, when compared with scheduled tribes and other backward castes.

The same normal delivery cost varied across institutes. In PHCs, the cost was INR5611/-, in CHC it was INR5595/- in taluka hospitals, it was INR5951/-, the cost of normal delivery in district hospital was INR6947/- and in medical college it was INR10158/-. There are variations in the average cost by the hierarchy of the institutes and the beneficiaries also comments the variations in informal payments.

The caesarean section almost costed twice that of normal delivery. The average cost of caesarean section in public hospital is INR12478/-. The average of the c-section rates was similar throughout the states and geography with minor variations of INR1000/- to the overall specified average. The c-section usually costs more because there will be use of higher facility fees (hospital equipment, operating space, etc.) and anaesthesiology. The comments by beneficiaries suggest a higher informal payment for health care staff for C-section.

A comprehensive measure used for estimation of price changes in a basket of goods and services representative of consumption expenditure in an economy is called Consumer Price Index (CPI). Inflation is measured using CPI. The percentage change in this index over a period of time, gives the amount of inflation over that specific period, i.e. the increase in prices of a representative's basket of goods consumed.

Since information was also collected on income which was current one, inflation was adjusted to the expenditures on maternal care to current prices. The procedure followed to convert the

expenditure to current prices was using the formula  $\text{Current price} = (\text{Current CPI} / \text{reference year CPI}) * \text{expenditure}$ . We took a national CPI country level from [www.inflation.eu](http://www.inflation.eu) which maintains a monthly data on CPI from Government sources. CPI for June 2014- May 2015 is 6.10. CPI for June 2015- May 2016 is 6.10. Current inflation prices were taken from Oct 2018- Oct 2019 is 7.62. By adjusting inflation of the expenditure, the study is trying to project the current value of the expenditure that has happened. The Current prices were on an average varied by INR2622/- in public facilities for normal deliveries, and INR4213/- for caesarean deliveries in public facilities.

As the birth order increased, the expenditure on antenatal and delivery care, transportation, and overall maternity expenditures reduced. Women, who delivered for the first time, spent an average of INR20000/- as compared to women who delivered their second and third average INR18,000/-. There is an increase in the OOPE for the third birth order which could be due to non-availability of the schemes for the third child. We can actually see the reduction in the amount of the OOPE incurred in terms of ANC, Delivery cost, PNC cost and total maternal expenditure for the second child. The OOPE for second and third child birth in private facilities decreased by 15.1 and 21.1. The total maternity expenditure in public facilities reduced by was 8.6 for the second child and increased by 12 for the third child.

**Table 4.14 Average of OUT of pocket expenditure by birth Order**

1st Birth									
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1195	1003	944-1447	2322	1750	1464-3179	1429	1269	1146-1713
Blood Test	632	627	556-7ss07	711	620	581-841	651	626	586-717
Doctors Fee	1449	1487	1171-1727	1426	1401	981-1872	1443	1461	1208-1679
Food	723	668	649-797	937	695	784-1089	766	678	700-833
In Kind Payments	1247	1525	928-1565	1150	1299	345-1955	1237	1498	940-1533
Medicine	3261	4041	2806-3716	4250	3383	3621-4879	3527	3896	3151-3902
Other Illness	2646	2647	1629-3664	5600	3286	2719-8481	3123	2915	2096-4149
Referral	5066	5528	3655-6477	4736	6514	2365-7107	4957	5836	3738-6177
Referral Transport	1292	1424	928-1655	1150	2106	396-1904	1244	1674	896-1592
Scanning	1868	1083	1781-1955	2516	1285	2313-2719	2001	1157	1918-2084
Thyroid	551	461	459-644	481	299	380-581	533	424	459-606
ANC Cost	6286	5682	5897-6675	9999	8198	8791-11206	6945	6359	6551-7340
Delivery Cost	8917	7476	8405-9428	18679	12646	16816-20542	10650	9389	10067-11233
PNC cost	670	728	620-720	992	3837	427-1557	729	1768	619-839
Transportation cost	4060	3629	3812-4308	7028	10991	5409-8647	4587	5784	4228-4946
Total Maternity Expenditure	15398	10595	14672-16123	38918	29356	34593-43242	19573	18040	18453-20693
2nd Birth									
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1423	1106	1123-1724	2640	1702	1585-3695	1623	1288	1302-1943
Blood Test	632	648	541-723	730	618	576-884	656	641	577-734

Doctors Fee	2537	7883	491-4584	1553	1636	1033-2073	2143	6189	899-3388
Food	817	661	734-900	968	711	782-1154	845	672	769-921
In Kind Payments	1301	1141	956-1646	1817	2099	137-3496	1365	1279	1004-1727
Medicine	3149	2871	2760-3538	4222	3495	3511-4932	3479	3111	3128-3830
Other Illness	1943	1331	1246-2640	4900	3435	1889-7911	2721	2386	1648-3794
Referral	4640	6709	2680-6600	6210	6386	3411-9009	5123	6602	3518-6728
Referral Transport	1233	1459	802-1664	778	837	428-1128	1081	1297	768-1394
Scanning	1873	1131	1769-1978	2273	1208	2061-2485	1961	1159	1866-2056
Thyroid	538	548	393-683	738	1118	270-1205	595	753	427-763
ANC Cost	5730	5365	5311-6149	10171	9947	8546-11795	6556	6687	6085-7027
Delivery Cost	8129	7072	7576-8681	16518	11736	14601-18435	9689	8767	9072-10307
PNC cost	605	685	551-658	2019	7149	847-3190	870	3198	645-1096
Transportation cost	3766	3636	3482-4050	6684	10593	4954-8414	4309	5728	3905-4712
Total Maternity Expenditure	14094	9893	13321-14866	36576	29134	31817-41334	18276	17700	17029-19523
3rd Birth									
Institutes	Public			Private			Total		
Parameters	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
Blood Transfusion	1640	892	1259-2022	3167	1893	1025-5309	1831	1127	1380-2282
Blood Test	584	542	453-715	1050	681	716-1384	675	597	546-804
Doctors Fee	1010	933	610-1409	2350	1863	241-4459	1177	1124	727-1627
Food	812	643	687-938	700	277	495-905	805	626	687-923
In Kind Payments	1087	1114	586-1588				1087	1114	586-1588
Medicine	3786	3628	2911-4662	5736	3808	3741-7730	4128	3711	3314-4941
Other Illness	1667	2082	-689-4022				1667	2082	-689-4022
Referral	5508	5261	2648-8367	5500	4123	1459-9541	5506	4893	3180-7832
Referral Transport	1241	974	637-1845	350	443	-85-785	986	937	496-1477
Scanning	1870	1169	1685-2055	2522	1218	2054-2990	1962	1194	1787-2136

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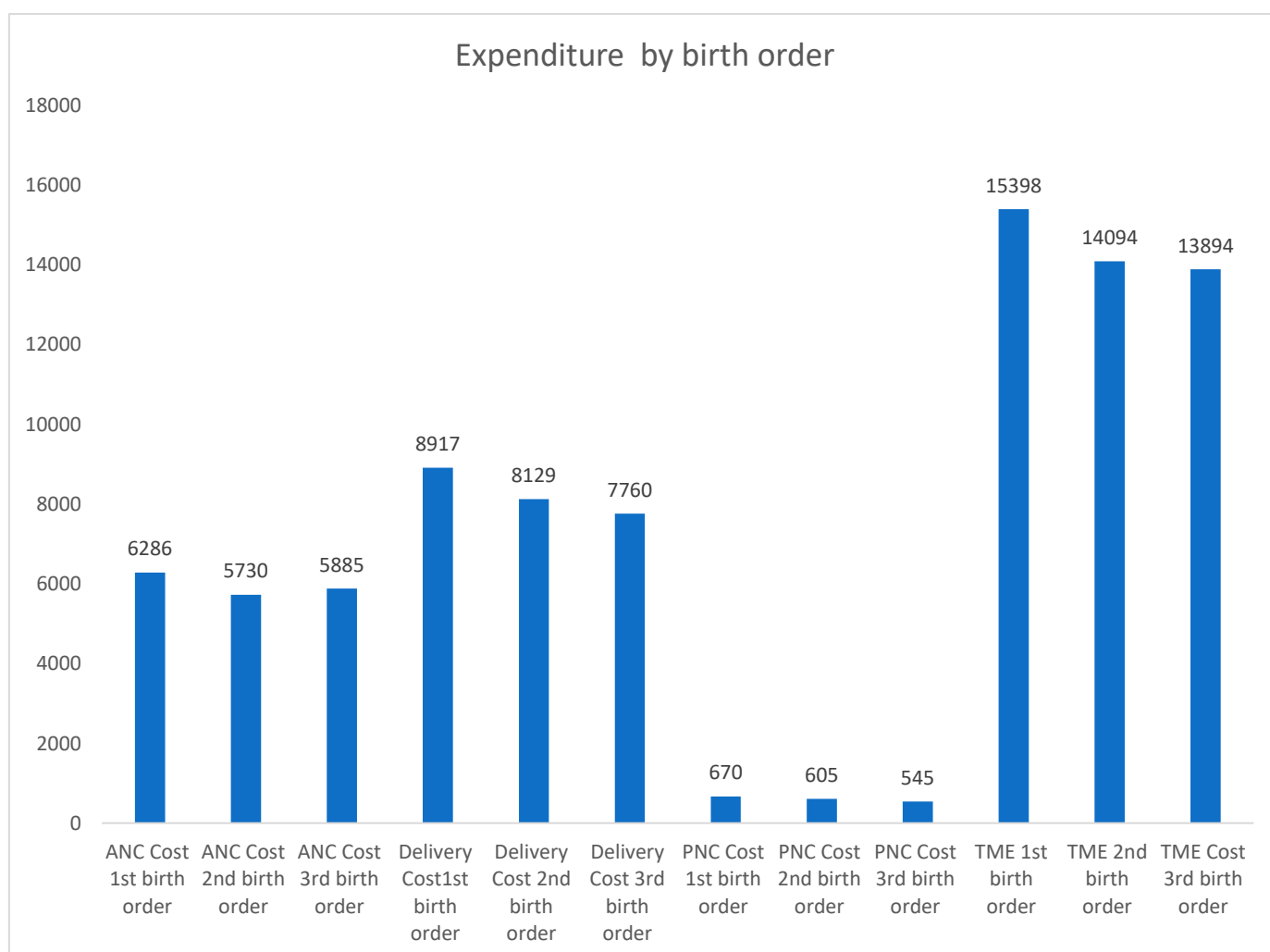
Thyroid	575	450	378-772	650	681	-17-1317	588	478	396-779
ANC Cost	5885	6116	5081-6690	9747	8348	6654-12839	6318	6500	5512-7123
Delivery Cost	7760	6922	6850-8671	19629	12803	14887-24371	9089	8624	8020-10158
PNC cost	545	635	461-628	1284	2207	451-2116	624	957	505-743
Transportation cost	3909	3613	3434-4384	7392	9955	3704-11079	4299	4852	3697-4900
Total Maternity Expenditure	13894	10766	12478-15310	42253	33125	29983-54522	17070	17383	14915-19225

Source: Survey



As the birth order increased, the expenditure on antenatal and delivery care, transportation, and overall maternity expenditures reduced. Women, who delivered for the first time, spent an average of INR20000/- as compared to women who delivered their second child spent around an average INR18,000/- and around INR17,000/- for the third child. There is a reduction in OOPE for the third birth order by INR3,000/- compared to first birth. We can actually see the reduction in the amount of the OOPE incurred in terms of ANC, Delivery cost, PNC cost and total maternal expenditure for the second child and third child. The OOPE for second and third child birth in private facilities decreased by 15.1 and 21.1. The total maternity expenditure in public facilities reduced by 8.6 for the second child and decreased by 9.77 for the third child. The decreasing trend in public facilities is depicted in the graph below.

**Figure 4.6 OOPE variations by birth order**



Source: Survey

### 4.3.13 Expenditure break up of total maternity cost

**Table 4.15 Break-up of Out of Pocket Expenditure**

<i>Expenditure Category</i>	<i>Bangalore Rural</i>	<i>Belgaum</i>	<i>Bellary</i>	<i>Chikmagalur</i>	<i>Haveri</i>	<i>Grand Total</i>
<500	2	1		1	2	6
<i>Values in %</i>	0.79	0.19	0.00	0.41	0.52	0.35
500 to 1500	7	13		1	2	23
<i>Values in %</i>	2.76	2.47	0.00	0.41	0.52	1.32
1500 to 3000	11	27	6	4	7	55
<i>Values in %</i>	4.33	5.12	1.80	1.65	1.83	3.16
3000 to 4500	21	72	31	10	14	148
<i>Values in %</i>	8.27	13.66	9.28	4.13	3.66	8.51
4500 to 6000	17	58	17	4	27	123
<i>Values in %</i>	6.69	11.01	5.09	1.65	7.07	7.07
6000 to 7500	26	44	23	8	40	141
<i>Values in %</i>	10.24	8.35	6.89	3.31	10.47	8.11
7500 to 9000	10	36	22	9	79	156
<i>Values in %</i>	3.94	6.83	6.59	3.72	20.68	8.97
9000 to 10500	17	25	22	7	51	122
<i>Values in %</i>	6.69	4.74	6.59	2.89	13.35	7.02
10500to 12000	13	37	33	4	44	131
<i>Values in %</i>	5.12	7.02	9.88	1.65	11.52	7.53
12000 to 13500	10	22	26	20	34	112
<i>Values in %</i>	3.94	4.17	7.78	8.26	8.90	6.44
13500 to 15000	17	26	25	16	20	104
<i>Values in %</i>	6.69	4.93	7.49	6.61	5.24	5.98
15000 to 16500	11	15	14	7	12	59
<i>Values in %</i>	4.33	2.85	4.19	2.89	3.14	3.39
16500 to 18000	7	13	17	18	10	65
<i>Values in %</i>	2.76	2.47	5.09	7.44	2.62	3.74
18000 to 19500	6	9	12	8	5	40
<i>Values in %</i>	2.36	1.71	3.59	3.31	1.31	2.30
>19500	79	129	86	125	35	454
<i>Values in %</i>	31.10	24.48	25.75	51.65	9.16	26.11
<i>Grand Total</i>	254	527	334	242	382	1739

Source: Survey

0.35 of people had total maternity expenditure of less than INR500 rupees. 1.32 of people had the total OOPE above INR500 and up to INR1500. 3.16 of people spent above INR1500 up to INR3000/- for pregnancy related expenditure. 8.51 of people spent above INR3000 up to INR4500 towards out of pocket expenditure for maternity care. 7 of people spent above INR4500 to INR6000/- towards pregnancy related expenditure. 20.4 of people spent up to INR6000/- from their pockets towards the maternity expenditure. Another 24 of people spent

above INR6000 up to INR10500/- towards maternity care expenditure. Overall, 45 of people spent up to INR10,500 towards pregnancy related expenditures. Another 26.59 of people spent above INR10000 up to INR18000/- for maternity care. Totally 71.59 of people overall had expenditures up to INR18000/- for pregnant women. Rest 28.41 had expenditures above INR18000/-

#### 4.3.14 Catastrophic expenditures

**Table 4.16 catastrophic Expenditures**

<i>Caste</i>	<i>No</i>	<i>Percentage</i>	<i>Yes</i>	<i>Percentage</i>	<i>Grand Total</i>
<i>No Information</i>	1				1
<i>OBC</i>	492	42	667	58	1159
<i>SC</i>	137	31	300	69	437
<i>ST</i>	47	33	95	67	142
<i>Total</i>	677	39	1062	61	1739
<i>Districts</i>	<i>No</i>	<i>Percentage</i>	<i>Yes</i>	<i>Percentage</i>	
<i>Bangalore Rural</i>	142	56	112	44	254
<i>Belgaum</i>	275	52	252	48	527
<i>Bellary</i>	72	22	262	78	334
<i>Chikmagalur</i>	73	30	169	70	242
<i>Haveri</i>	115	30	267	70	382
<i>Total</i>	677	39	1062	61	1739
<i>Geography</i>	<i>No</i>	<i>Percentage</i>	<i>Yes</i>	<i>Percentage</i>	
<i>Difficult</i>	58	29	139	71	197
<i>Rural</i>	376	41	541	59	917
<i>Urban</i>	243	39	382	61	625
<i>Total</i>	677	39	1062	61	1739
<i>Wealth Quartile</i>	<i>No</i>	<i>Percentage</i>	<i>Yes</i>	<i>Percentage</i>	
<i>I</i>	45	33	92	67	137
<i>II</i>	247	38	409	62	656
<i>III</i>	327	41	479	59	806
<i>IV</i>	48	50	48	50	96
<i>No Information</i>	10	23	34	77	44
<i>Total</i>	677	39	1062	61	1739

Source: Survey

The amount exceeding 10 of annual income was considered catastrophic. Overall, 39 of people did not have catastrophic expenditure, a significant number of households (61) did have catastrophic expenditures. The figure varies across districts. In Bangalore rural, 44 had catastrophic expenditures, followed by Belgaum at 48, Bellary was the highest with 78 people

incurring catastrophic expenditures, Chikmagalur and Haveri stood at 70. 77 of people with lesser assets spent more for maternity care.

### 4.3.15 Regression analysis for OOPE

Regression model (only for the beneficiaries who had delivered in public facility) was used to determine the strength of the relationship between total OOPE and a series of other independent variables like, birth order, family size, place of delivery, adequacy of cash incentives, purchase of medicine, scanning, location of residence , complication, religion, caste, respondent's education, and wealth index quartiles. The intent was to understand the relationships between independent variables with that of total out of pocket expenditure. 45 of the variations in the out of pocket expenditure has been explained in the study.

**Table 4.17 Regression Analysis**

Source	SS	Df	MS	Number of obs	2048
Model	2.9971e+11	54	5.5501e+09		
				F( 54,1993)	32.03
Residual	3.4534e+11	1993	173276543		
				Prob > F	0.0000
				R-squared	0.4646
Total	6.4505e+11	2047	315118108	Adj R-squared	0.4501
				Root MSE	13163

	Coef.	Std. Err.	t	P> t	[95 Conf. Interval]	
Totaloope						
family_size	-390.1007	159.5706	-2.44	0.015	-703.0434	-77.15811
order_birth	233.7945	367.3105	0.64	0.525	-486.5583	954.1473
Deliveryplacebinaryi						
Abortion	-5213.565	13439.09	-0.39	0.698	-31569.71	21142.58
home delivery	-740.6955	5504.693	-0.13	0.893	-11536.25	10054.86
private facility	16906.26	1018.55	16.6	0	14908.73	18903.79
delivery_place						
abortion	0					
chc	1880.915	1130.428	1.66	0.096		-336.0294
dh	-62.37386	947.7995	-0.07	0.948	-1921.156	1796.408
medical_college	886.2804	2553.492	0.35	0.729	-4121.513	5894.073

phc	1298.55	925.2675	1.4	0.161	-516.0431	3113.143
private_facility	0					
public facility	-1492.562	2239.457	-0.67	0.505	-5884.484	2899.36
delivery_type						
normal	-9783.353	787.6972	-12.42	0	-11328.15	-8238.557
cashincentives_adequate	-3268.132	1122.205	-2.91	0.004	-5468.95	-1067.313
Yes						
Medicine	4614.192	718.4722	6.42	0	3205.157	6023.227
Yes						
Scanning	-1413.659	805.455	-1.76	0.079	-2993.281	165.9633
Yes						
Thyroid	226.1246	1026.367	0.22	0.826	-1786.739	2238.989
Yes						
upt	581.8237	727.4734	0.8	0.424	-844.8644	2008.512
Yes						
doctors_fees	4548.06	1020.169	4.46	0	2547.351	6548.769
Yes						
inkind_payment	-1185.754	1189.09	-1	0.319	-3517.743	1146.235
Yes						
food_expenditure	23657.31	6741.943	3.51	0	10435.31	36879.3
no_info						
Yes	958.0806	685.8735	1.4	0.163	-387.0236	2303.185
blood_transfusion	4471.732	1122.38	3.98	0	2270.571	6672.892
Yes						
blood_test	-674.4544	9490.288	-0.07	0.943	-19286.38	17937.47
no_info						
Yes	3033.05	778.8901	3.89	0	1505.526	4560.574
other_illness	-7450.711	5953.902	-1.25	0.211	-19127.23	4225.813
no_info						
Yes	6821.685	1905.945	3.58	0	3083.831	10559.54
referral	-3617.183	7718.907	-0.47	0.639	-18755.16	11520.79
no_info						
Yes	7233.539	1125.327	6.43	0	5026.598	9440.479
hotel_stay	-2146.985	13256.77	-0.16	0.871	-28145.56	23851.6

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no_info						
Yes	5902.926	2127.289	2.77	0.006	1730.983	10074.87
Savings	1.562805	724.4375	0	0.998	-1419.171	1422.297
TRUE						
interest_loan	4677.741	731.7188	6.39	0	3242.727	6112.755
TRUE						
loan_nointerest	-752.5166	969.6458	-0.78	0.438	-2654.142	1149.109
TRUE						
wifes_house	985.7286	762.4497	1.29	0.196	-509.5534	2481.011
TRUE						
other_relatives	-381.7489	945.4433	-0.4	0.686	-2235.91	1472.412
TRUE						
philanthropists	-692.4012	3640.059	-0.19	0.849	-7831.121	6446.318
TRUE						
NGOs	-6358.626	3883.674	-1.64	0.102	-13975.11	1257.862
TRUE						
Other	-3931.289	2460.922	-1.6	0.11	-8757.538	894.9607
TRUE						
Education	-555.2986	1236.929	-0.45	0.654	-2981.108	1870.511
NA						
Bachelor	4989.569	2175.301	2.29	0.022	723.4666	9255.672
High	386.6104	1237.315	0.31	0.755	-2039.956	2813.177
Primary	-904.5795	1179.464	-0.77	0.443	-3217.691	1408.532
puc_diploma	554.1649	1385.386	0.4	0.689	-2162.792	3271.122
complication	549.953	1391.071	0.4	0.693	-2178.153	3278.059
Yes						
Caste	-16554.89	9389.812	-1.76	0.078	-34969.76	1859.99

Source: Survey;\*Logistic regression model has omitted out some observations due to collinearity.

**Inference:**From the above output it is clear that beneficiaries who had delivery in private facilities have spent more than who had delivery in public facility, beneficiaries who said incentives are adequate, purchase of medicines, payments of doctors' fees, had blood transfusion, had blood tests, had other illness, referral, borrowed money on interest, and people who had degree spent more on maternal health care. Beneficiaries who fall into wealth category I is known to have spent more than those belonging to other quartiles such as II, III, IV.

### 4.3.16 Relative Prices

Figure 4.7 Relative prices district wise

	Bangalore	Belgaum	Bellary	Chikmagalur	Haveri	Cumulative
delivery_cost	1	2	2	2	2	2
referral	2	6	3	3	3	3
ANC_cost	3	2	2	3	3	2
doctor_fees	4	11	14	12	9	9
transport_cost	5	4	3	4	3	4
other_illness	5	6	5	13	15	6
medicine	6	4	4	6	4	4
scanning	10	6	8	11	7	8
inkind_payments	10	18	12	15	11	12
referral_transport	12	16	16	10	2	10
blodd_transfusion	14	8	12	19	7	11
food	24	16	24	19	24	19
PNC_cost	27	23	30	26	16	24
thyroid	33	35	27	32	22	28
blodd_test	35	19	40	29	24	24

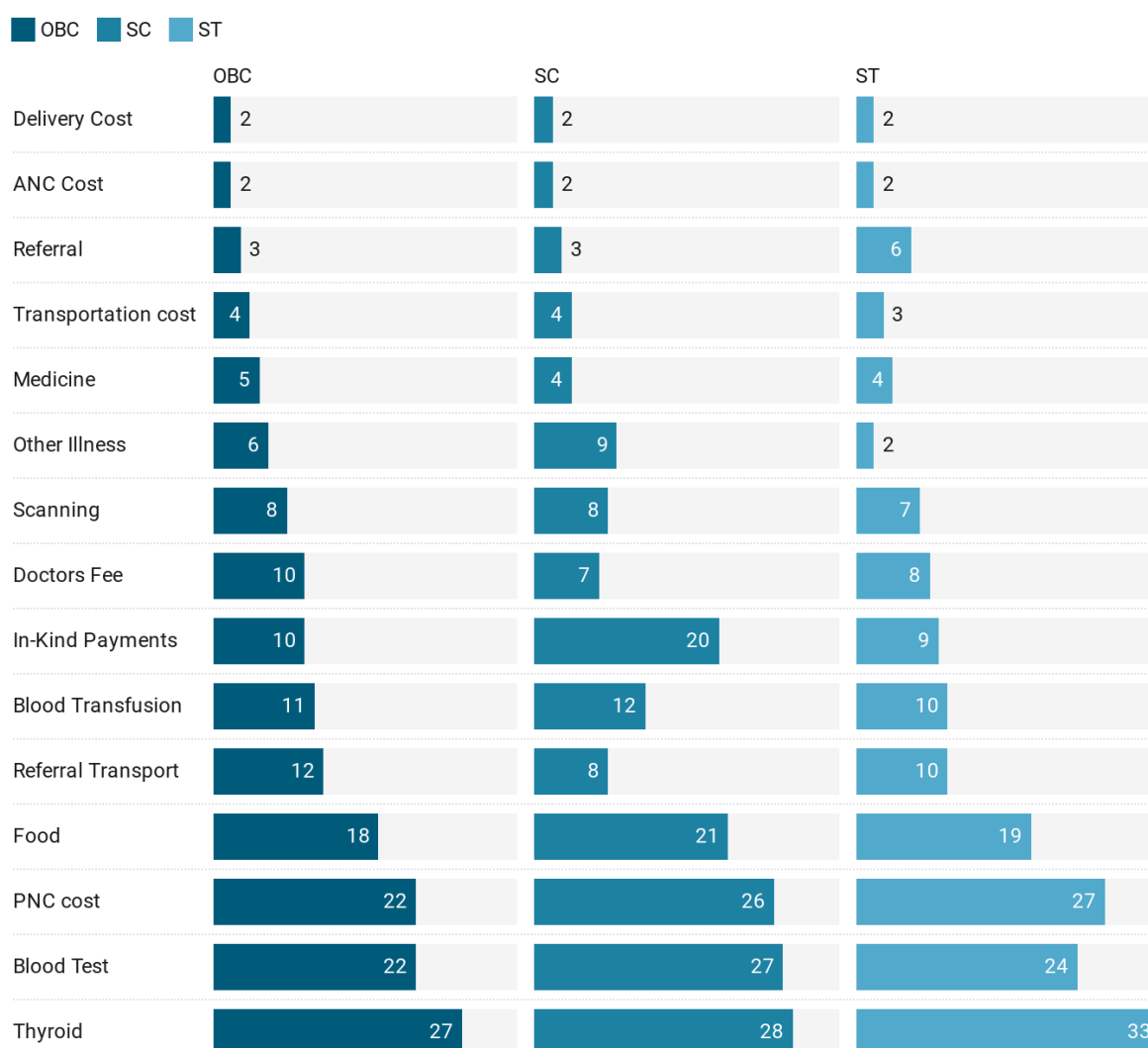
A relative price may be expressed in terms of a ratio between any two prices. Here the relative price is calculated by dividing the average maternity expenditure by average price of the particular service or purchase of goods and service.

- Delivery Costs: Total maternity expenditure is twice the delivery costs.
- Total Maternity expenditure is 2-3 times of Referral costs. In Belgaum district it 6 times to that of TME, Overall TME is 3 times that of ANC i.e. ANC costa are  $\frac{1}{2}$  or  $\frac{1}{3}$  of TME.

- TME is 9 times that of average doctors' fees, TME is 4 times of doctor fees in Bangalore which is highest as low as 14 times in Bellary.
- Transportation is  $\frac{1}{4}$  to that of the TME.
- If pregnant women get sick, she has to spend  $\frac{1}{6}$  of the average total maternity expenditure.
- On an average pregnant woman spends  $\frac{1}{4}$ <sup>th</sup> of the TME on various medicines and nutraceuticals consumed during the pregnancy.
- Average of 2 scans during pregnancy costs  $\frac{1}{8}$  of average total maternity expenditure.
- On average TME is 12 time that of informal payments made to various service providers.
- TME is 10 time that of referral transportation costs.
- TME is 11 times the Blood transfusion costs.
- Food costs are  $\frac{1}{20}$ <sup>th</sup> of the TME. i.e. TME is usually 20times higher than that of the average food costs for the entire duration of pregnancy.
- Average TME is 24 times that of total Blood tests costs.
- Average Thyroid tests costs are 28 times lower than that of Average TME.
- Average PNC costs are 24 times lesser than that of average TME.



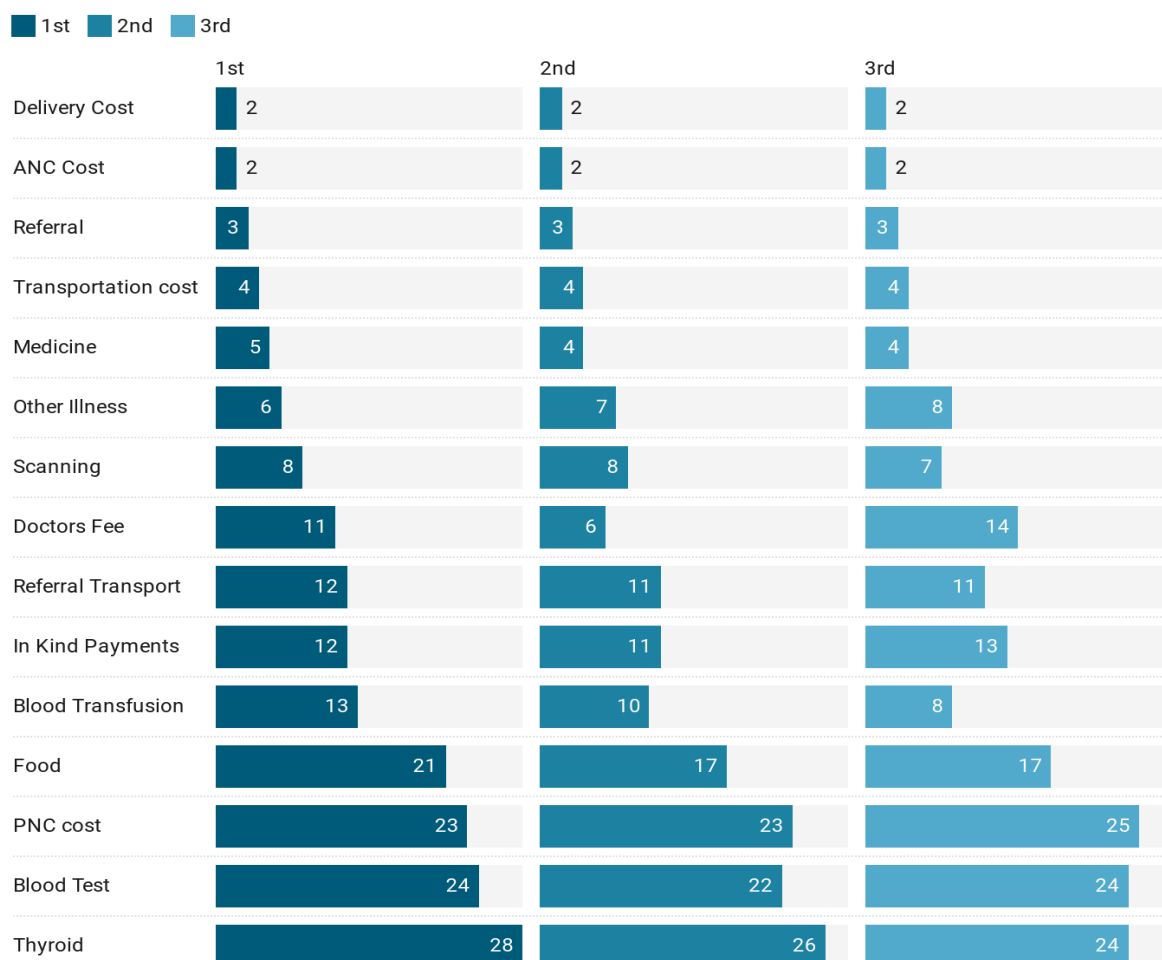
Figure 4.8 Relative prices caste wise



- Delivery Costs: Total maternity expenditure is twice the delivery costs.
- Overall TME is 2 times that of average ANC Expenditures.
- Total Maternity expenditure is 3 times of Referral costs. For scheduled tribes it is 6 times to that of TME.
- Transportation is 1/4 to that of the TME. TME is 3 higher than average transportation costs among schedule tribes.
- Average TME is 4 times higher compared to average medicine costs among SC/ST and 5 times among OBC.
- Average TME is 6 times higher for OBC 9 times higher for SC and 2 times higher for ST for the average spending on other illness.

- Average Referral costs are 3 times less compared with average TME for OBC and SC for ST community it is 6 times lesser.
- Referral transports are 12 times lesser compared with average TME for OBC, and it is 8 times lesser for SC, and 10 times for ST.
- The average costs of scanning for OBC and SC are 8 time lesser compared with average TME, and it is 7 times lesser for ST.

**Figure 4.9 Relative prices birth order wise**



- The Average TME is 2 times that of average delivery costs and average ANC Costs.
- The Average TME costs are 3 times average referral costs.
- The average Transportation costs are 4 times lesser compared with average total maternity expenditure.
- Average medicine costs are 5 time lesser for the 1st birth order, compared with average TME. Similarly, it is 4 times lesser for the 2<sup>nd</sup> and 3<sup>rd</sup> birth order.

- The expenditures on other illness are 6 time lesser for 1<sup>st</sup> birth, 7 time lesser for 2<sup>nd</sup> birth order, and 8 time lesser for the third birth order when compared with average total maternity expenditures.
- Average scanning costs are 8 times lesser when compared with average total maternity expenditures.
- Blood tests costs 24 times lesser compared with total maternity expenditures for 1<sup>st</sup> and 3<sup>rd</sup> births for second birth the blood tests costs are 22 time lesser.
- Thyroid tests are 28 times lesser for 1st birth order, 26 time lesser for the 2<sup>nd</sup> birth order and 24 times lesser for 3<sup>rd</sup> birth order when compared with average TME.

#### 4.3.17 Hypothesis testing

We tested assumptions regarding the Total Maternity expenditure by the employing t-Tests and ANOVA to see if their significant variations by geographical representation (Urban/Rural), Administrative representations (districts), Caste, Religion, type of delivery, Type of institutes for delivery within public facilities and government or private facility. Stata Version 15 was used for analysis. Following were the hypothesis used to test:

#### Total Maternity Expenditure (TME) Variations by Gographical representation

Null Hypothesis: No difference in TME in rural and Urban Areas among participants who delivered in public facilities

Alternative Hypothesis: There is high OOEPE in Rural Areas as compared with urban areas among participants who delivered in public facilities

We used a two-sample t test to compare the means of rural and Urban Samples assuming sample variances to be equal.

**Table 4.18 t-Test: Two-Sample Urban rural**

	Public Rural	Public Urban
<i>Mean</i>	14500.04	14956.77
<i>Variance</i>	1.14E+08	95665894
<i>Observations</i>	1114	625
<i>Pooled Variance</i>	1.08E+08	
<i>Hypothesized Mean Difference</i>	0	
<i>df</i>	1737	
<i>t Stat</i>	0.88085	
<i>P(T&lt;=t) one-tail</i>	0.18926	
<i>t Critical one-tail</i>	1.645731	

Source: Survey

### Interpretation

Since we hypothesised that the means of TME rural and urban areas will be same one tailed t test results are to be considered and the t Statistic value of 0.88085 lesser than t Critical one-tail 1.645731 and also lesser than p value of one tail 0.18926. Since both the mean value of urban area is larger than the mean value of rural area and with almost double the number of observations in rural area, we can accept the null hypothesis that there is no statistically significant difference between the means of rural and urban Area.

### Total Maternity Expenditure (TME) Variations by Public and private institutes

Null Hypothesis: No difference in TME by deliveries in public and private institutes  
Alternative Hypothesis: There is high OOPE for deliveries in private institutes as compared with public institutes.

We used a two-sample t test to compare the means of total maternity expenditure among people who delivered in public institutes and private institutes assuming sample variances are equal.

**Table 4.19 t-Test: Two-Sample- Public Private**

	Public	Private
<i>Mean</i>	14664.18976	38036.79
<i>Variance</i>	107630459.5	8.59E+08
<i>Observations</i>	1739	358
<i>Pooled Variance</i>	235719886.1	
<i>Hypothesized Mean Difference</i>	0	
<i>df</i>	2095	
<i>t Stat</i>	-26.23016787	
<i>P(T&lt;=t) one-tail</i>	0	
<i>t Critical one-tail</i>	1.645581287	

Source: Survey

### Interpretation

Since we hypothesised that the means of TME in Public and Private institutes will be same one tailed t test results are to be considered and the t Statistic value of -26.23 which is lesser than t Critical one-tail 1.65 and the p value of one tail is close to 0. We can reject the null hypothesis and say that there is statistically significant difference between the means of TME in Public and Private Institutes.

### Total Maternity Expenditure (TME) Variations by type of delivery in public institutes

Null Hypothesis: No difference in TME by deliveries in type of delivery in public institutes

Alternative Hypothesis: There is high OOPE for deliveries type of deliveries in within public institutes.

We used a two-sample t test to compare the means of total maternity expenditure among people who delivered in public institutes by type of delivery assuming sample variances are equal.

**Table 4.20 t-Test: Two-Sample- Type of delivery**

	<i>Caesarean</i>	<i>Normal</i>
Mean	22416.52	13073.97
Variance	1.23E+08	89765996
Observations	296	1443
Pooled Variance	95350305	
Hypothesized Mean Difference	0	
Df	1737	
t Stat	14.99456	
P(T<=t) one-tail	0	
t Critical one-tail	1.645731	

Source: Survey

#### Interpretation

Since we hypothesised that the means of TME within Public institutes will be similar based on the type of delivery one tailed t test results are to be considered and the t Statistic value of 14.49 which is greater than t Critical one-tail 1.65 and the p value of one tail is close to 0. We can reject the null hypothesis and say that there is statistically significant difference between the means of TME by type of delivery in Public institutes.

### Total Maternity Expenditure (TME) Variations by Districts

Null Hypothesis: No difference in TME in public facilities among various districts

Alternative Hypothesis: There is difference in total maternity expenditure across districts in public institutes.

We used one-way ANOVA to compare the means of total maternity expenditure among people who delivered in public institutes across sample districts assuming sample variances are equal.

**Table 4.21 ANOVA -districts**

Groups	Count	Sum	Average	Variance
<i>Public Bangalore</i>	254	3857712	15187.84	1.22E+08
<i>Public Belgaum</i>	527	6966633	13219.42	1.09E+08
<i>Public Bellary</i>	334	5167693	15472.13	1.04E+08
<i>Public Chikmagalur</i>	242	5266895	21764.03	1.3E+08
<i>Public Haveri</i>	382	4242093	11104.96	38814490

Source of Variation	SS	df	MS	F	P-value	F critical
<i>Between Groups</i>	1.84E+10	4	4.61E+09	47.36533	7.79E-38	2.37706
<i>Within Groups</i>	1.69E+11	1734	97252664			
<i>Total</i>	1.87E+11	1738				

Source: Survey

### Interpretation

Since we hypothesised that the means of TME within in Public institutes across districts will be similar one-way ANOVA was considered and the F value for between groups variations is 47.37 which is greater than F Critical value of 2.38 with P value very close to 0. We can reject the null hypothesis and say that there is statistically significant difference between the means of TME in Public institutes across district.

## Total Maternity Expenditure (TME) Variations by Social Groups

Null Hypothesis: No difference in TME in public facilities among various social groups

Alternative Hypothesis: The total maternity expenditure varies by social group

We used one-way ANOVA to compare the means of total maternity expenditure among people who belonged to different social groups in public institutes assuming sample variances are equal.

**Table 4.22 ANOVA -Social groups**

Groups	Count	Sum	Average	Variance
SC Public	437	6931896	15862.5	1.18E+08
ST Public	142	2034599	14328.2	1.09E+08
OBC Public	1160	1.7E+07	14253.9	1.03E+08

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F critical</i>
Between Groups	8.39E+08	2	4.19E+08	3.90957	0.020226	3.000908
Within Groups	1.86E+11	1736	1.07E+08			
Total	1.87E+11	1738				

Source: Survey

Interpretation: Since we have F Values of 3.9 which is greater than the F critical value of 3 and a p value of 0.02, we can reject the null hypothesis and say that there is significant difference in total maternity expenditures by social groups. This can be attributed to difference in sample size.

### Total Maternity Expenditure (TME) Variations by religion

Null Hypothesis: No difference in TME for people who utilised public facilities by their religion  
 Alternative Hypothesis: The total maternity expenditure varies by religion

One-way ANOVA was used to compare the means of total maternity expenditure among people who belonged to different religion who utilised public institutes assuming sample variances are equal.

**Table 4.23 ANOVA -religion**

Groups	Count	Sum	Average	Variance
<i>Public Hindu</i>	1419	21289488	15003.16	1.1E+08
<i>Public Muslim</i>	306	4017304	13128.44	93705214
<i>Public Christian</i>	10	102934	10293.4	66196886
<i>Public Jain</i>	4	91300	22825	1.36E+08

Source of Variation	SS	df	MS	F	P-value	F critical
<i>Between Groups</i>	1.34E+09	3	4.47E+08	4.179585	0.00586	2.610031
<i>Within Groups</i>	1.86E+11	1735	1.07E+08			
<i>Total</i>	1.87E+11	1738				

Source: Survey

Interpretation: We can reject the Null hypothesis as the F value of 4.18 is greater than F critical value of 2.61 with a p value of 0.005. Overall, there is significant difference in total maternity expenditure by religion.

### Total Maternity Expenditure (TME) Variations by type of public institutes

Null Hypothesis: No difference in TME for people who utilised public facilities by type of public utilised

Alternative Hypothesis: The total maternity expenditure varies by type of public facilities utilised

We compared the means of total maternity expenditure by type of public facility utilised by deploying f test assuming that there are no variations by type of public facilities utilised.

**Table 4.24 ANOVA -type of public institutes**

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
PHC	505	6217640	12312.16	87407642
CHC	219	3295763	15049.15	1.01E+08
TH	518	7209309	13917.58	97844906
DH	426	7622189	17892.46	1.26E+08
Public Facility	40	529295	13232.38	1.35E+08
Medical College	31	638980	20612.26	92047411

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F critical</i>
Between Groups	8.73E+09	5	1.75E+09	16.99384	1.95E-16	2.219261
Within Groups	.78E+11	1733	1.03E+08			
Total	1.87E+11	1738				

Source: Survey

Interpretation: We can reject the Null hypothesis as the F value of 16.99 is greater than F critical value of 2.23 with a p value of near to zero. Overall, the total maternity expenditures vary by type of public facilities utilised.

### Total Maternity Expenditure (TME) Variations by birth order

Null Hypothesis: No difference in TME for people by birth order among people who utilised public facilities

Alternative Hypothesis: The total maternity expenditure varies by birth order

We used one-way ANOVA to compare the means of total maternity expenditure by birth order among people who utilised public institutes assuming sample variances to be equal.

**Table 4.25 ANOVA -Birth order**



<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
1st Birth	820	12626071	15397.65	1.12E+08
2nd Birth	630	8878915	14093.52	97866779
3rd Birth	222	3084470	13894.01	1.16E+08

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	7.75E+08	2	3.87E+08	3.610697	0.027244	3.001116
Within Groups	1.79E+11	1669	1.07E+08			
Total	1.8E+11	1671				

Source: Survey

Interpretation:

Since we have F Values of 3.61 which is greater than the F critical value of 3 and a p value of 0.02, we can reject the null hypothesis and say that there is significant difference in total maternity expenditures by birth order.

Conclusion: Total Maternity Expenditure varies by, Administrative representations (districts), Caste, Religion, type of delivery, birth order, and type of institutes for delivery within public facilities and government or private facility.

Reasons attributed to variations

1. Cost of various components of antenatal care, delivery cost, delivery type
2. Means of transportation used and no of times the transportation was used to avail/ reach service points or purchase medicines and other products.
3. Difference in informal payments made to health care staff for various services in public facilities.

These have been explained in the earlier sections of the report

#### 4.3.18 Beneficiary opinion to Avoid OOPE

Table 4.26 Beneficiary Opinion to Avoid OOPE

Beneficiary Opinion to Avoid OOPE
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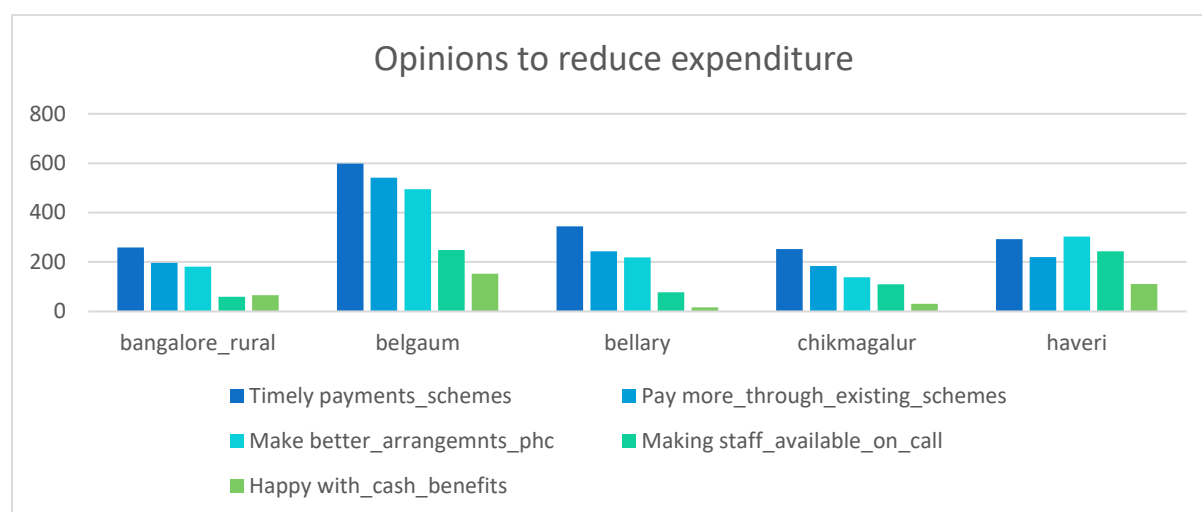
<i>Timely Payment of Schemes</i>								
Districts	No		Yes		No Info		Total	
Bangalore Rural	29	10.00	225	15.64		0	254	14.61
Belgaum	77	26.55	443	30.79	7	70	527	30.30
Bellary	47	16.21	284	19.74	3	30	334	19.21
Chikmagalur	27	9.31	215	14.94		0	242	13.92
Haveri	110	37.93	272	18.90		0	382	21.97
Grand Total	290	16.68	1439	82.75	10	0.58	1739	100.00
<i>Pay More Through Existing Schemes</i>								
Bangalore Rural	90	14.98	164	14.54		0	254	14.61
Belgaum	128	21.30	392	34.75	7	70	527	30.30
Bellary	124	20.63	207	18.35	3	30	334	19.21
Chikmagalur	83	13.81	159	14.10		0	242	13.92
Haveri	176	29.28	206	18.26		0	382	21.97
Grand Total	601	34.56	1128	64.86	10	0.58	1739	100.00
<i>Make Better Arrangements at PHC</i>								
Bangalore Rural	105	16.38	149	13.69		0	254	14.61
Belgaum	170	26.52	350	32.17	7	70	527	30.30
Bellary	142	22.15	189	17.37	3	30	334	19.21
Chikmagalur	123	19.19	119	10.94		0	242	13.92
Haveri	101	15.76	281	25.83		0	382	21.97
Grand Total	641	36.86	1088	62.56	10	0.58	1739	100.00
<i>Make Staff Available on Call</i>								
Bangalore Rural	211	18.81	43	7.08		0	254	14.61
Belgaum	347	30.93	173	28.50	7	70	527	30.30
Bellary	262	23.35	69	11.37	3	30	334	19.21
Chikmagalur	151	13.46	91	14.99		0	242	13.92
Haveri	151	13.46	231	38.06		0	382	21.97
Grand Total	1122	64.52	607	34.91	10	0.58	1739	100.00
<i>Happy with Cash Benefits</i>								
Bangalore Rural	209	14.61	45	15.10		0	254	14.61
Belgaum	406	28.37	114	38.26	7	70	527	30.30
Bellary	316	22.08	15	5.03	3	30	334	19.21
Chikmagalur	216	15.09	26	8.72		0	242	13.92
Haveri	284	19.85	98	32.89		0	382	21.97
Grand Total	1431	82.29	298	17.14	10	0.58	1739	100.00

Source: Survey

82.75 opined that timely payment of schemes should be practiced to avoid out of pocket expenditure, and 64.86 expressed the need to pay more through existing schemes. Regarding the health systems functioning 62.56 asked for better arrangements at PHC which could reduce

their travel for specialists' services while 34.91 had point of view that staff should be available on call. Overall, 82.29 of beneficiaries were not happy with present cash benefits.

**Figure 4.10 Beneficiary opinions to reduce OOPE**



Beneficiaries felt that timely payment of schemes money, increasing the amount of cash incentives, improving PHC performance, making staff available on call would help reduce the out of pocket expenditures.

#### **4.4 Reach of the maternal health schemes to the targeted beneficiaries across the regions**

Karnataka had special programmes like Madilu kit, Tayi bhagya Plus and Prasoothi Araike apart from Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakram (JSSK) to bring down OOPE related to maternal health care.

JSY: Under this programme the following financial support is provided to the post-natal beneficiaries through the government hospitals and government registered private hospitals.

Exceptions: The benefits are limited to only 2 living births.

Deliveries at Home	Institutional delivery	Health institutions in town limits	Caesarean delivery in registered private hospitals
500	700	600	1500

Madilu Scheme: The scheme was sponsored and supported by the government of Karnataka. It was started on 15th July 2007. Under the scheme, post-natal beneficiary admitted in the

government hospital will receive health kit within 24 hours. Exceptions: The benefits are limited to only 2 living births.

Prasoothi Araiike: The scheme is sponsored and supported by the government of Karnataka. All BPL card holders will receive financial support for both pre-natal and post-natal health care. Exceptions: The benefits are limited to only 2 living births.

Model instalment during 4 <sup>th</sup> to 6 <sup>th</sup> month pregnancy	Post-natal support For rural beneficiaries	Post-natal support For beneficiaries in urban areas
INR1000	INR300	INR400

Thayi Bhagya Plus Scheme: This is also a totally State Government sponsored scheme. In this scheme BPL, SC and ST category pregnant women will receive INR1,000 cash incentive for delivering in Non-Thayi Bhagya accredited private Nursing Homes/Hospitals.

JSSK: In view of the difficulty being faced by the pregnant women and parents of sick new-born along-with high expenditure on delivery and treatment of sick- new-born, Ministry of Health and Family Welfare (MoHFW) has taken a major initiative to ensure better facilities for women and child health services. It is an initiative to provide completely free and cashless services to pregnant women including normal deliveries and caesarean operations and sick new born (up to 30 days after birth) in government health institutions in both rural & urban areas.

These schemes being implemented were to provide financial incentives and other support to care of mother and children during pregnancy and post-pregnancy. This evaluation was for out of pocket expenditure incurred during pregnancy and to examine the financial adequacy of various maternal health schemes. Women who delivered in government facilities were eligible for 4 schemes, while the women who delivered in private facilities were eligible for thayi bhagya plus scheme. The scheme beneficiaries are chosen on eligibility criterion. For JSY, PA, Madilu kit, Women with first and second birth order are chosen, for JSSK all women who delivered in public facilities are eligible and for Tayi bhagya Plus only women who delivered in private facilities are eligible. Given below is the total schemes beneficiaries.

**Table 4.27 Number of schemes received by beneficiaries who delivered in public facilities in total**

<i>Districts</i>	<i>No Schemes</i>	<i>One Scheme</i>	<i>Two Schemes</i>	<i>Three Schemes</i>	<i>All Schemes</i>	<i>No Info</i>	<i>Grand Total</i>
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<i>Bangalore Rural</i>	68	48	38	27	73		254
Values in %	3.9	2.8	2.2	1.5	4.2	0.0	14.6
<i>Belgaum</i>	148	94	68	104	109	7	530
Values in %	8.5	5.4	3.9	6.0	6.2	0.4	30.4
<i>Bellary</i>	58	58	62	55	99	5	337
Values in %	3.3	3.3	3.6	3.2	5.7	0.3	19.3
<i>Chikmagalur</i>	41	65	78	37	21		242
Values in %	2.3	3.7	4.5	2.1	1.2	0.0	13.9
<i>Haveri</i>	15	49	36	79	203		382
Values in %	0.9	2.8	2.1	4.5	11.6	0.0	21.9
<i>Delivery Type</i>							
<i>Caesarean</i>	83	53	61	40	56	3	296
Values in %	4.8	3.0	3.5	2.3	3.2	0.2	17.0
<i>Normal</i>	247	261	221	262	449	9	1449
Values in %	14.2	15.0	12.7	15.0	25.7	0.5	83.0
<i>Religion</i>							
<i>Christian</i>	3		3	2	2		10
Values in %	0.2	0.0	0.2	0.1	0.1	0.0	0.6
<i>Hindu</i>	269	255	236	251	403	11	1425
Values in %	15.4	14.6	13.5	14.4	23.1	0.6	81.7
<i>Jain</i>	2		1		1		4
Values in %	0.1	0.0	0.1	0.0	0.1	0.0	0.2
<i>Muslim</i>	56	59	42	49	99	1	306
Values in %	3.2	3.4	2.4	2.8	5.7	0.1	17.5
<i>Caste</i>							
<i>No Info</i>				1			1
Values in %	0.0	0.0	0.0	0.1	0.0	0.0	0.1
<i>OBC</i>	228	214	182	206	326	7	1163
Values in %	13.1	12.3	10.4	11.8	18.7	0.4	66.6
<i>SC</i>	76	70	80	78	129	5	438
Values in %	4.4	4.0	4.6	4.5	7.4	0.3	25.1
<i>ST</i>	26	30	20	17	50		143
Values in %	1.5	1.7	1.1	1.0	2.9	0.0	8.2
<i>Geography</i>							
<i>Difficult</i>	27	32	36	34	67	2	198
Values in %	1.5	1.8	2.1	1.9	3.8	0.1	11.3
<i>Rural</i>	171	152	133	177	284	3	920
Values in %	9.8	8.7	7.6	10.1	16.3	0.2	52.7
<i>Urban</i>	132	130	113	91	154	7	627
Values in %	7.6	7.4	6.5	5.2	8.8	0.4	35.9
<i>Grand Total</i>	330	314	282	302	505	12	1745
Values in %	18.9	18.0	16.2	17.3	28.9	0.7	100.0

Source: Survey; \*number of beneficiaries excluding home deliveries as they do not receive any benefits

The numbers in the tables specify the different types of schemes availed by beneficiaries some have enjoyed one scheme only while others have enjoyed all schemes available for BPL people

in government facility. Nearly 80 of women who delivered in public facilities benefitted from at least one scheme. 28.9 of women received all the schemes.17.3 of women received at least 3 schemes; 16.2 of them received 2 schemes at least, while 18 of women received only one scheme. 18.9 of beneficiaries did not receive any scheme at all. 29 of beneficiaries received all the schemes 4 schemes. That means they received cash and new born goodies from JSY, Prasoothi Aarika, and Madilu Kit programmes which would sum up to 700+1300+1675= INR3675/- which would be nearly 31 of the average monthly income of beneficiaries. Since it is difficult to cost JSSK benefits at individual level as it is based on consumptions of various components under the scheme it has been left alone. If we are to reduce INR3675/- from the total maternity expenditures for people who enjoyed all schemes their total maternity expenditures the new average total maternity expenditure was INR10622/- which is INR4043/- lesser than the total maternity expenditure in public facilities which is INR14665/-.

#### 4.4.1 Janani Suraksha Yojana (JSY)

Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Health Mission (NHM) implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. JSY is a 100 centrally sponsored scheme and it integrates cash assistance with delivery and post-delivery care.

**Table 4.28 JSY beneficiaries**

<i>Districts</i>	<i>delayed</i>	<i>no</i>	<i>No info</i>	<i>yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	0	125	0	119	244
Values in %	0.0	8.6	0.0	8.2	16.8
<i>Belgaum</i>	2	180	2	194	378
Values in %	0.1	12.4	0.1	13.4	26.1
<i>Bellary</i>	3	110	2	172	287
Values in %	0.2	7.6	0.1	11.9	19.8
<i>Chikmagalur</i>	4	125	1	88	218
Values in %	0.3	8.6	0.1	6.1	15.0
<i>Haveri</i>	0	50	0	274	324
Values in %	0.0	3.4	0.0	18.9	22.3
<i>Geography</i>					
<i>Difficult</i>	0	60	0	118	178
Values in %	0.0	4.1	0.0	8.1	12.3
<i>Rural</i>	4	272	3	447	726
Values in %	0.3	18.7	0.2	30.8	50.0
<i>Urban</i>	5	258	2	282	547
Values in %	0.3	17.8	0.1	19.4	37.7
<i>Caste</i>					

<i>No_Info</i>	0	0	0	1	1
Values in %	0.0	0.0	0.0	0.1	0.1
<i>OBC</i>	6	401	3	560	970
Values in %	0.4	27.6	0.2	38.6	66.9
<i>SC</i>	2	139	2	222	365
Values in %	0.1	9.6	0.1	15.3	25.2
<i>ST</i>	1	50	0	64	115
Values in %	0.1	3.4	0.0	4.4	7.9
<i>Grand Total</i>	9	590	5	847	1451
Values in %	0.6	40.7	0.3	58.4	100.0

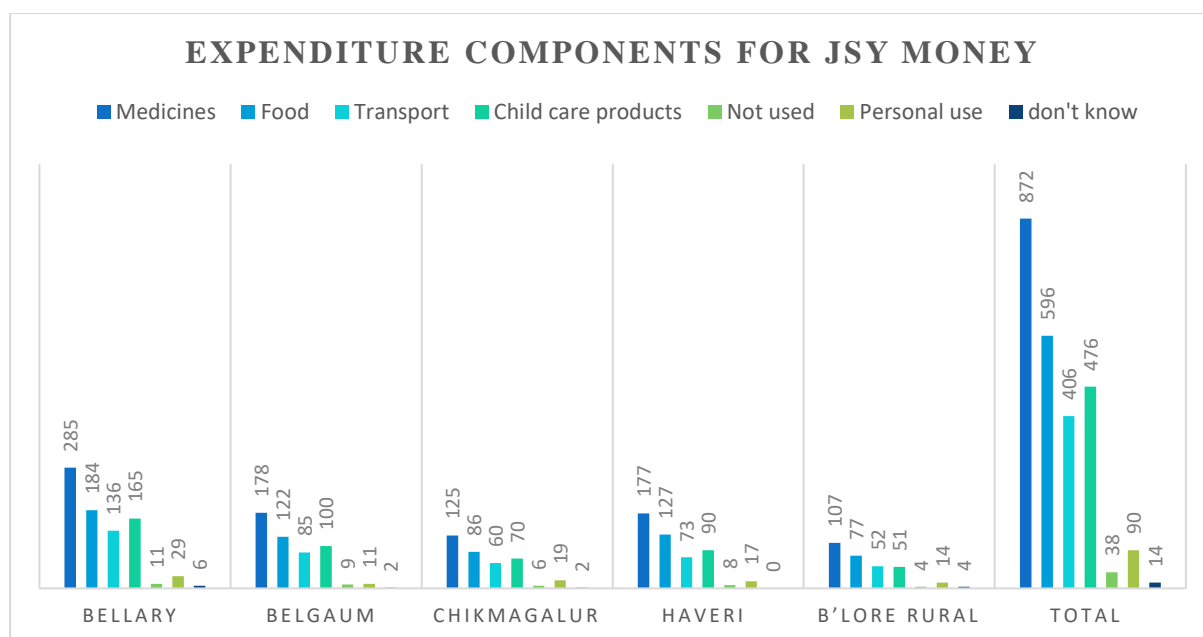
Source: Survey; Arrived by dividing the observations from 1451; \*home deliveries include as they are eligible

58.4 of the eligible beneficiaries received Janani Suraksha Yojana cash assistance for delivering in public institutes. 0.6 of the women received the cash incentives with delay. The proportion of women who received JSY was lowest in Chikmagalur with nearly 6.1 of the total beneficiaries receiving JSY. Haveri was the highest with 18.9 of beneficiaries who received JSY followed by Belgaum 13.4 . Bangalore rural constituted 8.2 of beneficiaries while Bellary had figures of around 11.9. Of the total beneficiaries, 30.8 were from rural areas, 8.1 from difficult area and 19.4 from urban area. 38.6 of JSY beneficiaries belonged to other backward castes and minorities. 15.3 were Scheduled castes and 4.4 were scheduled tribes.

#### 4.4.1.1 Use of JSY money

Beneficiaries have opined that JSY money was used for purchase of medicine, food, transportation and use of the money for personal purpose has been very low. However, purchase of medicine tops the list for utilization of JSY money in total.

**Figure 4.11 Expenditure components for JSY money**



#### 4.4.2 Janani Shishu Suraksha Karyakram

Main goal of JSSK is to ensure that pregnant women and sick neonates' access public health facilities under JSSK at zero expenditure, reduce Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR). JSSK supplements the cash assistance given to a pregnant woman under Janani Suraksha Yojana and is aimed at mitigating the burden of out of pocket expenses incurred by pregnant women and sick new-borns in government health facilities. This programme fulfils the essential services during ANC, delivery, and post-natal care to all women and free services to children within 30 days.

**Table 4.29 JSSK beneficiaries in total**

<i>District</i>	<i>No</i>	<i>No Info</i>	<i>Yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	167	0	87	254
Values in %	9.6	0.0	5.0	14.6
<i>Belgaum</i>	348	1	178	527
Values in %	20.0	.1	10.2	30.3
<i>Bellary</i>	215	0	119	334
Values in %	12.4	0.0	6.8	19.2
<i>Chikmagalur</i>	199	0	43	242
Values in %	11.4	0.0	2.5	13.9
<i>Haveri</i>	157	0	225	382
Values in %	9.0	0.0	12.9	22.0
<i>Total</i>	1086	1	652	1739
Values in %	62.4	.1	37.5	100.0
<i>PHC Geographical Category</i>				



<i>Difficult</i>	120	0	77	197
Values in %	6.9	0.0	4.4	11.3
<i>Rural</i>	545	0	372	917
Values in %	31.3	0.0	21.4	52.7
<i>Urban</i>	421	1	203	625
Values in %	24.2	.1	11.7	35.9
<i>Total</i>	1086	1	652	1739
	62.4	.1	37.5	100.0
<i>Caste</i>				
<i>No Info</i>	1	0	0	1
Values in %	.1	0.0	0.0	.1
<i>OBC</i>	727	0	432	1159
Values in %	41.8	0.0	24.8	66.6
<i>SC</i>	270	1	166	437
Values in %	15.5	.1	9.5	25.1
<i>ST</i>	88	0	54	142
Values in %	5.1	0.0	3.1	8.2
<i>Total</i>	1086	1	652	1739
Values in %	62.4	.1	37.5	100.0

Source: Survey; \*home deliveries excluded as they are not eligible only mothers' benefits calculated \*\*all the values are divided by 1739 to get the percentage

There was a total of 37.46 of women beneficiaries who received JSSK, 62 of them did not receive JSSK. Haveri had the highest number of beneficiaries which formed 34.56 of the total beneficiaries, Belgaum had around 27.34 of the total beneficiaries, Bellary and Bangalore rural were in third and fourth with 18.28 and 13.21 and Chikmagalur had the least number of beneficiaries with 6.61. There were 57 of scheme beneficiaries from rural area, 11.3 from difficult area and total 31.18 from urban area. Other backward caste and minorities constituted 66.21 of the JSSK scheme beneficiaries. Scheduled castes were around 25.5 and the remaining 8.29 were Scheduled tribes.

#### 4.4.3 Prasoothi Aarika (PA)

It is a 100 Karnataka State Government sponsored scheme. It is a cash incentive to pregnant women of SC, ST and BPL categories to address their nutritional needs during pregnancy and post-natal period. The main goal of this scheme is to ensure that poor pregnant women take nutritional foods to ensure their nutritional needs and also to ensure improvement of birth weights of their new-borns. This will ensure both mother and infant survival and will bring down MMR and IMR of Karnataka. For eligibility reasons the number of beneficiaries up to second birth order is being considered. A total of 57.3 of eligible women who delivered in

public facilities received Prasoothi Aarike without any delay. 0.5 received it after delay. Another 41.6 of women did not receive Prasoothi Aarike (PA). About 17.4 who received PA were from Haveri. In Belgaum it was around 13.8, while in Bellary it was 11 of eligible beneficiaries. Bangalore rural recorded 9 of total eligible beneficiaries who received PA, Chikmagalur had the lowest number of eligible beneficiaries who got PA was around 6.1.

Geography wise, 7.7 of eligible beneficiaries who received PA were from difficult area, 30.2 from rural and 19.4 from urban. Social category wise 37.4 of OBC, 15.3 of Scheduled caste and 4.5 of scheduled tribes' eligible beneficiaries received Prasoothi Aarike. The Health Department had not released monetary benefits to pregnant women under Prasoothi Aarike for almost a year due to fund crunch in 2015-16. There were also problems from the administrative side which was using Public Financial Management System (PFMS), a web-based online software application developed and implemented by the Office of Controller General of Accounts (CGA), which would take time.

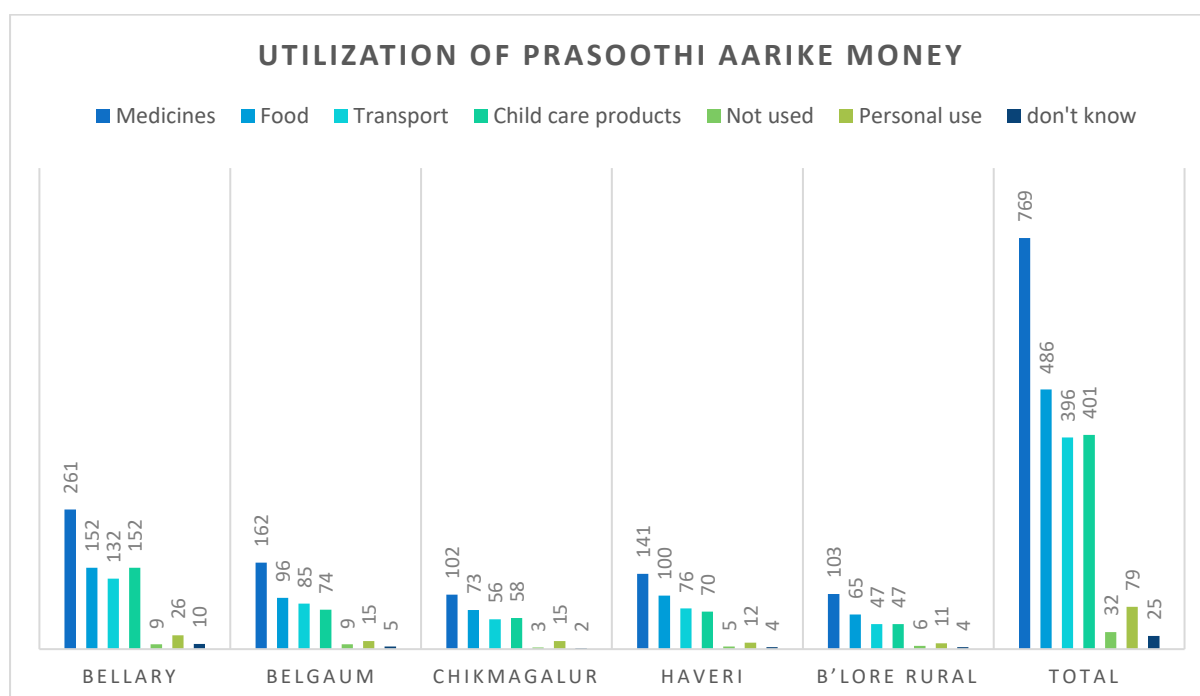
**Table 4.30 Prasoothi Aarike beneficiaries in total**

<i>Districts</i>	<i>delayed</i>	<i>no</i>	<i>no info</i>	<i>yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	1	112	0	131	244
Values in %	0.1	7.7	0.0	9.0	16.8
<i>Belgaum</i>	0	174	4	200	378
Values in %	0.0	12.0	0.3	13.8	26.1
<i>Bellary</i>	1	122	5	159	287
Values in %	0.1	8.4	0.3	11.0	19.8
<i>Chikmagalur</i>	3	126	0	89	218
Values in %	0.2	8.7	0.0	6.1	15.0
<i>Haveri</i>	2	70	0	252	324
Values in %	0.1	4.8	0.0	17.4	22.3
<i>Geography</i>					
<i>Difficult</i>	1	63	2	112	178
Values in %	0.1	4.3	0.1	7.7	12.3
<i>Rural</i>	5	280	3	438	726
Values in %	0.3	19.3	0.2	30.2	50.0
<i>Urban</i>	1	261	4	281	547
Values in %	0.1	18.0	0.3	19.4	37.7
<i>Caste</i>					
<i>No_Info</i>	0	0	0	1	1
Values in %	0.0	0.0	0.0	0.1	0.1
<i>OBC</i>	4	419	5	542	970
Values in %	0.3	28.9	0.3	37.4	66.9

<i>SC</i>	2	137	4	222	365
Values in %	0.1	9.4	0.3	15.3	25.2
<i>ST</i>	1	48	0	66	115
Values in %	0.1	3.3	0.0	4.5	7.9
<i>Grand Total</i>	7	604	9	831	1451
Values in %	0.5	41.6	0.6	57.3	100.0

Source: Survey;\*all the cell values are divided by 1451 to get percentage

**Figure 4.12 Expenditure components for prasoothi Aarika money**



The prasoothi Aarika money has been utilised by beneficiaries to buy medicines, food, child care products and personal use to some extent. Majority have utilised it to buy medicines and food.

#### 4.4.4 Madilu Kit

Madilu kits were being distributed to reduce post-delivery out of pocket expenditure of the pregnant women and her family members and to motivate BPL, SC and ST pregnant women to access government health facilities for ANC care, immunization and to deliver in government hospitals. The intention was also to motivate other future mothers to avail services and to deliver in government hospitals.

**Table 4.31 Madilu beneficiaries in total**

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

<i>District</i>	<i>delayed</i>	<i>no</i>	<i>No info</i>	<i>yes</i>	<i>Total</i>
<i>Bangalore Rural</i>	1	95	0	148	244
Values in %	0.1	6.5	0.0	10.2	16.8
<i>Belgaum</i>	1	168	2	207	378
Values in %	0.1	11.6	0.1	14.3	26.1
<i>Bellary</i>	0	56	3	228	287
Values in %	0.0	3.9	0.2	15.7	19.8
<i>Chikmagalur</i>	1	38	0	179	218
Values in %	0.1	2.6	0.0	12.3	15.0
<i>Haveri</i>	1	21	0	302	324
Values in %	0.1	1.4	0.0	20.8	22.3
<i>Geography</i>					
<i>Difficult</i>	0	35	1	142	178
Values in %	0.0	2.4	0.1	9.8	12.3
<i>Rural</i>	2	192	3	529	726
Values in %	0.1	13.2	0.2	36.5	50.0
<i>Urban</i>	2	151	1	393	547
Values in %	0.1	10.4	0.1	27.1	37.7
<i>Caste</i>					
<i>No_Info</i>	0	0	0	1	1
Values in %	0.0	0.0	0.0	0.1	0.1
<i>OBC</i>	3	269	4	694	970
Values in %	0.2	18.5	0.3	47.8	66.9
<i>SC</i>	1	86	1	277	365
Values in %	0.1	5.9	0.1	19.1	25.2
<i>ST</i>	0	23	0	92	115
Values in %	0.0	1.6	0.0	6.3	7.9
<i>Grand Total</i>	4	378	5	1064	1451
Values in %	0.3	26.1	0.3	73.3	100.0

Source: Survey;\*all the cell values are divided by 1451.

A total of 73.3 of the beneficiaries received madilu kits among eligible women who delivered in public facilities. 0.3 of women received the kits after being discharged from the hospitals 26.1 of women did not receive the new born care kit. Among 73.3 PA beneficiaries 20.8 of beneficiaries in Haveri district received madilu kit immediately after delivery among eligible women who delivered in public facility. Only 2 members received post discharge from hospital. 12.3 of women beneficiaries who delivered in public facilities in Chikmagalur got the madilu kit. Similarly, it was 15.7 in Bellary and 14.3 in Belgaum. In Bangalore 10.2 of eligible women who delivered in public facilities received madilu kit. 9.8 of beneficiaries who are located at least 30 kms from block headquarters received madilu kit, while 36.5 of women from rural and 27.1 urban areas received madilu kit. Among the beneficiaries who received madilu kit, 47.8

were from other backward castes and minorities, 19.1 were scheduled castes and 6.3 were scheduled tribes.

#### 4.4.5 Thaiy Bhagya Plus

In this scheme BPL, SC and ST category pregnant women will receive INR1,000 cash incentive for delivering in Non-Thaiy Bhagya accredited private Nursing Homes/Hospitals. 9.78 of the women who delivered in private institutes got thaiy Bhagya plus schemes. Among the women who received thaiy bhagya plus scheme, 22.86 were from Bangalore, 34.29 were from Belgaum, and 17.4 each from Haveri and Chikmagalur. Bellary had the least count with 8.57 of scheme beneficiary.

**Table 4.32 Thaiy Bhagya Plus beneficiaries in total**

<i>Districts</i>	<i>Thaiy Bhagya Plus</i>	<i>Proportion</i>	<i>Total Private Delivery</i>	<i>Proportion</i>
<i>Bangalore rural</i>	8	22.86	40	11.17
<i>Belgaum</i>	12	34.29	186	51.96
<i>Bellary</i>	3	8.57	62	17.32
<i>Chikmagalur</i>	6	17.14	39	10.89
<i>Haveri</i>	6	17.14	31	8.66
<i>Grand Total</i>	35	100.00	358	100.00

Source: Survey

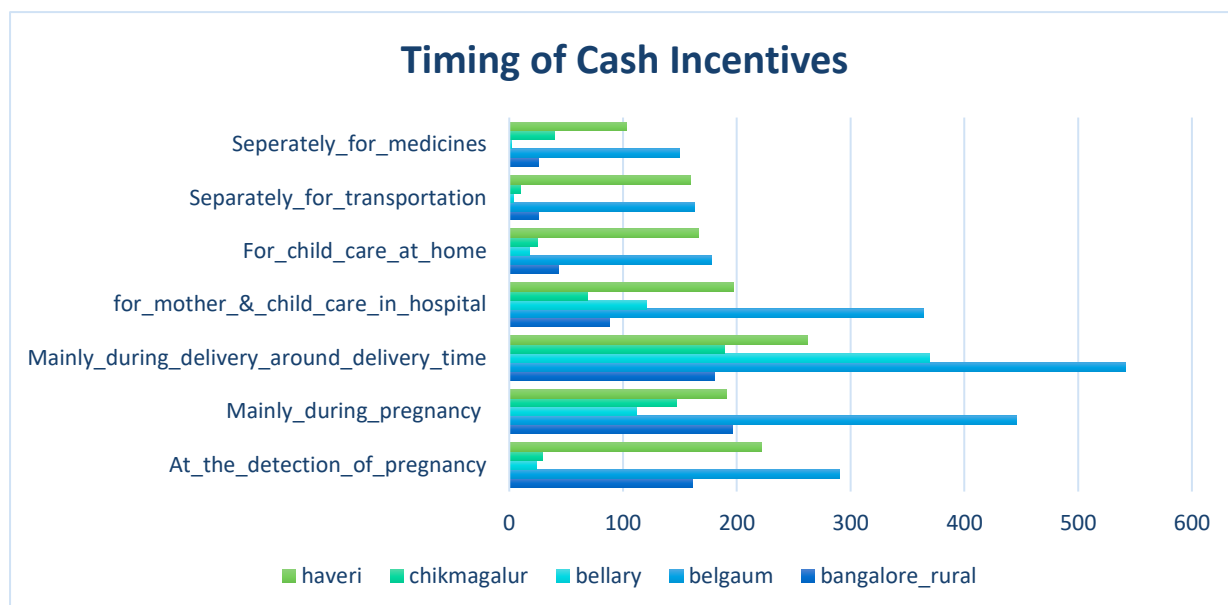
**Table 4.33 Thaiy Bhagya Plus beneficiaries by caste**

<i>Caste</i>	<i>Thaiy Bhagya Plus</i>	<i>Proportion</i>	<i>Total Private Delivery</i>	<i>Proportion</i>
<i>No Info</i>			1	0.28
<i>OBC</i>	28	80.00	278	77.65
<i>SC</i>	6	17.14	57	15.92
<i>ST</i>	1	2.86	22	6.15
<i>Grand Total</i>	35	9.78	358	100.00

Source: Survey

80 of Thaiy bhagya recipients were OBC and minorities, 17.14 were schedule caste and 2.86 were scheduled tribes.

**Figure 4.13 Beneficiary opinion of timing of cash Incentive**



Most of the women felt that cash incentives are required around the time of delivery, and for mother and child care in the hospital. At the detection of pregnancy some felt there should be incentives separate for medicine and transportation.

#### 4.5 Financial adequacy of various Maternal Health schemes

Health financing strategies that incorporate financial incentives are being applied in many low- and middle-income countries, and improving maternal and neonatal health is often a central goal. As yet, there have been few reviews of such programmes and their impact on maternal health. All over the world, prospects for women and their babies are improving. Between 1990 and 2010, maternal deaths declined by nearly 50 worldwide. The use of effective maternal health interventions, such as uterotonics to prevent excess bleeding and magnesium sulphate to treat severe pre-eclampsia and eclampsia, is increasing.(Morgan et al., 2013).

**Table 4.34 Beneficiary’s opinion on financial adequacy**

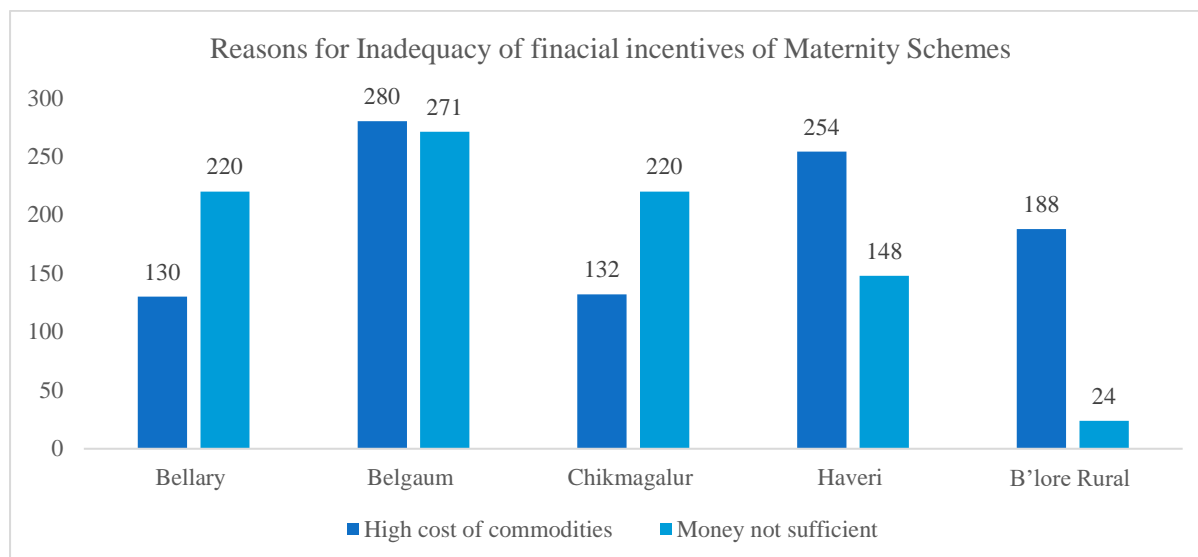
Districts	No	No info	Yes	Total
<i>Bangalore Rural</i>	217	2	35	254
Values in %	12.5	.1	2.0	14.6
<i>Belgaum</i>	440	2	85	527
Values in %	25.3	.1	4.9	30.3
<i>Bellary</i>	324	5	5	334
Values in %	18.6	.3	.3	19.2
<i>Chikmagalur</i>	237	1	4	242
Values in %	13.6	.1	.2	13.9
<i>Haveri</i>	371	0	11	382

Values in %	21.3	0.0	.6	22.0
<i>Total</i>	1589	10	140	1739
Values in %	91.4	.6	8.1	100.0
<i>Geographical category</i>				
<i>Difficult</i>	188	0	9	197
Values in %	10.8	0.0	.5	11.3
<i>Rural</i>	804	6	107	917
Values in %	46.2	.3	6.2	52.7
<i>Urban</i>	597	4	24	625
Values in %	34.3	.2	1.4	35.9
<i>Total</i>	1589	10	140	1739
Values in %	91.4	.6	8.1	100.0
<i>Caste</i>				
<i>No info</i>	1	0	0	1
Values in %	.1	0.0	0.0	.1
<i>OBC</i>	1062	5	92	1159
Values in %	61.1	.3	5.3	66.6
<i>SC</i>	392	4	41	437
Values in %	22.5	.2	2.4	25.1
<i>ST</i>	134	1	7	142
Values in %	7.7	.1	.4	8.2
<i>Total</i>	1589	10	140	1739
Values in %	91.4	.6	8.1	100.0

Adequacy is defined as the fact of being enough or satisfactory for a particular purpose. For the purpose of understanding the financial adequacy of various maternal health schemes, we collected opinion of beneficiaries. The average monthly income of beneficiaries who delivered in public facilities was around INR11,877. If women were to get cash benefits from various maternal health schemes like JSY, Prasoothi Aarika, Madilu Kit, it would sum up to  $700+1300+1675=$  INR3675 which would be nearly 31 of the monthly income. The majority of the women beneficiaries i.e., about 91.37 said that financial support provided through schemes is not adequate and 0.58 did not give any information. About 8.06 of beneficiaries said the schemes benefit was sufficient. It was a similar situation across caste, districts, geography and wealth index. Belgaum being the larger sample district had a greater number of people of about 27.71 beneficiaries reporting inadequacy of financial incentives, followed by Haveri and Bellary with 23.36 and 20.40 of respondents reporting inadequacy of incentives. Chikmagalur and Bangalore rural constituted 14.92 and 13.60 of respondents who said financial incentives from maternity schemes were inadequate. Similarly, it was 50.57 respondents from rural area, 11.84 respondents from difficult area and 37.59 of urban respondents who felt financial incentives were inadequate. 66.75 of OBC, 24.75 of Schedule caste and 8.44 of Scheduled

tribes constituted the responses towards financial inadequacy of maternal health schemes. The reasons for inadequacy were:

**Figure 4.14 Reasons for Inadequacy of Financial Incentives**



8.06 of beneficiaries felt the financial incentives were adequate, citing the reason that it will help in some way to meet the expenses. 61 of the respondents in Belgaum felt that cash incentives will help in meeting expenditures in some way. Similarly, 25 of people in Bangalore rural and 8 in Haveri felt incentives were adequate. 3 each in Bellary and Chikmagalur opined that cash incentives would help in meeting expenses in some way. Majority of the ANM and ASHA and Medical officers also felt that the cash incentives handed over by the government during 2014-15 2015-16 were inadequate. Those who felt inadequate, mentioned that they would be able to purchase only medicines and cash incentives would not be sufficient for scanning alone. A selected few, i.e., around 25 felt it was adequate and would help in meeting expenses but it has reached beneficiaries in time.

#### **4.6 Regularity, and real time disbursement of the cash and other incentives under the schemes.**

India's federal health ministry started sending funds for public health programmes to state treasuries, stopping direct transfers to its regional arms. It was seen as trend that no state treasury released the funds to the designated health societies within the stipulated 15-day period. In Karnataka the delay was 113 days.

(<https://amers1.proxy.cp.thomsonreuters.com/graphics/15/indiahealth/index.html>)



The study posed questions about real time and regularity in disbursement of funds under NHM. Interviews were also conducted with Taluka Health officers (THO), Reproductive and Child Health Officers (RCHO's) and District Health Officers (DHO's) ANMS and ASHA'S about the Real Time disbursement of Cash Incentives to the beneficiary.

1/5 of ASHA/ANM opined that there was no real time disbursement of cash benefits to beneficiaries. Because of shortage of funds in the institute level, the beneficiaries will not receive funds. Most of the ASHA and ANM felt it was due to inefficiency of officials that funds do not reach on time, causing delay.

The medical officers felt it was difficult to reach people living in remote and disadvantaged areas due to commute challenges and thereby these groups get left out or it takes repeated attempts to reach them. They go by what fund is available with them at that point in time. Sometimes, it is difficult to get the funds allocated in time due to official process and proper required documentation in time that delays the funds and sometimes it becomes difficult to contact beneficiaries once the funds are available to them.

The Taluk level officers opined that migrant population fail to provide required documents which is why they get excluded from programme, while disbursing the amount to beneficiary they have to stick to guidelines and those who fulfil the guidelines get the benefits. Due to many reasons, beneficiaries will not be able to give the particular documentation required by the schemes. Most of the medical officers and THO's mentioned that there is no shortage for funds related to NHM in general, but the state related schemes are the ones which are difficult to disburse on real time assessment as they do not know when the budget is available for them. Whenever the budget comes, they disburse it to the beneficiaries.

The district level officers particularly the RCH's opined that real time disbursement problems are 2 folds: one pertaining to beneficiaries which are document related especially related to availability of BPL card and bank accounts, the other is pertaining to administration channel which is to ensure sufficient funds for disbursement. One the RCHO gave detailed account on problems with disbursement which was account-related before the opening of zero balance account i.e. Jandhan account. It was mandatory to open an account with a minimum balance of INR500/- and people had difficulties to open account for a benefit of INR600- INR700/-. He also highlighted the issues related to encashing the cheque. It would take 2-3 attempts to collect the cheque and to encash it. One had to travel to places where the bank account was opened

and then deposit the cheque. This would take at least 3-5 working days to get the cheque encashed. Presently, DBT has reduced the time in which disbursement happen and he pointed out that there is no need for the beneficiary to enquire about the status of transfer. All she has to do is submit the required documents. There are also issues with BPL cards. The newly married couple who separate out from the family will have difficulties in producing the documents such as BPL card/ caste certificate. They will be having BPL card with the parent's family but their family which was found to be true with other beneficiaries. In their interviews, they also shared about budget allocation. They prepared the budget along with PIP and submit to state and by the time the budget comes to district after the state government has allocated, it may take some time. There will be usually a delay. Earlier, it was more pronounced, now everything is streamlined and NHM budgets comes on time.

Most of them also shared that the state programme budget does not happen on time and they will know about it only when the budget is sanctioned and there will be difficulty to track beneficiaries at that point in time and disbursement is through state treasury who have their own procedure. NHM budgets are managed by district level officers and funds are available for them after the state gets it. State funded schemes' real time disbursement is difficult to track. For example, with regard to Prasoothi Aarika, some of them get only first instalments and some only second instalments. Overall, it was communicated that the systems followed and practiced in NHM are far better compared to state sponsored schemes.

State level officials mentioned that for identifying beneficiaries for JSY even an endorsement by doctor about the BPL status would also hold well, but many of the doctors do not exercise it. The state level officials also felt that there are sufficient funds for disposal at the district level and that it depends on the lower level functionaries to utilise it.

#### **4.7 Transport cost in the OOP expenditure**

The transportation here in the study context is defined as the movement of people, from their own location to another for accessing services or for routine health check-ups, or for purchase of relevant ANC or PNC materials from the market. The mode of transportation includes, two-wheeler, bus, private vehicle (private mass transportation), walk, Government ambulance, taxi, and private ambulance.

Transportation is necessary to access ANC services and additional services like scanning and blood test which are not available within the locality of residence. Further, it becomes

mandatory to travel to distant places with service availability when service in the nearest government facility is not available either due to constraints of human resource or there may be other reasons for which service is not available. Typically, there would be more than one visit to fulfil the utilization or purchase of services required for the pregnancy care. Transportation costs, in this evaluation are part of the cost of services utilised or purchased overall. Costs are calculated based on mode of transportation used and number of times the transportation was utilised with relation to utilization or purchase of service.

#### 4.7.1 Overall transportation costs

The average transportation cost per district including ANC, delivery and PNC is given in the table 4.26. The costs presented in the table are the costs per person for the maternal care for people who utilise public facilities and private facilities for delivery and irrespective of the place utilised for delivery.

**Table 4.35 Average transportation costs per district**

	Average transportation cost Public			Average transportation cost Private			Average transportation cost Total		
	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI	Mean	Standard Deviation	95 CI
<i>Bangalore rural</i>	3213	2825	2865-3560	4611	9456	1680-7541	3403	4361	2904-3902
<i>Belgaum</i>	3573	3229	3298-3849	6740	9365	5394-8085	4399	5695	3981-4817
<i>Bellary</i>	4622	4439	4146-5098	8750	11018	6007-11493	5268	6133	4664-5872
<i>Chikmagalur</i>	5201	4650	4615-5787	10110	17603	4585-15634	5882	7972	4950-6814
<i>Haveri</i>	3403	2553	3147-3659	2981	2520	2094-3868	3372	2550	3126-3618
<i>Total</i>	3911	3607	3742-4081	6892	10636	5790-7993	4420	5596	4180-4660
<i>Geography</i>									
<i>Difficult</i>	3840	3035	3416-4263	5519	3817	4130-6909	4055	3187	3640-4471
<i>Rural</i>	3633	3528	3404-3861	6851	10799	5493-8209	4307	5992	3962-4652
<i>Urban</i>	4342	3843	4041-4644	7468	11719	4992-9945	4721	5519	4315-5126
<i>Total</i>	3911	3607	3742-4081	6892	10636	5790-7993	4420	5596	4180-4660
<i>Caste</i>									
<i>OBC</i>	3768	3522	3565-3971	6970	11250	5647-8292	4388	6002	4077-4698
<i>SC</i>	4235	4010	3859-4611	7158	9287	4747-9569	4572	4989	4132-5012
<i>ST</i>	4105	2854	3636-4575	5345	4529	3452-7237	4271	3142	3791-4752
<i>Total</i>	3911	3607	3744-4083	6900	10650	5795-8004	4420	5596	4182-4662

Source: Survey

The total transportation cost for 5 districts is INR4420/-. This includes the antenatal care visits, transportation for delivery and post-natal visits for mother and child, check-ups and wellbeing.

This transportation estimate could be as low as INR4182 to as high as INR4662. The average transportation costs for people who utilise private hospitals for delivery was INR 6900/- which could vary between INR5795- INR8004. Overall, people who utilised public facilities spent an average of INR3911/- with a standard deviation of INR3607 and the estimated average can vary between the lower averages of INR3742 to higher average of INR4081.

Bangalore rural has got the lowest transportation cost with INR3213. The reason for low cost of transportation is the small geographical area with good connectivity of roads and more means of transportation available with increased frequency of public and private transport. The transportation estimate of Bangalore varied between the lowest of INR2865 to as high as INR3560. Even the distance to be travelled to reach the tertiary centre is also less.

The average transportation cost for Belgaum is INR3573. This being a huge district with 10 talukas the average transportation cost is higher due to transportation cost to access antenatal services and especially scanning which are possible only at the taluk quarters and choice of delivery place which may take longer time to commute. The estimated average in Belgaum varied between INR3298- INR3849/-. Bellary transportation was INR4622 which if we take 8,447 km<sup>2</sup> into consideration and frequency of transportation available, the estimated transportation cost had lower limit of INR4146 and upper limit of INR5098. The average cost of transportation in Chikmagalur was INR5201; Chikmagalur being a hilly area and sparsely populated, the availability and frequency of transportation are limited in rural areas hence the transportation costs are higher as compared to other districts. The estimated average transportation cost could be low as INR4615 and the upper limit of the transportation cost could be INR5787. Haveri has an area of 4823 Sq. kms. The district has motorable roads with both public and private means of transportation available. The average transportation cost in Haveri is INR3403. The transportation costs in Haveri is quite comparable to that of Bangalore Rural with a variation of INR200/- in the average. The transportation costs varied by INR3147/- to INR3659/-.

The overall transportation cost at the individual level varies with the means of transportation used and of times the transportation was used. The transportation cost between rural and difficult areas varied by INR200 as the means and frequency of transport is less available in difficult area as compared to that of rural areas in general. The average rural and difficult area transportation cost were INR3633 and INR3840 rupees in total. The average urban area transportation cost was INR4342. The average transportation costs varied by a sum of

INR500/- in comparison to that of rural area. Urban areas demarcated in our study are the district headquarters and taluk headquarters or where the Urban PHC's/CHC/TH/DH have been taken into sample. During our survey, we found that wherever the private means of transportation is available people have utilised it to great extent. And in urban areas there is also preference to utilise personalised means of transportation. Overall, transportation cost constituted up to 21 of the total maternal expenditure.

In general, the transportation cost is higher in the urban areas probably due to use of private means of transportation and transportation by private means is costlier than that of public transport. The average transportation cost difference between OBC, Schedule caste and Scheduled Tribes can be explained by difference in the population sample size and means of transportation used.

**Table 4.36 Break-up of average transportation cost District wise and pregnancy phase wise**

Pregnancy phase	Parameters	Bangalore rural	Belgaum	Bellary	Chikmagalur	Haveri	Total
Average 1 <sup>st</sup> Trimester transportation	Mean	406	655	698	776	609	634
	Standard Deviation	547	744	887	725	663	736
	95 CI	339-473	591-718	603-793	685-868	543-676	599-668
Average of 2 <sup>nd</sup> trimester transportation	Mean	609	760	1216	1107	810	885
	Standard Deviation	888	963	1168	1121	812	1010
	95 CI	500-718	678-842	1091-1341	965-1248	729-891	837-932
Average of 3 <sup>rd</sup> Trimester transportation	Mean	790	1017	1528	1483	1064	1157
	Standard Deviation	1188	1264	1460	1420	1015	1293
	95 CI	644-936	909-1125	1371-1684	1303-1662	962-1166	1096-1217
Average cost of transportation during delivery	Mean	1408	1161	1193	1846	920	1246
	Standard Deviation	1322	1412	3020	3469	1213	2163
	95 CI	1245-1570	1040-1281	869-1517	1409-2283	799-1042	1144-1348
Average transportation cost post delivery	Mean	570	564	515	842	683	622
	Standard Deviation	641	668	688	706	742	698
	95 CI	491-649	507-621	441-589	753-931	609-758	589-655
Average transportation cost	Mean	3213	3573	4622	5201	3403	3911
	Standard Deviation	2825	3229	4439	4650	2553	3607
	95 CI	2865-3560	3298-3849	4146-5098	4615-5787	3147-3659	3742-4081

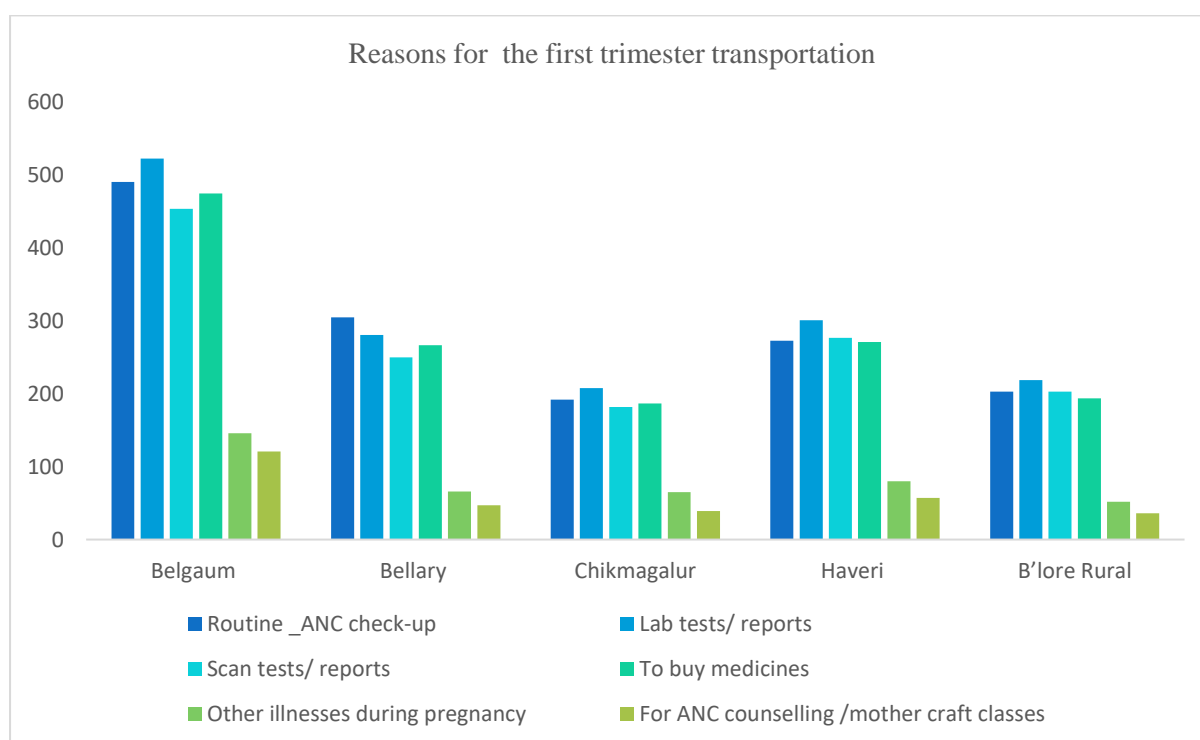
Source: Survey

### First trimester Transportation cost

The mean 1<sup>st</sup> trimester transportation cost was INR766/- in Chikmagalur, INR698/- in Bellary, INR655/- in Belgaum, INR406 in Bangalore rural and INR609 in Haveri. The variations in transport cost was mainly due to means of transportation used and number of times the transport was used. The reasons for transportation used are routine ANC check-up, lab tests/ reports, scan tests/ reports, to buy medicines, and other illnesses during pregnancy.

The average 1<sup>st</sup> trimester transportation cost amounts to INR634/- for the sample districts. The cost includes visits for confirmation of pregnancy, first ANC check-up, sometimes scanning, purchase of medicines and sometimes even for collecting the reports.

**Figure 4.15 Reason for transportation use in the first trimester**



### Second trimester Transportation cost

The mean second trimester transport was INR942/-. The highest cost incurred was in Bellary with INR1318/-, and the lowest was in Bangalore rural with around INR652/- the reason for transportation was similar to that of first trimester.

The average second trimester transportation cost was INR885/- which include ANC visits, scanning visits for most of the beneficiaries and purchase of medicines. It is at this time that beneficiaries travel more because majority of them depend on scanning from outside the

government health services, and preferably advise on nutraceuticals for wellbeing of mother and child.

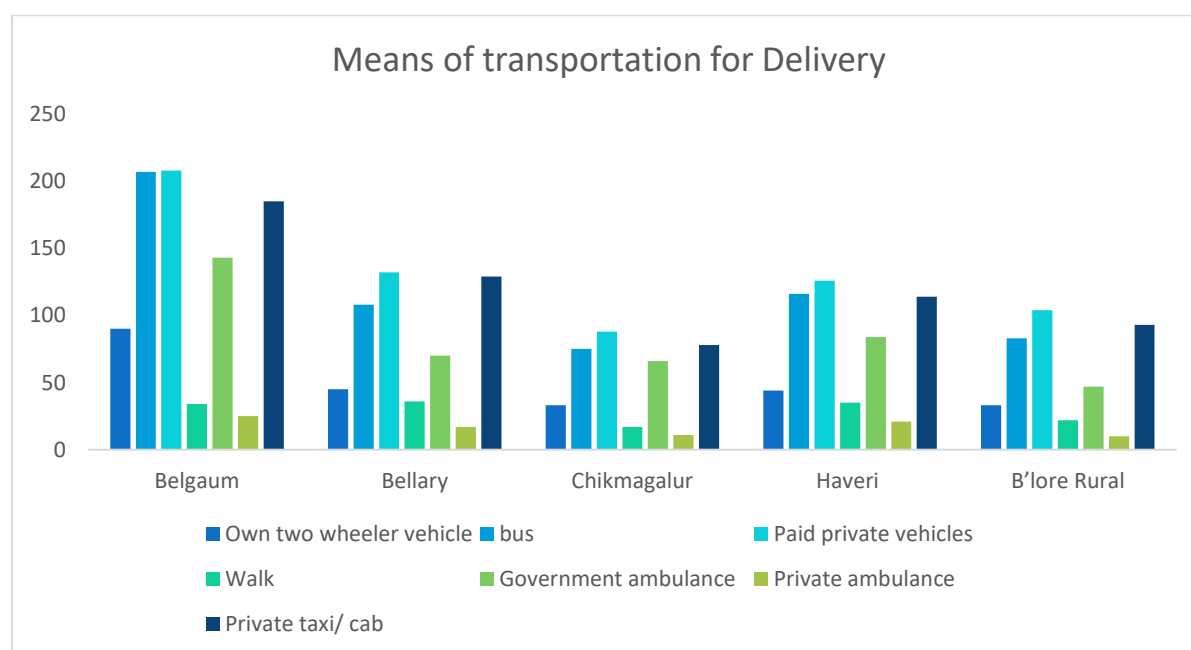
### Third trimester Transportation cost

The average third trimester transportation cost was INR1157/-. It was as high as INR1528/- in Bellary, to INR790/- in Bangalore rural. The reasons for travel include ANC visits, scanning visits for most of the beneficiaries and purchase of medicines.

### Transportation during delivery

The average transportation cost during delivery is INR1246/-. The highest transportation cost was in Chikmagalur, with an average of INR1846/-, followed by Bellary with an average of INR1193/-. People in Bellary spent an average of INR1161/- and Bangalore rural averaged about INR1408/-. Haveri had the least transportation amount for delivery purpose with an average of INR920/-. The variation in the cost could be mainly due to the distance travelled to reach the place of delivery and means of transportation used for delivery. That explains the increased mean costs during the delivery.

**Figure 4.16 Means of transportation used during delivery**



The means of transportation used includes paid private vehicle and taxi which are mostly used by people as means of transport. A nearly ¼ of people used public transport for delivery purpose. 20 of people used government ambulance as a means of transport for delivery. Nearly 7 of people walked to the institute for delivery purpose.

## Post Delivery Transport

The average transport cost post-delivery was INR622/- the beneficiaries in Chikmagalur paid the highest with an average being INR842/-. The average amount paid by people was around INR500/- to INR700/- in other districts. Mostly, travel in a private vehicle would include the travel for immunization and journey back home.

We noticed that the average transportation costs increase trimester wise till delivery and post-delivery it falls back to average first trimester cost. The reasons for this trend are mainly interpreted with choices of mode of transportation made with the distance travelled as and how the pregnancy progresses over the time period. The transportation cost at the time of delivery peaks as ambulance service may not be available and many may have to opt for private vehicle or taxi which would cost more compared to other means of transport available.

## Caste-wise transportation cost

The average transportation cost for OBC and minorities was INR3768. For scheduled castes it is INR4235 and scheduled tribes it is INR4105. On an average, scheduled caste spent INR467 more than OBC and INR130/- more than scheduled tribes. Overall, Scheduled tribes spent INR337/- more than OBC. Rest of the variations are like the district parameters of trimester wise costs, delivery costs and post-natal costs. The variations in the costs are due to modes of transportation used and distance travelled for availing the services and number of times the transportation was used.

**Table 4.37 Break-up of average transportation cost, caste wise and pregnancy phase wise**

Pregnancy phase	Parameters	<i>OBC</i>	<i>SC</i>	<i>ST</i>	<i>Total</i>
<i>Average 1<sup>st</sup> Trimester transportation</i>	Mean	611	678	691	634
	Standard Deviation	710	813	693	737
	95 CI	570-652	601-754	577-805	599-669
<i>Average of 2<sup>nd</sup> trimester transportation</i>	Mean	837	971	1015	885
	Standard Deviation	991	1086	895	1010
	95 CI	780-894	869-1072	868-1162	838-933
<i>Average of 3<sup>rd</sup> Trimester transportation</i>	Mean	1102	1254	1308	1157
	Standard Deviation	1301	1311	1134	1293
	95 CI	1027-1177	1131-1377	1122-1495	1096-1218
	Mean	1226	1350	1092	1246



<i>Average cost of transportation during delivery</i>	Standard Deviation	1998	2740	1281	2164
	95 CI	1111-1341	1093-1607	881-1302	1144-1348
<i>Average transportation cost post delivery</i>	Mean	636	617	528	623
	Standard Deviation	708	688	633	698
	95 CI	595-677	552-682	424-632	590-655
<i>Average transportation cost</i>	Mean	3768	4235	4105	3913
	Standard Deviation	3522	4010	2854	3607
	95 CI	3565-3971	3859-4611	3636-4575	3744-4083

Source: Survey

#### 4.7.2 Transportation cost break up

Table 4.38 Breakup of transportation cost District, caste & geography wise

Transportation cost	<500	500-1000	>1000-1500	>1500-2000	>2000-2500	>2500-3000	>3000-3500	>3500-4000	>4000	Grand Total
Districts										
Bangalore Rural	16	45	37	17	14	25	13	11	75	253
<i>Values in %</i>	6.32	17.79	14.62	6.72	5.53	9.88	5.14	4.35	29.64	100.00
Belgaum	60	61	64	56	42	18	20	18	188	527
<i>Values in %</i>	11.39	11.57	12.14	10.63	7.97	3.42	3.80	3.42	35.67	100.00
Bellary	25	43	26	17	20	9	16	8	170	334
<i>Values in %</i>	7.49	12.87	7.78	5.09	5.99	2.69	4.79	2.40	50.90	100.00
Chikmagalur	10	25	17	18	12	7	8	11	134	242
<i>Values in %</i>	4.13	10.33	7.02	7.44	4.96	2.89	3.31	4.55	55.37	100.00
Haveri	51	39	27	18	21	23	33	25	145	382
<i>Values in %</i>	13.35	10.21	7.07	4.71	5.50	6.02	8.64	6.54	37.96	100.00
<b>Total</b>	<b>162</b>	<b>213</b>	<b>171</b>	<b>126</b>	<b>109</b>	<b>82</b>	<b>90</b>	<b>73</b>	<b>712</b>	<b>1738</b>
Caste										
No Info		1								1
<i>Values in %</i>		100.00								100.00
OBC	130	131	125	80	75	57	58	51	450	1157
<i>Values in %</i>	11.24	11.32	10.80	6.91	6.48	4.93	5.01	4.41	38.89	100.00
SC	28	63	34	36	23	18	23	14	199	438
<i>Values in %</i>	6.39	14.38	7.76	8.22	5.25	4.11	5.25	3.20	45.43	100.00
ST	4	18	12	10	11	7	9	8	63	142
<i>Values in %</i>	2.82	12.68	8.45	7.04	7.75	4.93	6.34	5.63	44.37	100.00
<b>Total</b>	<b>162</b>	<b>213</b>	<b>171</b>	<b>126</b>	<b>109</b>	<b>82</b>	<b>90</b>	<b>73</b>	<b>712</b>	<b>1738</b>
Geography										
Difficult	18	21	14	17	13	6	21	11	76	197

Values in %	9.14	10.66	7.11	8.63	6.60	3.05	10.66	5.58	38.58	100.00
Rural	87	127	107	78	67	47	34	33	336	916
Values in %	9.50	13.86	11.68	8.52	7.31	5.13	3.71	3.60	36.68	100.00
Urban	57	65	50	31	29	29	35	29	300	625
Values in %	9.12	10.40	8.00	4.96	4.64	4.64	5.60	4.64	48.00	100.00
Total	162	213	171	126	109	82	90	73	712	1738
Values in %	9.32	12.26	9.84	7.25	6.27	4.72	5.18	4.20	40.97	100.00

Source: Survey

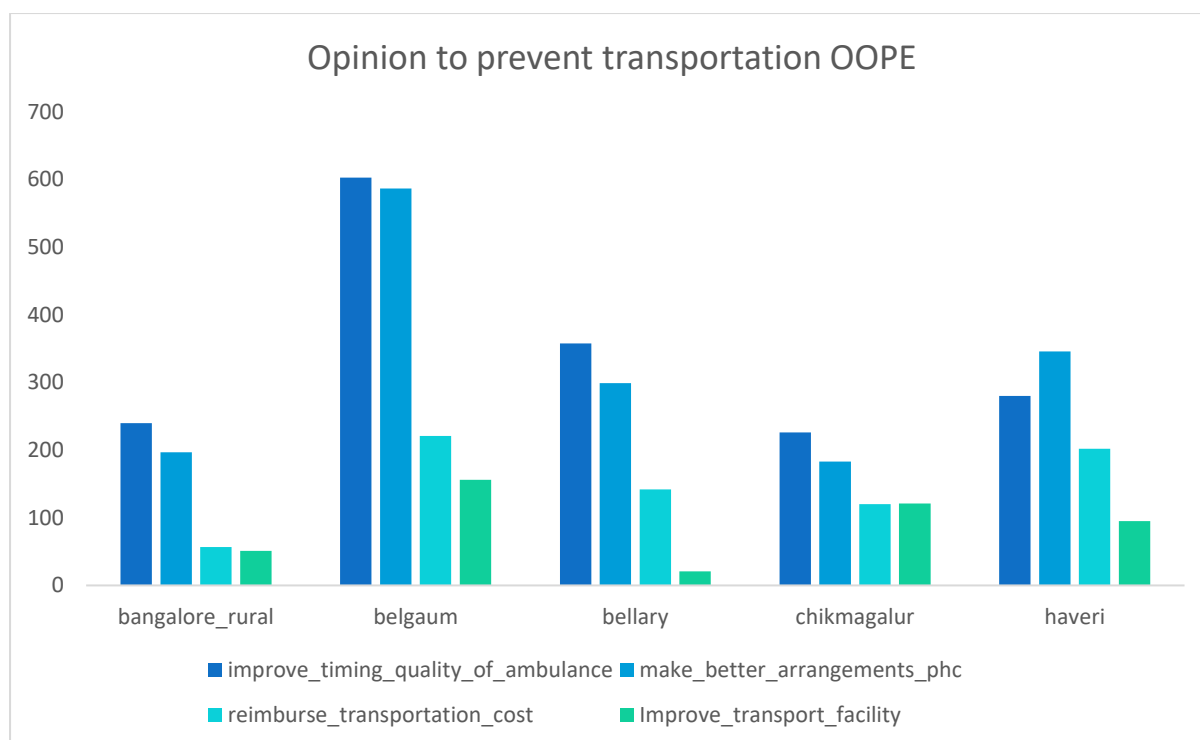
59 of the people had an average transportation cost up to 4000 INR. The rest 41 of people had the transportation cost of more than INR4000 with that, people who had up to INR4000/- expenditure, 9.32 had the transportation expenditure up to INR500/-, 12.26 of people had transportation expenditure above INR500/- and up to INR1000/-. 9.84 of people had transportation cost which varied from above INR1000/- to INR1500/-. 7.25 of people had expenditure above INR1500/- up to INR2000/-. Percentage of people with transportation expenditure above INR2000/- up to INR2500/- was 6.27. Another 4.72 of people had a transportation expenditure which ranged from INR2500/- to INR3000/-. 5.18 of people had expenditure which ranged above INR3000/- up to INR3500/-. 4.2 of people had transportation expenditure between INR3500/- INR4000/-.

70.36 of people in Bangalore rural had the transportation expenditure of less than INR4000/- and remaining 29.64 of people had transportation expenditure above INR4000/-. Similarly, 64.3 of beneficiaries in Belgaum had less than INR4000/- on transportation and the remaining 35.67 had transportation costs which ranged above INR4000/-. In Bellary and Chikmagalur the percentage of people who had transportation expenditure below INR4000/- were 49.10 and 44.63. Overall, more than 50 of the beneficiaries in these two districts had transportation expenditure above INR4000/-. In Haveri, 62 of people reported transport expenditure below INR4000/-.

61.11 of OBC's, 54.57 of Scheduled Castes; and 55.63 of Scheduled Tribes reported transportation expenditure up to INR4000/-. 61.42 of Respondents residing in difficult area 63.32 of rural respondents and 52 of urban respondents reported transportation expenditure within INR4000/-.

### 4.7.3 Opinion to prevent Transportation OOPE

Figure 4.17 Opinions to prevent transportation related OOPE



Beneficiaries felt that improving the quality of ambulance and making better agreements or more facilities at PHC, reimbursement of transportation cost and improving transportation facility will help reduce the transportation related OOPE.

#### **4.8 The sources through which the OOP expenditure is met by the family**

The above methods are called coping strategies, defined as “measures used by households to alleviate the out of pocket expenses that could not be managed from their regular income or savings” (Daivadanam, Thankappan, Sarma, & Harikrishnan, 2012) In India, the most common coping strategies are savings, borrowing, asset sales and informal loan from money lenders with high interest rates. If the cost of care is sufficiently low in comparison to the household’s income, then payments will be made from current income. This may involve the sacrifice of current consumptions like education, social events but not of basic needs that is food, cloth and shelter. It is poorer households that resort to borrowing and the sale of assets, suggesting that long-term sacrifices are accepted only when the economic constraint is so severe that it is not possible to accommodate health payments through the sacrifice of current consumption.

From the above review it is established that a single health event of “delivering a baby”, supposed to be the happiest event of any person or household, has the potential to push the poor into the vicious cycle of poverty complex due to financial constraints.

Savings seem to be the preferred method for meeting out of pocket expenditure for pregnancy care in the survey districts. Overall, 20.67 of beneficiaries who utilized private services and 29.57 of beneficiaries who utilized public facilities depended upon savings alone. 21.50 of beneficiaries in private institutes and 29.57 of beneficiaries who utilized public institutes depended exclusively on loan with interest. Rest of the options were permutations and combinations of all options like, savings, loan with interest, loan without interest, support from wife's house, other relatives, philanthropists and trusts.

**Table 4.39 Sources through which OOPE was met for private facilities**

Sources for OOPE		Savings	Loan with Interest	Loan Without Interest	Support from Wife's House	Other Relatives	Philanthropists	Trusts
District								
Bangalore Rural		31	11	4	4	4	0	0
	%	77.5	27.5	10.0	10.0	10.0	0.0	0.0
Belgaum		139	88	26	66	62	5	6
	%	74.7	47.3	14.0	35.5	33.3	2.7	3.2
Bellary		17	33	14	20	5	0	1
	%	27.4	53.2	22.6	32.3	8.1	0.0	1.6
Chikmagalur		17	25	1	10	6	0	0
	%	43.6	64.1	2.6	25.6	15.4	0.0	0.0
Haveri		6	20	2	6	3	0	1
	%	19.4	64.5	6.5	19.4	9.7	0.0	3.2
Total		210	177	47	106	80	5	8
	%	58.7	49.4	13.1	29.6	22.3	1.4	2.2
Geography								
Difficult		14	16	2	6	1	0	1
	%	48.30	55.2	6.9	20.7	3.4	0.0	3.4
Rural		165	121	23	73	68	5	6
	%	67.90	49.8	9.5	30.0	28.0	2.1	2.5
Urban		31	40	22	27	11	0	1
	%	36.00	46.5	25.6	31.4	12.8	0.0	1.2
Total		210	177	47	106	80	5	8
	%	58.70	49.4	13.1	29.6	22.3	1.4	2.2
Caste								
No Info		0	0	0	1	0	0	0
	%	0.0	0.0	0.0	100.0	0.0	0.0	0.0
OBC		171	131	33	79	63	2	4

	%	61.5	47.1	11.9	28.4	22.7	.7	1.4
SC		30	32	12	18	11	3	4
	%	52.6	56.1	21.1	31.6	19.3	5.3	7.0
ST		9	14	2	8	6	0	0
	%	40.9	63.6	9.1	36.4	27.3	0.0	0.0
Total		210	177	47	106	80	5	8
	%	58.7	49.4	13.1	29.6	22.3	1.4	2.2

Source: Survey

Private Facilities: Combination of savings /loan with interest/ loan without interest/ support from wife's house/ other relatives are common sources through which OOPE is being met. In private sector, trusts and philanthropists are the least used sources. Overall, 58.7 of beneficiaries depended on savings as one of the sources for meeting OOPE, 49.4 of respondents depended on loan with interest as an option along with others, 13 of beneficiaries said to have utilised loan with without interest as an option along with other mentioned options. Nearly 30 of people said to have utilised support from wife's house as an option. This is because delivery of the first child is generally taken care by the beneficiary's father. Another 22.3 of beneficiaries sought help from relatives along with other arrangements like loans and savings.

Looking at loan with interest as an option, 64 of people from Haveri and Chikmagalur depended on loan while 53 in Bellary and 47.3 in Belgaum also utilised loan exclusively and in combination with other options. Only 27.5 of beneficiaries in Bangalore rural is said to have utilised this option exclusively or in combination. 55.2 in difficult areas 50 in rural area and 46.5 of beneficiaries in urban areas reported to have utilised loan with interest as an option either exclusively or with other options. Looking at this from a caste aspect, 47 of beneficiaries belonging to OBC and minorities, 56 of schedules caste and 64 of scheduled tribes used loan with interest as an exclusive option or in along with other options to meet maternity care expenditures.

Savings as an exclusive option or in combination with loan or others option is the preferred option for meeting the maternity related expenses. 77.5 of beneficiaries from Bangalore rural, 74.7 from Belgaum, 27.4 from Bellary, 43.6 and 19.4 of respondents from Chikmagalur and Haveri are said to have utilised savings to meet pregnancy related OOPE. While savings seems to be the lesser favoured options among urban residents, 36 of them reporting to use it. A greater number of respondents i.e., 67.90 in rural areas utilised it to meet the expenses exclusively or in part. 48.5 of respondents from difficult area reported using saving either exclusively or as an option to meet pregnancy related expenditure.

30 of people utilised support from wife's house as an option to meet expense in some way. 17 of the beneficiaries exclusively used this option to meet expense in some way while the rest utilised this option to meet the expenses in combination with other options.

**Table 4.40 Sources through which OOPE was met for public facilities**

Sources for OOPE		Savings	Loan with Interest	Loan without Interest	Support from Wife's House	Other Relatives	Philanthropists	Trusts
District								
Bangalore Rural		188	71	67	70	44	2	0
	%	74.3	28.1	26.5	27.7	17.4	.8	0.0
Belgaum		391	164	46	140	71	7	6
	%	74.5	31.2	8.8	26.7	13.5	1.3	1.1
Bellary		107	148	62	115	15	1	1
	%	32.2	44.6	18.7	34.6	4.5	.3	.3
Chikmagalur		105	175	8	31	21	0	0
	%	43.4	72.3	3.3	12.8	8.7	0.0	0.0
Haveri		184	198	42	66	52	6	3
	%	48.3	52.0	11.0	17.3	13.6	1.6	.8
Total		975	756	225	422	203	16	10
	%	56.3	43.6	13.0	24.4	11.7	.9	.6
Geography								
Difficult		67	101	12	53	13	2	1
	%	34.4	51.8	6.2	27.2	6.7	1.0	.5
Rural		573	391	89	229	144	6	5
	%	62.7	42.8	9.7	25.1	15.8	.7	.5
Urban		335	264	124	140	46	8	4
	%	53.7	42.3	19.9	22.4	7.4	1.3	.6
Total		975	756	225	422	203	16	10
	%	56.3	43.6	13.0	24.4	11.7	.9	.6
Caste								
No Info		1	0	0	0	0	0	0
	%	100.0	0.0	0.0	0.0	0.0	0.0	0.0
OBC		691	458	150	289	127	9	5
	%	59.8	39.7	13.0	25.0	11.0	.8	.4
SC		222	231	57	100	55	7	5
	%	50.9	53.0	13.1	22.9	12.6	1.6	1.1
ST		61	67	18	33	21	0	0

	%	43.3	47.5	12.8	23.4	14.9	0.0	0.0
Total		975	756	225	422	203	16	10
	%	56.3	43.6	13.0	24.4	11.7	.9	.6

Source: Survey

Public Facilities: Combination of savings /loan with interest/ loan without interest/ support from wife's house/ other relatives are common sources through which OOPE is being met. In public sector, trusts and philanthropists are the least used sources. Overall, 56.3 of beneficiaries depended on saving as one of the sources for meeting OOPE, 43.6 of respondents depended on loan with interest as an option along with others, 13 of beneficiaries are said to have utilised loan with without interest as an option along with other mentioned options. 24.4 of people said to have utilised support from wife's house as an option. This is because delivery of the first child is generally taken care by the beneficiary's father. Another 11.7 of beneficiaries sought help from relatives along with other arrangements like loans and savings. Philanthropies and Trusts were least utilised sources.

Looking at loan with interest as an option, 72.3 of people from Chikmagalur and 52 from Haveri depended on loan, while 44.6 in Bellary and 31.2 in Belgaum also utilised loan exclusively and in combination with other options. Only 28.1 of beneficiaries in Bangalore rural said to have utilised this option exclusively or in combination. 51.8 in difficult areas 42.8 in rural area and 42.3 of beneficiaries in urban areas reported to have utilised loan with interest as an option either exclusively or with other options. Looking at this from a caste aspect, 40 of beneficiaries belonging to OBC and minorities, 53 of schedules caste and 48 of scheduled tribes used loan with interest as an exclusive option or in along with other options to meet maternity care expenditures.

Savings as an exclusive option or in combination with loan or other options is the preferred means for meeting the maternity related expenses. 74.3 of beneficiaries from Bangalore rural, 74.5 from Belgaum, 32.2 from Bellary, 43.4 and 48.3 of respondents from Chikmagalur and Haveri said to have utilised savings to meet up pregnancy related OOPE. While savings seems to be lesser favoured options among difficult area residents with 34.4 of them reporting to use it. A greater number of respondents 62.7 of them in rural area utilised it to meet the expenses exclusively or in part. 53.7 of respondents from urban area reported using saving either exclusively or as an option to meet pregnancy related expenditure. 60 of OBC and minorities beneficiaries said to have utilised saving either exclusive or in combination with loan or other

options to meet pregnancy related expenditure, 51 of Scheduled Caste respondents and 43.3 of scheduled tribes utilised savings money to meet pregnancy related expenditures.

24.4 of people utilised support from wife's house as an option to meet expense in some way. 46.60 of the beneficiaries exclusively used this option to meet expense in some way while the rest utilised this option to meet the expenses in combination with other options.

The Focus Group discussions with beneficiaries pointed the following sources for OOPE

- The first delivery charges will be paid by parents.
- Borrow money from money lenders at rate of 5-10 interest
- Usually, it takes 1-2 years to repay the loan taken after paying interest
- Savings,
- Relatives,
- Friends,
- loan from SHG,
- societies,
- Gold loan,
- Pledge land or other assets.

Usually, it is a combination of things that happen from savings, parents support, SHG loans, society's loan or borrowing money at high rates of interests from money lenders as there are no formal support for this kind of immediate need. They will have to pool in money from different sources, like pledge land or other assets which was discussed in few FGDs.

#### **4.9 "Better Reach" of the maternal schemes and in turn improving their effectiveness.**

Beneficiaries opined and suggested the following steps to achieve higher standards and to be effective in the current scenario

- a) Appoint more doctors and ANMs.
- b) Provide Quality Healthcare Services.
- c) Good basic facilities on the premises or health institutions.



- d) Increase the amount of incentives.
- e) Health services must be available 24 X 7.
- f) Scanning, ambulance, and medicine must be made available at all the healthcare centers.
- g) Accountability mechanisms.
- h) Money transfers should be done directly through the bank accounts of the beneficiaries.
- i) Increasing awareness: making sure that the information reaches everyone.
- j) Making the documentation process easier.
- k) Government should facilitate short-term loans.

Representatives of the health system suggested the following steps to improve the current scenario.

- a) Better reach of ambulance services
- b) Provide incentive money in time, provide more ill-health services at the PHCs level
- c) Education and awareness will help the beneficiaries to utilize the government benefits.
- d) Scanning facilities and blood availability to be improved.

## **4.10 Belgaum Model**

The administrative headquarters of the Belgaum division and Belgaum district: The city is in the north western parts of Karnataka and lies at the border of two states, Maharashtra and Goa on the Western Ghats. Belgaum district's population constituted 7.82 percent of total Karnataka population. Population density of Belgaum district for 2011 is 356 people per sq. km compared to 314 people per sq. km in 2001. Belgaum district administers 13,433 square kilometres of areas. Sex Ratio in Belgaum, was 973 per 1000 male compared to figure of 960 in 2001. The child sex ratio is 934 girls per 1000 boys compared to a figure of 921 girls per 1000 boys in 2001. Average literacy rate of Belgaum in 2011 were 73.48 compared to 64.21 of 2001. Administratively Belgaum has 3 sub divisions, and 10 tehsils.

### **4.10.1 Health Systems in Belgaum**

#### **4.10.1.1 Infrastructure**

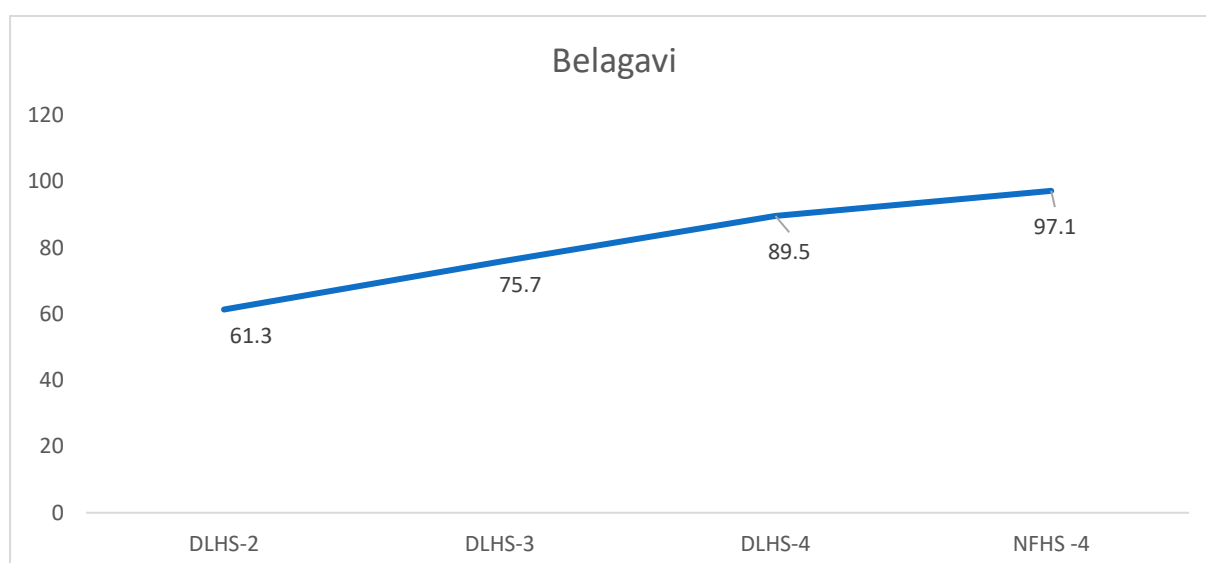
**Table 4.41 Public Health Infrastructure of Belgaum**

District	DH	SDH/TLH	CHC	PHC	24X7	UPHC	Regular PHC	Sub centres
Belgaum	1	9 (9FRU)	16(2FRU)	153	87	12	54	620
	2	6	8	6	9	3	4	7
Karnataka total	42	147(134 FRU)	207 (22FRU)	2542	949	392	1201	8764

Belgaum has a sufficient infrastructure with district hospital in the apex and 9 out of 10 taluks having a taluka level hospital (except Belagavi) which function as first referral units handling the emergency referral with provisioning for caesarean section. There are well functioning Community Health Centres (CHC) which are manned with Gynaecologists who have occupied 79 of the posts throughout Karnataka, while overall specialists' gaps at CHC is 41. 75 of CHC's in Belgaum have a functional operational theatre. There is a total of 153 PHCs, of which 56.86 (87) are functional 24X7. 7.84 (12) are Urban Primary Health Centres and rest 35 (54) are working as regular PHCs. Overall, the PHCs of Karnataka is subjected to 18.72 shortage of pharmacist, 18.36 shortage of lab technicians and there are no shortage of doctors or nurses in the PHCs. There are 620 subcentres which are sufficiently manned by the ANM. However, there could be shortage of MPW as there are more than 40 of MPW posts yet to be filled in Karnataka.

### Institutional deliveries in Belgaum

Figure 4.18 Institutional deliveries in Belgaum



The institutional deliveries in Belgaum rose from 61.3 in 1998 to 97.1 2016. The periodic surveys have documented the increase over the time. As per our survey, 99.58 of the deliveries were institutional of which 25.98 were in private hospitals and 73.60 of deliveries were in public facilities. 0.42 of the deliveries occurred in home.

### Place of delivery by type of delivery among beneficiaries

Belgaum accounted for 30.30 of deliveries in the public facilities among the sampled districts in the study. 11.49 of all deliveries in public facilities in the sampled districts were caesarean. A total of 527 deliveries were at public facilities across Belgaum. It constituted 73.60 of overall sampled beneficiaries. Of these, 527 deliveries 79 (14.99) were Caesarean and 448 (85.01) were normal deliveries.

### C-Sections

CHC's in Belgaum accounted for 36.71 of C-sections within the district and 85.29 of all the C-sections at CHC level in the overall sample. Taluka hospitals accounted for 34.18 of C-sections within the district and 29.67 of all the C-sections at taluka hospitals in the overall sample. The district hospital in Belgaum accounted for 29.11 of all the C-sections in the district, and 15.44 of the C-sections at district hospitals. Overall, 70.89 of the C-sections have been distributed at sub district level in Belgaum. Belgaum district alone accounted for 44.80 of C-sections at sub district level in the overall sample.

**Table 4.42 Deliveries by Institutes in Belgaum**

Place of delivery	Cesarean	Normal	Total
CHC	29	117	146
(%) →	36.71	26.12	27.70
DH	23	44	67
(%) →	29.11	9.82	12.71
Medical College		1	1
		0.22	0.19
PHC		175	175
(%) →		39.06	33.21
Public Facility		2	2
		0.45	0.38
TH	27	109	136
(%) →	34.18	24.33	25.81
<b>Total</b>	<b>79</b>	<b>448</b>	<b>527</b>
Percentage	14.99	85.01	100.00

Source: Survey

## Normal deliveries

85.01 of all the deliveries in public facilities were normal and among them, 39.06 (175) are in PHC's. 50.45 (226) of the deliveries were at CHC and Taluka Hospital (with almost equal proportion). Overall, 87 of women delivered at sub district level and health facilities below sub district level constituted 35.65 of deliveries at sub district level. Overall, PHC's, CHC's and Taluk Hospitals took 33.21, 27.70 and 25.81 of all the deliveries in Belgaum districts.

The overall performance of Belgaum at sub district level in terms of delivery load is good absorbing of 87 of overall load compared to other sample districts, where 68 of deliveries were at sub district level. This explains the reduced out of pocket expenditures in Belgaum as compared with other districts.

## Out of pocket expenditures

**Table 4.43 OOPE over heads Belgaum**

Belgaum	public	private	Total
ANC Cost	5964	10307	7097
Delivery Cost	7028	17380	9728
PNC cost	564	1147	716
Transportation cost	3573	6740	4399
Total Maternity Expenditure	13219	37228	19483

Source: Survey

The out of pocket expenditure in Belgaum was INR 5964/- which was higher in comparison to Bangalore rural and Haveri districts. Delivery cost INR 7028/- was lowest in Belgaum when compared with other districts and combined district average. The transportation cost in Belgaum was reduced by INR 338/- in comparison with combined districts average and total maternity expenditures was marginally less by INR 1445/- in comparison with combined districts average. The expenditure on ANC components were in par with combined district average.

Belgaum being a huge district with maximum of health facilities shows a good working model for uptake of delivery services at district level. Apart from this there are administrative features like two positions of District programme Manager and two positions of district Monitoring and evaluation officers to enhance programmatic approaches and monitoring them closely. There are no exact causal linkages between good administrative reduced out of pocket expenditures as there also equipment manpower shortages in Belgaum also. Overall uptake of delivery at

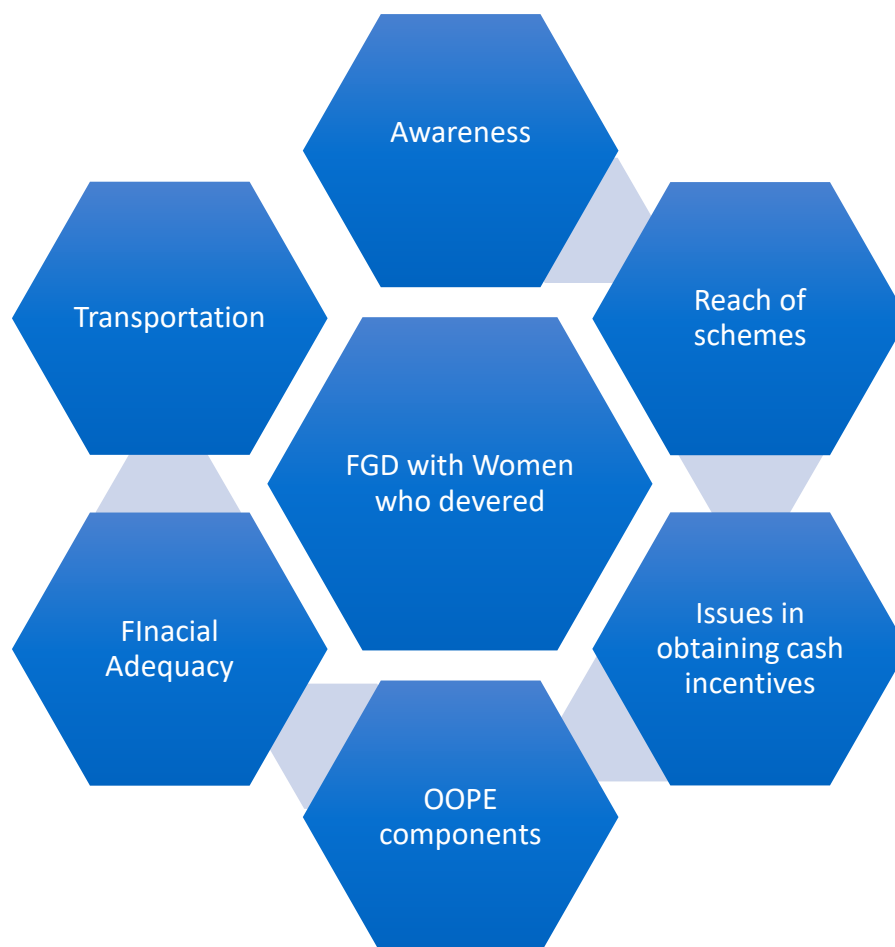
subdistrict level usually level do indicate the reduced delivery costs and transportation costs reflected in overall maternity expenditures. Better performing CHC's are the take away from this district which has ensured specialists availability at CHC level accounting for more than 25 of deliveries.

## **4.11 Qualitative aspects of the study**

### **4.11.1 Focus group discussion (FGD)**

FGD was used to gain an in-depth understanding of issues related to out of pocket expenditure among women who had 3-4 years old kids. A total of 8-10 women participated in each FGD. 52 such FGD's were conducted in the convenient catchment areas of the PHC/Institutes selected for beneficiary survey. A total of 446 women participated in the various group discussions. The purposely selected group of individuals were introduced to the topic by moderator who facilitated the discussion and discussed viewpoints. The topics for discussion were Awareness, Reach of schemes, Items of OOPE, Financial adequacy, Regularity & Real time disbursement, Transport cost, Sources of OOPE.

**Figure 4.19 Themes for FGD**



**Awareness:** ASHA is major source of information for beneficiaries since ASHA works for small population of 200-500 households depending on area being served, with such small population being covered ‘positive interactions occur between individuals’ and ASHA’s ‘lead to the formation of social capital’. ASHA’s working in different area use “common vernacular that individuals use as part of their interactions which facilitates their ability to gain access to people”. In Belgaum they use Marathi along with Kannada, as in the case of Haveri and Bellary where different dialect of Kannada is spoken. (Lesser, 2000). Apart from this ANM and Anganwadi workers also serve as source for information usually mother’s meetings in Anganwadi and by immunization session in ANM also add to information access. Some of the beneficiaries have read tayi Card which is also a source of information about schemes Some beneficiaries have received information from friends and relatives who have benefited from the schemes or have information about the schemes. Some of them also have received scheme information when they visit hospitals/ health centres for routine ANC check-up and its usually the place where the beneficiary’s entitlement to the schemes is officially processed and disbursed. Some of them could not be aware of schemes due to temporary migration for work

in other areas where they conceive which limits their access to information and even MCP/Tayi card.

Reach of Schemes/ real time disbursement: Some of the beneficiaries would get all the benefits on time, some of them are not getting the incentives on time even after submitting all the documents on time. The reasons for this are not known, the ASHA's and ANM who were observing the FGD also did not have answers for why some of them did not receive any benefits from the government even after being eligible and submitting the documents. In some cases, incentives do not reach at all. In some of the beneficiaries the incentives reached one year later. Their concern is that the money should be credited to the beneficiaries before the delivery so that it can be used during ANC. The participants also felt that the incentive amounts of Prasoothi Aarika and JSY were insufficient and it's very difficult to manage maternal cost in such small incentives. Their expression was "What will you get out of that money? It will only aid to extent with the amount that is being spent". They were also concerned about the non-timely release of the money. It is also found that the Government Hospital staffs are not responding properly regarding free health facilities and maternal kits. Some recently delivered women shared that they get money on time either due to document related issues like having some spelling mistakes in the documents.

Issues in Obtaining Cash Incentives: The participants expressed that major difficulty in obtaining cash incentives is related with documentation. Some of them had come to new house and change in address becomes an issue. Some of the newly married may not have included wife's name into the family ration card, addition takes time or they may be considered non-eligible. Some of the couples who separate out from joint family into nuclear family will not be in possession of BPL card and the process to obtain a new BPL card takes lot of efforts which demand forgoing that days earning for people who are employed in informal sector. Both husbands name and wife's name will be in the BPL cards of their families but they both do not jointly possess a BPL card. Majority of the participates had issues with BPL Card and some of the beneficiaries had problem with Bank Account they were not having bank accounts in their name and creating one account took time as they had to travel to nearest town with bank facility to open an account. Some of the participants were unhappy with the response from the government hospital staff for delay in cash incentives when the documents are in proper line. Most of the time it has also been found that the beneficiaries are approaching the private hospitals for delivery purposes and this makes them not eligible for obtaining the

incentives. Some of them were not able to produce documents on time which would have made them eligible for cash incentives. Some of them were not able to encash the cheques given to them because they got it after the maternity period. Many participants complained that they got prasoothi aarika after the child was 6 months to one year. Some did not get any cash incentives even after submitting the documents. Some of the felt they did not receive cash incentives as they delivered in other facilities near to their mother's house.

**OOPE components:** A total of 5 reasons were identified to why out of pocket expenditure happens,

1. Lack of basic facilities like scanning and sometimes blood tests.
2. Medicines unavailability
3. Transportation costs
4. Informal payments
5. Food
6. Blood transfusion

***Lack of Basic facilities:*** Scanning not being available at government facilities is a major concern. Most of the women who underwent scanning said it helps in identifying if baby growth is normal or if there are congenital abnormalities before they could deliver the baby, this is the driving force for the women to opt for scanning in private sector which costs more and they are even willing to travel distance to avail this facility. Some of the participants shared that they had to spend eve on basic blood test which were not available in the PHC they belonged to.

***Medicines availability:*** In some FGD's women told medicines were not available and in some FGD's it was shared that medicines were prescribed outside, apart from this FGD participants also have consumed lot of nutritional supplements which were not available in PHC's.

***Transportation costs:*** Mentioned separately

***Informal payments:*** Participants did discuss about informal payments both for ANC and Delivery costs, from the discussion it emerged that whenever the pregnant women gets the specialists attention the informal costs would go up informal costs are there for every delivery in some form of other very few people have not given money. Many participants expressed their anguish as they received proper care only when they agreed to pay the informal fees.

***Food costs:*** It would take half to almost a full working day to routine ANC and other instigations and food expense come along with it.



**Blood transfusion:** Some of participants who paid for blood transfusion expressed it would be difficult to get blood availability at subdistrict hospitals they will have to travel district hospitals/ blood bank.

**Suggestion to Avoid OOPE:**

The suggestions by beneficiaries were four-fold

1. Improve the facilities at PHC level where they could get comprehensive facilities.
2. Reduce the transportation costs.
3. Reach of incentives faster.
4. Avoid instances of corruption

**Financial adequacy of incentives:** Participants felt that the scheme incentive money is not enough to manage the costly health services. According to them the government is providing only Rs. 700-1500 and this is very low amount when it comes for managing the health services and most of the time the incentive amount doesn't reach on time to the beneficiaries. Some participants said they have to wait for at least one year to get the incentives. The incentive amount is not even sufficient for managing small health expenditures. Many of them suggested that they have to pay informally to get the free facilities. Overall participants stressed the need that government should increase the incentive amount as all of them will not get all the schemes that they are entitled to.

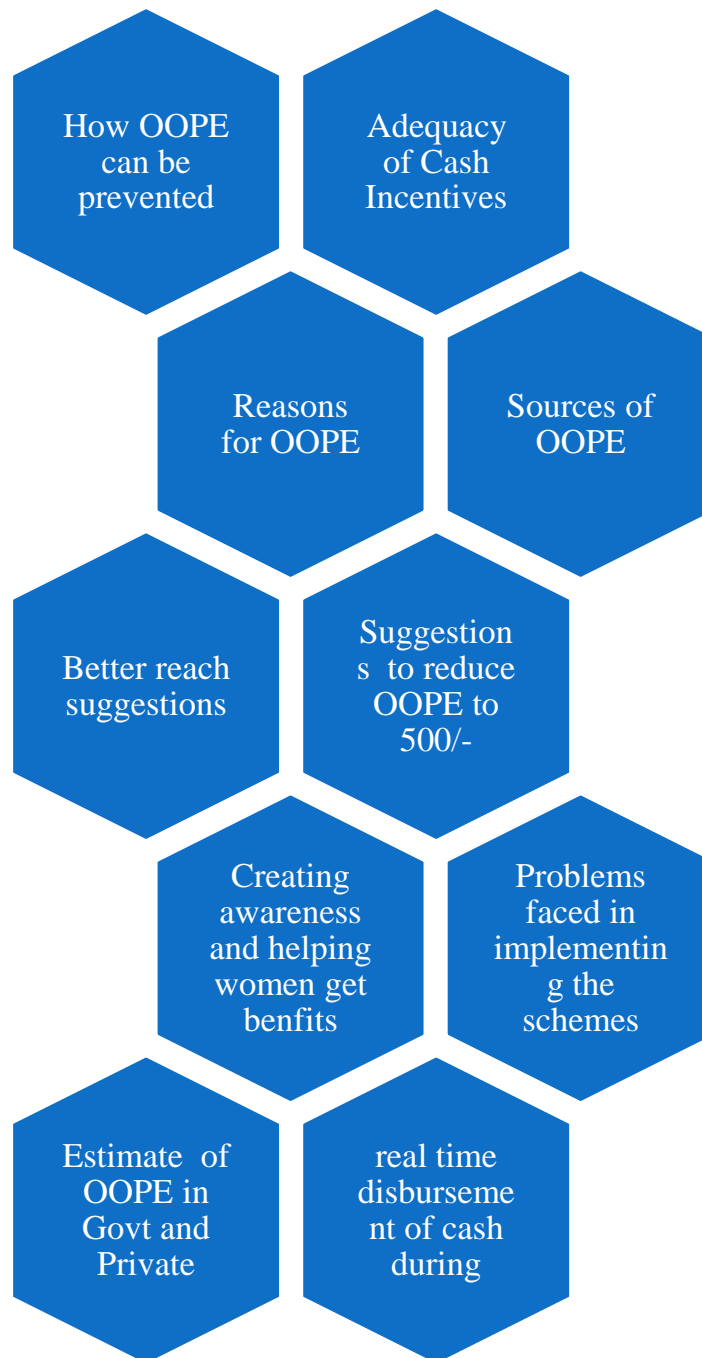
**Transportation:** The major problem is non-availability of public transport at the time of need/more pronounced for people who have built their houses in their farms. And also, services of bus timing available for people living in remote area who are forced to depend on private transport sometimes even individual private transport which costs more. Whenever there is an emergency, especially when referred to higher centres will have to be borne by people themselves. The ambulance services are not good and they have to pay for transport costs. According to the respondents, they have to pay bribe to the drivers to access the free services. In most of the emergency when ambulances are not the respondents are paying the transportation cost from their pockets and they don't have the idea about whom to complain about this soft corruption and negligence. In one case they mentioned that the ambulance services are reachable only to those who have some influence in the society. When the lady is in labour pain family members are left with no other alternative but to engage the private means of transport to nearest facilities or higher centres. Non-availability of the ambulance services

at request leads to private transportation especially during delivery. Overall women did express transportation is one of the major expenses during the maternity care.

**Sources for meeting OOPE:** Most of the respondents said that they borrow money from the money lenders or from the friends and relatives in such situations. There were even cases where people have taken Gold Loans. In few cases they responded that they are borrowing money from the Self-Help Groups (SHG) to arrange for OOPE. In few cases they mentioned that they have to pledge their land and assets for arranging the money. Most of the respondents said that they have to borrow money from the relatives and friends in such situations. Majority of the participants said savings to certain extent, loan on interests are the major sources for meeting OOPE for maternal health care. They even mentioned that in critical cases they have to go the money lenders who charges high interest rates. Some poor families can't save that much of money for them loan on interest or borrowing from friends and families is the major source of meeting the OOPE.

#### **4.11.2 Interviews at PHC level**

At the PHC level we interviewed ASHA's ANM and PHC medical officers to get an overview and insight into issues related to OOPE at PHC level. Overall, our emphasis was to get an estimate of OOPE from different sources and reasons for it and how it can be prevented, how programmes are implemented and managed at PHC level. These were some of the aspects covered under the interview.

**Figure 4.20 Themes for PHC Interview**

We interviewed in the 52 institutes which were part of the study. Each of the ASHA's ANM and PHC medical officers were interviewed separately to get their viewpoints. Put together these people are the core in implementing the maternal health strategies when it comes to PHC level. For the sake of convenience, the ASHA and ANM interviews are put together as it was a common questionnaire for both of them. The essence of interviews is highlighted below.

### **Junior Health worker Female -JrHWF/ANM**

The 52 ANMs we interviewed had the experience ranging from 6 months to 31 years. ANM-related work under RCH includes maternal and child health along with family planning services, health and nutrition education and immunisation for the control of vaccine preventable diseases.

### **Accredited Social Health Activist – ASHA**

ASHA are the first port of call for any health-related demands of deprived sections of the population, especially women and children, who find it difficult to access health services. Main role of ASHA is to create awareness on health; identifying and registering new pregnancies, births and deaths; Mobilizing, counselling and supporting the community to demand and seek health services; Identifying, managing or referring cases of illness and overall support the health service delivery through home visits, first-aid and immunizations sessions. Most of the ASHAs were there in field since the beginning of NRHM in the state and ASHAs in Urban areas were appointed around 2017.

### **Creating awareness and helping women get benefits**

All the ANM's and ASAH' S were aware previous and current maternity benefits programme and also talked about newly introduced state scheme of matrushree and matrupoorna yojana. Both of them would create awareness about benefits a pregnant woman would get from government health centres like free ANC check-ups, free scanning, and various other entitlements which pregnant women are entitled to when they utilise public health facilities. Both of them opined that maternity benefit schemes are reaching the poor and marginalised for the survey years.

### **Effective source of information about scheme benefits to the beneficiaries**

ASHA's felt they are one who would effectively reach out to community as they reside with them and other most effective ways are ANM and Anganwadi workers (AWW) as they are also in close contact with the community. ASHAs response were in line with Inter Personal Communication as means to effectively communicate scheme benefits to beneficiaries, some of them also expressed that relatives/ friends could also be effective source of information on schemes.

The ANM's also expressed that ASHA could be effective source of information at the community level, majority of them also felt that AWW could also be effective source of information. Along with them relatives/ friends, Posters, TV, Radio and IEC materials could also be effective source of information.

### **Problems faced in implementing the schemes**

The difficulties/problems faced while implementing schemes are

- Document related- non availability of documents like BPL card, bank accounts which are explained in the FGD section.
- Procedural related- Procedure related to selection of beneficiary based on eligibility criterion- lie BPL card, Account of beneficiaries, in absence of BPL card certification from the concerned revenue authority. And limited to 2 live births only. Have to deliver in government hospital only.

### **Real time disbursement of cash**

The ASHA's and ANM's could say they would disburse the benefits as per budget availability, when there are no funds beneficiaries would not be paid. They did not have any idea about budget allocation and some of them even opined that budget was not there due to inefficiency of medical officers.

### **Adequacy of Cash Incentives**

Nearly 95 of the ANM/ASHA's opined that cash incentives distributed through maternity benefit schemes were not adequate. Some expressed the incentive money will be insufficient get the scanning and blood test done which may not be available in govt facilities all the time. Some felt it would be sufficient only to purchase medicines alone, transportation is also costly and could aid in that. They also felt that Food, Medicines, Clinical services (lab tests, scan could be partly/ fully purchased from incentive money and some of them would use it for transport also.

### Estimate of OOPE for maternal care in Govt and Private Facilities

As part of the interview we collected estimates from their perspective about what would be the cost of average maternity care in government and private facilities. We collected separate estimates for normal and caesarian deliveries. Overall range is specified.

<i>ASHA – Public facilities</i>	
<i>Normal</i>	500-10000
<i>Caesarean</i>	6000-20000
<i>ASHA – Private facilities</i>	
<i>Normal</i>	13000-25000
<i>Caesarean</i>	30000-50000
<i>ANM – Public facilities</i>	
<i>Normal</i>	500-10000
<i>Caesarean</i>	2000-10000
<i>ANM – Private facilities</i>	
<i>Normal</i>	12000-25000
<i>Caesarean</i>	30000-50000

### Reasons for OOPE

Overall ASHA's and ANM's were asked to identify the top most reasons for which out of pocket expenditures happens for people who utilise public facilities

- Scanning: when not available in government facilities or takes time to get the process done with a long queue.
- Thyroid Tests: Not available in Govt facilities
- Gratuities, In Kind/ Informal Payments: most common in all facilities
- Blood and Urine Tests: when not available in PHC's
- Food: to be borne by individuals
- Blood Transfusion: About 30 of them expressed that blood transfusion costs more,
- Transportation costs: Usually the beneficiaries would be accompanied by one person from the family along with ASHA and the transportation expenditure would be for a minimum of 2 persons. In some places they specified that beneficiaries would have to travel to District Hospitals for ANC at least once, this was being done for facilitating referral when required. They said it would take a minimum of 4 visits to a maximum of 10 visits for various ANC check-ups and other aspects related to it and average cost for

travel to both sides was as low as 100/- per visits to 500/- per visit depending on the means of transportation used.

#### 4.12 Medical Officers

52 Medical officers we interviewed had an experience ranging from 6 months to 15 years some were in charge of other PHC also. PHC medical are the ones who do regular ANC and in charge of PHC and notational programmes its catch emanate area.

**Awareness:** They envisaged their role of creating awareness is through providing IEC about benefits, in arranging easy facilitation of documents and procedures and Helpful in supporting govt facilities for health care and help facilitate information through ASHA, ANM. They also expressed that ASHA, ANM and AWW are most effective source of information on schemes apart from them friends and relatives, posters and TV could also be used.

**Reach of Schemes:** They expressed that they could reach out with maternity benefits schemes to some of the women but they are not able to reach all because on time through real time disbursement either due to shortage of funds.

**Adequacy of Cash Incentives:** Majority of MOs felt cash incentives are adequate as the services are free of cost, only a handful of them felt incentives are not sufficient.

#### Difficulties in implementing schemes:

- Document related- non availability of documents like BPL card, bank accounts which are explained in the FGD section.
- Procedural related- Procedure related to selection of beneficiary based on eligibility criterion- lie BPL card, Account of beneficiaries, in absence of BPL card certification from the concerned revenue authority.
- Entries in Tayi card: During every ANC check-up, the Medical Officer of the Health Centre/Hospital puts the signature, date and seal on the ANC card.
- Time taken to process the claims- JSY money is immediate PA is delayed as it was centralised through state treasury.
- Non availability of funds in time- Due allocation from taluka/ district.

Documentation problem: In their overall opinion absence and delayed document submission are major reasons for eligible women not getting maternity benefit schemes.

Budget for 2014-16. There was delayed budget in 2014-16 and some received the amount very late on most case. Some declined to comment as they were newly appointed and did not have any idea for that tie period.

### Reasons for OOPE

- Scanning: when not available in government facilities or takes time to get the process done with a long que.
- Thyroid Tests: Not available in Govt facilities
- Gratuities, In Kind/ Informal Payments: mentioned by selected few
- Blood and Urine Tests: when not available in PHC's
- Medicine: medicines purchased other than govt supply
- Transportation costs: According to MO's average cost for travel to both sides was per visit was as low 100/- per visits to 500/- per visit depending on the means of transportation used.

<i>MO's – Public facilities</i>	
<i>Normal</i>	200-10000
<i>Caesarean</i>	6000-20000
<i>MO's – Private facilities</i>	
<i>Normal</i>	13000-25000
<i>Caesarean</i>	30000-50000

### Sources of OOPE

All of them (ANM, ASHA and MO's) Opined that sources of meeting the out of pocket expenditure would be through

Savings- This in their opinion was first source of meeting OOPE. According to them most of the benefices would have saved some money towards the expected expenditures for maternal care.

Loan with/ without interest/ other relatives support: This was second source to meet OOPE when they run out of their savings.

Support from beneficiary's father house- they also specified that for the birth expenses would be met from beneficiaries' father's family especially for the first birth. Overall beneficiaries' father's family would help in meeting expenses to certain extent.



### **How OOPE can be prevented?**

- Timely payment of existing scheme money would help in preventing out of pocket expenditures to extent as it could be utilised for services required.
- Pay more money through existing schemes: This was unanimously agreed to as they had stated earlier that expenditure is high and increasing the schemes money will help in meeting the expenditure.
- Providing lab tests and scanning facilities in nearby: Most of the beneficiaries would have to travel to taluka/district headquarters for scanning facilities for thyroid check-ups.
- Make better arrangements to manage long queue/ rush in the govt facilities commonly used by the women in the area, for lab tests (blood, urine, thyroid tests) and scanning: This is a pure management problem which requires management solutions on uptake and management. There are no mechanisms at present.

### **Suggestions to reduce OOPE to 500/-**

Overall, all of them regularizing/sustain existing scheme benefits, manage queue/ rush in govt facilities and improve timing/ quality of existing govt ambulance/ transport facility to reduce the out of pocket expenditure to 500/-. Medical officers especially pointed out upgrading services at PHC/SC level. Overall solutions to prevent OOPE have been converted into suggestions to reduce OOPE with an addition of transportation facility.

### **Better reach suggestions**

- To provide facility to poor people who doesn't possess any documentation
- Provide scanning facility
- Provide manpower and facility at PHC level
- Provide benefits in time for mother child health care,
- Effective planning and transportation/ disbursement of funds

#### **4.12.1 Taluk District and State Interviews**

The same set of questions were asked to THO, RCHO, DHO and State level officers with additional questions on budget. The views expressed were similar in lines with that of medical officer, with respect reasons for OOPE, sources for OOPE, awareness creation, difficulties in implementing schemes and how OOPE can be prevented.

**Process of planning and Budgeting:** In every year February the planning submitted in the form of Project implementation plan (PIP) at various level. The Planning would start by specifying the number of beneficiaries, appraisal and budget breakup for each scheme and activity. This would be pooled at Taluka and District level and state level and submitted to union government. The Budget would be released from the centre and state would match the budget with given proportion and release the money to districts and then downwards to till PHC. From the year 2016-17 onwards the PIP has been submitted through online portal.

**District level Planning:** Talking about the scenario in earlier years since the PIP was to be collected from various health institutes there used to be a delay in submitting it to state level and state would transfer funds after the PIP was approved which led to delay in disbursement of benefits to beneficiaries. This process has been streamlined over years and now budget gets transferred on time. The district officers mentioned that NRHM budget is streamlined and funds get transferred on time with state sponsored schemes they said providing estimates was in their hands and budgeting process and funds transfer was difficult comment about as the process did not follow any time lines and even the disbursement was with treasury department. The treasury department of GoK made the process software based under the name Khajane II, an integrated financial management across all spending and resource mobilization offices of the Government. Overall, this process was also tried to run in par with that of NHM but *prasoothi aarika* was stopped.

**State level planning:** At state level the number of beneficiaries would be arrived based on previous years number of beneficiaries and project numbers are estimated with at least 10% raise from the previous years and budgeted.

**Real Time disbursement:** Most of the taluka level officers specified that real time disbursement depended on the funds available with them. When the funds get exhausted beneficiaries would get their entitlements after some time. District level officers talked about Improvement of real time disbursement over time which specified. Since the process of disbursement was through

cheque for the specified financial years, they found it more difficult to disburse the amount to beneficiaries. Some issues they faced

- Beneficiaries will be reluctant to travel all the way to facilities where they delivered for a sum of 700/- or 1000/-. And usually it takes 1-2 visit to collect the cheques for delayed disbursement.
- Some of the beneficiaries would not encash the cheque in time which would become void and process of issuing the new cheque will take some more time as they would have to complete the official formalities of documentation once more.

Human resource: The Taluka level officers pointed at lack of human resource at PHC level/ HSC Level and need to fill it up for efficient functioning of health systems. The district level officers pointed out at distribution of HR across the district and opined that low performing pockets are the one with low human resource and specified that the staff who work in those conditions are overburdened often looking after more than one centre. They also talked about specialist shortage in subdistrict level and challenges to running the FRU's 24X7. They said usually at CHC you may not find the specialist if you have gynaecologist she will there for routine duty. The state level officers expressed that they have ensured the sufficient human resource at SDH level and admitted to shortage of doctor's triad at CHC level. Overall, they also specified that they have looked at the performance of 24X7 PHC and have relocated them based on the delivery load. On increasing the number of PHC's to function 24X7 they talked about budgetary constraints.

OOPE reasons: some of the officers talked about the trend of people seeking specialist attention for maternity care which usually leads to more expenditure as they are located in cities and they ask for more investigations and prescribe additional drugs compared to that of a regular ANC. It would also mean enhanced delivery costs. Scanning load in government facilities is high and it would take a day's time and some times more than a day to get the scanning done and currently they said scanning facilities if not available in government facilities have been outsourced at a low-cost basis. They said the services are free and should not be charged however they said if people want to give money it is up to them.

### 4.13 Case Study 1 – Caesarean section

Jyoti was married when she was 18. Her husband is a lorry driver and earns around 12000/- rupees a month. She became pregnant twice, once in 2012 and once again in 2014. This write-up is about her second pregnancy. She confirmed the pregnancy through ASHA support. She recalls registering for and receiving the thai card. She promptly attended all 4 ANC check-ups, with the first check-up done within the first 3 months of pregnancy, for which she used to travel by bus. The government facility was a PHC in Halasi which is about 10 kms from her residence. Since it's a remote area in the forest buses leave her area starting 10 a.m. in the morning and subsequently at 12 p.m., 3, and 5 p.m. It takes half an hour approximately to reach the medical facility and it cost her 50 rupees for one trip. During delivery, she used her own vehicle. The 4 trips would have cost her 400 rupees by bus. She recounts having one scanning done in a private facility, apart from the ones provided by government. The scanning in the private facility costed her 800/-.

For these check-ups she would leave at 10 a.m. in the morning and return by 4 p.m. it costs her 50 rupees by bus and she would spend 200 rupees for food for the day. Scanning was done in Kanapur, and it would cost her 50 rupees to get there by bus. She would stay approximately from 11 to 3p.m. report of scan used to be handed over there itself. She recounts the total transportation and food costs for scanning would come to above 600 to 700 rupees for all people accompanying her including 100 rupees that was paid to the doctor conducting the scan, without receipt. She went for scanning twice. The total ANC cost therefore went up to 2500 to 3500 rupees. No blood transfusion was done to her, despite being diagnosed with anaemia once and was given medication for the same.

She was given iron folic acid tablets in the government facility itself once in 30 days. No major health problems occurred during pregnancy. She went thrice to visit a private doctor at Nandgad, for various emergencies like body pain, for which doctor fees was 300-400 rupees. Tablets prescribed cost 200-300 rupees. This private facility was 15 km away and she used to ply using her own vehicle as it was emergencies. One trip to such private doctor would cost approximately 500 rupees. Total tally taking to 1500/-.

She delivered at Kanapur taluk hospital, for which she paid 50 -100 rupees for admission. Doctor was a male. She had Cesarean section delivery. The delivery cost for the doctor came up to 5000 rupees. Her first delivery was free. She lost blood during delivery and transfusion

was done for which one bottle cost 1300 rupees and she needed 2 of them. It came to 4000/- including transport. The blood had to be brought from Belgaum as there was no blood facility in Khanapur. Sanitary pads were given in the government facility itself. Food was not provided in the government hospital and hence the cost for food for everyone present there was approximately 6000/- rupees. She had to pay 50 rupees to the nurse to change the bed sheet. She specified that medicines were brought from outside the hospital for her delivery which costed her around 6000/-. She said at the point you are about to deliver and when your health wellbeing is also partly in other hands you just do whatever is asked of you can't ask questions. We have to look after ourselves. She stayed in the hospital for 7 days. She went for check-up after a month for delivery by private vehicle which costs 15 rupees. Private vehicle taken to return which cost around 700 rupees.

Before delivery, 1000 rupees was given as part of government scheme. Madilu kit was given free of cost. Total transportation cost was more than 2000 rupees. Total food expenditure was 4000 to 5000 rupees. Total delivery cost was 15 to 16000 rupees. Her husband is a driver and earns 6 to 7000 per month. She spent for her delivery from her savings and borrowed some money from her friend. She recalls to have compromised on other amenities to meet up delivery costs. She said that the doctor first charged 6000 rupees for delivery but when negotiated by ASHA worker, agreed to 5000 rupees, then ASHA negotiated and brought it down to 5000.

She suggests medicines to be made available in the govt facility only as it becomes expensive otherwise. No money given from govt scheme after delivery. Doc fees is too much as first time was free. She says madilu kits were very good. First delivery she got 700rs and 1000rs, 2<sup>nd</sup> delivery she got only 1000 as part of government scheme. Overall, her second pregnancy costed her nearly 25000/-.

#### **4.14 Case Study 2 – Normal Delivery**

Anusha was 22 when she married and conceived a child at 23, in 2014. Her husband is a mason, and they were in Maharashtra during the first 5 months of pregnancy. Her husband finds work every week. This was her first pregnancy and she delivered at M.K.Hubli government hospital PHC. She confirmed the pregnancy by herself using a commercially available pregnancy kit and was not assisted by the ASHA workers. This kit cost her 60 rupees, and the result of the test was shown to the Parishwad PHC. It costs her 10 rupees to get to the said Parishwad PHC. She went for regular ANC check-ups there, amounting to 4 times in 9 months. This would have

costed her 80 rupees alone for transportation for the ANC check-ups. During the ANC check-ups, her blood, and urine tests were continuously done, her weight was taken and tablets were given for 30 days, provided every month. She took the given tablets for 5 months. She was also provided with calcium tablet and tonic, which she took for 8 months. Her first check-up, she recalls was in her 2<sup>nd</sup> month. She needed to buy prescribed IFA tablets from a private establishment due to its unavailability in the government facility, due to her condition. She needed 30 tablets which cost her 90 rupees and she took these tablets promptly for 3 months. She used to spend 100 rupees for food on the days of her ANC check-up amounting to 400 rupees and also when she used to go for scanning. All medicines were given in the PHC only, she did not have to spend for any medicine. During her pregnancy she travel from to Maharashtra 3 times her husband was there all the time it costed them 3000/-.

She required scanning to be done, which was done in a private facility 4 times in the course of her pregnancy. The scans costed 600 rupees per scan. She recalls that the scan reports were provided to her only on the next day. It costs her 10 rupees to get to the scanning facility by bus. Therefore, her total scanning cost alone would sum up to 4000 rupees. She used to make separate trips for ANC check-ups and scanning which would cost her 20 rupees 1 trip. Therefore, she went for ANC check-up 4 times and scanning 4 times. She her name was not in the ration card and some identification that she was part of the panchayat in order to avail the scheme. Since she did not have one, she had to get it done and in resolving this problem, it cost her an additional 1000 rupees. Finally, she got her name enrolled in the BPL card which made her eligible for schemes.

She delivered at M.K.Hubli. she was a BPL card holder during delivery. She was seen by a lady doctor. Delivery cost was 3000 rupees and she was made to stay there for 3 days, and delivered normally. Doctor's fees were 300 rupees, nurse was paid 100 rupees during delivery.. No money was taken for saline. No free food was given to her at the time of delivery. Her father used to stay in the place and food was provided to her by him, from his home. She took the bus to her father's house during delivery and from there she paid 100 rupees to the hospital, and again paid 100 rupees to go back to the father's house.

She seems to have struggled getting the registration for delivery. As she resides in Maharashtra, she had to travel to Belgaum for delivery, as the government schemes could not have been availed by her otherwise. She recalls having to send someone to travel to the hospital in advance for admission into the hospital, much before her due date, adding to her costs. When asked why

a separate registration when they have tayi card, ASHA and herself suggested that it is routine in that part to have an ANC done in Belgaum district hospital which was to facilitate the referral in case if there are complications during delivery. It was also suggested that this process would facilitate the easy referral or else it would be procedural delay for availing services during the referral. She recalls that the ASHA workers were proactive and were helpful. As she was a BPL card holder during pregnancy, Prasoothi Araike was paid to her. She was only paid 700 rupees after delivery by cheque. No 1000 rupees was given after the 2<sup>nd</sup> ANC check-up she claims. She was provided rupees 1000 after a year of delivery. She was given half a dozen sanitary pads after delivery. A Madilu kit was also provided but she claims that a sum of 400 rupees was charged for the same. Anganwadi ration too was not given, she claims. Total maternity cost was claimed to be 10,000 to 12,000 rupees, including the travel cost. She had taken a loan from a financier for rupees 30000 which was to be repaid in 18 months at an interest of 2000 rupees per month. She also took a loan from the Dharmasthala Sangha, and says she does not save money, and did not save any for the pregnancy as well.

#### **4.15 Limitations**

This entire exercise was based on recalling and some respondents may not remember exactly but have given approximate prices. Some may have inflated the prices expecting returns. Therefore, recall bias may have exaggerated the amounts spent. Most of them would have quoted the current prices which have become higher due to inflation. Also, it would be difficult for the person to exactly recollect the same amount spent at that point time in absolute terms. Recall bias is a major problem for the study.

We have covered only direct costs and indirect costs are not covered. The opportunity cost of people accompanying pregnant women for services or who spend time taking care of pregnant women are not included in this study.

Secondly, there are no evidences to verify the exact amount spent in government facility as there are no documentary evidences. There are documentary evidences in private facility but most of them did not keep it with them as it was 3-4 years old.

Informal payments are a common scenario during the delivery time and women are treated well if they pay. There is no documented evidence to this except the sharing by beneficiaries. Therefore, the components of delivery cost are unknown except for transportation cost and referral.

## **CHAPTER - 5**

### **REFLECTIONS AND CONCLUSIONS**

#### **5.1 OOPE and its variations:**

We have used the data and information on expenditure collected in the form of disaggregated components of maternity care mothers who delivered in government and private hospitals during 2014-15- 2015-16, and covers a range of demand and supply side factors determining the expenditure. Maternity expenditure includes not only institutional delivery expenditure but also covers expenditure on ANCs and PNCs. We also looked at the schemes which provided financial incentives or covered some aspect of maternity expenditures and looked at the reach of schemes to the beneficiaries. Furthermore, we also looked at sources through which OOPE is being met. The average expenditure for each component is derived for all the components and aggregated as ANC, Delivery Cost, PNC and Total Maternity Expenditure. The average ANC cost was INR 6023, mean delivery cost irrespective of the type of delivery was INR 8441/-, and mean post-natal cost was INR 601/- for people who utilised public facilities for delivery.

The average cost for maternity expenditure was INR 18630/- which is slightly higher than the figures shown in 71st round of the National Sample Survey (2014), which estimated 17642/- for southern region (Goli, Moradhvaj, Rammohan, Shruti, & Pradhan, 2016), The mean cost of normal delivery in public facilities was INR 6003/- with total maternity cost of INR 13,035/- .The average cost of caesarean in public facility was INR 12,478/- with total maternity cost of around INR 22435/-. The caesarean delivery always costs twice the amount of normal delivery.

The services like scanning are not available at government facilities and at places wherever it is available, it is expensive and there are long queues, which takes longer time to access the service. These facilities are not available in all the taluka hospitals and even in some district hospitals like Chikmagalur mainly due to non-availability of radiologist to do scanning. This has led to situation which forces the purchase of services from private sector, thereby leading to increased OOPE. The market price for minimum of 2 scans put together would amount to INR 2000/-.

Informal payments for service providers are one of the major chunks in OOPE. The informal payments vary by type of institutes, place and service provider Majority of the beneficiaries



who had delivery in public institutes payed informal payments to the service providers. Some out of their own interest, in most of the cases it was demanded, it's also like an informal system in place in public facilities wherein, rates are fixed for services like X amount for particular type of services, doctors charge separately and para medical staff separately. It is very difficult to measure these prevailing practices with individual variations as people have negotiated and paid the demanded money based on their ability. Some have exaggerated the amount paid while others have just paid the prevailing rates. The beneficiaries shared that they were treated better and attended well when informal payments were made. This is an existing practice and is prevalent all over the state. That's the reason for varying cost of deliveries in public institutions. Beneficiaries have put the questions back to us like why we have to pay when the services are free. But until the amount is not paid, they will be subjected to negligence and left on their own. People who have the potential to use the same public facility hesitate to talk about it as they are going to use the same facility again for delivery of the child.

Beneficiaries felt transportation costs need to be supported as they have to travel to taluka headquarters or district headquarters for certain services like scanning and also for ANC check-ups which takes a lot of money when transport is not frequently available. Travel takes a lot of money people in hilly area and in remote areas do find transportation a challenge, as there are only few means of transportation and options of transportation available to them.

The beneficiaries living in urban areas and nearby urban area have more choice of service providers and prefer a specialist doctor in parallel with government services and they purchase private services which leads to increased OOPE while the people in rural area have less options and are limited to services from the system.

Findings from the present analysis suggest that to combat high OOPE on maternity care, the demand-side financing schemes during 2014-16 to avoid maternity expenditures like JSY, Prasoothi Aarika, were launched to reduce maternal and child mortality and also contributed INR 2000/- towards it. This was not sufficient to lift households out of spending because the mean spending on delivery in public facilities was INR 8441/- which was 4.2 times higher than the benefits received from the schemes. Only 44 of beneficiaries received both the schemes. In our sample, the delivery cost was INR 0 for 86 beneficiaries. And total maternity expenditure was INR 0 among 4 beneficiaries. However, these are only direct expenditures. Apart from this, there are also indirect costs which need to be factored in women and some of their family

members who escorted her may also lose their wages during pregnancy and delivery, which may impact negatively on BPL households.

The findings of this study suggest that the OOPE on maternity care for hospital births reported in this study is much higher as it was based on the recall method which is subject to biases towards constructing things that didn't happen or by distorting them. Therefore, ongoing maternity benefit scheme in Karnataka, caters to levels of OOPE specified in the study compared maternity benefit schemes during the reference years which was 2000/-. Now, women get up to INR 12,000/- due revised schemes like Pradhan Mantri Matru Vandana Yojana and Matrushree yojane of Karnataka for delivering in public institutes from both central and state government.

## 5.2 Outcomes

The Major outcomes of the study with respect to beneficiaries who utilised public facilities are as follows:

- To assess the awareness of the government maternal health schemes among the sample of mothers who delivered in public health facilities.
- Overall, 62.49 of the women were aware about the different schemes across age groups, education, occupation, caste and geographical territory.
- To find out the reach of the maternal health schemes to the targeted beneficiaries across the regions:
  - ❖ 83 (1451) women were eligible for schemes
  - ❖ 38.33 (669) of women received both JSY and Prasoothi Aarika
  - ❖ 36.38 (635) of women who delivered in public facilities received JSY Prasoothi Aarika and Madilu kit.
  - ❖ 43.49 (759) of BPL beneficiaries received JSY and Madilu Kit.
  - ❖ 43.73 (763) women received Madilu and Prasoothi Aarika.
  - ❖ Only 28.9 (505) of beneficiaries received all the schemes like JSY, Prasoothi Aarika, JSSK and Madilu kit
  - ❖ 58.4 of the eligible beneficiaries received Janani Suraksha Yojana cash assistance for delivering in public institutes.
  - ❖ 37.46 of women received JSSK benefits.

- ❖ 57.3 of eligible women who delivered in public facilities received Prasoothi Aarika.
- ❖ 73.3 of the beneficiaries received madilu kits among eligible women who delivered in public facilities.
- ❖ 9.78 of the women who delivered in private institutes got Thaiy Bhagya plus schemes.
- To assess the items of out-of-pocket expenditures incurred by the family per delivery in the public health facility.

<i>Expenditure Over head</i>	<i>Public</i>	<i>Private</i>	<i>Total</i>
<i>ANC Cost</i>	6021	10046	6708
<i>Delivery Cost</i>	8442	17824	10043
<i>PNC cost</i>	622	1432	763
<i>Transportation cost</i>	3911	6892	4420
<i>Total Maternity Expenditure</i>	14664	38037	18654

- ❖ The overall maternity expenditure for public facilities is INR 14664/-
- ❖ ANC cost for maternity care among women who used public facilities for delivery is INR 6021/-
- ❖ The mean delivery cost for women delivering in public facilities irrespective of type of delivery is INR 8442/-
- **Delivery Type**
  - ❖ The mean cost of normal delivery in public facilities was INR 6003/- with total maternity cost of INR 13,035/-,
  - ❖ The average cost of Caesarean in public facility was INR 12,478/- with total maternity cost of around INR 22435/-. The Caesarean delivery always costs twice the amount of normal delivery.
- **Catastrophic expenditures**
  - ❖ 61 of people who delivered in public facilities had catastrophic expenditures.
  - ❖ Bangalore rural had the lowest around 44
  - ❖ Highest was in Bellary with 78
  - ❖ Total Maternity Expenditure varies by, Administrative representations (districts), Caste, Religion, type of delivery, birth order, and type of institutes for delivery within public facilities and government or private facility.

- To examine the regularity, and real time disbursement of the cash and other incentives under the schemes.
  - ❖ 1/5 of ASHA/ANM opined that there was no real time disbursement of cash benefits to beneficiaries. Because of shortage of funds in the institute level, the beneficiaries will not receive funds. Most of the ASHA and ANM felt it was due to inefficiency of officials that funds do not reach on time causing delay.
  - ❖ Problems with opening account with a minimum balance of INR 500/- was raised.
  - ❖ Medical officers felt it was difficult to reach people living in remote and disadvantaged areas due to the difficulty to commute and thereby they are usually left out or it takes repeated attempts to reach them.
  - ❖ State and NHM funded budgets allocate JSY on time PA depends on the budget availability disbursed through State treasury.
- To examine the financial adequacy of various maternal health schemes.
  - ❖ 91.37 said the financial support provided through schemes is not adequate,
  - ❖ 0.58 did not give any information.
  - ❖ About 8.06 of beneficiaries said the schemes benefit was sufficient.
  - ❖ The average monthly income of beneficiaries who delivered in public facilities was around INR 11,877. If women were to get cash benefits from various maternal health schemes like JSY, Prasoothi Aarika, Madilu Kit it would sum up to  $700+1300+1675=INR\ 3675$  which would be nearly 31 of the monthly income.
- To analyse the sources through which the OOP expenditure is met by the family.
  - ❖ Borrow money from money lenders at the rate of 5-10 interest
  - ❖ Usually it takes 1-2 years to repay the loan taken after paying interest
  - ❖ Savings, relatives' friends,
  - ❖ loan from SHG/societies
  - ❖ Gold loan, pledge land or other assets
- To examine the component of transport cost in the OOP expenditure.

- ❖ The mean transportation cost for women for overall maternity care irrespective of the type and means of transportation is INR 3911/- which was 25 of total maternity expenditure.

<i>Average 1<sup>st</sup> Trimester transportation</i>	634
<i>Average of 2nd trimester transportation</i>	885
<i>Average of 3rd Trimester transportation</i>	1157
<i>Average cost of transportation during delivery</i>	1246
<i>Average transportation cost post delivery</i>	622
<i>Average transportation cost</i>	3911

### 5.3 Impact

The schemes like JSY, JSSK, Madilu and Prasoothi Aariki brought women to deliver in public institutes and with an increase in the institutional deliveries over the period combined with capacity building of the staff to deal with neonatal and maternal emergencies through various programmes have helped in declining of infant and maternal mortality. However, the decline in infant mortality and maternal mortality is also due to continuous community-based follow up through ASHAs and ANMs who help detect the cases and refer them to appropriate health institutes for follow up and treatment. However, factors like social development and improved livings standards leads to better health outcomes and better environmental conditions. If Karnataka is to achieve the Sustainable Development Goals within the target year, there needs to be more focussed interventions on health systems ensuring trained human resources availability in systems leading an to well-connected/coordinated efficient and better performing health systems along with community based activities like immunization and tracing morbidity at an earlier stage which will help reduce the maternal and child mortality from the existing levels. Also, the availability of point of care diagnostics will help in appropriate management of cases/conditions at various institutional level.



## CHAPTER - 6

### RECOMMENDATIONS

Following are the evidence-based recommendations from the study

1. The relative costs indicate that delivery costs are 2 times lesser compared with total maternity expenditure (TME). Transportation is  $\frac{1}{4}$  to that of the TME. Average TME is twice that of the average ANC costs. The Average transportation cost for 3 kms is 5 rupees, and for a distance of 10 -15 Kilometres costs 15 rupees in KSRTC. On an Average it would cost INR 20/- to INR 60/- for travel including the person who accompanies the pregnant lady. Rupees 40/- would be for the refreshments and food costs overall. If private means of transportation is used it would cost up to average INR 200/- to and for distance of 10 kms.

**Recommendations:** If we are to inflation adjust the transportation costs it would be 3 times the estimated costs. Give a minimum of **hundred rupees to pregnant women** towards the travel and food expenditure per ANC visit to ensure appropriate check-ups / follow up and enhancing compliance rate for complete ANC check-ups.
2. Sustainable development goals (SDG'S) have set 13 targets under the goal 3 and has specified a set of 26 indicators to measure the progress achieved and targets being met. Research by WHO and World Bank calls for increase spending on primary health care by at least 1 of their GDP to close coverage gaps in order to meet the health targets agreed under the SDGs. Till now 1520 Health and wellness centres (HWC) out of the set target of 2452 are functional. The first four services under the expanded range of services under HWC are related to RMNCHA. Increasing the load of delivery on PHC helps reducing the load of deliveries on secondary/ tertiary care hospitals. Very minimal delivery or rather delivery was a rare event in PHCs which were not functioning 24X7. In our study, 55.55 of PHC's were functioning 24X7 and only 35 of normal deliveries happened at the PHC level at various places. Deliveries in PHC are associated with lesser cost for delivery and total maternity expenditure. At present 46 of the Rural PHCs are functional 24X7. For the financial year 2016-17, PHC's in Karnataka accounted for 1,38,113 live births which was around 15.12 of all live births in public facilities as per the HMIS report.

**Recommendation:** Increase the load of uncomplicated delivery in PHC's so that they absorb uncomplicated delivery (intrapartum) load while providing maternal and new born

care. The Government may take appropriate decision to upgrade the PHCs in to 24X7 based on the need and feasibility.

3. CHC accounted for 13 of delivery load and an overall of 11 of Caesarean sections. There were no caesareans performed at CHCs in Bangalore, Chikmagalur and Haveri. There is short fall of about 37 i.e. around 120 CHCs in rural areas as per the RHS-2018. There are 230 First Referral Units which provide Management of labour/ delivery in high-risk women, including operative delivery. Only 40 i.e. 17.39 are functional at CHC Level. There is also shortage of specialists at CHCs. 39 of the specialist's posts are vacant at CHC level as per RHS 2015. Improving performance of CHC will reduce the load on Taluka Hospital and District Hospital and Tertiary care Institutes. Taluk Hospitals (SDH) accounted for 30 of deliveries and 31 of caesarean. District hospitals (DH) accounted for 24 of deliveries and 50 of caesarean sections. There is also shortage of paramedical staff by 29 at DH and 32 at SDH. Apart from this, there is 36 short fall in doctors' appointment at District hospitals and 31 shortfall in appointment of doctors at Sub Divisional Hospitals.

**Recommendation:** Improve the service availability at CHC by converting them to First Referral Units which help handle emergency obstetric care and complicated deliveries. Allocate adequate human resource for health at CHC and sub divisional hospitals to handle referrals.

4. 71.13 of beneficiaries who utilised public facilities sought to purchase scanning services from outside of the system. Relative price for 2 scans during pregnancy costs 1/8 of average total maternity expenditure. There is severe shortage of radiologists in the system and radiologist if present, cannot handle the amount of case load. At districts, there are long queues especially for scanning purpose and it may take one day or more than one day to get the scanning done.

**Recommendation:** In view of the shortages of radiologists it has been recommended to appoint/ hire radiologists for ensuing the services at subdistrict level. Also consider to introduce mobile ultra-sonographic vehicles which would do scheduled weekly visits to CHC's in the district for scanning at CHC level. Alternatively, the radiologists from DH can visit CHCs every week.

5. Informal payments in the health sector are considered as a major impediment to health care reforms and have adverse effects on the performance of the health system. Our findings, suggest that 10 out of 100 respondents agreed to formally record the in-kind/informal



payments. There is hardly any evidence of functional grievance redressal systems. Appointment of Ombudsman (Public Health) in the Public Health system of Karnataka is recommended, with an aim of providing channels of addressing complaints of users of public health facilities. The Ombudsman Public Health is envisaged as a position that not only facilitates conflict resolution and addressing of grievances, but also as a proactive position, whose office can influence positive systemic changes in health systems.

**Recommendations:** Look for feasibility of appointing an Ombudsman public health at state level. Also suggested to appointment upa-lokayukta at district level to enhance the grievance redressal and accountability mechanisms.

6. The average transportation costs constitute 26.67 of overall average maternity expenditures, and delivery related transportation costs constitute 40 of the total transportation costs. Only 20 of people used government ambulance as a means of transport for delivery. As per the government data, 40 of women utilise 108 services, as per our survey. At present, one ambulance is catering to 92,000 patients. The location of ambulance is either at Taluka Hospitals or Community Health Centres, which cover an average population of 2.5 lakhs at TH or 1.5 lakhs at CHC. So, an improved ambulance coverage would be helpful in reducing the out of pocket expenditures for maternal care especially for interfacility transfer and also for delivery care. On an average 1/10<sup>th</sup> of the Total Maternity expenditures are spent on referral transport. The other states have JSSK drop back ambulance and states like Chhattisgarh and Madhya Pradesh have Mahatari Express and Janni Express specifically for maternal services. The nagu magu ambulance fleet is low and only few get to use it.

**Recommendation:** Improve the Ambulance services for delivery care transportation as it helps compensate transportation expenditures. Follow what other states are following with respect to JSSK Ambulance and drop back.

7. The issue of real time disbursement and document related problems alienate beneficiaries from getting benefits of schemes. However, the issues of documentation seem to be major problem for women who are eligible for scheme, for example, getting a new BPL card always takes time, so relaxing the strict norms for documentation can help with better reach of the programme to the deserving and needy. 14.2 of beneficiaries did not have BPL card to entail the maternity benefit schemes. 36.13 said documentation was problem for not receiving the schemes. 22.17 said departmental issues were problems for not receiving the

schemes. 35.76 said documentation / departmental issues was a problem overall for not receiving benefits of the schemes.

**Recommendation:** Facilitate the documentation issues by regularising the document collection before issue of the Tayi card. Enhance the role of ASHA's to facilitate the documentation within the first trimester through Jandhan Aadhar and Mobile (JAM) strategy. Overall Use JAM strategy for maternity benefit DBT.

8. The State-run cash incentive programmes generally takes a setback compared to central government schemes either with budget allocation or disbursement. The state-run programmes do not follow the allocation of budget for the proposed plan as being done under NRHM. Which follow planning allocation and disbursement of funds.

**Recommendation:** Streamline the state-run programmes with strict guidelines for planning allocation and disbursement of funds to ensure more coverage. Use JAM strategy for enhancing the real time disbursement.

9. There is need to increase awareness among beneficiaries about various schemes as nearly 37 were not aware, however there is also need to direct the beneficiaries to appropriate authorities for fulfilling the documentation criterion for availing benefits. Since ASHA has been the source of information for majority of the beneficiaries, she would be more appropriate person for this role.

**Recommendation:** Increase the scheme related awareness among eligible mothers through ASHAs using Tayi card as information source.

#### **Other recommendations**

- ❖ ANC's should not be held on the same day everywhere, so that O&G, radiologist etc can move around between different PHCs.

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# APPENDIX

## Literature Review

Aradhna Aggarwal (2009) evaluates the impact of community-based health insurance programme Yeshaswini on utilization of health care, the intensity of use of financial protection, economic wellbeing and treatment outcomes. The study uses the propensity score matching methods for the impact evaluation of the programme. The study interviewed randomly selected 4109 households in rural Karnataka with structured questionnaire. The study developed measurable indicators of health utilization across five different categories such as out-patient treatment, chronic diseases, in-patient treatment, surgery and pregnancy. Results uphold an association between insurance by Yeshaswini and better healthcare utilization. The program is found to have increased the use and intensity of health care utilization, reduced out-of-pocket spending and ensured better health and economic outcomes. The study demonstrated that community insurance presents a workable model in resource-poor settings, through strengthened accountability and local management.

Sharal B, (2018) this study aims to assess the utilization pattern of maternal health care and the out of pocket expenditure for delivery services in a public maternity hospital. For data collection a cross-sectional study was conducted using primary data from women who delivered in a public maternity hospital, Mangalore during January –February 2018. The study found that the time of the first ANC visit, consumption of iron-folic acid (IFA) tablets, choice of provider for ANC is significantly associated with caste, education of the respondents and their husbands. The mean expenditure for delivery care, including indirect expenditure was ₹2875. Expenditure during delivery was significantly associated with respondent's education and type of delivery. The study further found that socio-demographic characteristics like caste and education did seem to affect the utilization of ANC especially the consumption of IFA. Education and communication campaigns may aid to improve this. Good implementation of government schemes can help to reduce the direct OOP expenditure for delivery care. The indirect cost associated with maternity care may still be a burden for poor families.

DB Shubha (2016) explores health care seeking behaviour and related out-of-pocket (OOP) expenditure among urban slum households in Davangere, Karnataka. The primary data collected through a cross-sectional survey from urban slums of Davangere. A random sampling technique has been used to collect data from 220 houses. Data were collected on health care

seeking behaviour and expenditure on under-five illnesses. The study found that there is an association between the amount spent and both the delay in care-seeking and the type of health care provider approached and there is no association between expenses incurred and household income, or gender of the under-five. The study revealed that OOP spending and prevalence of catastrophic expenditure should be high in the study population. Irrespective of their income, households were spending a substantial amount of health care for their ill under-fives: he suggested that the absence of institutional finances protection for vulnerable urban slum population safety nets in the form of self-help groups or community-based health insurance schemes could be first steps to delink impoverishment from healthcare-seeking behaviour. In the long run, accessible and affordable public primary care services, embedded in the urban slums and of good quality, are needed to reduce the inequitable burden that slum populations.

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

## Reviews on other State

Anshul Kastor, Sanjay K. Mohanty (2017), examine the disease-specific out-of-pocket expenditure (OOPE), catastrophic health expenditure (CHE) and distress health financing. Unit data from the 71st round of the National Sample Survey Organization (2014) was used for this study. Descriptive statistics has been used for estimation of CHE, and bivariate analyses were carried out to understand the differences in CHE by type of diseases. Multivariate logistic regression was used to understand the determinants of distress financing and catastrophic health expenditure. They found that mean OOPE on hospitalization was the highest for cancer followed by heart diseases. Many of the households incurred CHE and faced distress financing. More than one-third of the inpatients reported distressed financing for heart diseases, genitourinary problems, neurological disorders, musculoskeletal diseases, gastrointestinal problems and injuries. Lastly, the study further found that the higher OOPE among the richer and the better-educated people link health spending to the ability to pay and quality of care.

Shankar Prinja et, al (2018) this paper analyses the district level out-of-pocket (OOP) expenditures concerning outpatient consultation in Haryana state. The data collected from a large cross-sectional survey conducted in 21 districts of Haryana and randomly selected 79742 respondents for analysis. The study found that in NSSO 71st round about 4 of those who reported ailments in rural India and 2.5 with ailments in urban India did not seek care, However, a point of concern is that among the ill persons who did not seek care, those who cited “financial reasons” have progressively increased from 15 to 28 between 2004 and 2014, thus indicating towards an increased financial hardship of OOP expenditures. It also reported in the study that respondents in urban areas reportedly had a higher OOP expenditure than rural areas for OP care services. Males had a higher level of mean and per capita OOP payments than females for OP care. Nevertheless, males reported about 24 and 11 higher mean as well as per capita OOP expenditure, respectively, than females for OP care in our study. Further, the OOP expenditures were regressive implying that the poor and poorest categories incurred a higher OOP expenditure on health as a proportion of their consumption expenditure than the rich. This disparity was also seen more for inpatient than OOP health care.

Anamika Pandey, (2018) investigate trends in out-of-pocket health-care payments and catastrophic health expenditure in India by household age composition. Data collected from national consumer expenditure survey and health care utilization survey. Factors associated

with catastrophic expenditure were identified by multivariable analysis. The proportion of catastrophic health expenditure increased 1.47-fold between 1993-94 expenditure survey (12.4) and the 2011-12 expenditure survey (18.2) and 2.24-fold between the 1995–1996 utilization survey (11.1) and the 2014 utilization survey (24.9). The proportion increased more in the poorest than the richest across the study area. Catastrophic expenditure was among households comprising only people aged 60 years or older compared with households with no older or children younger than 5 years. The risk was also increased among households with both older people and children with a female head of the household and with rural background. Finally, the health expenditure in India has increased from the past two decades and expenditure was highest among households with older people. Financial protection mechanisms are needed for population groups at risk for catastrophic health expenditure.

Sanjay K. Mohanty and Anshul Kastor (2017) this paper is to provide a comprehensive estimate of OOPE and CHS on maternal care by public and private health providers in pre and post NHM periods. The study uses the unit data from 60th and 71st rounds of national sample survey (NSS). Descriptive statistics are used to understand the differentials in OOPE and CHS. The CHS is estimated based on the capacity to pay, derived from household consumption expenditure, the subsistence expenditure and household OOPE on maternal care. The log-linear regression model and the logit regression models adjusted for state fixed the effect, clustering and socio-economic and demographic correlates are used in the analyses. The study found that women availing themselves of antenatal and post-natal care from PHCs have increased from 11 in 2004 to 31 by 2014 while that from private health centres had increased from 12 to 20 during the same period. The study further found that the OOPE on delivery care from the public health centre had not shown any significant increase in the post NHM period. The OOPE on delivery care in private health centre had increased by 5.6 times compared to that from public health centres in pre NHM period. The economic well-being of the households and educational attainment of women is positively and significantly associated with OOPE, linking OOPE and the ability to pay. Women delivering in private health centres, residing in rural areas and poor households are more likely to face CHS on maternal care. Finally, NHM has been successful in increasing maternal care and reducing catastrophic health spending in public health centres. Regulating private health centres and continuing cash incentives under NHM is recommended.

Sanjay K Mohanty and Akanksha Srivastava (2013) this paper tries to understand the regional pattern and socio-economic differentials in out-of-pocket (OOP) expenditure on institutional

delivery by a source of provider in India. The study utilizes unit data from the District Level Household and Facility Survey (DLHS-3), conducted in India during 2007–08. Descriptive statistics, principal component analyses, and a two-part model are used in the analyses. The study found that expenditure for caesarean delivery was six times higher than for normal delivery. With an increase in the economic status and educational attainment of mothers, the propensity and rate of OOP expenditure increases, linking higher OOP expenditure to quality of care. The OOP expenditure in public health centres, adjusting for inflation, has declined over time, possibly due to increased spending under the National Rural Health Mission. Finally, he recommends that facilities in public health centres of poorly performing states are improved and that public-private partnership models are developed to reduce the economic burden for households of maternal care in India.

Saraswati Kerketta (2015) analyses the out of pocket expenditure on the utilization of antenatal and delivery care services in India. The study was based on NSSO 60th round data. Univariate and multivariate analysis has been carried out to examine the pattern and factors affecting out of pocket expenditure on antenatal and delivery care services in India. The study found that there are differences between private and public health facilities in terms of out of pocket expenditure on maternal care services in India. Urban mothers more likely experience OOP expenditure in ANC and delivery care. Among the social groups also there are big differences that can be seen in terms of expenditure on delivery care services. As women's educational level increases, the likelihood of out of pocket expenditure on delivery care services also increases. Women in higher age groups have more chances of out of pocket expenditure in receiving antenatal and delivery care. The out of pocket expenditure is the main barrier in access to health care services to pregnant women.

Priyanka Yadav and Ajit Kumar Yadav (2017) analyses the economic burden of maternal health care on household expenditure in the EAG (Empowered Action Group) states, comprising Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Rajasthan, and Odisha. The data from the 71st round of the National Sample Survey Organization (NSSO-2014) have been used for the study. Log-Linear regression was carried out to examine the effects of independent variables on maternal health care expenditure. The study found that Out of Pocket Expenditure (OOPE) is more in households living in urban areas. The richest section of the society and the women who are more educated incur more

OOPE compared to their counterparts. The government's effort should be made to reduce OOPE so that maternal health care doesn't become a burden for the poorest section of society.

Sandeep Sharma (2018) analyses the out-of-pocket expenditure in the utilization of maternity care services in urban slums of Rajkot City, Gujarat. The data collected from 180 women living in slums and who had delivered a baby within 1 year. The study found that the mean cost of delivery was around Rs. 8880. The average delivery cost of private institutions was significantly higher than that of government hospitals or home delivery. Around 75 of women delivered in private institution had health expenditure of more than 10 of total annual family income – catastrophic expenditure. He mentioned that in spite of higher maternity care-related costs in private institutions than government hospitals, the majority of mothers had utilized services from private clinics and had suffered catastrophic expenditures during the utilization of maternity care services. Finally, he suggested that the need for birth preparedness counselling as well as the effective implementation of maternity benefit schemes to prevent families from pushing down to the poverty line.

Tazeen Tahsina (2017) This study aimed to estimate and identify determinants of OPE in seeking health care for sick under-five children. Cross-sectional data was collected from mothers of the under-five children. Linear regression was used for ascertaining the determinants of OPE. OPE included consultation fees and costs of medicine, diagnostic tests, hospital admission, transport, accommodation, and food. The study found that between 2009 and 2012 the expenses of seeking care for a sick under-five child has been increased in every component of OOPE measured except consultation fee. Medicine contributed to the major portion of the overall OPE. Higher overall OPE for care-seeking was associated with a priority illness, care from trained providers, residing in hilly/wetlands areas, and for mothers with secondary education. He further found that OOPE is a major barrier to quality health care services and access to appropriate medicine is increasing in rural Bangladesh.

Dipti Govil, et al. (2016) this paper examined the variation in OOPE in accessing maternal health services and the extent to which JSY incentives covered the burden of the cost incurred. The study was based on primary data, the primary data collected from 424 recently delivered women in Rajasthan through a community-based survey. Descriptive statistics has been used to understand differentials in OOPE and logistic regression used for analyses the determinants of OOPE. The OOPE on antenatal care is more in private health facilities compared to public health facilities. The share of JSY was 44 of the total cost per delivery, 77 in the case of



normal delivery and 23 for complicated delivery. He found that economic status, education level, and pregnancy complications are the major determinants of OOPE. The author suggests that JSY has increased the coverage of institutional delivery and reduced financial stress to households and families but not sufficient for complicated delivery. Providing sonography and other test facilities to treat complicated cases in public health centres can reduce OOPE.

Kirti Sundar Sahu and Bhavna Bharati (2019) This study aimed to explore the OOPE, sources of funding, and experience of catastrophic expenditure (CE) for healthcare-related to delivery, postpartum, and neonatal morbidity in Bhubaneswar Orissa. The primary data collected through a community-based cross-sectional survey from 240 recently delivered women from the slums of Bhubaneswar, Odisha. Structural interview schedule has been used to collect the information on details of delivery, expenditure on delivery and on morbidities, and sources of funding. The study found that the majority are incurred nil OOPE and benefits received from Janani Shishu Suraksha Karyakram (JSSK), Janani Suraksha Yojana (JSY), and Mamata schemes of the government. The study further found that there is a significant association between Incurring any OOPE and place of delivery, type of delivery and presence of morbidity. Finally, the study concluded that the vast majority get the benefitted from JSSK, JSY, and Mamata schemes. Additional insurance facility for Cesarean section delivery might reduce the excessive financial burden on households.

Srinivas Goli, et al (2016) examined the factors associated with high spending on maternity care in India. The study concentrates on levels of expenditure on total maternity care in disaggregated components such as ANCs, PNCs, and Natal care expenditure and try to identify the factors responsible for Catastrophic Maternity Expenditure (CME) incurred by households. The study uses the 71st round of the National Sample Survey (2014) data to estimate maternity expenditure and its predictors. The two-part model was used to identify the factors associated with maternity spending and CME. He mentioned that household expenditure on maternal care is much higher than previous estimates. A majority of the households in India incurring CME. Along with economic and educational status, type of health care and place of residence emerged as significant factors in explaining CME. Findings from this study assume importance in the context of emerging demand for higher maternity entitlements and government spending on public health care in India. To reduce CME, India needs to improve the availability and accessibility of better-quality public health services and increase maternity entitlements in line with maternity expenditure identified in this study.

Srinivas Goli (2018) analyses the out-pocket- expenditure for hospital births in Uttar Pradesh, India. Data were collected from women for non-complicated deliveries 24-h before the survey and complicated deliveries 48-h prior to the survey at the hospital settings in Uttar Pradesh, India during 2014. The simple random sampling technique has been employed to data collection. Bivariate analyses were used to estimate mean expenditure on Antenatal care services (ANCs), Delivery care and Total Maternity Expenditure (TME). Multivariate linear regression was employed to examine the factor associated with the absolute and relative share of expenditure in couple's annual income on ANCs, delivery care, and TME. The study found that average expenditure on maternal health care is high in the study area. The factors such as income, place and number of ANCs, type and place of institutional delivery are significantly associated with both absolute and relative expenditure on maternity care. The likelihood of incidence of catastrophic expenditure on maternity care is significantly higher for women who delivered in private compared to the government hospital. Also, it is higher among caesarean or forceps deliveries, deliveries conducted on doctor advise, than in normal deliveries and self or family planned deliveries.

Nilanjana Dwibedi, et al, (2018) estimate the excess burden of out-of-pocket healthcare spending associated with Alzheimer's disease and related disorders (ADRD) among older individuals. The study used the retrospective, cross-sectional study to collect the data from the beneficiary. Ordinary least square regression and square regressions have been used to analyse the adjusted for predisposing, enabling, need, personal healthcare practices and external environment characteristics. The study estimates the per-capita total annual out of -pocket spending on healthcare and out-of-pocket spending by service type: in-patient, out-patient, home health, prescription drugs, and other services. He measured the out-of-pocket spending burden by calculating the percentage of income spent on healthcare and defined high out-of-pocket spending burden as having this percentage above 10. Multivariable analyses included ordinary least squares regressions and logistic regressions and these analyses. The average annual per-capita out-of-pocket healthcare spending was greater among individuals with ADRD compared to those without ADRD home health and prescription drugs accounted for total out-of-pocket spending among individuals with ADRD and individuals without ADRD. Elderly individuals with ADRD were more likely to have high out-of-pocket spending burden compared to those without ADRD.

Amit Kumar Sahoo (2014) estimates the effect of insurance on out-of-pocket expenditure, using Human Development Survey (IHDS, 2004-2005). Logit model and suitable econometric techniques are used to analyse the effect of insurance on out-of-pocket expenditure. The study found that health insurance reduces the degree of OOP health expenditure, the probability of catastrophic expenditure and impoverishment. The introduction of health insurance programs by various state and central governments is a welcome move to reduce OOP. He argues that health insurance should be universalized rather than targeted to the BPL families alone since the catastrophic expenditure is faced not only by poor HHs but also by a higher percentage of HHs from rich income quintiles. The study further found that the probability of incurring catastrophic expenditure and impoverishment increases almost equally on account of both outpatient and inpatient expenditure. However, most of the health insurance schemes in India either government or privately provided are of in-patient oriented, leaving a large part of OOP expenditure not covered under the scheme. Hence, there is a need for rethinking on the design of health insurance to make both government and private provided insurance scheme more attractive and effective.

Jayakrishnan T (2016) studied to analyse the OOP health expenditure and factors affecting it and to understand the impact of PFHI on OOP in India. He uses the NSSO survey data which is collected during the year 2014 and 2004 and assessing the impact of PFHI schemes on OOP. Other published studies on evaluation of PFHI schemes were included. He found that the morbidity cost per illness episode were inevitably increased in the last decade in India. The increase in life expectancy, demographic change of a more aged population coupled with chronic disease will increase the morbidity and health expenditure in the future. Unless overt reliance on the unregulated private sector is systematically corrected by alternative health financing mechanisms and strengthening the public health system “right for health” will be a distant dream for common citizens.

Pradeep Musale Ramachandra, and Rangaswamy Manohar (2016) a study on maternal mortality ratio (MMR) to understand the causes leading to maternal mortality in Mandya district. The primary data collected from January 2011 to December 2015 over five years from the district health office. The study found that MMR in the study area was 20-29 years and most of them died within 24 hours of admission. Postpartum Haemorrhage (PPH), eclampsia and amniotic embolism are still the leading causes, anaemia plays a major role in maternal mortality. The study concluded that: Introduction of NRHM certainly helped to reduce MMR

in Mandya district. MMR by Anaemia, PPH and eclampsia are largely preventable on early recognition and aggressive treatment by skilled birth attendants.

Tiziana Leone (2013) examine the levels of expenditure incurred in public and private health care institutions at the national, state and community levels. Cross-sectional population data from the 2004 National Sample Survey Organization were used to analyses the women received maternal health care services. Multilevel linear regression techniques were used to estimate the effect of household, cluster and state characteristics on the proportion of maternal health care expenditures over total household expenditures. The study found that the majority of the households are paying for maternal health services, with those using private care facilities paying almost four times more than those using public facilities. maternal health care expenditure is significantly varied across the state, according to the level of health care utilization, and with considerable heterogeneity at the household and community levels. The recent governmental policy interventions to encourage institutional births by providing nominal financial assistance is a welcome step but this might not help to compensate mothers for other indirect expenditures, especially those living in rural areas and poorer communities who are increasingly seeking care in private facilities.

Anns Issac, et al (2016) assessing the components of OOPE that women incurred while accessing maternity care in public health facilities in Uttar Pradesh, India. The study collected the cross-section data from 558 recently delivered women who are delivered at four public health facilities in Uttar Pradesh. He uses the pre-tested questionnaires to collect OOPE related information. Frequencies, Mann-Whitney test, and categorical regression were used for data reduction. The study found that the median OOPE was INR 700 (US\$ 11.48) which varied between INR 680 (US\$ 11.15) for normal delivery and INR 970 (US\$ 15.9) for complicated cases. Women from households with higher income, general castes, primigravida, complicated delivery and those not accompanied by community health workers incurred higher OOPE. The factors affected the high OOPE such as caste, type of delivery and presence of ASHA. The majority of the women express dissatisfaction regarding accessing OOPE for delivery care.

William Joe (2019) examines the incidence and correlates of distressed health care financing in India. The study found that a decisive influence of distressed financing in India as over 60 and 40 of hospitalization cases from urban and rural areas. respectively, report the use of such coping strategies. Sources of OOPE payments for inpatient care in rural and urban India are borrowing, sales of households and contributions from friends and relatives. The study found

that significant socioeconomic gradient in the distribution of distress financing with huge disadvantages for marginalized sections, particularly females, elderly and backward social groups. Multivariate logistic regression informs that households are at an elevated risk of indebtedness while seeking treatment for non-communicable diseases, particularly cancer. He reveals that a similar background; males are more likely to use borrowing for health care financing than females. He suggested to need for social protection policies and improved health care coverage is emphasized to curtail the incidence of distressed health care financing in India.

Sulakshana Nandi (2017) examines the enrolment, utilization and out of pocket expenditure for the insured and uninsured. The study uses the 71st round NSSO data for analysis. Variables used for analysis are enrolment, hospitalization, out of pocket expenditure and catastrophic expenditure. Multivariate analyses found that gender, socio-economic status, residence, type of facility and ailment are the major factor for OOPE and catastrophic expenditure. There is a difference between rates of hospitalization in insured and uninsured, the insured rate of hospitalization is more compared to the uninsured. Women, rural residents, schedule tribes and poorer groups were more likely to utilize the public sector for hospitalization although the insured were less likely to incur out of pocket (OOP) expenditure, the majority of the insured is using both private and public sector services still incurring costs for hospitalization. The study found that despite insurance coverage, the majority still incurred OOPE. The private sector services are expensive compared to the social sector, and the public sector catered to the more vulnerable groups.

Saradiya Mukherjee (2013) tries to analyse the incidence and intensity of ‘catastrophic’ maternal health care expenditure, he threw light on socio-economic correlates in urban and rural areas and tries to examine the factors associated with such impoverishment due to maternal health care payments. He uses the 60th round national sample survey data for analyses. He found that maternal health care expenditure in urban households was almost twice that of rural households. The majority of the households suffered catastrophic payments in both urban and rural areas. Rural women from schedule tribes had more catastrophic headcount than their urban counterparts, and a catastrophic headcount was greater among illiterate women living in urban areas compared to those living in rural areas. Out of pocket expenditure on maternal health care expenditure incidence on poverty is increased equally in urban and rural areas. Increasing education level, higher consumption expenditure quintile and higher caste of

women were associated with increased odds of impoverishment due to maternal health care expenditure. He suggested to reduce maternal health care expenditure induces poverty, health care financing program and policies in the future should take into consideration all the costs incurred during delivery, prenatal and postnatal periods.

Kulaste Baldev, Chaurasiya Dinesh (2019) in his paper ‘Out of pocket expenditure and source of funding for the maternal and neonatal health care in Dindori District, MP’ aims to estimate the average OOP expenditure for the health-seeking behaviour and neonatal health care services in the study area and to study the funding and coverage of JSSK on maternal and child health care services. The primary data collected from eight villages of two different blocks of Dindori district have highest and lowest institutional delivery. Univariate and bivariate analysis has been used to analyse the expenditure on maternal and child health care. He estimated that the average expenditure on antenatal care was INR 281. The expenditure for delivery and complications were from three major sources i.e., through borrowing, through saving and government scheme. The study reveals that the government of India launched JSSK for reducing OOPE to nil, but even after six years, the program has not been successful to reduce OOPE to nil.

Sarit Kumar Rout and Sandeep Mahapatra (2019) examines the out of pocket expenditure incurred by households for accessing maternal and child healthcare services in a low resource setting in India. This paper is based on data from the national family health survey (NFHS) round 4 for Odisha. He found that OOPE is very high for maternal and child health condition in Odisha. Despite the cover of the health care program like Janani Suraksha Yojana (JSY), the majority were not utilizing the public health system. The high OOPE on child delivery raised numerous pertinent questions about the effectiveness of the public health delivery system. and thus, required financial protection in the interest of the population that accesses public health systems in the state.

Anup Karan et al (2017) estimated the impact of RSBY on out of pocket expenditure. The study utilizes the 3 waves (1999-2000, 2004-05 and 2011-12) household data from nationality representation survey of the National Sample Survey Organization (NSSO) and district level RSBY administrative data on enrolment. He used the difference in different methods on households in matched districts. The study found that RSBY did not affect the likelihood of in-patients’ out- of – pocket spending, the level of in-patient out of pocket spending or catastrophic in-patient spending. He reveals that RSBY did not significantly affect out of pocket

expenditure and probability of incurring outpatient expenditure and the incurring any out of pocket expenditure rose significantly due to RSBY and it increases household non- medical spending by 5. Finally, the study concluded that RSBY has been ineffective in reducing the burden of pocket expenditure on poor households.

Shukla M et al (2015) estimated the out of pocket expenditure incurred by households during delivery and its determinants. The authors conducted a community-based cross-section study during which a total of 272 households having women who had recently delivered in public health care institutions. The study calculated mean out of pocket expenditure is Rs. 1406.04 ± 103.27 including spending on drugs, travel, pathological tests, and unofficial payments. Factors associated with the out of pocket expenditure such as low socioeconomic class, residence outside the catchment area of the delivery point, tertiary and secondary health care facilities as place of delivery and low literacy status of head of the family below high school. Although the government has been implementing numerous free cost health care services but still people pay from their pocket as medical expenses. To incur these expenses, households borrow money, sell their assets and securities due to which households suffer a lot. The study found that the unofficial payment was prevalent in public institutions and these informal payments make the health service unaffordable for households.

Jaya Prasad Tripathy et al (2017) the study analyses the impact of OOP expenditure due to hospitalization on households. The study collected the data through the National Sample Survey Organization in 2014. The survey covered health service utilization and healthcare-related expenditure by income quintiles and type of health facilities. The last one-year's hospitalization expenditure was considered, OOP expenditure amounting to more than 10 of annual consumption expenditure was termed as catastrophic. The study calculated hospitalization due to childbirth median expenditure was US\$54. Rich households are incurred six times more expenditure than poor households. OOP expenditure in the private sector is nine times more than the public sector. Private sector hospitalization facility is a significantly higher prevalence of catastrophic expenditure than hospitalization in the public sector (60 vs 7). Indirect costs (transport, medicine, and other costs) constituted the largest share in the total expenditure in public sector hospitalization. Urban residence, poor wealth quintile and getting delivery services from a private hospital is associated with catastrophic expenditure. Finally, the study recommended to cash transfer schemes with effective pro-poor targeting to reduce the impact of catastrophic expenditure.

Mishra S and Mohanty S K (2019) analyses the out of –Pocket expenditure and catastrophic health spending on institutional delivery across the states and different socio-economic groups. The fourth round of national family health survey (NFHS 4) was to use to analyse the trends in distress financing for OOPE and catastrophic health expenditure. Composite variables, descriptive analyses, concentration index (CI), concentration curve (CC) and predicted probability were used to estimate the extent of distress financing for institutional delivery in India. The study found that one in four mothers borrowing and selling to meet the OOPE on institutional delivery. The extent of distress financing on institutional delivery was high in economically backward states like Bihar and Odisha and in the state of Telangana which had the highest prevalence of caesarean delivery. The probability of incurring financing was 0.31 among mothers belonging to the poorest wealth quartile compared to 0.09 in the richest quartile and 0.04 for those who incurred OOPE of more than INR 20,000. The mother who had a caesarean birth and delivered in private hospitals are incurring distress financing and high OOPE on institutional delivery.

Kristi Sidney et al (2016) the study examines the OOPE among JSY beneficiaries and women who had home delivery and factors associated with the OOPE in two districts of Madhya Pradesh. To analyse the elicited delivery costs, socio-demographic characteristics and delivery related information conducted a cross-sectional community-based survey, interviewed recently delivered women from September 2013 to April 2015. The study found that 84 delivered in JSY public health facility and 16 delivered at home. Women who delivered under the JSY program had a higher median OOPE \$ 8 compared to mothers delivered at home \$6. Among JSY beneficiaries, the poorest women had twice benefit (\$20) than the wealthiest (\$10). Informal payments 64 and baby/ food items 77 were the two most common sources of OOPE. OOPE made among JSY beneficiaries was pro-poor: poorer women made proportionally less expensive compared to wealthier women.

S. Gopalakrishnan, A. Branch Immanuel (2018) critically evaluate the status and impact of national health mission and recommendation for the future health care planning and implementation of achieving a hundred percent health coverage in rural India. The study revealed that NRHM is one of the flagship programs of the Government of India for the development of health infrastructure in India. The program was successful in empowering health care in rural India, especially in states with poor health-related indicators. The program is a pioneer in reiterating the need for community participation and to bring about a paradigm



shift in the indicators, which has been reasonably achieved in most states. NRHM laid the foundation for health infrastructure in India and plans and policies to focus on capacity building on technical aspects and streamlining the health workforce, which is crucial to sustaining the public health infrastructure. Along with NRHM, there is a need for focus on forging a sustainable private and public partnership, which will deliver quality services and not compromise on the principles and identity of the public health system of the country, in its pursuit to achieve universal health coverage and sustainable development goals.

Neetu Tripathi, Sushma Kumari Saini and Shankar Prinja (2013) examine the impact of *Janani Shishu Suraksha Karayakaram* (JSSK) on out of pocket expenditure during the perinatal period in an urban slum area of Chandigarh, India. The study collected the data retrospectively from 425 women who gave birth from June 2010 to June 2012. The study found that out of expenditure for delivery come down to 3565 from Rs.5342 between pre- and post-intervention pre-JSSK and post- JSSK periods. The mean out of pocket expenditure for antenatal care varied from Rs. 4951 to Rs. 4892 between pre- and post- JSSK period. Finally, the study concluded that the introduction of JSSK appears to have reduced the out of pocket expenditure; the extent of risk protection is however inadequate. Besides the one-third of OOP expenditure reduction by JSSK, the overall OOPE level remains high.

Suresh Sharma and Manisha Bothra (2016) the study examined the impact and status of Janani Shishu Suraksha Karyakaram (JSSK) on out of pocket expenditure incurred by beneficiaries and analysed the pattern of spending by beneficiaries on the various components of the JSSK at an aggregated and disaggregated level. The analysis includes the expenditure incurred on diet, transportation, diagnosis, and medicines separately and collectively on maternal and child health. The primary survey was conducted in various districts of Delhi. The study found that beneficiaries are still incurring huge costs on accessing health care. Major costs were on diagnosis, which is mainly due to health infrastructure bottlenecks and the purchase of medicines which is due to the lack of ambulance services, timely availability of drugs and transportation to reach health centres. The author examines the different health infrastructure and bottlenecks which is the ultimate goal of the JSSK and tries to find ways to reduce the out of pocket expenditure of beneficiaries.

Dipti Govil, Neetu Purohit and S. D. Gupta (2013) the study examined the out of pocket expenditure incurred by getting maternal health and child care services, and what extent the Janani Suraksha Yojana (JSY) incentives share the burden of total cost incurred. A cross-

sectional study was conducted in four districts of Rajasthan, India. A multistage sampling was used to select the samples in the study area. The study districts were selected based on their performances and institutional deliveries- two with the highest number of institutional deliveries and the other with lowest. Percentage distribution and descriptive statistics were used to analyse the collected data. The study revealed that the proportion of institutional delivery in the study area was as high as 83 percent, 62 percent of mothers utilize the public health care service and 21 percent depended on private health facilities. 96 percent of the mothers who delivered in public health facilities received the JSY benefits. The study found that a family spent an average USD 36.7 during antenatal period on various services and the out of pocket expenditure differed by place of antenatal care. Women who accessed ANC services from private health services OOPE spending was USD 60.6, it is nearly two and half times higher than women who availed services from public health care facilities (USD 24.8). Average spending for accessing ANC services from both public and private health facilities was USD 44.5. If the delivery was conducted at home, a family spent almost USD 8.7 and institutional delivery was as high as USD,48.4. The average expenditure differed significantly between two. The study revealed that total health spending and government health expenditure are positively associated with development, but health spending differs widely across nations based on income group. High income countries spending on health has increased from 1995 to 2014, and the largest health expenditure increases in medium and low-income countries.

## Reviews on International Studies

Imlak Shaikh and Shabda Singh (2016), this study tries to analyse the health care facilities in seven south Asian countries, namely Nepal, Bangladesh, Bhutan, Maldives, Sri Lanka, Pakistan, and India. Descriptive statistics has been used to compare per capita health expenditure in these countries. The authors use regression model to analyses factors affecting the out- of- pocket expenditure. The parameter uses for analyses such as out-of-pocket health expenditure, out-of-pocket health expenditure, and health expenditure per capita (current US\$). Logarithm values of out-of-pocket expenditure have also been used to develop a separate log model for the same. The study found that the Maldives has the highest per capita health expenditure and India has the highest out- of – pocket expenditure as a percentage of total expenditure on health (is the statement incomplete?). Lastly the key determinants of out –of – pocket expenditure is the final household expenditure as the percentage of GDP.

Emily J Callander and Haylee Fox (2017) aim of the paper is to quantify health services and out of pocket healthcare expenditure with childbearing and early childhood in Queensland, Australia. The data collected from the Queensland Perinatal Data Collection, of all childbearing women and their resultant children, who gave birth in Queensland between 1 July 2012 and 30 June 2016. The linear regression modelling and counterfactual modelling techniques have been used to assess the differences in costs based on identification, socioeconomic status and geographical location of the respondents. The study found that the current cost to the health system and out of pocket health care expenditure of patients is associated with maternity and early childhood health care. The health system costs that would have been incurred had indigenous and non-indigenous patients, patients of low socioeconomic status and high socioeconomic status and patients in rural areas and non-rural areas had the same level of health service access.

Anna L. Goldman, (2018) estimates changes in household spending on health care nationwide after implementation of the ACA. The primary data collected from the Medical Expenditure Panel Survey. Multivariable regression was used to examine changes in out-of-pocket spending, premium contributions, and total health spending after the ACA's coverage expansions. He assesses each outcome and spending changes for income defined under the ACA to determine the program of the Federal Poverty Level. The study found that implementation of the ACA was associated with reduced out-of-pocket spending, particularly

for low-income persons. However, many of these individuals continue to experience high-burden out-of-pocket and premium spending. Repeal or substantial reversal of the ACA would especially harm poor and low-income Americans.

You X and Kobayashi Y. (2011) estimate the determinants of individual out-of-pocket health expenditure in China. The study is based on primary data, primary data collected through health and nutrition survey in the year, 9860 samples collected from adults ages > 18 years. Heckman table 4.9 selection model was used to analyses individuals' health expenditure decision. Which is based on a sample that excludes an individual who not report paying for healthcare? The study found that the average out -of- pocket expenditure was china Yuan (Y) (Y 100=\$US 12.2 IN 2004). People spent more on health care increasing age, especially over the age of 65 years. The study further states that who had chronic diseases, earned a higher income, resided in urban areas, lived in the middle of a raster region, or lived in a household with a head a middle school or higher education paid more for healthcare. He suggested developing appropriate medical relief policies for the elderly to help them gain access to necessary health care services in China.

Wai Han, et, al (2016) aims to analyse the out of pocket expenditure of households on maternal and child health care services in rural areas and examine the impact of the MNCH program on out of pocket expenditure for the beneficiaries. For primary data collection, a cross-section study has been conducted in the rural area of Dedaye township, Ayeyarwaddy region in 2015. The study collected out of pocket expenditure on maternal and child health care incurred by the households of 331 mothers. The study analyses the disparities among the study population on the utilization of MNCH care. Majority of the children having health problems during their neonatal period and received health care from skilled health providers. There was a discrepancy in the utilization of maternal care services among the community. Lowest utilization of antenatal care, skilled birth attendants and post-natal care were found among the households in the lowest expenditure quintile, on the other hand utilization of maternal care services was high among the high expenditure quintiles. With regard to the utilization of health services of children, health problems among children were highest in the lowest quintile but the use of health care from skilled providers was lowest in this population. The study reveals that the institutional delivery costs approximately seven times than home delivery. In terms of health care expenditure for the children, hospitalization was the most expensive health care for the households and the average cost for hospitalization was 120,900 kyats. The study found

that out of pocket expenditure for maternal and child health care caused a financial catastrophe in households. The households have reimbursed the expenses for medicines, investigations, travel, and meal for both patients and an attendant. The reduction in out of pocket payment due to emergency referral support was most prominent in the second-lowest quintile while the reduction was quite similar in other quintiles. Although the share of MNCH care expenditure out of household expenditure was high in the lowest quintile, households from this quintile did not get many benefits from emergency referral support.

Jahangir A M Khan (2017) This study aimed to estimate the impact of OOP spending on CHE and the poverty status of FRP for UHC in Bangladesh. The study employed a national representative Household Income and Expenditure Survey 2010 to analyse household consumption expenditure and health-related spending. The propensity of facing CHE for households was predicted by demographic and socioeconomic characteristics. The poverty headcount was estimated using 'total household's consumption expenditure' and such expenditure without OOP payments for health in comparison with the poverty-line measured by the cost of basic need. A pro-rich distribution of OOP payment for healthcare was found in urban and rural Bangladesh. An overall pro-poor distribution was found for CHE in both urban and rural households, while the former had higher CHE incidences. The poverty headcount increased due to OOP payments. Reliance on OOP payments for healthcare in Bangladesh should be reduced for poverty alleviation in urban and rural Bangladesh to secure FRP for UHC.

Bolaji Samson Aregbeshola<sup>1</sup> and, Samina Mohsin Khan (2018) the study tries to analyse the financial burden of OOP health payments among the rural households in Nigeria. Harmonized Nigeria Living Standard Survey (HNLSS) of 2009-10 has been utilized to analyse the impoverishing and catastrophic effect of OOP health payments on households in Nigeria. Data analysis was carried out using STATA 12. The study found that 16.4% of household's catastrophic health payments are at the threshold of total consumption expenditure. Using the \$1.25 a day poverty line, the poverty headcount was 97.9% gross of health payments. Out of pocket expenditure payments led to a 0.8% increase in poverty headcount and this means that about 1.3 million Nigerians are being pushed below the poverty line. Poor households are spending less catastrophic health payments than economically better-off households. The study suggested that policymakers need to increase public healthcare funding and provide a social

health protection plan against informal OOP health payments to provide financial risk protection which is currently absent among a high percentage of households in Nigeria.

Adam Wagstaff, et al (2018) the study estimates the global incidence of catastrophic health spending from 2000 to 2010, and the relationship between catastrophic health spending and macroeconomic and health system in the country level. The household survey has been conducted to collect the primary data for analysing health spending. Data collected from 1566 households, 553 passed quality checks, covering 133 countries between 1984 and 2015. He estimated global incidence by aggregating up from every country, using a survey for the year in question when available, and interpolation and model-based estimates otherwise. Multiple regression techniques have been used to explore the relationship between a country's incidence of catastrophic spending and GDP per person, the Gini coefficient for income inequality, and the share of total health expenditure spent by social security funds, private insurance schemes, NGOs and government agencies. The study found that the global incidence of catastrophic spending at the 10 threshold was estimated at 9.7 in 2000, 11.4 in 2005, and 11.7 in 2010. Globally, 808 million people in 2010 spent on catastrophic health. GDP per person and the share of GDP spent on health is positively correlated with catastrophic payments and incidence correlated negatively with the share of total health spending channelled through social security funds and other government agencies. The study reveals that the percentage of the households is supposed to be covered by health insurance schemes. Increasing the share of GDP spent on health is not sufficient to reduce catastrophic payments incidence.

Marcelo Torres da Silva et.al (2015) analyses the impact of socio-economic, demographic and health status-related factors on out of pocket expenditure on health care for children. The study collected the data through a birth cohort study in the city of Pelotas, State of Rio Grande Do Sul (RS), Southern Brazil, in 2004. The Tobit model has been used to analyse the collected data. The study found that the expenditure on medicines was 20 less likely in those considered healthy children by their mothers and if there was any expenditure with healthy children, the expected expenditure was reduced by 58. Expenditure on medicine was one of the common types of expenditure. Medicine expenditure is higher for younger children. The study also found that families in the low-income group pay a larger share of their income towards health care for children than higher-income families. He concluded that all types of health care expenditure were higher for children who get private health insurance. While total health care expenditure was higher for children of higher-income families.

Fatuma Manzi et al (2005) analyses the determinants of variation and the level of out of pocket expenditure payments for child health care in rural Tanzania, with and without Multi-Country Evaluation of the Integrated Management of Childhood Illness. The study collected data from two thousand household surveys conducted in 1999 and 2002. He analyzed the data from 833 visits to health providers for 764 children who had been sick in the last two weeks before the data collection and who get western or formal health care. The study proved that IMCI was lower out-of-pocket expenditure at government facilities, health care facilities costs are less when the health care is received from the cost-sharing schemes, about 13-15 times higher than in those which are not part of the schemes. Those who visited NGO facilities paid about 30 times more than those seeking care at government facilities not operating the cost-sharing scheme. The study further found that health care financing mechanism and equitable access to government facilities have a major impact on household economic burden related to under illness, increasing the access of IMCI- based care and rational use of medicine which will help to reduce the out of pocket expenditure. Increasing the coverage of IMCI based care would reduce inequalities in financial contributions, as well as increase access to health care.

## 1. Government expenditure on Health

National Gov. Expenditures on Health (NHP 2018)	Public Expenditure on Health (in Rs. Crores)	GDP	Per capita Public Expenditure on Health (in Rs.)	Public Expenditure on Health as Percentage of GDP
2009-10	72536	6477827	621	1.12
2010-11	83101	7784115	701	1.07
2011-12	96221	8736039	802	1.10
2012-13	108236	9951344	890	1.09
2013-14	112270	11272764	913	1
2014-15	121600.23	12433749	973	0.98
2015-16	140054.55	13764037	1112	1.02
2016-17	178875.63	15253714	1397	1.17
2017-18	213719.58	16751688	1657	1.28

## 2. State Expenditure on health

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

State Gov. Expenditures on Health (NHP 2015-16)	Total State Expenditure on Health (Rs. In Crores)	Total State Expenditure (Rs. In Crores)	Health Expenditure as a % of Total State Expenditure	Population 2015-16 (in Crores)	GSDP 2015-16 Current Prices (Rs in Crores)	Per Capita Health Expenditure (Rs)	Health Expenditure as a % of GSDP
			B/C			B/E	B/F
Major (Non EAG ) States			5.34			1172	0.76
Andhra Pradesh	5013	106638	4.70	4.95	609934	1013	0.82
Delhi	4183	36520	11.45	2.1	548081	1992	0.76
Goa	729	12010	6.07	0.2	54275	3643	1.34
Gujarat	7432	126821	5.86	6.25	1025188	1189	0.72
Haryana	3055	85037	3.59	2.73	485184	1119	0.63
Himachal Pradesh	1894	28373	6.67	0.71	112852	2667	1.68
Jammu & Kashmir	2925	49294	5.93	1.24	119093	2359	2.46
Karnataka	6980	138715	5.03	6.21	1012804	1124	0.69
Kerala	5207	88960	5.85	3.56	557947	1463	0.93
Maharashtra	12066	237327	5.08	11.94	2001223	1011	0.60
Punjab	3400	57963	5.87	2.9	391543	1173	0.87
Tamil Nadu	8543	171349	4.99	6.92	1161963	1235	0.74
Telangana	4626	96297	4.80	3.5	567588	1322	0.82
West Bengal	7239	135929	5.33	9.31		778	
EAG + 1 States			5.05			871	1.36
Assam	4992	70428	7.09	3.23	226276	1546	2.21
Bihar	5067	128706	3.94	10.33	381501	491	1.33
Chhattisgarh	3480	65898	5.28	2.57	260776	1354	1.33
Jharkhand	2891	59995	4.82	3.34	231294	866	1.25
Madhya Pradesh	5535	132647	4.17	7.73	530443	716	1.04
Odisha	3921	81741	4.80	4.23	330874	927	1.19
Rajasthan	9858	175589	5.61	7.25	683758	1360	1.44
Uttar Pradesh	15872	312811	5.07	21.64	1119862	733	1.42
Uttarakhand	1871	30799	6.07	1.06	175772	1765	1.06
North East States			6.30			2878	2.76
Arunachal Pradesh	673	11740	5.73	0.13	20433	5177	3.29
Manipur	536	9841	5.45	0.26	19233	2061	2.79



Meghalaya	623	9253	6.73	0.28	25967	2223	2.40
Mizoram	645	7731	8.34	0.11	15339	5862	4.20
Nagaland	588	10156	5.79	0.24	19816	2450	2.97
Sikkim	308	5431	5.66	0.06	16954	5126	1.81
Tripura	829	12537	6.62	0.38	34368	2183	2.41

### 3. Government hospitals and Hospital beds

Gov. Hospital Beds (SO Stats 2017)	Gov. Hospitals		Pop Served Per Gov. Hospital	Pop Served Per Gov. Hospital Bed
	Total	Total Beds		
2008	11289	494510	101403	2315
2009	11613	540328	97958	2105
2010	12760	576793	90972	2012
2011	11993	784940	98970	1512
2012	23916	622628	50689	1947
2013	19817	628708	61744	1946
2014	NA	NA	NA	NA
2015	20306	675779	61011	1833
2016	19653	754724	64425	1678
2017	14379	634879	90343	2046
Note	SO Stats 2017 = Socio-economic Statistics 2017 (Ministry of Stats and Programme Implementation)			

#### 4. Infant Mortality Rates

IMR (Per 1,000) (NITI 2016-2000)	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Andhra Pradesh	34	37	39	39	41	43	46	49	52	54	56	57	59	59	62	66	65
Arunachal Pradesh	36	30	30	24	24	23	25	27	31	31	31	27	25	21	23	7	16
Assam	44	47	49	54	55	55	58	61	64	66	67	68	66	67	70	74	75
Bihar	38	42	42	42	43	44	48	52	56	58	60	61	61	60	61	62	62
Chhattisgarh	39	41	43	46	47	48	51	54	57	59	61	63	60	70	73	77	79
Delhi	18	18	20	24	25	28	30	33	35	36	35	35	32	26	33	25	32
Goa	8	9	10	9	10	11	10	10	10	10	15	16	18	13	16	14	21
Gujarat	30	33	35	36	38	41	44	48	50	52	53	54	53	57	60	60	62
Haryana	33	36	36	41	42	44	48	51	54	55	57	60	61	59	62	66	67
Himachal Pradesh	25	28	32	35	36	38	40	45	44	47	50	49	51	42	61	43	51
Jammu & Kashmir	24	26	34	37	39	41	43	45	49	51	52	50	49	44	47	48	50
Jharkhand	29	32	34	37	38	37	42	44	46	48	49	50	49	51	58	62	70
Karnataka	24	28	29	31	32	35	38	41	45	47	48	50	49	52	55	58	57
Kerala	10	12	12	12	12	12	13	12	12	13	15	14	12	11	10	11	14
Madhya Pradesh	47	50	52	54	56	59	62	67	70	72	74	76	79	82	85	86	88
Maharashtra	19	21	22	24	25	25	28	31	33	34	35	36	36	42	45	45	48
Manipur	11	9	11	10	10	11	14	16	14	10						10	22
Meghalaya	39	42	46	47	49	52	55	59	58	52	53	49	43	56	66	51	66
Mizoram	27	32	32	35	35	34	37	36	37				27	16	6	18	18
Nagaland	12	12	14	18	18	21	23	26	26	19	20	18	17				
Odisha	44	46	49	51	53	57	61	65	69	71	73	75	77	83	87	91	95
Punjab	21	23	24	26	28	30	34	38	41	43	44	44	45	49	51	52	52
Rajasthan	41	43	46	47	49	52	55	59	63	65	67	68	67	75	78	80	79
Sikkim	16	18	19	22	24	26	30	34	33	33	33	30	30	22	25	29	47
Tamil Nadu	17	19	20	21	21	22	24	28	31	35	37	37	41	43	44	49	51

Telangana	31	34															
Tripura	24	20	21	26	28	29	27	31	34	41	36	31	30	23	33	35	35
Uttar Pradesh	43	46	48	50	53	57	61	63	67	69	71	73	72	76	80	83	83
Uttarakhand	38	34	33	32	34	36	38	41	44	48	43	42	42	41	44	48	50
West Bengal	25	26	28	31	32	32	31	33	35	37	38	38	40	46	49	51	51
Andaman & Nicobar Islands	16	20	22	24	24	23	25	27	31	31	31	27	25	21	23	7	16
Chandigarh	14	21	23	21	20	20	22	25	28	35	23	19	22	12	22	16	27
D&N Haveli	17	21	26	31	33	35	38	37	34	29	24	43	34	49	51	61	57
Daman & Diu	19	18	18	20	22	22	23	24	31	28	37	28	30	36	30	43	54
Lakshadweep	19	20	20	24	24	24	25	25	31	38	25	22	39	21	15	38	22
Pondicherry	10	11	14	17	17	19	22	22	25	16	28	28	26	27	25	22	20
India Total	34	37	39	40	42	44	47	50	53	55	57	58	58	60	63	66	68

### 5. Neonatal mortality rates

NMR (per 1,000) (NITI 2011-2013)	Total 2011	Rural 2011	Urban 2011	Total 2012	Rural 2012	Urban 2012	Total 2013	Rural 2013	Urban 2013
Andhra Pradesh #	28	34	13	27	33	12	25	31	10
Assam	30	32	10	29	31	10	27	29	10
Bihar	29	31	12	28	29	12	28	29	11
Chhattisgarh	34	34	31	31	32	28	31	31	26
Delhi	18	25	17	16	25	14	16	24	15
Gujarat	30	35	19	28	33	17	26	31	16
Haryana	28	32	18	28	31	20	26	29	19
Himachal Pradesh	28	29	15	26	27	15	25	26	11
Jammu & Kashmir	32	34	19	30	32	19	29	31	18
Jharkhand	29	31	13	27	30	12	26	28	12
Karnataka	24	31	12	23	29	12	22	27	12
Kerala	7	8	3	7	8	3	6	7	3
Madhya Pradesh	41	44	24	39	42	23	36	39	23
Maharashtra	18	22	13	18	22	12	17	21	11
Odisha	40	42	27	39	41	27	37	39	26
Punjab	24	26	21	17	16	18	16	15	16
Rajasthan	37	41	19	35	39	18	32	36	17
Tamil Nadu	15	18	12	15	18	11	15	18	11
Uttar Pradesh	40	43	23	37	40	21	35	38	20
West Bengal	22	23	17	22	23	16	21	22	15
India Total	31	34	17	29	33	16	28	31	15

### 6. Maternal Mortality ratios

MMR (per 100000) (SRS 2004-2016)	2004-06	2007-09	2010-12	2011-13	2014-16
Assam	480	390	328	300	237
Bihar/Jharkhand	312	261	219	208	165
Madhya Pradesh/Chhattisgarh	335	269	230	221	173
Odisha	303	258	235	222	180
Rajasthan	388	318	255	244	199
Uttar Pradesh/Uttarakhand	440	359	292	285	201
EAG & Assam Subtotal	375	308	257	246	188
Andhra Pradesh	154	134	110	92	74
Telangana					81
Karnataka	213	178	144	133	108
Kerala	95	81	66	61	46
Tamil Nadu	111	97	90	79	66
South Subtotal	149	127	105	93	77
Gujarat	160	148	122	112	91

Haryana	186	153	146	127	101
Maharashtra	130	104	87	68	61
Punjab	192	172	155	141	122
West Bengal	141	145	117	113	101
Other States	206	160	136	126	97
Other Subtotal	174	149	127	115	93
India Total	254	212	178	167	130

### 7. Life expectancy at birth

National Life Expectancy (HFWS 2017)	Total Life Expectancy			Rural Life Expectancy			Urban Life Expectancy		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1970-75	49.7	50.5	49	48	48.9	47.1	58.9	58.8	59.2
1976-80	52.3	52.5	52.1	50.6	51	50.3	60.1	59.6	60.8
1981-85	55.4	55.4	55.7	53.7	54	53.6	62.8	61.6	64.1
1986-90	57.7	57.7	58.1	56.1	56.1	56.2	63.4	62	64.9
1987-91	58.3	58.1	58.6	56.8	56.7	56.9	63.8	62.3	65.3
1988-92	58.7	58.6	59	57.4	57.2	57.4	64.1	62.8	65.5
1989-93	59.4	59	59.7	58	57.9	58.1	64.9	63.5	66.3
1990-94	60	59.4	60.4	58.6	58.2	58.7	65.4	64.1	66.7
1991-95	60.3	59.7	60.9	58.9	58.5	59.3	65.9	64.5	67.3
1992-96	60.7	60.1	61.4	59.4	58.9	59.8	66.3	64.9	67.7
1993-97	61.1	60.4	61.8	59.9	59.3	60.2	66.6	65.1	68
1994-98	61.4	60.6	62.2	60.1	59.5	60.5	66.8	65.3	68.2
1995-99#	61.5	60.8	62.3	60.3	59.7	60.9	66.4	65.1	67.9
1996-00#	61.9	61.2	62.7	60.7	60.1	61.3	66.7	65.4	68.3
1997-01#	62.3	61.4	63.3	61.1	60.3	61.9	67.1	65.7	68.7
1998-02	62.9	61.9	64	61.6	60.7	62.5	67.6	66.1	69.2

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

1999-03	63.4	62.3	64.6	62.2	61.1	63.2	68	66.5	69.7
2000-04	63.9	62.8	65.2	62.7	61.6	63.8	68.4	66.9	70
2001-05	64.3	63.1	65.6	63	61.9	64.2	68.6	67.2	70.3
2002-06	64.7	63.5	66.1	63.5	62.3	64.7	68.9	67.4	70.6
2003-07	65	63.7	66.5	63.8	62.6	65.2	69	67.5	70.7
2004-08	65.4	64	66.9	64.2	62.9	65.7	69	67.5	70.8
2005-09	65.7	64.3	67.2	64.5	63.2	66	69.2	67.6	71
2006-10	66.1	64.6	67.7	64.9	63.5	66.5	69.6	68	71.4
2007-11	66.5	64.9	68.2	65.3	63.8	67	70.1	68.4	71.9
2008-12	67	65.4	68.8	65.8	64.2	67.6	70.6	69	72.4
2009-13	67.5	65.8	69.3	66.3	64.6	68.1	71.2	69.6	73
2010-14	67.9	66.4	69.6	66.7	65.1	68.4	71.5	70	73.5
2011-15	68.3	66.9	70	67.1	65.6	68.7	71.9	70.5	73.5
HFWS 2017 = Health and Family Welfare Statistics 2017 (Statistics Division Ministry of Health and Family Welfare Govt of India)									

### 8. Life expectancy state wise

Life Expectancy (HFMS 2017)	2011-2015								
	Total Life Expectancy			Rural Life Expectancy			Urban Life Expectancy		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Andhra Pradesh	69	67.1	71.2	67.6	65.5	69.9	72.7	71.2	74.4
Assam	64.7	63.5	66.2	63.7	62.5	65.2	71.5	70.7	72.7
Bihar	68.4	68.5	68.3	68.1	68.2	67.9	71.4	71.1	71.7
Chhattisgarh	65.2	63.6	66.8	64.5	63	65.9	68.6	66.4	71
Delhi	73.8	72.5	75.4	71.4	69.5		74.1	72.8	75.6
Gujarat	69.1	66.9	71.6	67.6	64.8	70.8	71.5	70.1	73
Haryana	69.1	66.9	71.9	68.2	65.8	71.2	71.1	69.2	73.3
Himachal Pradesh	72	69.1	75.2	71.6	68.6	74.9	76.8	75.1	79.4
Jammu & Kashmir	73.2	71.2	76.1	72.2	70.4	74.9	76.6	73.9	80.2
Jharkhand	67.2	67	67.5	66.3	66.1	66.3	71.7	70.8	72.6

Karnataka	69	67.2	70.9	67.4	65.4	69.5	72	70.7	73.5
Kerala	75.2	72.2	78.2	75.1	71.9	78.4	75.4	72.9	77.7
Madhya Pradesh	64.8	63.2	66.5	63.5	62	65.4	69.4	67.7	71.2
Maharashtra	72	70.3	73.9	70.7	69	72.5	73.9	72.1	75.8
Odisha	66.9	65.6	68.3	66.2	64.9	67.7	70.8	69.7	71.8
Punjab	72.1	70.3	74.2	70.8	69	72.8	74.1	72.2	76.5
Rajasthan	67.9	65.7	70.4	67	64.6	69.8	71.1	69.5	72.8
Tamil Nadu	71	69.1	73	69.5	67.6	71.6	72.8	71	74.7
Uttar Pradesh	64.5	63.4	65.6	63.6	62.5	64.8	68.1	67.3	68.8
Uttarakhand	71.8	68.9	74.9	71.1	67.8	74.7	74.1	72.7	75.5
West Bengal	70.5	69.4	71.8	69.6	68.3	70.9	72.7	71.7	73.9
India	68.3	66.9	70	67.1	65.6	68.7	71.9	70.5	73.5
Note:	HFWS 2017 = Health and Family Welfare Statistics 2017 (Statistics Division Ministry of Health and Family Welfare Govt of India)								

### 9. Institutional Deliveries

Institutional Deliveries	2015-2016			2005-2006			1998-1999	1992-1993
	NFHS 4 (Values in %)			NFHS 3 (Values in %)			NFHS 2 (Values in %)	NFHS 1 (Values in %)
	Urban	Rural	Total	Urban	Rural	Total	Total	Total
Andhra Pradesh	96.5	89.7	91.5	85	60.5	68.6	49.8	34.3
Arunachal Pradesh	81.5	44.1	52.2	64.1	19	31.7	31.2	20.1
Assam	92.7	68.2	70.6	59	18.6	22.9	17.6	11.7
Bihar	74.3	62.6	63.8	47.7	18.6	22	14.8	12.1
Chhattisgarh	83.2	66.8	70.2	58	7.5	15.7	13.8	
Goa	95.8	98.8	96.9	92.6	92.4	92.6	90.9	87.8
Gujarat	93.4	85.2	88.5	78	42.2	54.6	46.3	36.8
Haryana	80.6	80.3	80.4	66.7	30.3	39.4	22.4	17.4
Himachal Pradesh	90.6	75.2	76.4	79.1	42.1	45.3	28.9	17.1
Jammu and Kashmir	97.3	81.9	85.6	75.8	48.8	54.3	35.7	21.9
Jharkhand	81.5	57.3	61.9	54.1	11	19.2	13.9	
Karnataka	95.1	93.3	94	84.8	56.8	67	51.1	38.4
Kerala	99.8	99.9	99.8	100	99.3	99.5	92.9	88.9
Madhya Pradesh	93.8	76.3	80.8	59.9	20.2	29.7	22	
Maharashtra	94.8	86.7	90.3	84.8	50.5	66.1	52.6	44.5
Manipur	86.3	60.5	69.1	71.2	40.9	49.3	34.5	23
Meghalaya	88.1	45.7	51.4	75	20.4	29.7	17.3	31

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

Mizoram	97.2	61.4	79.7	89.8	39.1	64.6	57.7	48.5
Nagaland	56.3	24.3	32.8	32	6.6	12.2	12.1	6.1
Orissa	89.7	84.5	85.3	65.4	64.6	38.8	22.6	14.1
Punjab	89	91.5	90.5	60.2	48.4	52.5	37.5	24.8
Rajasthan	90.3	82.3	84	67.7	23.3	32.2	21.5	12
Sikkim	95.3	94.4	94.7	87.6	43.1	49	31.5	
Tamil Nadu	99.2	98.7	98.9	94.9	86.7	90.4	79.3	64.3
Telagana	96.5	86.9	91.5					
Tripura	92.6	75.7	79.9	75.7	44.8	48.9	45.2	29.6
Uttaranchal	79	63.7	68.6	59.9	28.8	36.1	20.6	
Uttar Pradesh	71.7	66.8	67.8	39.9	17.5	22	15.2	11.2
West Bengal	83.6	71.9	75.2	79.2	33.8	43.1	40.1	32

### 10. Full ANC

Full ANC	2015-2016			2012-2013			2007-2008			2005-2006
	NFHS 4 (Values in %)			DLHS 4 (Values in %)			DLHS 3 (Values in %)			NFHS 3 (Values in %)
Source	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Total
Andhra Pradesh	45.4	43.3	43.9	45.4	41.3	42.5				
Arunachal Pradesh	3.9	3.4	3.5	24.4	10.3	13.5	9.3	4.4	5.4	4.9
Assam	30.4	16.6	18.1							6.7
Bihar	6.6	3	3.3							4.2
Chhattisgarh	35.4		34.7	32.1	27.1	30.6	29	29.1	29	
Goa	64.4	61.6	63.4	79	57	71	89.2	92.8	90.8	57.4
Gujarat	39.6	24	30.7							30.7
Haryana	21.4	18.3	19.5	19.6	12.5	15	22.6	10.2	13.3	11.9
Himachal Pradesh	49.2	35.8	36.8	36	41.7	41.1	38.8	30.8	31.4	15.8
Jammu and Kashmir	29.4	25.9	26.8							12.7
Jharkhand	17.9	5.5	8							4.9
Karnataka	34.8	31.4	32.8	52	41.5	46	57.4	48.7	51.1	24.8
Kerala	63	59.5	61.2	70.7	70	70.3	71.4	72.5	72.3	66.7
Madya Pradesh	19.5	8.3	11.4							4.7
Maharashtra	35.7	29.6	32.4	39	35.8	37.3	37.1	32.7	33.9	14.7
Manipur	45.1	27.8	33.9	42.5	21.2	28.3	27.5	9.1	12.5	5.8
Meghalaya	38.4	20.9	23.5	29.2	19.4	21.4	27.2	13	14.4	4.2
Mizoram	47.9	27.2	38.3	51	21	36.7	43.6	27.4	33	11.8
Nagaland	4.9	1.3	2.4	16.2	7	9.7				0.6



Orissa	27.1	22.3	23							12.3
Punjab	34.8	27.9	30.7	22.9	19.3	20.6	17	13.3	14.3	11.8
Rajasthan	17.5	7.4	9.7							6.3
Sikkim	36.7	40.2	39	74	69.2	70.3	23	27.7	27.5	22.4
Tamil Nadu	46.3	43.8	45	37.3	36.2	37	58.2	47.7	51.8	27.5
Telangana	47.6	37.1	42.1	45.2	36.9	40.3				
Tripura	9.8	6.8	7.6	43.5	22.4	27.3	26	12	13.3	7.4
Uttaranchal	15.6	9.4	11.5							12.7
Uttar Pradesh	13.5	3.8	5.9							2.7
West Bengal	25.2	20.4	21.8	40	35.4	36.8	29.7	17.8	19.5	9.7
India Total	31.1	16.7	21	31.1	16.7	21			11.6	11.6

### 11. FULL ANC

Full ANC Source	2015-2016			2012-2013		2007-2008	
	NFHS 4 (All values in %)			DLHS 4 (Values in %)		DLHS 3 (All values in %)	
	Urban	Rural	Total	Rural	Total	Rural	Total
Bagalkote	29.4	39.8	36.3	31.1	41.7	20.8	25.7
Bengaluru	31.5		27.5	78	74.4	92.3	91.8
Bengaluru (R)		30.4	32.1	66.2	63.7	74	77.1
Belagavi		45.2	48.6	42.6	46.2	35	37.7
Ballari	38.6	42.5	41	15.9	19.9	26.3	34.8
Bidder		36.1	33.3	23.6	45.5	36.2	38.9
Vijayapura		23.5	24.4	22.9	26.1	17.6	21.5
Chamarajnaragar		48.7	43.2	76.2	74.2	84.3	82.2
Chikkaballapura		42.5	38.1	44.2	41.3		
Chikkamagaluru		13.7	13.6	46.2	48	77.4	79.6
Chitradurga		26.4	33.3	37.1	37.6	54.5	55.9
D. Kannada	34.6	28.9	31.4	57.8	66.7	84.1	81.2
Davangere	52.6	56.4	55.2	26.5	31.5	38.7	46
Dharwad	33.6	37	35	19	18.7	23.4	27.7
Gadag	34.2	31.8	32.7	19.3	22.2	34.8	34.3
Kalaburagi	28.4	31.2	30	51.8	56.8	29.7	32
Hassan		32.7	33.6	52.9	61.6	65.9	64.8
Haveri		19.5	19.5	22.8	31.7	43.2	43.8
Kodagu		30.3	31.5	54.4	59.5	76	75.3
Kolar	58.2	44.3	50	49.6	57.3	72.4	72.4
Koppal		11.9	17.2	15.2	18.9	16.7	15.8
Mandya		17.1	16.9	76.7	69.5	82.3	79.9
Mysuru	33.9	23.8	28.2	57.1	56.8	70.7	73
Raichur		36.1	38.8	36.3	39.6	15.7	18.4

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

Ramanagara		22.5	27.4	46	44.1		
Shivamogga	25.4	27.3	26.7	62	60.5	63.2	86
Tumakuru		32.1	34.6	68.2	72.9	74	72.7
Udupi		32.4	35.9	62.4	53.4	86	85.7
Uttara Kannada		30.4	32.9	52	53.1	79.9	81.1
Yadagiri		21.1	19	40.3	43.4		
All Districts	34.8	31.4	32.8	41.4	46	48.7	51.1

**12. At least 3 ANC check ups**

Mothers Who Had At least 3 ANC Check-Ups	2015-2016			2012-2013		2007-2008		2003-2004	
Source	NFHS 4 (Values in %)			DLHS 4 (Values in %)		DLHS 3 (Values in %)		DLHS 2 (Values in %)	
	Urban	Rural	Total	Rural	Total	Rural	Total	Rural	Total
Bagalkot	79.6	59.8	66.5	83.3	87.6	58	63	59.6	69.8
Bengaluru	55.1		48.1	96.8	97.2	94.7	98.2	83.8	92.4
Bengaluru (R)		78.4	75.6	94.5	90.8	95.3	95.6	87.3	89.2
Belagavi		76	78.5	99.1	99.4	65.8	70.5	84.8	86.9
Bellary	86.2	76.4	80.1	70.1	72.7	55.1	64.2	52.9	58
Bidder		72.6	69.1	68.4	78.5	78.6	81.6	66.1	71.8
Vijayapura		60.5	64.3	73.5	79.3	59.8	63.9	56.9	63.2
Chamarajnar		82.1	76.8	95.1	96.7	97.1	97.4	88.9	90
Chikkaballapura		93.8	92.7	91.7	89.1				
Chikkamagaluru		59.7	60.9	83.7	86.8	91.5	93.2	90.6	92.3
Chitradurga		66.5	67.2	85.2	88.6				
D. Kannada	64.6	68.6	66.8	84.5	90	97.4	97	93.9	94.6
Davangere	89.9	87.2	88.1	80.2	82.1	79.3	82.9	83.7	86
Dharwad	74.6	79.9	76.8	86.6	85.6	78.8	80.9	83.7	79.2
Gadag	71	82.6	78.1	82	87.5				
Kalaburagi	81.7	86.6	84.6	79.2	82.2	59.1	64.2	55.8	61.9
Hassan		85	86.4	97.8	98.4	93.1	94	90	90.6

Haveri		68. 2	68. 8	69.1	73.4	89.3	89.2	78.9	80.7
Kodagu		83. 5	78. 8	94.7	97.1	93.5	93.8	88.8	87.2
Kolar	77. 2	76. 2	76. 6	89.5	92.3	90.6	92.3	90.3	89.6
Koppal		56. 4	60. 5	74.3	80.2	64.4	65.7	58.2	61.2
Mandya		84. 9	83. 6	96.5	98.3	97.2	97.2	95	94.9
Mysuru	65. 5	66. 1	65. 9	81.5	85.7	93	91.7	82.9	85
Raichur		59. 6	65. 4	73.4	75.5	49.3	55.8	45.8	50.6
Ramanagara		67. 1	74	83.3	86.5				
Shivamogga	71. 4	75	73. 8	94.7	96.2	86.7	91.3	83.1	84.8
Tumakuru		67. 3	70. 6	91.9	94.3	93	93.9	84.2	83.5
Udupi		82. 7	84. 2	98.2	96	98.6	96.5	98.7	99
Uttara Kannada		73. 3	79. 6	94.5	94.4				
Yadgir		59. 4	63. 6	68.5	72.2				
All Districts	69. 4	67. 1	65. 9	83.3	86.3	88.6	90.2		

### 13. OOPE components

Districts	Average of Scanning	Average of Inflation adjusted scanning	Average of Thyroid	Average of Inflation adjusted Thyroid	Average of Medicine	Average of Inflation adjusted medicine	Average of UPT	Average of Inflation adjusted UTP	Average of Blood Test	Average of Inflation adjusted Blood Test	Average of one blood test	Average of Inflation adjusted one Blood Test	Average of doctors' fees	Average of amount paid for doctor during one visit
Bangalore rural	1540	1914	411	511	2929	3642	96	119	414	514	339	421	2874	763
private facility	1597	1985	235	292	4539	5642	86	107	303	376	213	265	919	590
public facility	1528	1899	463	576	2559	3181	98	122	435	541	363	452	3414	850
Belgaum	2282	2837	497	618	3465	4308	134	166	720	895	526	654	1382	741
private facility	2776	3451	781	971	4107	5105	153	190	768	955	542	674	1627	743
public facility	2055	2554	381	473	3076	3824	126	157	697	867	520	646	1202	739
Bellary	2021	2512	605	753	4711	5856	59	73	772	959	412	512	1070	1150
private facility	2339	2908	715	889	5785	7191	94	116	1116	1387	503	626	925	522
public facility	1962	2438	565	702	4401	5471	53	66	684	850	390	484	1129	1522
Chickmagalur	2094	2602	666	828	3635	4518	171	212	737	916	770	958	1833	576
private facility	2288	2845	609	757	4432	5509	187	233	728	904	860	1069	1942	313
public facility	2062	2563	687	854	3452	4291	166	207	738	918	748	930	1794	711
Haveri	1481	1841	493	612	2216	2754	103	128	474	590	327	406	1350	837
private facility	1400	1740	450	559	845	1050	125	155	592	736	381	473	2600	3367
public facility	1490	1852	500	622	2490	3095	100	125	457	568	318	396	1236	592
Grand Total	1985	2467	547	679	3572	4440	108	134	653	811	486	604	1633	788

## 14. OOPE components

Districts	Average of In-kind Payments	Average of Inflation adjusted In-kind Payments	Average of one In-kind Payment	Average of Inflation adjusted one In-kind Payments	Average of Food	Average of Inflation adjusted Food	Average of Food at one visit	Average of Inflation adjusted Food at one visit	Average of blood transfusion	Average of Inflation adjusted blood transfusion	Average of one blood transfusion	Average of Inflation adjusted one blood transfusion	Average of other illnesses	Average of Inflation adjusted other illnesses
Bangalore rural	1418	1763	1064	1323	631	784	161	200	1333	1072	1148	1427	2875	3574
private facility	500	622	500	622	600	746	117	145	1989	1600	2500	3108	0	0
public facility	1462	1817	1108	1377	633	787	164	204	1304	1049	1081	1343	2875	3574
Belgaum	848	1054	577	717	854	1061	428	532	2660	2140	1425	1772	2729	3392
private facility	1475	1834	400	497	929	1155	378	470	4185	3367	1763	2191	4200	5221
public facility	751	934	604	751	827	1028	442	550	1945	1565	1251	1556	2269	2820
Bellary	1248	1551	238	296	704	875	267	332	1757	1414	1132	1407	3533	4392
private facility	1000	1243	350	435	988	1228	497	617	2530	2035	1760	2188	7000	8701
public facility	1261	1567	223	278	652	811	226	281	1611	1296	1023	1272	3100	3854
Chickmagalur	1486	1848	1766	2195	1109	1378	283	352	1353	1088	881	1095	2900	3605
private facility	1800	2238	2443	3037	954	1186	178	221	994	800	800	994	5500	6837
public facility	1448	1800	1707	2122	1140	1417	301	374	1401	1127	891	1107	1718	2136
Haveri	924	1148	478	594	510	634	230	286	2093	1684	1463	1818	750	932
private facility	300	373	250	311	936	1164	328	407	1865	1500	1500	1865	0	0
public facility	983	1222	503	625	456	567	217	270	2119	1704	1458	1813	750	932
Grand Total	1258	1564	1191	1480	801	995	321	400	1945	1565	1222	1519	2857	3552

**15. OOPE components**

Districts	Average of referral	Average of referral transport	Average of hotel stay	Average of one hotel stay	Average of ANC cost	Average of ANC inflation adjusted	Average of Delivery OOPE	Average of Inflation adjusted Delivery OOPE	Average of Delivery Cost	Average of Inflation adjusted Delivery OOPE	Average of PNC cost	Average of PNC inflation adjusted	Average of Total Transportation cost	Average of Total OOPE	Average of Total OOPE inflation adjusted
Bangalore rural	6588	1053	427	322	4926	6123	9480	11784	11019	13697	752	934	3403	17354	21648
private facility	1688	200	150	100	7030	8738	14013	17418	15934	19807	1894	2354	4611	31113	38822
public facility	7741	1296	469	337	4594	5711	8766	10896	10245	12735	570	709	3213	15188	18943
Belgaum	2833	789	2267	1746	7089	8812	8009	9956	9705	12064	713	886	4388	19441	24224
private facility	3666	739	1450	1950	10307	12812	14332	17816	17380	21605	1147	1426	6740	37228	46390
public facility	2330	819	2430	1705	5964	7413	5799	7209	7028	8736	564	701	3573	13219	16472
bellary	5359	853	4500	1150	8602	10693	7845	9752	9394	11677	787	978	5271	19802	24663
private facility	4550	611	4000	800	12843	15964	16024	19919	19375	24085	2138	2657	8750	43378	54015
public facility	5608	957	5000	1500	7808	9706	6348	7891	7579	9421	515	640	4622	15472	19273
Chickmagalur	7081	2159	1957	580	8916	11083	11777	14639	14405	17907	1015	1261	5882	25862	32250
private facility	8888	2120	2133	700	12186	15148	17145	21312	22821	28368	2061	2561	10110	51288	63999

public facility	6564	2172	1825	500	8389	10428	10934	13592	13049	16221	842	1047	5201	21764	27134
Haveri	9289	3470	600	600	3985	4954	6513	8096	7499	9322	657	817	3364	12079	15048
private facility	15750	1025	0	0	4093	5087	12484	15518	13534	16824	358	445	2981	24469	30494
public facility	4120	5100	600	600	3987	4956	6044	7513	7029	8737	683	850	3403	11105	13834
Grand Total	4956	1291	1716	1101	6707	8337	8392	10432	10023	12460	761	946	4416	18627	23214

Source of information Beneficiaries													
SOURCE OF INFORMATION	AWW				CAMPS				POSTERS				
Row Labels	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	
Bangalore rural	137	157		294	287	7		294	289	5		294	
obc	105	131		236	229	7		236	231	5		236	
SC	25	22		47	47			47	47			47	
st	7	4		11	11			11	11			11	
Belgaum	422	288	6	716	586	124	6	716	661	49	6	716	
obc	305	228	6	539	444	89	6	539	499	34	6	539	
sc	103	44		147	119	28		147	135	12		147	

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

st	14	16		30	23	7		30	27	3		30
Bellary	262	135	2	399	373	24	2	399	376	21	2	399
no_info	1			1	1			1	1			1
obc	133	69	1	203	187	15	1	203	191	11	1	203
sc	106	41	1	148	140	7	1	148	140	7	1	148
st	22	25		47	45	2		47	44	3		47
Chickmagalur	223	57	1	281	278	2	1	281	279	1	1	281
obc	137	39	1	177	176		1	177	176		1	177
sc	68	17		85	83	2		85	84	1		85
st	18	1		19	19			19	19			19
Haveri	277	137		414	290	124		414	364	50		414
no info		1		1	1			1	1			1
obc	192	95		287	209	78		287	243	44		287
SC	42	26		68	52	16		68	65	3		68
st	43	15		58	28	30		58	55	3		58
Grand Total	1321	774	9	2104	1814	281	9	2104	1969	126	9	2104



SOURCE OF INFORMATION BENEFICIARIES	TV				RADIO				NEWSPAPER			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore rural	290	4		294	291	3		294	287	7		294
obc	232	4		236	233	3		236	229	7		236
sc	47			47	47			47	47			47
st	11			11	11			11	11			11
belgaum	598	112	6	716	658	52	6	716	606	98	12	716
obc	449	84	6	539	491	42	6	539	453	74	12	539
sc	126	21		147	138	9		147	123	24		147
st	23	7		30	29	1		30	30			30
bellary	358	39	2	399	391	6	2	399	391	8		399
no_info		1		1	1			1	1			1
obc	181	21	1	203	197	5	1	203	199	4		203
sc	136	11	1	148	146	1	1	148	146	2		148

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

st	41	6		47	47			47	45	2		47
chikmagalur	246	34	1	281	254	26	1	281	251	28	2	281
obc	166	10	1	177	170	6	1	177	166	9	2	177
sc	76	9		85	79	6		85	80	5		85
st	4	15		19	5	14		19	5	14		19
haveri	318	96		414	390	24		414	344	70		414
no_info	1			1	1			1	1			1
obc	220	67		287	268	19		287	235	52		287
sc	56	12		68	67	1		68	58	10		68
st	41	17		58	54	4		58	50	8		58
Grand Total	1810	285	9	2104	1984	111	9	2104	1879	211	14	2104

Row Labels	PAMPHLETS				INTERNET			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore rural	294			294	294			294
obc	236			236	236			236
sc	47			47	47			47
st	11			11	11			11
belgaum	694	10	12	716	697	7	12	716
obc	520	7	12	539	521	6	12	539
sc	145	2		147	146	1		147
st	29	1		30	30			30
bellary	398	1		399	394	5		399
no_info	1			1	1			1
obc	203			203	201	2		203
sc	147	1		148	145	3		148
st	47			47	47			47
chikmagalur	279		2	281	278	1	2	281
obc	175		2	177	174	1	2	177
sc	85			85	85			85
st	19			19	19			19
haveri	370	44		414	389	25		414
no_info	1			1	1			1
obc	253	34		287	270	17		287
sc	61	7		68	62	6		68
st	55	3		58	56	2		58
<b>Grand Total</b>	<b>2035</b>	<b>55</b>	<b>14</b>	<b>2104</b>	<b>2052</b>	<b>38</b>	<b>14</b>	<b>2104</b>

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

Source of Information decision maker												
Relatives and friends					ASHA					ANM		
Row Labels	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	231	63		294	112	182		294	136	158		294
obc	182	54		236	96	140		236	108	128		236
sc	40	7		47	13	34		47	22	25		47
st	9	2		11	3	8		11	6	5		11
belgaum	234	470	12	716	52	652	12	716	227	477	12	716
obc	188	339	12	539	38	489	12	539	168	359	12	539
sc	35	112		147	13	134		147	54	93		147
st	11	19		30	1	29		30	5	25		30
bellary	283	116		399	85	314		399	177	222		399
no_info	1			1		1		1	1			1
obc	147	56		203	45	158		203	90	113		203
sc	101	47		148	27	121		148	73	75		148
st	34	13		47	13	34		47	13	34		47
chikmagalur	132	147	2	281	81	198	2	281	153	126	2	281
obc	90	85	2	177	55	120	2	177	88	87	2	177
sc	39	46		85	24	61		85	51	34		85
st	3	16		19	2	17		19	14	5		19
haveri	169	245		414	36	378		414	143	271		414
no_info		1		1		1		1		1		1
obc	109	178		287	30	257		287	93	194		287
sc	27	41		68	2	66		68	25	43		68
st	33	25		58	4	54		58	25	33		58
Grand Total	1049	1041	14	2104	366	1724	14	2104	836	1254	14	2104

Source of Information decision maker	AWW				Posters				TV			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	122	172		294	278	16		294	281	13		294
obc	91	145		236	220	16		236	223	13		236
sc	24	23		47	47			47	47			47
st	7	4		11	11			11	11			11
belgaum	398	306	12	716	612	92	12	716	588	116	12	716
obc	294	233	12	539	458	69	12	539	444	83	12	539
sc	90	57		147	126	21		147	121	26		147
st	14	16		30	28	2		30	23	7		30
bellary	252	147		399	379	20		399	360	39		399
no_info	1			1	1			1	1			1
obc	130	73		203	189	14		203	180	23		203
sc	101	47		148	142	6		148	137	11		148
st	20	27		47	47			47	42	5		47
chikmagalur	221	58	2	281	279		2	281	245	34	2	281
obc	136	39	2	177	175		2	177	166	9	2	177
sc	67	18		85	85			85	75	10		85
st	18	1		19	19			19	4	15		19
haveri	262	152		414	318	96		414	290	124		414
no_info		1		1	1			1	1			1
obc	180	107		287	208	79		287	201	86		287
sc	41	27		68	59	9		68	48	20		68
st	41	17		58	50	8		58	40	18		58
Grand Total	1255	835	14	2104	1866	224	14	2104	1764	326	14	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

Source of Information decision maker												
Row Labels	Radio				News paper				Pamphlets			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	284	10		294	287	7		294	294			294
obc	226	10		236	229	7		236	236			236
sc	47			47	47			47	47			47
st	11			11	11			11	11			11
belgaum	663	41	12	716	606	98	12	716	694	10	12	716
obc	495	32	12	539	453	74	12	539	520	7	12	539
sc	139	8		147	123	24		147	145	2		147
st	29	1		30	30			30	29	1		30
bellary	394	5		399	391	8		399	398	1		399
no_info	1			1	1			1	1			1
obc	201	2		203	199	4		203	203			203
sc	146	2		148	146	2		148	147	1		148
st	46	1		47	45	2		47	47			47
chikmagalur	256	23	2	281	251	28	2	281	279		2	281
obc	171	4	2	177	166	9	2	177	175		2	177
sc	80	5		85	80	5		85	85			85
st	5	14		19	5	14		19	19			19
haveri	378	36		414	344	70		414	370	44		414
no_info	1			1	1			1	1			1
obc	255	32		287	235	52		287	253	34		287
sc	66	2		68	58	10		68	61	7		68
st	56	2		58	50	8		58	55	3		58
Grand Total	1975	115	14	2104	1879	211	14	2104	2035	55	14	2104

Source of Information decision maker	Internet			
	NO	YES	NO INFO	Grand Total
bangalore_rural	294			294
obc	236			236
sc	47			47
st	11			11
belgaum	697	7	12	716
obc	521	6	12	539
sc	146	1		147
st	30			30
bellary	394	5		399
no_info	1			1
obc	201	2		203
sc	145	3		148
st	47			47
chikmagalur	278	1	2	281
obc	174	1	2	177
sc	85			85
st	19			19
haveri	389	25		414
no_info	1			1
obc	270	17		287
sc	62	6		68
st	56	2		58
<b>Grand Total</b>	<b>2052</b>	<b>38</b>	<b>14</b>	<b>2104</b>

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

MEDICINE CONSUMED												
Row Labels	TABLETS FOR ENERGY				TABLETS FOR VOMITTING				TABLETS FOR GASTRITIS			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	10	104	180	294	54	60	180	294	61	53	180	294
obc	9	84	143	236	42	51	143	236	51	42	143	236
sc	1	16	30	47	10	7	30	47	9	8	30	47
st		4	7	11	2	2	7	11	1	3	7	11
belgaum	18	302	396	716	165	155	396	716	210	110	396	716
obc	10	224	305	539	129	105	305	539	161	73	305	539
sc	8	67	72	147	32	43	72	147	41	34	72	147
st		11	19	30	4	7	19	30	8	3	19	30
bellary	3	162	234	399	81	84	234	399	124	41	234	399
no_info			1	1			1	1			1	1
obc	3	82	118	203	40	45	118	203	62	23	118	203
sc		61	87	148	34	27	87	148	52	9	87	148
st		19	28	47	7	12	28	47	10	9	28	47
chikmagalur	25	145	111	281	79	91	111	281	137	33	111	281
obc	11	102	64	177	55	58	64	177	89	24	64	177
sc	14	38	33	85	24	28	33	85	43	9	33	85
st		5	14	19		5	14	19	5		14	19
haveri	4	52	358	414	50	6	358	414	52	4	358	414
no_info			1	1			1	1			1	1
obc	3	38	246	287	36	5	246	287	38	3	246	287
sc	1	9	58	68	9	1	58	68	9	1	58	68
st		5	53	58	5		53	58	5		53	58
Grand Total	60	765	1279	2104	429	396	1279	2104	584	241	1279	2104



Row Labels	VITAMIN SYRUP				OTHER SYRUPS				PROTEIN POWDER			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	22	92	180	294	48	66	180	294	49	65	180	294
obc	18	75	143	236	41	52	143	236	37	56	143	236
sc	3	14	30	47	7	10	30	47	9	8	30	47
st	1	3	7	11		4	7	11	3	1	7	11
belgaum	80	240	396	716	206	114	396	716	127	193	396	716
obc	56	178	305	539	159	75	305	539	99	135	305	539
sc	22	53	72	147	38	37	72	147	23	52	72	147
st	2	9	19	30	9	2	19	30	5	6	19	30
bellary	75	90	234	399	113	52	234	399	36	129	234	399
no_info			1	1			1	1			1	1
obc	41	44	118	203	59	26	118	203	19	66	118	203
sc	28	33	87	148	48	13	87	148	14	47	87	148
st	6	13	28	47	6	13	28	47	3	16	28	47
chikmagalur	42	128	111	281	109	61	111	281	46	124	111	281
obc	26	87	64	177	68	45	64	177	30	83	64	177
sc	15	37	33	85	36	16	33	85	14	38	33	85
st	1	4	14	19	5		14	19	2	3	14	19
haveri	29	27	358	414	34	22	358	414	18	38	358	414
no_info			1	1			1	1			1	1
obc	18	23	246	287	26	15	246	287	13	28	246	287
sc	7	3	58	68	5	5	58	68	4	6	58	68
st	4	1	53	58	3	2	53	58	1	4	53	58
Grand Total	248	577	1279	2104	510	315	1279	2104	276	549	1279	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

Row Labels	MILK POWDER				ANY OTHER OVER THE COUNTER MEDICINE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	94	20	180	294	100	14	180	294
obc	76	17	143	236	83	10	143	236
sc	15	2	30	47	14	3	30	47
st	3	1	7	11	3	1	7	11
belgaum	186	134	396	716	235	85	396	716
obc	141	93	305	539	185	49	305	539
sc	39	36	72	147	40	35	72	147
st	6	5	19	30	10	1	19	30
bellary	90	75	234	399	156	9	234	399
no_info			1	1			1	1
obc	39	46	118	203	77	8	118	203
sc	40	21	87	148	60	1	87	148
st	11	8	28	47	19		28	47
chikmagalur	133	37	111	281	168	2	111	281
obc	88	25	64	177	113		64	177
sc	40	12	33	85	50	2	33	85
st	5		14	19	5		14	19
haveri	20	36	358	414	52	4	358	414
no_info			1	1			1	1
obc	17	24	246	287	38	3	246	287
sc	1	9	58	68	9	1	58	68
st	2	3	53	58	5		53	58
<b>Grand Total</b>	<b>523</b>	<b>302</b>	<b>1279</b>	<b>2104</b>	<b>711</b>	<b>114</b>	<b>1279</b>	<b>2104</b>

TIME OF MEDICINE CONSUMED												
Row Labels	1ST TRIMESTER				2ND TRIMESTER				7TH, 8TH, 9TH MONTH			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	6	108	180	294	13	101	180	294	21	93	180	294
obc	4	89	143	236	11	82	143	236	18	75	143	236
sc	2	15	30	47	2	15	30	47	2	15	30	47
st		4	7	11		4	7	11	1	3	7	11
belgaum	46	273	397	716	47	272	397	716	59	260	397	716
obc	28	205	306	539	32	201	306	539	41	192	306	539
sc	13	62	72	147	14	61	72	147	15	60	72	147
st	5	6	19	30	1	10	19	30	3	8	19	30
bellary	35	130	234	399	9	156	234	399	12	153	234	399
no_info			1	1			1	1			1	1
obc	20	65	118	203	6	79	118	203	5	80	118	203
sc	11	50	87	148	2	59	87	148	4	57	87	148
st	4	15	28	47	1	18	28	47	3	16	28	47
chikmagalur	28	142	111	281	22	148	111	281	34	136	111	281
obc	18	95	64	177	15	98	64	177	22	91	64	177
sc	7	45	33	85	7	45	33	85	12	40	33	85
st	3	2	14	19		5	14	19		5	14	19
haveri	22	34	358	414	27	29	358	414	24	32	358	414
no_info			1	1			1	1			1	1
obc	17	24	246	287	20	21	246	287	19	22	246	287
sc	4	6	58	68	5	5	58	68	4	6	58	68
st	1	4	53	58	2	3	53	58	1	4	53	58
Grand Total	137	687	1280	2104	118	706	1280	2104	150	674	1280	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

TIME OF MEDICINE CONSUMED

Row Labels	DURING DELIVERY				STAY IN HOSPITAL AFTER DELIVERY				UNTIL 2 MONTHS AFTER DELIVERY			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	98	16	180	294	110	4	180	294	113	1	180	294
obc	80	13	143	236	90	3	143	236	92	1	143	236
sc	14	3	30	47	16	1	30	47	17		30	47
st	4		7	11	4		7	11	4		7	11
belgaum	212	107	397	716	249	70	397	716	276	43	397	716
obc	160	73	306	539	191	42	306	539	213	20	306	539
sc	43	32	72	147	49	26	72	147	53	22	72	147
st	9	2	19	30	9	2	19	30	10	1	19	30
bellary	118	47	234	399	159	6	234	399	162	3	234	399
no_info			1	1			1	1			1	1
obc	69	16	118	203	82	3	118	203	83	2	118	203
sc	36	25	87	148	60	1	87	148	60	1	87	148
st	13	6	28	47	17	2	28	47	19		28	47
chikmagalur	149	21	111	281	158	12	111	281	162	8	111	281
obc	101	12	64	177	103	10	64	177	107	6	64	177
sc	43	9	33	85	50	2	33	85	50	2	33	85
st	5		14	19	5		14	19	5		14	19
haveri	47	9	358	414	45	11	358	414	51	5	358	414
no_info			1	1			1	1			1	1
obc	38	3	246	287	32	9	246	287	36	5	246	287
sc	5	5	58	68	9	1	58	68	10		58	68
st	4	1	53	58	4	1	53	58	5		53	58
Grand Total	624	200	1280	2104	721	103	1280	2104	764	60	1280	2104

TIME OF MEDICINE CONSUMED	THROUGHOUT PREGNANCY			
Row Labels	NO	YES	NO INFO	Grand Total
bangalore_rural	113	1	180	294
obc	92	1	143	236
sc	17		30	47
st	4		7	11
belgaum	284	35	397	716
obc	218	15	306	539
sc	55	20	72	147
st	11		19	30
bellary	163	2	234	399
no_info			1	1
obc	83	2	118	203
sc	61		87	148
st	19		28	47
chikmagalur	169	1	111	281
obc	112	1	64	177
sc	52		33	85
st	5		14	19
haveri	48	8	358	414
no_info			1	1
obc	36	5	246	287
sc	7	3	58	68
st	5		53	58
Grand Total	777	47	1280	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

REASON FOR BLOOD TEST OUTSIDE FACILITY								
Row Labels	UNAVAILABLE IN PLACE OF VISIT				LONG QUEUE IN GOVT. FACILITY			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	67	49	178	294	82	34	178	294
obc	49	42	145	236	64	27	145	236
sc	16	5	26	47	15	6	26	47
st	2	2	7	11	3	1	7	11
belgaum	68	197	451	716	130	135	451	716
obc	50	147	342	539	98	99	342	539
sc	11	45	91	147	27	29	91	147
st	7	5	18	30	5	7	18	30
bellary	51	93	255	399	84	60	255	399
no_info		1		1	1			1
obc	17	50	136	203	44	23	136	203
sc	32	29	87	148	28	33	87	148
st	2	13	32	47	11	4	32	47
chikmagalur	15	96	170	281	91	20	170	281
obc	9	58	110	177	51	16	110	177
sc	5	33	47	85	34	4	47	85
st	1	5	13	19	6		13	19
haveri	27	63	324	414	33	57	324	414
no_info			1	1			1	1
obc	14	41	232	287	20	35	232	287
sc	9	11	48	68	7	13	48	68
st	4	11	43	58	6	9	43	58
Grand Total	228	498	1378	2104	420	306	1378	2104

USE OF JSY MONEY												
	MEDICINES			FOOD				TRANSPORT				
Row Labels	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	37	104	153	294	61	80	153	294	61	80	153	294
obc	33	81	122	236	48	66	122	236	49	65	122	236
sc	4	20	23	47	12	12	23	47	11	13	23	47
st		3	8	11	1	2	8	11	1	2	8	11
belgaum	34	264	418	716	130	168	418	716	218	80	418	716
obc	28	192	319	539	103	117	319	539	175	45	319	539
sc	5	60	82	147	20	45	82	147	34	31	82	147
st	1	12	17	30	7	6	17	30	9	4	17	30
bellary	56	144	199	399	63	137	199	399	96	104	199	399
no_info			1	1			1	1			1	1
obc	24	65	114	203	23	66	114	203	39	50	114	203
sc	24	55	69	148	32	47	69	148	45	34	69	148
st	8	24	15	47	8	24	15	47	12	20	15	47
chikmagalur	57	43	181	281	70	30	181	281	97	3	181	281
obc	33	28	116	177	41	20	116	177	59	2	116	177
sc	24	13	48	85	27	10	48	85	36	1	48	85
st		2	17	19	2		17	19	2		17	19
haveri	45	294	75	414	176	163	75	414	208	131	75	414
no_info	1			1		1		1	1			1
obc	36	210	41	287	113	133	41	287	140	106	41	287
sc	5	52	11	68	38	19	11	68	42	15	11	68
st	3	32	23	58	25	10	23	58	25	10	23	58
Grand Total	229	849	1026	2104	500	578	1026	2104	680	398	1026	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

USE OF JSY MONEY	CHILD CARE PRODUCTS				NOT USE				PERSONAL USE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	131	10	153	294	141		153	294	139	2	153	294
obc	106	8	122	236	114		122	236	112	2	122	236
sc	22	2	23	47	24		23	47	24		23	47
st	3		8	11	3		8	11	3		8	11
belgaum	162	136	418	716	276	22	418	716	269	29	418	716
obc	122	98	319	539	213	7	319	539	209	11	319	539
sc	35	30	82	147	50	15	82	147	47	18	82	147
st	5	8	17	30	13		17	30	13		17	30
bellary	154	46	199	399	198	2	199	399	199	1	199	399
no_info			1	1			1	1			1	1
obc	74	15	114	203	88	1	114	203	89		114	203
sc	54	25	69	148	79		69	148	78	1	69	148
st	26	6	15	47	31	1	15	47	32		15	47
chikmagalur	39	61	181	281	100		181	281	93	7	181	281
obc	26	35	116	177	61		116	177	57	4	116	177
sc	11	26	48	85	37		48	85	34	3	48	85
st	2		17	19	2		17	19	2		17	19
haveri	137	202	75	414	328	11	75	414	293	46	75	414
no_info		1		1	1			1	1			1
obc	110	136	41	287	237	9	41	287	207	39	41	287
sc	17	40	11	68	55	2	11	68	52	5	11	68
st	10	25	23	58	35		23	58	33	2	23	58
Grand Total	623	455	1026	2104	1043	35	1026	2104	993	85	1026	2104



USE OF JSY MONEY Row Labels	DO NOT KNOW			Grand Total
	NO	YES	NO INFO	
bangalore_rural	138	3	153	294
obc	112	2	122	236
sc	23	1	23	47
st	3		8	11
belgaum	290	8	418	716
obc	216	4	319	539
sc	61	4	82	147
st	13		17	30
bellary	198	2	199	399
no_info			1	1
obc	89		114	203
sc	78	1	69	148
st	31	1	15	47
chikmagalur	99	1	181	281
obc	60	1	116	177
sc	37		48	85
st	2		17	19
haveri	339		75	414
no_info	1			1
obc	246		41	287
sc	57		11	68
st	35		23	58
Grand Total	1064	14	1026	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

PRASTHOOTI AARIKE MONEY USE												
Row Labels	MEDICINES				FOOD				TRANSPORT			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	63	83	148	294	86	60	148	294	58	88	148	294
obc	52	63	121	236	69	46	121	236	46	69	121	236
sc	8	18	21	47	14	12	21	47	11	15	21	47
st	3	2	6	11	3	2	6	11	1	4	6	11
belgaum	104	207	405	716	178	133	405	716	244	67	405	716
obc	85	139	315	539	139	85	315	539	187	37	315	539
sc	15	57	75	147	28	44	75	147	45	27	75	147
st	4	11	15	30	11	4	15	30	12	3	15	30
bellary	55	129	215	399	62	122	215	399	93	91	215	399
no_info			1	1			1	1			1	1
obc	17	61	125	203	28	50	125	203	37	41	125	203
sc	30	49	69	148	25	54	69	148	42	37	69	148
st	8	19	20	47	9	18	20	47	14	13	20	47
chikmagalur	42	55	184	281	86	11	184	281	87	10	184	281
obc	24	28	125	177	45	7	125	177	46	6	125	177
sc	18	20	47	85	34	4	47	85	34	4	47	85
st		7	12	19	7		12	19	7		12	19
haveri	39	267	108	414	158	148	108	414	175	131	108	414
no_info	1			1	1			1	1			1
obc	32	191	64	287	102	121	64	287	118	105	64	287
sc	5	44	19	68	28	21	19	68	34	15	19	68
st	1	32	25	58	27	6	25	58	22	11	25	58
Grand Total	303	741	1060	2104	570	474	1060	2104	657	387	1060	2104

PRASTHOOTI AARIKE MONEY USE	CHILD CARE PRODUCTS				NOT USE				PERSONAL USE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	125	21	148	294	146		148	294	145	1	148	294
obc	98	17	121	236	115		121	236	114	1	121	236
sc	23	3	21	47	26		21	47	26		21	47
st	4	1	6	11	5		6	11	5		6	11
belgaum	205	106	405	716	295	16	405	716	295	16	405	716
obc	156	68	315	539	217	7	315	539	219	5	315	539
sc	41	31	75	147	63	9	75	147	61	11	75	147
st	8	7	15	30	15		15	30	15		15	30
bellary	134	50	215	399	181	3	215	399	181	3	215	399
no_info			1	1			1	1			1	1
obc	61	17	125	203	76	2	125	203	76	2	125	203
sc	54	25	69	148	78	1	69	148	78	1	69	148
st	19	8	20	47	27		20	47	27		20	47
chikmagalur	62	35	184	281	97		184	281	92	5	184	281
obc	35	17	125	177	52		125	177	49	3	125	177
sc	20	18	47	85	38		47	85	36	2	47	85
st	7		12	19	7		12	19	7		12	19
haveri	132	174	108	414	295	11	108	414	257	49	108	414
no_info		1		1	1			1		1		1
obc	106	117	64	287	213	10	64	287	186	37	64	287
sc	17	32	19	68	49		19	68	41	8	19	68
st	9	24	25	58	32	1	25	58	30	3	25	58
Grand Total	658	386	1060	2104	1014	30	1060	2104	970	74	1060	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

PRASTHOOTI AARIKE MONEY USE	DO NOT KNOW			Grand Total
	NO	YES	NO INFO	
Row Labels				
bangalore_rural	141	5	148	294
obc	111	4	121	236
sc	25	1	21	47
st	5		6	11
belgaum	294	17	405	716
obc	214	10	315	539
sc	65	7	75	147
st	15		15	30
bellary	184		215	399
no_info			1	1
obc	78		125	203
sc	79		69	148
st	27		20	47
chikmagalur	97		184	281
obc	52		125	177
sc	38		47	85
st	7		12	19
haveri	305	1	108	414
no_info	1			1
obc	222	1	64	287
sc	49		19	68
st	33		25	58
Grand Total	1021	23	1060	2104

TIMING OF CASH INCENTIVE												
Row Labels	AT DETECTION OF PREGNANCY				AROUND DELIVERY TIME				FOR MOTHER AND CHILD CARE AT HOSPITAL			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	133	161		294	114	180		294	206	88		294
obc	105	131		236	96	140		236	168	68		236
sc	23	24		47	15	32		47	31	16		47
st	5	6		11	3	8		11	7	4		11
belgaum	422	290	4	716	170	542	4	716	348	364	4	716
obc	337	199	3	539	133	403	3	539	269	267	3	539
sc	68	78	1	147	23	123	1	147	66	80	1	147
st	17	13		30	14	16		30	13	17		30
bellary	374	24	1	399	29	369	1	399	277	121	1	399
no_info	1			1		1		1	1			1
obc	190	12	1	203	22	180	1	203	152	50	1	203
sc	139	9		148	5	143		148	94	54		148
st	44	3		47	2	45		47	30	17		47
chikmagalur	251	29	1	281	91	189	1	281	211	69	1	281
obc	161	15	1	177	61	115	1	177	143	33	1	177
sc	75	10		85	27	58		85	64	21		85
st	15	4		19	3	16		19	4	15		19
haveri	191	222	1	414	151	262	1	414	216	197	1	414
no_info	1			1	1			1	1			1
obc	133	153	1	287	107	179	1	287	147	139	1	287
sc	28	40		68	22	46		68	31	37		68
st	29	29		58	21	37		58	37	21		58
Grand Total	1667	726	7	2104	555	362	7	2104	1258	839	7	2104

TIMING OF CASH INCENTIVE

Row Labels	FOR CHILD CARE AT HOME				SEPARATELY FOR TRANSPORTATION				SEPARATELY FOR MEDICINE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	251	43		294	268	26		294	268	26		294
obc	203	33		236	219	17		236	216	20		236
sc	39	8		47	40	7		47	42	5		47
st	9	2		11	9	2		11	10	1		11
belgaum	534	178	4	716	549	163	4	716	562	150	4	716
obc	418	118	3	539	426	110	3	539	436	100	3	539
sc	91	55	1	147	98	48	1	147	99	47	1	147
st	25	5		30	25	5		30	27	3		30
bellary	380	18	1	399	394	4	1	399	396	2	1	399
no_info	1			1	1			1	1			1
obc	198	4	1	203	201	1	1	203	202		1	203
sc	137	11		148	146	2		148	147	1		148
st	44	3		47	46	1		47	46	1		47
chikmagalur	255	25	1	281	270	10	1	281	240	40	1	281
obc	166	10	1	177	173	3	1	177	159	17	1	177
sc	78	7		85	83	2		85	76	9		85
st	11	8		19	14	5		19	5	14		19
haveri	247	166	1	414	254	159	1	414	310	103	1	414
no_info		1		1	1			1	1			1
obc	169	117	1	287	169	117	1	287	216	70	1	287
sc	43	25		68	42	26		68	49	19		68
st	35	23		58	42	16		58	44	14		58
Grand Total	1667	430	7	2104	1735	362	7	2104	1776	321	7	2104

TIMING OF CASH INCENTIVE	ROUTINE ANC CHECK-UP				LAB TESTS REPORT				SCAN TEST REPORT			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	121	173		294	92	202		294	109	185		294
obc	103	133		236	82	154		236	88	148		236
sc	11	36		47	7	40		47	18	29		47
st	7	4		11	3	8		11	3	8		11
belgaum	244	469	3	716	171	542	3	716	183	530	3	716
obc	190	347	2	539	147	390	2	539	140	397	2	539
sc	46	100	1	147	17	129	1	147	27	119	1	147
st	8	22		30	7	23		30	16	14		30
bellary	105	294		399	83	316		399	206	193		399
no_info	1			1		1		1		1		1
obc	55	148		203	39	164		203	112	91		203
sc	39	109		148	40	108		148	76	72		148
st	10	37		47	4	43		47	18	29		47
chikmagalur	77	204		281	95	186		281	83	198		281
obc	44	133		177	64	113		177	45	132		177
sc	30	55		85	28	57		85	22	63		85
st	3	16		19	3	16		19	16	3		19
haveri	127	287		414	174	240		414	200	214		414
no_info		1		1	1			1	1			1
obc	80	207		287	118	169		287	126	161		287
sc	22	46		68	27	41		68	40	28		68
st	25	33		58	28	30		58	33	25		58
Grand Total	674	1427	3	2104	615	1486	3	2104	781	1320	3	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

TIMING OF CASH INCENTIVE	TO BUY MEDICINE				OTHER ILLNESS DURING PREGNANCY				COUNSELLING MOTHER CRAFT CLASS			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	54	240		294	250	44		294	237	57		294
obc	46	190		236	201	35		236	198	38		236
sc	7	40		47	40	7		47	31	16		47
st	1	10		11	9	2		11	8	3		11
belgaum	250	463	3	716	567	146	3	716	627	86	3	716
obc	193	344	2	539	420	117	2	539	475	62	2	539
sc	43	103	1	147	120	26	1	147	124	22	1	147
st	14	16		30	27	3		30	28	2		30
bellary	133	266		399	336	63		399	379	20		399
no_info	1			1	1			1	1			1
obc	68	135		203	170	33		203	197	6		203
sc	55	93		148	128	20		148	138	10		148
st	9	38		47	37	10		47	43	4		47
chikmagalur	89	192		281	273	8		281	242	39		281
obc	64	113		177	171	6		177	163	14		177
sc	24	61		85	83	2		85	73	12		85
st	1	18		19	19			19	6	13		19
haveri	221	193		414	285	129		414	329	85		414
no_info		1		1		1		1	1			1
obc	149	138		287	200	87		287	230	57		287
sc	34	34		68	42	26		68	52	16		68
st	38	20		58	43	15		58	46	12		58
Grand Total	747	1354	3	2104	1711	390	3	2104	1814	287	3	2104



MEANS OF TRANSPORTATION DURING Delivery												
Row Labels	OWN TWO-WHEELER				BUS				PAID PRIVATE VEHICLE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	260	34		294	279	15		294	152	142		294
obc	215	21		236	225	11		236	121	115		236
sc	35	12		47	44	3		47	27	20		47
st	10	1		11	10	1		11	4	7		11
belgaum	617	97	2	716	431	283	2	716	543	171	2	716
obc	479	59	1	539	328	210	1	539	421	117	1	539
sc	110	36	1	147	90	56	1	147	101	45	1	147
st	28	2		30	13	17		30	21	9		30
bellary	375	23	1	399	326	72	1	399	321	77	1	399
no_info		1		1	1			1	1			1
obc	192	11		203	159	44		203	166	37		203
sc	140	7	1	148	123	24	1	148	125	22	1	148
st	43	4		47	43	4		47	29	18		47
chikmagalur	264	16	1	281	212	68	1	281	152	128	1	281
obc	164	12	1	177	135	41	1	177	91	85	1	177
sc	82	3		85	60	25		85	45	40		85
st	18	1		19	17	2		19	16	3		19
haveri	345	69		414	284	130		414	290	124		414
no_info	1			1	1			1	1			1
obc	241	46		287	193	94		287	190	97		287
sc	59	9		68	47	21		68	51	17		68
st	44	14		58	43	15		58	48	10		58
Grand Total	1515	239	4	2104	1532	568	4	2104	1458	642	4	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

MEANS OF TRANSPORTATION DURING Delivery	WALK				GOVERNMENT AMBULANCE				PRIVATE AMBULANCE			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	279	15		294	282	12		294	293	1		294
obc	226	10		236	225	11		236	235	1		236
sc	42	5		47	46	1		47	47			47
st	11			11	11			11	11			11
belgaum	640	74	2	716	586	128	2	716	666	48	2	716
obc	496	42	1	539	452	86	1	539	507	31	1	539
sc	115	31	1	147	108	38	1	147	129	17	1	147
st	29	1		30	26	4		30	30			30
bellary	371	27	1	399	300	98	1	399	379	19	1	399
no_info	1			1	1			1	1			1
obc	188	15		203	162	41		203	195	8		203
sc	137	10	1	148	104	43	1	148	138	9	1	148
st	45	2		47	33	14		47	45	2		47
chikmagalur	275	5	1	281	271	9	1	281	280		1	281
obc	174	2	1	177	169	7	1	177	176		1	177
sc	82	3		85	84	1		85	85			85
st	19			19	18	1		19	19			19
haveri	394	20		414	265	149		414	403	11		414
no_info	1			1	1			1	1			1
obc	273	14		287	179	108		287	278	9		287
sc	65	3		68	46	22		68	66	2		68
st	55	3		58	39	19		58	58			58
<b>Grand Total</b>	<b>1515</b>	<b>141</b>	<b>4</b>	<b>2104</b>	<b>1704</b>	<b>396</b>	<b>4</b>	<b>2104</b>	<b>2027</b>	<b>79</b>	<b>4</b>	<b>2104</b>

MEANS OF TRANSPORTATION DURING Delivery	PRIVATE CAB			
	NO	YES	NO INFO	Grand Total
Row Labels				
bangalore_rural	202	92		294
obc	160	76		236
sc	34	13		47
st	8	3		11
belgaum	432	282	2	716
obc	300	238	1	539
sc	107	39	1	147
st	25	5		30
bellary	269	129	1	399
no_info	1			1
obc	137	66		203
sc	94	53	1	148
st	37	10		47
chikmagalur	237	43	1	281
obc	159	17	1	177
sc	73	12		85
st	5	14		19
haveri	375	39		414
no_info		1		1
obc	259	28		287
sc	62	6		68
st	54	4		58
Grand Total	1515	585	4	2104

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

<u>TRANSPORTATION OOPE PREVENTION</u>	IMPROVING TIMING QUALITY OF AMBULANCE				MAKE BETTER ARRANGEMENTS AT PHC			
Row Labels	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	54	240		294	97	197		294
obc	41	195		236	78	158		236
sc	11	36		47	15	32		47
st	2	9		11	4	7		11
belgaum	100	603	13	716	116	587	13	716
obc	84	443	12	539	90	437	12	539
sc	9	137	1	147	18	128	1	147
st	7	23		30	8	22		30
bellary	39	358	2	399	98	299	2	399
no_info	1			1		1		1
obc	16	185	2	203	65	136	2	203
sc	20	128		148	27	121		148
st	2	45		47	6	41		47
chikmagalur	54	226	1	281	97	183	1	281

obc	33	144		177	57	120		177
sc	20	64	1	85	36	48	1	85
st	1	18		19	4	15		19
haveri	134	280		414	68	346		414
no_info		1		1		1		1
obc	93	194		287	47	240		287
sc	24	44		68	9	59		68
st	17	41		58	12	46		58
<b>Grand Total</b>	<b>381</b>	<b>1707</b>	<b>16</b>	<b>2104</b>	<b>476</b>	<b>1612</b>	<b>16</b>	<b>2104</b>

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

TRANSPORTATION OOPE PREVENTION	REIMBURSE TRANSPORTATION COST				IMPROVE TRANSPORT FACILITIES			
	NO	YES	NO INFO	Grand Total	NO	YES	NO INFO	Grand Total
bangalore_rural	237	57		294	243	51		294
obc	194	42		236	201	35		236
sc	34	13		47	33	14		47
st	9	2		11	9	2		11
belgaum	482	221	13	716	547	156	13	716
obc	369	158	12	539	419	108	12	539
sc	88	58	1	147	103	43	1	147
st	25	5		30	25	5		30
bellary	255	142	2	399	376	21	2	399
no_info	1			1	1			1
obc	140	61	2	203	192	9	2	203
sc	94	54		148	138	10		148
st	20	27		47	45	2		47
chikmagalur	160	120	1	281	159	121	1	281
obc	106	71		177	110	67		177
sc	50	34	1	85	45	39	1	85
st	4	15		19	4	15		19
haveri	212	202		414	319	95		414
no_info		1		1		1		1
obc	145	142		287	226	61		287
sc	34	34		68	51	17		68
st	33	25		58	42	16		58
Grand Total	1346	742	16	2104	1644	444	16	2104

ADEQUACY OF CASH INCENTIVES					
Row Labels	high_cost_of_commodities_&services_in_today's_world	money_given_under_schemes_is_not_sufficient.	other	NO INFO	Grand Total
bangalore_urban	185	24	33	52	294
obc	156	20	28	32	236
sc	25	3	3	16	47
st	4	1	2	4	11
belgaum	272	267	65	112	716
obc	207	204	46	82	539
sc	58	50	12	27	147
st	7	13	7	3	30
bellary	129	213	47	10	399
no_info			1		1
obc	61	103	34	5	203
sc	48	84	11	5	148
st	20	26	1		47
chikmagalur	126	128	19	8	281
obc	80	80	14	3	177
sc	29	47	4	5	85
st	17	1	1		19
haveri	252	141	10	11	414
no_info		1			1
obc	174	99	6	8	287
sc	40	25	1	2	68
st	38	16	3	1	58
Grand Total	964	773	174	193	2104

**Out of Pocket Expenditure incurred for Maternal Health Care by BPL women in Karnataka in Public Health Facilities**

**Public Facilities Only**

	Delivery Cost					Total Maternity expenditure				
	Mean	Standard Deviation	95 CI	Trimmed Mean	Median	Mean	Standard Deviation	95 CI	Trimmed Mean	Median
<i>Bangalore Rural</i>										
<i>PHC</i>	9126	8571	5225-13028	8824	6100	14626	12669	8859-20393	14059	10990
<i>CHC</i>	7700	7730.028	-4600-20000	7378	4800	11003	11474	-7255-29260	10463	11474
<i>Taluk Hospital</i>	10230	7387	9112-11349	9930	8000	14904	10759	13275-16533	14238	11955
<i>District Hospital</i>	13903	8045	10952-16854	14047	14000	19337	10234	15583-23091	19204	19900
<i>Medical College</i>	15533	3602	6586-24481		15400	25601	12339	-5052-56254		20900
<i>Belgaum</i>										
<i>PHC</i>	5231	5666	4386-6076	4535	3200	10140	9061	8788-11492	9210	7100
<i>CHC</i>	9536	8098	8211-10860	9125	6450	16192	10350	14499-17885	15726	13750
<i>Taluk Hospital</i>	6725	6853	5562-7887	6094	4000	13198	10524	11413-14982	12377	9660
<i>District Hospital</i>	6828	7279	5052-8603	6209	4500	14595	11383	11818-17371	13907	11110
<i>Medical College</i>										
<i>Bellary</i>										
<i>PHC</i>	6246	5551	5197-7295	5694	5000	14117	9244	12370-15864	13313	11875
<i>CHC</i>	5276	4911	4039-6513	4682	4500	12599	8747	10396-14802	11910	10603
<i>Taluk Hospital</i>	9031	8917	7195-10868	8073	6500	16144	9433	14202-18087	15600	13550
<i>District Hospital</i>	10175	6823	8442-11907	9792	7400	20073	12538	16888-23257	19905	16575
<i>Medical College</i>										
<i>Total</i>										



<i>Chikmagalur</i>										
<i>PHC</i>	15732	7565	13245-18218	15846	16850	25349	10587	21869-28829	25547	27277
<i>CHC</i>	12430	7606	9421-15438	12306	10500					
<i>Taluk Hospital</i>						20082	10040	16110-24053	20017	21700
<i>District Hospital</i>	12166	7560	11003-13328	12018	10500	21074	11635	19286-22863	21097	18500
<i>Medical College</i>	18500	2082	15188-21812	18500	18500	29978	6650	19395-40560	29758	28005
<i>Haveri</i>										
<i>PHC</i>	6204	4148	5558-6849	5782	5500	10061	5319	9233-10889	9581	9051
<i>CHC</i>	8683	6578	1780-15586	8665	10600	15677	11699	3399-27954	15196	14725
<i>Taluk Hospital</i>	6159	3325	5466-6851	5842	6100	9063	3937	8243-9883	8769	8050
<i>District Hospital</i>	8086	6422	6818-9354	7443	6200	13100	6990	11720-14480	12494	11450
<i>Medical College</i>	10977	7113	7824-14131	10909	9550	16492	8548	12702-20282	16514	12675
<i>Total</i>										
<i>PHC</i>	6714	6131	6178-7250	6132	5000	12312	9349	11495-13130	11488	9701
<i>CHC</i>	8253	7481	7257-9250	7730	5200	15049	10044	13711-16387	14491	12701
<i>Taluk Hospital</i>	8491	7268	7863-9119	7936	6100	13921	9901	13065-14776	13146	11100
<i>District Hospital</i>	10196	7523	9479-10912	9841	8000	17892	11214	16824-18960	17550	14726
<i>Medical College</i>	12915	6865	10396-15433	13032	14400	20220	10182	16486-23955	20139	20800

### FGD summary

Sl No	Themes	Ballery	Chikmagalur	Haveri	Bangalore Rural	Belgaum
1	Awareness					
1.1	Where do you get new information about the cash incentives from usually?	Major sources of information include ASHA and Anganwadi Workers followed by advertisements. The other sources of information include TV, newspaper, and hospital staff.	Major sources of information includes ASHA and Anganwadi Workers followed by Relatives, Neighbours and Friends. The other sources of information include nurses in the CHC, PHC, and other Govt. Hospitals, Television, and SHG Meetings.	The major source of information about the cash incentives are ASHA and Anganwadi Workers.	Mother's Meetings in Anganwadi and by ASHA during home visits	CHC, ANM, ASHA, TV, Friends, Anganwadi, Government Hospitals
2	Reach of Schemes					
2.1	How did you feel about the regularity & real time disbursement of the cash incentives during 2014-2015, 2015-2016 & currently (ask as applicable to audience)?	According to the respondents, they are not getting the incentives on time even after submitting all the documents on time. Sometimes the incentives reach to some people but that is very rare. They even believe that government hospitals are not providing	According to the respondents, the present incentive amounts are insufficient and it's very difficult to manage maternal cost in such small incentives. They are also concerned about the non-timely release of the money. Due to that the	Most of the respondents have received the incentive amount of JSY and PA after delivery. Their concern is that the money should be credited to the beneficiaries before the delivery so that it can be used during ANC.	We may not get money on time either due to document related issues like having some spelling mistakes in the documents. Some of us have not received the maternity benefits money even after submitting the	All women have not received the benefits because of documentation problems and also lack of information.

		better health facilities.	benefits are not reaching to the beneficiaries on time. It is also found that the Government Hospital staffs are not responding properly regarding free health facilities and maternal kits.		appropriate documents.	
3	Items of OOPE					
3.1	What are common reasons for which OOPE is incurred despite free government services and cash incentives?	The common reasons are as follows: 1. The government hospitals don't have the basic infrastructural facilities for scanning, blood test, etc. which force the beneficiaries to go the private centres.; 2. The medicines are also not available there in the government hospitals which one has to usually buy from outside medical stores.; 3. The ambulance services are not good and they have to pay for transport costs.	The common reasons are: 1. The medicines are not available in the government hospitals and the beneficiaries has to buy them from outside.; 2. Most of the time the transportation facilities are also not available and the beneficiaries have to hire private vehicles for the same.; 3. Major lab facilities like scanning, blood testing, etc. are also not available in the hospitals and the beneficiaries have to go to the private	The common reasons are as follows: 1. The Haveri Government Hospital doesn't have the lab facilities so they have to spend the amount for that in private centres.; 2. The regular checkup also involves the transportation costs.	Whenever there is an emergency, hospital services (higher referral centres) will have to be borne by us. Transportation is one of the major expenses during the maternity care.	1. Available Government services are not comprehensive. ; 2. Less amount of money available in the form of incentives.; 3. Non-availability of public transport at the time of need/more pronounced for people who have built their houses in their farms.; 4. Personal expenditures in the form of food.; 5. Lab checkups, scanning and

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

			centres for that.; 4. There was also a case where the beneficiaries have to pay Rs. 500 to the doctor everytime when they go for checkup, etc.			sometimes even for blood transfusion.
3.2	What were the major difficulties in obtaining cash incentives?	The major difficulty in obtaining the cash incentive is the lack of proper documentation. Sometimes because of migration, change in addresses becomes an issue.	The major difficulty in obtaining the cash incentive is the lack of proper documentation. There are also cases where the response from the government hospital staff is not proper even when the documents are in proper line. Most of the time it has also been found that the beneficiaries are approaching the private hospitals for delivery purposes and this makes them not eligible for obtaining the incentives.	Most of the respondents didn't find any major issue in obtaining the cash incentive. Only few of them said that they face some documentation issues. Few respondents mentioned that they had problems in opening the bank account which delayed the process.	We may not get money on time either due to document related issues like having some spelling mistakes in the documents. Not being able to provide documents on time. Sometimes they distribute the cheques after the maternity benefit period which becomes difficult to encash.	1. We don't get much information about it.; 2. Even after submitting all the documents we don't get incentives.; 3. When we go to mothers' house for delivery we do not get cash incentives.; 4. We don't get incentives on time.; 5. Some of us don't have appropriate documents required.
3.3	Of all the things we discussed, what to you is the most important	The most important reasons for OOPE are as follows: 1. The absence of lab and	The most important reasons of OOPE are as follows: 1. The lab facilities like	The most important reasons of OOPE are as follows: 1. The absence of lab	We have to spend from our pockets for transportation. Sometimes we have	1. Transportation problems.; 2. Food.; 3. Non-availability of comprehensive

	<p>reason for OOPE &amp; what is the best method to address it?</p>	<p>medicine facilities in the government hospitals.; 2. The absence of better transport services (ambulances are not reachable on time). The best method to address it is as follows: The government should improve the infrastructural facilities of the government hospitals. They should also work on improving the ambulance services.</p>	<p>scanning, blood test, etc. are not available in the Government hospitals and this is forcing people to go to the private centres.; 2. The incentive money is insufficient and most of the times the benefits don't reach to the people on time. The best methods to address it are as follows: 1. The government should work on improving the basic infrastructural facilities in the government hospitals.; 2. They should make sure that the reach of the incentives to the general population is very fast.; 3. The instances of corruption in the government hospitals must be reduced.</p>	<p>facilities in the Haveri Government Hospital.; 2. The medicines are not available in the hospital and one has to buy them from the private health and medical stores.; 3. The absence of transport services is also loosening the purses of the respondents. The best method to address it is as follows: The government should improve the lab and transportation facilities available in the hospital and it should also ensure that the medicines are available free of cost to the beneficiaries.</p>	<p>to visit more than one time for services and also to get maternity benefits.</p>	<p>facilities in the PHCs.; 4. Scanning and Lab Tests.; 5. Informal payments to the healthcare staffs. The best way to address is to provide the comprehensive facilities in all the PHCs.</p>
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Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

4	Financial Adequacy					
4.1	What did you think about the adequacy of the cash incentive programs?	<p>Most of the respondents agreed that the scheme incentive money is not enough to manage the costly health services. According to them the government is providing only Rs. 700-1500 and this is very low amount when it comes for managing the health services.</p>	<p>The scheme incentive money transfers are insufficient. We have to wait for atleast one year to get the incentives. The incentive amount is not even sufficient for managing small health expenditures. Anyhow we have to pay informally to get the free facilities. The government should increase the incentive amount.</p>	<p>According to the respondents, the incentive amount is insufficient (it ranges from 700-1500) for managing the costly health services and most of the time the incentive amount doesn't reach on time to the beneficiaries. The best method to address it is as follow: The government should increase the incentive amount and they should ensure that it reaches to the beneficiaries on time.</p>	<p>It is sufficient to certain extent.</p>	<p>We do not get the incentives when required and the incentives money provided is not sufficient. If you get the delivery done in private facilities you won't get the incentives. We will not get all the schemes that we are entitled to.</p>

5	Regularity and Real-time Disbursement					
5.1	What do you think about the transport cost involved during maternal health care services? Why is money spent on transport despite government ambulance and transport facilities?	According to the respondents the ambulance services are not available when it is needed the most. This forces them to use the private vehicles and autos.	The ambulance services are very slow. According to the respondents, they have to pay bribe to the drivers to access the free services. In most of the emergency services the ambulances are not reachable. The respondents are paying the transportation cost from their pockets and they don't have the idea about whom to complain about this soft corruption and negligence. In one case they mentioned that the ambulance services are reachable only to those who have some	The respondent are somewhat happy with the ambulance services. According to them the ambulance services are available during the time of delivery. Their concern is that the ambulance should be provided during the regular check-ups also since it will bring down the transportation costs.	We will not get ambulance on time when the lady is in labour pain. We are left with no other alternative but to engage the private means of transport to nearest facilities or higher centres.	Bad condition of the road and transport options are less so we spend more for transportation. Non-availability of the ambulance services at our request leads to private transportation.

Evaluation of out-of-pocket expenditure incurred for maternal health care by bpl women in Karnataka in public health facilities

			influence in the society.			
6	Sources of OOPE					
6.1	How does a beneficiary manage to arrange for OOPE money for maternal and child health care?	Most of the respondents said that they have to borrow money from the relatives and friends in such situations. They even mentioned that in critical cases they have to go the money lenders who charges high interest rates. In few cases they mentioned that they have to pledge their land and assets for arranging the money.	Most of the respondents said that they borrow money from the money lenders or from the friends and relatives in such situations. There were even cases where people were taking Gold Loans in such situations. In few cases they responded that they are borrowing money from the Self Help Groups to arrange for OOPE.	According to the respondents they manage the emergency amount for such cases from their savings. Only when in cases of emergency they have to borrow money from the moneylenders, friends, and relatives.	Savings to certain extent, loan on interests are the major sources for meeting OOPE for maternal health care.	Since we are from a poor family we can't save that much of money. Loan on interest or borrowing from friends and families is the major source of meeting the OOPE. Sometimes, beneficiaries' parents' manage money.



DRAFT CONCEPTNOTE

# THE OMBUDSMAN (PUBLICHEALTH)

PreparedBy



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## GRAAM

Grassroots Research And Advocacy Movement

[www.graam.org.in](http://www.graam.org.in)

## Introduction

### Ombudsman for Public Services in India

India is a nation where an overwhelmingly large majority of the population depends upon the Government to provide basic amenities to be able to live a decent quality of life. Upon the quality of delivery of Public Services depends not only the well-being of a society as a whole, but also opportunities and avenues for the development of people.

By their nature, the delivery of Public Services have accountability frameworks embedded in them. However, public services in India are often alleged to be plagued by neglect and seeming lack of accountability despite the structures that exist. There is also the general perception that public services and lack of quality go hand in hand and the end result is that the citizen or the user is left with little choice to complain, albeit privately. At the same time, the engagement of the citizen as far as improving the services are concerned is minimal and the structures, if any for grievance redresses do not enjoy popularity or confidence besides appearing to be a bureaucratic mesh. This despite the acknowledgement in various parts of the world that citizen engagement can pave way for better delivery of services.

Thus an informal channel of engagement with the system where the citizen enjoys the benefit of anonymity and a space to air grievances freely besides experiencing a sense of fairness is envisioned as a step towards improving the quality, reliability and accountability of public services in India. The setting up of Ombudsmen at various levels in the system of public service delivery is one of the steps in this direction. The position of the Ombudsman can not only establish the aforementioned channels of engagement for the citizens, but also trigger actions that improve the overall system in terms of being responsive to the very citizens it is supposed to serve.

### Addressing Information Asymmetry

The citizen is usually at the receiving end of an unsatisfactory service and/or poor attention and is also left searching for answers as a result of lack of right information. The presence of an Ombudsman would go on to address the asymmetry of information, which more often than not leads to an asymmetry of power and therefore a failed

feedback loop between providers and receivers of public services. A successful loop cannot be established by itself, without the participation of various stakeholders and an Ombudsman by providing newer channels of communication seeks to facilitate the process directly and indirectly.

#### Characteristics and ethical considerations

The Ombudsman for Public services would follow the ethical principles laid out by the International Ombudsman Association that includes the following

- Independence
- Neutrality and Impartiality
- Confidentiality
- Informality

#### Complementing and not competing

Importantly, the position of the Ombudsman is going to complement the existing structures in the system to make it better. In fact, it would be an obligation of the ombudsman to ensure that the existing norms and parameters are respected and a parallel system or a disparate power centre does not develop. The Ombudsman would also play a proactive role in observing and suggesting systemic improvements and because of a direct role of interacting with citizens, would be in a position to provide citizen's perspectives and bring their voice to the table.

#### The Ombudsman (Public Health)

Among the various public services, public health is a critical area the status of which is an indicator of Government's commitment to human development. At the same time, this is also an area which is plagued by asymmetry of information and knowledge. Not just the technical or the medical component of health, but we find that the awareness among the patients or users of the system about services and facilities that they are entitled to are far below desired levels. It is a common sight in any medium to large hospital that patients and relatives are usually at the 'mercy' of the prevailing system within the hospital for information, directions or answers besides having limited channels of communication.

It is therefore urgently needed that channels of communication where people may freely

raise questions or air grievances be established so that this asymmetry is broken down. It is expected that the setting up of The Ombudsman (Public health) will have an impact of triggering freer information dissemination in the regular channels and ensuring that patient rights are respected and granted. It is also expected that the position will directly and indirectly lead to quality standards being followed by hospitals and the health administration of the district.

#### Objectives and description of the position

The position of the Ombudsman (Public Health) will play a role in ensuring that the State's commitment to offer quality healthcare to its citizens is met and therefore would focus on the delivery of assured services with adherence to standards and protocols and gaps, if any.

#### Objectives of Ombudsman in health services

The objectives of Ombudsman (Public Health) include the following:

- Acting as an independent facilitator for addressing of grievances and resolving conflicts among citizens and the hospital / health system in a fair and neutral manner within the existing systems and structures
- Provide and promote an environment that leads to improvement in quality of services rendered by way of greater and effective information dissemination mechanisms that leads to education of citizens and increased accountability among health functionaries

Recommend systemic changes and reforms that lead to better delivery of services by proactive observation, documentation and analysis. Towards meeting the above objectives, the primary functions of the Ombudsman (Public Health) shall include:

- Setting up a channel of communication: The foremost gap that the position of the Ombudsman seeks to fill is that of setting up a channel of communication that is simple, informal and handled in confidence with users of health facilities provided by the Government.
- Conflict resolution: Facilitate the resolution of conflicts and disputes in a

confidential manner

- Promoting quality of service and quality assurance as per standards: The Ombudsman would be guided by various standards documents such as IPHS standards for interpreting quality of services and would therefore contribute to the bridging of gaps in quality
- Promote the awareness of patient rights: The Ombudsman would also particularly take note of cases where patient rights are violated and would also proactively promote the awareness of patient rights among citizens
- Encourage fair administrative practices: The Ombudsman would take note of administrative practices that are not in alignment with the intent of providing good quality reliable health care and are deemed to be hindering forces, and work with the management and the departments to ensure that these practices are based on principles of fairness, equity and transparency.
- Recommendations for systemic changes: The Ombudsman (Public Health) will also play a role in observing and documenting systemic inefficiencies and recommend measures to address them on the basis of cases handled and other general observations.

#### Working principles for ombudsman

As stated above, the Ombudsman (Public Health) will follow working principles inspired by the ethical principles laid out by the International Ombudsman Association which include

- Independence
- Neutrality and Impartiality
- Confidentiality
- Informality

Additionally, the Ombudsman must be sensitive to cultural practices of the people in the region and understand that people may have hitherto not experienced the options that the Ombudsman offers and hence the articulation of their voice while still being neutral and unbiased w.r.t the case.

At the same time, the Ombudsman must also appreciate the fact that public service delivery in India does not traditionally take into account citizens' voice as a driver of action and hence undertake a greater role in understanding those systemic deficiencies that can only be changed gradually.

#### Coverage and Jurisdiction

An Ombudsman (Public Health) will be appointed to cater to the people's needs at every Govt. Sub- district / Sub-divisional hospital in the state, which according to IPHS standards is a 30 to 100 bed hospital and one at the District Hospital in each district.

The Ombudsman (Public Health) at the District level will also be responsible for the hospitals at the Taluk level in the case of vacant positions in the Taluk

#### Escalation Path / Reporting Structure

The Ombudsman will report to the District Health Officer on a quarterly basis and produce a half- yearly report for review by the State Health Secretary

#### Support

The Ombudsman would be provided technical and administrative support by the Department of Health and Family Welfare

#### Legal standing and Jurisdiction

- The Ombudsman shall be independent of the jurisdiction of the State or Central Government
- In cases escalated to the Courts, or where the Ombudsman has been invited to give an opinion, the Ombudsman will enjoy the privilege of not being bound to produce documentary evidences to support his / her statements

#### What the Ombudsman will not do

The position of Ombudsman (Public Health) will not extend its services in the following:

- Issues about the actions of private practitioners such as dentists, opticians and

pharmacists or complaints relating to private health care (See below note on Ombudsman for Private Health Care)

- Complaints about the clinical judgement (diagnoses or decisions about treatment) of medical professionals
- Employment related issues such as recruitment, fair wages, employment contracts of staff in hospitals
- Cases and complaints where no attempt has been made by the parties concerned to resolve the matter using normal channels
- Complaints that are, or have been, the subject of legal proceedings before the courts. In the same spirit, preference cannot be given to those cases where there is a statutory right of appeal to a court or to an independent tribunal or an independent appeal body (unless there is a very good justification for the same and it would be at the discretion of the Ombudsman to set aside this rule)

#### Ombudsman for Private Health Care:

Though the terms and references in this document do not cover Private Health Care under the purview of Ombudsman (Public Health), we must recognize that grievances and conflicts in the arena are also about and it is important that they are addressed.

For now, it is recommended that the Department of Health must come with recommendations that every private health establishment that has an annual financial turn-over of Rs. 5 Crores or more or hospitals that have 30 beds and above set up independent offices of Ombudsman (Health) on the principles of this document. Alternatively, an independent Ombudsman (Health) can be set-up in every District with a population of 18 lakhs and above in coordination with the Department of Consumer Affairs / National Consumer Disputes Redressal Commission.

#### References for the Ombudsman (Public Health)

The Ombudsman would be guided by the following (not an exhaustive list)

- a. Frameworks for Public Health

- IPHSstandards
- Quality standards framework for Public health facilities.[http://nhsrcindia.org/index.php?option=com\\_content&view=article&id=139:quality-standards-and-framework-for-public-health-facilities&catid=29:news&Itemid=728](http://nhsrcindia.org/index.php?option=com_content&view=article&id=139:quality-standards-and-framework-for-public-health-facilities&catid=29:news&Itemid=728)

b. Legal / Constitutionalframeworks

- Patient Rights / Charter of PatientRights
- Right to InformationAct
- Acts and laws that punish corrupt practices and dereliction of duty

Nature of issues handled by the Ombudsman

The Ombudsman will primarily examine the complaints about the actions taken by the hospital and its authorities and other functionaries in the course of providing health services to the complainant or any other person or persons directly and indirectly known to the complainant. These can include

- Grievances caused by administrative lacunae, hold-ups and delays in the course of medical treatment, delays or failure to take up action
- Practices of corruption by doctors, nurses, paramedical, admin and other support staff (drivers, ayahs, peons, ward-boys,etc)
- Lack of information and clarity in the communication from the authorities in any manner about the service and quality of service rendered which includes unclear or misleading advice
- Refusal of award of benefit or service such as subsidies and incentives from the Govt., private agencies, free or subsidized medicines and drugs,
- Failure in following approved procedures and protocols
- Behavioural issues such as being rude, impolite and dismissive, differential treatment



- Failure to provide promised services, gaps in the quality of services provided
- Misappropriation of funds (The Ombudsman may notify any observation of misappropriation of funds to the Lok Ayukta / Upa Lok Ayukta) for following it through.)
- Issues of informed consent

Typically, the inquirer who approaches the Ombudsman must have made an attempt to raise the issue with the concerned individuals or department who is in-charge of providing the service, but this is not mandatory. The Ombudsman must take into account direct complaints made and provide that atmosphere of informality and confidence so that the inquirer may place all grievances freely and in totality.

#### Remedies offered by the Ombudsman

Compensations, remedies and solutions that the Ombudsman can propose is yet to be explored

#### Connecting the Ombudsman (Public Health) to communities

The National Rural Health Mission envisages the participation of communities in monitoring the health services that they are entitled to and towards the same, the mission has mandated committees at village, sub-centre and PHC levels. Of these Arogya Raksh Samiti (ARS) (also known as Rogi Kalyan Samiti) and the PHC Planning and Monitoring Committees (PMC) are committees at the PHC level. Essentially these committees are sub-committees of the Gram Panchayath and comprises

GP members and members of Village Health and Sanitation Committees among others. As such, it would be expected that the Committees are aware of the lacunae in their health centres and would also have the local knowledge of problems faced by the citizens. However, there exists a limitation to the extent where the local rural citizen can take her or his complaint to. The Committees also face a gap when it comes to escalation of issues, except in some cases where there is either a clear

political stake or political influence to address the problem. (Evidence from

GRAAM's project Arogyashreni points to the same).

Whether an Ombudsman (Public Health) can fill that gap must be explored. Since the objective of the Ombudsman is to provide an informal and confidential channel of communication on the one hand and also to contribute to bringing systemic changes on the other, it needs to be closely analysed if it is feasible for the Ombudsman at the Taluk or sub-divisional level to also receive complaints about PHCs and their services from these committees.

*A feedback on this concept of linking the Committees to Ombudsman is sought before it can be developed further and accordingly the role of the Ombudsman (Public Health) can also be suitably modified and expanded.*

#### Maintenance of records and reports

The Ombudsman would maintain the records of all complaints made, accepted and disposed with the following details

- Nature of complaint
- Whether complaint is about an individual, department, process or others
- Whether complaint was accepted or rejected
- If accepted
  - o Information collected
  - o Parties involved in giving data
  - o Investigations and analysis made
  - o Remedial measures proposed
  - o Follow-up action needed, if any
  - o Time taken for successful closure of the case
- If rejected
  - o Reasons for rejection
  - o Advice given to inquirer about reasons for rejection and whether the complaint was modified and accepted

The Ombudsman would prepare an annual report based on the cases handled and also on observations made as far as systemic deficiencies are concerned. These would include, but are not limited to

- Non adherence to standards and established protocols

- Quality standards including timeliness in delivery of services
- Scope of corrupt practices
- User dissatisfaction
- Behavioural aspects of service providers
- Gaps in processes that lead to poor information dissemination, communication issues and lack of efficiency
- Maintenance of records
- Community relationships

#### Essential skills required for an Ombudsman

- Communication and Problem-solving skills
  - o Communication with people at all levels in the system is an essential part of the job and hence demands for excellent communication skills. The person should be able to converse freely with people from all walks of life and gather useful information from those conversations.
  - o The Ombudsman is a position that will have to answer a lot of questions and this requires understanding precisely the problems the inquirer is seeking a solution to, and then responding in a manner that provides solutions.
- Decision making / Strategic thinking skills
  - o Ability to make decisions based on logic, information available and fairness and understanding the impact of the decisions on all concerned stakeholders, setting precedence and how they can influence systemic change.
- Conflict resolution skills
- Organizational / Systemic knowledge
  - o The person should have a good knowledge of the public health system in India, an understanding of policies as well as an appreciation of where the policies derive their strength from.

- The person should be aware of the organizational structure and the capacities of influence of different positions within the hospital and those related to the hospital.
- Composure, ability to listen and presentation skills
  - The demeanour of the Ombudsman should be pleasing and invite confidence from the people the person would interact with
  - The person must be able to present the
- Strong sense of personal and professional ethics, full appreciation of the fairness and ethics demanded by the position, integrity and preferably a positive public image.

The ombudsman is not an advocate for any of the parties involved in a conflict or dispute, but is an advocate of fairness and neutrality; hence it is also imperative that the process of appointment / selection of ombudsman be a fair and transparent process as well.

#### Access to Ombudsman

The public will have access to the Ombudsman (Public Health) in the following ways:

- Meeting in person in the designated hours; a minimum of 2 hours per working day to be designated for accepting complaints and listening to grievances
- Online: through e-mail and an online complaint portal
- Telephone: directly calling the Ombudsman or through a helpline
- Complaint formats to be made available at prominent locations in the hospitals and other places

#### Procedural guidelines (to be developed)

The services of the Ombudsman to the public at large shall be available free of cost. Procedural guidelines and an FAQ for complaining to the Ombudsman must

be published and disseminated widely. The Procedural guidelines would include:

- Information on what would qualify as a fit case for the Ombudsman to deal with
- The timeframes such as time duration of complaint from the occurrence of the incident, time duration for the Ombudsman to act, investigate, update, resolve, etc
- Possible courses of action and escalation when the matter is not resolved or referred by the Ombudsman

### Conclusion and Recommendations

The Ombudsman (Public Health) is a position that will help information asymmetry in the health system from the user point of view. Actions must be taken by the Government that can lead to the setting up of Ombudsman (Public Health) in the state of Karnataka.

1. Issue of intent for setting up the office of Ombudsman (Public Health) and necessary GOs and advertisements
2. Setting up of a Committee for Selection of Ombudsman that includes respected members from the world of Public Health, Civil Society, Civil Services and Judiciary
3. Issue Information about the office of the Ombudsman through website, ads in print and electronic media
4. Introduction of an Ombudsman (Public Health) Act that gives greater legal sanctity to the position and its structure. The Act itself could be a sub of Ombudsman (Public Services) Act which will lay down guidelines, rules, procedures and grounds of action for Ombudsmen in the larger arena of Public Services.

### References

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### **Brief case study across birth order**

Ruksar was 18 years old when she got married in 2012, she got pregnant in 2014 and had a baby boy. She also got pregnant in 2015 and had a baby son. Currently, she lives in Taluka headquarters with her family which consists of 8 people who are- her mother and father in law, four children and her husband. Her husband and father in law are the only working members in the family. Both she and her husband have studied till 5th std.

She went to her mother's house for the first pregnancy, there were no complications. She was not sure how much her family spent on her pregnancy. She is not sure how much she spent on scanning and other related expenses. However, she said she took some medicine and went to Doddaballapura for scanning three times, in the government hospital. They had a thayi card for all their children, they did not have a BPL card when they had first child but they got one later.

They did not have any complications for the first child who was a boy. They had saved up around 2000 rupees and they spent this, For the second child a girl there were some complications. They had to spend around 8000-9000, they did not have the money and therefore had to take a loan.

However, they are unable to state what these complications are. They earned around 10000-11000rs per month from their power looms.

### **Case Study – Where OOPE Cost is High**

Nirmala is women living in rural area. She lives at home with her son, her husband and her brother in law. She is currently not working. Her husband is a weaver and her brother in law works outside, she was a little reluctant to talk to me since we had called her a number of times. She said that we kept asking for information but had not helped her in anyway.

She is originally from Vijayapura. She completed her Second PUC and was staying at home doing tailoring jobs. She has 6 siblings, one sister and five brothers. She said her family was primarily a middle-class family. She got married at the age of 25 and then had a baby at the age of 26. Nobody gave her any information about the various schemes that she could enrol for. She had heard of schemes such as the Bhaygalakshmi scheme. She seemed to believe that there were no schemes for boy children. However, she had created a thayi card for her child.

Initially, when she was pregnant, she enrolled in the government Hospital and was taking iron tablets. However, later she moved to her mother's house in the 9th month. There she delivered the baby in a private hospital. The main reason for the high cost during pregnancy was because of the money spent in the private hospital, that hospital was well reputed. She had a c section because the size of the head of the baby was supposed to be a little large. Her father bore the cost of her pregnancy. They had to take a lot of loans in order to fulfil the expenses. The cost of the pregnancy was more than Rs. 50,000.

## Terms of Reference (TOR)

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**Terms of reference for the study on Out of pocket  
Expenditure Incurred for Maternal HealthCare by BPL  
Women in karnatakain Public Health Facilities**

Sl no	Content	Page no
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**Terms of Reference for A Study on Out of Pocket Expenditure Incurred for Maternal Health Care by BPL Women in Karnataka in Public Health Facilities**

1. **Title of the study:**

**A Study on Out of Pocket Expenditure Incurred for Maternal Health Care by BPL Women in Karnataka in Public Health Facilities**

2. **Department/Agency implementing the Scheme:**

The Department of Health and Family Welfare Government of Karnataka.

3. **Background and the context:**

Health assumed greater attention in programmes and policies with the centering of Human Development agenda as the final goal of development. Maternal and child health issues became prominent as the human development indicators focused on life expectancy, Infant Mortality, Child Mortality, Maternal mortality and malnutrition. Further, the Millennium Development goals and the maternal and child health related targets and indicators under Goals 4 and 5 of the MDGs prompted the member nations to devise appropriate strategies and pump more resources into the health sectors. According to the MDGs, the Infant Mortality and Under-five mortality targets for 2015 were fixed as two-thirds of the rate in 1990 and a reduction of maternal mortality by three quarters of that in 1990. As per these norms, the achievement targets for India were an IMR of 27 per 1000 live births, a CMR of 40 per 1000 live births and a maternal mortality of 87 per lakh live births by 2015. The MDG targets to be achieved by Karnataka are an IMR of 32 per 1000 live births, a CMR of 32 per 1000 live births and a maternal mortality of 70 per lakh live births.

The Government of India launched the National Rural Health Mission (NRHM) in 2005 as a comprehensive strategy for attaining gains in health outcomes to meet the Millennium Development Goals by 2015. The central goal of the Mission was to increase public expenditure on health from the mere 0.9 per cent of GDP to about 2-3 per cent of GDP in the next five years so as to bring improvements in the health indicators – life expectancy at birth, infant mortality

rate, under 5 mortality rate and maternal mortality rate. After about 7 years of implementation of the Mission, the GoI in 2012 extended the span of the mission for another five years until 2017.

With the implementation of several maternal health programmes of the Central as well as the State Govt. there have been significant achievements in the reduction in maternal mortality and Infant Mortality rates in Karnataka as an outcome of increased institutional deliveries. The achievements are indicated in the

**Table-1 Institutional Deliveries-IMR and MMR**

	2011-12	2013-14	2015-16
Institutional Deliveries	72.6	69.7	85
MMR	213(SRS04-06)	144(SRS 2010-12)	115 HMIS 2015
IMR	41	32 (SRS2012)	29 (SRS2014)
U5 MR	48		31(SRS2014)

Source: DH&FW Annual Report 2016-17

Though the targets in IMR and U5 MR are achieved, we are yet to achieve the target in reduction in MMR to 70 and to increase the institutional deliveries to 100 percent in near future. Further, there is also a question of sustainability of these achievements in future. This is due to the increasing Out of Pocket expenditure on institutional deliveries in the State. The results of District Level Health Survey (DLHS) 4 have brought out the fact that there has been a significant increase in OOP expenditure on institutional deliveries in the State. The question is why OOP is still high despite of many demand side interventions that are introduced to remove the major financial burden of institutional deliveries on the BPL families.

**Demand Side Financial Incentives**

Demand side financial incentive (DSF) is a form of subsidy and it directly provides purchasing ability to consumers on certain publicly provided goods such as health and nutrition. DSF introduces two key changes in the public financing of such goods and services. First, it entitles the government to be a supplier of purchasing power to consumers instead of being a direct service provider. Secondly, it tunes financing as 'output-based' than 'input-based' and hence links the subsidy or its objective with the beneficiary. The NRHM (NHM) adopted the demand side financial (DSF) incentives as one of the main strategies to enhance maternal healthcare utilization. It preferred DSF in the form of conditional cash transfers (CCT) which aimed to

provide cash incentives to the beneficiary conditional upon the beneficiary's actions so as to raise the rate of institutional deliveries and thereby improve other crucial indicators like the IMR and MMR. During maternity medical attention is required at different stages. Various points of care that are required include ante natal checkups, immunizations, diagnostics, surgical charges, transport costs, post natal checkups etc. The various government health schemes in the state to reduce the costs of institutional delivery are:

**Janani Suraksha Yojane (JSY):**

This is 100 % Government of India funded Programme, through National Health Mission. The main objective of this scheme is to motivate all BPL, SC and ST Pregnant Women to deliver in Health Institutions, to reduce maternal and infant deaths. In this programme, pregnant women of BPL, SC & ST who deliver in health institutions in rural areas are provided Rs 700 cash incentives, in urban areas; Rs 600 and if they deliver through C-Section in private institutions are provided Rs 1500. If the said category Pregnant Women deliver at their homes, they are also provided Rs 500 cash incentives to meet their post-delivery wage loss.

**Thayi Bhagya:**

This Programme envisages, totally free Maternal & Child Health Care of all categories of Pregnant Women and Mothers in the State, with the core intention of zero Out of Pocket Expenditure to all women for MCH Services. The goals and objectives of this programme are achieved with main focus on equity, and ensuring quality MCH services which are available, accessible and affordable to all sections of the society. In addition to the said services, BPL, SC and ST category Pregnant Women and Mothers are provided incentives in cash and kind to motivate them to avail MCH Services in Government and Private Hospitals, with the sole intention of reducing Maternal & Infant Morbidity and Mortality.

**Madilu:**

This is one of the four components of Samagra Mathru Aarogya Palane (ThayiBhagya) Scheme, it is being implemented since 2007-08, with 50 % of the budget coming from GoI, through National Health Mission and the remaining 50 % of the budget is being provided by the State Government. In this programme, a kit containing 19 items which are useful to the post-natal women and her infant is being provided to BPL, SC & ST beneficiaries, who deliver in any Government Hospital in the State. This benefit is provided to all deliveries of BPL, SC & ST women in HPD districts (Bagalkote, Bijapur, Ballari, Raichur, Koppal, Raichur, Kalaburagi, Yadagiri, Gadag and Chamarajanagar) and for only two live births in

the remaining districts of the State. The line items of the kit are being procured from Karnataka Handloom Development Corporation and the soap items are being procured from Karnataka Soaps and Detergents Ltd. The approximate cost of each kit is Rs. 1380.

**Prasooti Araike:**

This is one of the four components of Samagra Mathru Aarogya Palane (Thayi Bhagya) Scheme, out of which, the three components, Viz., Prasoothi Araike, Thaiy Bhagya and Thaiy Bhagya Plus are 100 % Government of Karnataka funded schemes. Prasoothi Araike scheme is being implemented from 2007-08 with the objective of providing cash benefits to BPL, SC and ST communities Pregnant Women, to enable them to take nutritious diet during pregnancy and post-natal period to reduce maternal and infant morbidity and mortality. This scheme is implemented in all the districts of the State, except Kolar and Dharwad. Beneficiaries of this scheme receive cash incentives of Rs.1000 in two installments, the 1st installment is provided to the Pregnant Women during her 4-6 months' pregnancy and the 2nd installment of Rs.1000 is provided immediately after delivery, if the beneficiary delivers in any Government Hospital in the State. The 2nd instalment will include the JSY cash component. From 2014-15, the cash incentives, for the Pregnant Women and Post-natal mothers has been enhanced for SC & ST beneficiaries to Rs. 2000 each.

**Janani Shishu Suraksha Karyakrama (JSSK):**

This is also 100 % Government of India funded Programme, through National Health Mission. The main aim of this programme is to ensure, totally zero out of expenditure to Pregnant Women to avail free delivery services in Government Hospitals. In this Programme five free services are provided in all Government hospitals across the State. The services which are provided free of cost to all pregnant women are; free drugs and consumables, free diagnostics, free blood, free diet and free transport services from home to health institutions and back home. For all Government Hospitals; for providing free delivery services, for each case, Rs. 350 for drugs, (Rs. 1600 for C-Section deliveries), Rs. 200 for diagnostics, Rs. 150 for free diet (Rs. 350 in C-Section Deliveries) and Rs. 250 for referral transport is provided.

**Extended Thaiy Bhagya (Plus):**

A cash assistance of Rs. 1000/- for a private hospital delivery is paid to rural SC, ST and BPL women for the first 2 live births in all other districts other than 10 High Priority Districts in accredited private hospitals.

**(Source: H&FW Annual Report 2016-17)**

In spite of the above schemes and services that claim to be free of cost, the DLHS-4 reports

reveal that there has been out-of-pocket expenditures in the public health facilities. The details of the average delivery expenses incurred per beneficiary in public facilities across the districts of Karnataka are shown in table 1.

**Table -2 Out of Pocket expenditure on delivery in public health facilities**

Sl No	District	OOP Expenditure(Rs)	
		Total	Rural
1	Bagalkot	1600	1500
2	Bangalore (R)	5590	6160
3	Bangalore (U)	5410	6650
4	Belgaum	1500	1400
5	Bellary	3850	3690
6	Bidar	1590	1730
7	Bijapur	1800	1800
8	Chamarajanagar	3060	2330
9	Chikamagalur	5920	5670
10	Chikkaballapur	4320	4410
11	Chitradurga	3200	1810
12	Dakshina Kannada	3150	2910
13	Davangere	2910	2680
14	Dharwad	2270	2120
15	Gadag	2490	2600
16	Gulbarga	1700	1700
17	Hassan	4020	3890
18	Haveri	3700	4020
19	kodagu	3220	3330
20	Kolar	3390	3170
21	Koppal	2710	2160
22	Mandya	2310	2010
23	Mysore	3300	3200
24	Raichur	2180	1820
25	Ramanagara	5340	6360
26	Shimoga	4680	4780
27	Tumkur	3250	3390
28	Udupi	3800	1900
29	Uttar Kannada	3580	3840
30	Yadgir	3120	2980
	Karnataka	3130	3000
	SD	1074.0	1046.0
	Max.Min Ratio	3.94	4.75

Source: DLHS-4 2012-13 reports

As it can be observed in the table the top five districts that had the highest OOP have been in the southern divisions. Chikamagalur topped the list with an OOP of Rs. 5920 per delivery which was followed by Bangalore Rural with Rs. 5590, Bangalore Urban with Rs.

5410, Ramanagara with Rs. 5340 and Shimoga with Rs.4680. The least average OOI expenditures were observed in the north Karnataka districts of Belgaum (Rs.1500), Bidar (1590), Bagalkot (Rs. 1600), Gulbarga (Rs.1700) and Bijapur (Rs. 1800) and (3170) on an average delivery expenses incurred per beneficiary.

Another interesting fact that can be observed is that in few districts the rural OOP had been higher than the total OOP. This scenario is observed in 11 districts as shown in table 2 below. Again the differences had been the highest in the southern districts of Bangalore Urban and Ramanagara. This is again a discouraging fact. All these indicate that there is underutilization or the inefficiencies of the various schemes made available in reaching out to the beneficiaries.

**Table -3 Out of Pocket Expenditure in Rural areas**

District	Total	Rural	Difference
Bangalore(R)	5590	6160	570
Bangalore(U)	5410	6650	1240
Bidar	1590	1730	140
Chikkaballapur	4340	4410	70
Gadag	2490	2600	110
Haveri	3700	4020	320
Kodagu	3220	3330	110
Ramanagara	5340	6360	1020
Shimoga	4680	4780	100
Tumkur	3250	3390	140
Uttar Kannada	3580	3840	260

Source: DLHS-4 2012-13 reports

Therefore, it is essential to know why the OOP is very high and in 18 districts above the State average. The SD is also very high showing significant differences across the districts. What are the reasons and different components and what are its consequences and implications for the future.

#### 4 Evaluation Scope, Purpose and Objectives

The study covers all the 30 districts of the State from four administrative divisions. As the OOP differs across the rural and urban areas, therefore, the study will cover both the rural and urban areas. The purpose of the study is to examine the magnitude and dimensions of OOP expenditure at macro as well as micro household level and the sources through which it is met and the implications of it.

##### **Evaluation Objectives**

1. To assess the awareness of the government maternal health schemes among the sample of mothers who delivered in public health facilities.

2. To assess the items of out-of-pocket expenditures incurred by the family per delivery in the public health facility.
3. To find out the reach of the Maternal Health schemes to the targeted beneficiaries across the regions.
4. To examine the financial adequacy of various Maternal Health schemes.
5. To examine the regularity, and real time disbursement of the cash and other incentives under the schemes.
6. To examine the component of transport cost in the OOP expenditure.
7. To analyse the sources through which the OOP expenditure is met by the family.
8. To suggest appropriate measures for improving the "better reach" of the maternal schemes and in turn improving their effectiveness.

#### 5. Evaluation Questions (Inclusive not exhaustive):

The evaluation questions to be addressed in the study are:

1. What is the status of Karnataka vis-à-vis other States in India with regard to OOP on maternal health care? What is the trend in OOP over last ten years as per the available data in NFHS/DLHS?
2. Why OOP is high in Karnataka? How it reflects on the access and implementation of various maternal health schemes in the State? What are the findings of the micro level studies in this regard? (The ECO has to analyse the studies related to the access, implementation and impact of various maternal health schemes through a comprehensive review of literature)
3. What are the factors contributing to the high OOP in maternal health care? Examine separately the issues in urban and rural areas. ( A Hypothesis may be framed for testing)
4. There are significant variations in OOP across the districts in the South and North Karnataka. There are also variations within the divisions. How these can be explained in terms of economic conditions, infrastructure, geographical conditions and social factors? (A Hypothesis may be framed for testing)
5. Whether OOP varies across the caste groups within and across the regions? What are its implications in terms of access to health services for women?( A Hypothesis may be framed for testing)
6. What are the components of OOP? Whether transport costs form a major component of it? Examine whether money is spent on medicines and other medical assistance and other clinical facilities is due to its non availability or otherwise at the place of health facility.

7. What is the extent of awareness about various maternal health schemes among the women? What are the sources of information? Whether it varies across regions and Caste groups?
8. Whether beneficiaries face any problems in getting the required eligibility documents to avail the benefits of various schemes? To what extent it has contributed to increase in OOP.
9. What is the role played by ASHA, Village level health workers and Anganwadi teacher in providing information and in helping the women to get the benefits? Whether OOP varies across women accompanied/ supported by them or not?
10. Under the Maternal Health Schemes assistance is provided in the form of cash. How it is utilized? Whether the whole or part is utilized for the pregnant woman, mother and the child? Whether there are any deviations in it?
11. How the high OOP has been financed? Look into the different sources and examine whether this has pushed the women/family into poverty and indebtedness as it is observed in some of the Studies?
12. Whether the Maternal health programmes are implemented effectively in the State and across the Regions? Whether the beneficiaries are selected as per the norms and guidelines of these schemes? Find out whether the schemes have reached to the poorest and the marginalized women and women in remote areas.
13. What are the problems and difficulties faced by the beneficiaries in receiving the benefits? Is there any time gap between the requirement and receipt? If so, what are its consequences?
14. What are the problems faced by the implementing agencies at various levels in implementing these schemes?
15. Examine the actual average requirement of funds at household level for health care during pregnancy and delivery in public health facility. Estimate the gap if any. To what extent the different maternal health schemes meet the requirements?
16. Whether OOP varies across the primi gravida and multi gravida (pregnancies)? What is the impact of high OOP on second and subsequent deliveries in the households having 3 or more children?
17. What suggestions can be given to reduce OOP to a minimum level of Rs. 500 and to a zero level?

## 6 Evaluation Methodology and Sampling:



The study follows a set of methodology to arrive at final conclusions.

- Review of literature and of the studies in the field.
- Analysis of the secondary data available at the State and the district level from various reports and surveys and data at PHC level.
- Collection and analysis of Primary data through a structured interview schedule.
- Focused Group discussions –Beneficiaries- SHGs- Health Department officials
- Case studies

A pre-testing or piloting of the questionnaire would be done in order to identify the problems that are likely to arise while using it for data collection. Based on the insights from the pilot study the questionnaire would be modified.

The other stake holders like health department officials at district and taluka as well as PHC level, health workers, ASHA workers and any prominent NGO in the field will be interviewed with an interview schedule.

Formats to be prepared for data compilation and analysis and the data would be analyzed using simple statistical techniques like percentage, average, standard deviation and other suitable techniques.

FGDs to be conducted to find out the access to and utilization of different Maternal health schemes and the reasons for high OOP.

**Indicators** –A set of indicators as related to the socio economic background of the sample, information and awareness about different maternal health schemes, access and benefits received from the schemes, the components of OOP -medical and non medical, adequacy and utilization of financial assistance, gap analysis between the receipts and expenditure etc. to be framed to get the results.

#### **Sample selection**

**The sample design is Multi stage stratified Random Sampling design**

**I Stage Selection of the year/years for evaluation study**

The sample selection for the study requires decision on selection of year/years to draw the sample.

The total number of sample for the study would be distributed equally between the years 2014-15 and 2015-16. The year 2014-15 is not steady with regard to the NRHM finances in the State. It is expected that timely disbursements of the scheme incentives would have hampered. Therefore, a proportionate sample will be drawn from among the given year and the next year beneficiaries.

**II Stage - Geographical coverage** The State is divided into four strata on the basis of administrative divisions -- 4 administrative Divisions in the State

### III Stage - Selection of Districts

The data from DLHS-4 survey forms the basis for selection of the sample district for the study from the four divisions. The sample districts are selected based on the OOP expenditure. The districts with high OOP are also the districts with high OOP in rural areas except in Bangalore division where rural OOP is high in Bangalore Urban district. Further these districts are also the districts with institutional deliveries above the State average.

**Table -6 Division wise and District wise OOP Expenditure and the Institutional Deliveries**

Bangalore Division			
District	OOP Total	OOP Rural	Institutional
Bangalore(R)	5590	6160	97.
Bangalore(U)	5410	6650	95.
Chikkaballapur	4340	4410	91
Chitrdurga	3200	1810	91.
Davangere	2910	2680	95.
Kolar	3390	3170	93
Ramanagara	5340	6360	98.
Shimoga	4680	4780	97.
Tumkur	3250	3390	96.
Karnataka	3130	3000	89
Mysore division			
District	OOP Total	OOP Rural	Institutional deliveries
Chamarajanagar	3060	2330	96.
Chikamagalur	5920	5670	97.
Dakshina Kannada	3150	2910	98.
Hassan	4020	3890	98.

Kodagu	3220	3330	95.
Mandya	2310	2010	96.
Mysore	3300	3200	98.
Udupi	3800	1900	98.
Karnataka	3130	3000	89
Belgaum Division			
District	OOP Total	OOP Rural	Institutional Deliveries
Bagalkot	1600	1500	86.
Belgaum	1500	1400	89.
Bijapur	1800	1800	80.
Dharwad	2270	2120	93.
Gadag	2490	2600	83.
Haveri	3700	4020	90.
Uttar Kannada	3580	3840	95.
Karnataka	3130	3000	89
Gulbarga Division			
District	OOP Total	OOP Rural	Institutional Deliveries
Bellary	3850	3690	81
Bidar	1590	1730	92.
Gulbarga	1700	1700	77.
Koppal	2710	2160	70.
Raichur	2180	1820	73.
Yadgir	3120	2980	76.
Karnataka	3130	3000	89

Source: DLHS-4 2012-13 reports

**Table-7 Districts in the Sample**

	Name of the Division	Name of the District
1	Bangalore Division	Bangalore (R)
2	Mysore Division	Chickmagalur
3	Belgaum Division	Haveri
4	Kalaburagi Division	Bellary
5	Lowest OOP with Institutional Deliveries at State average	Belgaum

- ❖ Belgaum is to be included in the sample as it has lowest OOP and the institutional delivery percentage is equal to State average. This may serve as a model for filling up the policy gaps.

#### IV Stage Selection of PHCs

From each district 10 percent of PHCs will be selected randomly. Their geographical distribution will cover the urban, rural and remote areas.

**Table-8 No. of PHCS in the Sample Districts**

District	DH	TH	CHC	PHC	Total	Sample 10%
Bangalore Rural	-	7	2	50	59	6
Chikkamagalur	1	7	5	90	103	10
Haveri	1	6	5	73	85	9
Bellary	2	6	11	73	92	9
Belgaum	1	9	16	150	176	18
Total	5	35	39	436	515	52

Source: DH&FW & Karnataka At A Glance-2015-16

#### V Stage Selection of beneficiaries

The list all pregnant women belonging to the BPL category who have availed the benefits and services from public health facilities during the years 2014-15 and 2015-16 would be obtained from the districts and PHCs. From these PHCs 5 percent of the beneficiaries who have availed benefits under various maternal health schemes will be selected randomly for the two years for the final analysis. The household of the BPL mothers would be the primary unit of data collection for the study.

#### 7. Deliverables and time Schedule:

The whole study is to be completed in 6 months from date of signing the MOU with KEA. The evaluating agency is expected to adhere to the following timelines and deliverables.

1	Work plan /Inception Report submission	Within One month of signing the agreement.
2	Field Data Collection	Two-three months from date of work plan approval
3	Draft report Submission	Within one month after field data collection
4	Final Report Submission	Within One month from draft report submission
5	Total duration	6 months

#### 8 Qualities Expected from the Evaluation Report :

The following are the points, only inclusive and not exhaustive, which need to be mandatorily followed in the preparation of evaluation report:-

- a) By the very look of the evaluation report it should be evident that the study is that of Health Department of the Government of Karnataka, and Karnataka Evaluation Authority (KEA) which has been done by the Consultant. It should not intend to convey that the study was the initiative and work of the Consultant, merely financed by the Karnataka Evaluation Authority (KEA).
- b) Evaluation is a serious professional task and its presentation should exhibit it accordingly. Please refrain from using glossy, super smooth paper for the entire volume overloaded with photographs, graphics and data in multicolor fancy fonts and styles.
- c) The Terms of Reference (ToR) of the study should form the first Appendix or Addenda of the report.
- d) The results should first correspond to the ToR. In the results chapter, each question of the ToR should be answered, and if possible, put up in a match the pair's kind of table, or equivalent. It is only after all questions framed in the ToR that is answered, that results over and above these be detailed.
- e) In the matter of recommendations, the number of recommendations is no measure of the quality of evaluation. Evaluation has to be done with a purpose to be practicable to implement the recommendations. The practicable recommendations should not be lost in the population maze of general recommendations. It is desirable to make recommendations in the report as follows:-

(A) **Short Term practicable recommendations**

These may not be more than five in number. These should be such that it can be acted upon without major policy changes and expenditure, and within say a year or so.

(B) **Long Term practicable recommendations**

There may not be more than ten in number. These should be such that can be implemented in the next four to five financial years, or with sizeable expenditure, or both but does not involve policy changes.

(C) **Recommendations requiring change in policy**

These are those which will need long period of time, resources and procedure to implement.

**9. Cost and schedule of Budget releases:**

Output based budget release will be as follows-

- a. The **First instalment** of Consultation fee amounting to 30% of the total fee shall be payable **as advance** to the Consultant after the approval of the inception report, but only on execution of a bank guarantee of a scheduled nationalized bank valid for a period of at least 12 months from the date of issuance of advance.
- b. The **Second instalment** of Consultation fee amounting to 50% of the total fee shall be payable to the Consultant after the approval of the Draft report.

c. The **Third and final installment** of Consultation fee amounting to 20% of the total fee shall be payable to the Consultant after the receipt of the hard and soft copies of the final report in such format and number as prescribed in the agreement, along with all original documents containing primary and secondary data, processed data outputs, study report and soft copies of all literature used to the final report.

Tax will be deducted from each payment as per rates in force. In addition, the evaluator is expected to pay statutory taxes at their end.

**10. Minimum Qualification of the consultant:**

Consultants should have and provide details of evaluation team members having technical qualifications/capability as below-

Sl. No	Subject Experts Requirements	Educational Qualification	Experience in the relevant field
1.	Principal Investigator	A social science post graduate with first class/Ph.D.	10 and more years
2.	1 <sup>st</sup> Core Team Member	A post Graduate in/Women's Studies /Sociology /Social Work with diploma in Public Health Management (Preferable)	5-10 years
3.	2 <sup>nd</sup> Core Team Member	Data analyst -Post Graduate in Statistics /Economics with adequate computer knowledge and software packages	5 years

**And in such numbers that the evaluation is completed within the scheduled time prescribed by the ToR. Consultants not having these number and kind of personnel will not be considered as competent for evaluation.**

**11. Contact persons:**

**The entire process of evaluation shall be subject to and conform to the letter and spirit of the contents of the government of Karnataka order no. PD/8/EVN(2)/2011 dated 11<sup>th</sup> July 2011 and orders made there under.**

*[Signature]*  
EXECUTIVE DIRECTOR  
Karnataka State Health System Resource Centre  
SIHFW Campus, 1st Cross  
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Magadi Road, Bangalore - 560 023

*[Signature]*  
11/10/17  
Chief Evaluation Officer  
Karnataka Evaluation Authority

*[Signature]*  
C. Chayya K. Dejenka

## Evaluation Study Photographs



**Picture 1 : Focused group discussion with beneficiary at Haveri**



**Picture 2 Interview with beneficiary**

**EVALUATION OF OUT-OF-POCKET EXPENDITURE  
INCURRED FOR MATERNAL HEALTH CARE BY BPL  
WOMEN IN KARNATAKA IN PUBLIC HEALTH FACILITIES**

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