

**HEALTH SECURITY OF INFORMAL WORKERS:
A STUDY OF NCT OF DELHI**

*Thesis submitted to Jawaharlal Nehru University
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DOCTOR OF PHILOSOPHY

RITESH RANJAN PUSHKAR



**CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT
SCHOOL OF SOCIAL SCIENCES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI 110067**

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जवाहरलाल नेहरू विश्वविद्यालय
JAWAHARLAL NEHRU UNIVERSITY
Centre for the Study of Regional Development
School of Social Sciences
New Delhi-110067

Date: 21 July 2017

DECLARATION

I, Ritesh Ranjan Pushkar, hereby declare that the thesis entitled “**Health security of informal workers: A study of NCT of Delhi**” submitted by me for the award of the degree of Doctor of Philosophy (PhD) is my bonafide work. The thesis has not been submitted so far in part or in full, for any degree or diploma of this university or any other university.

Ritesh Ranjan Pushkar

CERTIFICATE

It is hereby recommended that this thesis be placed before the examiners for evaluation.

(Chairperson)

Chairperson
Centre for the Study of Reg. Dev.
School of Social Sciences
Jawaharlal Nehru University
New Delhi - 110067

Prof. Deepak K. Mishra

(Supervisor)

Centre for the Study of Reg. Dev.
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110067

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Ritesh Ranjan Pushkar

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CHAPTER I

INTRODUCTION

1.1 Introduction

The informal sector has been a persistent feature of many developing economies, and it plays a crucial role in the process of development by creating employment in huge numbers. India's informal sector is vast workforce that powers the economy. More than 92 per cent of the Indian labour force work in informal sector (NCEUS, 2007) and produce more than half of the economy (NCEUS, 2008b). A vast majority of them are agricultural workers who find employment only during the sowing and harvest season. Existing labour laws and social security laws do not provide enough protection including health security to the people engaged in informal economy (NCEUS, 2007). Informal workers do not get benefits like provident fund, paid leaves, medical benefits, insurance, bonus, pension or even maternity leave. They are even not protected by occupational health and safety laws and regulations. Onsite accidents or deaths are largely unreported, with meagre compensations. Informal workers have no bargaining power with their employers.

The informal sector has been assumed to be very small-scale units producing and distributing goods and services, and consists of largely independent, self-employed producers especially in developing countries, some of which also employ family labour and/or few hired workers; which operates with very little capital; which utilize a low level of technology and skills; which therefore operates at a low level of productivity; and which generally provides very low income and highly unstable employment to those who work in it (Manothum and Rukijkanpanich, 2010). The term '*informal sector*' came into existence after visit of International Labour Organization (ILO) employment mission to Kenya in 1972. After that a conceptual framework and guidelines are evolved to define 'informal sector'. It is presented in "Fifteenth International Conference of Labour Statisticians (ICLS)" held in 1993 in the form of a resolution and adopted by UN Statistical Commission.

On the basis of guidelines provided by ILO and checking the relevance in Indian context, National Commission for Enterprises in the Unorganised Sector (NCEUS) of India defines informal sector as "The informal sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of

goods and services operated on a proprietary or partnership basis and with less than 10 total workers” (NCEUS, 2008a: 24). However, workers may have different characteristics in different sector depending on condition of their job. In the same sector workers may have different type of service conditions. So, in order to overcome this problem, informal worker is defined separately by NCEUS as “Informal workers consist of those working in the informal sector or households, excluding regular workers with social security benefits provided by the employers and the workers in the formal sector without any employment and social security benefits provided by employers” (NCEUS, 2008a: 27). The labour relations in informal sector are based on casual employment, kinship or personal, and social relations (ILO, 1993). If employment relationship is not subjected to labour legislation, income taxation, social protection or entitlement to employment benefits then it is considered as informal employment (ILO, 2003).

After the adoption of liberal economic policies, the size of the informal workers is expanding (Himanshu, 2011) and the informal economy is characterised by inequalities in income and productivity, predominance of agriculture, self-employment and informality (Srivastava, 2012). Health security is an integral part of the social security from very early times of conceptualisation of social security as it was adopted in convention number 102 on social security by ILO way back in 1952. In India, neither the overall health status of masses is satisfactory nor the health infrastructure. There is high prevalence of poverty in India and high health expenditure cause impoverishment of a considerable size of population (Selvaraj and Karan, 2009). After liberalisation, the cost of essential services like health care, education and transportation has increased drastically (Basu and Das, 2014). It has further worsened the vulnerability of informal workers. So, it becomes very essential to provide health security to the informal workers in order to achieve a decent life style for them.

Employment conditions are also related with the poor health status. Morbidity is significantly higher among temporary workers compared to permanent workers (Kivimaki et al., 2003). Job insecurity also affects physical and mental health of workers (Ferrie et al., 2002). Adverse working condition exposes individuals to various types of health hazards which are mostly clustered in lower status occupations. Work-related hazards and injuries are serious concern related to workers health (ILO, 2005).

1.2 Distribution of workers by sector and type of employment in India and Delhi

Indian workforce is largely dominated by informal sector and informal workers. Recent NSS round on employment and unemployment (68th round) during 2011-12 shows continuation of earlier trend of very high informality (see table 3.2). During 2011-12, 88.9 per cent of workers are employed in informal sector, while only 9.5 per cent formal sector in India. The proportion of workers in informal sector is slightly lower in Delhi (84.3 per cent) as it is large urban centre with diversified economic activities. But a large workforce is employed in formal sector without any social security. This workforce is classified as informal worker. If we see the share of informal workers in India, it goes up to 92.1 per cent of total employment while the same in Delhi is 71.1 per cent during 2011-12. There is also high informalisation of workforce even in formal sector. There is minor difference in distribution of workers according to sex in India. There is variation in distribution of workers according to level of education in India and Delhi, but proportion of formal workers in highly educated people is higher in Delhi. The distribution of workers varies by caste group; the share of informal workers is higher in disadvantaged groups. This phenomenon is more marked in Delhi. Religious minority groups are disadvantaged i.e. their proportion is higher in informal workers, but in Delhi Sikhs are not much disadvantaged. The share of informal workers declines with increase in consumer expenditure in India, this share declines sharply in Delhi. In Delhi being capital of India and huge urban centre, the share of formal workers is higher than India across most of occupation groups. Delhi has the highest proportion of workers (28.8 per cent) in formal workforce in big states, while in other big states the proportion of formal workers it ranges between 2.7 per cent in Bihar to 14.6 per cent in Jammu and Kashmir.

1.3 Health status and health care in India

Although health condition of Indian population has improved with time, it continues to be strongly determined by factors such as gender, caste, wealth, education, and geography (Subramanian et al., 2006a; Subramanian et al., 2006b; Subramanian et al., 2008). The level of child mortality in different states of India is largely associated with the extent of the economic development of the state (Balarajan et al., 2011).

Equity in health and health care is a guiding principle of health policy in India since independence, with a focus to provide health care needs of poor and underprivileged sections. In 1946, a very detailed plan for provision of universal coverage for the Indian population through a government-led health service was set out in a report by the Bhole

Committee. Health policies were outlined even in initial five years plans. Following Alma Ata Declaration in 1978, the first official National Health Policy of India was proposed in 1983, which underlined the need for universal comprehensive care (MoHFW, 1983). It recommended emphasis on primary health care, decentralisation of the health system, community participation and expansion of private sector to reduce the burden of the public sector. The second National Health Policy in 2002 was continuation of earlier goal but based on realistic consideration of capacity (MoHFW, 2002). Government of India drafted a National Health Bill in 2009 to recognise the right of health and health care with recognition to address the social determinants of health (MoHFW, 2009). But recent National Health Policy (MoHFW, 2017) launched by Government of India has fallen short of the promise to provide guaranteed health services to citizens. It claims to provide assured health services. It also reinforces its support for PPPs with not-for-profit and private sector as a short term measure to fulfill the infrastructural needs of health care system. However, NHP document recommends raising the public health spending to 2.5 per cent of GDP from the current 1.15 per cent level with focus on non-communicable diseases by 2025. However, Qadeer (2013) argues that Universal Health Care (UHC) is further abdication of the State's responsibility to provide healthcare with the emphasis shifting from public provisioning of healthcare services to only ensuring universal access to healthcare and the current PPP model serving limited care eventually benefit private sector at the cost of public expenditure and access to care also marginalised.

However, efficient implementation of stated policy to attain equity in health care remains a great challenge because of India's institutional and implementation capabilities, and is also a challenge for the global health community (Gwatkin, 2000). In India, people with the greatest need for health care face the greatest trouble in accessing health services and are least likely to get their health needs fulfilled (Hart, 2000; Sen et al., 2002; Singh and Ladusingh, 2009; Gaudin and Yazbeck, 2006). Hospitalisation rates vary by gender, wealth, and place of residence (NSSO, 2006). Some of these variations might be due to differences in actual and perceived need and health-seeking behaviour. Evidence suggests that gender inequalities exist in untreated morbidity, and illness is probably under-reported among women (Sen et al., 2002). In India, poor people are more likely to use health care services in the public sector than in the private sector.

However, rich people use a greater share of public sector services, and are more likely to use tertiary care and hospital-based services (MoHFW, 1983). Rich individuals are also

more likely to be hospitalised than poor people and have longer inpatient stays in public sector hospitals (Peters et al., 2002).

1.4 Need of the Study

With the growing need of the sustainable development, there is an emergent view and global consensus that health is key to the social and economic development and to the equitable well-being of the human population. Its importance can be recognized by its inclusion in Sustainable Development Goals (SDG) as Goal number 3. This goal seeks to ensure health and well-being for all, at every stage of life. Apart from the maternal and child health needs, it also addresses health priorities like universal health coverage, access for all to safe, effective, quality and affordable medicines and vaccines. It also focuses on research and development, health financing and capacity building in health risk reduction and management. Goal 8 of SDG is centered to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, which also lists curtailing informality, reducing fatal and non-fatal occupational injuries of workers and increasing government spending in social protection and employment programmes as its targets. It is a well-recognized fact that the size and contribution of the informal sector to the Indian economy is enormous. It is estimated that about more than half of the country's gross domestic product originates from informal sector and more than 92 per cent of workers earn their livelihood from the informal employment. In recent decades, their number is increasing and there are also evidences of growing informalisation in formal sector. A large majority of workers engaged in the informal sector in both rural and urban areas are illiterate, poor and vulnerable. They live and work in unhygienic conditions and are susceptible to many infectious and chronic diseases and work related hazards. A vast majority of them neither have fixed employer–employee relationships nor do they get any statutory social security benefits. This implies that workers in the informal sector do not get health care benefits, paid leave for illness, maternity benefits, insurance, old age pension, and other benefits. They receive very low wages and as own-account or self-employed workers, they obtain meagre earnings. The problem of poor working environment in the informal sector has been often raised by researchers and surveys. As the bulk of urban informal sector workers live in poor living conditions, vulnerability to disease and poor health result from a combination of undesirable living and working conditions. Attempt to provide them health insurance is very limited and there are evidences that they are not enough to reduce their health

vulnerability. A large number of families are still plunging below poverty line due to health related expenditures. This implies that it is an urgent need to study the health care needs of informal workers in order to provide them health security in order to enhance the health condition of workforce in particular and overall wellbeing of masses in general.

1.5 Study Area

The broad aim of this study is to understand the health securities of informal workers and their families. Delhi is selected as the study area because it is huge urban centre and there is large scale presence of informal workers. There is also considerable presence of both public and private hospitals in Delhi. As the aim of the study is to understand the health vulnerability and insecurity of informal workers, it is restricted to informal workers in slums.

Table 1.1 Some key indicators of India and Delhi

	India	Delhi
Total population ^a	1,21,05,69,573	1,67,87,941
Decadal growth rate (2001-11) ^a	17.7	21.2
Crude birth rate ^b	21.6	17.3
Crude death rate ^b	7.0	4.2
Infant mortality rate ^b	42	25
Total fertility rate ^b	2.4	1.8
Any ANC ^c (in per cent)	75.1	91.6
Institutional delivery ^c (in per cent)	46.9	68.7
Full immunization ^c (in per cent)	53.5	67.3
Underweight children ^d (in per cent)	42.5	26.1

Source: ^a Census of India, 2011, ^b SRS, 2012, ^c DLHS-III, 2007-08, ^d NFHS-III, 2005-06.

A comparison of the some basic health indicators of India and Delhi is presented in table 1.1. It is evident that Delhi being national capital and large urban centre has better health status than India. Antenatal care rates are around 90 per cent, which is satisfactory level, but it should be universal. Institutional delivery rate needs to be improved, immunization is also not satisfactory. The proportion of underweight children is quite lower from national average but it is far from optimal level.

NSS 68th round estimates shows that experience of catastrophic expenditure (defined by more than 10 per cent of total consumer expenditure) by workers is higher in India (22.9 per cent) than Delhi (11 per cent) as shown in table 1.2. If we see the sector wise distribution of workers experiencing catastrophic expenditure, it is slightly higher in

formal sector in India, while in Delhi, this gap is much higher. If we compare the distribution of catastrophic expenditure by type of workers, informal workers have higher share in both India and Delhi (Table 1.3). When distribution of catastrophic expenditure is cross classified with sector and type of worker, then it observed that in formal sector, informal workers have experienced higher share of catastrophic expenditure than that of formal workers in both India and Delhi (Table 1.4). In informal sector, the experience of catastrophic expenditure by informal worker is higher in India, while it is lower in Delhi.

Table 1.2 Percentage of workers experiencing catastrophic expenditure by sector in India and Delhi, 2011-12

Sector	India	Delhi
Informal	22.5	10.1
Formal	24.9	18.1
Total	22.9	11.0

Source: Computed from NSS 68th round, 2011-12

Table 1.3 Percentage of workers experiencing catastrophic expenditure by type of employment in India and Delhi, 2011-12

Type of Employment	India	Delhi
Informal worker	22.7	11.6
Formal worker	20.1	9.8
Total	22.5	11.0

Source: Computed from NSS 68th round, 2011-12

Table 1.4 Percentage of workers experiencing catastrophic expenditure by sector in India and Delhi, 2011-12

Type of Employment	Formal		Informal	
	India	Delhi	India	Delhi
Informal worker	25.4	11.0	23.0	16.8
Formal worker	21.4	7.8	20.0	20.6
Total	24.9	10.1	22.5	18.1

Source: Computed from NSS 68th round, 2011-12

1.6 Conceptual Framework of the study

Employment and working conditions have powerful effect on health. Along with direct health consequences of work-related health hazards, they can reduce or enhance existing inequalities across gender, caste, or economic groups (Marmot and Wilkinson, 2006). When these conditions are good enough they can provide financial security, social status, personal development, social relations, self-esteem, and protection from physical and psychosocial hazards which are important for health (Marmot and Wilkinson, 2006). Health status derived from employment is closely related to other factors like wealth, education and political power. Thus, through regulating employment relations, it is not only possible to redistribute resources which cause social stratification and inequalities but also have an impact on the life experiences of different social groups including opportunities for well-being, exposure to hazards leading to disease, and access to health care (WHO, 2008).

The Employment Conditions Knowledge Network (EMCONET, 2007) has developed a model to clarify how different types of jobs, conditions of employment, job security and social security affect workers' health. We use this model to develop a conceptual framework for study the relationship between nature of employment and its impact on health status of persons. In this framework, pathways by which employment and working conditions affect the health of workers and their families were identified. A conceptual framework showing relationship between employment relations and health status is presented in figure 1.

The first level of this framework refers to the policies of government regarding the labour legislations, industrial relations and social policies of a welfare state. In other words, it refers to nature of labour market characteristics such as labour regulations, bargaining power of trade unions as well as the level of development of the welfare state. Both labour market characteristics and social protection policies of the state are crucial to determine employment relations, general economic condition of masses and existing health system. In this framework, labour regulation refers to the regulation of the labour market (i.e. employment protection legislation, social security etc.) and to welfare state benefits related to the salaried relationship, such as benefits for those thrown out of the labour market e.g. income security measures for the unemployed. The level of development of welfare state is determined by social policies implemented by the state to remove insecurities from people's life. It may involve unemployment benefits,

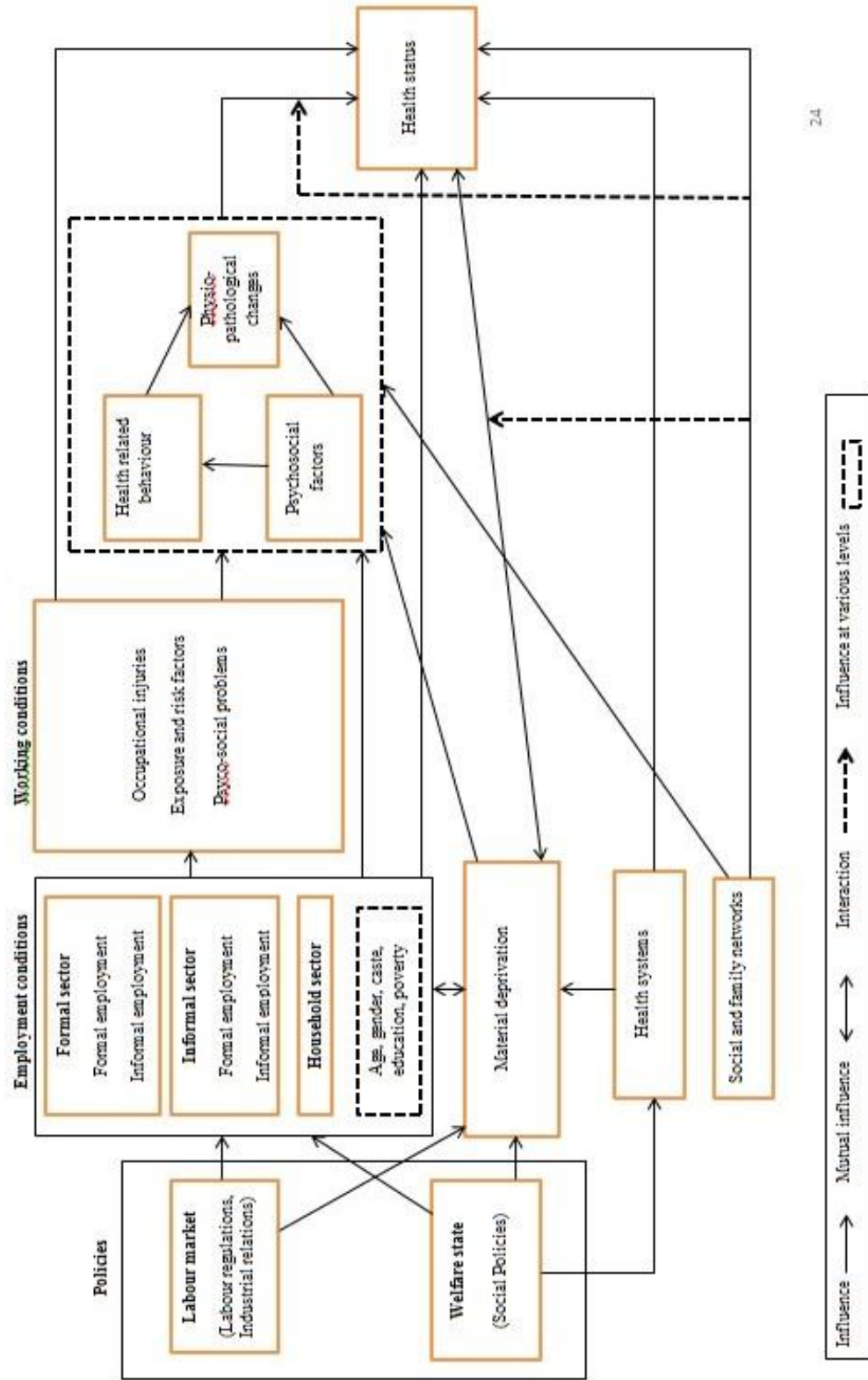
guaranteed minimum schemes, disability benefits, employment injury and occupational diseases compensation, maternity leave and pensions etc.

Coming to employment relations in the framework, it greatly varies in nature between formal and informal sectors and within the informal sector itself. Considering the Indian conditions and requirement of the study, we consider classification of employment into two sectors i.e. formal and informal sectors. Type of employment into formal employment in formal sector, informal employment in formal sector, formal employment in informal sector and informal employment in informal sector. This classification of employment reflects the availability of job security, social security, health security, maternity benefits, pensions etc. Informal employment is supposed to lack of such benefits associated with income deprivation, causing detriment effect on the health status of workers and their families.

In the next level of framework, we can assess the potential links between employment conditions and health status through working conditions and a number of behavioural, psychosocial, and physiopathological pathways. Potential exposures and risk factors are classified into three main categories: occupation injuries, exposure and risk factors, psycho-social problems, which include factors such as exposure to physical or chemical hazards, hard physical labour, lack of sanitation etc. Each risk factor may lead to different health outcomes through a number of complex relations and specific mechanisms. Factors such as age, gender, caste, education level and poverty are key relational mechanisms that explain why workers, and often their families are exposed differently to risk. There are many evidences that manual workers are much more exposed to physical and chemical hazards compared with owners or managers.

It is well known that material deprivation, economic inequalities and exposures which are closely related to employment conditions (e.g. nutrition, poverty, housing, neighbourhood, awareness, lack of access to healthcare etc.) may also have an important effect on various diseases and mental health via several psychosocial factors and physiopathological changes.

Figure 1 Conceptual framework showing relationship between employment and health status



1.7 Objectives

The broad objectives of this study are:

1. To assess the working conditions of informal workers and living conditions of informal workers and their families in the study area.
2. To examine the nature of ailments, health seeking behaviour and health expenditure of informal workers and their families.
3. To identify the impact of employment and working conditions on health status of informal workers in the study area.
4. To examine the factors associated with utilisation of health services of informal workers and their families.
5. To assess the impact of health insurance on utilization of health services and health expenditure for informal workers.

1.8 Research questions

The study has attempted to address the following research questions:

1. In what type of employment and working conditions informal workers have to work?
2. Is there any impact of employment and working conditions on health status of informal workers?
3. What is the nature of ailments, health seeking behaviour and health expenditure of informal workers?
4. Is health insurance successful in increasing utilization of healthcare facilities and reducing Out-of-Pocket (OOP) and catastrophic health expenditure of informal workers?

1.9 Database

In order to fulfil the objectives of the study, data from primary as well as secondary sources was used. A primary survey was conducted during february to may 2016 to gather information required for this study. An extensive questionnaire was used to collect detailed information about housing and living condition, demographic and socioeconomic background, ususal principal activity of workers, employment and working conditions, physical strain at work, psychosocial stress due to work, basic facilties at workplace, safety at workplace, occupational health, injuries at workplace, nature of ailments,

episodes of hospitalized and non-hospitalized treatment, type of healthcare facilities and services used and health expenditure.

Apart from the primary survey collected through structured questionnaire, the study utilizes two different data set of National Sample Survey, conducted by the National Sample Survey Organization (NSSO); an autonomous body of Ministry of Statistics and Programme Implementation, Government of India. The National Sample Survey is a nationally representative large-scale and multi-round survey. The first data set is the data of 68th round is based on the survey on “Employment & Unemployment situation in India” (Schedule 10.0) conducted during July 2011 to June 2012. At all India level, the number of households surveyed was 1,01,724 (59,700 in rural areas and 42,024 in urban areas) and number of persons surveyed was 4,56,999 (2,80,763 in rural areas and 1,76,236 in urban areas). On the other hand, in Delhi, the number of households surveyed was 999 (61 in rural areas and 938 in urban areas) and number of persons surveyed was 3981 (284 in rural areas and 3,697 in urban areas).

The other secondary dataset is the 71st round of NSS survey, titled “Key Indicator on Social Consumption in India Health” (Schedule 25.0) conducted during January to June 2014. At national level the number of households surveyed was 65,932 (36,480 in rural areas and 29,452 in urban areas) and number of persons surveyed was 3,03,104 (1,89,573 in rural areas and 1,43,531 in urban areas). On the other hand in Delhi, the number of households surveyed was 1,158 (63 in rural areas and 1095 in urban areas) and number of persons surveyed was 5,424 (366 in rural areas and 5,058 in urban areas).

This study is based on household level as well as on individual level information provided by secondary data as well primary data.

1.10 Sample selection

In this study, total 400 households samples were collected from NCT of Delhi. The systematic random sampling method was used to identify households to be interviewed. The study area NCT of Delhi is administratively divided into nine districts. For the purpose of sampling, the five districts namely, New Delhi, East, Central, South and North, having highest work participation rate (WPR) in census 2011 were selected. From these districts, one slum with minimum 500 *jhugis* was selected for survey. For each selected slum 80 households are selected for interview.

Table 1.5 Slums selected for the primary survey

District	Name of slum	No. of sample households
New Delhi	Sanjay Camp, Chankya Puri	80
South	Kusumpur Pahari, Vasant Vihar	80
West	JJ Jawahar Camp, Kirti Nagar	80
East	Ambedekar Camp, Trilok Puri	80
North	Sanjay Sudhar Samiti Camp, Pitam Pura	80

1.11 Methodology

In order to fulfill the requirements of the study, crosstabulation, binary logistic regression and quintile regression are used.

Cross tabulation

It is used to access the distribution of various dependent variables such as share of informal workers, employment and working conditions of workers, hospitalization cases, outpatient cases, health insurance coverage, total health expenditure OOP expenditure and catastrophic health expenditure across different independent variables.

Binary logistic regression

Binary logistic regression is used when the dependent variable is in dichotomous (binary) form. It determines the effect of a set of variables on the probability as well as the effect of the individual variables. In this study, inpatient and outpatient cases are in dichotomous form, thus binary logistic regression is used.

The dependent variable in binary logistic regression is dichotomous, i.e. the dependent variable can take the value 1 with probability of success P_i or the value 0 with probability of failure $(1-P_i)$. The basic form of logistic function is:

$$P = \frac{1}{1 + e^{-z}} \quad (1)$$

Where, P is the estimated probability, z is the explanatory variable and e is the base of the natural logarithm ($e = 2.7183$).

The explanatory variable has the largest effect on P when P = 0.5 and P becomes smaller in absolute magnitude as P approaches 0 or 1. The quantity $\frac{p}{1-p}$ is called the odds and the quantity of $\log\left(\frac{p}{1-p}\right)$ is called the logit of P. simplifying the equation (1) we get:

$$\begin{aligned} \text{Odd} &= \frac{P}{1-P} \\ &= \frac{\text{Probability of Presence of Characteristics}}{\text{Probability of Absence of Characteristics}} \end{aligned} \quad (2)$$

$$\text{Logit (P)} = \ln \left[\frac{P}{1-P} \right]$$

The Multivariate logistic function involving K predictor variables $x_1, x_2, x_3, \dots, x_n$ is given by:

$$\begin{aligned} \text{Logit (P)} &= b_0 + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n \\ \text{Odds} &= \frac{P}{1-P} = e^{b_0} \times e^{b_1x_1} \times e^{b_2x_2} \times e^{b_3x_3} \times \dots \times e^{b_nx_n} \end{aligned}$$

The coefficient b_i represents the additive effect of one unit change in explanatory variable x_i on the log odds of the dependent variable.

The quantity e^{b_i} is called the odds ratio, which represents the multiplicative effect on one unit change in the explanatory variable on the odds of dependent variable (Retherford and Choe, 1993).

Quantile Regression

Quantile regression is a statistical technique intended to estimate, and conduct inference about, conditional quantile functions. Just as classical linear regression methods based on minimizing sums of squared residuals enable one to estimate models for conditional mean functions, quantile regression methods offer a mechanism for estimating models for the conditional median function, and the full range of other conditional quantile functions. By supplementing the estimation of conditional mean functions with techniques for estimating an entire family of conditional quantile functions, quantile regression is capable of providing a more complete statistical analysis of the stochastic relationships among random variables (Koenker and Bassett, 1978; Koenker and Hallock, 2001).

Let Y be a real valued random variable with distribution function $F_Y(y) = P(Y \leq y)$. The τ th quantile of Y is given by

$$Q_Y(\tau) = F_Y^{-1}(\tau) = \inf \{y : F_Y(y) \geq \tau\}$$

where $\tau \in [0, 1]$.

Define the loss function as $\rho_\tau(y) = y(\tau - I(y < 0))$. A specific quantile can be found by minimizing the expected loss of $Y - u$ with respect to u :

$$\min_u E(\rho_\tau(Y - u)) = \min_u (\tau - 1) \int_{-\infty}^u (y - u) dF_Y(y) + \tau \int_u^{\infty} (y - u) dF_Y(y).$$

This can be shown by setting the derivative of the expected loss function to 0 and letting Q_τ be the solution of

$$0 = (1 - \tau) \int_{-\infty}^{q_\tau} dF_Y(y) - \tau \int_{q_\tau}^{\infty} dF_Y(y).$$

This equation reduces to,

$$0 = F_Y(q_\tau) - \tau,$$

and then to,

$$F_Y(q_\tau) = \tau.$$

Hence Q_τ is τ th quantile of the random variable Y .

1.12 Scheme of chapaterisation

This study is divided in to six chapters. First chapter introduces the topic of the study and states conceptual framework, objectives, sources of data and methodology used in this study. Second chapter presents a detailed literature review related to this topic. A detailed analysis of working and living conditions of informal workers in India, Delhi and the study area is presented in chapter three. In fourth chapter, prevalence of morbidity and impact of employment and working conditions on health status of informal workers are analyzed. Fifth chapter deals with the utilization pattern of healthcare facilities and health expenditure. The sixth chapter presents summary and conclusion of this study.

CHAPTER II

A REVIEW OF LITERATURE

2.1 Defining informal sector and informal employment

The International Labour Organization (ILO) in its second resolution concerning statistics of employment in the informal sector of 'Fifteenth International Conference of Labour Statisticians (ICLS)' conceptualizes informal sector as, "It may be broadly characterised as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organisation, with little or no division between labour and capital as factors of production and on a small scale. Labour relations - where they exist - are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees" (ILO, 1993: 52). It further explains, "Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to the production units as such but to their owners. The units as such cannot engage in transactions or enter into contracts with other units, nor incur liabilities, on their own behalf. The owners have to raise the necessary finance at their own risk and are personally liable, without limit, for any debts or obligations incurred in the production process. Expenditure for production is often indistinguishable from household expenditure. Similarly, capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes" (ILO, 1993: 52). Informal sector is generally outside the ambit of regulation of governments, it gives them opportunity to evade taxes or social security contributions, or infringing labour or other legislations or administrative provisions, but it is not necessarily performed with deliberate intentions (ILO, 1993). This resolution was adopted by United Nations Statistical Commission in 1993 and it was made a part of the Systems of National Accounts (SNA), 1993 (UN, 1993).

SNA has outlined broad operational definition of informal sector, which was further expanded by the Expert Group on Informal Sector Statistics (Delhi Group), formed by United Nations Statistical Commission (UNSC) in 1997. Delhi group had developed the detailed operational definition of informal sector to produce comparable statistics across the countries. It recommended to use criteria of legal organization (unincorporated enterprises), of type of accounts (no complete set of accounts), of product destination (as

at least some market output), of employment size limit etc. to define informal sector. It also recommended complementing definition and measurement of informal sector with definition and measurement of informal employment (NCEUS, 2008), which was discussed in Seventeenth ICLS in 2003 and adopted as set of guidelines to complement the resolution of fifteenth ICLS resolution concerning statistics of employment in the informal sector. It declares that if employment relationship is, in law or in practice, not subjected to labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severances of pay, paid annual or sick leave, etc.) then it is considered as informal employment. Informal employment may exist in formal or informal sector enterprises, or in household sector (ILO, 2003). Informal employees generally do not have employment security (no protection against arbitrary dismissal), work security (no protection against accidents and illness at the workplace) and social security (maternity and health care benefits, pension, etc.). These characteristics are also used to identify informal employment (NCEUS, 2008).

However, defining informal sector and informal employment is a difficult task and it is still evolving. Various studies have used different criteria to define informal sector and informal employment in India. In National Accounts Statistics, residual approach is followed and 'unorganised sector' is consisted of enterprises which are not included in the 'organised sector'. In order to provide a standard definition of informal sector and informal employment, National Commission for Enterprises in Unorganized Sector (NCEUS) has analysed earlier definitions used in National Accounts Statistics, Employment Statistics of Directorate General of Employment and Training (DGET), National Sample Surveys on unorganised manufacturing, Economic Census for different industry groups. It has also analysed existing labour laws and its impact on nature of enterprises and employment. It observed various characteristics of enterprises like ownership, size of employment, gross value addition (GVA) to define informal sector. It defines the informal sector in Indian condition as, "The informal sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than 10 total workers" (NCEUS, 2008: 24). Following 17th ICLS guidelines NCEUS has also analysed characteristics of workers and defines informal worker as "Informal workers consist of those working in the informal sector or households, excluding regular workers with social security benefits provided by the employers and the

workers in the formal sector without any employment and social security benefits provided by employers” (NCEUS, 2008: 27).

2.2 Size and growth of informal sector workers in India

The main challenge in front of India to achieve inclusive growth through creating huge number of productive employment accompanied with decent working conditions. Generally, with economic growth there should be growth in employment. In economies like India, where structural transformation is on-going, there should be a decline in share of agriculture in employment and output and related increase in share of industry and services. Despite of the enormous economic growth in last two decades, the movement of labour from agriculture to industry and services is relatively slow (Mehrotra et al., 2012). The transfer of surplus labour from low productivity agriculture to industry and services is essential part of generation of productive employment. There are two steps in this transformation process: first, the transfer of labour from agriculture to informal industry or informal services; and second, the transfer of labour from informal employment in informal sectors to either formal employment in the formal sectors, or at least informal employment in the formal sectors (Mehrotra et al., 2012). The first type of transition is already in process during last decade (Mehrotra et al., 2012; NCEUS, 2008), but the second type of process is not up to the mark.

Himanshu (2011) suggests that after liberalization the quality of employment is worsening with major increase in employment in the informal sector, mostly in low paid self-employment despite the high growth. After liberalization fluctuation in workforce structure is also evident. There have been setbacks to employment creation and non-farm diversification in the post-reform period. The argument of high growth creating high employment and making redistribution easier may not be true in Indian context. It is a setback to the agenda of inclusive growth. During 1999-2000 to 2004-05, there is higher informalisation of workforce for both rural and urban areas and for all status of employment. On the basis of National Sample Survey (NSS) data, IHD (2014) has estimated increase in proportion of informal employment from 92.6 per cent (367.5 million) during 1999-2000 to 93.4 per cent (427.3 million) during 2004-05. The entire increase in non-farm employment during this period is in informal sector (NCEUS, 2009). There are also some evidences of movement of workers from formal to informal employment. Self-employment in agriculture has increased, casual wage labours in agriculture declined and there is increase in non-farm employment. A large part of this

non-farm employment increase in informal sector jobs such as construction, street vending etc. During 2004-05 to 2007-08, employment in organised sector grew at fast rate in last two decades accompanied by improvement in income and wages. But rate of increase of overall employment is decelerated during this period. This seems to return of distress employment in earlier period. Again during 2004-5 to 2009-10, the bulk of employment increase is in casual work. The share of informal employment was 92.4 per cent (436.4 million) during 2011-12 (IHD, 2014). But wages are also increased. Despite the share of profit in value added increased sharply over time, particularly in the last two decades, a large majority of workers at the lower strata of income continue to remain vulnerable and poor.

In traditional economic models, with economic development there should be an increase in proportion of the wage and salary workers and a decline in that of self-employed. This is observed in India but with a slow rate (IHD, 2014). On the basis of NSSO data, IHD (2014) estimated that the proportion of self-employed workers has declined from 61 per cent in 1972-73 to 52 per cent in 2011-12, only 9 per cent decline in last four decades. In rural areas, the percentage of self-employed is quite higher (56 per cent) than urban areas (42 per cent). The proportion of regular wage/salaried workers has marginally increased during last four decades. It was 15.4 per cent in 1972-73, declined to 13.2 per cent in 1993-94, then increased to 17.9 per cent in 2011-12. The majority of these workers (65 per cent) are in formal sector. The employment in formal sector has increased from 1980's till recent, except the period of 1997-2005. Among the wage workers, the percentage of casual and contract workers has increased in formal sector, in other words process of informalisation is observed. The share of informal workers in formal sector has grown up with a rapid rate; from 41 per cent in 1999-2000, 48 per cent in 2004-05 to 58 per cent in 2011-12. The proportion of casual workers is also increasing to total workforce from 23 per cent in 1972-73 to 30 per cent in 2011-12.

2.3 Recent economic development and vulnerability of informal sector workers in India

In above section, we analysed the growth of informal economy in India. It has large implications on increasing income insecurity and vulnerability of the workers. The workers in the formal sector have certain social security benefits, while workers in informal sector hardly enjoy such benefits. This relationship creates a link between informality and poverty in the developing countries (Sethuraman, 1998; Unni and Rani,

2002). Health insecurity is one of the basic insecurities which are commonly faced by informal workers. It may have detrimental impact of their health outcome and cause impoverishment due to high expenditure on health and wage loss (Kabir et al., 2000; Wagstaff and Doorslaer, 2003).

In a significant achievement, poverty in the world has steadily declined over the past two decades. According to World Bank estimates, the share of people living below \$1.25 (PPP at 2005 international prices) a day has dropped from 43.1 per cent in 1990 to 20.6 per cent by 2010. In India, this decline during same period is 51.3 per cent to 32.6 per cent. If we use \$2.50 a day criteria, a more relevant measure of poverty, figure goes up to 90.8 per cent in 1990 and 81.1 per cent in 2010. Nonetheless, a substantial proportion of people remain vulnerable to poverty, with 99.2 per cent of people in India living on less than \$10 a day in 2010, compared with 99.7 per cent in 1990. If we see the official poverty line of India (\$1.17), the percentage of persons living below the poverty line has however been declining, and has come down to 21.9 per cent (25 per cent in rural areas and 13.7 per cent in urban areas) according to the latest National Sample Survey (NSS) 2011-12 estimates, which was 45.3 per cent and 37.2 per cent in 1993-94 and 2004-05 respectively. This implies that 270 million people still live below the official poverty line. During 1993-94 to 2004-05, the average decline in the poverty ratio was 0.74 percentage points per year. It accelerated to 2.18 percentage points per year during 2004-05 to 2011-12. Therefore, it can be concluded that the rate of decline in the poverty ratio during the recent period 2004-05 to 2011-12 was about three times of that experienced in earlier period (Planning Commission, 2013).

After liberalisation of Indian economy, GDP has increased by 4.2 per cent annually from 1994 to 2005 and 6.7 per cent annually from 2005 to 2012. Since 2005, alongside faster growth, a link between economic growth and poverty reduction is observed (World Bank, 2013). But as discussed in previous section after liberalization the quality of employment is worsening with major increase in employment in the informal sector, mostly in low paid self-employment and there is a need to situate the growth-employment linkage in the context of a small minority of organised regular workers and a majority of low paying subsistence workers or informal workers (Himanshu, 2011).

Unemployment is not a great cause of poverty in India, as it was only 4.7 per cent during 2012-13 (MoLE, 2013). The poor section of population is sharing the small fraction of benefits of recent economic growth. The consumption growth of this section continues to lag behind the national average and inequality is increasing over time (World Bank,

2013). Motiram and Naraparaju (2013) also show that the process of growth has trickled down effect in both rural and urban areas but not in favour of poor during 2004-05 to 2009-10. It is in biased in favour of the middle and richer groups, not towards the poor (particularly in urban areas). They find no evidence for pro-poor growth for the lower classes – agricultural labourers and small farmers in rural areas, and casual labourers and self-employed in urban areas, which constitute a large section of informal sector. In urban areas, the deprivation is highest for casual wage earners, followed by the self-employed, and then by the regular wage earners and occupation pattern of deprivation is also not changed during the period of 2004-05 to 2009-10. During 1993-94 to 2004-05 too, there is no evidence of pro-poor growth. The inequality in consumption expenditure has increased in urban areas and in India as whole between 2004-05 and 2009-10.

Despite the upliftment of considerable proportion of population above poverty line due to recent economic growth, a large section of India's newly non-poor remain vulnerable and minor negative shocks could easily push them below the poverty line. Three out of every five Indians are not poor but live dangerously close to poverty. Considering that the current poverty line is equivalent to US\$1.17 in PPP terms and slightly upper poverty lines, individuals living below a threshold of two poverty lines remain precariously vulnerable to shocks which could push them into poverty (World Bank, 2013). This implies that while chronic poverty has declined significantly, the large share of people in India that live very close to poverty line, reflects the potential for substantial increases in transient poverty - which can have long-run consequences for people's health and livelihoods - when people are hit by negative shocks (World Bank, 2013a).

There is some improvement in the living condition and income of the poor, but it is not adequate to fulfil their minimum basic need. It should not only grow, but also grow at reasonable rates to reach to meet basic needs. It is necessary as the public provisions of many basic services are inadequate and of poor quality particularly for health services, which force them to access privately (Motiram and Naraparaju, 2013).

2.4 Health security as an essential part of social security of informal workers

International Labour Organisation (ILO) had adopted a convention number 102 on social security in 1952. Here, the term social security refers to measure concerning minimum standards of social security in which the provisions of medical care, sickness benefits, unemployment benefits, old-age and invalidity benefits, survivors' benefits, employment injury benefits, family and maternity benefits were included (SECSOC, 2006). ILO

defines social protection as “a set of public measures that a society provides for its members to protect them against economic and social distress caused by the absence or a substantial reduction of income from a work as a result of various contingencies (sickness, maternity, employment injury, unemployment, invalidity, old age or death of breadwinner), the provision of healthcare and the provision of benefits for families with children” (ILO, 2004).

As per definitions discussed in first section of literature review, informal employees do not enjoy employment security (no protection against arbitrary dismissal), work security (no protection against accidents and illness at the work place) and social security (maternity and health care benefits, pension, etc.). As evident from this definition and ILO definition of social security, health security is an integral constituent of the social security.

After the increase in global market integration, there has been an emphasis on productivity with low labour inputs. Employers want to compete in global market with flexible, ever-available and low paid workforce. This brings a number of work related changes and major health related changes in employment arrangements and working conditions (Benach and Muntaner, 2007). Most of the world’s workforce, especially in low and middle-income countries, operates within the informal sector, which is characterized by lack of regulations to protect working conditions, wages, occupational health and safety, and injury insurance (EMCONET, 2007; ILO, 2008).

Now, we see the social and health security of informal workers in India. The workforce in India is characterised by inequalities in income and productivity, predominance of agriculture sector, self-employment and informality (Srivastava, 2012). After reforms, the phenomena of informalisation has increased and the social expenditure by the government rendering services to poor has shrunk, which forced them to buy these services on market prices, which are typically high. Economic reforms did not increase efficiency and reduce the relative price of essential services like healthcare, education, transportation (Basu and Das, 2014). It has further worsened the already high vulnerability of informal workers. While there are recent evidences of increase in real wages for informal workers, vulnerability of these workers continued. Networks (like kinship, caste, village ties) which are used to gain employment are rarely used to get better working conditions (Harris-White and Prospero, 2014).

Srivastava (2012) estimates various types of social security status of workers in India based on NSS data. The percentage of workers without any written contracts in organised

sector has increased from 53.2 per cent in 2004-05 to 58.5 per cent in 2009-10. During same period, the percentage of regular workers with longer stable contracts shrank from 35.2 per cent to 31.1 per cent. For all paid workers in non-agricultural activities, the percentage of those without contracts increased from 73.2 to 77.3. The government expenditure on social security grew at a rate of 1.38 per cent during 2000 to 2005 and at 13.23 per cent during 2005 to 2010. The central government expenditure on major social protection schemes has increased at a faster rate during recent years. However, expenditure on social security programmes has increased since 2005-06, the overall allocation is still small, only around 0.06 per cent of the GDP.

2.5 Impact of employment and working conditions on health status of workers

Labour market regulations primarily determine the population's economic opportunity and financial security. The increasing political power of large multinational corporations and international economic institutions in determining labour policy has largely disempowered the workers unions, workers, work seekers and increased the health-damaging working arrangements and conditions (EMCONET, 2007).

There are a number of studies which documents strong associations between type of occupation and health (Marmot et al., 1997a, Goodman 1999, Mackenbach et al., 2008). But most of the epidemiological studies often focus on very specific occupations or specific health conditions. In the case of latter, a lot is known on the association between occupational characteristics and the risk of heart diseases (Marmot et al., 1997b; Hemingway and Marmot, 1999), asthma (Kogevinas et al., 1999), musculoskeletal disorders (Bernard, 1997; Burdorf and Sorock, 1997), and depression (Rugulies et al., 2006). Cutler et al. (2011) showed that there are relatively large differences in the five-year mortality rate across occupational groups. Morefield et al. (2011) reported that five years of blue-collar employment is associated with a 4 to 5 per cent increase in the probability of moving from good to poor health.

There is also considerable research that focused on negative exposures (covering physical, environmental, chemical and biological risks) in the workplace that can harm health, e.g. exposure to silica for mine workers or stone workers increases the risk of silicosis-related mortality (Bang et al., 2008) and exposure to asbestos increases the risk of lung cancer (Yano, et al., 2001). Exposures like noise, heat, vibration, and other physical and chemical hazards have been the focus of occupational health research (Donoghue, 2004).

Workplace and task arrangements associated with repetitive work have been linked to repetitive strain-related injuries (Silverstein et al., 2002). Non-standard work hours have been linked to shift work sleep-disorder and other physical health problems including coronary heart disease and peptic ulcer (Kawachi et al., 1995; Knustsson, 2003; Presser, 2005).

In postindustrial economies many workers escape the burden of most physical hazards at work due to implementation of occupational health and safety regulations (Burgard and Lin, 2013), but this is not true in the developing nations like India. However, workers in postindustrial and developing economies face variety of psychosocial stressors e.g. job strain, job insecurity, etc. Job strain is associated with a number of health problems including psychiatric morbidity (Marmot et al., 1997b; Stansfeld and Candy, 2006), musculoskeletal symptoms (Bongers et al., 2006), insomnia (Nomura et al., 2009) and coronary heart disease (Bosma et al., 1998; Kivimaki et al., 2002). In addition to these psychosocial stressors, insecure or precarious employment is an important component of risk in many economies as firms pursue leaner workforce and engage in outsourcing to less expensive labour sources. Workers who perceive that they may lose their job in the near future have been shown to have worse mental and physical health (Sverke et al., 2002).

Burgard and Lin (2013) argued that employment is linked to health in two ways, as a predominant mode of earning income and other material benefits, and as a source of social integration, prestige and meaning. Earning from employment is the major source of financial resources necessary to purchase health-enhancing goods and services for most workers and their families. However, employment also exposes workers to potentially health-harming physical, environmental and psychosocial stressors. In India, many other benefits e.g. pensions, health insurance etc. are directly tied to employment.

Health capital models identify several pathways through which occupational status may be related to health. First, occupational differences in pay may affect the resources available for investments, as well as the incentives to engage in them. Second, differences in access to information related to health behaviours or methods of alleviating health problems may be correlated with occupations. Occupational status could play a causal role in explaining these disparities or might be correlated with other determinants (like education or income) that are of crucial importance. Third, the rate of health depreciation is likely to be heterogeneous e.g. workers in physically demanding jobs may wear out faster; however, sedentary jobs can also pose health risks (Lakdawalla et al., 2007). The

incidence of accidents and injuries may vary across occupations. Kelly et al. (2011) indicate that the effect of occupation on health may be (partly) transmitted through lifestyle factors.

Employment status also provides a link between educational attainment and income for majority of workers (Mirowsky and Ross, 2003; Schoeni et al., 2008) which are major intermediate variables in determining health status of individuals. In the famous Whitehall study Marmot et al. (1998) has shown that individuals working in higher status occupations have substantially better health even after adjusting for their higher education and better salary. Workers in higher occupational status have lower risk of mortality (Rogers et al., 2000). They have also reduced risk of hypertension (Colhoun et al., 1998) and heart attacks (Moller et al., 2005). Other aspects of higher occupational status like access to create work, improve psychological well-being and cognitive function that can enhance health among workers (Mirowsky and Ross, 2007).

The selection of individuals for a job is also affected by their existing health status. Individuals with existing health problems may be more likely to be hired for a job with poor working conditions (Korpi, 2001; Schur, 2003) and their health outcomes could subsequently be worse because of earlier health deficits, not due to exposure to any particular working conditions. Moreover, employment status and working conditions can change multiple times over the career, which affect the health differentially. Ravesteijn et al. (2013) in their study of Netherland concluded that health differences across occupational groups largely reflect health-based selection into occupations and at least part of the association between both physical working conditions and low job control at older ages is due to a causal effect on health.

Recent epidemiologic literature highlight the importance of the cumulative burden of job characteristics and other factors, such as poverty and low social and economic status, on health (Michie and Williams, 2002). The results confirm that the body reacts to physical, social and psychological stresses in physiologic and biologic ways. The short term response may be beneficial or adaptive (e.g. increased levels of adrenalin and other hormones), allowing one to focus to meet deadline or escape a potential injury. However, if stress is continued over a long period of time, the results may be disastrous for health. Continual stressors that increase hormonal levels can damage the functioning of the brain as well as the immune system (McEwen, 1999, 2000; McEwen and Seeman, 1999).

Average health and life expectancy differ substantially across occupational groups (Marmot et al., 1991; Case and Deaton, 2005). Kunst et al. (1998) report that the

mortality rate for manual workers in eight European countries is higher than for non-manual workers throughout the age distribution and this gap has widened over time (Mackenbach et al., 2008). Smith et al. (1998) show in a study covering 21 years that in the UK those in the highest occupational classes have a 70 percent lower risk of dying than those in the bottom occupational class. Kunst et al. (1998) confirm this finding for 11 European countries and report persistently higher mortality rates for manual workers than for non-manual workers. In France, manual workers have a 28 percent chance of dying between age 45 and 65, compared to only 16 percent for non-manual workers. For the Netherlands, Ravesteijn et al. (2013) find that manual work and low job control both have a substantial negative effect on health that gets stronger with age. Case and Deaton (2005) showed that the self-reported health of manual workers is lower and declines more rapidly with age than that of non-manual workers. Choo and Denny (2006) report similar patterns for Canadian workers while controlling for a more extensive set of lifestyle factors and suggest that manual work has an independent effect on health over and above any differences in lifestyle across occupations. Morefield et al., (2011) argue that the health of blue-collar workers is found to decline with age faster than that of white-collar workers. Importantly, they show that this is a consequence of blue-collar employees having a greater likelihood of transitioning from very good to bad health but with no difference in the relative probability of moving from bad to very good health. This suggests that blue-collar and service workers wear out faster with age because they experience more negative health shocks than their white-collar counterparts. Fletcher and Sindelar (2009) find that entering the labor force in a blue-collar (rather than white-collar) job is associated with significantly worse health at older ages.

As discussed, blue-collar jobs are likely to have relatively high rates of accidents. These could result in large but temporary deteriorations in health—implying relatively high probabilities of both entering and exiting poor health—or permanent health decrements, so that blue-collar workers disproportionately transition into but not out of poor health. Alternatively, downwards health mobility might be similar across occupations, but with blue-collar workers having more difficulty restoring good health.

Fletcher et al., (2011) suggest that individuals who work in jobs with ‘adverse’ conditions experience declines in their health. An influential set of longitudinal studies of British civil servants examine how occupation per se affects health (Marmot and Smith, 1997; Bosma and Marmot, 1997). The key finding is that lower occupational status is associated with worse health, even when controlling for demographics, health habits and income,

among other factors. These papers focus on social position, occupational stress, and job control as mechanisms for this relationship.

The proportion of workers in at least good health declines with age for all occupational groups and the decline is strongest for elementary, low-level and mid-level occupations. The health disparities between occupational groups increase with age. This suggests more rapid health deterioration among workers in the lower occupational groups, yet it should be kept in mind that these are not lifecycle profiles and hence could reflect cohort effects, selective promotion between occupational groups, selective mortality and other sources of confounding.

A number of employment-related conditions like informal work, temporary work, contract work etc. are associated with poorer health status. Kivimäki et al. (2003) indicates that mortality is significantly higher among temporary workers compared to permanent workers. Poor mental health status is also associated with informal work, temporary work, and part-time work (Artazcoz et al., 2005; Kim et al., 2006). Workers who perceive job insecurity experience negative effects on their physical and mental health (Ferrie et al., 2002). Non-standard working arrangements have been linked to greater psychological distress and, in some studies, poorer physical health (Dooley and Prause, 2004; Virtanen et al., 2005). Occupations with harmful ergonomic workplace conditions may simultaneously be characterized by low control possibilities at work, which may exert an independent effect on health.

Fletcher et al., (2011) find that both job conditions can harm health and that the impacts vary considerably by gender, age and racial subgroups. The conditions of work also affect health status of workers. Poor work quality may affect mental health almost as much as loss of work (Bartley, 2005; Muntaner et al., 1995; Strazdins et al., 2007). Adverse work conditions that expose individuals to a wide range of health hazards tend to cluster in lower-status occupations. Work-related hazards and injuries through hazardous exposures remain an extremely serious concern for workers (ILO, 2005). Work stress is associated with a 50 per cent excess risk of coronary heart disease (Marmot, 2004; Kivimäki et al., 2006), and there is consistent evidence that high job demand, low control, and effort-reward imbalance are high risk factors for mental and physical health status of workers (Stansfeld and Candy, 2006).

Beyond contractual differences, considerable evidence shows that less advantaged workers are more likely to be exposed to physically dangerous work (Lipscomb et al., 2006). Some studies also suggest that workers from lower status groups have more

exposure to psychosocial stressors, as they are more likely to report low control or high strain at work (Brand et al., 2007; Stradzins et al., 2004). By contrast, highly educated individuals can achieve both autonomy and high levels of creativity on the job, both of which are associated with better health (Mirowsky and Ross, 2007).

Robone et al. (2008) find that a high level of employability has a positive impact on self-reported health and psychological health for those with temporary jobs. Also, they provide evidence that for part-time workers, being unsatisfied with their number of hours worked has a deleterious impact on health. Cottini and Lucifora (2010) indicate that adverse working conditions negatively affect mental health, with the largest effect due to working at very high speed and under tight deadlines, with low job autonomy, and being involved in complex tasks. Cottini and Ghinetti (2011) showed that adverse working conditions reduce especially mental health. Robone et al. (2011) used twelve waves of the *British Household Panel Survey* (BHPS) and estimated the impact of contractual and working conditions on self-reported health. Results differ a lot by gender, but overall there seems to be a positive health effect of working from home, and negative health effects of working more hours than preferred and having fewer promotion opportunities.

In Indian conditions, there are also some studies which explored the health security of informal workers in detail. Ghosh (2010) in her study of health insecurities of informal workers conducted in slums of Delhi shows that poor sanitary and living conditions had adverse impact on the health status of workers and their families. Water borne diseases (such as diarrhoea, cholera, typhoid, jaundice) and occupational diseases (such as lung diseases, joint pain and work related accidents) were common health problems. Around 90 per cent households reported that at least one family member suffered from some illness during last one year and around half of them perceived that their work had an adverse effect on their health. Around 83 per cent of respondents did not get any type of health benefit and had to pay fully for their health needs, remaining 17 per cent get only partial benefits. Despite of the high morbidity and lack of health benefits, only 43 per cent of household availed government health facilities. Here, distance is not a major factor influencing low utilisation; it is lack of proper attention and care, lack of medicine and testing facilities, which restricts the use of government health facilities. Households particularly engaged in casual work find more difficulty in accessing government health facilities due to loss of their wages and inefficiency of government health facilities in providing low cost service. 16 per cent of total households availed treatment in private hospital of clinics and around 35 per cent visited untrained doctors or local pharmacists.

The government health facilities which are supposed to serve the poor families do not facilitate the urban poor. They have to pay for medicines and tests as well as they have to lose their earning due to long waiting time. It forced them incur health services from private hospitals or clinics despite of higher cost. This has increased the OOP expenditure of the households, which has detrimental impact on the livelihood of the households. In order to cope with catastrophic expenditure around half of the households borrowed money, around 30 per cent had sold their productive assets, 22 per cent had lost their savings and a substantial proportion of them 28 per cent had delayed or avoided treatment. Informal workers without any health insurance suffer from dual burden of health expenditure as well as loss of income. The weakness of government health facilities has further worsened the health insecurity of these workers and their families.

Another study by Unni and Rani (2002) on insecurities of informal workers in Gujarat, observed that a much higher proportion of the workers reported higher prevalence of ailments. Across work status, a higher proportion of piece-rated and casual workers reported having aches and pain on regular basis. Around half of the workers accepted that work had an adverse effect on their health, for piece-rated workers and casual labours this proportion is higher. About 16 per cent of the households reported that at least one family member suffered from any chronic illness. On the other hand, these workers have to pay fully for their medical care. Around 80 per cent of workers paid the entire cost of medical care without any support. Among informal workers, the most vulnerable are piece-rate and self-employed workers. Any event of illness did not only result in loss of income among workers but they also have to bear the entire cost of treatment. Low income with such a high prevalence of illness without any support increased the health and livelihood insecurity of informal workers.

2.6 Healthcare expenditure and its impoverishment effect

As the post reform period brought huge increase in informalisation of workforce, it also brought health insecurity to large section of population by increasing role of private sector in healthcare and increasing OOP expenditure which further impoverished the vulnerable section of society. There are some studies which analyse the impact of on-going health sector reforms on living standard of masses through increased OOP. OOP expenditure is a major source of financing healthcare in developing countries. The impoverishment effect of OOP payments is well recognised in developing countries settings and India is not an exception of it (van Doorslare et al., 2006). Traditional

measures of poverty do not adjusted for the medical expenditure, which raise their total expenditure above the poverty line, even though their expenditure on food, clothing, and shelter may lie below subsistence level but force them to sell assets or incur debt. While it results in further impoverishment of such households (van Doorslare et al., 2006).

According to WHO (2013), total expenditure on health in India was 3.7 per cent of GDP in 2010. The share of private expenditure on health to total expenditure on health remained very high during last decade (74 per cent in 2000 and 71.8 per cent in 2010). The contribution of social security expenditure on health as percentage of general government expenditure on health was only 19 per cent in 2010. OOP expenditure as percentage of private expenditure on health has marginally declined from 91.8 per cent in 2000 to 86 per cent in 2010.

Evidence from National Sample Surveys of national expenditures suggests that inequalities in health financing have increased during the past two decades (Selvaraj and Karan, 2009). People from poorer sections are most sensitive to the cost of health care (O'Donnell, 2007); they are less likely than rich to seek care when they are ill, and this difference is more marked in rural than in urban areas (NSSO, 2006). Moreover, poor people are more likely to report financial burden as the reason for not availing health care when they have an illness, and this effect has increased with time for individuals living in rural and urban areas (Selvaraj and Karan, 2009). Out-of-pocket (OOP) expenditure on health care, measured as a proportion of household total expenditure, had increased with time in rural and urban areas (Selvaraj and Karan, 2009; Yip and Mahal, 2008). Expenditures on inpatient and outpatient health care are consistently higher in private health facilities than in public; and expenditure is greater for non-communicable diseases than for communicable diseases (Mahal et al., 2010). The financial burden of inpatient and outpatient care is consistently greater for rural households than urban households. In 2004–05, about 14 per cent of rural households and 12 per cent of urban households spent more than 10 per cent of their total expenditure on health care (Selvaraj and Karan, 2009). Treatment in hospital is also expensive, with more than a third of costs paid by borrowing money (Mahal et al., 2010). Even for inpatient care, expenditure on medicines account for the largest burden of this cost (Garg and Karan, 2009). Medicines, diagnostic tests, and medical appliances account for more than half of OOP expenditures on health care (Mahal et al., 2010).

There are many evidences that recorded the impoverishment impact of health expenditure. Ill health and health care expenditures are major contributory factors for

more than half of households that fall into poverty (Krishna, 2004). In 2004–05, about 39 million (30.6 million in rural areas and 8.4 million in urban areas) Indian people fell into poverty as a result of OOP expenditures (Selvaraj and Karan, 2009). These estimates do not take into account the effects on people already living below the poverty line who are pushed further into poverty or those groups who are forced to forego health care as a result of the costs. The absolute and relative effects of OOP expenditures on poverty have been increasing (Selvaraj and Karan, 2009). The effect of health expenditures are greater in rural areas and in poorer states, where a greater proportion of the population live near the poverty line, with the burden greatly on scheduled tribes and scheduled castes (Balarajan et al., 2011).

Expenditure on medicines has been increasing with time, and drug costs constitute a greater proportion of OOP expenditures for people who are poor than rich (Balarajan et al., 2011). Inefficient regulation of medicines prices, regulation of the pharmaceutical market, faulty procurement and distribution mechanisms are major causes which restrict access to affordable good-quality drugs (Selvaraj and Nabar, 2010; Sengupta et al., 2008). The proportion of drugs that are price controlled has decreased greatly—about 90 per cent of drugs were price controlled in the 1970s, but now only about 10 per cent are (Selvaraj and Nabar, 2010). Furthermore, analysis of changes in drug prices shows that between 1996 and 2006, the cost of a selected group of drugs rose by 40 per cent, whereas the prices of drugs on the list of essential drugs rose by 15 per cent and those not on the list and not price controlled rose by 137 per cent (Sengupta et al., 2008).

In urban areas, poor persons are more likely to seek health care from private and public providers who are not sufficiently competent (Das and Hammer, 2007). Dissatisfaction with the quality of care in the public sector might be the reason for poor seeking health care in the private sector (Peters et al., 2002). People from disadvantaged and poorer sections are more likely to receive poor-quality services (Planning Commission, 2008; De Costa, 2009). So, the reduction of exposure to unnecessary and potentially harmful treatments and encouragement of appropriate health seeking behaviour are also important issues in providing health security (Banerjee and Duflo, 2006; Das and Hammer, 2007).

2.7 Performance of India's health insurance scheme (Rashtriya Swasthya Bima Yojana, RSBY)

The coverage of medical insurance is very low in India. Only about ten per cent of the population are covered by any form of social or voluntary health insurance, which is

mainly offered through government schemes for selected employment groups in the formal sector (Planning Commission, 2008). Community-based health insurance schemes and schemes for the informal sector cover less than one per cent of the population (Planning Commission, 2008).

As mentioned earlier, Rashtriya Swasthya Bima Yojana (RSBY) is the first serious attempt of the Government of India to provide health insurance to BPL households, which provides hospitalisation benefits of Rs. 30,000 per annum for a family of five. The scheme is well received and has been extended to various segments of informal workers. However, there are many evidences that suggest failure of RSBY in providing adequate financial protection to covered population. There are also evidences about the faulty design of the RSBY e.g. narrow focus on secondary and tertiary care hospitalisation (Selvaraj and Karan, 2012).

Rajasekhar et al., (2011) in their study of RSBY in Karnataka had pointed out some serious problems in implementation like delay in the issue of smart cards, poor knowledge of how and where to utilise the scheme; hospitals not trained to use card-reading technology; and month-long delays and arbitrary caps in the reimbursement of treatment expenses to hospitals. These problems have led many hospitals to stop accepting patients under the scheme. The coordination between the various stakeholders also needs to be improved. Many of the problems are related to misaligned incentives. The insurance company is clearly incentivised to enrol as many households as possible into the scheme in order to collect the premium from the government. Enrolment represents revenue for the insurer. However, the insurer is not currently incentivised to encourage utilisation in any way, since that only leads to costs from its point of view. The insurance companies are not incentivised to ensure that card details are correct, which creates problems in implementation. Rathi et al. (2012) also had identified similar problems in implementation of RSBY like lack of awareness, low utilisation rates and empanelment of hospitals. Beneficiaries of chronic ailments continue to face OOP costs for medicines after being discharged since coverage is limited to five days of medicines at the time of discharge.

Selvaraj and Karan (2012) estimated that the share of households' expenditure on medical care appears to have declined marginally for the first time. The decline was brought by a significant fall in outpatient expenditure. The major share of outpatient expenditure was on medicines. On the other hand, expenditure on hospitalisation rose in India. In real terms, households' per capita OOP expenditure was reported to have increased

significantly between 2004-05 and 2009-10. The real rise in OOP expenditure was largely due to hospitalisation expenditure, while outpatient and medicine expenditure remained almost constant during the same period. The headcount of catastrophic nature of hospitalisation has increased marginally after the introduction of health insurance scheme. The poorer income sections in RSBY and other state sponsored health insurance has experienced a rise in the catastrophic headcount in continuation of trend witnessed since last two decades, it is strong evidence that these schemes failed to provide financial risk protection. Wagstaff and Lindelow (2008) and Wagstaff et al. (2009) also mentioned that such models has poor track record in providing financial risk protection to poorer section of population due to various reasons. Target-oriented approaches (e.g. BPL population) have never worked in the past due to several reasons. Identification of BPL population, narrow focus on secondary and tertiary care hospitalisation, involvement of private health care providers, and low awareness level among masses are the main factors which contribute to failure of such schemes. Healthcare should not be viewed as compartmentalised care, rather seen as a continuum of care.

CHAPTER III

DISTRIBUTION OF INFORMAL WORKERS AND THEIR WORKING AND LIVING CONDITIONS

3.1 Introduction

In economies like India, where structural transformation is ongoing, there should be a decline in the share of employment in agricultural sector and increase in the employment share in both industry and service sectors. But, despite the enormous economic growth in last two decades, the movement of labour from agriculture to industry and services is relatively slow (Mehrotra et al., 2012). The transfer of surplus labour from low productive agriculture to industry and services is an essential part of the generation of productive employment. There are two steps in this transformation process: first, the transfer of labour from agriculture to informal industry or informal services; and second, the transfer of labour from informal employment in informal sectors to either formal employment in the formal sectors, or informal employment in the formal sectors (Mehrotra et al., 2012). The first type of transition is already in process since last decade (Mehrotra et al., 2012; NCEUS, 2008), whereas the second type of process is less evident.

Himanshu (2011) suggests that after liberalization the quality of employment is worsening with the major increase in employment in the informal sector, mostly in low paid self-employment despite the high growth of Indian economy. After liberalization fluctuation in workforce structure is also evident. There have been setbacks to employment creation and non-farm diversification in the post-reform period. The argument of creating high employment and making redistribution easier may not be true in the Indian context. It is a setback to the agenda of inclusive growth. During 1999-2000 to 2004-05, there is higher informalization of the workforce for both rural and urban areas and all status of employment. On the basis of National Sample Survey (NSS) data, IHD (2014) has estimated an increase in the proportion of informal employment from 92.6 per cent (367.5 million) during 1999-2000 to 93.4 per cent (427.3 million) during 2004-05 in India. Almost all increase in non-farm employment during this period is in the informal sector (NCEUS, 2009). There is also some evidence of movement of workers from formal to informal employment. Self-employment in agriculture has increased, casual wage labours in agriculture declined, and there is an

increase in non-farm employment. A large part of non-farm employment increased in informal sector jobs like construction, street vending, etc. Employment in the organized sector grew at the fast rate accompanied by an improvement in income and wages during 2004-05 to 2007-08. But the rate of increase of overall employment decelerated during this period. This seems to return to distress employment in the earlier period. Again during 2004-05 to 2009-10, the bulk of employment increased is in casual work. The increase in the wage rates during this period was also evident. During 2011-12 the share of informal employment was 92.4 per cent (436.4 million) (IHD, 2014). Despite the share of profit in value added increased sharply over time, particularly in the last two decades, a large majority of workers at the lower strata of income continue to remain vulnerable and poor.

In traditional economic models, with economic development, there should be an increase in the proportion of the wage and salary workers, and a decline in self-employed workers. This is observed in India but with a slow rate (IHD, 2014). On the basis of NSSO data, IHD (2014) estimated that the proportion of self-employed workers has declined from 61 per cent in 1972-73 to 52 per cent in 2011-12, only 9 per cent decline in last four decades. In rural areas, the percentage of self-employed is quite higher (56 per cent) than urban areas (42 per cent). The proportion of regular wage/salaried workers has marginally increased during last four decades. It was 15.4 per cent in 1972-73, declined to 13.2 per cent in 1993-94, then increased to 17.9 per cent in 2011-12. The majority of these workers (65 per cent) are in the formal sector. The employment in the formal sector has increased from 1980's till recent, except the period of 1997-2005. Among the wage-workers, the percentage of casual and contract workers has increased in the formal sector, in other words, the process of informalization is observed. The share of informal workers in formal sector has grown up with a rapid rate; from 41 per cent in 1999-2000, 48 per cent in 2004-05 to 58 per cent in 2011-12. The proportion of casual workers has also increased from 23 per cent in 1972-73 to 30 per cent in 2011-12.

3.2 Distribution of informal workers in India and Delhi

Table 3.1 and 3.2 shows the distribution of workers in formal and informal sectors in India and Delhi. According to NSS 71st round during 2011-12, 88.9 per cent of workers are in the informal sector in India, this figure declines to 84.3 per cent in Delhi. While the figures

indicate that the proportion of informal workers in Delhi is slightly lower than national average (i.e. 92.1 per cent), as it is highly urbanized and industrialized area.

Table 3.1 Distribution of workers by sector in India and Delhi, 2011-12

Sector	India		Delhi	
	Per cent	N	Per cent	N
Informal	88.9	96,458	84.3	1,133
Formal	9.5	10,385	13.6	183

Source: Computed from NSS 68th round, 2011-12

Table 3.2 Distribution of workers in India and Delhi, 2011-12

Type of worker	India	Delhi
Informal worker	92.1	71.1
Formal worker	7.8	28.8

Source: Computed from NSS 68th round, 2011-12

Table 3.3 Distribution of workers in formal sector in India and Delhi, 2011-12

Type of worker	India	Delhi
Informal worker	88.2	70.9
Formal worker	11.8	29.1

Source: Computed from NSS 68th round, 2011-12

Distribution of formal and informal workers in the formal sector has been presented in table 3.3. Results show that in India, in formal sector there are 88.2 per cent of informal workers, while in Delhi, this proportion declines to 70.9 per cent. This highlights the extent of informalization even in the formal sector in India.

Socioeconomic and demographic characteristics also have marked influence on the distribution of formal and informal workers. Table 3.4 presents the distribution of informal and formal workers according to socioeconomic and demographic characteristics in India and Delhi. The proportion of Female workers in informal sector is slightly lower than Male workers in Delhi. The impact of place of residence is clearly visible in the distribution of workers in India. In rural areas 96.4 per cent of workers are in informal sector, while in the urban area the same is 80.9 per cent. The education level of workers has the most pronounced impact on the type of worker. In India, 58.2 per cent of graduate and above educated workers work as informal workers. It increases up to 86.7 per cent for higher secondary educated workers. It further increases with the decline in education level. For illiterates, 99.2 per cent of workers are in the informal sector. These trends are similar for Delhi, but with slightly

lower magnitude. For Graduate and above-educated workers, the share of formal workers in Delhi is 55.5 per cent as compared to national average of 41.8 per cent.

Table 3.4 Distribution of workers by background characteristics in India and Delhi, 2011-12

Background characteristics	India		Delhi	
	Informal worker	Formal worker	Informal worker	Formal worker
Sex				
Male	91.7	8.2	73.7	26.2
Female	93.5	6.4	54.9	45.0
Place of residence				
Rural	96.4	3.5	49.6	50.3
Urban	80.9	19.0	72.9	27.0
Education				
Not literate	99.2	0.7	94.8	5.1
Primary & below	98.2	1.7	94.4	5.5
Middle	96.4	3.5	91.0	8.9
Higher secondary	86.7	13.2	73.2	26.7
Graduate & above	58.2	41.8	44.4	55.5
Social group				
STs	95.4	4.5	69.3	30.6
SCs	94.1	5.8	83.5	16.4
OBCs	93.8	6.1	84.6	15.3
Others	86.9	13.0	62.5	37.4
Religion				
Hindu	91.8	8.1	68.3	31.6
Muslim	96.3	3.6	96.3	3.6
Sikh	92.3	7.6	75.6	24.3
Others	86.3	13.6	64.7	35.2
MPCE				
Lowest	99.2	0.7	100.0	0.0
Lower	98.4	1.5	96.2	3.7
Middle	96.9	3.0	78.7	21.3
Higher	92.8	7.1	86.0	13.9
Highest	75.4	24.5	63.4	36.5
Total	92.1	7.8	71.1	28.8

Source: Computed from NSS 68th round, 2011-12

Table 3.5 Distribution of workers by National Industrial Classification (NIC) - 2008 in India and Delhi, 2011-12

NIC-2008	India		Delhi	
	Informal worker	Formal worker	Informal worker	Formal worker
Agriculture, forestry and fishing	99.5	0.4	94.4	5.5
Mining and quarrying	88.5	11.4	84.0	15.9
Manufacturing	44.4	55.6	100.0	0.0
Electricity, gas, steam and air conditioning supply	74.8	25.1	24.8	75.1
Water supply; sewerage, waste management and remediation activities	98.2	1.7	92.5	7.4
Construction	97.1	2.8	92.3	7.7
Wholesale and retail trade; repair of motor vehicles and motorcycles	88.6	11.3	70.5	29.4
Transportation and storage	96.1	3.8	98.9	1.0
Accommodation and food service activities	44.8	55.1	23.4	76.5
Information and communication	49.9	50.0	46.9	53.0
Financial and insurance activities	91.2	8.7	94.2	5.7
Real estate activities	73.4	26.5	41.8	58.1
Professional, scientific and technical activities	78.4	21.5	42.7	57.2
Administrative and support service activities	31.7	68.2	18.4	81.5
Public administration and defence; compulsory social security	46.2	53.7	72.3	27.6
Education	64.6	35.3	44.9	55.0
Human health and social work activities	91.9	8.1	48.3	51.6
Arts, entertainment and recreation	97.1	2.9	91.9	8.0
Other service activities	97.2	2.8	100.0	0.0
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	100.0	0.0	71.1	28.9
Activities of extraterritorial organizations and bodies	92.3	7.6		
Total	92.3	7.6	71.1	28.9

Source: Computed from NSS 68th round, 2011-12

Table 3.6 Distribution of workers by type of household in India and Delhi, 2011-12

Type of household	India			Delhi		
	Informal worker	Formal worker	N	Informal worker	Formal worker	N
Rural						
Self-employed in agriculture	99.5	0.5	32,919	93.3	6.8	9
Self-employed in non-agriculture	98.9	1.1	25,409	93.6	6.4	18
Regular wage/salary earning	67.7	32.3	17,928	35.2	64.8	58
Casual labour in agriculture	99.9	0.1	8,184			
Casual labour in non-agriculture	99.5	0.5	14,376	100.0	0.0	2
Others	94.2	5.8	905	100.0	0.0	2
Total	96.5	3.5	99,721	49.6	50.4	89
Urban						
Self-employed	97.6	2.4	25,839	92.4	7.6	472
Regular wage/salary earning	59.1	41.0	23,695	58.7	41.3	716
Casual labour	98.8	1.2	8,354	98.4	1.6	74
Others	85.4	14.6	700	100.0	0.0	2
Total	81.0	19.0	58,588	72.9	27.1	1,264

Source: Computed from NSS 68th round, 2011-12

Table 3.7 Distribution of workers by type of enterprise in India and Delhi, 2011-12

	India			Delhi		
	Informal worker	Formal worker	N	Informal worker	Formal worker	N
Proprietary: Male	97.8	2.2	64,596	92.7	7.3	718
Proprietary: Female	99.2	0.8	5,787	100.0	0.0	32
Partnership: with members from same HH	95.7	4.3	2,137	73.5	26.5	48
Partnership: with members from diff. HH	90.4	9.7	1,439	64.1	35.9	16
Government/Public sector	30.3	69.7	19,869	17.2	82.9	224
Public/Private limited company	52.8	47.2	6,166	28.9	71.1	168
Co-operative Societies/Trust/Other Non-Profit Institutions	58.9	41.1	1,289	71.0	29.0	27
Employer's households	98.4	1.6	1,466	100.0	0.0	44
Others	98.7	1.3	5,755	96.0	4.0	67
Total	85.8	14.2	1,08,504	71.1	28.9	1,344

Source: Computed from NSS 68th round, 2011-12

Further the distribution of informal workers by social group indicates that there is a marginal difference among SCs, STs, and OBCs. Only 'Others' group has relatively lower (86.3 per cent) proportion of informal workers in India, while in Delhi this is only 64.7 per cent. Muslims have the highest proportion of informal workers. The share of informal workers steadily declines with the increase in economic status indicated by Monthly Per Capita Expenditure (MPCE) in India while for Delhi, the decline is sharper. For the richest quintile, the share of informal workers is one-fourth lower in comparison to poorest quintile.

3.2.1 Distribution of workers by National Industrial Classification (NIC)

The classification of workers by National Industrial Classification-2008 in India and Delhi has been presented in table 3.5. It is observed that agriculture, forestry and fishing have almost universal informal workers in India. Administrative and support service activities has a lowest share of informal workers (31.7 per cent) followed by manufacturing (44.8 per cent), Financial and insurance activities (91.2 per cent), Human health and social work activities (91.9 per cent), Transport and storage (96.1 per cent), Construction (97.1 per cent), Arts, entertainment and recreation (97.1 per cent), and Water supply, sewerage, waste management and remediation activities (98.2 per cent), with very high share of informal workers in India.

3.2.2 Workers by type of households

The next table 3.6 shows the share of informal and formal workers across the type of household. In rural areas of India, only regular salaried have the significant proportion (32.3 per cent) of formal workers, in other types of households such as self-employed in agriculture, casual labour in agriculture/non-agriculture have more than 99 per cent of informal workers. In urban areas of India, again regular salaried have slightly highest proportion of formal workers, in other types of households i.e. self-employed and casual labour have only 2.4 per cent and 1.2 per cent of formal workers respectively. In Delhi, the share of formal workers in regularly salaried households is almost similar to national average, but higher in case of self-employed i.e. 7.6 per cent. While for casual labour households, the share of formal workers is around 2 per cent, which is slightly above national average.

3.2.3 Workers by type of enterprises

The distribution of workers across type of enterprise is shown in table 3.7. The share of informal workers is lower in government/public sector (30.3 per cent), public/private limited company (52.8 per cent) and co-operative societies/trust/other non-profit institutions (58.9 per cent) in India. For Delhi, the trend is similar for government/public sector (17.2 per cent), public/private limited company (28.9 per cent) with a lower proportion of informal workers.

3.2.4 Workers by type of National Classification of Occupation

In case of occupational distribution of informal and formal workers in India (table 3.8), occupational divisions of Professionals (58.2 per cent), Technicians and Associate Professionals (51.9 per cent), Clerks (41.7 per cent) have the lowest share of informal

workers. Legislators, Senior Officials and Managers (91.4 per cent), Service workers and Shop & Market Sales workers (88.6 per cent) and Plant and Machine Operators and Assemblers (87 per cent) have a much higher share of informal workers. Skilled Agricultural and Fishery workers (99.9 per cent), Elementary occupations (98 per cent) and Craft and related Trade workers (94.2 per cent) are the occupational groups where the share of informal workers is the highest.

Table 3.8 Distribution of workers by National Classification of Occupation-2004 in India, 2011-12

NCO – 2004	Informal worker	Formal worker	N
Legislators, senior officials and managers (I)	91.4	8.7	14,830
Professionals (II)	58.2	41.8	9,030
Technicians and associate professionals (III)	51.9	48.1	9,381
Clerks (IV)	41.7	58.3	4,431
Service workers and shop & market sales workers (V)	88.6	11.4	18,318
Skilled agricultural and fishery workers (VI)	99.9	0.1	40,609
Craft and related trades workers (VII)	94.2	5.8	21,679
Plant and machine operators and assemblers (VIII)	87.0	13.0	8,732
Elementary occupations (IX)	98.0	2.0	30,738
Workers not classified by occupations (X)	96.9	3.1	377
Total	92.2	7.8	1,58,125

Source: Computed from NSS 68th round, 2011-12

Table 3.9 Distribution of workers by National Classification of Occupation-2004 in Delhi, 2011-12

NCO – 2004	Informal worker	Formal worker	N
Legislators, senior officials and managers (I)	87.2	12.8	347
Professionals (II)	33.0	67.0	117
Technicians and associate professionals (III)	35.2	64.8	103
Clerks (IV)	37.6	62.4	107
Service workers and shop & market sales workers (V)	76.9	23.1	146
Skilled agricultural and fishery workers (VI)	100.0	0.0	8
Craft and related trades workers (VII)	83.4	16.6	163
Plant and machine operators and assemblers (VIII)	84.2	15.8	113
Elementary occupations (IX)	81.7	18.3	247
Workers not classified by occupations (X)	100.0	0.0	2
Total	71.1	28.9	1,353

Source: Computed from NSS 68th round, 2011-12

In Delhi (table 3.9), the share of informal workers is much lower in each division of occupation in comparison to India. Professionals (33.0 per cent), Technicians and Associate Professionals (35.2 per cent), Clerks (37.6 per cent) have again the lowest share of informal workers. Legislators, Senior Officials and Managers, Plant and Machine

Operators and Assemblers, and Service workers and Shop & Market Sales workers have 87.2 per cent, 84.2 per cent and 76.9 per cent share of informal workers respectively, which is lower than national average.

Table 3.10 Distribution of workers across the states in India, 2011-12

State/UT	Informal worker	Formal worker
Big state/UT		
Jammu & Kashmir	85.3	14.6
Punjab	90.4	9.5
Haryana	86.7	13.2
Delhi	71.1	28.8
Rajasthan	94.9	5.0
Uttar Pradesh	95.9	4.0
Bihar	97.2	2.7
Assam	93.2	6.7
West Bengal	92.9	7.0
Jharkhand	93.3	6.7
Odisha	94.4	5.5
Chhattisgarh	96.7	3.2
Madhya Pradesh	94.2	5.7
Gujarat	92.3	7.6
Maharashtra	88.2	11.8
Andhra Pradesh	93.4	6.5
Karnataka	88.3	11.6
Kerala	90.6	9.3
Tamil Nadu	89.1	10.8
Small state/UT		
Himachal Pradesh	90.6	9.3
Chandigarh	65.6	34.3
Uttarakhand	89.7	10.2
Sikkim	86.9	13.0
Arunachal Pradesh	86.2	13.7
Nagaland	73.6	26.3
Manipur	87.1	12.8
Mizoram	80.6	19.3
Tripura	92.4	7.6
Meghalaya	89.2	10.7
Daman & Diu	33.6	66.3
Dadra & Nagar Haveli	61.4	38.5
Goa	62.1	37.8
Lakshadweep	71.1	28.8
Puducherry	81.9	18.0
Andaman & Nicobar Islands	74.5	25.4
India	92.1	7.8

Source: Computed from NSS 68th round, 2011-12

3.2.5 Distribution of workers across the states

Table 3.10 presents the share of informal and formal workers in states/UTs of India. Delhi has the lowest share of informal workers (71.1 per cent) among the big states/UTs. Bihar has the highest share of informal workers (97.2 per cent) followed by Chhattisgarh (96.7 per cent), Uttar Pradesh (95.9 per cent), Rajasthan (94.9 per cent), Odisha (94.4 per cent), and Madhya Pradesh (94.2 per cent). Jammu and Kashmir (85.3 per cent), Haryana (86.7 per cent), Maharashtra (88.2 per cent), Karnataka (88.3 per cent) and Tamil Nadu (89.1 per cent) have a slightly lower share of informal workers among big states/UTs.

3.3 Working conditions of informal workers in India and Delhi

After presenting the distribution of informal workers across various socioeconomic, demographic and occupational groups, the working condition of informal workers has also been examined. First of all, distribution of informal workers by the existence of written job contract is shown in table 3.11. In India, 93.2 per cent of informal workers work under no written contract. This condition is slightly better in Delhi as 87.4 per cent of informal workers have no written contract. Females are in slightly better position than males in terms of the existence of written job contract in India, but in Delhi, there is a little difference between them. In age group, informal workers aged between 6 to 14 years have the least availability of written job contract (only 1.5 per cent), followed by 60 years and above age group (5.3 per cent). Rest age groups, which are considered working age group i.e. 15 to 24 years, 24 to 44 years and 45 to 59 years have only 6.7 per cent, 7.3 per cent and 6.6 per cent respectively availability of written job contract. Among the social group, others group has the lowest share of informal workers not having written contract in India. While for religious groups, Muslims have the highest proportion of informal workers not having written contract in both India and Delhi. Place of residence has a significant bearing on the quality of work; it is also reflected on the existence of written job contract. In India, urban areas (91.7 per cent) have a lower proportion of informal workers not having written contract than rural areas (94.3 per cent). The level of education is a major determinant of the quality of work. With the increase in education level, there is a decrease in informal workers without written contract, but the pace of decline is sharper for higher secondary (88.6 per cent) and Graduation and above (72.8 per cent). Economic status presented here by MPCE quintiles also suggests the higher concentration of informal workers without written contract in lower economic strata.

Only highest MPCE quintile (87.3 per cent) has the significantly lower proportion of informal workers without any written contract.

Table 3.11 Distribution of informal workers by existence of written job contract in India and Delhi, 2011-12

Background characteristics	India			Delhi		
	No contract	Any contract	N	No contract	Any contract	N
Sex						
Male	94.0	6.0	34,581	87.5	12.6	474
Female	89.0	11.0	6,824	87.2	12.8	68
Age group						
6-14	98.5	1.5	321	100.0	0.0	1
15-24	93.3	6.7	16682	90.2	9.8	225
25-44	92.7	7.3	15951	85.3	14.8	221
45-59	93.5	6.6	6904	84.8	15.3	83
60 & above	94.7	5.3	1547	93.1	6.9	12
Social Group						
STs	94.1	5.9	3,020	93.4	6.6	17
SCs	94.5	5.5	10,262	82.2	17.8	151
OBCs	94.5	5.5	17,504	86.0	14.0	148
Others	89.4	10.6	10,618	91.4	8.6	226
Religion						
Hindu	92.8	7.2	32,963	85.9	14.1	444
Muslim	95.9	4.1	6,205	95.1	4.9	75
Sikh	93.8	6.2	743	83.0	17.0	10
Others	90.2	9.8	1,494	100.0	0.0	13
Place of residence						
Rural	94.3	5.7	23,750	50.7	49.3	33
Urban	91.7	8.3	17,655	89.8	10.2	509
Education Attainment						
Not literate	97.1	2.9	10,248	85.8	14.2	67
Primary	97.4	2.6	11,244	98.5	1.5	126
Middle	95.0	5.0	8,330	84.8	15.3	109
Higher Secondary	88.6	11.4	8,452	86.6	13.5	165
Graduate & above	72.8	27.2	3,129	76.2	23.8	75
MPCE Quintile						
Lowest	97.1	2.9	6,424	100.0	0.0	1
Lower	96.0	4.0	7,627	86.6	13.4	29
Medium	94.9	5.1	8,438	82.9	17.1	48
Higher	92.6	7.4	9,643	80.0	20.0	162
Highest	87.3	12.7	9,272	92.2	7.8	303
Total	93.2	6.8	41405	87.4	12.6	542

Source: Computed from NSS 68th round, 2011-12

3.3.1 Informal workers by job contract

Table 3.12 shows the existence of written job contract among informal workers across type of household and National Industrial Classification of workers (2008). In rural areas of India, regularly salaried households (86.3 per cent) have the lowest proportion of informal workers without written contract followed by self-employed in agriculture (12.1 per cent). In urban areas, 88.4 per cent of informal workers form regularly salaried households having without written contract, slightly higher than others category (88.0 per

cent). In Delhi, 88.6 per cent of self-employed and 89.1 per cent of regular salaried informal workers do not have written contract.

Table 3.12 Distribution of informal workers by existence of written job contract across type of household and NIC - 2008 in India and Delhi, 2011-12

	India			Delhi		
	No contract	Any contract	N	No contract	Any contract	N
Type of household						
Rural						
Self-employed in agriculture	88.0	12.1	1,543	100.0	0.0	1
Self-employed in non-agriculture	94.0	6.0	1,766	100.0	0.0	4
Regular wage/salary earning	86.3	13.7	4,559	43.7	56.3	36
Casual labour in agriculture	94.0	6.1	1,779			
Casual labour in non-agriculture	98.4	1.6	11,828	100.0	0.0	0
Others	92.0	8.0	137	100.0	0.0	0
Urban						
Self-employed	91.0	9.0	2,336	88.6	11.4	35
Regular wage/salary earning	88.4	11.7	11,444	89.1	10.9	422
Casual labour	98.5	1.5	5,861	97.1	2.9	43
Others	88.0	12.1	144	100.0	0.0	1
NIC-2008						
Agriculture, forestry and fishing (A)	91.3	8.7	3,873	100.0	0.0	0
Manufacturing (C)	93.5	6.5	8,601	93.7	6.3	176
Electricity, gas, steam and air conditioning supply (D)	85.3	14.7	187	100.0	0.0	1
Water supply; sewerage, waste management and remediation activities (E)	88.8	11.2	267	100.0	0.0	9
Construction (F)	98.3	1.7	13,831	90.9	9.1	51
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	93.7	6.3	3,634	91.3	8.7	86
Transportation and storage (H)	94.3	5.7	3,543	100.0	0.0	49
Accommodation and food service activities (I)	93.1	6.9	1,030	81.5	18.5	20
Information and communication (J)	72.1	27.9	364	57.8	42.2	10
Financial and insurance activities (K)	71.7	28.3	347	52.4	47.6	16
Real estate activities (L)	80.6	19.4	93	31.5	68.5	13
Professional, scientific and technical activities (M)	84.6	15.4	270	100.0	0.0	7
Administrative and support service activities (N)	87.6	12.4	606	98.8	1.2	13
Public administration and defence; compulsory social security (O)	68.4	31.6	741	55.4	44.6	22
Education (P)	68.3	31.7	1,219	89.3	10.7	22
Human health and social work activities (Q)	77.4	22.6	419	50.2	49.8	11
Arts, entertainment and recreation (R)	94.8	5.2	140	100.0	0.0	3
Other service activities (S)	96.4	3.6	823	100.0	0.0	6
Activities of households as employers; undifferentiated goods- and services producing activities of households for own use (T)	97.5	2.5	792	90.8	9.2	26
Activities of extraterritorial organizations and bodies (U)	100.0	0.0	3			
Total	93.2	6.8	41405	87.4	12.6	542

Source: Computed from NSS 68th round, 2011-12

Among NIC groups, Education (68.3 per cent), Public administration, defence and compulsory social security (68.4 per cent), Financial and insurance activities (71.7 per cent) and Information and communication (72.1 per cent) have the low proportion of informal workers without written contract.

3.3.2 Informal workers by paid leave

Table 3.13 lists distribution of informal workers by their eligibility for paid leave in India and Delhi. Eligibility for paid leave has a significant bearing on the welfare of workers. Only 9.8 per cent of informal workers are eligible for paid leave in India.

Table 3.13 Distribution of informal workers by eligibility for paid leave in India and Delhi, 2011-12

Background characteristics	India			Delhi		
	Yes	No	N	Yes	No	N
Sex						
Male	9.0	91.0	34,573	19.8	80.2	474
Female	13.8	86.2	6,823	26.5	73.5	68
Age group						
6-14	18.1	81.9	321	100.0	0.0	1
15-24	9.5	90.5	16678	16.5	83.5	225
25-44	10.2	89.8	15947	24.7	75.3	221
45-59	9.5	90.5	6903	20.0	80.0	83
60 & above	7.2	92.8	1547	25.2	74.8	12
Social group						
STs	6.4	93.6	3,020	8.5	91.5	17
SCs	7.4	92.6	10,260	27.5	72.5	151
OBCs	8.8	91.2	17,501	14.5	85.6	148
Others	14.7	85.3	10,615	21.1	78.9	226
Religion						
Hindu	10.0	90.0	32,956	22.8	77.2	444
Muslim	7.7	92.3	6,203	2.1	97.9	75
Sikh	8.9	91.1	743	30.6	69.4	10
Others	14.1	85.9	1,494	50.4	49.6	13
Place of residence						
Rural	7.0	93.1	23,746	34.4	65.6	33
Urban	13.6	86.4	17,650	19.8	80.2	509
Educational attainment						
Not literate	3.7	96.3	10,246	16.2	83.8	67
Primary & below	4.7	95.3	11,243	12.3	87.7	126
Middle	7.1	92.9	8,327	24.1	75.9	109
Higher secondary	16.1	83.9	8,451	21.4	78.6	165
Graduate & above	38.0	62.0	3,128	32.0	68.0	75
MPCE quintile						
Lowest	3.5	96.5	6,422	0.0	100.0	1
Lower	5.2	94.8	7,626	19.1	80.9	29
Medium	6.8	93.2	8,436	22.6	77.4	48
Higher	10.3	89.7	9,641	23.7	76.3	162
Highest	20.1	79.9	9,269	18.9	81.1	303
Total	9.8	90.2	41396	20.7	79.3	542

Source: Computed from NSS 68th round, 2011-12

However, this condition is far better in Delhi where 20.7 per cent of informal workers are eligible for paid leave. A Higher proportion of female informal workers are eligible for paid leave than males in both in India and Delhi.

Table 3.14 Distribution of informal workers by eligibility for paid leave in India & Delhi, 2011-12

	India			Delhi		
	Yes	No	N	Yes	No	N
Type of household						
Rural						
Self-employed in agriculture	12.6	87.4	1,543	100.0	0.0	1
Self-employed in non-agriculture	10.0	90.0	1,766	49.9	50.1	4
Regular wage/salary earning	19.8	80.2	4,558	32.2	67.8	36
Casual labour in agriculture	4.9	95.1	1,779			
Casual labour in non-agriculture	1.1	98.9	11,829	0.0	100.0	0
Others	5.2	94.8	137	0.0	100.0	0
Urban						
Self-employed	16.7	83.3	2,335	17.8	82.2	35
Regular wage/salary earning	18.9	81.1	11,438	20.1	79.9	422
Casual labour	2.0	98.0	5,858	18.4	81.6	43
Others	16.1	83.9	144	0.0	100.0	1
NIC-2008						
Agriculture, forestry and fishing (A)	9.0	91.1	3,872	100.0	0.0	0
Manufacturing (C)	10.0	90.0	8,598	12.6	87.4	176
Electricity, gas, steam and air conditioning supply (D)	20.8	79.2	187	30.5	69.5	1
Water supply; sewerage, waste management and remediation activities (E)	13.6	86.4	267	1.1	98.9	9
Construction (F)	2.1	97.9	13,829	10.6	89.4	51
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	12.9	87.1	3,634	22.5	77.5	86
Transportation and storage (H)	8.8	91.2	3,542	10.7	89.3	49
Accommodation and Food service activities (I)	15.1	84.9	1,030	43.0	57.0	20
Information and communication (J)	31.5	68.6	364	14.8	85.3	10
Financial and insurance activities (K)	39.1	60.9	346	20.3	79.7	16
Real estate activities (L)	19.5	80.5	93	68.5	31.5	13
Professional, scientific and technical activities (M)	30.3	69.7	270	10.2	89.8	7
Administrative and support service activities (N)	12.5	87.5	606	17.9	82.1	13
Public administration and defence; compulsory social security (O)	33.1	66.9	740	62.5	37.5	22
Education (P)	43.3	56.7	1,219	27.3	72.7	22
Human health and social work activities (Q)	32.5	67.5	419	61.8	38.2	11
Arts, entertainment and recreation (R)	5.6	94.4	140	0.0	100.0	3
Other service activities (S)	7.9	92.1	823	9.3	90.7	6
Activities of households as employers; undifferentiated goods- and services producing activities of households for own use (T)	13.7	86.4	791	24.9	75.1	26
Activities of extraterritorial organizations and bodies (U)	0.0	100.0	3			
Total	9.8	90.2	41,396	20.7	79.3	542

Source: Computed from NSS 68th round, 2011-12

Among age groups, informal workers aged 6 to 14 years, which are basically child labours have the highest proportion eligible for paid leave (18.1 per cent), followed by 25 to 44 years (10.2 per cent), 45 to 59 years (9.5 per cent), 15 to 24 years (9.5 per cent) and

60 years and above (7.2 per cent) in India. In Delhi, informal workers of age group 25 to 44 years (24.7 per cent) have the highest proportion eligible for paid leave, followed by 45 to 59 years (20 per cent) and 15 to 24 years (16.5 per cent). Among social groups in India, eligibility for paid leave increases with increase in the social hierarchy. Informal workers from 'Others' social group (14.7 per cent) have the highest proportion of eligible for paid leave, followed by OBCs (8.8 per cent), SCs (7.4 per cent), and Scheduled tribe (6.4 per cent). But this trend is not similar for Delhi, informal workers from SCs (27.5 per cent) have the highest proportion of eligible for paid leave, followed by 'Others' (21.1 per cent) and OBCs (14.5 per cent). If we see the religious groups, Muslims informal workers have the lowest proportion of eligible for paid leave in India (7.7 per cent) and Delhi (2.1 per cent). Informal workers from urban areas (13.6 per cent) in India have higher availability for paid leave than rural (7 per cent) counter parts. The level of education an important predictor of workers welfare shows significant impact on eligibility for paid leave for informal workers. In India, the paid leave for informal workers increases with increase in the level of education, but the tempo of increase is sharper for Middle (7.1 per cent) to Higher Secondary (16.1 per cent) and Higher Secondary (16.1 per cent) to Graduate and above (38 per cent) category. Economic status is shown by MPCE quintile also has the notable impact on the eligibility for paid leave for informal workers. Again, with the increase in economic status, the proportion of informal workers eligible for paid leave increases with a sharper increase at upper MPCE quintiles.

Table 3.14 presents a distribution of informal workers by eligibility for paid leave across type of household and National Industrial Classification of workers. Education (43.3 per cent), Financial and Insurance activities (39.1 per cent), Public administration and defense, compulsory social security (33.1 per cent), Human health and social work activities (32.5 per cent), and Information and Communication (31.5 per cent) are the industrial categories which have higher proportion of workers eligible for paid leave. While Construction (2.1 per cent), Arts, entertainment and recreation (5.6 per cent), Other service activities (7.9 per cent), Transport and Storage (8.8 per cent), Agriculture, Forestry and Fishing (9 per cent), and Manufacturing (10 per cent) are the categories where lower proportion of informal workers take benefit of paid leave.

After explaining the availability of written job contract and eligibility for paid leave for informal workers, the availability of social security benefits like pension, PPF, gratuity, health care and maternity benefits has also been discussed. These are the basic indicators of labour welfare of any country. The availability of social security benefits for informal

workers is very disappointing in India as shown in table 3.15. 99.3 per cent of informal workers in India do not have any social security benefit for various contingencies like maternity, old age, and health care. The situation in Delhi is almost similar, as 99.7 per cent of informal workers have no social security benefit.

Table 3.15 Distribution of informal workers by availability of social security benefits in India and Delhi, 2011-12

Background characteristics	India			Delhi		
	Any benefit	No benefit	N	Any benefit	No benefit	N
Sex						
Male	0.6	99.4	32,750	0.3	99.7	427
Female	1.6	98.4	6,561	0.0	100.0	58
Age group						
6-14	0.0	100.0	316	0.0	100.0	1
15-24	0.6	99.4	15,912	0.7	99.3	209
25-44	0.8	99.2	15,059	0.0	100.0	197
45-59	0.9	99.1	6,554	0.0	100.0	72
60 & above	0.8	99.2	1,471	0.0	100.0	7
Social group						
STs	0.8	99.2	2,844	9.1	90.9	16
SCs	1.0	99.0	9,768	0.0	100.0	134
OBCs	0.7	99.3	16,706	0.0	100.0	133
Others	0.5	99.5	9,994	0.0	100.0	202
Religion						
Hindu	0.8	99.2	31,269	0.4	99.6	393
Muslim	0.5	99.6	5,891	0.0	100.0	71
Sikh	0.1	99.9	726	0.0	100.0	8
Others	1.0	99.0	1,425	0.0	100.0	13
Place of residence						
Rural	1.0	99.1	22,534	0.0	100.0	29
Urban	0.4	99.6	16,777	0.3	99.7	456
Educational attainment						
Not literate	0.7	99.3	9,766	0.0	100.0	64
Primary & below	1.0	99.1	10,802	1.2	98.8	118
Middle	0.7	99.3	7,986	0.0	100.0	95
Higher secondary	0.7	99.3	7,962	0.0	100.0	142
Graduate & above	0.2	99.8	2,793	0.0	100.0	66
MPCE Quintile						
Lowest	0.6	99.4	6,004	0.0	100.0	1
Lower	0.7	99.3	7,282	0.0	100.0	27
Medium	1.1	98.9	8,035	0.0	100.0	42
Higher	0.7	99.3	9,205	0.0	100.0	141
Highest	0.6	99.4	8,784	0.5	99.5	274
Total	0.7	99.3	39,311	0.3	99.7	485

Source: Computed from NSS 68th round, 2011-12

Table 3.16 Distribution of informal workers by availability of social security benefits in India and Delhi, 2011-12

	India			Delhi		
	Any benefit	No benefit	N	Any benefit	No benefit	N
Type of household						
Rural						
Self-employed in agriculture	0.9	99.1	1,452			
Self-employed in non-agriculture	0.9	99.1	1,624	0.0	100.0	2
Regular wage/salary earning	0.3	99.7	4,296	0.0	100.0	34
Casual labour in agriculture	1.2	98.8	1,665			
Casual labour in non-agriculture	1.2	98.9	11,308			
Others	4.0	96.1	124			
Urban						
Self-employed	0.4	99.6	2,238	0.0	100.0	30
Regular wage/salary earning	0.1	99.9	10,807	0.0	100.0	376
Casual labour	1.1	98.9	5,660	3.4	96.6	41
Others	0.2	99.9	129	0.0	100.0	1
NIC-2008						
Agriculture, forestry and fishing (A)	1.1	98.9	3,649			
Manufacturing (C)	1.3	98.8	8,222	0.0	100.0	159
Electricity, gas, steam and air conditioning supply (D)	0.7	99.3	162	0.0	100.0	1
Water supply; sewerage, waste management and remediation activities (E)	0.0	100.0	262	0.0	100.0	8
Construction (F)	0.7	99.3	13,206	2.9	97.1	49
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.3	99.7	3,491	0.0	100.0	78
Transportation and storage (H)	0.5	99.5	3,401	0.0	100.0	46
Accommodation and food service activities (I)	1.3	98.8	965	0.0	100.0	18
Information and communication (J)	0.0	100.0	315	0.0	100.0	10
Financial and insurance activities (K)	0.3	99.7	301	0.0	100.0	11
Real estate activities (L)	0.0	100.0	91	0.0	100.0	13
Professional, scientific and technical activities (M)	0.0	100.0	246	0.0	100.0	4
Administrative and support service activities (N)	0.2	99.8	552	0.0	100.0	11
Public administration and defence; compulsory social security (O)	0.2	99.8	668	0.0	100.0	18
Education (P)	0.2	99.8	1,111	0.0	100.0	18
Human health and social work activities (Q)	0.9	99.1	398	0.0	100.0	8
Arts, entertainment and recreation (R)	0.3	99.7	130	0.0	100.0	3
Other service activities (S)	0.3	99.7	794	0.0	100.0	3
Activities of households as employers; undifferentiated goods- and services producing activities of households for own use (T)	0.1	99.9	765	0.0	100.0	26
Activities of extraterritorial organizations and bodies (U)	0.0	100.0	3			
Total	0.7	99.3	39,311	0.3	99.7	485

Source: Computed from NSS 68th round, 2011-12

3.3.3 Extent of social security among informal workers

Table 3.15 and 3.16 presents the very dismal picture of the availability of social security benefits for informal workers in India. Its availability is less than one per cent for most of the demographic, social and economic variables; even after using any benefit criteria. It is also below one per cent for various types of households and National Industrial Classification category of workers.

3.4 Working condition of informal workers in the study area

In the previous section, the working conditions of informal workers in India and Delhi from secondary sources have been discussed. Now the detailed working conditions of informal workers, gathered from the primary survey, in the study area will be discussed. Apart from previously explained attributes, employment relations, physical strain, physical environmental factors at the workplace, the psychosocial stress of workers, safety at workplace and basic facilities at the workplace for workers are also included in the study area.

The distribution of informal workers by type of employment across various demographic and socioeconomic variables in the study area is shown in table 3.17. Out of total sample informal workers in the study area, regular salaried informal workers are the largest category of the sample informal workers (40.9 per cent), followed by self-employed (34.0 per cent) and casual labour (25.1 per cent). Female's share in a regular salaried worker is much higher than males but their share in self-employed is lower than males. Among age groups, the share of younger age group is higher in regular salaried employment and much lower in casual labour than other older age groups. Larger families (more than 7 members) are more in regular salaried employment and very less in self-employment. If we see the social group wise distribution of informal workers, other group has higher share in self-employment and much lower share in casual labour, while SCs have the higher share in regular salaried employment. Hindus are more in regular salaried and casual labour type of employment and lower in self-employment than others. Higher educated have the highest representation (60.9 per cent) in regular salaried employment than less educated informal workers. Lower educated are more in casual labour category. Migrants have low share in regular salaried employment and higher in casual labour type of employment; it reflects their vulnerability in labour market. Never married workers are

very less in casual labour type of employment but their share in self-employed and regular salaried is the highest.

Table 3.17 Distribution of informal workers by type of employment in the study area, 2016

Background characteristics	Self-employed	Regular salaried	Casual labour	N
Sex				
Male	34.6	38.4	27.0	437
Female	28.9	64.4	6.7	45
Age group				
15-24	34.1	54.6	11.4	44
25-44	34.7	39.6	25.8	268
45-64	32.9	39.6	27.4	164
65 & above	33.3	33.3	33.3	6
Household size				
1-4	42.1	35.2	22.7	216
5-6	31.7	38.1	30.3	218
7 & above	8.3	79.2	12.5	48
Social group				
STs	0.0	100.0	0.0	4
SCs	25.9	47.3	26.8	224
OBCs	39.7	31.6	28.7	174
Others	46.8	39.2	13.9	79
Religion				
Hindu	32.7	41.4	25.9	444
Others	50.0	34.2	15.8	38
Educational attainment				
Not literate	37.8	36.9	25.2	111
Primary	28.8	43.8	27.4	146
Middle	18.9	43.2	37.8	74
Secondary	44.5	35.9	19.5	128
Graduate & above	39.1	60.9	0.0	23
Migration status				
Yes	33.3	29.4	37.3	126
No	34.6	44.7	20.7	338
Marital status				
Never married	46.9	46.9	6.3	32
Currently married	32.6	40.6	26.9	424
Widowed/divorced/separated	42.3	38.5	19.2	26
Total	34.0	40.9	25.1	482

Source: Primary Survey, February-May 2016

3.4.1 Distribution of informal workers by job contract in the study area

Similarly, the distribution of informal workers by an availability of written job contract displayed in table 3.18, shows, that more than 90 percent of informal workers do not have written contract. This figure is higher than national average (table 3.11), but slightly

lower than Delhi. This shows the miserable situation of informal workers from slums in labour market. Further, it is also evident from the table that female workers have lower access to written job contract compared to their male counterpart.

Table 3.18 Distribution of informal workers by availability of any written job contract in the study area, 2016

Background characteristics	No contract	Written contract	N
Sex			
Male	89.9	10.1	437
Female	95.6	4.4	45
Age group			
15-24	86.4	13.6	44
25-44	91.8	8.2	268
45-64	89.0	11.0	164
65 & above	100.0	0.0	6
Household size			
1-4	91.7	8.3	216
5-6	87.2	12.8	218
7 & above	100.0	0.0	48
Social group			
STs	100.0	0.0	4
SCs	94.6	5.4	224
OBCs	87.4	12.6	174
Others	84.8	15.2	79
Religion			
Hindu	91.2	8.8	444
Others	81.6	18.4	38
Educational attainment			
Not literate	80.2	19.8	111
Primary	90.4	9.6	146
Middle	94.6	5.4	74
Secondary	96.9	3.1	128
Graduate & above	91.3	8.7	23
Migration status			
Yes	78.6	21.4	126
No	95.0	5.0	338
Marital status			
Never married	81.3	18.8	32
Currently married	91.0	9.0	424
Widowed/divorced/separated	92.3	7.7	26
Total	90.5	9.5	482

Source: Primary Survey, February-May 2016

Informal workers from larger family size is again at the disadvantaged condition, having the lowest accessibility of written contract. Social group has a strong impact on the

availability of written contract. As the social ladder in social hierarchy increases, the share of having written contract increases from 5.4 per cent for SCs to 15.2 per cent for others. Hindus informal workers have much lower share than other religious groups. Surprisingly, less educated informal workers have the higher availability of written contract than higher educated counterparts. Informal workers from migrant households have the higher availability of written contract than non-migrants. Never married workers are again in better condition than currently married and widowed/divorced/separated category as they much higher accessibility of written contract.

3.4.2 Informal workers by paid leave in the study area

Next table lists distribution of informal workers by different background characteristics across eligibility of paid leave (table 3.19). In the study area, 34.6 per cent of informal workers are eligible for paid leave in comparison to 9.8 per cent in India and 20.7 per cent in Delhi (table 3.13). A lesser proportion of female workers are eligible for paid leave than males. With increasing age higher proportion of informal workers are eligible for paid leave from 18.6 per cent for 15 to 24 years, 35.2 per cent for 24 to 44 years, 37.9 per cent for 45 to 64 years to 50 per cent for 65 years & above age group. Informal workers from smaller size families (47.5 per cent for 1 to 4 member family) are again in better position than larger ones (only 27.1 per cent for 7 & above member family) in terms of eligibility for paid leave. Social group also has very strong impact on eligibility for paid leave. 75.3 per cent of informal workers from others social group are eligible for paid leave, while this figure for OBCs is 34.8 per cent and SCs is 19.7 per cent only. Hindus have lower eligibility (33.9 per cent) for paid leave than other religious groups (43.8 per cent). Educational attainment has a strong bearing on eligibility for paid leave of workers. Only 10.6 per cent of illiterate informal workers are eligible for paid leave, while this sharply increases up to 39.1 per cent for primary educated workers and further 52.2 per cent for graduate and above educated workers. Informal workers from non-migrant households have lesser eligibility for paid leave than that of from migrant households.

3.4.3 Extent of social security in the study area

Looking at the availability of social security benefits like PF, pension, gratuity, health care or maternity benefits for the informal worker in the study area (Table 3.20) it indicates that only one-fourth of informal workers from study area has availability of any of these benefits. Study area also shows the better condition of workers in terms of

availability of social security benefits than India and Delhi, where it is less than one per cent (table 3.15).

Table 3.19 Distribution of informal workers by eligibility for paid leave in the study area, 2016

Background characteristics	Not eligible	Eligible	N
Sex			
Male	64.5	35.5	406
Female	73.3	26.7	45
Age group			
15-24	81.4	18.6	43
25-44	64.8	35.2	301
45-64	62.1	37.9	95
65 & above	50.0	50.0	12
Household size			
1-4	52.5	47.5	200
5-6	76.4	23.7	203
7 & above	72.9	27.1	48
Social group			
STs	0.0	100.0	4
SCs	80.3	19.7	218
OBCs	65.2	34.8	155
Others	24.7	75.3	73
Religion			
Hindu	66.1	33.9	419
Others	56.3	43.8	32
Educational attainment			
Not literate	89.4	10.6	94
Primary	60.9	39.1	138
Middle	64.3	35.7	70
Secondary	56.4	43.7	126
Graduate & above	47.8	52.2	23
Migration status			
Yes	49.5	50.5	101
No	69.0	31.0	332
Marital status			
Never married	64.3	35.7	28
Currently married	65.9	34.1	399
Widowed/divorced/separated	58.3	41.7	24
Total	65.4	34.6	451

Source: Primary Survey, February-May 2016

The condition of female informal workers is worse in the study area. No female have availability of any social security benefits. Workers of the age group of 15 to 24 years

have the lowest availability of social security benefits (only 15.9 per cent). While for age groups 25 to 44 years and 45 to 64 years the percentage figure is around 24.5 per cent.

Table 3.20 Distribution of informal workers by availability of any social security benefits in the study area, 2016

Background characteristics	Not available	Available	N
Sex			
Male	73.7	26.3	437
Female	100.0	0.0	45
Age group			
15-24	84.1	15.9	44
25-44	75.4	24.6	268
45-64	75.6	24.4	164
65 & above	66.7	33.3	6
Household size			
1-4	76.4	23.6	216
5-6	76.2	23.9	218
7 & above	75.0	25.0	48
Social group			
STs	100.0	0.0	4
SCs	84.4	15.6	224
OBCs	61.5	38.5	174
Others	83.5	16.5	79
Religion			
Hindu	75.9	24.1	444
Others	79.0	21.1	38
Educational attainment			
Not literate	73.9	26.1	111
Primary	74.7	25.3	146
Middle	77.0	23.0	74
Secondary	78.1	21.9	128
Graduate & above	82.6	17.4	23
Migration status			
Yes	75.4	24.6	126
No	75.7	24.3	338
Marital status			
Never married	78.1	21.9	32
Currently married	76.4	23.6	424
Widowed/divorced/separated	69.2	30.8	26
Total	76.1	23.9	482

Source: Primary Survey, February-May 2016

Household size has a little differential impact on the availability of social security benefits of informal workers. In the social group, OBCs have the highest proportion of

availability of social security benefits, followed by others (16.5 per cent), and SCs (15.6 per cent). Hindus have slightly higher (24.1 per cent) access to social security benefits than others religious group (21.1 per cent). Ironically, with an increase in education level, there is a decrease in availability of social security benefits of informal workers. Migrant status has little influence on the availability of social security benefits.

3.5 Detailed working condition of informal workers in the study area

Apart from working condition, various attributes of working condition of informal workers in the study area has also been examined (table 3.21) The table reveals that majority of informal workers (75.8 per cent) have got their work with the help of friends or relatives. Own knowledge & efforts also have significant share (18.6 per cent). Lack of better opportunities is cited by 58.4 per cent of informal workers as the reason for taking the current job, while 30.1 per cent of them have taken this work due to ease of entry. This is reflecting the distress in the informal labour market. 34.6 per cent of informal workers do not have fixed working hours, and around 10 per cent of them work in other shift than morning. One-third of workers work for more than eight hours in a day and 36.3 per cent of them do not have any weekly holiday. Half of the informal workers manage to work for 25 to 30 days in a month and 60.6 per cent of them work for 12 months in a year. Cash (92.7 per cent) is the dominant form of payment for workers in the study area. 55 per cent of informal workers get paid on daily basis and 37.6 per cent of them get on monthly basis. Half of the workers receive their payment from employer directly, followed by contractor (15.4 per cent), supervisor (13.0 per cent), clerk/employee (2.5 per cent) and others (19.2 per cent). Delay in payment is also experienced by 23.7 per cent of workers in study area. A vast majority of them (83.5 per cent) do not have idea that there is a minimum wage for work. Coming to availed leaves by informal workers in study area, 70.7 per cent of them do not have any paid leaves in a year, while only 17.1 per cent have paid or earned leaves for 1 to 12 days and 12.2 per cent have same for 13 to 30 days. 80 per cent of workers from study area do not have any medical leave, while 18.3 per cent of them have medical leave for 1 to 12 days. And only 43.3 per cent of them cannot manage a day leave easily. A large majority of informal workers (42.9 per cent) from study area does not have fixed breaks during working hours, and 19 per cent of them cannot take a break whenever needed.

3.5.1 Physical strain at work place among informal workers

Table 3.22 shows the physical strain experienced by informal workers at workplace in the study area. The majority of them (66.2 per cent) consider their work as high physical requirements. Around one-third of them have to sit for lengthy duration.

Table 3.21 Working conditions of informal workers in the study area, 2016

Working condition	Per cent	N	Working condition	Per cent	N
How got the work			Periodicity of payment		
With help from relatives/friends	75.8	339	Daily	55.0	247
Own knowledge/efforts	18.6	83	Weekly	7.4	33
Others	5.6	25	Monthly	37.6	169
Total	100.0	447	Total	100.0	449
Reason for work			Who pays the wage		
Lack of better alternatives	58.4	262	Employer	49.9	223
Ease of entry	30.1	135	Contractor	15.4	69
Others	11.6	52	Supervisor	13.0	58
Total	100.0	449	Clerk/Employee	2.5	11
Fixed working hours?			Others	19.2	86
Yes	65.4	300	Total	100.0	447
No	34.6	159	Delay in payment		
Total	100.0	459	No delay	76.3	344
Shift work			Yes	23.7	107
Morning	90.6	416	Total	100.0	451
Others	9.4	43	Awareness about minimum wage		
Total	100.0	459	Yes	16.5	74
Working hours			No	83.5	375
8 or below	68.1	328	Total	100.0	449
More than 8	32.0	154	Paid/earned leaves (in days)		
Total	100.0	482	0	70.7	319
Workdays in week			1 to 12	17.1	77
5 or below	18.2	83	13 to 30	12.2	55
6	45.5	208	Total	100.0	451
7	36.3	166	Medical leaves (in days)		
Total	100.0	457	0	79.7	358
Workdays in month			1 to 12	18.3	82
20 or below	13.5	62	13 to 30	2.0	9
20-25	37.5	172	Total	100.0	449
25-30	49.0	225	Easily manage a day off		
Total	100.0	459	Yes	43.3	198
Working month in a year			No	56.7	259
9 & below	12.0	55	Total	100.0	457
10	11.1	51	Fixed break during working hours		
11	16.3	75	Yes	57.1	260
12	60.6	278	No	42.9	195
Total	100.0	459	Total	100.0	455
Mode of payment			Can take break whenever needed?		
Cash	92.7	417	Yes	81.0	342
Cheque/bank transfers	7.3	33	No	19.0	80
Total	100.0	450	Total	100.0	422

Source: Primary Survey, February-May 2016

Table 3.22 Physical strain at workplace experienced by informal workers in the study area, 2016

Physical strain at workplace	Yes	No	N
Work highly physical	66.2	33.8	216
Lengthy sitting	32.4	67.7	476
Lengthy standing	37.9	62.1	480
Lifting/carrying	25.8	74.2	480
Lengthy period of working in same physical condition	19.8	80.2	480
Bending down regularly	8.3	91.8	473
Reaching up regularly	14.9	85.2	478
Lengthily period of repetitive movements	2.7	97.3	476

Source: Primary Survey, February-May 2016

Table 3.23 Physical environmental conditions at workplace experienced by informal workers in the study area, 2016

Physical environmental conditions	Yes	No	N
The cold	1.7	98.3	475
The heat	14.2	85.8	480
Change in temperature	6.5	93.5	480
Dry air	1.7	98.3	480
Damp air	0.8	99.2	480
Lack of fresh air	2.1	97.9	479
Dust	30.2	69.8	480
Smoke	5.2	94.8	478
Vapour, gas, emissions	2.9	97.1	480
Too much noise	17.8	82.2	482
Mechanical vibrations or shocks	0.4	99.6	482
Chemicals	1.2	98.8	482

Source: Primary Survey, February-May 2016

Around 38 per cent of them have to stand for long hours during work. Approximately, one-fourth has to lift or carry heavy materials during work. One-fifth of informal workers experience lengthy periods of working in same physical condition and 8.3 per cent & 14.9 per cent of them have to regularly bend down and reach up respectively, while 2.7 per cent of them experience lengthy period of repetitive movement at workplace.

3.5.2 Physical environmental conditions at workplace for informal workers

Physical environmental conditions at workplace also affect workers health. Table 3.23 lists some of these factors. A large proportion of workers (30.2 per cent) are exposed to dust at workplace. Too much noise (17.8 per cent), heat (14.2 per cent), change in

temperature (6.5 per cent), smokes (5.2 per cent) are main physical environmental hardships faced by workers at workplace in study area.

Table 3.24 Psychosocial factors at workplace experienced by informal workers in the study area, 2016

Psychosocial factor	Per cent	N
Can retain job for next one year		
Yes	56.8	266
Not sure	43.2	202
Total	100.0	468
Employer can ask anytime to leave job		
Yes	8.6	32
No	67.7	253
Not sure	23.8	89
Total	100.0	374
Superior's behaviour		
Uses abusive language	12.6	50
Behaves decently	87.4	346
Total	100.0	396
Threatened from clients		
Yes	1.2	5
No	98.8	408
Total	100.0	413
Threatened from colleagues/management		
Yes	2.7	11
No	97.3	402
Total	100.0	413
Work required lot of thinking		
Yes	3.3	16
No	96.7	464
Total	100.0	480
Work too difficult		
Yes	22.4	107
No	77.6	371
Total	100.0	478
Lot of time alert		
Yes	28.8	138
No	71.3	342
Total	100.0	480
Work with deadline		
Yes	15.8	76
No	84.2	404
Total	100.0	480
Work regularly pile up		
Yes	24.2	116
No	75.8	364
Total	100.0	480

Source: Primary Survey, February-May 2016

3.5.3 Psychosocial factors at workplace for informal workers

Psychosocial factors are also considered as significant determinant of worker's health. Table 3.24 shows psychosocial stressors prevalent among informal workers in study area. Job insecurity is one of the major factors affecting the physical and mental health of workers. Only 56.8 per cent of them consider that they can retain their job for next year, while rests of them are not sure about that. 8.6 per cent of worker believes that their present employer can ask them any time to leave the job anytime he or she wishes and 23.8 per cent are not sure about that. A significant proportion of workers experiences abusive language from their supervisor. A meager section of workers feel threatened from clients (1.2 per cent) and colleagues (2.7 per cent).

Table 3.25 Availability of basic facilities at workplace for informal workers in the study area, 2016

Basic facility at workplace	Per cent	N
Drinking water		
Yes	77.3	371
No	22.7	109
Total	100.0	480
Toilet		
Yes	64.0	307
No	36.0	173
Total	100.0	480
Food		
From employer	3.4	16
Self cooked	90.3	426
Purchased	5.3	25
Others	1.1	5
Total	100.0	472
Shady place to eat/rest		
Yes	51.3	246
No	48.8	234
Total	100.0	480
First aid availability		
Yes	39.6	190
No	60.4	290
Total	100.0	480
Satisfaction with prevailing conditions		
Yes	46.9	225
No	53.1	255
Total	100.0	480

Source: Primary Survey, February-May 2016

Around one-fifth (22.4 per cent) of informal workers consider their work is difficult and 28.8 per cent of them have to be alert most of their time during working hours. 15.8 per cent of workers have to work with deadlines and around one-fourth of them experience regular piling up of their tasks.

Table 3.26 Safety at workplace for informal workers in the study area, 2016

Safety at workplace	Per cent	N
Sometime accidents or near misses		
Yes	35.2	168
No	64.9	310
Total	100.0	478
Any actual accident		
Yes	9.1	43
No	90.9	428
Total	100.0	471
What happened exactly		
Not serious injury	20.8	5
Leg fracture	29.2	7
Hand fracture	8.3	2
Head injury	8.3	2
Others	33.3	8
Total	100.0	24
Employer's economic support		
Yes	12.5	3
No	87.5	21
Total	100.0	24
Enough attention to prevent accidents		
Yes	36.6	166
No	63.4	288
Total	100.0	454
Sufficient measures to prevent fires/other calamities		
Yes	36.8	175
No	63.2	301
Total	100.0	476

Source: Primary Survey, February-May 2016

3.5.4 Basic facilities at work place

In developing world, even basic facilities at workplace are not available for majority of informal workers. Table 3.25 summaries some of the basic facilities at workplace in study area. Only 77.3 per cent of informal workers have drinking water facility at their workplace and only 64 per cent have toilet facility at workplace. 90 per cent of them usually consume self-cooked food at the workplace. Only half of the workers note that

they have any shady place to eat their food during breaks. Availability of first aid is also very disappointing at workplace. Only 40 per cent of the workers report that their workplace has first aid facility available. Finally coming to satisfaction level of the workers from the prevailing basic facilities at workplace, only less than half of them reported that they are satisfied.

Further the safety conditions at the workplace for informal workers have also been captured in the study area (table 3.26). It indicates that more than one-third of informal workers report that there are sometimes accidents or near misses at their workplace and 9.1 per cent of them has seen the actual accident at workplace. 20.8 per cent of the reported accidents have not very serious in nature. 29.2 per cent of accidents of leg fracture followed by hand fracture (8.3 per cent) and head injury (8.3 per cent). Other types of accidents constitute 33.3 per cent of accident at workplace. In case of accident at workplace, only 12.5 per cent of the employers have given any kind of economic support to workers. Coming to preventive measures taken by employers to contain accident and other calamities, only 36.6 per cent of informal workers report that enough attention is paid to prevent accidents and 36.8 per cent of them believe that there are sufficient measures to prevent fires and other calamities at workplace.

3.6 Summary

This chapter presented the distribution of informal workers and an overview of their characteristics in India, Delhi and the study area. After economic reforms, the process of informalization has become very prominent despite the robust economic growth. In India, the share of informal workers is around 92.1 per cent, which is one of the highest in the world. Even in the formal sector a large majority of workers are informal. Among big states¹ of India, Delhi has the lowest share of informal workers because it is highly urbanized and industrialized region. The proportion of informal workers decreases with the improvement in the education level. The 'Others' social group has the lowest share of informal workers. Generally the share of informal workers decreases with improvement in economic status but for top quintile it decreases significantly.

Among industrial groups, Agriculture, forestry and fishing, Construction, Water supply, sewerage, waste management and remediation activities, Transport and storage, Financial and insurance activities, Human health and social work activities, and Arts, entertainment

¹Big states are states having more than 10 million population according to Registrar General of India, 2011.

and recreation have very high share of informal workers in India. Administrative and support service activities, Public administration and defense; compulsory social security, Education and Manufacturing sectors have low share of informal workers. Among type of households defined by nature of occupation of head of household, regular wage/salary earners have the lowest share of informal workers in both rural and urban areas. Within the type of enterprises, the share of informal workers is lower in Government/public sector and Co-operative societies/trust/other non-profit institutions.

Among occupational groups, Professionals, Technicians and Associate Professionals, Clerks have the lowest share while Skilled Agricultural and Fishery workers, Elementary occupations and Craft and related Trade workers have the highest share of informal workers.

Informal workers are characterized by miserable employment and working conditions. A large majority of them does not have even access to basic facilities and are forced to work in very challenging physical and psychological environment. In India, 93.2 per cent of informal workers do not have written contract with their employers while 90.2 per cent of them are not eligible for any paid leave. The condition is slightly better in Delhi where the proportion (of having no written contract (87.4 per cent) is lower than the national average and around 80 per cent are not eligible for paid leave. The availability of social security benefits is almost non-existent. Regular wage/salaried workers have the lowest share of informal workers without written contract and are eligible for paid leave.

In the study area, the share of informal workers not having any written contract (90.5 per cent) is slightly higher than Delhi while 65.4 per cent of them report that they are not eligible for paid leave. The scenario of social security benefits is better in the study area. Other important working conditions in the study area are also not very favourable for workers. About one-third of workers do not have fixed working hours and they work for more than eight hours and work seven days in a week. One-fourth of the workers have to face delay in payment of their wages. Only 57.1 per cent of workers have fixed break during working hours and only 43.3 per cent of them can easily take a day off.

About two-third of workers find their work highly physical and one-third of them have to sit or stand for lengthy hours. Approximately one-fourth of them lifts or carries heavy objects during work. Around 20 per cent of the workers in the study area has to remain in same physical position for lengthy hours while 15 per cent of them have to 'reach up regularly' during work. Among the physical environmental factors, 30 per cent of the

workers complain about dust at workplace. 17.8 per cent of the workers face too much noise and 14.2 per cent of them have to tolerate heat at workplace.

Psychosocial factors are also significant determinant of worker's health. Out of which job security is the one of them. Only 56.8 per cent of the workers in the study area consider that they can retain their jobs for next one year while 67.7 per cent of them report that employer will not ask them to leave any time. A significant proportion of the workers also complain about abusive language from their superiors. Around one-fourth of the workers find their work too difficult, being a lot of time alert, finish work within the deadline and regular piling of work.

A large proportion of them do not have even basic facilities like drinking water and toilet at their workplace, and only half of them are satisfied with the prevailing basic facilities at workplace. Safety situation at workplace is also not satisfactory. 35.2 per cent of the workers report that there are sometimes accidents or near misses at workplace. Only one-third of them report that enough attention is given to prevent accidents and other calamities at workplace.

CHAPTER IV

PREVALENCE OF MORBIDITY AND IMPACT OF WORKING CONDITION ON HEALTH OF INFORMAL WORKERS

4.1 Introduction

There are a number of studies that document strong associations between type of occupation and health (Marmot et al., 1997a, Goodman 1999, Mackenbach et al., 2008). But most of the epidemiological studies focus more on very specific occupations or specific health conditions. In the case of latter, a lot is known about the association between occupational characteristics and the risk of heart diseases (Marmot et al., 1997b; Hemingway and Marmot, 1999), asthma (Kogevinas et al., 1999), musculoskeletal disorders (Bernard, 1997; Burdorf and Sorock, 1997), and depression (Rugulies et al., 2006). Cutler et al. (2011) showed that there are relative differences in the mortality rate across occupational groups. Morefield et al. (2011) reported that five years of blue-collar employment is associated with a four to five percent increase in the probability of moving from good to poor health.

4.2 Prevalence of inpatient cases in India and Delhi

The NSS data reveals a striking difference in prevalence of inpatient cases (hospitalisation cases) between India (50.6 per thousand) and Delhi (37.1 per thousand) as shown in Table 4.1. In both India and Delhi, women are hospitalised more as compared to men; this may be due to childbirth related hospitalisation. The variation in the prevalence rate of inpatient case by age group is also evident. The elderly age group of 65 years & above has the highest prevalence of inpatient cases in both India and Delhi with the latter reporting higher prevalence. However, the situation is opposite for the other age groups as India has higher rates of inpatient cases. Except for the children (5 years & below), a general increase in hospitalisation is noticed with increasing age. Awareness and capability to pay are the major factors affecting the prevalence of hospitalisation rates. The urban area has a higher rate of hospitalisation than its rural area in both India and Delhi. Overall in India, the household size of one to four members has the higher rate of hospitalisation (52.2 per thousand) than that of five to six member households (45.7 per thousand) and seven & above member households. However in Delhi, the households having seven or more members (52.3 per thousand) have the higher rate of hospitalisation. Among the social groups, 'Others' records the highest prevalence

of inpatient cases while the lowest is reported in STs in both India and Delhi. The 'Others' religious group shows a higher prevalence rate (63.7 per thousand), while major religious groups (Hindus, Muslims, and Sikhs) do not have much difference in rates of inpatient cases in case of India. In Delhi, Sikhs (49.8 per thousand) reports the highest prevalence followed by Muslims (37.7 per thousand) and Hindus (35.8 per thousand). The illiterates in India and Delhi have the prevalence of inpatient cases, 51.3 per thousand and 43.2 per thousand respectively. Primary & below-educated individuals (40.0 per thousand) have the lowest prevalence of inpatient cases in both India and Delhi. From middle educated group onwards, there is a general increase in inpatient cases with the exception of the higher secondary educated group with the highest prevalence in graduate & above educated group in both India and Delhi. Never married people have the lowest prevalence of inpatient cases, it may be because of the lower age of these people, while widowed/divorced/separated group has the highest rate of hospitalisation because these people are generally of higher age. 'Spouse of the child' has the highest prevalence of inpatient cases followed by the spouse of the head, it may be due to childbirth related hospitalisation. An interesting pattern of hospitalisation cases has been noticed in the case of MPCE quintiles. In India, the rate of hospitalisation increases with the increase in MPCE quintiles, while in Delhi, the pattern is similar from lowest to the middle MPCE quintile, but it abruptly decreases for higher MPCE quintiles. In India, the higher prevalence of inpatient is recorded in people having toilet availability while in Delhi; it is slightly higher in people who do not have a toilet. Across the source of drinking water, higher prevalence of hospitalisation is in the well/tank/river/canal etc. (68.8 per thousand) followed by tap/bottled water (52.3 per thousand) and tube well/hand pump/tankers (41.9 per thousand). In Delhi, it is higher in tube well/hand pump/tankers (37.9 per thousand), followed by tap/bottled water (36.4 per thousand). Type of cooking fuel is a significant contributor to in-house air pollution, which is considered disastrous for the health especially among women and children. But in India and Delhi, LPG/electricity using individuals are reporting higher rates of hospitalisation than coal/wood/dung using individuals. This could be due to the fact that households using LPG/electricity belongs to higher standard of living with better income where treatment-seeking behavior might be high. Further, it is also observed that the Inpatient hospitalisation rates are highest in open drainage in India and covered drainage in Delhi. People chronically suffering from any disease has higher hospitalisation rate.

Table 4.1 Prevalence of inpatient cases per thousand population by different background characteristics in India and Delhi, 2014

Background characteristics	India		Delhi	
	Inpatient cases	N	Inpatient cases	N
Sex				
Male	33.4	1,71,281	27.9	2,902
Female	64.7	1,67,026	46.9	2,576
Age group				
0-5	29.3	48,385	21.4	722
6-14	14.3	50,885	12.2	716
15-24	57.6	61,647	28.9	1,008
25-44	55.9	1,00,743	44.3	1,866
45-64	56.4	58,045	45.0	899
65 & above	109.7	18,602	122.2	267
Place of residence				
Rural	48.6	1,93,835	15.3	367
Urban	55.3	1,47,470	38.1	5,134
Household size				
1-4	52.2	99,132	34.1	360
5-6	45.7	1,21,830	32.1	317
7 & above	47.6	1,17,345	52.3	175
Social group				
STs	38.6	43,494	13.0	123
SCs	50.1	56,397	35.4	1,070
OBCs	48.7	1,35,758	36.4	719
Others	50.9	1,02,658	37.8	3,566
Religion				
Hindu	47.8	2,55,930	35.8	4,525
Muslim	49.8	50,999	37.7	663
Sikh	48.4	6,006	49.8	205
Others	63.7	25,372	19.3	85
Educational attainment				
Not literate	51.3	1,04,733	43.2	1,086
Primary & below	40.0	95,203	19.2	1,227
Middle	53.9	46,656	35.3	574
Secondary	54.0	37,708	43.0	698
Higher secondary	49.1	27,547	44.6	753
Graduate & above	55.5	26,453	47.2	1,140
Total	50.6	3,41,305	37.1	5,501

Continued...

Continued...

Background characteristics	India		Delhi	
	Inpatient cases	N	Inpatient cases	N
Marital status				
Never married	19.9	1,52,813	18.9	2,435
Currently married	72.6	1,67,850	50.6	2,800
Widowed/divorced/separated	76.2	17,644	67.1	243
Relation to head				
Head	53.8	67,797	38.3	1,172
Spouse	79.5	56,081	61.6	914
Child	23.5	1,31,697	18.8	2,131
Spouse of child	141.7	23,081	100.0	436
Grandchild	25.2	38,738	20.0	624
Others	61.4	20,913	40.3	201
MPCE quintile				
Lowest	35.8	82,006	18.7	80
Lower	46.4	72,787	32.2	305
Middle	53.5	70,995	43.6	487
Higher	62.2	66,518	30.1	1,382
Highest	71.3	48,962	40.6	3,216
Toilet availability				
Yes	52.4	2,31,442	36.3	5,325
No	43.5	1,06,865	38.8	153
Source of drinking water				
Tap/bottled	52.3	1,67,780	36.4	4,789
Tube well/hand pump/tankers	41.9	1,36,584	37.9	653
Well/tank/river/canal etc.	68.8	33,943	20.9	36
Type of cooking fuel				
LPG/electricity	53.3	1,43,948	36.7	5,385
Coal/wood/dung etc.	46.2	1,94,189	23.9	90
Type of drainage				
No drainage	45.8	98,890	12.0	78
Open	54.9	1,45,003	31.5	2,124
Covered	47.3	94,414	40.4	3,276
Whether chronically suffering				
Yes	175.3	20,278	470.1	111
No	41.9	3,18,029	33.0	5,367
Insurance coverage				
Yes	61.8	51,437	63.9	1,259
No	46.2	2,86,868	30.9	4,219
Total	50.6	3,41,305	37.1	5,501

Source: Computed from NSS 71st Round, 2014

Table 4.2 Prevalence of inpatient cases per thousand populations by type of household and industry in India and Delhi, 2014

	India		Delhi	
	Inpatient cases	N	Inpatient cases	N
Type of household				
Rural				
Self-employed in agriculture	43.7	83,104	1.4	34
Self-employed in non-agriculture	47.1	29,292	71.6	95
Regular wage/salary earning	54.1	23,101	15.0	203
Casual labour in agriculture	45.8	24,434	200.0	5
Casual labour in non-agriculture	45.6	25,566	251.6	14
Others	68.1	6,694	3.3	16
Urban				
Self-employed	50.7	63,154	43.2	1,909
Regular wage/salary earning	52.2	53,339	34.7	2,744
Casual labour	55.1	20,880	25.0	334
Others	67.1	8,743	59.3	124
NIC-2008				
Agriculture, forestry, and fishing (A)	44.8	1,19,721	6.0	47
Mining and quarrying (B)	43.1	2,138		
Manufacturing (C)	50.6	36,696	30.4	845
Electricity, gas, steam and air conditioning supply (D)	56.6	1,615	99.4	26
Water supply; sewerage, waste management and remediation activities (E)	53.4	1,421	23.3	73
Construction (F)	45.8	39,953	18.3	350
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	48.3	45,422	35.9	1,395
Transportation and storage (H)	52.3	21,278	37.0	538
Accommodation and food service activities (I)	54.9	5,555	21.2	161
Information and communication (J)	57.1	2,495	92.7	243
Financial and insurance activities (K)	47.4	3,602	34.6	232
Real estate activities (L)	75.6	1,328	45.9	135
Professional, scientific and technical activities (M)	45.0	2,569	18.8	138
Administrative and support service activities (N)	56.5	2,965	36.3	246
Public administration and defence; compulsory social security (O)	55.0	12,770	35.4	340
Education (P)	55.4	12,140	68.3	127
Human health and social work activities (Q)	68.6	3,561	35.9	105
Arts, entertainment, and recreation (R)	46.2	852	31.4	20
Other service activities (S)	51.0	6,610	50.2	232
Activities of extraterritorial organisations and bodies (U)	400.0	5		
Total	50.6	3,41,305	37.1	5,501

Source: Computed from NSS 71st Round, 2014

Table 4.3 Prevalence of inpatient cases per thousand population by national classification of occupations in India and Delhi, 2014

NCO - 2004	India		Delhi	
	Inpatient cases	N	Inpatient cases	N
Legislators, senior officials, and managers (I)	51.3	35,310	39.1	1,895
Professionals (II)	56.5	14,230	34.1	438
Technicians and associate professionals (III)	52.3	13,880	46.3	274
Clerks (IV)	50.7	8,862	57.2	498
Service workers and shop & market sales workers (V)	52	33,063	23.3	629
Skilled agricultural and fishery workers (VI)	44.7	91,423	66.9	42
Craft and related trades workers (VII)	46.7	42,723	31.9	454
Plant and machine operators and assemblers (VIII)	53.2	20,655	43.6	403
Elementary occupations (IX)	46.2	62,372	24.1	616
Workers not classified by occupations (X)	43.4	178	250.0	4
Total	47.7	3,22,696	36.1	5,253

Source: Computed from NSS 71st Round, 2014

4.2.1 Prevalence of inpatient cases by type of household and industry

The insured individuals are reporting higher rates of inpatient cases than that of non-insured counterparts in both India and Delhi, but the rate is much higher in Delhi. Table 4.2 shows the prevalence of inpatient cases by the type of household in rural and urban areas and by the industrial classification of the workers in India and Delhi. First of all, the prevalence of inpatient cases among the workers from the rural areas has been examined. It indicates that regular wage/salary earners have the higher prevalence of inpatient cases (54.1 per thousand), followed by the self-employed in non-agriculture (47.1 per thousand), the casual labour in agriculture (45.8 per thousand), the casual labours in non-agriculture (45.6 per thousand) and self-employed in agriculture (43.7 per thousand). In urban areas of India, casual labours have a higher prevalence of hospitalisation (55.1 per thousand), followed by the regular wage/salary earners (52.2 per thousand) and self-employed (50.7 per thousand). While in Delhi, this is higher for self-employed (43.2 per thousand), followed by Regular wage/salary earners (34.7 per thousand) and casual labours (25 per thousand). In India, among the industrial groups, real estate activities have the highest rate of hospitalisation (75.6 per thousand) followed by human health and social service activities (68.6 per thousand), and Information and communication (57.1 per thousand). Industrial groups having lower prevalence are mining and quarrying (43.1 per thousand), Agriculture, forestry and fishing (44.8 per thousand) professional, scientific and technical activities (45 per thousand), and Construction (45.8 per thousand). In Delhi, this is higher in industries such as Information and communication (92.7 per

thousand), Education (68.3 per thousand) and real estate activities (45.9 per thousand) and lower in Construction (18.3 per thousand) accommodation and food service activities (21.2 per thousand), Water supply; sewerage, waste management and remediation activities (23.3 per thousand) respectively.

4.2.2 Prevalence of inpatient cases by national classification of occupations

Table 4.3 shows the prevalence of inpatient cases by occupational groups (Table 4.3). In India, the Professionals have the highest prevalence of hospitalisation (56.5 per thousand) followed by Plant and machine operators and assemblers (53.2 per thousand), Technicians and associate professionals (52.3 per thousand) and Legislators, senior officials and managers (51.3 per thousand). Lower prevalence is observed in Skilled agricultural and fishery workers (44.7 per thousand), Elementary occupation (46.2 per thousand) and Craft and related trade workers (46.7 per thousand). While in Delhi, the higher rate of hospitalization prevalence occupational groups are Skilled agricultural and fishery workers (66.9 per thousand), Clerks (57.2 per thousand), Technicians and associate professionals (46.3 per thousand) and lower groups are Service workers and shop and market sales workers (23.3 per thousand), Elementary occupation (24.1 per thousand), Craft and related trade workers (31.9 per thousand) and Professionals (34.1 per thousand).

4.2.3 Prevalence of inpatient cases by type of household and industry across MPCE

Table 4.4 shows the rates of hospitalisation in India by type of households and industrial classification of workers across economic status defined by MPCE quintile group. Generally the rate of hospitalisation increases with the increase in the MPCE quintile except few exceptions. In the rural areas, the casual labour in agriculture and non-agriculture experiences a sharp increase in the prevalence of inpatient cases where as in case of self-employed in agriculture and regular wage/salary earners slight increase in the same with an increase in economic status has been observed While in the urban India, the increase in inpatient cases is not as sharp as rural India. Further casual labour also experiences the sharp increase in the prevalence of inpatient cases than regular wage/salary earners and self-employed. In Agriculture, forestry and fishing, mining and quarrying and manufacturing industrial groups, the rate of inpatient cases increase significantly with economic status.

Table 4.4 Prevalence of inpatient cases per thousand population by type of household and industry across MPCE quintile group in India, 2014

	Lowest	Lower	Middle	Higher	Highest
Type of household					
Rural					
Self-employed in agriculture	31.5	41.2	51.8	55.1	80.9
Self-employed in non-agriculture	32.3	43.6	49.1	55.1	117.6
Regular wage/salary earning	39.0	50.1	44.8	64.2	93.2
Casual labour in agriculture	35.7	49.6	50.9	68.2	145.3
Casual labour in non-agriculture	36.7	41.1	53.4	70.8	141.5
Others	43.8	51.5	59.3	88.8	136.0
Total	34.2	43.9	50.9	61.4	100.6
N	62,815	48,478	41,602	28,845	10,445
Urban					
Self-employed	36.5	45.1	50.2	54.6	56.4
Regular wage/salary earning	42.1	49.3	51.8	56.8	51.7
Casual labour	35.0	50.0	64.5	66.8	73.7
Others	52.2	66.3	41.3	64.7	79.7
Total	37.7	48.2	52.7	57.5	57.1
N	18,627	23,759	28,829	37,026	37,844
NIC-2008					
Agriculture, forestry and fishing (A)	33.2	43.8	51.2	56.9	89.6
Mining and quarrying (B)	25.9	51.4	33.0	68.9	70.6
Manufacturing (C)	34.5	44.5	48.2	62.7	68.5
Electricity, gas, steam and air conditioning supply (D)	53.2	20.1	52.1	85.4	52.5
Water supply; sewerage, waste management and remediation activities (E)	38.9	49.7	60.8	54.0	61.8
Construction (F)	36.1	43.6	50.8	64.9	56.2
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	33.0	42.0	54.1	51.1	59.7
Transportation and storage (H)	42.7	47.6	49.4	59.0	67.6
Accommodation and food service activities (I)	41.7	47.6	46.2	65.0	70.3
Information and communication (J)	12.4	109.5	90.5	62.9	51.5
Financial and insurance activities (K)	64.1	58.6	50.9	38.2	50.8
Real estate activities (L)	15.4	140.6	135.1	32.4	115.3
Professional, scientific and technical activities (M)	16.4	42.6	70.1	51.3	44.5
Administrative and support service activities (N)	21.1	42.8	95.5	73.6	65.0
Public administration and defence; compulsory social security (O)	47.6	66.7	46.2	54.1	57.6
Education (P)	44.6	59.9	56.1	51.5	59.4
Human health and social work activities (Q)	55.7	45.9	51.4	100.7	65.5
Arts, entertainment, and recreation (R)	17.9	42.6	34.5	125.2	47.6
Other service activities (S)	34.4	50.9	53.8	75.8	54.4
Activities of extraterritorial organisations and bodies (U)					400.0
Total	34.3	44.5	51.2	58.4	65.1
N	79,219	69,901	67,719	62,101	43,724

Source: Computed from NSS 71st Round, 2014

Table 4.5 Prevalence of inpatient cases per thousand population by national classification of occupation across MPCE quintile group in India, 2014

NCO - 2004	Lowest	Lower	Middle	Higher	Highest
Legislators, senior officials and managers (I)	39.2	50.8	63.9	61.3	59.1
Professionals (II)	28.6	72.9	60.1	76.3	61.7
Technicians and associate professionals (III)	41.6	50.3	63.6	51.8	64.6
Clerks (IV)	33.2	56.5	57.8	52.6	61.5
Service workers and shop & market sales workers (V)	43.6	47.4	55.0	64.8	75.2
Skilled agricultural and fishery workers (VI)	35.3	45.4	56.2	62.4	96.4
Craft and related trades workers (VII)	38.5	44.4	51.4	68.0	78.2
Plant and machine operators and assemblers (VIII)	49.0	50.5	54.5	64.6	81.7
Elementary occupations (IX)	38.2	55.1	57.9	70.2	94.7
Workers not classified by occupations (X)	49.4	30.7	53.8	61.2	327.9
Total	37.7	49.0	56.3	64.2	71.6
N	79,219	69,901	67,719	62,101	43,724

Source: Computed from NSS 71st Round, 2014

4.2.4 Inpatient cases by national classification of occupation across MPCE

Table 4.5 shows the rate of hospitalisation for the occupation groups across economic status defined by MPCE quintile group in India. Again there is a general increase in the prevalence of hospitalisation cases with the increase in economic status. Occupational groups of Professionals, Clerks, Skilled agricultural and fishery workers, Craft and related trade workers and elementary occupations records a higher increase with the improvement in the economic status of the households, while the Legislators, senior officials, managers, technicians, associate professionals, Plant and machine operators and assemblers report a lower increase in inpatient cases.

4.2.5 Determinants of inpatient case in India and Delhi

Table 4.6 shows the odds ratios of inpatient cases by various background variables obtained through binary logistic regression for all India, rural India, urban India and Delhi. Males are less likely to be hospitalised than females in India, rural India and urban India with the lowest likelihood (0.687) in urban India. This may be due to higher hospitalisation rates of females because of childbirth related cases. However in case of Delhi, Males are more likely to be hospitalised (1.250) than females. Among the age groups, 25 to 44 years and 45 to 64 years are less likely to be hospitalized than that of 65 & above age group, while the lower age groups children (0 to 5 years), 6 to 14 years and 15 to 24 years have higher likelihood than 65 & above age group with the highest likelihood among the children in rural India (1.563). Rural areas have a lower likelihood of being hospitalised than urban, however, the result is not significant for India.

Table 4.6 Odds ratio of inpatient cases by selected variables in India & Delhi, 2014

	India			Delhi
	Total	Rural	Urban	
Sex				
Female ®				
Male	0.715***	0.741***	0.687***	1.250*
Age group				
65 & above ®				
45-64	0.559***	0.587***	0.526***	0.487***
25-44	0.686***	0.721***	0.637***	0.693*
15-24	1.507***	1.605***	1.376***	1.259
6-14	1.162***	1.192***	1.138**	1.544
0-5	1.528***	1.563***	1.481***	1.106
Place of residence				
Urban ®				
Rural	0.996			0.722*
Household size				
1-4 ®				
5-6	0.767***	0.768***	0.763***	0.771**
7 & above	0.538***	0.534***	0.543***	0.600***
Social group				
Others ®				
OBCs	1.029**	1.002	1.040**	0.943
SCs	1.087***	1.041*	1.126***	1.026
STs	0.980	0.946**	1.057	1.082
Religion				
Hindu ®				
Muslim	1.039**	1.025	1.037*	1.106
Sikh	0.880***	0.864**	0.869**	0.811
Others	1.011	1.013	0.992	0.874
Educational attainment				
Graduate & above ®				
Higher secondary	1.002	0.975	1.000	1.165
Secondary	0.959*	0.950	0.939**	0.985
Middle	0.972	0.955	0.946*	1.008
Primary	0.956**	0.940	0.921**	0.838
Not literate	0.918***	0.877**	0.929**	0.988
Marital status				
Currently married ®				
Never married	0.265***	0.267***	0.265***	0.541**
Widowed/divorced/separated	0.969	0.930**	1.008	2.043**
Pseudo R²	0.114	0.116	0.113	0.1051
N	3,38,091	1,92,172	1,45,919	5,444

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	India			Delhi
	Total	Rural	Urban	
Relation to head				
Head ®				
Spouse	1.206***	1.260***	1.160***	2.700***
Child	0.731***	0.722***	0.739***	0.591**
Spouse of child	1.657***	1.625***	1.712***	3.003***
Grandchild	0.694***	0.709***	0.674***	0.447**
Others	0.892***	0.927**	0.864***	0.907
MPCE quintile				
Highest ®				
Higher	0.956**	0.842***	0.988	1.023
Middle	0.905***	0.801***	0.934**	1.094
Lower	0.853***	0.756***	0.890***	1.105
Lowest	0.765***	0.686***	0.791***	1.166
Toilet availability				
Yes ®				
No	1.029**	1.054***	1.004	1.065
Source of drinking water				
Tap/bottled ®				
Tube well/hand pump/tankers	0.932***	0.929***	0.933***	0.957
Well/tank/river/canal etc.	0.983	0.967	1.009	0.809
Type of cooking fuel				
LPG/electricity ®				
Coal/wood/dung etc.	1.015	1.006	1.032	0.726
Type of drainage				
Covered ®				
Open	1.022*	1.018	1.012	1.149
No drainage	1.058***	1.047**	1.066**	0.707
Whether chronically suffering				
Yes ®				
No	0.296***	0.277***	0.317***	0.172***
Insurance coverage				
Yes ®				
No	0.932***	0.916***	0.946**	0.852
Household type				
Regular wage/salary earning ®				
Self-employed (in non-agriculture)	0.967**	0.983	0.977	1.100
Self-employed (in agriculture)		0.941**		
Casual labour (in non-agriculture)	1.012	1.009	1.045*	0.986
Casual labour (in agriculture)		0.970		
Others	1.106***	1.167***	1.050	1.539*
Pseudo R²	0.114	0.116	0.113	0.1051
N	3,38,091	1,92,172	1,45,919	5,444

Note: Agriculture and non-agriculture classification for rural areas only, ® Reference category, *p<0.1, **p<0.05, *** p<0.001, *Source:* Computed from NSS 71st Round, 2014

The size of household has a significant impact on the likelihood of inpatient cases. The larger households have a lesser likelihood to hospitalise than the smaller households (one to four members) and likelihood declines with an increase in the size of household both in India and Delhi.

Among social groups, OBCs and SCs have higher likelihood of hospitalisation than 'Others' group, while for the scheduled tribe likelihood is lower than the 'Others' group but the results are not significant except for the rural India. Within the religious groups, Muslims are slightly more likely to be hospitalised than that of Hindus, however, the results are significant only for total India and urban India. The Sikhs are less likely to be hospitalised than the Hindus. The level of education is considered as one of the important indicators in determining one's health status and health-seeking behaviour. The Illiterate and lower educated individuals have a lower likelihood of being hospitalised than that of graduate & above-educated individuals. The marital status of a person also shows a significant impact on inpatient cases. The Never married people are less likely to be hospitalised than the currently married people. The Widowed/divorced/separated (2.043) are more likely to be hospitalised than the currently married in Delhi. The 'Spouse of the head of household' and spouse of the child of the head are more likely to be hospitalised than the head of the household. Again the reason may be the cases related to the childbirth. The Child, Grandchild and Others have a lower likelihood of being hospitalised than the head of the household.

The economic status is perhaps the most crucial indicator of health status and healthcare utilisation. In India, as compared to the highest MPCE quintile, all other MPCE quintiles have a lower likelihood of hospitalisation and it declines with a decrease in quintiles. The sharpest decrease has been noticed in the rural India. For Delhi, the results are not significant. The other living conditions, which are directly related to the economic status also shows a significant impact on the likelihood of hospitalisation. The Individuals from households not having toilet facility are more likely to be hospitalised than that of having a toilet. The drinking water is a major cause of infectious diseases. In India, the people who are drinking water from a tube well/hand pump/tankers are slightly less likely to be hospitalised than that of tap/bottled water. The individuals from the households using coal/wood/dung as cooking fuel are more likely to be hospitalised than that of LPG/electricity users, but the results are not significant. The absence of drainage facility is also affecting the hospitalisation rates. The households without drainage facility are more likely to be hospitalised than that of covered drains.

The individuals who are not suffering chronically from any disease are less likely to be hospitalised than that of chronic suffering. For Delhi, the likelihood is much lower (0.172). The Not-Insured people are slightly less likely to be hospitalised than that of insured people.

The likelihood of inpatient cases for the household type defined according to the type of employment has been also explained. In all India, the individuals from self-employed households are less likely to be hospitalised than the regular wage/salary earning households. Others have a higher likelihood of hospitalisation than that of a regular wage/salary earning households. In rural India, again the individuals from self-employed households in agriculture have slightly less, and others more likely to be hospitalised than that of a regular wage/salary earning households. In urban India, the individuals from casual labour households are slightly more likely to be hospitalised than that of a regular wage/salary earning households. In Delhi, the 'Others' have a very higher likelihood of hospitalisation than a regular wage/salary earning households.

4.3 Prevalence of outpatient cases in India and Delhi

In the first section of this chapter, the prevalence of inpatient cases in India and Delhi has been discussed. Now the prevalence of outpatient cases will be discussed in this section. Outpatient cases are the events of spells of ailment occurred in last 15 days. Table 4.7 presents the prevalence of outpatient cases per thousand population during last 15 days by different background variables in India and Delhi. In the case of outpatient too, the prevalence is lower in Delhi (37.7 per thousand) as compared to India (95.9 per thousand) with a larger magnitude. The females have a higher prevalence of outpatient cases than the males in India, but the gap is not as huge as the inpatient cases. However in Delhi, no such variation between females and males in the prevalence of outpatient cases has been observed. The older age groups and children age group show a higher prevalence. In India, the age group of 65 & above (311.1 per thousand) has the highest prevalence of outpatient cases, followed by 45 to 64 years (180.1 per thousand) and 0 to 5 years (97.5 per thousand). 15 to 24 years age group (40.5 per thousand) has the lowest prevalence of outpatient cases followed by 6 to 14 years (50.7 per thousand). In Delhi, the children age group (60.2 per thousand) has the highest prevalence followed by 45 to 64 years (58.5 per thousand). The 6 to 14 years age group (22.7 58.5) has the lowest prevalence followed by the 15 to 24 years age group.

Table 4.7 Prevalence of outpatient cases per thousand population during last 15 days by different background characteristics in India and Delhi, 2014

Background characteristics	India		Delhi	
	Outpatient case	N	Outpatient case	N
Sex				
Male	84.0	1,70,078	37.7	2,875
Female	109.1	1,66,394	37.8	2,552
Age group				
0-5	97.5	48,025	60.2	716
6-14	50.7	50,639	22.7	711
15-24	40.5	61,033	24.5	1,004
25-44	70.6	99,837	35.7	1,853
45-64	180.1	58,226	58.5	886
65 & above	311.1	18,712	45.7	257
Place of residence				
Rural	85.8	1,92,237	20.8	367
Urban	119.3	1,46,633	38.5	5,081
Household size				
1-4	127.6	98,659	28.9	1,777
5-6	84.7	1,21,089	56.2	2,165
7 & above	67.4	1,16,724	19.7	1,485
Social group				
STs	58.1	43,257	16.5	123
SCs	89.0	55,911	40.9	1,066
OBCs	96.7	1,35,087	49.8	715
Others	112.9	1,02,217	35.4	3,523
Religion				
Hindu	93.4	2,54,374	33.7	4,491
Muslim	94.2	50,690	31.9	649
Sikh	139.3	5,948	137.7	203
Others	150.1	25,460	0.0	84
Educational attainment				
Not literate	117.0	1,03,924	60.4	1,074
Primary	90.1	94,886	30.2	1,215
Middle	86.5	46,474	52.4	571
Secondary	88.2	37,540	33.0	693
Higher secondary	68.1	27,311	30.4	742
Graduate & above	89.1	26,330	31.1	1,132
Total	95.9	3,38,870	37.7	5,448

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Background characteristics	India		Delhi	
	Outpatient case	N	Outpatient case	N
Marital status				
Never married	59.1	1,51,867	29.7	2,421
Currently married	112.5	1,66,715	44.1	2,766
Widowed/divorced/separated	257.3	17,890	54.4	240
Relation to head				
Head	144.0	67,560	44.6	1,160
Spouse	135.0	55,817	46.1	896
Child	55.0	1,30,829	31.8	2,113
Spouse of child	47.0	22,844	25.1	434
Grandchild	65.1	38,503	33	624
Others	172.0	20,919	36.8	200
MPCE quintile				
Lowest	63.6	81,507	65.3	78
Lower	82.1	72,150	17.0	305
Middle	92.8	70,428	32.7	485
Higher	122.4	65,928	49.6	1,364
Highest	161.2	48,821	33.7	3,186
Toilet availability				
Yes	114.4	2,30,587	38.4	5,274
No	71.2	1,05,885	16.8	153
Source of drinking water				
Tap/bottled	105.9	1,66,768	36	4,753
Tube well/hand pump/tankers	79.4	1,35,512	56.2	638
Well/tank/river/canal etc.	142.9	34,192	0.0	36
Type of cooking fuel				
LPG/electricity	117.7	1,43,386	38.5	5,335
Coal/wood/dung etc.	84.6	1,92,919	9.2	89
Type of drainage				
No drainage	91.5	98,269	8.5	78
Open	83.1	1,44,034	38.3	2,105
Covered	123.2	94,169	38.4	3,244
Whether chronically suffering				
Yes	888.7	21,407	677.1	101
No	49.1	3,15,065	33	5,326
Insurance coverage				
Yes	152.8	51,538	49.8	1,247
No	85.8	2,84,932	35.4	4,180
Total	95.9	3,38,870	37.7	5,448

Source: Computed from NSS 71st Round, 2014

There is also a wide gap between the prevalence of outpatient cases between rural and urban areas (having higher prevalence). In India, with the increase in the size of a household the prevalence of outpatient declines but in Delhi, it is highest for the medium sized households. Among social groups, there is a continuous increase in the prevalence of outpatient cases with the increase in social hierarchy in India, but in Delhi, it falls for 'others' social group.

Among the religious groups, the Sikhs have the highest prevalence followed by the Hindus, and the Muslims with little difference in the prevalence of outpatient cases. In general, the lower educated people have, the higher prevalence of outpatient cases and vice-versa. The Illiterate people are reporting the highest prevalence, and the higher secondary educated people are reporting lowest prevalence. The Widowed/divorced/separated individuals have the highest prevalence of outpatient cases both in India and in Delhi followed by the currently married and the never married individuals. The head of the household and his/her spouse reports a higher prevalence of outpatient cases followed by grandchildren.

The economic status is one of the major determinants of the health utilization behaviour. It is observed that with improvement in economic status (as defined by MPCE quintiles in the study area) there is a continuous increase in the prevalence of outpatient cases. But the pattern is not a clear in case of Delhi. The Individuals from the households having toilet facility have higher prevalence than that of not having. The contaminated water is also a major source of many infectious diseases. In India, the people who are drinking water from well/tank/river/canal have the highest prevalence of outpatient cases followed by tap/bottled water. The type of cooking fuel is a key source of indoor pollution that causes many respiratory diseases, but people using coal/wood/dung as cooking fuel report a lower prevalence of outpatient cases than LPG/electricity users. The individual living in covered drainage surroundings have higher prevalence than that of living in open drainage or no drainage surroundings.

The prevalence of outpatient cases is very much higher (almost eighteen to twenty times) for chronically suffering individuals. Insured people report a higher prevalence of outpatient cases than that of non-insured counterparts.

Table 4.8 Prevalence of outpatient cases per thousand population during last 15 days by type of household and industry in India and Delhi, 2014

	India		Delhi	
	Out patient case	N	Out patient case	N
<i>Type of household</i>				
<i>Rural</i>				
Self-employed in agriculture	70.5	82521	0.0	33
Self-employed in non-agriculture	97.5	29147	0.0	95
Regular wage/salary earning	104.9	22928	31.9	204
Casual labour in agriculture	81.5	24232	0.0	5
Casual labour in non-agriculture	83.5	25374	184.1	14
Others	184.5	6701	3.3	16
<i>Urban</i>				
Self-employed	111.3	62829	45.0	1880
Regular wage/salary earning	113.3	53124	35.9	2729
Casual labour	113.7	20787	32.2	332
Others	225.3	8829	27.4	119
<i>NIC-2008</i>				
Agriculture, forestry and fishing (A)	75.3	118810	0.0	46
Mining and quarrying (B)	80.2	2123		
Manufacturing (C)	112.8	36439	27.4	839
Electricity, gas, steam and air conditioning supply (D)	155.2	1615	26.9	26
Water supply; sewerage, waste management and remediation activities (E)	93.3	1409	12.1	73
Construction (F)	80.2	39718	35.8	350
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	102.7	45295	60.3	1378
Transportation and storage (H)	111.6	21175	21.3	527
Accommodation and food service activities (I)	131.6	5530	31.6	160
Information and communication (J)	104.7	2497	18.9	241
Financial and insurance activities (K)	127.7	3589	5.7	232
Real estate activities (L)	100.1	1312	2.4	135
Professional, scientific and technical activities (M)	136.8	2576	0.0	137
Administrative and support service activities (N)	100.1	2933	62.0	241
Public administration and defence; compulsory social security (O)	110.4	12696	38.6	340
Education (P)	104.5	12057	25.4	125
Human health and social work activities (Q)	120.8	3563	28.5	106
Arts, entertainment and recreation (R)	116.4	858	428.8	20
Other service activities (S)	106.8	6560	14.7	230
Activities of extraterritorial organisations and bodies (U)	0.0	5		
Total	95.9	3,38,870	37.7	5,448

Source: Computed from NSS 71st Round, 2014

Table 4.9 Prevalence of outpatient cases per thousand population during last 15 days by occupational groups in India and Delhi, 2014

NCO - 2004	India		Delhi	
	Outpatient	N	Outpatient	N
Legislators, senior officials and managers (I)	91.9	35,128	22.4	1,875
Professionals (II)	112.4	14,207	31.5	437
Technicians and associate professionals (III)	124.2	13,856	27.0	273
Clerks (IV)	118.4	8,807	28.2	494
Service workers and shop & market Sales Workers (V)	115.9	32,930	48.9	630
Skilled agricultural and fishery workers (VI)	73.3	90,746	179.7	42
Craft and related trades workers (VII)	102.6	42,520	28.7	450
Plant and machine operators and assemblers (VIII)	116.2	20,555	30.3	391
Elementary occupations (IX)	81.9	61,836	79.8	610
Workers not classified by occupations (X)	28.5	175	250.0	4
Total	90.8	3,20,760	37.2	5,206

Source: Computed from NSS 71st Round, 2014

4.3.1 Outpatient cases by type of household and industry

Table 4.8 shows the prevalence of outpatient cases per thousand population during last 15 days by type of household and industry group in India and Delhi. In rural areas of India, individuals from regular wage/salary earner households (104.9 per thousand) have the higher prevalence of outpatient cases followed by self-employed in non-agriculture (97.5 per thousand), casual labour in non-agriculture (83.5 per thousand), casual labour in agriculture (81.5 per thousand) and self-employment in agriculture (70.5 per thousand). In urban areas of India, notare much difference has been observed but in Delhi, self-employed people have the highest prevalence of outpatient cases followed by regular wage/salary earners and casual labours.

Among the industrial groups, electricity, gas, steam and air conditioning supply (155.2 per thousand) has the highest prevalence of outpatient cases followed by the professional, scientific and technical activities (136.8 per thousand), accommodation and food service activities (131.6 per thousand), and financial and insurance activities (127.7 per thousand). Occupation groups having lower prevalence are Agriculture, forestry and fishing (75.3 per thousand), mining and quarrying (80.2 per thousand), Construction (80.2 per thousand) and Water supply, sewerage, waste management and remediation activities (93.3 per thousand).

Table 4.10 Prevalence of outpatient cases per thousand population during last 15 days by type of household and industry across MPCE quintile group in India, 2014

	Lowest	Lower	Middle	Higher	Highest
Rural					
Self-employed in agriculture	55.6	69.0	72.1	89.0	134.4
Self-employed in non-agriculture	67.7	79.1	98.0	149.1	188.6
Regular wage/salary earning	77.4	95.9	98.3	120.8	158.8
Casual labour in agriculture	60.3	88.9	98.0	122.1	233.9
Casual labour in non-agriculture	65.0	82.7	96.0	122.1	257.0
Others	122.3	172.7	150.5	199.6	388.7
Total	63.0	81.3	88.9	118.8	184.3
N	62,506	48,120	41,282	28,603	10,386
Urban					
Self-employed	70.4	86.5	101.9	117.7	142.1
Regular wage/salary earning	61.5	84.7	93.8	120.5	131.5
Casual labour	67.0	79.6	124.9	165.6	177.3
Others	129.9	143.2	115.3	182.4	308.7
Total	68.9	86.4	104.3	128.3	154.7
N	18,510	23,573	28,685	36,817	37,954
NIC-2008					
Agriculture, forestry and fishing (A)	57.0	73.2	79.8	102.3	154.5
Mining and quarrying (B)	51.4	47.5	89.2	110.9	138.7
Manufacturing (C)	73.8	102.0	119.7	126.9	153.0
Electricity, gas, steam and air conditioning supply (D)	113.9	147.6	118.7	152.2	196.5
Water supply; sewerage, waste management and remediation activities (E)	31.7	93.5	67.1	150.2	109.9
Construction (F)	61.9	70.8	84.7	113.7	136.8
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	67.4	75.9	98.0	121.6	145.2
Transportation and storage (H)	87.2	81.7	90.8	152.7	162.5
Accommodation and food activities (I)	100.5	101.0	89.4	172.6	182.1
Information and communication (J)	37.7	130.1	194.6	172.3	74.5
Financial and insurance activities (K)	105.3	32.6	102.0	100.5	156.8
Real estate activities (L)	95.0	86.4	62.1	82.8	125.3
Professional, scientific and technical activities (M)	92.1	327.5	47.4	145.1	117.7
Administrative and support service activities (N)	21.8	127.9	133.9	116.9	120.5
Public administration and defence; compulsory social security (O)	67.2	131.5	110.3	107.4	113.0
Education (P)	66.5	58.9	102.2	91.0	142.3
Human health and social work activities (Q)	36.4	80.6	93.5	166.9	130.2
Arts, entertainment and recreation (R)	120.7	45.6	351.4	68.4	65.2
Other service activities (S)	66.5	109.8	92.2	135.3	177.8
Activities of extraterritorial organisations and bodies (U)					0.0
Total	62.0	79.3	90.8	118.0	143.1
N	78,803	69,369	67,255	61,661	43,641

Source: Computed from NSS 71st Round, 2014

Table 4.11 Prevalence of outpatient cases per thousand population during last 15 days by occupational groups across MPCE quintile group in India, 2014

NCO – 2004	I	II	III	IV	V
Legislators, senior officials and managers (I)	56.5	66.5	78.0	96.0	120.7
Professionals (II)	56.4	100.1	107.0	131.2	118.9
Technicians and associate professionals (III)	99.2	134.7	123.0	114.7	134.7
Clerks (IV)	70.3	49.0	123.4	127.2	134.9
Service workers and shop & market sales workers (V)	67.7	90.3	91.0	139.4	195.1
Skilled agricultural and fishery workers (VI)	55.6	69.0	72.8	98.9	147.6
Craft and related trades workers (VII)	74.3	87.2	115.0	129.1	148.5
Plant and machine operators and assemblers (VIII)	92.6	91.4	98.1	142.7	176.5
Elementary occupations (IX)	60.0	84.2	93.9	126.0	165.6
Workers not classified by occupations (X)	67.1	0.0	4.1	0.0	0.0
Total	62.0	79.3	90.8	118.0	143.1
N	78,803	69,369	67,255	61,661	43,641

Source: Computed from NSS 71st Round, 2014

4.3.2 Outpatient cases by occupational groups

In case of occupational groups (shown in Table 4.9), Technicians and associate professionals (124.2 per thousand), Clerks (118.4 per thousand), Plant and machine operators and assemblers (116.2 per thousand), Service workers and shop & market sales workers (115.9 per thousand) and Professionals (112.4 per thousand) have higher prevalence of outpatient cases in India. Occupation groups having lower prevalence in India are Skilled agricultural and fishery workers (73.3 per thousand), elementary occupations (81.9 per thousand) and Legislators, senior officials and managers (91.9 per thousand). In Delhi, The higher prevalence occupational groups are elementary occupations (79.9 per thousand), Service workers and shop & market sales workers (48.9 per thousand), Professionals (31.5 per thousand), Plant and machine operators and assemblers (30.3 per thousand) and the lower prevalence groups are Legislators, senior officials and managers (22.4 per thousand), Technicians and associate professionals (27 per thousand) and Clerks (28.2 per thousand).

4.3.3 Outpatient cases by type of household and industry across MPCE

The prevalence of outpatient cases per thousand population during last 15 days by type of household and industry across MPCE quintile group in India has been shown in Table 4.10. In general, there is a substantial increase (almost three times) in the prevalence of outpatient cases with the improvement in economic status across all type of households and industry groups. In rural India, the prevalence of outpatient cases is more among casual labour in agriculture and casual labour in non-agriculture than that of self-

employed in agriculture, self-employed in non-agriculture, and regular wage/salary earners. In urban India, the prevalence is higher among casual labours than self-employed and regular wage/salary earners. Among industrial groups, a higher increase in the prevalence of outpatient cases is reported in Agriculture, forestry and fishing, mining and quarrying, Water supply, sewerage, waste management and remediation activities, Construction, and human health and social work activities. While a lower increase is observed in Administrative and support service activities, financial and insurance activities, real estate activities and professional, scientific and technical activities.

4.3.4 Prevalence of outpatient cases by occupational groups across MPCE

The prevalence of outpatient cases per thousand population during last 15 days by occupational groups across MPCE quintile group in India is displayed in Table 4.11. The high increase is reported in occupational groups as elementary occupations, Skilled agricultural and fishery workers, Service workers, shop and market sales workers and a lower increase is noticed in Technicians and associate professionals, Professionals and Clerks.

4.3.5 Determinants of outpatient cases in India and Delhi

The odds ratios of outpatient cases by various background variables acquired from binary logistic regression for India, rural India, urban India and Delhi is presented in table 4.12. Males are slightly less likely to obtain outpatient treatment than females. Children (0 to 5 year age group) have the very high likelihood to get outpatient treatment than oldest age group (65 years & above) in India. Other age groups, 6 to 14 years, 15 to 24 years, 25 to 44 years and 45 to 64 years are less likely to receive outpatient treatment than oldest age group. The rural area shows lower likelihood than urban in getting outpatient treatment. The members of larger households are less likely to get outpatient treatment than smaller ones and this decrease with increase in household size. Among social groups, SCs are slightly more likely to get outpatient treatment than others while STs have a lower likelihood to get outpatient treatment. Coming to religious groups, the Sikhs are more likely, and the Muslims less likely to get outpatient treatment than Hindus. Educational attainment which is one of the most significant determinants of receiving health care facilities shows interesting findings it is observed that compared to graduate and above-educated individuals, the lower educated individuals are more likely to get outpatient treatment in India, urban India, and Delhi. The widowed/divorced/separated have a higher likelihood to obtain outpatient treatment than currently married people. Spouse of the head of the household has the highest likelihood to get outpatient treatment than the head.

Except for spouse of the head, all other relations have less likelihood to get outpatient treatment.

Table 4.12 Odds ratio of outpatient cases by selected variables in India and Delhi, 2014

	India			Delhi
	Total	Rural	Urban	
Sex				
Female ®				
Male	0.915***	0.919**	0.916**	1.292
Age group				
65 & above ®				
45-64	0.939**	0.873**	1.011	1.409
25-44	0.671***	0.586***	0.772***	1.427
15-24	0.691***	0.578***	0.835*	2.054
6-14	0.926	0.755***	1.149	1.498
0-5	2.316***	1.954***	2.709***	9.455***
Place of residence				
Urban ®				
Rural	0.903***			1.445
Household size				
1-4 ®				
5-6	0.918***	0.926**	0.913**	1.218
7 & above	0.797***	0.811***	0.787***	0.803
Social group				
Others ®				
OBCs	1.031	0.988	1.034	0.977
SCs	1.093***	1.042	1.106**	1.116
STs	0.702***	0.696***	0.719***	0.508
Religion				
Hindu ®				
Muslim	1.071**	1.057*	1.037	0.840
Sikh	1.712***	1.852***	1.498***	2.507**
Others	0.992	1.084*	0.886**	
Educational attainment				
Graduate & above ®				
Higher secondary	1.157***	1.096	1.143**	2.531**
Secondary	1.158***	1.068	1.153**	2.623**
Middle	1.240***	1.111	1.268***	3.510***
Primary	1.182***	1.071	1.199***	2.283**
Not literate	1.153***	1.047	1.182**	1.361
Marital status				
Currently married ®				
Never married	0.975	1.043	0.922	1.026
Widowed/divorced/separated	1.302***	1.221***	1.368***	1.421
Pseudo R²	0.345	0.304	0.387	0.2576
N	3,36,260	1,90,882	1,45,378	5,274

Continued...

Continued...

	India			Delhi
	Total	Rural	Urban	
Relation to head				
Head ®				
Spouse	1.206***	1.196***	1.228***	1.596
Child	0.867***	0.840***	0.892**	0.377**
Spouse of child	0.916*	1.017	0.815**	0.328*
Grandchild	0.875**	0.890*	0.856**	0.171**
Others	0.956	1.022	0.894**	0.567
MPCE quintile				
Highest ®				
Higher	0.973	0.910**	0.984	1.292
Middle	0.852***	0.800***	0.865***	1.153
Lower	0.874***	0.844***	0.847***	1.353
Lowest	0.790***	0.755***	0.790***	0.458
Toilet availability				
Yes ®				
No	0.914***	0.957*	0.907**	0.463
Source of drinking water				
Tap/bottled ®				
Tube well/hand pump/tankers	1.067***	1.091***	1.031	1.249
Well/tank/river/canal etc.	1.341***	1.271***	1.430***	
Type of cooking fuel				
LPG/electricity ®				
Coal/wood/dung etc.	1.137***	1.064**	1.248***	1.698
Type of drainage				
Covered ®				
Open	0.807***	0.772***	0.815***	0.543**
No drainage	1.028	0.985	1.050	0.870
Whether chronically suffering				
Yes ®				
No	0.016***	0.019***	0.014***	0.014***
Insurance coverage				
Yes ®				
No	0.866***	0.834***	0.892***	0.636**
Household type				
Regular wage/salary earning ®				
Self-employed (in non-agriculture)	0.909***	0.923**	1.001	1.096
Self-employed (in agriculture)		0.730***		
Casual labour (in non-agriculture)	0.984	0.861***	1.019	1.123
Casual labour (in agriculture)		0.900**		
Others	1.001	0.914	1.032	1.712
Pseudo R2	0.345	0.304	0.387	0.2576
N	3,36,260	1,90,882	1,45,378	5,274

Note: Agriculture and non-agriculture classification for rural areas only, ® Reference category, *p<0.1, **p<0.05, *** p<0.001, *Source:* Computed from NSS 71st Round, 2014

Economic status emerges as a vital determinant affecting health-seeking behaviour. All the quintiles have a lower likelihood to receive outpatient treatment than highest quintile and magnitude also decrease with the decrease in economic status. The individuals from households having no toilet facility are less likely to receive outpatient treatment than individuals having such facilities. . The People using well/tank/river/canal as the source of drinking water are more likely to receive outpatient treatment than the tap/bottled water drinkers. The type of cooking fuel is also significantly associated with the outpatient cases. The People using coal/wood/dung are more likely to get outpatient treatment than the clean fuel users like LPG/electricity. The People living in open drain surroundings are less likely to receive outpatient treatment than counterparts living in covered drains surroundings.

The People not suffering from any chronic ailments are less likely to get outpatient treatment than those chronically suffering. The not insured people are also less likely to get outpatient treatment than insured ones. At last, coming to the type of household, self-employed and casual labours are less likely to get outpatient treatment than regular wage/salary earners.

4.4 Distribution of nature of ailments in India and Delhi

After explaining the prevalence of inpatient and outpatient cases across various background characteristics and the type of workers, the next section explores the type of ailments, which are prevalent in various types of workers. First of all, the distribution of nature of ailments for inpatient and outpatient cases has been discussed. Table 4.13 shows the share of nature of ailments for inpatient and outpatient cases in India. The childbirth (27.3 percent) is the largest cause of inpatient hospitalisation followed by infectious diseases (18.1 percent). Apart from this, major ailments are injuries (8.1 percent), gastrointestinal (7.9 per cent) cardiovascular diseases (6.6 percent), Genito-urinary (4.9 percent), and Psychiatric/neurological diseases (4.4 percent). For the outpatient cases, the infectious diseases (26.5 percent) have the biggest share followed by respiratory (14.2 percent), cardiovascular diseases (13 percent), Endocrine/metabolic/nutritional (11.7 per cent) and musculoskeletal diseases (11.1 percent).

Table 4.13 Distribution of Nature of Ailments for inpatient and outpatient cases in India, 2014

Nature of ailment	Inpatient		Outpatient	
	Share	N	Share	N
Infection	18.1	11,090	26.5	8,563
Cancers	1.7	1,179	0.4	289
Blood diseases	1.4	863	0.9	366
Endocrine/metabolic/nutritional	1.9	1,234	11.7	4,619
Psychiatric/neurological	4.4	2,664	5.2	2,239
Eye/ear	3.6	1,776	2.1	771
Cardio-vascular	6.6	3,686	13.0	5,678
Respiratory	3.7	2,212	14.2	5,226
Gastro-intestinal	7.9	4,865	6.5	2,266
Skin	0.7	403	2.4	767
Musculo-skeletal	3.4	1,979	11.1	3,699
Genito-urinary	4.9	2,872	1.8	775
Obstetric	4.0	2,012	0.3	187
Injuries	8.1	4,713	1.7	862
Childbirth	27.3	14,587	0.1	133
Others	2.2	1,321	2.3	842
Total	100.0	57,456	100.0	37,282

Source: Computed from NSS 71st Round, 2014

Table 4.14 Distribution of Nature of Ailments for inpatient and outpatient cases in Delhi, 2014

Nature of ailment	Inpatient		Outpatient	
	Share	N	Share	N
Infection	21.8	222	50.8	83
Cancers	2.2	13	1.0	3
Blood diseases	1.3	19	1.2	3
Endocrine/metabolic/nutritional	1.1	12	6.5	30
Psychiatric/neurological	4.3	31	2.3	12
Eye/ear	1.0	13	3.3	6
Cardio-vascular	7.5	56	4.4	23
Respiratory	4.1	36	8.7	19
Gastro-intestinal	16.0	90	12.2	19
Skin	0.7	6	0.2	3
Musculo-skeletal	2.6	29	6.0	18
Genito-urinary	2.9	27	0.5	2
Obstetric	1.6	20	0.1	1
Injuries	4.1	46	2.7	4
Childbirth	25.4	231	0.0	1
Others	3.6	19	0.2	2
Total	100.0	870	100.0	229

Source: Computed from NSS 71st Round, 2014

Table 4.15 Distribution of Nature of Ailments for inpatient cases across various type of households in India, 2014

Nature of ailment	Self-employed	Regular wage/ salary earning	Casual labour	Others	Total
Infection	18.02	20.28	18.54	15.09	18.41
Cancers	1.11	1.58	0.83	1.17	1.14
Blood diseases	1.42	1.43	1.35	0.82	1.37
Endocrine/metabolic/nutritional	1.69	2.32	1.23	3.84	1.84
Psychiatric/neurological	4.18	3.63	4.07	6.07	4.16
Eye/ear	3.72	3.32	2.83	9.54	3.8
Cardio-vascular	6.14	6.25	4.94	9.02	6.05
Respiratory	3.37	3.52	3.74	4.86	3.59
Gastro-intestinal	7.7	8.78	8.1	7.66	8.01
Skin	0.69	0.48	0.74	0.89	0.67
Musculo-skeletal	3.75	3.55	3.08	4.02	3.56
Genito-urinary	4.65	5.59	3.74	8.1	4.83
Obstetric	3.73	3.76	5.05	2.69	3.99
Injuries	8.29	7.44	8.65	5.82	8.05
Childbirth	29.7	25.75	30.69	18.07	28.41
Others	1.84	2.31	2.43	2.34	2.11
Total	100.0	100.0	100.0	100.0	100.0
N	26,521	13,421	11,511	3,573	55,026

Source: Computed from NSS 71st Round, 2014

Table 4.16 Distribution of Nature of Ailments for the outpatient cases across various type of households in India, 2014

Nature of ailment	Self-employed	Regular wage/ salary earning	Casual labour	Others	Total
Infection	26.9	23.7	32.2	16.9	26.5
Cancers	0.4	0.5	0.3	0.4	0.4
Blood diseases	1.0	0.9	0.7	0.8	0.9
Endocrine/metabolic/nutritional	10.1	15.0	8.3	20.3	11.7
Psychiatric/neurological	4.9	5.0	5.6	5.4	5.2
Eye/ear	2.1	1.6	2.6	1.6	2.1
Cardio-vascular	11.7	15.2	9.7	22.6	13.0
Respiratory	15.4	13.6	13.7	11.0	14.2
Gastro-intestinal	6.8	6.7	6.6	4.0	6.5
Skin	2.3	2.9	2.5	1.1	2.4
Musculo-skeletal	11.9	8.7	11.9	10.0	11.1
Genito-urinary	2.0	1.5	1.8	1.6	1.8
Obstetric	0.3	0.3	0.4	0.1	0.3
Injuries	1.8	1.5	1.8	1.1	1.7
Childbirth	0.1	0.1	0.1	0.1	0.1
Others	2.1	2.9	1.8	3.1	2.3
Total	100.0	100.0	100.0	100.0	100.0
N	16,945	9,270	7,730	3,299	37,244

Source: Computed from NSS 71st Round, 2014

4.4.1 Nature of ailments for inpatient and outpatient cases in Delhi

In Delhi (Table 4.14), for the inpatient cases again the share of infectious diseases (21.8 percent) is very high which is just after childbirth (25.4 per cent). Gastro-intestinal (16 per cent) comes to the third position that is much higher than all India average. Cardio-vascular (7.5 per cent), Psychiatric/neurological (4.3 percent), injuries (4.1 percent) and respiratory diseases (4.1 percent) are other major contributors. For the outpatient cases, half of the share is contributed by infectious diseases followed by Gastro-intestinal (12.2 percent), respiratory (8.7 percent), Endocrine/metabolic/nutritional (6.5 percent), musculoskeletal (6 percent) and cardiovascular (4.4 percent).

4.4.2 Nature of ailments for inpatient cases across various types of households

After describing the share of various types of ailments for inpatient and outpatient cases for both India and Delhi, the distribution of the types of ailments for inpatient and outpatient cases through the type of household for India will be discussed. For the inpatient cases (Table 4.15), infectious diseases have the higher share for regular wage/salary earners, self-employed and casual labours. The share of childbirth-related hospitalisation is highest for casual labours and lowest for regular wage/salary earners.

The share of cardiovascular, blood diseases and genito-urinary diseases is higher among self-employed and regular wage/salary earners than casual labours. Cancers, endocrine/metabolic/nutritional and gastrointestinal diseases have higher share among the regular wage/salary earners than casual labours. While the share of respiratory diseases, skin diseases, psychiatric/neurological, obstetric and injuries are higher among casual labours. Others type of households have a lower share of infections, childbirth, and injuries but a higher share of endocrine/metabolic/nutritional, psychiatric/neurological, eye/ear, cardio-vascular, respiratory, musculo-skeletal, and genito-urinary diseases.

4.4.3 Nature of ailments for the outpatient cases across various type of households

The share of types of ailment for outpatient cases in India is shown in Table 4.16. it indicates that individuals suffered from infections have much higher share among casual labours than self-employed and regular wage/salary earners. The share of endocrine/metabolic/nutritional and cardiovascular diseases are higher among regular wage/salary earners than self-employed and casual labours, while, eye/ear diseases, musculoskeletal diseases, and injuries have lower share for regular wage/salary earners than the casual labours and self-employed. The casual labours have a higher share in

diseases like psychiatric/neurological, eye/ear, and obstetric. Self-employed individuals have a higher share in respiratory, blood diseases, gastrointestinal, musculoskeletal, genitourinary diseases and injuries.

After showing the distribution of types of ailments across various types of households such as self-employed, regular wage/salary earners and casual labours. The distribution of ailments in occupational groups for inpatient cases in India has been examined (see table 4.A in appendix). The infectious diseases are more prevalent in Technicians and associate professionals, Craft and related trades workers, Plant and machine operators and assemblers while a lower share of this is found in Clerks, Professionals, Legislators, senior officials and managers and Service workers and shop & market sales workers. The Blood disease has larger share among the Plant and machine operators and assemblers, Technicians and associate professionals, Skilled agricultural and fishery workers. The injuries are higher in elementary occupations, Plant and machine operators and assemblers, Skilled agricultural and fishery workers. Cancers are higher in Clerks, Technicians and associate professionals, Service workers and shop and market sales workers, Professionals, Skilled agricultural and fishery workers, Craft and related trades workers and lower in elementary occupations, Legislators, senior officials and managers and Plant and machine operators and assemblers. Endocrine/metabolic/nutritional and eye/ear diseases have a higher share in Clerks, Service workers and shop and & market sales workers, Legislators, senior officials and managers, Professionals, and Plant and machine operators and assemblers. The cardiovascular diseases are reported higher in Service workers and shop & market sales workers, Clerks, Legislators, senior officials and managers and Professionals. Respiratory diseases have a higher share in Plant and machine operators and assemblers, Technicians and associate professionals, Legislators, senior officials and managers and Professionals. The gastro-intestinal, gastro-urinary and musculo-skeletal diseases are reported higher in Clerks, Legislators, senior officials and managers, Professionals and Technicians and associate professionals. Childbirth one of the major cause of hospitalisation has a higher share for elementary occupations, Skilled agricultural and fishery workers.

The distribution of ailments for the outpatient cases among occupational groups in India is presented in table 4.B (in appendix). The share of infectious diseases is higher among elementary occupations, Plant and machine operators and assemblers, Craft and related trades workers and Service workers and shop & market sales workers. The lower share of

infectious diseases is observed among Legislators, senior officials and managers, Professionals, Technicians and associate professionals and Clerks. Cardio-vascular and endocrine/ metabolic/nutritional diseases have a major share in occupational groups like Professionals, Clerks, Legislators, senior officials and managers and Technicians and associate professionals. The Psychiatric/neurological diseases have slightly higher reporting in Clerks, Skilled agricultural and fishery workers, Craft and related trades workers and elementary occupations. The respiratory diseases have similar share across all occupational groups except for Clerks for the outpatient cases. The gastro-intestinal diseases are more reported in occupational groups of Skilled agricultural and fishery workers, elementary occupations, Craft and related trades workers, Clerks and Service workers and shop & market sales workers. Injuries have slightly higher share among Clerks, Skilled agricultural and fishery workers, Technicians and associate professionals, Plant and machine operators and assemblers and elementary occupations. Musculo-skeletal problems are more prevalent among Skilled agricultural and fishery workers, Craft and related trades workers, elementary occupations, Service workers and shop & market sales workers and Professionals.

4.5 Prevalence of inpatient and outpatient cases in the study area

The prevalence of inpatient and outpatient cases for India and Delhi in discussed previously in this chapter. The prevalence of inpatient and outpatient cases per thousand population by various background characteristics among informal workers and their families in the study area is presented in table 4.17. Overall, about 33 persons per thousand population were hospitalised in the last year preceding the date of the survey while non-hospitalized (outpatient) cases affected 85 persons per thousand population. In the study area, females have higher hospitalisation cases than males, which is similar to the findings at the national level. Childbirth-related hospitalisation cases contribute a significant part of this. The difference between females and males got narrowed for outpatient cases. Across the age groups, children (0 to 5 years) have the highest inpatient hospitalisation rate (82.6 per thousand) followed by 65 years and above age group (39.2 per thousand). The lowest hospitalisation rate is observed in 6 to 14 years age group, while middle age groups have similar levels of the inpatient cases. For outpatient cases, highest prevalence (215.7 per thousand) is reported in the oldest age group (65 years and above) followed by age groups of 45 to 64 years and 25 to 44 years. Children age group (0 to 5 years) has a lower prevalence than older age groups. Here, the lowest prevalence

is reported among 15 to 24 years age group (40.1 per thousand), both inpatient and outpatient cases have a clear relationship with household size. Comparatively smaller households have higher prevalence of inpatient and outpatient cases than larger ones, and it declines with an increase in household size. Among the social groups, SCs/STs have the highest hospitalisation rate followed by 'Others' and OBCs. While for non-hospitalization cases, the highest prevalence is reported among 'Others' followed by SCs/STs and OBCs. The Hindus have a higher prevalence of both inpatient and outpatient cases than other religious groups in the study area. Both the inpatient and outpatient cases exhibited significant negative gradient with respect to the educational level of the individuals. The prevalence levels for the both cases decline to almost half from illiterate to secondary educated individuals. The migrants report slightly higher hospitalisation than non-migrants, but the gap is wide for outpatient cases. The spouse of the household report much higher rate of hospitalisation, again because of the predominance of childbirth-related hospitalisation cases in this group. For outpatient cases, the highest prevalence is observed for the head followed by spouse and children. The individuals suffering from any chronic disease report much higher level of both inpatient and outpatient cases in comparison to their non-chronic counterparts. Insured people have a lower prevalence of both inpatient and outpatient cases than uninsured people in the study area.

4.5.1 Inpatient and outpatient cases by living conditions in the study area

The next table 4.18 shows the prevalence of both inpatient and outpatient cases by living condition of workers and their families in the study area. The individuals living in the pucca houses report a lower incidence of inpatient treatment than semi-pucca dwellers while pucca house dwellers have a higher case of outpatient cases than semi-pucca dwellers. The quality of the floor exhibits positive impact on the health status of informal workers and families. The prevalence of both inpatient and outpatient cases decreases with increase in quality of floor of the house. Persons having a house made of cemented wall have higher cases of again both inpatient and outpatient treatment than that of burnt brick wall. The Individuals also show significant variation in prevalence of hospitalisation and non-hospitalization treatment by the type of roof.

Table 4.17 Prevalence of inpatient and outpatient cases per thousand population by different background characteristics in the study area, 2016

Background characteristics	Inpatient case	Outpatient case	N
Sex			
Male	28.3	82.0	951
Female	39.1	88.3	870
Age group			
0-5	82.6	91.7	120
6-14	22.9	84.0	393
15-24	30.7	40.1	424
25-44	33.3	92.7	570
45-64	30.3	114.1	263
65 & above	39.2	215.7	51
Household size			
1-4	56.8	100.6	614
5-6	24.6	82.1	974
7 & above	8.6	55.8	233
Social group			
SCs/STs	42.4	86.8	947
OBCs	20.4	75.2	638
Others	33.8	101.7	236
Religion			
Hinduism	34.4	87.4	1,714
Others	18.5	46.7	107
Educational attainment			
Not literate	46.5	112.3	472
Primary	32.3	95.3	619
Middle	34.1	75.1	293
Secondary	24.5	57.1	366
Graduate & above	0.0	0.0	71
Migrant status			
Yes	35.0	114.2	429
No	33.0	74.9	1,333
Marital status			
Never married	29.1	68.5	891
Currently married	38.2	99.4	863
Widowed/divorced/separated	29.9	119.4	67
Relation to head			
Head	20.0	122.5	400
Spouse of the head	75.1	104.5	333
Child	29.0	65.8	898
Others	11.7	35.3	171
Whether chronically suffering			
Yes	244.1	320.8	54
No	27.1	78	1,767
Insurance coverage			
Yes	20.8	48.6	289
No	35.9	91.9	1,532
Total	33.5	85.0	1,821

Source: Primary Survey, February-May 2016

Table 4.18 Prevalence of inpatient and outpatient cases per thousand population by living conditions in the study area, 2016

Background characteristics	Inpatient case	Outpatient case	N
Type of dwellings			
Kutchha	0.0	166.7	18
Semi-pucca	37.7	57.3	663
Pucca	31.6	99.8	1,140
Type of floor			
Mud	200.0	250.0	20
Burnt brick	48.6	104.2	144
Cement	34.3	92.7	1,455
Mosaic/tiles	0.0	0.0	202
Type of wall			
Unburnt brick	0.0	166.7	18
Burnt brick	27.4	62.2	402
Cemented	35.6	90.5	1,401
Type of roof			
Cemented	35.4	98.7	1,072
Iron/tin/asbestos sheet	28.0	55.9	608
Straw/grass/plastic etc.	42.6	106.4	141
Drinking water availability within house			
Yes	35.5	89.6	1,438
No	26.8	70.1	371
If yes, source of drinking water			
Bottled water	0.0	108.7	46
Tap water	34.9	88.8	1,392
If no, source of drinking water			
Public water tap	28.6	71.9	280
Public hand pump	38.5	19.2	77
Others	0.0	142.9	14
Separate kitchen			
Yes	0.0	88.5	90
No	35.8	22.2	1,731
Toilet facility			
Septic tank within house	16.5	19.4	103
If no toilet, then alternatives			
Public toilet	4.3	79.7	690
Toilet by <i>Sulabh International</i>	59.2	70.1	473
Open	55.0	118.8	543
Drainage			
Open kutchha	153.8	0	12
Open pucca	20.7	86.8	530
Covered pucca	56.2	107.0	783
Underground	8.3	51.7	484
Total	33.5	85.0	1,821

Source: Primary Survey, February-May 2016

People living under the roof made of straw/grass/plastic etc. have the highest prevalence of both inpatient and outpatient cases followed by cemented/RCC and tin/asbestos sheet roofs. The Households having drinking water facility within premises report a higher prevalence of both inpatient and outpatient cases than that of not within premises. Drinking water is a major source of infectious diseases. In the study area, no incident of inpatient cases was observed among bottled water drinkers. However higher prevalence of outpatient cases was observed among bottled water drinkers than that of tap water, public water tap and public hand pump. People living in households with separate kitchen report no incident of inpatient cases but higher cases of outpatient cases. The type of toilet facility has a major influence on intra-household hygiene and health of residents. In the study area, open defecators have the highest prevalence of outpatient cases followed by public toilet users, *Sulabh International* Toilet users. People having the toilet with septic tank within the household have the lowest prevalence of outpatient cases. While the lowest prevalence of inpatient cases is observed in public toilet users followed by the toilet with septic tank within the household. The prevalence of both inpatient and outpatient cases also varies across type of drainage. The highest prevalence of inpatient cases is reported among people living in surrounding having covered pucca drainage (56.2 per thousand) followed by open pucca drainage (20.7 per thousand) and underground drainage (8.3 per thousand).

4.6 Impact of employment and working condition on health status of informal workers in the study area

In the previous section, the prevalence of inpatient and outpatient cases among informal workers and their families by various background characteristics and living conditions is discussed. In this section, an attempt has been made to analyse the impact of working conditions on the health of informal workers. Table 4.19 shows the prevalence of inpatient and outpatient cases by employment conditions defined by the existence of written job contract, availability of social security benefits and eligibility of paid leaves in the study area.

For inpatient cases, there is no incident reported in all the three indicators used to employment conditions in the study area. While for the outpatient cases, informal workers having written job contract (152.2 per thousand) report much higher prevalence than that of no written contract (96.3 per thousand). Informal workers are having any type of social security report slightly higher prevalence of outpatient cases than that of with no

benefits. Not being eligible for paid leave has a negative impact on the wellbeing of workers in general and health status of workers in particular. In the study area too, informal workers not eligible for paid leave have a higher prevalence of outpatient cases than eligible counterparts.

Table 4.19 Prevalence of inpatient and outpatient cases per thousand population by employment conditions in the study area, 2016

Employment condition	Inpatient case	Outpatient case	N
Job contract			
Written contract	0.0	152.2	46
No contract	18.3	96.3	436
Availability of social security benefits			
Any benefit	0.0	104.3	115
No benefit	21.8	100.8	367
Eligibility for paid leave			
Yes	0.0	83.3	156
No	27.1	118.6	295
Total	16.6	101.7	482

Source: Primary Survey, February-May 2016

4.6.1 Inpatient and outpatient cases by working conditions the study area, 2016

The prevalence of inpatient and outpatient cases per thousand by working conditions of informal workers in the study area is presented in table 4.20. Workers who have got work with the help from relatives or friends report a lower prevalence of inpatient cases than who has got work from own knowledge or efforts. But the prevalence of outpatient cases is higher among those workers who have got work with help from relatives or friends. Informal workers who have joined the current job due to ease of entry report a considerable higher level of inpatient cases than those who joined due to lack of better alternatives. But the situation is opposite for outpatient cases with a lower magnitude. Having fixed working hours is also considered a significant indicator of bad health. However, in the study area, the prevalence of inpatient cases is lower for workers having fixed working hours, but the prevalence of outpatient cases is much higher for workers not having fixed working hours. Morning shift workers have a higher prevalence of both inpatient and outpatient cases. Informal workers having working hours eight or below have a higher prevalence of inpatient cases than those working for more than eight hours but the prevalence of outpatient cases is higher in the later. The prevalence of both inpatient and outpatient cases is higher in those informal workers who work seven days in a week than those working six days.

Table 4.20 Prevalence of inpatient and outpatient cases per thousand population by working conditions the study area, 2016

	Inpatient case	Outpatient case	N
How got the work			
With help from relatives/friends	5.9	100.3	339
Own knowledge/efforts	24.1	84.3	83
Others	160.0	200.0	25
Reason for work			
Lack of better alternatives	7.6	110.7	262
Ease of entry	44.4	74.1	135
Others	0.0	134.6	52
Fixed working hours?			
Yes	26.7	70.0	300
No	0.0	176.1	159
Shift work			
Day	19.2	108.2	416
Others	0.0	93.0	43
Working hours			
8 or below	24.4	100.6	328
More than 8	0.0	103.9	154
Workdays in week			
5 or below	48.2	84.3	83
6	9.6	76.9	208
7	12.0	144.6	166
Workdays in month			
20 or below	32.3	193.5	62
20-25	23.3	40.7	172
25-30	8.9	133.3	225
Working month in a year			
11 & below	33.1	105.0	181
12	7.2	107.9	278
Mode of payment			
Cash	19.0	88.1	420
Cheque/bank transfers	0.0	366.7	30
Periodicity of payment			
Daily	24.3	109.3	247
Weekly		60.6	33
Monthly	11.8	118.3	169
Who pays the wage			
Employer	26.9	107.6	223
Contractor	0.0	87.0	69
Supervisor/clerk/employee	29.0	43.5	69
Others	0.0	186.0	86
Total	16.6	101.7	482

Continued...

Continued...

	Inpatient case	Outpatient case	N
Delay in payment			
No delay	14.5	122.1	344
Yes	28.0	65.4	107
Awareness about minimum wage			
Yes	0.0	81.1	74
No	21.3	114.7	375
Easily manage a day off			
Yes	10.1	171.7	198
No	23.2	57.9	259
Fixed breaks during working hours			
Yes	15.4	103.8	260
No	20.5	112.8	195
Can take a break whenever needed?			
Yes	2.34	119.9	342
No	0.0	50.0	80
Total	16.6	101.7	482

Source: Primary Survey, February-May 2016

In case of informal workers who are working less than five days in a week have much higher prevalence of both inpatient and outpatient cases. Workers having workdays 25 to 30 days in a month have lower inpatient cases but higher outpatient cases than those working 20 to 25 days. Daily wage earners report a higher prevalence of inpatient cases but a lower prevalence of outpatient cases than monthly salary earners. Workers receiving their wages directly from employers report a higher prevalence of outpatient cases than those receiving from contractors and supervisors/Clerks/employees. In the study area, informal workers complaining about the delay in payment report higher prevalence (almost double) of inpatient cases but lower prevalence (almost half) of outpatient cases. Workers not aware about minimum wages of their work report much higher level of both inpatient and outpatient cases than those aware about minimum wages. Workers who can easily manage a day off from work lower prevalence of inpatient work but a much higher prevalence of outpatient cases. Informal workers, not having fixed breaks during working hours, report a higher prevalence of both inpatient and outpatient cases. Those workers who can take a break from work whenever they need also report a higher prevalence of both inpatient and outpatient cases.

4.7 Impact of psychosocial factors on health status of informal workers in the study area

The impact of psychosocial factors on health status is well established. Table 4.21 presents the prevalence of inpatient and outpatient cases per thousand by psychosocial stressors among informal workers in the study area.

Table 4.21 Prevalence of inpatient and outpatient cases per thousand population by psychosocial factors in the study area, 2016

	Inpatient case	Outpatient case	N
Job retain for next one year			
Yes	22.6	105.3	266
Not sure	9.9	94.1	202
Employer can ask anytime to leave			
Yes	0.0	62.5	32
No	31.6	71.1	253
Not sure	0.0	101.1	89
Superiors behaviour			
Uses abusive language	0.0	280.0	50
Behaves decently	23.1	57.8	346
Threatened from clients			
Yes	0.0	0.0	5
No	19.6	85.8	408
Threatened from colleagues/management			
Yes	0.0	181.8	11
No	19.9	82.1	402
Work required lot of thinking			
Yes	0.0	62.5	16
No	17.2	103.4	464
Work too difficult			
Yes	28.0	37.4	107
No	13.5	121.3	371
Lot of time alert			
Yes	0.0	115.9	138
No	23.4	96.5	342
Work with a deadline?			
Yes	0.0	144.7	76
No	19.8	94.1	404
Work regularly pile up?			
Yes	0.0	163.8	116
No	22.0	82.4	364
Total	16.6	101.7	482

Source: Primary Survey, February-May 2016

Workers who consider that they can retain their job for next one year have a higher prevalence of both inpatient and outpatient cases than those who are not sure that they can retain their jobs for next one year. Workers who believe that their employer can ask them to leave whenever they wish reported lower prevalence of outpatient cases but who are not sure have a higher prevalence of outpatient cases.

For outpatient cases, informal workers reporting the use of abusive language by superiors have a higher prevalence than those reporting decent behaviour from superiors. Workers, who perceive that their work is too difficult, have much higher hospitalisation cases but the scenario is just opposite in the case of outpatient cases. Workers reporting alert for longer time at workplace have higher outpatient cases, similarly, workers who have to work with deadlines and whose work regularly piles up have a higher prevalence of outpatient cases.

4.8 Impact of physical strain at workplace on health status of informal workers in the study area

The next table 4.22 shows the prevalence of inpatient and outpatient cases per thousand by physical strain at work among informal workers in the study area. Workers experiencing highly physical work, lengthy standing, lifting or carrying heaving objects, a lengthy period of working in same physical condition, bending down regularly, reaching up regularly report a higher prevalence of inpatient cases than those who are not experiencing any physical strain at work. While the prevalence of outpatient cases is lower among workers who experience physical strain at work like highly physical work, lengthy standing, lifting or carrying heaving objects, a lengthy period of working in same physical condition, bending down regularly and reaching up regularly. Two types of physical strain lengthy sitting and lengthy period of repetitive movements are reported a lower prevalence of inpatient cases but a higher prevalence of outpatient cases. It is noticed that physical strain at work is mostly associated with a higher prevalence of inpatient cases while psychosocial factors are associated with the outpatient cases.

Table 4.22 Prevalence of inpatient and outpatient cases per thousand population by physical strain at workplace faced by informal workers in the study area, 2016

	Inpatient case	Outpatient case	N
Work highly physical			
Yes	42.0	28.0	143
No	0.0	82.2	73
Lengthy sitting			
Yes	0.0	149.4	154
No	24.8	80.7	322
Lengthy standing			
Yes	22.0	93.4	182
No	13.4	107.4	298
Lifting/carrying			
Yes	32.3	64.5	124
No	11.2	115.2	356
Lengthy period of working in same physical condition			
Yes	63.2	84.2	95
No	5.2	106.5	385
Bending down regularly			
Yes	153.8	0.0	39
No	4.6	112.9	434
Reaching up regularly			
Yes	28.2	28.2	71
No	14.7	115.5	407
Lengthy period of repetitive movements			
Yes	0.0	153.8	13
No	17.3	101.5	463
Total	16.6	101.7	482

Source: Primary Survey, February-May 2016

4.9 Impact of basic facilities and safety at workplace on health status of informal workers in the study area

Table 4.23 lists the prevalence of inpatient and outpatient cases per thousand by some of the basic facilities and safety practices at workplace among informal workers in the study area. Workers having drinking water and toilet facility at workplace report higher prevalence of hospitalisation cases, but not having these facilities lead to higher prevalence of outpatient cases. While not having good safety measures at the workplace like first aid availability, enough provisions to prevent accidents and other calamities predict the higher prevalence of both inpatient and outpatient cases. Workers satisfaction with prevailing basic and safety conditions have a lower incidence of both hospitalisation and non-hospitalization cases.

Table 4.23 Prevalence of inpatient and outpatient cases per thousand population of informal workers by basic facilities and safety at workplace in the study area, 2016

Basic facilities at workplace	Inpatient case	Outpatient case	N
Drinking water			
Yes	21.6	67.4	371
No	0.0	220.2	109
Toilet			
Yes	26.1	84.7	307
No	0.0	132.9	173
Shady place to eat			
Yes	16.3	73.2	246
No	17.1	132.5	234
First aid availability			
Yes	0.0	57.9	190
No	27.6	131.0	290
Satisfaction with prevailing conditions			
Yes	0.0	80.0	225
No	31.4	121.6	255
Enough attention to prevent accidents?			
Yes	36.1	54.2	166
No	6.9	138.9	288
Sufficient measures to prevent fires/other calamities			
Yes	0.0	57.1	175
No	26.6	129.6	301
Total	16.6	101.7	482

Source: Primary Survey, February-May 2016

4.10 Distribution of occupational injuries and lifestyle factors among informal workers in the study area

The self-perceived health status of informal works using the five-point Likert scale and any injuries caused by work and related characteristics have been shown in table 4.24. A large majority of the workers perceive that their health is in good condition (83.3 percent). Five percent of them consider it as very good while about 10 percent of the total informal workers reported moderate health. Only two percent of the workers told that their health is in bad condition. Significant proportions (11 percent) of the workers were injured at work that reflects the existence of poor working environment for informal works in India.

Table 4.24 Distribution of self-perceived health status and occupational injuries at workplace in the study area, 2016

	Percent	N
Self-perceived health status		
Very good	4.9	23
Good	83.3	389
Moderate	9.9	46
Bad	1.9	9
Very bad	0.0	0
Total	100.0	467
Ever been injured at work		
Yes	11.0	53
No	89.0	429
Total	100.0	482
Ever been disabled due to work		
Yes	3.9	19
No	96.1	463
Total	100.0	482
Nature of disability		
Temporary	94.7	18
Permanent	5.3	1
Total	100.0	19
Disability type		
Leg related	31.3	6
Hand-related	68.8	13
Total	100.0	19
Any illness except injuries caused by work?		
Yes	1.0	5
No	99.0	477
Total	100.0	482

Source: Primary Survey, February-May 2016

Table 4.25 Distribution of selected lifestyle factors at workplace in the study area, 2016

Lifestyle factors	Percent	N
Smoking		
Yes	53.5	253
No	46.5	220
Total	100.0	473
Tobacco in any form		
Yes	57.8	274
No	42.2	200
Total	100.0	474
Drinking		
Yes	55.7	264
No	44.3	210
Total	100.0	474

Source: Primary Survey, February-May 2016

Approximately four percent of the total workers also had become physically disabled due to injuries at work, and about five percent of them were permanent disability. These disabilities are mainly hand and leg related. But only one percent of workers complain about other type of illnesses caused by work.

The lifestyle factors of workers in the study area which has major implications on the health condition is summarises in table 4.25. More than half of the workers reported that they smoke, drink or take tobacco in any form on a daily basis. While no worker in the study area had reported that they control any type of dietary intake in order to take care of their health and involved in any type of physical activity like exercises to improve their health.

4.11 Distribution of musculo-skeletal symptoms and other common health problems among informal workers in the study area

The distribution of musculoskeletal symptoms and other common health problems among informal workers in the study area has been shown in table 4.28. A significant proportion of them had reported musculoskeletal symptoms. 43.6 percent of the workers had reported the prevalence of regular pain in shoulder or arm or hand. While regular pain neck, back, and hip or leg or foot are reported by 33.5 per cent, 38 per cent and 38.6 per cent of workers respectively.

Other common health problems such as regular headaches, digestive problems, irritated eyes, coughing and skin problems were also observed among informal workers. A considerable share of informal workers usually suffers from a regular coughing (15.8 per cent) and digestive problems (5.3 percent). But only about one-fifth of the workers consider that these symptoms are caused by the work.

Table 4.26 Distribution of selected musculoskeletal symptoms and other common health problems among informal workers in the study area, 2016

	Percent	N		Percent	N
Regular pain in			Regular headaches		
Shoulder/arm/hand			Yes	0.8	4
Yes	43.6	208	No	99.2	473
No	56.4	269	Total	100.0	477
Total	100.0	477	Regular digestive problems		
Neck			Yes	5.3	25
Yes	33.5	160	No	94.8	451
No	66.5	317	Total	100.0	476
Total	100.0	477	Regular irritated eyes		
Back			Yes	2.5	12
Yes	38.0	180	No	97.5	462
No	62.0	294	Total	100.0	474
Total	100.0	474	Regular coughing		
Hip/leg/foot			Yes	15.8	74
Yes	38.6	184	No	84.2	394
No	61.4	293	Total	100.0	468
Total	100.0	477	Regular skin problems		
			Yes	1.5	7
			No	98.5	469
			Total	100.0	476
			These symptoms caused by work?		
			Yes	19.9	89
			No	80.1	358
			Total	100.0	447

Source: Primary Survey, February-May 2016

4.12 Impact of psychosocial factors on the musculoskeletal symptoms among the informal works in the study area

The prevalence of inpatient and outpatient cases by various employment conditions and working conditions as well as psychosocial factors is already discussed in detail. However in this section, the prevalence of various musculoskeletal symptoms by the employment and psychosocial factors will be discussed. Table 4.27 shows the prevalence of various musculoskeletal symptoms by employment conditions in the study area. It can be easily observed from the table that prevalence of each type of musculoskeletal symptoms i.e. regular pain in shoulder/upper limb, neck, back and lower limb is much higher among workers from the disadvantaged employment condition.

Table 4.27 Prevalence of musculoskeletal symptoms by employment conditions of informal workers in the study area, 2016

Employment condition	Regular pain in				N
	Shoulder/upper limb	Neck	Back	Lower limb	
Job contract					
Written contract	18.2	22.7	22.7	18.2	44
No contract	46.2	34.6	39.5	40.7	433
Total	43.6	33.5	38.0	38.6	477
Availability of social security benefits					
Any benefit	19.5	26.6	25.5	15.0	113
No benefit	51.1	35.7	41.8	45.9	364
Total	43.6	33.5	38.0	38.6	477
Eligibility for paid leave					
Yes	9.6	15.4	17.3	7.1	156
No	64.0	43.8	50.2	57.2	292
Total	45.1	33.9	38.7	39.7	448

Source: Primary Survey, February-May 2016

The informal workers, not having written contract, social security benefits, and paid leaves, report a much higher level of regular pain in shoulder/upper limb and lower limb. Workers not eligible for paid leave have much higher level of prevalence for all listed musculoskeletal problems in the table regular pain. While workers not having written job contract and social security benefits have a higher prevalence of regular neck and back pain than those having such benefits but with a lower magnitude.

The prevalence of selected musculoskeletal problems by various psychosocial stressors among informal workers in the study area is presented in table 4.28. Job security is an important determinant of musculoskeletal problems. In the study, worker's perception about job retention for next year and possibility of instant dismissal from the employer is used as an indicator of job security. For both, the variables representing job security perception among workers, the prevalence of all selected musculoskeletal problems is higher among those who have lower job security. Informal workers who report that their employer cannot ask to leave anytime have much lower prevalence of all selected musculoskeletal problems i.e. regular pain in shoulder/upper limb, neck, back and lower limb while those workers consider that their employer can ask them to leave at any time or not sure about it have much higher prevalence of selected musculoskeletal problems.

Table 4.28 Prevalence of musculoskeletal symptoms by psychosocial stressors among informal workers in the study area, 2016

Psychosocial Stressor	Regular pain in				N
	Shoulder/upper limb	Neck	Back	Lower limb	
Job retain for next one year					
Yes	32.8	29.8	34.8	27.1	262
Not sure	54.7	35.8	38.8	51.2	201
Total	42.3	32.4	36.5	37.6	463
Employer can ask anytime to leave					
Yes	59.4	81.3	86.2	59.4	32
No	11.5	6.3	11.5	6.3	253
Not sure	71.6	42.1	48.9	63.6	88
Total	29.8	21.2	26.2	24.4	373
Superiors behaviour					
Uses abusive language	75.5	38.8	46.9	59.2	49
Behaves decently	29.5	20.8	25.1	26.6	346
Total	35.2	23.0	27.9	30.6	395
Threatened from clients					
Yes	60.0	60.0	0.0	60.0	5
No	36.1	25.3	30.5	31.2	407
Total	36.4	25.7	30.3	31.6	412
Threatened from colleagues/management					
Yes	81.8	27.3	0.0	81.8	11
No	35.2	25.7	30.9	30.2	401
Total	36.4	25.7	30.3	31.6	412
Work required lot of thinking					
Yes	44.4	33.6	37.7	39.7	16
No	12.5	37.5	37.5	12.5	459
Total	43.4	33.7	37.7	38.7	475
Work too difficult					
Yes	52.2	38.8	43.4	46.7	107
No	14.0	16.8	16.4	12.2	366
Total	43.6	33.8	37.5	38.9	473
Lot of time alert					
Yes	50.0	50.0	52.9	45.7	138
No	40.7	27.0	31.4	35.9	337
Total	43.4	33.7	37.7	38.7	475
Work with a deadline?					
Yes	92.0	54.7	56.9	92.0	75
No	34.3	29.8	34.3	28.8	400
Total	43.4	33.7	37.7	38.7	475
Work regularly pile up?					
Yes	93.9	71.3	73.0	90.4	115
No	27.2	21.7	26.3	22.2	360
Total	43.4	33.7	37.7	38.7	475

Source: Primary Survey, February-May 2016

Table 4.29 Odds ratio of selected musculoskeletal symptoms by employment and psychosocial factors among informal workers in the study area, 2016

	Shoulder/ upper limb	Neck	Back	Lower limb
	Pseudo R²=0.5596	Pseudo R²=0.4453	Pseudo R²=0.3611	Pseudo R²=0.5715
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Job contract				
No contract®				
Written contract	0.023**	0.026**	0.049**	0.039*
Availability of social security benefits				
No benefit®				
Any benefit	0.351**	3.264**	1.470	0.389*
Eligibility for paid leave				
No®				
Yes	0.091***	0.323	0.091***	0.145***
Job retain for next one year				
Not sure®				
Yes	0.439	0.203**	0.659	0.208**
Employer can ask anytime to leave				
Yes®				
Not sure	0.790	0.006***	0.029***	0.339
No	0.033***	0.001***	0.005***	0.019***
Superiors behaviour				
Uses abusive language®				
Behaves decently	0.005***	0.039***	0.056***	0.023***
Work too difficult				
Yes®				
No	0.096**	0.118*	0.154*	0.073**
Lot of time alert				
Yes®				
No	0.634	1.537	0.995	0.601
Work with a deadline?				
Yes®				
No	0.029***	1.066	0.435	0.018***
Work regularly piles up?				
Yes®				
No	0.166**	0.587	1.018	0.165*
N	350	350	350	350

Note: ® Reference category, *p<0.1, ** p<0.05, *** p<0.001, *Source:* Primary Survey, February-May 2016

Interpersonal and leadership relationships, here defined by supervisor's behaviour and feeling threatened by clients or colleagues or management, have a significant impact on the prevalence of selected musculoskeletal problems. Workers facing abuse from superiors and feeling threatened from clients, colleagues and management have a higher prevalence of all regular pain in shoulder/upper limb, neck and lower limb. High job demand also exerts enormous pressure on worker's health. Those workers facing too

difficult work, requiring a lot of thinking, being a lot of time alert, working with deadlines and facing regular piling of work have much higher prevalence of all listed musculoskeletal problems in the study area.

Further, the cause and effect relationship between psychosocial factors and musculoskeletal symptoms among the informal works in the study area is also analysed. The odds ratios of each selected musculoskeletal symptoms are shown in the table 4.29. Accessibility to a favourable employment condition for informal worker have a strong impact on the reduction of musculoskeletal problems. Workers with a written job contract have a much lower likelihood of suffering from all selected musculoskeletal problems i.e. regular pain in shoulder/upper limb, neck, back and lower limb. Availability of social security benefits reduces the likelihood of regular pain in shoulder/upper limb and lower limb. Surprisingly, this increases for neck pain in the study area.

Workers eligible for paid leave also have a much lower likelihood of regular suffering from pain in shoulder/upper limb, back and lower limb. Psychosocial factors like job insecurity, relationships with leadership and high job demand are also significantly affect the prevalence of musculoskeletal problems among informal workers in the study area. Workers assured about retaining their jobs for next one year have a lower likelihood of regular suffering from pain in shoulder/upper limb, neck and lower limb. While informal workers who considered that employer cannot ask them to leave anytime or not sure about it are less likely to suffer from selected musculoskeletal problems. The decent behaviour of superiors also reduced the likelihood of suffering from regular pain in shoulder/upper limb, neck, back and lower limb. High job demand factors like difficult work, need to be alert at work, finish work within a deadline and regular piling up of work have a strong influence on the incidence of musculoskeletal problems in the study area. The workers considering their work not very difficult have much lower likelihood to suffer from a regular pain in shoulder/upper limb and lower limb and slightly low likelihood to suffer from pain in neck and back. The workers not bounded to finish work within a deadline and not facing regular piling of work are much lower likely to suffer from a regular pain in shoulder/upper limb and lower limb.

4.13 Summary

This chapter dealt with the prevalence of inpatient and outpatient cases, the distribution of nature of ailments across, and impact of employment, working & psychosocial factors on the health status of workers and their families. Delhi has considerably lower levels of both inpatient (hospitalisation) and outpatient (non-hospitalization) cases in comparison to India especially the outpatient cases. While the study area comprising slums of Delhi have a lower prevalence of inpatient cases compared to India and Delhi average. For outpatient cases, the time period of 'ailments not requiring hospitalisation' was last 30 days for primary survey which raises the prevalence levels for study area from Delhi (NSS uses last 15 days criteria) but it is still lower than India. The prevalence of inpatient cases is significantly higher among females than the males, this may be due to childbirth related hospitalisation cases. The prevalence of outpatient cases is also higher among females in India, but in Delhi, it is almost similar. The level of both hospitalisation and non-hospitalization cases is higher in older and children individuals. There is a sharp reduction in the prevalence of outpatient cases with an increase in the level of education, but this is not sharp for inpatient cases. A strong increase is observed for a level of inpatient cases with the increase in economic status defined by MPCE quintiles in India and the study area. The prevalence of both hospitalisation and non-hospitalization cases is too much higher among the chronic sufferers from any disease in India, Delhi, and the study area. Health insurance also shows a marked increase in the level of both inpatient and outpatient cases.

Among the type of household classified by nature of work of the head of household, the highest level of both hospitalisation and non-hospitalization cases is observed among regular wage/salary earners in rural India, but there is no large difference among the type of households in urban India.

Among industrial groups of workers, higher prevalence of inpatient cases is noted in Real estate activities, Human health and social service activities and Information and communication sectors, while lower prevalence of inpatient cases is observed among industrial groups of Mining and quarrying, Agriculture, forestry and fishing, Professional, scientific and technical activities and Construction. For outpatient cases, higher prevalence is found in Electricity, gas, steam and air conditioning supply, Professional, scientific and technical activities, Accommodation and food service activities, and Financial and insurance activities while lower in case of Agriculture, forestry and fishing,

Mining and quarrying, Construction and Water supply, sewerage, waste management and remediation activities.

Among the occupational groups in India, Professionals, Plant and machine operators and assemblers, Technicians and associate professionals and Legislators, senior officials and managers have a higher prevalence of inpatient cases while lower prevalence is observed among Skilled agricultural and fishery workers, Elementary occupations and Craft and related trade workers. In Delhi, Skilled agricultural and fishery workers, Clerks, Technicians and associate professionals have higher levels of inpatient cases, and lower levels are noticed among Service workers and shop & market sales workers, Elementary occupations, Craft and related trade workers and Professionals. For outpatient cases, higher prevalence is observed among Technicians and associate professionals, Clerks, Plant and machine operators and assemblers, Service workers and shop & market sales workers and Professionals and lower prevalence among Skilled agricultural and fishery workers, Elementary occupations, and Legislators, senior officials and managers.

In general, the prevalence of both hospitalisation and non-hospitalization (substantially) increases with the increase in the economic status of the workers and a higher increase is marked in rural areas. Casual labours experience the sharpest increase in the prevalence of inpatient cases with an increase in economic status. Agriculture, forestry and fishing, Mining and quarrying, Construction and Manufacturing groups show higher increase rates of inpatient cases with improvement in economic status.

The largest share of infectious diseases is observed for both hospitalization and non-hospitalization in India and Delhi. Other major diseases having a significant share in the type of ailments for inpatient cases are Childbirth, Injuries, Gastro-intestinal, Cardio-vascular, Psychiatric/neurological, Respiratory and Musculo-skeletal diseases. For outpatient cases, the share of infectious diseases is the highest; it constitutes almost half of the non-hospitalization cases in Delhi. Major contributors in outpatient cases are Gastro-intestinal, Cardio-vascular, Musculo-skeletal and Endocrine/metabolic/nutritional diseases.

Among casual labour households in India, except for childbirth and infectious disease, the share of Injuries, Cardio-vascular, Psychiatric/neurological, Musculo-skeletal, and Respiratory diseases are higher than regular wage/salary earners for inpatient cases. While the share of infectious diseases, Respiratory, Musculo-skeletal, Psychiatric/neurological and Injuries among casual labour households are higher than regular wage/salary earners.

The impact of employment and working conditions on the health status of informal workers from study area is also discussed in this chapter. Employment conditions (here defined by the existence of written job contract, availability of social security benefits and eligibility for paid leave) have a significant impact on the occurrence of inpatient cases, but for outpatient cases, the impact is significant. However, the impact of working conditions of informal workers is very diverse. Fixed working schedule, day shift, eight or below working hours and weekend holidays do not show any positive impact on the prevalence of inpatient cases while workers having a monthly wage, delay in payment, awareness about minimum wage, easily available holidays and fixed breaks during working hours have a lower level of inpatient cases. For outpatient cases, among informal workers having fixed working schedule, eight or below working hours, weekend holidays, awareness about minimum wage and fixed breaks during working hours have lower prevalence of outpatient cases while among workers having day shift work, delay in payment, easily available holidays and breaks available whenever required by workers have lower prevalence. So, the impact of working conditions on both hospitalisation and non-hospitalization cases are not very clear.

Psychosocial factors also have considerable influence on the health status of workers. In the study area, workers being certain about retaining their jobs for next year have a higher prevalence of both the inpatient and outpatient cases. While workers who admit that their employer can ask them any time to leave or not certain about it have a higher prevalence of both the inpatient and outpatient cases. Bad behaviour of superiors, being a lot of time alert at work, work with deadlines and regular piling up of work have increased the level of non-hospitalization cases of workers, but a lower level of inpatient cases is observed for these working conditions.

A strong association between psychosocial stressors and musculoskeletal problems among informal workers is observed in the study area. Employment conditions i.e. written job contract, availability of social security benefits and eligibility for paid leave significantly decreases the incidence of regular pain in shoulder/upper limb, neck, back and lower limb. The job security factors also significantly reduce the prevalence of musculoskeletal problems among workers. The results also indicated the reduced

prevalence of musculoskeletal problems among workers experiencing good behaviour from superiors. High job demand factors e.g. too difficult work, being a lot of time alert at the workplace, work with deadlines, and regular piling up of work also enhances the prevalence of musculoskeletal problems.

CHAPTER V

UTILIZATION OF HEALTH CARE SERVICES, HEALTH INSURANCE COVERAGE AND HEALTH EXPENDITURE OF INFORMAL WORKERS

5.1 Introduction

The chapter is divided into three major sections, first section deals with the utilisation of health care services and second section presents the status of health insurance coverage. While the third section deals with the mean health expenditure incurred during hospitalisation and non-hospitalization treatment, Out-of-pocket (OOP) expenditure and incidence of catastrophic health expenditure in India, Delhi and the study area.

5.2 Utilization of type of care for inpatient cases in India and Delhi

The share of public and private hospitals and type of wards used during hospitalization by various background characteristics in India is shown in table 5.1. More than half of the Indian population uses private inpatient health services. Out of the total hospitalisation in India, 43.1 per cent of individuals were admitted in free wards, around same proportion were in paid general wards and a smaller proportion in paid special wards. The larger proportion of males is utilizing private facilities (63.1 per cent) than that of females (50 per cent). The higher share of private hospitals (more than 60 per cent) is observed among younger ('0 to 5 years' and '6 to 14 years' age group) and older population ('45 to 64 years' and '65 years & above' age group). While more than half of the patients from age groups of '15 to 24 years' and '25 to 44 years' were admitted in public hospitals and free wards. The share of private hospitals and paid wards, especially special wards, are much higher in urban areas in compare to rural areas. The share of public hospitals and free wards for inpatient hospitalisation increases with increase in household size. Among social groups, the proportion of public hospitals and free wards declines with an increase in social hierarchy, but the gap between OBCs and 'Others' is negligible for the type of hospital used. Within religious groups, Muslims receive lowest of private inpatient healthcare services.

The level of education has an interesting influence on the type of hospital and ward utilization. In general, the share of public hospitals and free wards decline with an increase in the level of education. The decline is slower from not literate to primary and primary to middle educated patients, but afterward with an increase in education level, it becomes more pronounced. The larger proportion of currently married patients receives

public inpatient healthcare services and free ward than widowed/divorced/separated and never married patients. The head of household and grandchild have larger proportion of inpatient treatment in private hospital and the lowest in free wards.

Economic status is one of the most crucial factors determining the health care utilization. The share of private hospitals increases from one-third among lowest MPCE quintile to two-fifth among highest MPCE quintile while the share of free wards declines from 60 per cent to 20 per cent for same MPCE quintiles. Coming to living conditions, patients having toilet, using tap/bottled water, using LPG as cooking and living in covered drainage have higher proportion in private hospitals. The larger share of people chronically suffering from any disease was admitted in private hospitals and paid special wards than non-chronic sufferers. But people chronically suffering from any disease have a lower share in hospitalisation in free wards. Insured patients were also more hospitalized in private hospitals, free wards and paid special wards.

5.2.1 Type of care and ward of inpatient cases by type of household and industry

The proportion of public and private hospitals and type of wards used during hospitalization by type of household and industrial classification of workers in India is presented in table 5.2. In rural India, patients from casual labour in non-agriculture households have the largest share of hospitalization in public hospitals followed by casual labour in agriculture, self-employed in non-agriculture and self-employed in agriculture. The lowest share is observed among regular wage/salary earners. The share of hospitalization in free wards has a similar pattern. In urban areas, casual labours have the highest share in hospitalization in public hospitals followed by self-employed. Regular wage/salary earners have the highest proportion in hospitalization in private hospitals in both urban and rural areas. While the highest share of admission in free wards is among casual labours followed by regular wage/salary earners. Self-employed has the lowest share of hospitalization in free wards.

Among the industrial groups, the higher share of hospitalization in public hospitals and free wards is observed in Construction followed by Agriculture, forestry and fishing, Other service activities, Mining and quarrying, Manufacturing and Transport and storage. On the other hand, the lowest share of both is reported in Real estate activities, Financial and insurance activities, Professional, scientific and technical activities, Information and communication, Electricity, gas, steam and air conditioning supply and Education.

Table 5.1 Distribution of type of care and ward of inpatient cases by background characteristics in India, 2014

Background characteristics	Type of hospital		Type of ward			N
	Public	Private	Free	Paying general	Paying special	
Sex						
Male	36.9	63.1	35.3	47.6	17.1	20,496
Female	50.0	50.0	47.5	40.0	12.6	34,530
Age group						
0-5	32.9	67.1	33.1	45.6	21.3	3,867
6-14	39.3	60.7	37.3	51.6	11.0	3,263
15-24	55.9	44.2	51.5	39.3	9.2	10,970
25-44	50.2	49.8	46.8	40.5	12.8	19,427
45-64	36.9	63.2	36.3	47.2	16.5	11,606
65 & above	35.6	64.4	36.7	42.0	21.3	5,893
Place of residence						
Rural	50.3	49.7	47.3	41.7	11.0	31,134
Urban	35.5	64.6	34.6	44.2	21.2	26,322
Household size						
1-4	43.8	56.2	42.9	41.2	15.9	21,930
5-6	46.3	53.7	43.3	42.7	14.0	19,371
7 & above	46.6	53.4	43.4	44.9	11.7	13,725
Social group						
STs	67.6	32.4	63.8	30.1	6.2	6,145
SCs	57.0	43.0	55.4	37.5	7.1	9,368
OBCs	40.7	59.3	39.9	43.7	16.5	22,053
Others	39.1	60.9	34.8	47.8	17.4	17,460
Religion						
Hindu	44.9	55.1	43.1	43.3	13.6	42,484
Muslim	50.5	49.5	46	40.7	13.3	7,615
Sikh	37.2	62.8	30.6	55.3	14.2	968
Others	39.9	60.1	39.7	31.9	28.4	3,959
Educational attainment						
Not literate	49.4	50.6	48.7	41.2	10.1	16,261
Primary	49.8	50.2	47.3	41	11.7	13,555
Middle	48.7	51.3	45.2	43.2	11.6	8,232
Secondary	41.2	58.8	35.8	47.2	17.0	6,901
Higher secondary	35.1	64.9	32.6	47.4	20.0	4,891
Graduate & above	22.3	77.8	22.0	42.3	35.8	5,186
Marital status						
Never married	37.4	62.6	35.4	49.2	15.5	11,357
Currently married	48.1	51.9	45.5	40.9	13.6	39,108
Widowed/divorced/separated	40.0	60.0	40.7	43.4	15.9	4,561
Total	45.4	54.6	43.1	42.5	14.3	57,456

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Background characteristics	Type of hospital		Type of ward		N	
	Public	Private	Free	Paying general		Paying special
Relation to head						
Head	38.8	61.2	38.3	44.6	17.1	13,789
Spouse	51.4	48.6	48.6	40.2	11.2	15,763
Child	40.4	59.6	37.9	47	15.1	11,717
Spouse of child	56.5	43.5	51.8	37.6	10.6	7,627
Grandchild	31.5	68.5	32.3	45.4	22.3	2,486
Others	41.6	58.4	40.3	43.4	16.3	3,644
MPCE quintile						
Lowest	65.3	34.7	60.6	35.5	4	10,428
Lower	54.6	45.4	53	41	6	11,177
Middle	47.8	52.2	44.2	45.1	10.7	12,178
Higher	35.1	64.9	34.9	46.7	18.5	12,719
Highest	21.5	78.5	20.5	44.2	35.3	10,949
Toilet availability						
Yes	38.1	62	35.9	45.2	18.9	38,906
No	57.4	42.6	55	38.5	6.5	16,120
Source of drinking water						
Tap/bottled	36.9	63.1	36.8	46.3	17	29,271
Tube well/hand pump/tankers	55.5	44.5	50.8	41	8.2	19,898
Well/tank/river/canal etc.	42.9	57.1	41.4	34.1	24.5	5,857
Type of cooking fuel						
LPG/electricity	29.3	70.7	28.8	47.1	24.1	25,266
Coal/wood/dung etc.	55.3	44.8	52	40	8	29,719
Type of drainage						
No drainage	58.8	41.2	55.4	35.2	9.4	16,012
Open	46.4	53.6	43.5	45.8	10.8	22,382
Covered	28.4	71.6	28.5	47.3	24.3	16,632
Whether chronically suffering						
Yes	33.5	66.5	35.4	42	22.6	8,967
No	48	52	44.9	42.8	12.3	46,059
Insurance coverage						
Yes	42.1	57.9	45.7	36.2	18.0	10,168
No	46.2	53.8	42.5	44.2	13.2	44,858
Total	45.4	54.6	43.1	42.5	14.3	57,456

Source: Computed from NSS 71st Round, 2014

Table 5.2 Distribution of type of care and ward of inpatient cases by type of household and industry in India, 2014

	Type of hospital			Type of ward		N
	Public	Private	Free	Paying general	Paying special	
<i>Type of household</i>						
<i>Rural</i>						
Self-employed in agriculture	47.1	52.9	42.6	47.4	10.1	11,851
Self-employed in non-agriculture	48.2	51.9	46	39.6	14.4	4,595
Regular wage/salary earning	40.6	59.4	38.7	44.3	17	3,941
Casual labour in agriculture	58.8	41.3	57	36.2	6.8	3,996
Casual labour in non-agriculture	64.5	35.5	59.8	34.7	5.5	3,907
Others	42	58.1	46.6	34	19.4	1,554
<i>Urban</i>						
Self-employed	33.3	66.7	31.8	45.4	22.8	10,075
Regular wage/salary earning	32.4	67.6	33	46.3	20.7	9,480
Casual labour	51.1	48.9	48.5	40.4	11.1	3,608
Others	24	76	24.9	44.1	31	2,019
<i>NIC-2008</i>						
Agriculture, forestry and fishing (A)	49.9	50.1	46.1	44.2	9.7	17,829
Mining and quarrying (B)	45.3	54.7	51.6	40	8.4	334
Manufacturing (C)	44.5	55.5	43.6	43.9	12.5	6,151
Electricity, gas, steam and air conditioning supply (D)	32.2	67.8	31.4	47.8	20.9	251
Water supply; sewerage, waste management and remediation activities (E)	39.6	60.5	39	37.4	23.6	241
Construction (F)	57.9	42.1	55.4	37.2	7.4	6,259
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	36.7	63.3	34.5	44.3	21.2	7,275
Transportation and storage (H)	44.1	55.9	42.1	41.7	16.2	3,624
Accommodation and food service activities (I)	39	61.1	38.8	42.2	19	973
Information and communication (J)	25.6	74.5	32.2	35.4	32.4	478
Financial and insurance activities (K)	23.8	76.2	19.5	51.5	29	665
Real estate activities (L)	14.2	85.8	13.7	38.7	47.6	248
Professional, scientific and technical activities (M)	25.2	74.8	25.1	47.4	27.5	424
Administrative and support service activities (N)	35.5	64.5	32.9	50.9	16.2	576
Public administration and defense; compulsory social security (O)	34.1	65.9	32.5	43.7	23.8	2,117
Education (P)	33.7	66.3	29.9	47.7	22.4	2,085
Human health and social work activities (Q)	41.1	58.9	38	36.8	25.3	635
Arts, entertainment and recreation (R)	37.6	62.5	32.5	31.7	35.9	140
Other service activities (S)	48.2	51.8	47	40.6	12.4	1,104
Activities of extraterritorial organizations and bodies (U)	0	100	0	0	100	2
Total	45.4	54.6	43.1	42.5	14.3	57,456

Source: Computed from NSS 71st Round, 2014

5.2.2 Type of care and ward of inpatient cases by occupational groups

The share of public and private hospitals and type of wards used during hospitalization by occupational groups of workers in India is shown in table 5.3. The higher share of public hospitals and free wards is observed among Elementary occupations, Craft and related trade workers, Skilled agricultural and fishery workers, Service workers and shop & market sales workers and Plant and machine operators and assemblers while lower share is observed in Professionals, Legislators, senior officials and managers, Clerks and Technicians and associate professionals. The share of special paid wards increased with the increase in share of private hospitals for inpatient cases.

Table 5.3 Distribution of type of care and ward of inpatient cases by occupational groups in India, 2014

Occupational groups	Type of hospital		Type of ward		N	
	Public	Private	Free	Paying general		Paying special
Legislators, senior officials and managers (I)	28.0	72.0	27.5	46.1	26.4	5,840
Professionals (II)	25.1	74.9	22.5	48.8	28.8	2,462
Technicians and associate professionals (III)	33.5	66.5	29.6	47.1	23.3	2,368
Clerks (IV)	28.5	71.5	31.0	46.3	22.7	1,556
Service workers and shop & market Sales workers (V)	43.2	56.8	38.3	45.0	16.7	5,442
Skilled agricultural and fishery workers (VI)	46.8	53.2	42.1	47.1	10.9	13,249
Craft and related trades workers (VII)	53.5	46.5	51.8	37.9	10.3	6,991
Plant and machine operators and assemblers (VIII)	42.0	58.0	41.5	43.9	14.6	3,599
Elementary occupations (IX)	58.1	42.0	56.7	36.5	6.8	9,875
Workers not classified by occupations (X)	94.6	5.4	86.9	13.1	0.0	29
Total	46.1	53.9	43.5	43.0	13.5	51,411

Source: Computed from NSS 71st Round, 2014

5.2.3 Type of care and ward of inpatient cases by background characteristics in Delhi

The proportion of public and private hospitals and type of wards used during inpatient cases in Delhi is presented in table 5.4 across various background characteristics. The share of public and private hospitals for inpatient cases is almost equal in Delhi. It indicates the higher use of public hospitals for hospitalization in Delhi in compare to India. The reason behind this may be the presence of some decent public hospitals in Delhi. Males and females also have similar level of use of public and private hospitals (half in public and half in private). Unlike India, the proportion of individuals using private hospitals for inpatient cases is lower among the younger population. The oldest age group (65 years & above) has the highest share of use of private hospitals in Delhi. The share of public hospitals for hospitalization decreases with increase in the size of household in Delhi again unlike India. The share of public and private hospitals for social

and religious groups is similar to India with one exception of Sikhs having higher share of private hospitals in Delhi.

The level of education a strong determinant of health care utilization shows a varied pattern for the share of public and private hospitals during hospitalization in Delhi. The highest share of public hospitals is observed for primary educated followed by middle and illiterate people while the lowest share is noticed in graduate & above educated followed by secondary educated individuals. The highest share of public hospitals for inpatient cases is observed in widowed/divorced/separated persons followed by never married. Currently married persons have the lowest share in the use of public hospitals. The head of the household and spouse of the head have the lower share of private hospitals for hospitalization while this is higher for grandchild and spouse of the child.

The economic status of the household perhaps the most significant factor for utilisation of health services shows a very clear influence of use of public hospitals during hospitalization except for lowest quintile. For lower and middle quintiles, the share of public hospitals is more than 80 per cent. It decreases up to 66 per cent for higher quintile and further 37.8 per cent for highest quintile. Among indicators of living conditions, the people living in deprived conditions such as not having toilet facility, drinking water from tube well/hand pump/tankers and no or open drainage have higher share of public hospitals for hospitalization.

The people chronically suffering from any disease in Delhi have the larger share of public hospitals for inpatient cases than people not chronically suffering. This finding is just opposite to national level. But positive impact of health insurance coverage on use of private hospitals in Delhi is more pronounced than India.

5.2.4 Type of care and ward of inpatient cases by type of household and industry in Delhi

The share of public and private hospitals and type of wards for hospitalization by type of household and industrial groups of workers in Delhi is shown in table 5.5. The sample size for rural Delhi is too low, so only results for urban Delhi is discussed here. Casual labours (85.5 per cent) show the much higher share of public health care facilities than regular wage/salary earners (52.5 per cent) and self-employed (40.9 per cent). The pattern of a share of admission in free wards is similar to use of public healthcare facilities.

Among industrial groups, the highest proportion of public hospitals for inpatient cases is observed in Construction, Other service activities, Transport and storage, Information and

communication, Manufacturing, Accommodation and food services and Education while the lower share is reported in Financial and insurance activities and Real estate activities.

Table 5.4 Distribution of type of care and ward of inpatient cases by background characteristics in Delhi, 2014

Background characteristics	Type of hospital		Type of ward			N
	Public	Private	Free	Paying general	Paying special	
Sex						
Male	49.2	50.8	48.0	39.5	12.5	342
Female	49.8	50.2	48.6	38.9	12.5	510
Age group						
0-5	58.6	41.4	55.7	39.3	5.0	48
6-14	53.3	46.7	37.9	56.0	6.1	59
15-24	57.8	42.2	58.5	34.5	7.0	154
25-44	49.4	50.6	47.2	41.1	11.8	347
45-64	47.3	52.7	46.9	32.3	20.8	159
65 & above	35.0	65.0	42.7	42.4	14.9	85
Place of residence						
Rural	68.6	31.4	51.8	45.2	3.0	45
Urban	49.7	50.3	48.3	38.9	12.8	825
Household size						
1-4	55.5	44.6	52.8	36.5	10.7	360
5-6	47.4	52.6	49.6	42.2	8.1	317
7 & above	42.1	57.9	38.8	39.4	21.8	175
Social group						
STs	56.8	43.2	54.0	46.0	0.0	20
SCs	79.8	20.2	64.6	30.7	4.6	157
OBCs	47.6	52.4	47.7	49.1	3.3	104
Others	41.1	58.9	43.7	39.6	16.8	571
Religion						
Hindu	49.0	51.0	48.6	42.3	9.1	702
Muslim	74.2	25.8	68.7	29.2	2.1	110
Sikh	14.3	85.7	12.0	13.2	74.8	28
Others	4.3	95.7	4.3	78.1	17.7	12
Educational attainment						
Not literate	58.0	42.1	58.1	25.3	16.6	146
Primary	72.3	27.7	61.3	34.8	3.9	146
Middle	61.4	38.6	56.6	40.8	2.7	95
Secondary	47.2	52.8	39.8	54.7	5.6	120
Higher secondary	55.8	44.2	54.9	34.8	10.3	135
Graduate & above	20.5	79.5	29.5	45.5	25.0	210
Marital status						
Never married	53.8	46.2	49.8	35.3	15.0	191
Currently married	46.9	53.1	46.4	41.2	12.4	598
Widowed/divorced/separated	60.3	39.7	62.5	32.3	5.2	63
Total	50.1	49.9	48.4	39.0	12.6	870

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Background characteristics	Type of hospital		Type of ward		N	
	Public	Private	Free	Paying general		Paying special
Relation to head						
Head	55.4	44.6	58.0	34.1	8.0	212
Spouse	50.3	49.7	50.1	33.3	16.7	266
Child	45.9	54.1	40.6	42.6	16.8	184
Spouse of child	47.1	52.9	43.5	48.0	8.6	130
Grandchild	47.1	52.9	43.1	53.1	3.8	34
Others	26.8	73.2	23.9	67.6	8.4	26
MPCE quintile						
Lowest	68.6	31.4	72.4	27.6	0.0	12
Lower	85.7	14.3	74.0	24.8	1.3	37
Middle	85.0	15.0	83.5	14.6	1.9	72
Higher	66.0	34.0	55.5	41.6	2.9	205
Highest	37.8	62.2	39.1	42.6	18.3	540
Toilet availability						
Yes	48.2	51.8	48.9	38.2	12.9	828
No	94.2	5.9	29.4	70.6	0.0	24
Source of drinking water						
Tap/bottled	45.3	54.7	46.5	39.7	13.8	743
Tube well/hand pump/tankers	82.2	17.8	61.3	36.2	2.5	104
Well/tank/river/canal etc.	100.0	0.0	100.0	0.0	0.0	5
Type of cooking fuel						
LPG/electricity	48.9	51.1	47.8	39.5	12.7	839
Coal/wood/dung etc.	87.9	12.1	81.7	18.3	0.0	11
Type of drainage						
No drainage	79.6	20.4	79.6	20.4	0.0	8
Open	63.9	36.1	55.2	42.9	2.0	319
Covered	42.0	58.0	44.6	37.4	18.0	525
Whether chronically suffering						
Yes	59.6	40.4	64.3	27.2	8.5	61
No	48.4	51.6	46.6	40.4	13.0	791
Insurance coverage						
Yes	24.8	75.2	35.3	37.3	27.4	230
No	59.7	40.3	53.7	39.9	6.4	622
Total	50.1	49.9	48.4	39.0	12.6	870

Source: Computed from NSS 71st Round, 2014

Table 5.5 Distribution of type of care and ward of inpatient cases by type of household and industry in Delhi, 2014

Background characteristics	Type of hospital		Type of ward			N
	Public	Private	Free	Paying general	Paying special	
<i>Type of household</i>						
<i>Rural</i>						
Self-employed in agriculture	0.0	100.0	0.0	100.0	0.0	4
Self-employed in non-agriculture	46.2	53.8	43.9	43.7	12.3	12
Regular wage/salary earning	67.6	32.4	39.6	59.6	0.8	23
Casual labour in agriculture	100.0	0.0	100.0	0.0	0.0	1
Casual labour in non-agriculture	99.7	0.3	99.7	0.3	0.0	4
Others	100.0	0.0	100.0	0.0	0.0	1
<i>Urban</i>						
Self-employed	40.9	59.1	38.4	40.6	21.0	299
Regular wage/salary earning	52.5	47.5	52.5	39.6	7.9	423
Casual labour	85.5	14.5	83.7	16.3	0.0	45
Others	40.3	59.7	47.2	46.0	6.8	40
<i>NIC-2008</i>						
Agriculture, forestry and fishing (A)	13.2	86.8	13.2	86.8	0.0	6
Mining and quarrying (B)						
Manufacturing (C)	59.3	40.7	56.6	36.2	7.2	124
Electricity, gas, steam and air conditioning supply (D)	0.0	100.0	27.0	0.0	73.0	5
Water supply; sewerage, waste management and remediation activities (E)	52.5	47.5	52.5	47.5	0.0	8
Construction (F)	73.7	26.3	74.1	22.7	3.2	47
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	39.0	61.0	35.9	36.9	27.2	214
Transportation and storage (H)	66.3	33.7	53.7	40.4	6.0	90
Accommodation and food service activities (I)	58.2	41.8	47.4	48.7	3.9	23
Information and communication (J)	60.2	39.8	73.8	19.4	6.8	39
Financial and insurance activities (K)	5.9	94.1	12.0	62.5	25.4	29
Real estate activities (L)	14.8	85.2	16.3	81.0	2.7	25
Professional, scientific and technical activities (M)	9.9	90.1	10.6	79.8	9.7	17
Administrative and support service activities (N)	56.7	43.3	53.5	42.3	4.2	42
Public administration and defense; compulsory social security (O)	51.9	48.1	49.7	36.6	13.6	53
Education (P)	49.8	50.2	47.7	51.8	0.5	22
Human health and social work activities (Q)	35.9	64.1	32.6	63.0	4.3	17
Arts, entertainment and recreation (R)	60.1	39.9	60.1	0.0	39.9	3
Other service activities (S)	70.4	29.6	69.9	27.0	3.2	36
Activities of extraterritorial organizations and bodies (U)						
Total	50.1	49.9	48.4	39	12.6	870

Source: Computed from NSS 71st Round, 2014

Table 5.6 Distribution of type of care and ward of inpatient cases by occupational groups in Delhi, 2014

Background characteristics	Type of hospital		Type of ward			N
	Public	Private	Free	Paying general	Paying special	
Legislators, senior officials and managers (I)	31.2	68.8	34.0	39.2	26.8	293
Professionals (II)	12.2	87.8	34.4	52.4	13.2	62
Technicians and associate professionals (III)	30.6	69.4	31.7	60.4	7.9	42
Clerks (IV)	62.5	37.5	61.6	35.0	3.4	79
Service workers and shop & market sales workers (V)	68.7	31.3	52.0	44.6	3.4	86
Skilled agricultural and fishery workers (VI)	10.8	89.2	10.8	49.2	40.0	6
Craft and related trades workers (VII)	77.4	22.6	71.5	28.5	0.0	72
Plant and machine operators and assemblers (VIII)	84.3	15.7	65.3	32.0	2.7	69
Elementary occupations (IX)	80.7	19.3	74.8	22.4	2.9	90
Workers not classified by occupations (X)	100.0	0.0	100.0	0.0	0.0	1
Total	49.9	50.1	48.2	38.9	12.9	800

Source: Computed from NSS 71st Round, 2014

5.2.5 Type of care and ward of inpatient cases by occupational groups in Delhi

The share of public and private hospitals and type of wards for hospitalization cases across occupational groups in Delhi is shown in table 5.6. Occupational groups of Plant and machine operators and assemblers, Elementary occupations, Craft and related trades workers, Service workers and shop & market sales workers and Clerks have a higher share of hospitalization in public hospitals while Professionals, Technicians and associate professionals and Legislators, Senior Officials and Managers have a higher share in private hospitals. The larger share of free wards is observed among Elementary occupations, Craft and related trades workers, Plant and machine operators and assemblers and Clerks. Special paid wards have a significant proportion of type of wards among Legislators, Senior Officials (26.8 per cent) and Managers and Professionals (13.2 per cent).

5.3 Utilization of type of care for outpatient cases in India and Delhi

In the previous section, the utilization of public and private hospitals and type of ward for inpatient cases by various background characteristics and type of workers was discussed in both India and Delhi. Now in this section, the utilization of public and private health care facilities and reason for not availing treatment and government sources for outpatient cases by various background characteristics and type of workers is discussed. The share of public and private hospitals during non-hospitalization treatment by various background characteristics in India and Delhi is shown in table 5.7. In compare to

inpatient cases, the larger proportion of individuals uses private health care facilities for outpatient treatment. About three-fourth people of India and four-fifth people of Delhi use private health care for outpatient treatment. The inpatient treatment is costly that might be the reason to higher utilization of government sources for hospitalization cases and the relatively lower use of government sources for non-hospitalization cases.

In India, the proportion of males in private healthcare facilities for outpatient treatment is slightly higher than that of females, and the gap is even larger in Delhi. Further, the proportion is also higher among children than the older population in India. As expected, the share of private sector for outpatient treatment in urban areas (78.8 per cent) is higher than rural areas (71.7 per cent) in India. The share of private healthcare facilities for outpatient treatment is increasing with increase in the size of household in both India and Delhi. This share declines with an increase in social hierarchy in India. While among religious groups, Sikhs record the highest percentage to be treated in private healthcare facilities. Hindus and Muslims have an almost similar level of treatment in private healthcare facilities. The use of private health facilities is the largest among never married people followed by currently married and widowed/divorced/separated. Grandchild of the head of household has the highest proportion of getting outpatient treatment in private healthcare services.

Thus the level of education and economic status has a very crucial influence on the health seeking behavior of people. The proportion of private healthcare facilities for outpatient treatment increases with improvement in both factors. Individuals having better living conditions have larger proportion getting outpatient treatment in private healthcare facilities. People chronically suffering from any disease have lower proportion in use of private healthcare services than non chronically suffering people. Insurance coverage has not enhanced the share of private healthcare services as it has done for inpatient services.

5.3.1 Type of care of outpatient cases by type of household and industry

The proportion of type of care of outpatient cases by type of households and industrial groups of works is presented in table 5.8. Patients from casual labour households from both rural and urban India have the lowest share in receiving private outpatient treatment. In rural India, self-employed get the highest share of private outpatient services followed by regular wage/salaried while in urban India, the largest proportion of regular wage/salaried receive outpatient treatment in private healthcare facilities followed by self-employed but the gap between them is marginal.

Table 5.7 Distribution of type of care of outpatient cases by different background characteristics in India and Delhi, 2014

Background characteristics	India			Delhi		
	Public	Private	N	Public	Private	N
Sex						
Male	24.4	75.6	15,096	13.0	87.0	107
Female	26.5	73.5	17,638	28.7	71.3	110
Age group						
0-5	18.1	81.9	4,159	25.5	74.5	26
6-14	27.4	72.6	2,033	1.7	98.3	8
15-24	25.4	74.6	2,416	21.2	78.8	22
25-44	22.5	77.5	6,468	7.6	92.4	52
45-64	28.0	72.0	11,367	36.7	63.3	79
65 & above	28.0	72.0	6,291	16.6	83.4	30
Place of residence						
Rural	28.3	71.7	16,088	22.3	77.7	13
Urban	21.2	78.8	16,681	20.2	79.8	204
Household size						
1-4	27.1	72.9	13,040	35.4	64.6	86
5-6	25.5	74.5	11,390	10.8	89.2	91
7 & above	21.5	78.6	8,304	17.4	82.6	40
Social group						
STs	47.9	52.1	2,154	91.1	8.9	3
SCs	30.4	69.6	5,288	16.7	83.3	51
OBCs	25.9	74.1	13,959	30.7	69.3	25
Others	19.0	81.0	11,333	17.1	82.9	138
Religion						
Hindu	25.8	74.3	24,715	21.8	78.3	169
Muslim	24.9	75.1	4,954	20.6	79.4	33
Sikh	17.8	82.2	930	10.0	90.0	15
Others	28.1	71.9	2,135			
Educational attainment						
Not literate	28.2	71.8	12,191	27.4	72.6	53
Primary	28.1	71.9	8,650	11.3	88.7	39
Middle	25.0	75.0	4,140	7.2	92.8	26
Secondary	20.3	79.7	3,428	30.7	69.3	34
Higher secondary	18.1	81.9	1,988	15.3	84.7	28
Graduate & above	13.5	86.5	2,336	31.2	68.8	37
Marital status						
Never married	23.6	76.4	8,385	14.1	85.9	53
Currently married	25.2	74.8	19,521	23.3	76.8	138
Widowed/divorced/separated	30.2	69.8	4,828	18.7	81.3	26
Total	25.6	74.5	32,769	20.2	79.8	217

Continued...

Continued...

Background characteristics	India			Delhi		
	Public	Private	N	Public	Private	N
Relation to head						
Head	27.1	72.9	11,148	21.9	78.1	84
Spouse	25.5	74.5	7,979	30.3	69.7	61
Child	24.7	75.3	6,615	13.2	86.8	47
Spouse of child	21.9	78.1	1,084	9.4	90.6	6
Grandchild	20.0	80.0	2,489	17.4	82.7	12
Others	26.2	73.8	3,419	7.6	92.4	7
MPCE quintile						
Lowest	32.8	67.2	4,713	13.5	86.5	3
Lower	29.5	70.5	5,381	15.8	84.2	11
Middle	26.2	73.8	6,416	28.8	71.2	20
Higher	24.5	75.5	7,960	13.8	86.3	60
Highest	17.5	82.5	8,298	23.5	76.5	123
Toilet availability						
Yes	22.8	77.2	24,874	19.4	80.6	212
No	32.3	67.8	7,860	49.7	50.3	5
Source of drinking water						
Tap/bottled	24.6	75.4	17,820	19.8	80.2	186
Tube well/hand pump/tankers	24.2	75.8	10,257	22.4	77.6	31
Well/tank/river/canal etc.	32.9	67.1	4,657			
Type of cooking fuel						
LPG/electricity	19.0	81.1	16,277	20.3	79.7	211
Coal/wood/dung etc.	30.8	69.2	16,428	0.0	100	5
Type of drainage						
No drainage	35.4	64.6	8,985	83.2	16.9	5
Open	23.8	76.2	11,362	16.1	83.9	59
Covered	18.4	81.6	12,387	22.2	77.8	153
Whether chronically suffering						
Yes	26.7	73.3	19,686	58.2	41.8	97
No	24.0	76.0	13,048	10.8	89.2	120
Insurance coverage						
Yes	28.7	71.3	7,812	37.4	62.6	71
No	24.5	75.5	24,922	14.8	85.2	146
Total	25.6	74.5	32,769	20.2	79.8	217

Source: Computed from NSS 71st Round, 2014

Table 5.8 Distribution of type of care of outpatient cases by type of household and industry in India and Delhi, 2014

Background characteristics	India			Delhi		
	Public	Private	N	Public	Private	N
<i>Type of household</i>						
<i>Rural</i>						
Self-employed in agriculture	26.7	73.4	5567			
Self-employed in non-agriculture	23.6	76.4	2700			
Regular wage/salary earning	27.9	72.1	2361	21.1	78.9	10
Casual labour in agriculture	33.6	66.4	2091			
Casual labour in non-agriculture	31.0	69.0	2167	0.0	100.0	2
Others	32.1	67.9	1182	100	0.0	1
<i>Urban</i>						
Self-employed	19.4	80.6	6521	21.1	78.9	73
Regular wage/salary earning	18.8	81.2	6007	19.9	80.1	110
Casual labour	33.5	66.5	2301	14.0	86.0	9
Others	19.4	80.6	1837	29.2	70.8	12
<i>NIC-2008</i>						
Agriculture, forestry and fishing (A)	28.6	71.4	8814			
Mining and quarrying (B)	23.4	76.6	172			
Manufacturing (C)	22.6	77.4	4118	26.4	73.6	35
Electricity, gas, steam and air conditioning supply (D)	26.7	73.3	193	0.0	100.0	2
Water supply; sewerage, waste management and remediation activities (E)	10.1	89.9	140	27.1	72.9	4
Construction (F)	29.0	71.0	3420	12.8	87.2	11
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	21.7	78.3	4662	9.1	90.9	49
Transportation and storage (H)	27.6	72.4	2282	40.8	59.2	20
Accommodation and food service activities (I)	23.4	76.6	680	9.0	91.1	6
Information and communication (J)	16.8	83.2	363	5.1	94.9	11
Financial and insurance activities (K)	12.1	87.9	468	0.0	100.0	8
Real estate activities (L)	6.3	93.7	150	0.0	100.0	2
Professional, scientific and technical activities (M)	9.3	90.8	327			0
Administrative and support service activities (N)	12.4	87.6	356	7.4	92.6	17
Public administration and defense; compulsory social security (O)	19.7	80.3	1058	50.5	49.5	16
Education (P)	20.2	79.8	1149	90.3	9.7	3
Human health and social work activities (Q)	29.3	70.7	450	0.0	100.0	7
Arts, entertainment and recreation (R)	36.5	63.5	115	99.2	0.8	3
Other service activities (S)	29.6	70.4	713	10.7	89.3	8
Activities of extraterritorial organizations and bodies (U)	0.0	100.0	1			
Total	25.6	74.5	32,769	20.2	79.8	217

Source: Computed from NSS 71st Round, 2014

Table 5.9 Distribution of type of care of outpatient cases by occupational groups in India and Delhi, 2014

Background characteristics	India			Delhi		
	Public	Private	N	Public	Private	N
Legislators, senior officials and managers (I)	15.4	84.6	3,692	29.7	70.3	50
Professionals (II)	20.6	79.4	1,636	35.7	64.3	19
Technicians and associate professionals (III)	18.3	81.7	1,486	25.2	74.8	11
Clerks (IV)	19.5	80.5	964	18.8	81.3	21
Service workers and shop & market sales workers (V)	22.9	77.1	3,334	10.3	89.7	24
Skilled agricultural and fishery workers (VI)	26.2	73.8	6,454	2.0	98.0	2
Craft and related trades workers (VII)	28.7	71.3	4,651	39.8	60.2	24
Plant and machine operators and assemblers (VIII)	25.0	75.0	2,229	61.7	38.3	11
Elementary occupations (IX)	31.2	68.8	5,180	6.4	93.6	39
Workers not classified by occupations (X)	100.0	0.0	5	100.0	0.0	1
Total	25.3	74.7	29,631	21.0	79.1	202

Source: Computed from NSS 71st Round, 2014

Among the industrial group of workers, the lowest proportion of the private outpatient treatment is observed among Arts, entertainment and recreation, Other service activities, Human health and social work activities, Construction, Agriculture, forestry and fishing, and Transport and storage. Occupational groups having higher proportion of this are Real estate activities, Professional, scientific and technical activities, Water supply, sewerage, waste management and remediation activities and Financial and insurance activities, Administrative and support service activities, Information and communication and Public administration and defence, compulsory social security.

5.3.2 Type of care of outpatient cases by occupational groups

Table 5.9 shows the share of public and private health care facilities for outpatient treatment among occupational groups in India and Delhi. Occupations like Elementary occupations, Craft and related trades workers, Skilled agricultural and fishery workers and Plant and Machine Operators and Assemblers have a slightly lower share of patients in private outpatient healthcare services. The patients from Professionals, Clerks, Technicians and Associate Professionals and Legislators, senior officials and manager occupational groups receive more than 80 per cent of their outpatient treatment from private healthcare facilities.

5.4 Reason for not availing government sources for outpatient treatment in India and Delhi

There are many reasons behind the not using government healthcare services. The reasons listed in NSS data for not availing government sources for outpatient treatment are required specific service not available, available but quality not satisfactory, quality satisfactory but facility too far, quality satisfactory but long waiting, ailment not considered serious and others. Considering the sample size, ailment not considered serious and others are clubbed together and named 'others' for further analysis.

In India, a large majority of people (42.7 per cent) has reported required healthcare service is available, but the quality is not satisfactory enough for not availing treatment in government health facilities (see table 5.A in appendix). The second most important reason is quality satisfactory but involves long waiting (27.3 per cent) for government healthcare services while quality satisfactory but the facility is too far and non-availability of required specific service are reported by 11.6 per cent and 10.3 per cent of people for not availing government services respectively. In rural areas, non-availability of required service, available but quality not satisfactory, quality satisfactory but the facility is too far are slightly more reported for not availing government facilities in compare to an urban area. The facility satisfactory but involves long waiting is cited by almost one-third of people in urban areas while only 22.8 per cent from rural area Among social groups, scheduled tribes have reported required specific service not available and facility too far more than other social groups for not availing government sources while long waiting is less reported among them. Hindus have reported more service available but quality not satisfactory, and less quality satisfactory but facility is too far for not availing government sources.

Similarly, in case of illiterate women, it has also been observed that the main reason for not availing government services are service available but quality not satisfactory, and quality satisfactory but facility too far. The reason for not availing government sources has an interesting variation across economic status. The proportion of required specific service not available, available but quality not satisfactory and facility too far decline with the increase in economic status, however the share of long waiting increases with improvement in economic status. Further, people chronically suffering stated quality not satisfactory and non-availability of required service more than those not chronically suffering from any disease. Insured people mention quality not satisfactory and facility

too far as the reason for not using government sources slightly higher than non-insured people.

In Delhi, the most important reason for not availing government sources for outpatient treatment (see table 5.B in appendix) is quality satisfactory but involves long waiting (53.3 per cent) followed by service available but quality not satisfactory (26.4 per cent). Quality satisfactory but facility too far is cited by only 5.6 per cent of people, and a negligible proportion has reported required specific service not available as the reason for not availing government services. The proportion of long waiting, as the reason to not availing government sources in Delhi is almost two-fold more, but the share of quality not satisfactory is about one-third less as compared to national level. It is also observed that as compared to national average the share of facility too far has also declined to almost half, and non-availability of required specific service became almost negligible in Delhi. The proportion of reasons like non-availability of required specific service, quality satisfactory but facility too far, and long waiting is higher, and the proportion of quality not satisfactory is lower among persons chronically suffering from any disease than that of non-chronic sufferers in Delhi. Insured individuals reported non-availability of required specific service and quality not satisfactory higher than non-insured counterparts as the reason for not availing government service.

Table 5.10 Distribution of reason for not availing government sources for outpatient cases by type of household in India, 2014

Type of household	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Rural						
Self-employed in agriculture	13.1	49.5	12.3	17.9	7.2	3,927
Self-employed in non-agriculture	11.5	40.0	12.7	29.2	6.6	1,939
Regular wage/salary earning	16.3	38.0	11.9	24.4	9.5	1,622
Casual labour in agriculture	15.8	42.9	15.8	19.4	6.2	1,380
Casual labour in non-agriculture	11.4	37.9	12.2	26.8	11.7	1,348
Others	9.3	48.0	11.4	24.9	6.5	823
Urban						
Self-employed	6.5	45.4	8.8	30.8	8.6	5,100
Regular wage/salary earning	6.2	39.3	10.6	35.4	8.6	4,604
Casual labour	6.5	38.7	16.3	30.8	7.6	1,479
Others	7.3	37.6	5.9	41.2	8.0	1,405
Total	10.3	42.7	11.6	27.3	8.1	23,648

Source: Computed from NSS 71st Round, 2014

Due to the limitation of the sample size in the case of Delhi the further analysis on not availing government sources treatment for outpatient by various types of households, industrial groups of workers and occupational groups will be conducted only for the national level. Table 5.10 shows the proportion not availing government services by types of households in India.

In rural India, the share of quality not satisfactory is higher among self-employed in agriculture while facility too far is more reported by casual labours. The share of the non-availability of required specific service is higher among regular wage/salary earners and casual labours in agriculture, and long waiting has higher share among self-employed in agriculture, casual labour in non-agriculture, and regular wage/salary earners. In urban India, non-availability of required specific service, and facility too far is reported higher in casual labours. The quality not satisfactory has the largest share among self-employed and long waiting has larger share among regular wage/salary earners and others.

The distribution of various reasons for not availing government sources among industrial groups of workers in India is shown in Table 5.E (see appendix). The higher proportion of non-availability of required specific service is reported among Professional, scientific and technical activities, Arts, entertainment and recreation, Transportation and storage and Agricultural, forestry and fishing. Quality not satisfactory is more cited in both high end professions like Information and communication and Real estate activities and low productive professions like Mining and quarrying and Agriculture, forestry and fishing. The reason facility too far for not availing government services is higher among Water supply, sewerage, waste management and remediation activities, Human health and social work activities, Public administration and defence, compulsory social security, Manufacturing, Construction, Transportation and storage and Agriculture, forestry and fishing, while long waiting is more reported among Electricity, gas, steam and air conditioning supply, Financial and insurance activities, Administrative and support service activities, Human health and social work activities, Education, Accommodation and food service activities, Construction, Transportation and storage and Manufacturing.

The share of various reasons for not availing government sources for outpatient cases among occupational groups is shown in table 5.11. The higher share of non-availability of required specific service is reported among Technicians and associate professionals, Skilled Agricultural and Fishery workers, Elementary occupations and Clerks. Quality not satisfactory is more observed among occupational groups like Skilled agricultural and fishery workers, Elementary occupations, Legislators, senior officials and managers,

Technicians and associate professionals, and Service workers and shop & market sales workers.

Table 5.11 Distribution of reason for not availing government sources for outpatient cases by occupational groups in India, 2014

	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Legislators, senior officials and managers (I)	7.3	42.8	8.4	33.0	8.5	3,013
Professionals (II)	7.7	34.4	11.2	37.4	9.4	1,345
Technicians and associate professionals (III)	14.1	42.4	11.4	25.9	6.3	1,138
Clerks (IV)	11.8	41.8	9.1	33.8	3.5	735
Service workers and shop & market sales workers (V)	10.3	42.3	9.1	27.3	10.9	2,422
Skilled agricultural and fishery workers (VI)	12.3	49.5	11.5	19.6	7.2	4,587
Craft and related trades workers (VII)	8.1	39.1	13.5	30.1	9.3	3,097
Plant and machine operators and assemblers (VIII)	10.7	36.6	13.4	33.0	6.3	1,576
Elementary occupations (IX)	12.0	43.0	14.5	22.6	7.8	3,442
Total	10.5	42.9	11.8	26.7	8.0	21,355

Source: Computed from NSS 71st Round, 2014

The higher proportion of the reason ‘facility too far’ is cited among Elementary occupations, Craft and related trades workers and Plant and machine operators and assemblers. While, long waiting is more mentioned among occupational groups like Professionals, Clerks, Legislators, senior officials and managers, and Plant and machine operators and assemblers.

5.5 Distribution of type of care of inpatient and outpatient cases by Nature of ailments in India and Delhi

In the previous sections, the utilization of type of care, type of ward for inpatient cases and reasons for not using government sources for outpatient cases is discussed across various background variables and type of workers. In this section, the use of private and public health care by nature of ailments for both inpatient and outpatient cases will be examined. The distribution of type of care for both inpatient and outpatient cases in India is shown in table 5.12. For inpatient cases, the larger share of private hospitals (above 60 per cent) is observed for Genito-urinary, Musculo-skeletal, Blood Diseases, Gastro-intestinal, Eye/Ear and Endocrine/Metabolic/Nutritional, Cardio-vascular diseases, Skin, Psychiatric/Neurological and Cancers.

Table 5.12 Distribution of type of care of inpatient and outpatient cases across type of nature of ailments in India, 2014

Nature of ailment	Inpatient			Outpatient		
	Public	Private	N	Public	Private	N
Infection	41.8	58.2	11,090	24.6	75.4	7,252
Cancers	39.9	60.1	1,179	37.7	62.3	277
Blood Diseases	33.4	66.6	863	28.1	71.9	329
Endocrine/Metabolic/Nutritional	34.9	65.1	1,234	23.6	76.4	4,486
Psychiatric/Neurological	39.1	60.9	2,664	29.2	70.8	1,870
Eye/Ear	34.7	65.3	1,776	26.7	73.3	620
Cardio-vascular	36.6	63.4	3,686	24.5	75.5	5,484
Respiratory	42.4	57.6	2,212	27.2	72.8	4,206
Gastro-intestinal	33.5	66.5	4,865	23.0	77.0	1,979
Skin	36.7	63.3	403	23.6	76.4	651
Musculo-skeletal	32.3	67.7	1,979	29.9	70.1	3,040
Genito-urinary	25.0	75.0	2,872	17.4	82.6	728
Obstetric	52.3	47.7	2,012	27.6	72.5	177
Injuries	43.2	56.8	4,713	28.7	71.3	789
Childbirth	64.0	36.0	14,587	54.0	46.0	131
Others	35.1	64.9	1,321	25.1	74.9	750
Total	45.4	54.6	57,456	25.6	74.5	32,769

Source: Computed from NSS 71st Round, 2014

Table 5.13 Distribution of type of care of inpatient and outpatient cases across type of nature of ailments in Delhi, 2014

Nature of ailment	Inpatient			Outpatient		
	Public	Private	N	Public	Private	N
Infection	49.4	50.6	222	13.6	86.4	79
Cancers	59.7	40.3	13	83.4	16.6	3
Blood Diseases	45.8	54.3	19	0.0	100.0	3
Endocrine/Metabolic/Nutritional	53.2	46.8	12	62.8	37.2	30
Psychiatric/Neurological	66.1	33.9	31	37.6	62.4	11
Eye/Ear	46.0	54.0	13	22.1	77.9	5
Cardio-vascular	20.3	79.7	56	44.9	55.1	21
Respiratory	28.1	72.0	36	18.1	81.9	18
Gastro-intestinal	60.9	39.1	90	4.4	95.6	19
Skin	8.9	91.1	6	100.0	0.0	3
Musculo-skeletal	35.1	64.9	29	25.8	74.2	17
Genito-urinary	41.8	58.2	27	8.5	91.5	2
Obstetric	46.8	53.2	20	100.0	0.0	1
Injuries	42.7	57.3	46	27.9	72.2	2
Childbirth	63.9	36.1	231	100.0	0.0	1
Others	7.7	92.3	19	24.9	75.1	2
Total	50.1	49.9	870	20.2	79.8	217

Source: Computed from NSS 71st Round, 2014

While Childbirth, Obstetric, Injuries, Respiratory and Infectious diseases are slightly more treated (above 40 per cent) in government healthcare facilities.

For outpatient cases, the proportion of private healthcare services is higher for ailments (more than 75 per cent) like Genito-urinary, Gastro-intestinal, Endocrine/Metabolic/Nutritional, Skin, Cardio-vascular, and Infectious diseases. Whereas in the case of public healthcare facilities, the share of Childbirth, Cancers, Musculo-skeletal, Psychiatric/Neurological, Injuries, Blood Diseases, Obstetric, Respiratory and Eye/Ear diseases are highest.

5.5.1 Type of care of inpatient and outpatient cases across type of nature of ailments in Delhi

The distribution of type of care for both inpatient and outpatient cases in Delhi is shown in table 5.13. The sample size for outpatient cases in Delhi is too small. For inpatient cases, the share of public healthcare facilities is better (more than 50 per cent) for Psychiatric/Neurological, Childbirth, Gastro-intestinal, Cancers and Endocrine/Metabolic/Nutritional diseases. The private healthcare facilities have larger share among Skin, Cardio-vascular, Respiratory, Musculo-skeletal, Genito-urinary, Injuries and Blood Diseases.

5.6 Health insurance coverage in India and Delhi

The share of population having health insurance coverage is very low in India (15.2 per cent) as well as in Delhi (16.6 per cent) as shown in table 5.14. The older people have slightly higher coverage of health insurance with higher magnitude in Delhi. As expected, in urban areas the proportion of insured people is higher than rural areas. The increase in household size is negatively associated with coverage of health insurance. Among social groups, surprisingly scheduled tribes have the highest proportion of insured people in India, while in India, it is the highest among 'Others' group. In India, Hindus have the highest insurance coverage while in Delhi, it is the highest among Sikhs.

With the increase in the level of educational, the health insurance coverage increases in India. Again with improvement in economic status, there is an increase in health insurance coverage in India. In Delhi, around one-fourth of the highest quintile population has the insurance coverage, but in lower income groups it is alarmingly low. Persons chronically suffering from any disease have much larger share of health insurance than that of non-chronically suffering.

Table 5.14 Health insurance coverage by background characteristics in India and Delhi, 2014

Background characteristics	India		Delhi	
	Per cent	N	Per cent	N
Sex				
Male	15	1,68,696	16.3	2,873
Female	15.5	1,64,406	17	2,551
Age group				
0-5	9.7	47,949	14.5	715
6-14	13.4	50,607	10.8	711
15-24	14.7	60,973	13.4	1,004
25-44	16.1	99,393	14.4	1,853
45-64	18.7	56,520	28.4	884
65 & above	18.4	17,660	34.5	257
Place of residence				
Rural	14.1	1,89,573	2.9	366
Urban	18.0	1,43,529	17.3	5,058
Household size				
1-4	20.4	96,929	21.4	1,777
5-6	14.1	1,19,989	13.1	2,164
7 & above	9.6	1,16,184	11.9	1,483
Social group				
STs	19.1	43,142	7.8	123
SCs	13.9	55,454	8.5	1,065
OBCs	15.5	1,33,565	9.6	714
Others	14.4	1,00,941	20.9	3,522
Religion				
Hindu	15.9	2,51,922	17.5	4,489
Muslim	10.6	50,212	8.7	648
Sikh	5.6	5,903	21.6	203
Others	24.4	25,065	18.9	84
Educational attainment				
Not literate	13.8	1,02,994	10.6	1,072
Primary	14.2	93,847	8.7	1,215
Middle	14.2	45,949	5.7	571
Secondary	16.0	37,132	10.9	693
Higher secondary	18.3	27,134	18.8	742
Graduate & above	24.5	26,039	41.9	1,131
Marital status				
Never married	13.4	1,51,672	13.5	2,420
Currently married	16.8	1,64,380	19.3	2,765
Widowed/divorced/separated	17.8	17,050	20.1	239
Total	15.2	3,33,102	16.6	5,424

Continued...

Continued...

Background characteristics	India		Delhi	
	Per cent	N	Per cent	N
Relation to head				
Head	17.9	65,931	17.1	1,158
Spouse	17.5	54,818	20.0	896
Child	14.3	1,30,639	13.9	2,113
Spouse of child	12.5	22,801	22.1	434
Grandchild	10.6	38,462	22.2	623
Others	13.9	20,451	5.4	200
MPCE quintile				
Lowest	10.9	80,812	0.8	78
Lower	11.7	71,379	0.6	303
Middle	15.3	69,392	0.1	484
Higher	18.3	64,545	3.6	1,358
Highest	27.3	46,938	26.5	3,171
Toilet availability				
Yes	16.4	2,27,644	17.1	5,271
No	13.7	1,05,458	0.0	153
Source of drinking water				
Tap/bottled	20.0	1,64,948	17.8	4,750
Tube well/hand pump/tankers	10.5	1,34,864	7.9	638
Well/tank/river/canal etc.	18.6	33,290	0.0	36
Type of cooking fuel				
LPG/electricity	19.3	1,41,529	17.0	5,332
Coal/wood/dung etc.	13.1	1,91,411	0.7	89
Type of drainage				
No drainage	17.1	97,383	0.0	78
Open	10.8	1,43,140	6.4	2,104
Covered	19.9	92,579	23.8	3,242
Whether chronically suffering				
Yes	30.3	18,212	49.4	99
No	14.5	3,14,890	16.4	5,325
Total	15.2	3,33,102	16.6	5,424

Source: Computed from NSS 71st Round, 2014

5.6.1 Health Insurance coverage by type of household and industrial groups

In table 5.15, the proportion of people having health insurance across type of household and industrial groups is shown. In both rural and urban areas of India and in Delhi too, the largest share of insured people is observed among regular wage/salary earners while the lowest share is observed among self-employed. Among industrial groups, the higher share of insured people are reported in Public administration and defense; compulsory social

security, Information and communication, Electricity, gas, steam and air conditioning supply and Financial and insurance activities.

Table 5.15 Health Insurance coverage by type of household and industrial groups in India and Delhi, 2014

	India		Delhi	
	%	N	%	N
<i>Type of household</i>				
<i>Rural</i>				
Self-employed in agriculture	12.3	82186	0.0	33
Self-employed in non-agriculture	13.2	28906	20.8	95
Regular wage/salary earning	19.6	22704	3.1	203
Casual labour in agriculture	15.7	24053	0.0	5 [#]
Casual labour in non-agriculture	14.0	25213	0.0	14 [#]
Others	15.7	6511	1.0	16 [#]
<i>Urban</i>				
Self-employed	13.5	62145	13.4	1880
Regular wage/salary earning	24.6	52422	21.0	2727
Casual labour	14.7	20486	3.4	332
Others	16.0	8476	37.2	119
<i>NIC-2008</i>				
Agriculture, forestry and fishing (A)	13.3	118185	0.0	46
Mining and quarrying (B)	24.3	2105		
Manufacturing (C)	16.6	36028	9.9	839
Electricity, gas, steam and air conditioning supply (D)	31.2	1600	63.6	26 [#]
Water supply; sewerage, waste management and remediation activities (E)	17.9	1394	15.4	73
Construction (F)	12.8	39405	6.1	350
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	12.5	44773	11.6	1378
Transportation and storage (H)	18.8	20921	9.6	526
Accommodation and food service activities (I)	17.5	5460	2.5	160
Information and communication (J)	33.4	2444	48.1	241
Financial and insurance activities (K)	31.1	3531	29.7	232
Real estate activities (L)	10.2	1292	3.9	135
Professional, scientific and technical activities (M)	24.5	2527	9.4	137
Administrative and support service activities (N)	20.1	2893	13.6	240
Public administration and defense; compulsory social security (O)	34.9	12615	86.1	340
Education (P)	20.8	11937	22.8	125
Human health and social work activities (Q)	24.7	3496	42.4	105
Arts, entertainment and recreation (R)	8.8	843	87.7	20 [#]
Other service activities (S)	12.2	6494	2.3	230
Activities of extraterritorial organizations and bodies (U)	0.0	5 [#]		
Total	15.2	3,33,102	16.6	5424

Source: Computed from NSS 71st Round, 2014

Table 5.16 Health Insurance coverage by occupational groups in India and Delhi, 2014

	Per cent	N
Legislators, senior officials and managers (I)	15.9	34,742
Professionals (II)	27.1	14,013
Technicians and associate professionals (III)	20.8	13,659
Clerks (IV)	26.1	8,704
Service workers and shop & market sales workers (V)	15.5	32,564
Skilled agricultural and fishery workers (VI)	12.6	90,314
Craft and related trades workers (VII)	15.3	42,057
Plant and machine operators and assemblers (VIII)	17.1	20,299
Elementary occupations (IX)	14.5	61,421
Workers not classified by occupations (X)	3.9	175
Total	15.2	3,17,948

Source: Computed from NSS 71st Round, 2014

5.6.2 Health Insurance coverage by occupational groups

The proportion of people having health insurance across occupational groups is shown in table 5.16. The higher proportion of insured people is reported among Professionals (27.1 per cent), Clerks (26.1 per cent) and Technicians and associate professionals (20.8 per cent).

5.7 Healthcare expenditure and Out-of-Pocket (OOP) expenditure in India and Delhi

As the post reform period brought huge increase in informalization of workforce, it also brought health insecurity to large section of population by increasing role of private sector in healthcare and increasing Out-of-Pocket (OOP) expenditure which further impoverished the vulnerable section of society. There are some studies which analysed the impact of on-going health sector reforms on the living standard of masses through increased OOP. OOP expenditure is a major source of financing healthcare expenditure in developing countries. The impoverishment effect of OOP payments is well recognised in developing countries settings and India is not an exception of it (van Doorslare et al., 2006). Traditional measures of poverty do not adjusted for the medical expenditure, which raise their total expenditure above the poverty line, even though their expenditure on food, clothing, and shelter may lie below subsistence level but force them to sell assets or incur debt, which results in further impoverishment of such households (van Doorslare et al., 2006).

According to WHO (2013), total expenditure on health in India was 3.7 per cent of GDP in 2010. The share of private expenditure on health to total expenditure remained very high during last decade (74 per cent in 2000 and 71.8 per cent in 2010). The contribution

of social security expenditure on health as percentage to general government expenditure on health was only 19 per cent in 2010. OOP expenditure as percentage of private expenditure on health has marginally declined from 91.8 per cent in 2000 to 86 per cent in 2010.

Table 5.17 Total health expenditure and OOP expenditure of inpatient cases by various background characteristics in India & Delhi, 2014

Background characteristics	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
<i>Place of residence</i>						
Rural	17,239.1	16,831.5	25,636	22,916.1	22,913.4	44
Urban	30,113.8	27,520.7	21,052	37,090.9	31,549.3	721
<i>Social group</i>						
STs	11,779.4	10,915.2	5,566	12,708.0	10,102.1	18
SCs	14,451.8	14,027.2	7,889	19,962.0	16,362.0	149
OBCs	21,163.5	20,648.2	18,467	41,086.0	35,461.8	93
Others	28,887.7	26,362.3	14,766	41,812.5	35,801.2	505
<i>Religion</i>						
Hindu	21,469.8	20,257.8	36,086	36,049.2	31,139.7	642
Muslim	18,084.2	17,750.9	6,341	17,338.8	15,775.5	88
Sikh	38,233.1	36,715.5	818	83,526.9	61,347.4	24
Others	23,218.4	21,698.7	3,443	1,01,028.4	87,301.3	11
<i>MPCE quintile</i>						
Lowest	11,186.1	10,942.0	8,865	55,721.3	55,721.2	6
Lower	12,735.2	12,622.2	9,309	12,440.6	12,440.6	34
Medium	17,078.9	16,539.9	9,937	17,169.0	17,169.0	62
Higher	23,022.1	22,257.5	10,119	29,736.1	28,236.8	178
Highest	49,559.4	44,830.0	8,454	43,032.7	35,094.4	482
<i>No of chronic patients</i>						
0	17,818.7	16,983.9	35,335	35,565.8	29,997.9	693
1	24,794.5	23,331.2	7,501	47,875.4	46,233.0	51
2	32,779.3	30,642.7	2,738	52,489.7	41,741.4	13
3+	65,704.1	62,186.6	1,114	10,947.9	10,947.9	8
<i>No. of elderly members</i>						
0	18,392.8	17,489.4	32,657	31,963.1	27,219.2	566
1	22,787.0	21,815.8	9,480	38,529.0	34,804.0	118
2+	38,946.3	36,156.4	4,551	72,492.0	59,404.6	81
<i>No. of insured members</i>						
0	20,585.7	20,427.5	37,089	30,484.7	30,428.3	521
1	28,061.6	22,216.9	1,030	30,683.0	23,738.7	21
2	28,470.2	21,716.2	1,327	66,939.8	44,123.6	39
3+	22,853.1	18,802.9	7,242	49,747.0	32,455.9	184
Total	21,354.0	20,247.9	46,688	36,767.8	31,352.5	765

Source: Computed from NSS 71st Round, 2014

5.7.1 Total health expenditure and OOP expenditure of inpatient cases India & Delhi

The total health expenditure and Out-of-Pocket (OOP) expenditure per household experiencing hospitalization during last 365 days for both India and Delhi is shown in table 5.17. It can be clearly observed that a very large part of the health expenditure is in the form of OOP expenditure as discussed in the previous section that health insurance coverage is very low.

The mean health expenditure of the inpatient (hospitalization) cases per household and OOP in India is Rs. 21,354 and Rs. 20,247.9 respectively. In Delhi, the expenditure is much higher (Rs. 36,767.9) for hospitalization and Rs. 31,352.5 for OOP. At all India, level OOP expenditure is significantly higher in urban areas in comparison to rural areas. Among social groups, mean health expenditure for inpatient cases increases sharply with the increase in the social hierarchy. In Delhi, the share of OOP is slightly lower as the insurance coverage is comparatively better than the national average. Further, among religious groups mean health expenditure and OOP expenditure in both India and Delhi is highest among Sikhs, followed by Hindus and Muslims.

Economic status has the most significant impact on the health expenditure. There is a sharp rise in the health expenditure with improvement in economic condition with the sharpest increase from higher to highest MPCE quintile. In Delhi, for the highest MPCE quintile, OOP is slightly lower because a significant proportion of this group has health insurance coverage. Mean health expenditure increases abruptly if household have chronically ill members and it increase with increase in number of chronically ill members. The presence of elderly members (aged 65 years and above) also significantly increases the health expenditure, and increasing numbers of elderly members also increases health expenditure. Even having health insurance coverage do not significantly reduces the OOP expenditure but the share of OOP is lower than non-insured households. The mean health expenditure, both in India and Delhi is lower among households having three or more insured members.

5.7.2 Total health expenditure and OOP expenditure of outpatient cases in India & Delhi

The total health expenditure and out-of-pocket (OOP) expenditure per household experiencing outpatient cases during last 15 days for both India and Delhi are shown in table 5.18. In general, the pattern is similar to inpatient cases, but the share of OOP expenditure for outpatient is slightly lower than inpatient cases. In India mean health

expenditure for outpatient cases is Rs. 959 and out of which Rs. 849.8 is OOP expenditure while in Delhi, these are higher with Rs. 1078 and Rs. 843.7 for mean health expenditure and OOP expenditure respectively.

Table 5.18 Total health expenditure and OOP expenditure of outpatient cases by various background characteristics in India& Delhi, 2014

Background characteristics	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
<i>Place of residence</i>						
Rural	851.0	760.2	12,646	1297.9	1128.0	11
Urban	1158.0	1015.2	11,407	1073.2	837.5	177
<i>Social group</i>						
STs	671.8	594.0	2,045	924.3	924.3	3
SCs	748.5	667.4	4,098	1037.0	695.1	42
OBCs	976.3	856.7	9,956	421.2	378.9	25
Others	1123.3	1005.6	7,954	1328.3	1067.2	118
<i>Religion</i>						
Hindu	908.3	805.9	18,504	1192.3	933.0	152
Muslim	1075.9	953.8	3,508	681.9	561.3	25
Sikh	1235.1	1091.7	595	494.5	355.7	11
Others	1434.5	1252.1	1,446			
<i>MPCE quintile</i>						
Lowest	730.9	676.7	4,233	326.2	326.2	2
Lower	750.0	684.9	4,383	694.4	481.0	9
Medium	833.8	749.2	4,814	431.4	426.1	16
Higher	999.6	886.9	5,519	1816.0	1523.8	51
Highest	1529.9	1289.0	5,103	873.3	618.2	110
<i>No of chronic patients</i>						
0	668.1	602.7	10,045	914.8	884.0	110
1	1008.8	913.8	9,534	1985.6	769.0	55
2	1624.4	1385.8	3,270	1889.5	357.8	15
3+	2749.2	2172.3	1,204	1687.6	848.0	8
<i>No. of elderly members</i>						
0	848.6	759.4	14,942	630.0	563.6	130
1	1026.5	932.9	5,959	3233.3	2503.3	34
2+	1525.9	1245.5	3,152	3080.8	1139.8	24
<i>No. of insured members</i>						
0	961.9	854.5	18,096	1116.1	849.2	116
1	829.3	740.3	652	1051.8	190.1	9
2	1071.2	948.6	959	1298.7	1215.4	15
3+	938.2	822.0	4,346	879.2	788.4	48
Total	959.0	849.8	24,053	1078.0	843.7	188

Source: Computed from NSS 71st Round, 2014

Table 5.19 Total health expenditure and OOP expenditure for inpatient and outpatient cases by various background characteristics in India& Delhi, 2014

Type of household	Inpatient			Outpatient		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
India						
Rural						
Self-employed in agriculture	18,889.6	18,620.6	10,320	925.6	814.5	4,608
Self-employed in non-agriculture	19,533.6	19,247.5	3,951	893.9	819.6	2,011
Regular wage/salary earning	20,440.8	18,549.4	3,290	891.9	788.7	1,699
Casual labour in agriculture	11,480.4	11,362.7	3,443	747.6	674.9	1,770
Casual labour in non-agriculture	11,253.6	11,168.2	3,345	665.2	605.6	1,708
Others	24,220.7	23,842.3	1,287	880.2	776.9	850
Total	17,239.1	16,831.5	25,636	851.0	760.2	12,646
Urban						
Self-employed	31,595.2	29,949.6	8,405	1,202.5	1,040.5	4,460
Regular wage/salary earning	31,452.9	27,684.1	7,975	1,140.0	1,006.3	4,157
Casual labour	17,247.7	16,741.8	2,973	940.4	817.2	1,648
Others	41,827.7	36,090.8	1,699	1,372.1	1,233.6	1,142
Total	30,113.8	27,520.7	21,052	1,158.0	1,015.2	11,407
Delhi						
Self-employed	44,281.1	38,139.6	276	995.8	535.7	62
Regular wage/salary earning	33,263.7	28,029.2	405	1,202.5	1,073.2	103
Casual labour	16,734.7	16,734.7	49	380.8	380.8	11
Others	39,503.0	30,471.5	35	1,884.1	1,782.9	12
Total	36,767.8	31,352.5	765	1,078.0	843.7	188

Source: Computed from NSS 71st Round, 2014

5.7.3 Total health expenditure and OOP expenditure for inpatient and outpatient cases

The mean health expenditure and OOP expenditure across background variables for both inpatient and outpatient cases in India and Delhi are discussed in first part of this section. The mean health expenditure and OOP expenditure by type of households, industrial and occupational groups both for inpatient and out patient cases is shown in table 5.19. It is observed that for inpatient cases, in rural areas of India, the mean health expenditure is the highest among regular wage/salary earning households except for others but the share of OOP is the lowest, and among casual labour in non-agriculture households the mean health expenditure is lowest but the share of OOP is highest. In urban areas of India, the highest mean health expenditure is observed among self-employed followed by regular wage/salary earning households except others, but again the share of OOP expenditure is

lowest among regular wage/salary earning households. The lowest mean health expenditure is again observed among casual labours and the highest in OOP expenditure. In Delhi too, the highest mean health expenditure is observed among self-employed and the lowest among casual labours but the share of OOP expenditure is the highest among casual labours and the lowest for regular wage/salary earning households.

For outpatient cases, in both rural and urban areas of India, the mean health expenditure is the highest for self-employed closely followed by regular wage/salary earning households while casual labours have the lowest mean health expenditure with significant margin. But the share of OOP expenditure is the highest for casual labours in rural areas. In Delhi, regular wage/salary earning households have the highest mean health expenditure followed by self-employed while casual labours have much lower mean health expenditure but the expenditure in OOP is highest.

The total health expenditure and OOP expenditure for inpatient and outpatient cases among industrial groups for India & Delhi is shown in table 5.F and 5.G (see appendix). For inpatient cases in India, the higher mean health expenditure is observed among Real estate activities, Administrative and support service activities, Human health and social work activities, Information and communication, Financial and insurance activities, Public administration and defense; compulsory social security and Professional, scientific and technical activities. While the lower health expenditure is observed among Construction, Mining and quarrying, Agriculture, forestry and fishing, Other service activities and Water supply; sewerage, waste management and remediation activities. The lowest share of OOP expenditure is observed among Information and communication, Financial and insurance activities, Arts, entertainment and recreation and Public administration and defense; compulsory social security.

For outpatient cases in India, the highest mean health expenditure is reported among industrial groups of Real estate activities followed by Professional, scientific and technical activities, Financial and insurance activities, Administrative and support service activities, Public administration and defense; compulsory social security. The low mean health expenditure is seen among groups like Arts, entertainment and recreation, Other service activities, Water supply; sewerage, waste management and remediation activities, Mining and quarrying, Transportation and storage, Manufacturing, Construction and Agriculture, forestry and fishing. The low share of OOP expenditure is observed among Human health and social work activities, Administrative and support service activities,

Arts, entertainment and recreation, Information and communication, Manufacturing and Agriculture, forestry and fishing.

The mean health expenditure and OOP expenditure for inpatient and outpatient cases respectively among occupational groups for India & Delhi is presented in table 5.H and 5.I (see appendix). For inpatient cases, the higher mean health expenditure is observed among Professionals, Legislators, Senior Officials and Managers, Clerks, and Technicians and Associate Professionals and lower mean health expenditure is reported in occupations groups like Elementary occupations, Craft and related Trades workers and Skilled Agricultural and Fishery workers. In case of OOP expenditure higher share is observed among Skilled Agricultural and Fishery workers, Elementary occupations, Craft and related Trades workers and Plant and Machine Operators and Assemblers.

For outpatient cases, again the higher mean health expenditure is noted among Professionals, Legislators, Senior Officials and Managers, Clerks, and Technicians and Associate Professionals, and lower among Elementary occupations, Craft and related Trades workers, Plant and Machine Operators and Assemblers and Skilled Agricultural and Fishery workers. The higher share of OOP expenditure is experienced among Technicians and Associate Professionals, Elementary occupations, Service workers, and shop & market sales workers and Plant and Machine Operators and Assemblers.

5.8 Health care expenditure in the study area

The total health expenditure for inpatient and outpatient cases by selected background characteristics is shown on the basis of out field survey in table 5.20. Not a single case of reimbursement is found during the field survey for either inpatient or outpatient healthcare services despite of existence of health insurance. So, the total health expenditure is equal to the Out-of-Pocket (OOP) expenditure in the study area. Regular salaried households report the highest expenditure for inpatient healthcare services followed by self-employed. The lowest inpatient expenditure is reported among casual labour household, which is much lower than the regular salaried and self-employed. Among social groups, the highest inpatient expenditure is observed among 'others' followed by SCs/STs. While the outpatient expenditure is highest among SCs/STs and lowest among 'Others'. Hindus have much higher inpatient and outpatient expenditure than other religious group. Migrant households report lower inpatient health expenditure while non-migrant household report higher outpatient health expenditure.

Table 5.20 Mean health expenditure for inpatient and outpatient cases by various background characteristics in the study area, 2016

Background characteristics	In-patient	Out-patient
<i>Employment status</i>		
Self-employed	20,431.7	272.2
Regular salaried	23,653.3	297.5
Casual labour	11,013.2	567.2
Others		15.0
<i>Social group</i>		
SCs/STs	16,236.4	425.7
OBC	7,769.2	308.9
Others	19,500.0	187.9
<i>Religion</i>		
Hindu	13,736.5	374.9
Others	5,900.0	133.3
<i>Migration status</i>		
Yes	9,473.3	447.3
No	15,464.9	247.6
Total	14,590.6	3,642.0

Source: Primary Survey, February-May 2016

5.9 Factors influencing the Out-of-pocket (OOP) expenditure for inpatient cases in India

Determinants of out of pocket expenditure for inpatient cases in India are presented in the table 5.21 obtained through Quantile regression in the form of coefficient value. Quantile regression has been employed because, it provides an alternative to ordinary least squares (OLS) regression and related methods, which typically assume that associations between independent and dependent variables are the same at all levels (Cook, 2013). The main advantage of quantile regression methodology is that the method allows for understanding relationships between variables outside of the mean of the data, making it useful in understanding outcomes that are not normally distributed and that have nonlinear relationships with predictor variables.

Estimations at the national level for the OOP expenditure for inpatients show that most of the factors are significant. It is observed that positive and highly significant coefficient of the rural variable at both the median and selected quantiles i.e. quantile of 0.25 and quantile of 0.75, indicative of significant differences in rural and urban household's OOP expenditure along the entire distribution. However, the value of coefficient is in fluctuation with increasing quantiles. The result for place of residence reflects the fact

that holding all factors constant, there is considerable rural-urban gap in OOP expenditure in India. Across the social groups, it can be observed that hospitalization among SCs cause highest OOP expenditure while comparing the 'Others' social group. OBCs have the lowest OOP expenditure for inpatient cases. This result hold true for all quantiles across the social groups after controlling the other explanatory variables.

Table 5.21 Determinants of Out-of-pocket (OOP) expenditure for inpatient cases in India, 2014 (N=65,925)

Explanatory Variable	Quantile (0.25)		Quantile (0.50)		Quantile (0.75)	
	Co-efficient	't' value	Co-efficient	't' value	Co-efficient	't' value
Place of residence						
Rural	494.65***	4.80	151.87*	1.95	210**	0.11
Social group						
STs	930.92***	5.25	530.34***	3.8	246	7.33
SCs	817.00***	5.00	960.56***	7.62	424	14.04
OBCs	114.76***	6.21	138.87***	10.48	480	15.27
Religion						
Hindu	809.88	2.22	-154.34	-5.85	-390	-6.18
Muslim	820.00	2.22	-194.44	-6.96	-5684	-8.51
Sikh	988.00	2.42	-186.81	-6.26	-5563	-7.8
MPCE						
Lowest	748.98***	4.41	346.59***	-27.08	15068.5**	48.77
Lower	100.34***	6.01	3013.64***	-24.55	13687***	46.14
Medium	891.56***	5.61	2353.32***	-19.91	11676.5**	40.85
Higher	-635.77***	-4.21	-1352.47***	-12.01	-788*	29.02
No. of chronic patients						
1	375.32***	1.54	15801.89***	-60.77	345	55.16
2	1498.75***	9.33	13289.43***	-49.22	286	44.18
3 & above	5395.14***	6.63	926.48***	-31.41	217	30.65
No. of elderly members						
1	-405.39***	-1.63	-345.27***	-23.99	-847	-27.18
2 & above	-405.87***	-1.53	-200.49***	-14.01	-517	-15.1
No. of insured members						
0	649.99***	1.92	469.91**	1.96	1134	1.97
1	-841.37***	1.82	-359.50***	-1.15	-666***	-0.89
2	-728.56***	2.12	-199.31***	0.79	-373.5	0.62
Type of household						
Self-employed	-394.91***	-3.21	860.81*	9.42	2418.5***	11.12
Regular wage/salary earning	-751.39***	-5.21	289.48***	2.62	1052.5***	3.95
Casual labour	217.33***	9.51	479.49**	3.51	1192.38	3.12

Source: Computed from NSS 71st Round, 2014

OOP expenditure of inpatients cases across the economic condition of patients measured by the MPCE shows that income is the most important factor in determining the OOP expenditure for inpatient cases. It is clear from the results that the coefficient values of lowest, lower and medium MPCE is highly significant and positively associated with OOP expenditure. On the other hand, the coefficient value is negative although significant for higher MPCE category. It can be observed that increasing income is inversely related to OOP expenditure. The reason why OOP expenditure is narrowed among richer households but widened for poorer households in case of inpatients may be due to the availability of other sources of income and coping strategies for richer household, emanating from economic inequality. As expected, the value of coefficient in other quantile for MPCE holds strongly real. Considering the case of inpatient cases that suffered chronically, the result is expected. It can be observed that out of pocket expenditure is increasing with higher number of chronically suffered in-patient cases in a household and this result is consistently true along the entire distribution of quantiles. However, it is surprise to know that the out of pocket expenditure in those households in which elderly people are, negatively associated with out of pocket expenditure. The possible explanation behind this result is could be the fewer hospitalization among elder people. Members who are covered with health insurance are negatively associated with out of pocket expenditure in case of inpatient cases. The coefficient values across all quantiles are negatively associated and strongly significant for the members in a household who are covered with any health insurance. On the other hand, members who are not covered with any kind of health insurance is positively associated with out of pocket expenditure, reflecting the fact that they have some amount of expenditure for caring themselves. Similarly, household dominated by self-employed and regular wage salaried, which can be designated as secure income sources are negatively associated with out of pocket expenditure in case of inpatient cases.

5.10 Factor influencing the out of pocket expenditure for outpatient case in India

The coefficient values for outpatient cases is different from the coefficients values for inpatient cases in terms of its magnitude, significance and association with out of pocket expenditure. Results obtained through another quantile regression of out of pocket expenditure for outpatients are presented in table 5.22. Results show that rural-urban differentials are again the strong and significant factor for determining the out of pocket expenditure among the members of the household who are characterized as outpatients. It

is observed that coefficient values for rural outpatients increased monotonically with higher quantiles, suggesting that holding all factors constant, rural out patients have some amount of burden of out of pocket expenditure. However, social groups and religious status of the outpatients are not decisive factor for out of pocket expenditure as results suggests. As expected, income of the outpatients measured through MPCE is again emerged as the most important factor for out of pocket expenditure in case of outpatients. The results are consistent with the results obtained in case of inpatients for MPCE. Richer people have no burden of out of pocket expenditure while outpatient belongs to lowest, lower and medium categories of MPCE have considerable amount of burden of out of pocket expenditure in case of outpatients. Moreover, the result for all quantile are positively associated and strongly significance.

Table 5.22 Determinants of Out-of-Pocket (OOP) expenditure for outpatient cases in India, 2014 (N= 65,925)

Explanatory Variable	Quantile (0.25)		Quantile (0.50)		Quantile (0.75)	
	Co-efficient	't' value	Co-efficient	't' value	Co-efficient	't' value
Place of residence						
Rural	134.35***	1.09	148.11***	3.28	429.48***	1.94
Social group						
STs	198.61	8.13	956.41	4.22	553.33	4.29
SCs	200.33	9.90	869.35	4.32	272.59	2.30
OBCs	261.69	1.2	147.08	6.81	464.82	3.80
Religion						
Hindu	994.44	1.97	109.71	1.93	-155.61	-4.65
Muslim	102.63	1.94	103.69	1.80	-155.88	-4.25
Sikh	126.21	2.21	126.91	2.10	-176.32	-4.25
MPCE						
Lowest	912.94***	4.13	102.88***	4.52	208.71***	1.64
Lower	1051.55***	4.93	173.47***	5.25	344.83***	2.89
Medium	890.38***	4.20	112.45***	5.22	348.36***	2.95
Higher	-549.27***	-2.63	-875.88***	-4.77	-266.50***	-2.34
No. of chronic patients						
1	-80.30***	-7.15	-750.72***	-9.94	-204.63***	-6.26
2	-80.63***	-7.10	-470.65***	-5.90	-123.77***	-3.50
3 & above	25.44***	1.95	-150.00***	-1.74	-530.81***	-1.46
No. of elderly members						
1	-288.95	-9.13	102.10	3.82	594.70	4.24
2 & above	-354.73	-1.14	-873.12	-2.91	372.63	2.48
No. of Insured members						
0	919.47***	2.14	109.19***	2.33	454.25***	1.85
1	133.94***	2.10	129.67***	2.23	526.83***	1.60
2	114.80***	2.44	113.84***	2.94	449.91***	1.73
Type of household						
Self-employed	-343.11***	-2.13	-312.19***	-2.73	-809.82***	-9.03
Regular wage/salary earning	-107.69***	-5.63	-721.66***	-3.72	-183.12***	-1.14
Casual labour	-202.62***	-6.73	-217.10***	-7.20	-453.21***	-2.63

Source: Computed from NSS 71st Round, 2014

Considering the effect of health insurance on out of pocket expenditure in case of outpatient, the result is differ with the result obtained in case of inpatient case. Outpatients, whether insured or not, they have some amount of burden for their medical expenses, which holds true for all quantile having significant and positive coefficient values. The possible explanation behind this result could be that most of the people covered from insurance themselves in case of major illness that requires hospitalization. Pondering this fact, it may be possible that people do not use the insurance for simple illness that does not require any hospitalization and consequently they paid their medical expenditure without taking the benefit of health insurance. In all cases of type of household whether they are self employed, regular salaried or casual labourer, all are negatively associated with out of pocket expenditure in case of outpatient cases.

5.11 Catastrophic health expenditure (CHE) in India and Delhi

The events of catastrophic health expenditure have negative consequences on the overall wellbeing of the households. The expenditure on catastrophic health is so high that it sometimes forces the households to reduce other essential expenditure. A large number of households pushed in poverty due to occurrence of such events. In this section, the share of households experiencing catastrophic health expenditure (CHE) out of the total households is discussed across various background characteristics, type of households, industrial groups and occupational groups. Both inpatient and outpatient health expenditure are combined and adjusted for 30 days as a proportion of MPCE to estimate the occurrence of CHE. The CHE is defined at five levels namely: 10 per cent, 15 per cent, 20 per cent, 30 per cent and 40 per cent for this analysis.

In the table 5.23, the distribution of households experiencing CHE at different levels during last 30 days by different background characteristics in India is shown. The share of households experiencing CHE decreases with increase in the level of CHE. At 10 per cent level almost one-fourth of total households experience CHE and further it decreases up to 8.2 per cent at 40 per cent CHE level. There is almost similar proportion of households out of the total households from rural and urban areas experience CHE at 10 per cent and 15 per cent levels. Whereas in the case of 20 per cent, 30 per cent and 40 per cent CHE level the share of household experiencing CHE is slightly higher among rural households.

Table 5.23 Distribution of households experiencing catastrophic expenditure at different levels during last 30 days by different background characteristics in India, 2014

	10%	15%	20%	30%	40%	N
<i>Place of residence</i>						
Rural	23.5	18.9	15.2	11.0	8.4	36,480
Urban	23.3	18.6	14.6	10.4	7.6	29,452
<i>Social group</i>						
STs	16.1	11.6	9.2	6.2	4.8	8,382
SCs	22.6	18.1	14.4	10.1	7.5	11,058
OBC	23.9	19.3	15.4	11.4	8.5	25,842
Others	25.5	20.7	16.7	11.9	9.2	20,650
<i>Religion</i>						
Hindu	22.7	18.2	14.6	10.5	7.9	50,662
Muslim	25.7	21.3	16.6	12.0	8.8	8,987
Sikh	30.7	25.2	20.2	14.4	10.1	1,144
Others	27.8	21.6	17.4	12.7	10.1	5,139
<i>MPCE quintile</i>						
Lowest	23.5	19.4	15.5	11.5	9.0	13,190
Lower	22.6	17.7	14.8	10.7	8.0	13,189
Middle	23.1	18.6	14.7	10.0	7.3	13,691
Higher	25.2	20.0	15.7	11.2	8.4	13,885
Highest	22.5	18.2	14.3	10.5	8.0	11,970
<i>No. of chronic patients</i>						
0	15.4	11.8	9.0	6.2	4.5	51,924
1	57.2	47.8	38.9	29.0	22.9	9,534
2	72.4	62.6	54.7	41.8	31.6	3,270
3+	90.3	79.3	73.2	57.3	48.6	1,204
<i>No. of elderly members</i>						
0	19.9	15.8	12.5	8.9	6.7	47,838
1	32.9	26.7	21.3	15.0	11.6	12,474
2+	39.9	33.5	28.5	22.1	16.5	5,620
<i>No. of insured members</i>						
0	22.7	18.3	14.7	10.6	8.0	53,077
1	27.0	22.7	18.5	12.2	10.0	1,386
2	28.7	24.2	18.6	14.7	12.2	1,828
3+	26.1	20.2	15.9	10.9	8.1	9,641
Total	23.4	18.8	15.0	10.8	8.2	65,932

Source: Computed from NSS 71st Round, 2014

The share of households experiencing CHE increases with increase in social hierarchy for all levels of CHE. Sikh household has the highest share of CHE experience followed by Muslims and Hindus. There are small differences in the share of households experiencing CHE across economic status defined by MPCE quintile. However, households from the 'higher' MPCE quintile experience the highest level of CHE at 10 per cent, 15 per cent and 20 per cent levels. At 30 per cent and 40 per cent levels, the lowest MPCE quintile experiences the highest level of CHE.

The presence of chronically ill persons in household drastically increases the occurrence of CHE and it further increases with the increase in the chronic patient in the household. The severity of this problem can be recognized from the fact that if three or more

members are chronically ill in household then 90 per cent of such households experience CHE at 10 per cent level and it decreases only up to half at 40 per cent level.

The presence of elderly member (65 years and above) in household also has a significant influence on the occurrence of CHE event. But increase in the number of elderly members does not increase the expenditure as high as that of chronically ill members.

Table 5.24 Distribution of catastrophic expenditure at different levels of household consumer expenditure by different Background Characteristics in Delhi, 2014

	10%	15%	20%	30%	40%	N
Place of residence						
Rural	9.7	2.8	2.8	2.4	1.5	63
Urban	9.2	6.4	3.4	2.6	1.8	1,095
Social group						
STs	8.1	0.7	0.7	0.2	0.0	27
SCs	12.0	9.3	2.1	1.3	0.9	221
OBC	14.9	11.3	6.1	5.3	0.7	141
Others	7.5	4.8	3.3	2.6	2.3	769
Religion						
Hindu	9.8	6.7	3.8	3.0	2.1	957
Muslim	5.8	2.9	1.2	0.8	0.6	142
Sikh	13.2	12.4	3.2	2.1	1.3	40
Others	1.7	1.7	1.5	1.5	1.5	19
MPCE quintile						
Lowest	38.5	2.9	2.9	2.9	2.2	12
Lower	12.1	11.2	4.6	2.5	1.4	47
Middle	4.8	2.3	2.1	1.4	1.4	86
Higher	12.8	11.6	4.3	3.4	3.0	252
Highest	7.0	4.3	2.6	1.9	0.9	755
No. of chronic patients						
0	8.3	5.7	3.1	2.4	1.6	1,080
1	54.5	28.8	21.0	16.4	16.4	55
2	47.3	40.3	12.9	10.8	7.5	15
3+	45.9	34.6	14.8	0.0	0.0	8
No. of elderly members						
0	8.2	5.2	2.6	2.0	1.1	911
1	17.7	15.6	9.6	8.3	8.2	149
2+	14.3	11.6	9.8	6.6	5.2	98
No. of insured members						
0	8.4	6.1	3.6	2.9	1.9	826
1	9.3	9.3	2.2	2.2	1.9	29
2	10.1	4.3	3.9	2.8	2.1	54
3+	14.1	8.0	2.2	0.9	0.9	249
Total	9.2	6.3	3.4	2.6	1.8	1,158

Source: Computed from NSS 71st Round, 2014

The presence of insured members in household does not show any influence on the reduction of CHE. In fact, non-insured households have the lower share of CHE than households with insured members. The presence of three or more insured members in

households brings the event of CHE only near the level of non-insured households at CHE levels of 30 per cent and 40 per cent.

The distribution of households experiencing CHE at different levels during last 30 days by different background characteristics in Delhi is shown in table 5.24. The incident of CHE events in Delhi is much lower in compare to India. In Delhi too, the share of households experiencing CHE decreases with increase in the level of CHE. At 10 per cent level only 9.2 per cent of total households experience CHE and further it decreases up to 1.8 per cent at 40 per cent CHE level. Among social groups, OBCs face highest CHE event followed by SCs at 10 per cent and 15 per cent level. Sikhs households again have the highest CHE occurrence followed by Hindus. Muslims are at the third position in CHE occurrence in Delhi. Among MPCE quintiles, the highest CHE occurrence is observed among higher MPCE quintile at 10 per cent level. But for the highest MPCE quintile, the event of CHE is much lower than higher MPCE quintile at all five levels of CHE.

Table 5.25 Distribution of catastrophic expenditure at different levels of household consumer expenditure by type of household in India and Delhi, 2014

Type of household	10%	15%	20%	30%	40%	N
India						
Rural						
Self-employed in agriculture	22.7	17.7	14.4	10.5	8.2	14,677
Self-employed in non-agriculture	24.9	20.7	15.7	11.4	8.8	5,435
Regular wage/salary earning	25.5	20.5	16.5	12.2	8.8	4,477
Casual labour in agriculture	21.2	17.3	14.1	9.6	7.6	5,111
Casual labour in non-agriculture	21.7	17.1	13.9	9.6	6.8	4,913
Others	32.4	27.8	23.7	18.6	14.9	1,867
Total	23.5	18.9	15.2	11.0	8.4	36,480
Urban						
Self-employed	24.6	19.8	15.2	10.4	7.4	11,503
Regular wage/salary earning	20.6	15.6	12.4	8.8	6.4	11,246
Casual labour	22.2	18.4	14.3	10.7	8.1	4,231
Others	31.6	27.7	22.5	17.0	13.5	2,472
Total	23.3	18.6	14.6	10.4	7.6	29,452
Delhi						
Self-employed	9.2	6.7	3.9	2.9	2.6	395
Regular wage/salary earning	10.2	6.3	2.7	2.0	1.6	631
Casual labour	5.7	5.1	5.1	4.8	0.4	81
Others	6.4	6.2	3.7	3.0	2.7	51
Total	9.2	6.3	3.4	2.6	1.8	1,158

Source: Computed from NSS 71st Round, 2014

The presence of chronically ill persons and elderly members in household, significantly increase the proportion of household experiencing CHE in Delhi. The households with no insured member have the lowest occurrence of CHE than those with insured members.

Even households with three or more insured members have the highest level of CHE event at 10 per cent and 15 per cent level, but at 20 per cent, 30 per cent and 40 per cent these households have the lowest occurrence of CHE events.

The distribution of households experiencing CHE at different levels during last 30 days by type of household in India and Delhi is shown in table 5.25. In rural areas of India, the highest incidence of CHE is reported among regular wage/salary earning households closely followed by self-employed in non-agriculture. While, the lowest incidence of CHE is reported among casual labour in agriculture and non-agriculture. In urban areas of India, the highest incidence of CHE is reported among self-employed, and regular wage/salary earning households have the lowest CHE event at all levels. In Delhi, the highest incidence of CHE is reported among regular wage/salary earning households followed by self-employed households. Whereas lowest levels of CHE is observed among casual labours at 10 per cent and 15 per cent level, but at 20 per cent, 30 per cent and 40 per cent levels higher incidence of CHE is observed.

There are large variations of incidence of CHE across industrial groups of workers. The distribution of households experiencing CHE at different levels during last 30 days by industrial group of workers in India and Delhi is shown in table 5.J and 5.K respectively. In India, the high incidence of CHE is observed in Real estate activities, Professional, scientific and technical activities, Electricity, gas, steam and air conditioning supply, Transportation and storage, Public administration and defense; compulsory social security, Wholesale and retail trade; repair of motor vehicles and motorcycles and Manufacturing. While in industrial groups like Information and communication, Arts, entertainment and recreation, Water supply; sewerage, waste management and remediation activities, Education, Construction, Financial and insurance activities, Mining and quarrying, Administrative and support service activities and Agriculture, forestry and fishing, the proportion of households reporting CHE is relatively low.

In Delhi, the industrial groups reporting higher incidence of CHE are Administrative and support service activities, Wholesale and retail trade; repair of motor vehicles and motorcycles, Electricity, gas, steam and air conditioning supply, Education, Manufacturing, Real estate activities and Public administration and defense; compulsory social security.

Table 5.26 Distribution of catastrophic expenditure at different levels of household consumer expenditure by occupational groups in India, 2014

	10%	15%	20%	30%	40%	N
Legislators, senior officials and managers (I)	22.3	17.8	14.1	9.6	6.9	6,550
Professionals (II)	21.2	16.2	12.3	9.3	7.0	2,911
Technicians and associate professionals (III)	24.5	20.2	16.4	11.2	7.7	2,794
Clerks (IV)	23.8	16.6	14.3	10.1	7.4	1,811
Service workers and shop & market sales workers (V)	25.4	20.0	15.5	11.5	8.4	6,354
Skilled agricultural and fishery workers (VI)	23.1	18.2	14.8	10.7	8.3	16,154
Craft and related trades workers (VII)	22.2	18.0	14.1	9.8	7.2	8,375
Plant and machine operators and assemblers (VIII)	25.0	19.7	14.8	10.5	7.3	4,039
Elementary occupations (IX)	21.3	17.2	13.8	9.8	7.5	12,493
Workers not classified by occupations (X)	16.3	15.7	13.8	4.8	4.5	35
Total	22.7	18.1	14.4	10.3	7.7	61,516

Source: Computed from NSS 71st Round, 2014

Table 5.27 Distribution of catastrophic expenditure at different levels of household consumer expenditure by occupational groups in Delhi, 2014

	10%	15%	20%	30%	40%	N
Legislators, senior officials and managers (I)	8.0	5.6	3.9	2.9	2.5	373
Professionals (II)	3.3	2.2	2.1	1.9	1.5	92
Technicians and associate professionals (III)	9.3	4.5	3.6	2.0	0.2	58
Clerks (IV)	8.6	4.1	1.8	1.4	0.8	109
Service workers and shop & market sales workers (V)	13.7	11.8	1.1	0.5	0.4	140
Skilled agricultural and fishery workers (VI)	85.0	83.5	11.0	0.0	0.0	7
Craft and related trades workers (VII)	4.2	2.9	1.2	0.8	0.6	100
Plant and machine operators and assemblers (VII)	9.1	3.1	2.7	2.0	2.0	78
Elementary occupations (IX)	13.9	9.0	7.4	6.8	3.5	134
Workers not classified by occupations (X)	0.0	0.0	0.0	0.0	0.0	1
Total	9.3	6.3	3.3	2.6	1.8	1,092

Source: Computed from NSS 71st Round, 2014

The distribution of households experiencing CHE at different levels during last 30 days by occupational group of workers in India and Delhi is shown in table 5.26 and 5.27 respectively. In India, there is little variation in incidence of CHE across occupational groups. The higher incidence is observed among Service workers and Shop & Market Sales workers, Plant and Machine Operators and Assemblers, Technicians and Associate professionals, Clerks and Skilled Agricultural and Fishery workers. Relatively lower incidence is observed among Professionals, Elementary occupations, Craft and related Trades workers and Legislators, Senior Officials and Managers.

In Delhi, the higher incidence of occurrence of CHE is observed among Elementary occupations and Service workers and Shop & Market Sales workers while the lower incidence of CHE is observed among Professionals, Craft and related Trades workers and Legislators, Senior Officials and Managers.

5.12 Distribution of catastrophic health expenditure (CHE) in the study area

The distribution of incidence of CHE by type of employment and selected background characteristics in the study area is shown in table 5.28. The incidence of CHE in the study area is slightly lower than India at 10 per cent, 15 per cent and 20 per cent, but higher at 30 per cent and 40 per cent level. The incidence of CHE in the study area is much higher than Delhi at all levels.

Table 5.28 Distribution of catastrophic expenditure at different levels of household consumer expenditure by background variables in the study area, 2016

Background characteristics	10%	15%	20%	30%	40%	N
Employment type						
Self-employed	10.6	8.7	8.7	5.8	5.8	104
Regular salaried	32.2	22.0	16.1	16.1	15.3	118
Casual labour	20.5	17.5	14.6	12.9	12.9	171
Others	42.9	42.9	42.9	42.9	42.9	7
Social group						
SCs/STs	25.5	23.0	17.4	15.8	15.8	196
OBCs	12.3	9.6	9.6	7.5	7.5	146
Others	33.3	15.8	14.0	14.0	12.3	58
Religion						
Hindu	22.9	17.7	14.8	13.2	12.9	372
Others	7.1	7.1	3.6	3.6	3.6	28
Migration status						
Yes	36.5	21.9	14.6	11.5	11.5	96
No	16.8	15.1	13.4	12.4	12.0	304
Total	21.8	17.0	14.0	12.5	12.3	400

Source: Primary survey, February-May, 2016

The highest incidence of CHE is reported among regular salaried households followed by casual labours while the lowest incidence is reported among self-employed. Among social groups, the 'Others' group has the highest incidence as reported for India followed by SCs/STs. Migrant household also report much higher incidence of CHE at the lower level of CHE.

5.13 Summary

In this chapter, the utilization of healthcare services, health insurance coverage and Out-of-Pocket (OOP) and catastrophic health expenditure are discussed in detail. There are multiple service providers of healthcare services in India having a large variation in range, quality and cost. Private healthcare services are generally costlier than that of public but there is a large disparity in quality of care within private healthcare facilities. In India, a little more than half of the patients used private healthcare facilities for

hospitalized treatment. In Delhi, the share of public hospitals is slightly better than India, as it is contributing to almost half of the total hospitalization treatment.

Older patients are more hospitalized in private hospitals both in India and Delhi. Despite the strong commitment of the government to improve child health, they are more admitted in private hospitals in India. But in Delhi, public hospitals are serving more than half of the inpatient cases of children. A large section of working age population between 15 years to 45 years are availing free wards during their hospitalization. As expected, the urban patients are more using private hospitals than their rural counterparts. The use of public hospitals and admission in free wards for inpatient cases declines with improvement in the social hierarchy and educational status of patients. The similar pattern is observed with a larger decline in magnitude across MPCE quintiles. The share of public hospitals and free wards declines to almost one-third from the lowest to highest MPCE quintiles in India but this decline is not as sharp in Delhi, it only declines to little more than half. About two-third of chronically ill patients are more hospitalized in private hospitals in India but in Delhi their share in private hospitals is only 40.4 per cent. Insurance coverage has encouraged the use of private healthcare facilities for inpatient cases and it is more pronounced in Delhi.

The proportion of public healthcare facilities is the highest among casual labours in both rural and urban areas. In rural areas, casual labours in non-agriculture are more using public hospitals followed by casual labours in agriculture. Regular wage/salary earners have the lowest proportion of patients using public healthcare facilities in both rural and urban areas of India while in urban areas of Delhi, this proportion is the lowest among self-employed.

Among the industrial groups of workers in India, the larger share of inpatient cases in public healthcare hospitalization is observed in Construction, Agriculture, forestry and fishing, Other service activities, Mining and quarrying, Manufacturing and Transport and storage groups while the lower proportion of this is reported for Real estate activities, Financial and insurance activities, Professional, scientific and technical activities, Information and communication and Education.

In India, the higher proportion of public healthcare facilities and free wards is observed among Elementary occupations, Craft and related trade workers, Skilled agricultural and fishery workers, Service workers and shop & market sales workers and Plant and machine operators and assemblers and lower share is observed among occupational

groups of Professionals, Legislators, senior officials and managers, Clerks and Technicians and associate professionals.

For outpatient treatment, the larger proportion of patient uses private healthcare facilities than inpatient hospitalization treatment. In India, about three-fourth of the total patients used private healthcare facilities for outpatient treatment which is increased up to 80 per cent in Delhi. The larger proportion of patients from urban areas has used private healthcare facilities in compare to rural areas. Children have the highest proportion of private outpatient treatment. The share of private healthcare facilities for outpatient treatment increases with elevation in the social ladder. Again with the improvement in the level of education and economic status the proportion of private healthcare facilities steadily increases for outpatient treatment. For outpatient treatment too, the chronically ill patients are slightly less using private healthcare services in both India and Delhi but the proportion in Delhi is drastically low. Unlike the hospitalization, insured patient does not have the higher proportion of private healthcare services for outpatient cases in both India and Delhi.

The highest proportion of public healthcare facilities for outpatient treatment among the type of household is observed in casual labours in agriculture followed by casual labours in non-agriculture in rural areas of India and the lowest is noticed in self-employed in non-agriculture followed by self-employed in agriculture. In urban areas, casual labours again have the highest proportion of patients using public healthcare services and the lowest is observed among regular wage/salary earners. This proportion of self-employed is slightly above the regular wage/salary earners.

Among the industrial group of workers, the higher proportion of public healthcare facilities for outpatient treatment is observed among Arts, entertainment and recreation, Other service activities, Human health and social work activities, Construction, Agriculture, forestry and fishing, and Transport and storage in India. While the higher proportion of private healthcare services for outpatient treatment is reported among industrial groups like Real estate activities, {Professional, scientific and technical activities, Water supply, sewerage, waste management and remediation activities, Financial and insurance activities, Administrative and support service activities, Information and Communication and Public administration and defence, compulsory social security.}

The lower proportion of the private healthcare facilities for the outpatient treatment is observed among occupational groups of Elementary occupations, Craft and related trades

workers, Skilled agricultural and fishery workers and Plant and Machine Operators and Assemblers, while relatively higher proportion is reported for Legislators, Senior Officials and Managers, Technicians and Associate Professionals, Clerks and Professionals.

Around three-fourth of outpatient cases are treated in the private healthcare facilities. So the reasons for not availing government facilities are also investigated in this study. The largest cause for not availing government sources is the quality not being satisfactory (42.7 per cent) in India. While in Delhi more than half of the patients stated long waiting as prime cause for not using government healthcare facilities for outpatient treatment, second major cause for this is quality not being satisfactory (26.4 per cent). In rural areas of India, not availability of the required specific service, quality not being satisfactory and facility too far are reported slightly higher than urban areas for not availing government sources. The proportion of long waiting as the reason for not using government services is much higher in urban areas than rural areas. STs reported the non-availability of required specific service and facility too far as the reason for not availing the government services more than other social groups.

There is a clear pattern for not availing government resources across all the economic status in India. The share of non-availability of required service and quality not satisfactory declines with but the share of long waiting increases with improvement in economic status. Chronically ill patients cited quality not satisfactory and non-availability of required service more than non-chronically ill patients. The proportion of quality not satisfactory and facility too far as reasons for not using government sources are mentioned slightly more by insured patients.

In rural areas of India, the highest proportion of patients from regular wage/salary earning households report non-availability of required service as the reason for not availing government sources followed by casual labours in agriculture. The highest proportion of the reason quality not satisfactory is reported by self-employed in agriculture followed by the casual labours in agriculture. It is reported the lowest among regular wage/salary earners. Patients from casual labour households in agriculture reported facility too far as the reason more than any other type of household. While the proportion of long waiting for not availing government sources is the highest among the self-employed in non-agriculture followed by the casual labour in non-agriculture. In urban areas of India, the quality not satisfactory by self-employed, facility too far by casual labours and long

waiting by regular wage/salary earners are the largest cited reason for not using government sources for outpatient treatment.

Among the industrial groups of workers in India, quality not satisfactory is more mentioned in both high-end professions like Information and communication and Real estate activities and low productive professions like Mining and quarrying and Agriculture, forestry and fishing. The share of long waiting is more reported among Electricity, gas, steam and air conditioning supply, Financial and insurance activities, Administrative and support service activities, Human health and social work activities, Education, Accommodation and food service activities, Construction, Transportation and storage and Manufacturing.

The higher proportion of non-availability of required service is reported among occupational groups of Technicians and Associate Professionals, Skilled Agricultural and Fishery workers, Elementary occupations and Clerks. While quality not satisfactory is more observed among Skilled Agricultural and Fishery workers, Elementary occupations, Legislators, Senior Officials and Managers, Technicians and Associate Professionals, and Service workers and Shop & Market Sales workers.

The usage of public and private hospitals by nature of ailments is also investigated in this chapter. In India, patients due to Childbirth, Obstetric, Injuries, Respiratory and Infectious diseases are relatively more hospitalized in government healthcare facilities. While the larger share of ailments like Genito-urinary, Musculo-skeletal, Blood Diseases, Gastro-intestinal, Eye/Ear and Endocrine/Metabolic/Nutritional, Cardio-vascular diseases, Skin, Psychiatric/ Neurological and Cancers are hospitalized in private hospitals. For outpatient cases, the patients are slightly more receiving treatment from government sources for ailments like Childbirth, Cancers, Musculo-skeletal, Psychiatric/Neurological, Injuries, Blood Diseases, Obstetric and Respiratory problems. Genito-urinary, Gastro-intestinal, Endocrine/Metabolic/Nutritional, Skin, Cardio-vascular and Infectious diseases are more treated in private healthcare facilities for the outpatient cases.

The percolation of health insurance schemes is very low in India. Only 15.2 per cent of the population of India has any type of health insurance coverage, even in Delhi (16.6 per cent) this share is marginally higher. In urban areas, the penetration of health insurance is noticeably higher than rural areas. The higher proportion of older people is insured and it is more pronounced in Delhi. With the improvement in educational and economic status, the shares of insured people increase but it increases substantially for economic status. In

Delhi, only population from the higher and highest MPCE quintiles has significant health insurance coverage. Chronically ill people have significantly higher coverage in both India and Delhi.

Persons from regular wage/salary earning households have the highest level of health insurance coverage in rural and urban areas of India and Delhi. In urban areas of India, regular wage/salary earning has much higher coverage of health insurance. The Self-employed and casual labours have an almost similar level of insurance coverage but in Delhi, this is very much lower among casual labour households. Among industrial groups, the higher share of insured people are reported in Public administration and defense; compulsory social security, Information and communication, Electricity, gas, steam and air conditioning supply and Financial and insurance activities. While Arts, entertainment and recreation, Real estate activities, Other service activities and Agriculture, forestry and fishing have the lower share of insured people. Among occupational groups, the higher share of insured people is observed in Professionals, Clerks and Technicians and associate professionals. And a lower share is reported among Skilled agricultural and fishery workers, Elementary occupations, Craft and related trades workers and Service workers and shop & market sales workers.

It has been observed in the previous sections of this chapter, the improvement in economic status is one of the most significant determinants of the type of healthcare utilization and health insurance coverage. After the economic reforms, the role of private sector is constantly increasing in providing healthcare services. It has drastically increased the health expenditure and Out-of-Pocket (OOP) expenditure, which further cause the impoverishment among vulnerable sections of the society.

As shown in the chapter, the OOP is a major source of financing healthcare expenditure in both India and Delhi. But in Delhi, the share of OOP in financing healthcare expenditure is lower than India. The mean healthcare expenditure for OOP expenditure for both inpatient and outpatient cases is much higher in urban areas than rural areas and the share of OOP expenditure is much higher in rural areas as insurance percolation is lower. The health expenditure increases with the improvement in social status of the household both in India and Delhi but the share of OOP expenditure is lower among 'Others' social group in India. Sikhs have the maximum health expenditure among religious groups followed Hindus for inpatient cases and by Muslims for outpatient cases. But Muslims report the highest share of OOP expenditure in both India and Delhi.

The Mean health expenditure steadily increases with the improvement in the economic status of a household but for highest quintile, it increases drastically for both inpatient and outpatient cases. But the share of OOP expenditure decreases with the improvement in economic status for both inpatient and outpatient cases. The presence of chronically ill people and elderly members (65 years and above) in the households drastically increases the health expenditure of the households. Even households with one or two insured members have higher mean health expenditure than that of non-insured members for inpatient and outpatient cases in both India and Delhi. But the share of OOP expenditure declines for the households with one or two insured members. Among households with three and above insured members, the mean health expenditure significantly declines but there is no considerable decline in OOP expenditure, in fact, it has increased for inpatient cases in India.

For inpatient cases, in rural areas of India, the mean health expenditure is the highest among regular wage/salary earners but the share of OOP expenditure is the lowest while casual labour in non-agriculture households has the lowest mean health expenditure but the share of OOP expenditure is the highest among them. In urban areas of India, the highest mean health expenditure is observed among self-employed closely followed by regular wage/salary earners but the share of OOP expenditure is again the lowest among regular wage/salary earners. The Casual labours have the lowest mean health expenditure and the highest share of OOP expenditure. In Delhi too, the highest mean health expenditure is observed among self-employed and the lowest among casual labours but the share of OOP expenditure is the highest among casual labours and the lowest among regular wage/salary earning households.

The highest mean health expenditure for the outpatient cases is observed among self-employed closely followed by regular wage/salary earning households for both rural and urban areas of India while casual labours have the lowest mean health expenditure with a considerable margin. The share of OOP expenditure is the highest for self-employed followed by casual labours in rural areas while it is highest among regular salaried in urban areas.

Among the industrial groups in India, the lower share of OOP expenditure for inpatient cases is observed among Information and communication, Financial and insurance activities, Arts, entertainment and recreation and Public administration and defense; compulsory social security. For the outpatient cases, the lower share of OOP expenditure is noticed among the Human health and social work activities, Administrative and support

service activities, Arts, entertainment and recreation, Information and communication, Manufacturing and Agriculture, forestry and fishing.

The higher share of OOP expenditure for inpatient cases among occupational groups is experienced in Skilled Agricultural and Fishery workers, Elementary occupations, Craft and related Trades workers and Plant and Machine Operators and Assemblers. While for the outpatient cases, the lower share of OOP expenditure is observed among Technicians and Associate Professionals, Elementary occupations, Service workers and shop & market sales workers and Plant and Machine Operators and Assemblers.

In the study area, not a single case of reimbursement is found during the field survey for either inpatient or outpatient healthcare services despite the existence of health insurance. So, the mean health expenditure is similar to OOP expenditure in the study area. Regular salaried households report the highest mean health expenditure for inpatient services followed by self-employed. The lowest inpatient health expenditure is observed among casual labours that is much lower than regular salaried and self-employed. But for outpatient cases, the highest health expenditure is reported among casual labour households while it is lower in regular salaried and self-employed households. Among social groups, the highest inpatient health expenditure is observed for 'Others' followed by SCs/STs. While the outpatient health expenditure is the highest among SCs/STs and the lowest among 'Others'. Hindus have much higher mean health expenditure for both inpatient and outpatient cases than 'Others' religious group. Migrant households report lower inpatient health expenditure while non-migrant households report lower outpatient health expenditure in the study area.

Catastrophic health expenditure (CHE) is one of the biggest causes of impoverishment in India. It negatively affects the overall well-being of the household. Expenditure on both inpatient and outpatient cases is adjusted for 30 days as a proportion of monthly expenditure of the household to estimate the proportion of households experiencing CHE at different levels. In India, almost one-fourth of the total households experience CHE at 10 per cent level. It decreases with increase in CHE level and decreases up to 8.2 per cent at 40 per cent CHE level. In Delhi, the incidence of CHE is much lower as compared to India. In India, a marginally higher proportion of rural households experiences CHE at upper levels. The share of households experiencing CHE increases with increase in social hierarchy for all levels of CHE. Sikh household has the highest share of CHE experience followed by Muslims and Hindus in both India and Delhi. There are small differences in the share of households experiencing CHE across economic status defined by MPCE

quintile in India. However, households from the 'higher' MPCE quintile experience the highest level of CHE at 10 per cent, 15 per cent and 20 per cent levels. At 30 per cent and 40 per cent levels, the lowest MPCE quintile experiences the highest level of CHE.

The presence of chronically ill persons in household drastically increases the occurrence of CHE and increase and their number in household further increases the occurrence of CHE. The presence of elderly member (65 years and above) in the household also has a significant influence on the occurrence of CHE event. But increase in the number of elderly members does not increase the occurrence as high that is shown by an increase in the chronically ill members. The presence of insured members in a household does not show influence on the reduction of CHE events. In fact, non-insured households have the lower share of CHE than households with insured members in both India and Delhi. The presence of three or more insured members in households brings the event of CHE only near the level of non-insured households at CHE levels of 30 per cent and 40 per cent in India while in Delhi this decreases to significantly lower levels.

Among the type of households, the occurrence of CHE is lower among casual labour households in rural India and Delhi. Regular salary earning households experience the highest level of CHE in rural India and Delhi. While in urban India, The self-employed have the highest level of CHE at lower levels but at upper levels, casual labours experience the highest level of CHE and lowest level of CHE is observed among regular wage/salary earning household at all levels of CHE.

In India, The high incidence of CHE is observed among Real estate activities, Professional, scientific and technical activities, Electricity, gas, steam and air conditioning supply, Transportation and storage, Public administration and defense; compulsory social security, Wholesale and retail trade; repair of motor vehicles and motorcycles and Manufacturing. While in industrial groups like Information and communication, Arts, entertainment and recreation, Water supply; sewerage, waste management and remediation activities, Education, Construction, Financial and insurance activities, Mining and quarrying, Administrative and support service activities and Agriculture, forestry and fishing, the proportion of households reporting CHE is relatively lower.

There is little variation in the incidence of CHE across occupational groups in India. The higher incidence is observed among Service workers and Shop & Market Sales workers, Plant and Machine Operators and Assemblers, Technicians and Associate professionals, Clerks and Skilled Agricultural and Fishery workers and relatively lower incidence are

reported among Professionals, Elementary occupations, Craft and related Trades workers and Legislators, Senior Officials and Managers.

In the study area, the incidence of CHE is slightly lower than India at lower levels of CHE but higher at the upper level of CHE. But it is higher than Delhi at all levels. The Regular salaried households experience the highest level of CHE followed by casual labours while the lowest incidence is reported among self-employed. As observed for India, 'Others' social group experience the highest level of CHE in the study area too followed by SCs/STs. Migrant households report much higher incidence of CHE at lower levels of CHE.

CHAPTER VI

SUMMARY AND CONCLUSION

6.1 Introduction

There are a number of factors, which affects the health status of an individual. Economic status is one of those crucial factors and it is largely associated with the employment status of individuals. Poor health and illness negatively affects the condition of a person in job market. Almost 92 per cent of the workers in India are informal (NCEUS, 2007) and contributes to almost half of the economy (NCEUS, 2008b). After structural reforms in the Indian economy, despite of high growth rate, the share of informal jobs are not accordingly converting in to formal jobs with better employment and working conditions (Srivastava, 2012). Even in formal sector, there is a significant share of informal workers. Ineffective and non-existent labour and social protection legislations have restricted the improvement in overall wellbeing of the informal workers and health status is an integral part of the wellbeing. In India, public healthcare infrastructure is in very miserable condition and a large share of health expenditure is in form of Out-of-Pocket (OOP) expenditure as insurance percolation is very low. This study is an attempt to investigate the status of health security of informal workers. As we mentioned in the first chapter, the main objective of this study is assess the impact of working conditions on health and healthcare utilization and health expenditure of informal workers.

6.2 Employment, working and living conditions of informal workers

As discussed in third chapter, the share of informal workers in India is around 92 per cent, which is one of the highest in the world. Among the big states, Delhi has the lowest share of informal workers (71.1 per cent) because it is highly urbanized and industrialized area. Regular wage/salary earners have the lowest proportion of informal workers. Only highly educated and richest quintile groups have the significantly lower proportion of informal workers.

Informal workers are characterized by miserable employment and working conditions. A large majority of them does not have even access to basic facilities and are forced to work in very challenging physical and psychological environment. In India, 93.2 per cent of informal workers do not have written contract with their employers while 90.2 per cent of them are not eligible for any paid leave. The condition is slightly better in Delhi where the proportion of having no written contract (87.4 per cent) is lower than the national

average and around 80 per cent are not eligible for paid leave. The availability of social security benefits is almost non-existent. Regular wage/salaried workers have the lowest share of informal workers without written contract and are eligible for paid leave.

In the study area, the share of informal workers not having any written contract (90.5 per cent) is slightly higher than Delhi while 65.4 per cent of them report that they are not eligible for paid leave. The scenario of social security benefits is better in the study area. Other important working conditions in the study area are also not very favourable for workers. About one-third of workers do not have fixed working hours and they work for more than eight hours and work seven days in a week. One-fourth of the workers have to face delay in payment of their wages. Only 57.1 per cent of workers have fixed break during working hours and only 43.3 per cent of them can easily take a day off.

6.3 Prevalence of inpatient and outpatient cases

Delhi has considerably lower levels of both inpatient (hospitalisation) and outpatient (non-hospitalization) cases in comparison to India especially the outpatient cases. While the study area comprising slums of Delhi have a lower prevalence of inpatient cases compared to India and Delhi. The level of both hospitalisation and non-hospitalization cases is higher in older and children individuals but results of logistic regression shows higher level among children. There is a sharp reduction in the prevalence of outpatient cases with an increase in the level of education, but this is not sharp for inpatient cases. A sharp increase is observed for a level of inpatient cases with the increase in economic status defined by MPCE quintiles in India and the study area. The prevalence of both hospitalisation and non-hospitalization cases is too much higher among the chronically ill patients in India, Delhi, and the study area. Health insurance also shows increase in the level of both inpatient and outpatient cases.

Among the type of household classified by nature of work of the head of household, the highest level of both hospitalisation and non-hospitalization cases is observed among regular wage/salary earners in rural India, but there is no large difference among the type of households in urban India. While in Delhi, the highest level of inpatient cases is observed among self-employed followed by regular wage/salary earning and lowest is among casual labours.

Among the occupational groups in India, higher productive occupations like Professionals, Plant and machine operators and assemblers, Technicians and associate

professionals and Legislators, senior officials and managers have a higher prevalence of inpatient cases while lower prevalence is observed among Skilled agricultural and fishery workers, Elementary occupations and Craft and related trade workers.

In general, the prevalence of both hospitalisation and non-hospitalization (substantially) increases with the increase in the economic status of the workers and a higher increase is marked in rural areas. But lower-grade workers have higher increase than higher-grade workers. Casual labours experience the sharpest increase in the prevalence of inpatient cases with an increase in economic status. Agriculture, forestry and fishing, Mining and quarrying, Construction and Manufacturing groups show higher increase rates of inpatient cases with improvement in economic status.

6.4 Distribution of nature of ailments among workers

The largest share of infectious diseases is observed for both hospitalization and non-hospitalization in India and Delhi. Other major diseases having a significant share in the type of ailments for inpatient cases are Childbirth, Injuries, Gastro-intestinal, Cardio-vascular, Psychiatric/neurological, Respiratory and Musculo-skeletal diseases. For outpatient cases, the share of infectious diseases is the highest; it constitutes almost half of the non-hospitalization cases in Delhi. Major contributors in outpatient cases are Gastro-intestinal, Cardio-vascular, Musculo-skeletal and Endocrine/metabolic/nutritional diseases.

Among casual labour households in India, except for childbirth and infectious disease, the share of Injuries, Cardio-vascular, Psychiatric/neurological, Musculo-skeletal, and Respiratory diseases are higher than regular wage/salary earners for inpatient cases. While the share of infectious diseases, Respiratory, Musculo-skeletal, Psychiatric/neurological and Injuries among casual labour households are higher than regular wage/salary earners.

6.5 Impact of employment and working conditions on health status of workers

The impact of employment and working conditions on the health status of informal workers from study area are explored in detail. Employment conditions (here defined by the existence of written job contract, availability of social security benefits and eligibility for paid leave) have a significant impact on the occurrence of inpatient cases, but for outpatient cases, the impact is not significant like inpatient cases. However, the impact of working conditions of informal workers is very diverse. Fixed working schedule, day

shift, eight or below working hours and weekend holidays do not show any positive impact on the prevalence of inpatient cases while workers having a monthly wage, delay in payment, awareness about minimum wage, easily available holidays and fixed breaks during working hours have a lower level of inpatient cases. For outpatient cases, among informal workers having fixed working schedule, eight or below working hours, weekend holidays, awareness about minimum wage and fixed breaks during working hours have lower prevalence of outpatient cases while among workers having day shift work, delay in payment, easily available holidays and breaks available whenever required by workers have lower prevalence. So, the impact of working conditions on both hospitalisation and non-hospitalization cases are not very clear from this study.

Psychosocial factors also have considerable influence on the health status of workers. In the study area, workers being certain about retaining their jobs for next year have a higher prevalence of both the inpatient and outpatient cases. While workers who admit that their employer can ask them any time to leave or not certain about it have a higher prevalence of both the inpatient and outpatient cases. Bad behaviour of superiors, being a lot of time alert at work, work with deadlines and regular piling up of work have increased the level of non-hospitalization cases of workers, but a lower level of inpatient cases is observed for these working conditions.

6.6 Psychosocial stressors and musculo-skeletal problems among informal workers

A strong association between psychosocial stressors and musculoskeletal problems among informal workers is observed in the study area. Employment conditions i.e. written job contract, availability of social security benefits and eligibility for paid leave significantly decreases the incidence of regular pain in shoulder/upper limb, neck, back and lower limb. The job security factors also significantly reduce the prevalence of musculoskeletal problems among workers. The results also indicated the reduced prevalence of musculoskeletal problems among workers experiencing good behaviour from superiors. High job demand factors e.g. too difficult work, being a lot of time alert at the workplace, work with deadlines, and regular piling up of work also enhances the prevalence of musculoskeletal problems. These results from informal workers from slum areas of Delhi are in consistent with the argument of Yue et al., (2014) and Lang et al., (2012).

6.7 Utilization of healthcare services

There are multiple service providers of healthcare services in India having a large variation in range, quality and cost. Private healthcare services are generally costlier than that of public but there is a large disparity in quality of care within private healthcare facilities. In India, a little more than half of the patients used private healthcare facilities for hospitalized treatment. In Delhi, the share of public hospitals is slightly better than India, as it is contributing to almost half of the total hospitalization treatment.

For outpatient treatment, the larger proportion of patient uses private healthcare facilities than inpatient hospitalization treatment. In India, about three-fourth of the total patients used private healthcare facilities for outpatient treatment which is increased up to 80 per cent in Delhi.

Older patients are more hospitalized in private hospitals both in India and Delhi. Despite the strong commitment of the government to improve child health, they are more admitted in private hospitals in India. But in Delhi, public hospitals are serving more than half of the inpatient cases of children.

The use of public healthcare facilities and admission in free wards for inpatient cases and outpatient cases declines with improvement in the social hierarchy and educational status of patients. The similar pattern is observed with a larger decline in magnitude across MPCE quintiles. The share of public hospitals and free wards declines to almost one-third from the lowest to highest MPCE quintiles in India but this decline is not as sharp in Delhi, it only declines to little more than half.

About two-third of chronically ill patients are more hospitalized in private hospitals in India but in Delhi their share in private hospitals is only 40.4 per cent. For outpatient treatment too, the chronically ill patients are slightly less using private healthcare services in both India and Delhi but the proportion in Delhi is drastically low. Insurance coverage has encouraged the use of private healthcare facilities for inpatient cases and it is more pronounced in Delhi. Unlike hospitalization, insured patient does not have the higher proportion of private healthcare services for outpatient cases in both India and Delhi.

The proportion of public healthcare facilities for both inpatient and outpatient treatment is the highest among casual labours in both rural and urban areas. For inpatient treatment, regular wage/salary earners have the lowest proportion of patients using public healthcare facilities in both rural and urban areas of India while in urban areas of Delhi, this

proportion is the lowest among self-employed. For outpatient treatment, the lowest proportion is noticed in self-employed in non-agriculture followed by self-employed in agriculture. In urban areas, casual labours again have the highest proportion of patients using public healthcare services and the lowest is observed among regular wage/salary earners. This proportion of self-employed is slightly above the regular wage/salary earners.

In India, for both outpatient and inpatient treatment, the higher proportion of public healthcare facilities and free wards is observed among Elementary occupations, Craft and related trade workers, Skilled agricultural and fishery workers, Service workers and shop & market sales workers and Plant and machine operators and assemblers and lower share is observed among occupational groups of Professionals, Legislators, senior officials and managers, Clerks and Technicians and associate professionals.

There is a clear pattern for not availing government resources for outpatient treatment across all the economic status in India. The share of non-availability of required service and quality not satisfactory declines with but the share of long waiting increases with improvement in economic status. Chronically ill patients cited quality not satisfactory and non-availability of required service more than non-chronically ill patients. The proportion of quality not satisfactory and facility too far as reasons for not using government sources are mentioned slightly more by insured patients.

In rural areas of India, the highest proportion of patients from regular wage/salary earning households report non-availability of required service as the reason for not availing government sources followed by casual labours in agriculture. The highest proportion of the reason quality not satisfactory is reported by self-employed in agriculture followed by the casual labours in agriculture. It is reported the lowest among regular wage/salary earners. Patients from casual labour households in agriculture reported facility too far as the reason more than any other type of household. While the proportion of long waiting for not availing government sources is the highest among the self-employed in non-agriculture followed by the casual labour in non-agriculture. In urban areas of India, the quality not satisfactory by self-employed, facility too far by casual labours and long waiting by regular wage/salary earners are the largest cited reason for not using government sources for outpatient treatment.

The higher proportion of non-availability of required service is reported among occupational groups of Technicians and Associate Professionals, Skilled Agricultural and Fishery workers, Elementary occupations and Clerks. While quality not satisfactory is more observed among Skilled Agricultural and Fishery workers, Elementary occupations, Legislators, Senior Officials and Managers, Technicians and Associate Professionals, and Service workers and Shop & Market Sales workers.

6.8 Health insurance coverage

The percolation of health insurance schemes is very low in India. Only 15.2 per cent of the population of India has any type of health insurance coverage, even in Delhi (16.6 per cent) this share is marginally higher. In urban areas, the penetration of health insurance is noticeably higher than rural areas. The higher proportion of older people is insured and it is more pronounced in Delhi. With the improvement in educational and economic status, the shares of insured people increase but it increases substantially for economic status. In Delhi, only population from the higher and highest MPCE quintiles has significant health insurance coverage. Chronically ill people have significantly higher coverage in both India and Delhi.

There is not much variation in insurance coverage among the type of household. However, persons from regular wage/salary earning households have the highest level of health insurance coverage in rural and urban areas of India and Delhi. In urban areas of India, regular wage/salary earning has much higher coverage of health insurance. Self-employed and casual labours have an almost similar level of insurance coverage but in Delhi, this is very much lower among casual labour households.

Among occupational groups, the higher share of insured people is observed in Professionals, Clerks and Technicians and associate professionals. And a lower share is reported among Skilled agricultural and fishery workers, Elementary occupations, Craft and related trades workers and Service workers and shop & market sales workers.

6.9 Out-of-Pocket expenditure as prime contributor of total health expenditure

After the economic reforms, the role of private sector is constantly increasing in providing healthcare services. It has drastically increased the health expenditure and Out-of-Pocket (OOP) expenditure, which further cause the impoverishment among vulnerable sections of the society. The OOP is a major source of financing healthcare expenditure in both India and Delhi. But in Delhi, the share of OOP in financing healthcare expenditure

is lower than India. The mean healthcare expenditure for both inpatient and outpatient cases is much higher in urban areas than rural areas and the share of OOP expenditure is much higher in rural areas as insurance percolation is lower.

In order to understand the factors influencing the OOP for inpatients and outpatients, quantile regression has been employed. Based on the previous studies (Koenker and Bassett, 1978; Koenker and Hallock, 2001; Cook, 2013), it was found that quantile regression is appropriate methodology to explore the determinants of expenditure. Results obtained through quantile regression, it can be observed that the determinants of OOP in case of inpatients are not completely same as the determinants of OOP in case of outpatient. However, there are some factors such as sector, monthly per capita consumer expenditure, and type of the household emerged as the common factors for both. On the other hand, members who are not covered with any kind of health insurance is positively associated with out of pocket expenditure in case of inpatient while out of pocket expenditure in case of outpatient, the result is differ with the result obtained in case of inpatient case. Outpatients, whether insured or not, they have some amount of burden for their medical expenses. Further, social group of the inpatient are the determining factors for OOP in case of inpatient cases, while it is not significant in case of outpatient case.

The highest mean health expenditure for the outpatient cases is observed among self-employed closely followed by regular wage/salary earning households for both rural and urban areas of India while casual labours have the lowest mean health expenditure with a considerable margin. The share of OOP expenditure is the highest for self-employed followed by casual labours in rural areas while it is highest among regular salaried in urban areas.

The higher share of OOP expenditure for inpatient cases among occupational groups is experienced in Skilled Agricultural and Fishery workers, Elementary occupations, Craft and related Trades workers and Plant and Machine Operators and Assemblers. While for the outpatient cases, the lower share of OOP expenditure is observed among Technicians and Associate Professionals, Elementary occupations, Service workers and shop & market sales workers and Plant and Machine Operators and Assemblers.

In the study area, not a single case of reimbursement is found during the field survey for either inpatient or outpatient healthcare services despite the existence of health insurance. So, the mean health expenditure is similar to OOP expenditure in the study area. Regular salaried households report the highest mean health expenditure for inpatient services

followed by self-employed. The lowest inpatient health expenditure is observed among casual labours that is much lower than regular salaried and self-employed. But for outpatient cases, the highest health expenditure is reported among casual labour households while it is lower in regular salaried and self-employed households. Among social groups, the highest inpatient health expenditure is observed for 'Others' followed by SCs/STs. While the outpatient health expenditure is the highest among SCs/STs and the lowest among 'Others'. Hindus have much higher mean health expenditure for both inpatient and outpatient cases than 'Others' religious group. Migrant households report lower inpatient health expenditure while non-migrant households report lower outpatient health expenditure in the study area.

6.10 Level of catastrophic health expenditure (CHE) faced by households

Catastrophic health expenditure (CHE) is one of the biggest causes of impoverishment in India. It negatively affects the overall wellbeing of the household. Expenditure on both inpatient and outpatient cases is adjusted for 30 days as a proportion of monthly expenditure of the household to estimate the proportion of households experiencing CHE at different levels. In India, almost one-fourth of the total households experience CHE at 10 per cent level. It decreases with increase in CHE level and decreases up to 8.2 per cent at 40 per cent CHE level. In Delhi, the incidence of CHE is much lower as compared to India. In India, a marginally higher proportion of rural households experiences CHE at upper levels.

There are small differences in the share of households experiencing CHE across economic status defined by MPCE quintile in India. However, households from the 'higher' MPCE quintile experience the highest level of CHE at 10 per cent, 15 per cent and 20 per cent levels. At 30 per cent and 40 per cent levels, the lowest MPCE quintile experiences the highest level of CHE.

The presence of chronically ill persons in household drastically increases the occurrence of CHE and increase and their number in household further increases the occurrence of CHE. The presence of elderly member (65 years and above) in the household also has a significant influence on the occurrence of CHE event. But increase in the number of elderly members does not increase the occurrence as high that is shown by an increase in the chronically ill members. The presence of insured members in a household does not show influence on the reduction of CHE events. In fact, non-insured households have the lower share of CHE than households with insured members in both India and Delhi. The

presence of three or more insured members in households brings the event of CHE only near the level of non-insured households at CHE levels of 30 per cent and 40 per cent in India while in Delhi this decreases to significantly lower levels.

Among the type of households, the occurrence of CHE is lower among casual labour households in rural India and Delhi. Regular salary earning households experience the highest level of CHE in rural India and Delhi. While in urban India, The self-employed have the highest level of CHE at lower levels but at upper levels, casual labours experience the highest level of CHE and lowest level of CHE is observed among regular wage/salary earning household at all levels of CHE.

In India, The high incidence of CHE is observed among Real estate activities, Professional, scientific and technical activities, Electricity, gas, steam and air conditioning supply, Transportation and storage, Public administration and defense; compulsory social security, Wholesale and retail trade; repair of motor vehicles and motorcycles and Manufacturing. While in industrial groups like Information and communication, Arts, entertainment and recreation, Water supply; sewerage, waste management and remediation activities, Education, Construction, Financial and insurance activities, Mining and quarrying, Administrative and support service activities and Agriculture, forestry and fishing, the proportion of households reporting CHE is relatively lower.

There is little variation in the incidence of CHE across occupational groups in India. The higher incidence is observed among Service workers and Shop & Market Sales workers, Plant and Machine Operators and Assemblers, Technicians and Associate professionals, Clerks and Skilled Agricultural and Fishery workers and relatively lower incidence are reported among Professionals, Elementary occupations, Craft and related Trades workers and Legislators, Senior Officials and Managers.

In the study area, the incidence of CHE is slightly lower than India at lower levels of CHE but higher at the upper level of CHE. But it is higher than Delhi at all levels. The Regular salaried households experience the highest level of CHE followed by casual labours while the lowest incidence is reported among self-employed. As observed for India, 'Others' social group experience the highest level of CHE in the study area too followed by SCs/STs. Migrant households report much higher incidence of CHE at lower levels of CHE.

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Table 4.A Distribution of Nature of Ailments for the inpatient cases across occupational groups in India, 2014

Nature of ailment	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Infection	18.03	18.03	23.39	18.03	17.3	18.57	19.77	18.92	18.06	20.11	18.61
Cancers	0.77	1.42	1.6	1.8	1.52	1.26	1.14	0.53	0.99	0	1.14
Blood diseases	1.35	1.26	1.63	1.29	1.03	1.57	1.46	1.67	1.26	3.58	1.41
Endocrine/metabolic/nutritional	2.48	2.26	1.61	2.78	2.56	1.42	1.63	2.05	1.14	0	1.7
Psychiatric/neurological	4.19	5.83	3.76	3.27	3.48	3.72	3.91	5.11	4.19	0	4.04
Eye/ear	4.47	4.28	2.27	4.97	2.98	3.86	2.44	2.28	3.22	0.47	3.39
Cardio-vascular	7.89	7.62	5.23	8.91	8.95	5.29	5.66	5.09	4.32	1.1	5.85
Respiratory	3.86	3.61	4.11	2.96	3.27	3.36	3.55	4.44	3.18	0	3.48
Gastro-intestinal	8.82	7.25	8.41	9.2	8.68	7.16	8.07	8.82	8.3	1.44	8.03
Skin	0.52	0.41	0.85	0.25	0.52	0.61	0.8	0.27	0.93	0	0.66
Musculo-skeletal	4.16	5.03	4.4	4.52	2.3	4.23	2.8	2.57	3.01	2.92	3.52
Genito-urinary	5.31	6.76	4.28	7.01	5.73	4.15	4.59	4.9	3.88	1.27	4.62
Obstetric	3.02	3.65	3.78	2.7	4.22	3.75	4.86	3.54	4.95	5.15	4.1
Injuries	7.48	5.64	6.06	6.71	7.6	8.28	8.05	8.9	9.49	9.08	8.21
Childbirth	26.11	23.53	25.05	22.32	27.4	31.09	28.82	28.27	31.26	52.64	29.15
Others	1.56	3.39	3.57	3.29	2.46	1.68	2.45	2.67	1.81	2.25	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	5,840	2,462	2,368	1,556	5,442	13,249	6,991	3,599	9,875	29	51,411

Source: Computed from NSS 71st Round, 2014

Table 4.B Distribution of Nature of Ailments for the outpatient cases across occupational groups in India, 2014

Nature of ailment	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Infection	21.2	20.6	15.9	18.2	24.1	29.1	28.3	30.7	33.2	61.5	27.6
Cancers	0.2	0.4	0.6	0.3	0.8	0.5	0.4	0.2	0.2	0.0	0.4
Blood diseases	1.3	1.2	0.6	0.5	1.3	0.8	0.6	1.0	0.8	0.0	0.9
Endocrine/metabolic/nutritional	17.5	18.7	15.4	23.6	12.7	6.8	11.1	13.6	6.6	0.0	10.8
Psychiatric/neurological	3.7	2.6	3.2	5.0	4.7	5.1	6.3	4.6	5.9	0.0	5.1
Eye/ear	1.7	3.0	2.3	1.5	1.9	2.5	2.2	1.3	2.1	0.0	2.1
Cardio-vascular	17.1	17.3	19.6	15.1	16.1	9.1	10.8	14.1	8.7	0.0	12.0
Respiratory	15.3	13.0	15.2	9.4	14.6	14.8	15.1	14.5	14.5	34.0	14.6
Gastro-intestinal	3.8	5.2	4.8	5.6	5.4	8.5	6.1	5.3	8.3	0.0	6.7
Skin	2.2	2.8	4.3	2.8	1.7	2.3	2.6	2.1	2.9	0.0	2.5
Musculo-skeletal	9.8	10.0	9.3	9.4	10.1	13.7	11.4	7.5	11.3	0.0	11.2
Genito-urinary	2.9	1.2	1.2	3.0	1.2	2.2	1.7	1.1	1.7	0.0	1.9
Obstetric	0.1	0.8	0.1	0.1	0.2	0.4	0.5	0.1	0.3	4.6	0.3
Injuries	0.9	1.2	2.0	2.6	1.4	2.2	1.5	1.8	1.8	0.0	1.7
Childbirth	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Others	2.1	2.1	5.5	2.9	3.7	2.1	1.4	2.2	1.5	0.0	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	4,010	1,777	1,654	1,070	3,733	7,624	5,310	2,491	6,185	5	33,859

Source: Computed from NSS 71st Round, 2014

Table 5.A Distribution of reason for not availing government sources for outpatient cases by different background characteristics in India, 2014

Background characteristics	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Sex						
Male	10.8	43.2	11.5	26.4	8.1	10,898
Female	9.9	42.3	11.7	28.1	8.0	12,729
Age group						
0-5	10.7	40.1	15.1	26.7	7.5	3,194
6-14	10.8	38.7	13.4	29.8	7.4	1,424
15-24	11.2	45.1	11.1	22.4	10.2	1,732
25-44	10.3	43.6	12.2	25.1	8.9	4,753
45-64	10.3	42.3	10.3	29.1	8.0	8,062
65 & above	9.4	45.1	10.2	28.4	6.9	4,462
Sector						
Rural	13.0	43.7	12.7	22.8	7.8	11,049
Urban	6.5	41.4	10.0	33.8	8.4	12,599
Household size						
1-4	8.9	40.4	10.9	30.4	9.4	9,340
5-6	11.5	43.4	11.8	26.5	6.8	8,184
7 & above	11.8	47.5	13	21.1	6.7	6,103
Social group						
STs	16.3	38.5	22.3	15.8	7.1	1,069
SCs	11.3	39	14.6	27.5	7.6	3,540
OBCs	8.8	43.2	10.9	29.3	7.8	10,211
Others	11.1	44.3	10	25.9	8.7	8,807
Religion						
Hindu	10.8	44.3	11.5	25.6	7.9	18,059
Muslim	8.4	37.1	13.9	31.0	9.6	3,495
Sikh	10.8	38.6	10.1	36.8	3.7	740
Others	8.2	36.3	8.1	38.1	9.3	1,333
Educational attainment						
Not literate	10.5	46.1	13.8	22.5	7.0	8,551
Primary	8.8	42.3	11.4	30.1	7.5	5,966
Middle	13.6	36.5	11.6	30.2	8.1	2,907
Secondary	11.5	40.4	7.5	29.7	10.9	2,652
Higher secondary	6.8	43.9	11.3	28.8	9.2	1,574
Graduate & above	10.3	40.4	7.5	31.7	10.1	1,976
Marital status						
Never married	10.8	40.6	13.7	26.2	8.7	6,166
Currently married	9.9	44.1	11.1	27.0	7.9	14,152
Widowed/divorced/separated	10.9	41.0	9.7	30.8	7.7	3,309
Total	10.3	42.7	11.6	27.3	8.1	23,648

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Background characteristics	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Relation to head						
Head	10.6	43.0	10.8	28.1	7.5	7,841
Spouse	8.6	44.0	12.3	27.3	7.9	5,808
Child	11.9	39.1	12.3	27.6	9.2	4,761
Spouse of child	12.1	45.5	6.5	27.5	8.5	815
Grandchild	7.9	45.9	14.0	24.2	8.0	1,945
Others	11.1	43.9	10.9	26.4	7.8	2,457
MPCE quintile						
Lowest	14.5	48.8	12.8	17.9	6.1	2,973
Lower	14.0	41.6	16.0	20.5	7.9	3,620
Middle	9.5	44.6	12.8	25.5	7.5	4,471
Higher	8.7	43.6	10.7	28.3	8.7	5,801
Highest	7.5	37.5	7.7	38.2	9.2	6,782
Toilet availability						
Yes	9.1	41.2	10.4	30.7	8.7	18,438
No	13.7	47.1	14.9	18.1	6.2	5,189
Source of drinking water						
Tap/bottled	8.1	43.9	9.7	30.7	7.7	13,037
Tube well/hand pump/tankers	12.9	45.2	15.0	19.1	7.7	7,532
Well/tank/river/canal etc.	11.5	29.9	9.0	39.0	10.6	3,058
Type of cooking fuel						
LPG/electricity	7.9	43.3	8.9	32.0	8.0	12,820
Coal/wood/dung etc.	12.6	42.2	14.2	23.0	8.1	10,786
Type of drainage						
No drainage	12.1	41.8	14.5	21.5	10.1	5,609
Open	11.6	42.8	11.4	27.6	6.6	8,120
Covered	7.7	43.3	9.7	31.3	7.9	9,898
Whether chronically suffering						
Yes	10.6	45	9.4	27.3	7.8	14,116
No	9.9	39.9	14.4	27.5	8.4	9,511
Insurance coverage						
Yes	8.3	44.7	12.0	26.6	8.4	5,452
No	10.9	42.1	11.4	27.6	7.9	18,175
Total	10.3	42.7	11.6	27.3	8.1	23,648

Source: Computed from NSS 71st Round, 2014.

Table 5.B Distribution of reason for not availing government sources for outpatient cases by different background characteristics in Delhi, 2014

Background characteristics	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Sex						
Male	0.5	26.8	8.9	53.7	10.1	75
Female	0.4	25.7	1.0	52.6	20.3	66
Age group						
0-5	0.0	42.3	1.2	46.0	10.4	17
6-14	0.0	9.0	50.0	13.5	27.5	7
15-24	0.0	26.6	0.2	54.1	19.1	16
25-44	0.0	26.0	1.5	55.4	17.1	37
45-64	1.1	28.5	2.8	60.1	7.5	43
65 & above	3.7	5.7	0.0	85.9	4.7	21
Sector						
Rural	0.0	84.1	0.0	16.0	0.0	7
Urban	0.5	24.7	5.8	54.3	14.7	134
Household size						
1-4	0.3	21.8	0.6	43.7	33.6	55
5-6	0.1	22.5	9.0	60.8	7.5	59
7 & above	3.1	60.2	0.0	36.0	0.6	27
Social group						
STs	0.0	0.0	0.0	29.7	70.3	2
SCs	0.0	14.0	16.9	60.1	9.0	28
OBCs	0.0	35.9	0.0	13.3	50.9	11
Others	0.8	29.7	2.0	59.8	7.8	100
Religion						
Hindu	0.2	27.2	6.0	48.8	17.8	113
Muslim	2.7	20.0	9.7	59.1	8.6	19
Sikh	0.0	27.5	0.0	72.5	0.0	9
Others						
Educational attainment						
Not literate	0.0	25.6	2.1	61.6	10.8	29
Primary	0.8	12.8	0.9	40.0	45.6	27
Middle	0.0	27.0	21.1	51.9	0.0	14
Secondary	0.0	32.6	2.6	43.6	21.3	22
Higher secondary	0.0	27.3	0.2	71.2	1.3	20
Graduate & above	2.6	45.7	4.2	47.4	0.0	29
Marital status						
Never married	0.0	29.1	13.7	39.8	17.4	40
Currently married	0.8	21.4	1.8	63.5	12.6	85
Widowed/divorced/separated	0.0	57.7	2.6	25.3	14.4	16
Total	0.5	26.4	5.6	53.3	14.3	141

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Background characteristics	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Relation to head						
Head	0.9	5.3	1.5	75.5	16.8	54
Spouse	0.8	27.0	1.9	54.8	15.5	35
Child	0.0	35.3	1.5	46.0	17.2	36
Spouse of child	0.0	36.8	0.0	62.0	1.1	5
Grandchild	0.0	35.2	61.8	3.0	0.0	6
Others	0.0	95.9	0.0	2.2	1.9	5
MPCE quintile						
Lowest	0.0	0.0	0.0	100.0	0.0	1
Lower	0.0	2.7	7.5	18.5	71.3	8
Middle	0.0	6.5	2.4	89.3	1.7	11
Higher	0.0	14.4	1.3	74.3	10.1	30
Highest	0.9	41.2	9.6	30.4	17.9	91
Toilet availability						
Yes	0.5	26.8	5.7	52.6	14.5	138
No	0.0	0.0	3.9	92.2	3.9	3
Source of drinking water						
Tap/bottled	0.6	31.8	6.3	51.1	10.4	121
Tube well/hand pump/tankers	0.0	0.1	2.7	63.9	33.3	20
Type of cooking fuel						
LPG/electricity	0.5	26.5	5.4	53.3	14.4	135
Coal/wood/dung etc.	0.0	0.0	54.5	45.5	0.0	5
Type of drainage						
No drainage	0.0	0.0	35.9	28.2	35.9	3
Open	0.0	5.7	11.1	63.8	19.4	34
Covered	0.8	42.4	1.3	45.2	10.3	104
Whether chronically suffering						
Yes	4.4	16.8	10.3	65.9	2.5	53
No	0.0	27.5	5.1	51.8	15.7	88
Insurance coverage						
Yes	2.4	50.8	0.1	34.7	11.9	44
No	0.0	20.6	6.9	57.6	14.8	97
Total	0.5	26.4	5.6	53.3	14.3	141

Source: Computed from NSS 71st Round, 2014.

Table 5.C Distribution of reason for not seeking medical advice for outpatient cases by different background characteristics in India, 2014

Background characteristics	Too far	Quality not satisfactory	Too expensive	Long waiting	Not serious	Others	N
Sex							
Male	13.7	3.1	7.3	2.4	60.4	13.1	1,562
Female	10.2	3.5	4.8	3.7	60.1	17.9	1,866
Age group							
0-5	22.0	5.8	5.1	4.9	54.8	7.4	517
6-14	12.1	1.1	3.8	0.4	73.3	9.4	378
15-24	13.4	4.1	2.4	3.1	72.3	4.8	414
25-44	8.9	2.7	4.9	3.2	63.0	17.4	866
45-64	10.4	3.3	5.7	4.2	54.7	21.8	845
65 & above	8.8	4.6	16.9	1.7	42.0	25.9	408
Sector							
Rural	15.4	3.7	6.2	3.4	57.4	14.0	2,056
Urban	1.3	2.2	5.3	2.3	68.3	20.6	1,375
Household size							
1-4	11.3	3.6	4.7	3.1	59.4	18.0	1,338
5-6	14.4	2.5	6.7	2.0	60.0	14.4	1,191
7 & above	8.6	3.9	8.0	4.9	62.6	12.0	899
Social group							
STs	18.4	7.3	14.1	0.6	51.1	8.5	383
SCs	12.7	3.5	8.6	3.5	54.5	17.3	666
OBCs	11.3	2.7	4.3	1.8	66.0	13.8	1,309
Others	10.0	3.0	4.3	5.2	58.3	19.3	1,070
Religion							
Hindu	9.9	3.5	5.6	2.7	62.7	15.6	2,568
Muslim	22.0	2.8	4.3	5.6	49.9	15.5	531
Sikh	3.5	2.2	13.6	3.4	63.8	13.4	50
Others	13.8	2.3	15.0	0.9	49.8	18.2	279
Educational attainment							
Not literate	13.6	4.8	8.1	3.7	55.6	14.2	1,429
Primary	14.7	1.4	5.3	1.9	62.0	14.8	958
Middle	4.0	5.1	4.7	6.4	63.0	16.9	432
Secondary	8.8	0.2	2.1	2.1	61.4	25.5	279
Higher secondary	8.2	6.1	1.2	0.4	76.2	8.0	166
Graduate & above	5.6	0.0	3.4	0.2	67.7	23.1	164
Marital status							
Never married	14.4	3.2	4.1	2.3	67.6	8.5	1,267
Currently married	11.0	4.0	6.7	4.1	56.7	17.6	1,804
Widowed/divorced/separated	6.1	0.6	8.8	0.9	51.2	32.4	357
Relation to head							
Head	10.5	2.5	7.5	2.7	53.3	23.5	942
Spouse	9.4	3.2	5.8	5.4	60.7	15.4	806
Child	15.9	4.0	3.9	2.1	67.1	7.1	989
Spouse of child	17.0	12.8	1.2	0.5	52.0	16.6	98
Grandchild	11.6	3.6	4.2	4.1	65.9	10.5	313
Others	5.5	0.6	11.9	0.7	56.7	24.6	280
Total	11.8	3.3	5.9	3.1	60.2	15.7	3,431

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Background characteristics	Too far	Quality not satisfactory	Too expensive	Long waiting	Not serious	Others	N
MPCE quintile							
Lowest	16.5	4.0	9.0	3.5	57.3	9.8	871
Lower	11.4	4.1	7.4	3.5	59.9	13.7	761
Middle	17.0	1.8	3.2	1.4	61.6	15.1	677
Higher	3.9	1.1	4.9	2.6	62.5	25.0	641
Highest	1.2	5.4	1.5	5.0	63.0	24.1	481
Toilet availability							
Yes	8.9	3.2	4.4	2.9	59.9	20.8	2,198
No	15.0	3.5	7.7	3.3	60.6	9.9	1,230
Source of drinking water							
Tap/bottled	2.2	4.4	6.7	2.9	65.3	18.5	1,377
Tube well/hand pump/tankers	17.3	2.7	5.6	3.4	57.8	13.1	1,659
Well/tank/river/canal etc.	7.5	3.2	5.3	1.4	58.5	24.1	392
Type of cooking fuel							
LPG/electricity	4.2	3.6	2.4	3.0	67.2	19.6	1,167
Coal/wood/dung etc.	14.9	3.2	7.4	3.1	57.1	14.2	2,257
Type of drainage							
No drainage	13.6	3.5	8.9	4.4	54.1	15.5	1,404
Open	15.2	2.4	3.4	1.6	62.9	14.6	1,151
Covered	2.8	4.3	3.6	2.6	69.0	17.8	873
Whether chronically suffering							
Yes	8.8	4.7	12.5	3.9	35.5	34.6	1,044
No	12.8	2.8	3.6	2.8	69.2	8.9	2,384
Insurance coverage							
Yes	8.2	4.6	7.1	1.8	55.3	23.0	718
No	12.9	2.9	5.6	3.5	61.8	13.4	2,710
Total	11.8	3.3	5.9	3.1	60.2	15.7	3,431

Source: Computed from NSS 71st Round, 2014

5. D Distribution of reason for not seeking medical advice for outpatient cases by type of household in India, 2014

	Too far	Quality not satisfactory	Too expensive	Long waiting	Not serious	Others	N
Rural							
Self-employed in agriculture	15.2	6.2	9.2	2.7	56.9	9.8	785
Self-employed in non-agriculture	13.9	1.4	2.9	6.1	57.1	18.5	313
Regular wage/salary earning	1.2	0.1	3.4	3.5	78.9	13.0	232
Casual labour in agriculture	16.5	2.3	5.2	5.8	53.9	16.3	334
Casual labour in non-agriculture	17.0	3.6	4.8	0.5	60.5	13.6	270
Others	26.1	2.2	4.2	0.0	46.2	21.5	120
Urban							
Self-employed	1.1	1.7	4.8	3.6	67.7	21.1	557
Regular wage/salary earning	1.8	2.5	4.9	1.3	68.1	21.4	459
Casual labour	1.5	3.9	9.1	0.9	72.3	12.3	255
Others	0.0	0.5	3.5	2.0	65.2	28.9	103
Total	11.8	3.3	5.9	3.1	60.2	15.7	3,431

Source: Computed from NSS 71st Round, 2014

Table 5.E Distribution of reason for not availing government sources for outpatient cases by industrial group of workers in India, 2014

	Required service not available	Quality not satisfactory	Facility too far	Long waiting	Others	N
Agriculture, forestry and fishing (A)	13.1	48.2	12.5	19.3	7.0	6,164
Mining and quarrying (B)	9.7	56.3	2.2	21.1	10.7	118
Manufacturing (C)	7.7	38.9	14.3	30.3	8.9	3,066
Electricity, gas, steam and air conditioning supply (D)	5.1	44.6	8.8	39.2	2.4	136
Water supply; sewerage, waste management and remediation activities (E)	12.3	39.6	35.6	9.5	3.0	102
Construction (F)	8.5	39.2	14.0	30.9	7.5	2,158
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	9.4	46.6	7.8	29.0	7.1	3,595
Transportation and storage (H)	13.6	34.6	12.9	30.6	8.4	1,594
Accommodation and Food service activities (I)	8.0	38.1	6.3	33.1	14.5	488
Information and communication (J)	4.5	66.6	3.5	23.1	2.3	313
Financial and insurance activities (K)	3.7	43.7	5.1	39.1	8.4	404
Real estate activities (L)	2.5	61.9	2.9	28.8	4.0	124
Professional, scientific and technical activities (M)	27.4	25.1	6.8	29.9	10.8	271
Administrative and support service activities (N)	6.0	30.7	9.7	36.9	16.7	277
Public administration and defense; compulsory social security (O)	9.4	41.0	15.9	26.3	7.4	744
Education (P)	9.9	36.8	9.8	35.9	7.6	890
Human health and social work activities (Q)	4.8	31.8	16.3	36.7	10.5	303
Arts, entertainment and recreation (R)	19.0	20.6	7.4	9.7	43.3	88
Other service activities (S)	8.8	34.6	12.1	29.6	15.0	519
Activities of extraterritorial organizations and bodies (U)	0.0	100.0	0.0	0.0	0.0	1
Total	10.5	42.9	11.8	26.7	8.0	21,355

Source: Computed from NSS 71st Round, 2014

Table 5.F Total health expenditure and OOP expenditure for inpatient cases among industrial groups in India & Delhi, 2014

Background characteristics	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
Agriculture, forestry and fishing (A)	16,981.8	16,740.7	15,364	40,919.3	40,919.3	5
Mining and quarrying (B)	14,930.5	13,725.5	289			
Manufacturing (C)	23,654.1	22,356.1	5,128	30,940.9	29,400.3	121
Electricity, gas, steam and air conditioning supply (D)	25,531.2	24,216.8	223	30,894.7	15,669.5	4
Water supply; sewerage, waste management and remediation activities (E)	18,358.3	18,167.1	194	8,841.0	4,835.1	8
Construction (F)	13,985.8	13,672.0	5,353	12,393.9	12,380.4	46
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	24,279.6	23,114.2	6,222	52,789.2	45,352.7	188
Transportation and storage (H)	23,617.2	22,637.7	2,964	44,178.7	36,659.2	74
Accommodation and Food service activities (I)	24,435.4	22,693.5	794	12,482.4	12,482.4	21
Information and communication (J)	37,892.1	27,891.0	403	23,517.8	19,709.7	35
Financial and insurance activities (K)	36,963.1	28,439.5	552	43,148.2	33,182.1	29
Real estate activities (L)	79,378.8	77,512.1	188	41,864.5	41,864.5	20
Professional, scientific and technical activities (M)	31,670.1	27,628.4	356	40,379.8	36,475.5	13
Administrative and support service activities (N)	38,968.8	37,635.1	458	27,069.6	22,265.2	33
Public administration and defense; compulsory social security (O)	33,859.2	26,976.3	1,826	23,595.5	19,738.8	51
Education (P)	27,538.7	25,753.6	1,779	36,931.8	26,553.3	19
Human health and social work activities (Q)	38,038.7	34,525.1	524	92,873.2	92,873.2	15
Arts, entertainment and recreation (R)	25,119.2	19,892.3	119	90,300.3	3,061.5	3
Other service activities (S)	18,077.3	17,761.9	924	16,335.0	16,335.0	33
Activities of extraterritorial organizations and bodies (U)	2,19,100.0	2,19,100.0	1			
Total	20,700.6	19,686.1	43,661	36,659.7	31,631.1	718

Source: Computed from NSS 71st Round, 2014

Table 5.G Total health expenditure and OOP expenditure for outpatient cases among industrial groups in India & Delhi, 2014

Background characteristics	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
Agriculture, forestry and fishing (A)	901.0	788.5	7,213			
Mining and quarrying (B)	821.4	742.0	135			
Manufacturing (C)	850.9	737.7	2,981	495.3	484.3	32
Electricity, gas, steam and air conditioning supply (D)	1,022.0	955.8	128	6,870.0	4,770.0	1
Water supply; sewerage, waste management and remediation activities (E)	801.2	760.5	101	152.7	152.7	4
Construction (F)	867.6	793.5	2,641	376.6	376.6	10
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	1,173.5	1,058.4	3,153	1,645.7	1,266.0	43
Transportation and storage (H)	827.4	740.3	1,603	795.6	564.0	18
Accommodation and Food service activities (I)	982.0	900.6	469	325.6	325.6	6
Information and communication (J)	1,068.4	868.4	236	1,014.7	677.6	9
Financial and insurance activities (K)	1,347.5	1,254.5	303	653.1	533.6	6
Real estate activities (L)	2,057.3	1,979.7	93	1,800.1	1,800.1	2
Professional, scientific and technical activities (M)	1,507.2	1,372.8	213			
Administrative and support service activities (N)	1,216.4	892.2	246	1,365.2	1,117.5	11
Public administration and defense; compulsory social security (O)	1,210.0	1,094.3	765	434.6	338.3	16
Education (P)	1,104.4	1,008.5	831	374.1	135.5	3
Human health and social work activities (Q)	1,048.4	713.1	293	2,331.7	794.2	5
Arts, entertainment and recreation (R)	613.0	481.1	72	24.6	24.6	2
Other service activities (S)	745.2	676.8	527	536.0	498.7	7
Activities of extraterritorial organizations and bodies (U)	5,170.0	-	1			
Total	946.3	838.0	22,004	1,082.6	840.4	175

Source: Computed from NSS 71st Round, 2014

Table 5.H Total health expenditure and OOP expenditure for inpatient cases among occupational groups in India & Delhi, 2014

	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
Legislators, Senior Officials and Managers (I)	36,071.9	33,548.2	4,873	51,769.7	44,222.6	257
Professionals (II)	44,810.1	38,677.7	2,105	50,094.0	41,046.4	58
Technicians and Associate Professionals (III)	28,303.8	26,267.1	2,024	38,194.5	29,548.2	37
Clerks (IV)	31,889.7	28,642.4	1,301	20,737.3	16,485.4	74
Service workers and Shop & Market Sales workers (V)	23,743.4	21,945.0	4,594	18,529.7	17,064.6	82
Skilled Agricultural and Fishery workers (VI)	19,296.9	19,010.5	11,413	32,996.9	32,996.9	6
Craft and related Trades workers (VII)	15,195.6	14,782.2	5,875	16,756.4	16,372.0	67
Plant and Machine Operators and Assemblers (VIII)	21,811.5	21,118.4	2,964	53,923.5	50,085.9	54
Elementary occupations (IX)	11,731.9	11,458.8	8,485	19,373.3	19,106.4	82
Workers not classified by occupations (X)	8,799.8	8,799.8	27	3,000.0	3,000.0	1
Total	20,700.6	19,686.1	43,661	36,659.7	31,631.1	718

Source: Computed from NSS 71st Round, 2014

Table 5.I Total health expenditure and OOP expenditure for outpatient cases among occupational groups in India & Delhi, 2014

	India			Delhi		
	Total expenditure	OOP expenditure	N	Total expenditure	OOP expenditure	N
Legislators, Senior Officials and Managers (I)	1,221.3	1,064.6	2,493	1,131.7	721.1	45
Professionals (II)	1,248.7	1,024.0	1,092	889.3	488.3	16
Technicians and Associate Professionals (III)	1,147.9	1,073.5	988	351.7	198.5	10
Clerks (IV)	1,155.7	1,037.2	665	1,134.6	875.2	17
Service workers and Shop & Market Sales workers (V)	1,086.0	984.2	2,340	964.3	623.9	22
Skilled Agricultural and Fishery workers (VI)	974.0	841.8	5,200	770.2	770.2	2
Craft and related Trades workers (VII)	834.8	742.6	3,407	335.4	184.9	23
Plant and Machine Operators and Assemblers (VIII)	843.7	759.2	1,557	704.7	586.2	10
Elementary occupations (IX)	747.7	681.8	4,257	1,835.1	1,807.0	29
Workers not classified by occupations (X)	856.7	856.7	5	20.0	20.0	1
Total	946.3	838.0	22,004	1,082.6	840.4	175

Source: Computed from NSS 71st Round, 2014

Table 5.J Distribution of catastrophic expenditure at different levels of household consumer expenditure by industrial groups in India, 2014

	10%	15%	20%	30%	40%	N
Agriculture, forestry and fishing (A)	22.5	17.8	14.4	10.2	8.0	22,004
Mining and quarrying (B)	21.6	17.0	12.1	8.2	5.3	421
Manufacturing (C)	23.4	18.6	14.3	10.1	7.4	7,169
Electricity, gas, steam and air conditioning supply (D)	30.8	27.8	21.0	15.5	13.2	317
Water supply; sewerage, waste management and remediation activities (E)	18.0	16.4	14.8	8.8	6.4	270
Construction (F)	21.1	17.0	13.6	9.4	6.8	7,741
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	23.6	19.3	15.8	11.7	8.4	8,484
Transportation and storage (H)	24.9	19.1	14.4	10.5	7.4	4,092
Accommodation and Food service activities (I)	23.1	18.1	13.7	10.9	8.5	1,124
Information and communication (J)	17.3	11.5	9.0	6.2	5.0	542
Financial and insurance activities (K)	21.6	18.1	14.9	9.7	5.5	763
Real estate activities (L)	36.3	34.6	28.1	18.5	15.8	242
Professional, scientific and technical activities (M)	31.2	24.2	21.2	15.6	12.5	502
Administrative and support service activities (N)	21.9	18.4	13.8	10.9	7.5	606
Public administration and defense; compulsory social security (O)	23.7	16.7	12.7	8.1	6.6	2,535
Education (P)	21.0	17.6	14.0	10.0	7.2	2,501
Human health and social work activities (Q)	22.5	16.7	12.9	9.9	7.8	744
Arts, entertainment and recreation (R)	17.6	13.6	10.8	7.7	4.0	158
Other service activities (S)	22.7	18.4	13.5	9.9	7.0	1,300
Activities of extraterritorial organizations and bodies (U)	100.0	100.0	100.0	100.0	100.0	1
Total	22.7	18.1	14.4	10.3	7.7	61,516

Source: Computed from NSS 71st Round, 2014

Table 5.K Distribution of catastrophic expenditure at different levels of household consumer expenditure by industrial groups in Delhi, 2014

	10%	15%	20%	30%	40%	N
Agriculture, forestry and fishing (A)	3.0	3.0	3.0	3.0	0.2	8
Mining and quarrying (B)						
Manufacturing (C)	8.7	2.7	2.5	1.4	1.2	184
Electricity, gas, steam and air conditioning supply (D)	12.0	12.0	12.0	12.0	12.0	6
Water supply; sewerage, waste management and remediation activities (E)	1.5	1.5	0.8	0.0	0.0	13
Construction (F)	7.4	6.5	6.4	6.1	0.4	75
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	13.2	11.9	5.0	4.3	4.2	290
Transportation and storage (H)	6.8	2.9	2.3	0.9	0.8	109
Accommodation and Food service activities (I)	2.8	1.7	1.1	0.0	0.0	33
Information and communication (J)	6.5	4.8	3.3	2.2	0.8	49
Financial and insurance activities (K)	5.6	3.3	3.1	3.1	0.3	51
Real estate activities (L)	7.6	4.9	4.0	2.5	1.6	24
Professional, scientific and technical activities (M)	3.3	1.4	0.6	0.6	0.0	28
Administrative and support service activities (N)	24.7	11.4	1.5	1.1	0.8	49
Public administration and defense; compulsory social security (O)	7.5	5.8	1.0	0.3	0.3	70
Education (P)	11.2	2.2	2.2	1.7	1.2	26
Human health and social work activities (Q)	4.2	3.9	3.9	3.9	3.1	23
Arts, entertainment and recreation (R)	1.5	0.0	0.0	0.0	0.0	4
Other service activities (S)	5.9	4.6	1.4	1.1	1.1	50
Activities of extraterritorial organizations and bodies (U)						
Total	9.3	6.3	3.3	2.6	1.8	1,092

Source: Computed from NSS 71st Round, 2014