

# **AN ANALYSIS OF HEALTHCARE SYSTEM IN INDIA**

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**IN ECONOMICS**

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## CERTIFICATION

This is to certify that thesis entitled “**An Analysis of Healthcare System in India**” submitted by Amandeep Kaur, Regn No 861601001 in partial fulfilment of the requirement for the award of the degree of Master of Arts in Economics (International Business), submitted in the **School of Humanities and Social Sciences, Thapar Institute of Engineering & Technology** is a bonafide work carried out under the supervision of Dr. (Ms) Ravi Kiran , Professor & Former Head, School of Humanities and Social Sciences and that no part of this project has been submitted for the award of any other degree.

(AMANDEEP KAUR)

This is to certify that above statement made by the student concerned is correct and true to the best of my knowledge.



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## **ABSTRACT**

This study underlines the way wellbeing is emerging as an essential part of development. Healthcare influences development by expanding human efficiency, by augmenting human capital. Subsequently it will also be reducing the onset of diseases In the Indian setting, the principle wellspring of increments in profitability has originated from enhancing sustenance. This study tries to cover the strategies to advance well-being, the study also unravels the changing disease burden in India. The current stress an health and well being is very important as a health is of paramount importance and Human development of the country will improve with a focus on health economics and health parameters.

# CHAPTER 1

## INTRODUCTION

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The connection amongst wellbeing and development is dynamic, complex, and needs to be assessed. As one of the segments of human capital, wellbeing might be seen as a necessary contribution to efficiency, like other traditional data sources, for example, work and physical capital (Weil 2007). However wellbeing is distinctive in that it is multi-dimensional and accordingly might be spoken to by changed markers including future and the newborn child death rate. Its multi-dimensionality additionally recommends that there are a few pathways by which wellbeing might be expanded, making it a flexible instrument in the container of items to enhance per capita pay and prosperity. Thus look into on the connection amongst wellbeing and monetary development has been developing as of late. This group of work uncovers that wellbeing and financial status are firmly related; notwithstanding, only one out of every odd pathway is causally recognized. Further while there is convincing proof that wellbeing impacts financial development, managed increments in wage require not really be required for upgrades in wellbeing which frequently seem to progress freely (Deaton 2003). This study centers around the previous channel, wellbeing as an necessary part of increments in per capita prosperity, and features wellbeing approaches that exhibit useful effects on financial development. Further, the paper gives a combination of proof to these approaches gathered from IGC wellbeing related activities actualized in India.

### **Steps taken by the Government to direct costs of Drugs and Diagnostics**

Is Economic growth a significant goal? Or on the other hand is Human improvement the genuine objective? In the event that it is human advancement, growth ought to be judged not by the plenitude of wares it produces, but rather how it improves individuals' lives. Human advancement is the end-monetary growth is a methods. In this way, the motivation behind growth ought to be to enhance individuals' lives. For a long time growth has been a noteworthy monetary goal of arrangement creators and political pioneers as conveying a bigger amount of products and enterprises is the most ideal approach to enhance individuals' way of life. In any case, nature of individuals' lives can be poor amidst bounty so without a doubt more financial growth is required yet more consideration must go to the structure and

nature of that growth-to guarantee that it is coordinated to supporting human improvement, lessening destitution, securing the earth and guaranteeing maintainability. Amartya Sen additionally stressed that the instance of human prosperity is flexibility of decision. Both the fasting priest and the starving homeless person might be ravenous the distinction is that one activities a free decision, and alternate does not. Human improvement goes a long ways past salary and growth to cover the full prospering every single human ability. It stresses the significance of putting individuals, their necessities, their yearnings, and their decisions at the focal point of improvement exertion. Human advancement reports have characterized Human Development as the way toward amplifying individuals' decisions. The most basic territories are to lead a long and healthy life, to be taught and to appreciate a conventional way of life.

Amid the late 1980s and mid 1990s new speculations of monetary growth supported the human improvement position that the genuine rationale power of financial advance is individuals. Paul Rower and Robert Lucas tried the impact of human capital on long haul growth rates. The hypotheses focused for the most part on profitable limits. The prior ordinary "Neoclassical" hypothesis of growth respected that financial growth was the after effect of collection of physical capital and on development of work constrain joined with an "exogenous" factor, mechanical advance that makes capital and work more beneficial. In the new speculations efficiency does not increment because of the exogenous factor however "endogenous" ones-identified with conduct of individuals in charge of collection of profitable components and information.

Some new models contend that the urgent factor behind the expansion is human capital. Others advocate Research and Development (R&D) as the key wellspring of profitability growth-however this too relies upon human capital. The two kinds of models depend vigorously on growing human abilities. The human capital models demonstrate that informed individuals utilize capital all the more proficiently, so it turns out to be more gainful. They are additionally liable to enhance to different new and better types of creation. In addition they spread the advantages to colleagues, who gaining from them turn out to be more profitable. Regardless of whether advancements originate from R&D, they require an informed work constrain the two individuals with higher aptitudes to complete research and those with more fundamental abilities to try the outcomes. The new growth models in this manner affirm the human advancement position that the main impetus of all financial growth is individuals.

Keeping in view the significance and extent of research here, the present investigation has been embraced to examine the Economic execution by growth pointers for India with uncommon accentuation on execution in the nineties, to think about the human improvement markers with unique accentuation on health and Educational markers and to consider the connection amongst growth and human advancement with accentuation on the post-change period.

The investigation is intended to watch the patterns in human advancement pointers as future, proficiency rates, enrolment rate, birth rate, passing rate and newborn child death rates. Patterns for growth of total national output have been broke down.

### **1.1 Health Economics:**

Health economics comprehensively covers the use ideas and strategies of economics to remain healthy and ensure disease free and long life. It relates with issues of allotment of assets for health advancing exercises, focus on the assets for subsidizing of health benefit organizations. Thus, health economics is the use of the standards of economics to healthcare division. Heath is of paramount importance as it will lead to improved human performance and productivity and is a major step towards enhancing Gross domestic product and National Income.

With the focus on human development an increased focus was given to health economics. The benefits of human development are not away from economic growth and development. The World Development Report (WDR) of 1993 laid continued focus on health as a fundamental human right and stresses the need of giving financially savvy healthcare to the downtrodden and that to assist in eradication of poverty.

Health economics incorporates connection between health status and efficiency. The recognized highlights of health economics constitute health and medicinal care. These include financial products, estimation of the nature of healthcare framework, load of health issues, speculation parts of healthcare industry, misfortune because of sick health, weight of illnesses, asset expenses of various infections, impacts of health and therapeutic care arrangement, arranging of health and restorative care, decision of innovation in health mind framework, and so forth.

Health economics tends to the issues in healthcare in a positive way. The regulating issues identify what ought to be. The positive aspect of health economics applies all advanced small scale financial hypotheses in health mind/restorative care. Interest for health mind, factors that influence the interest for healthcare, for example, wage of people, their tastes and inclinations, versatility of interest for health issues, desperation of treating a sickness, inclination for open and private healthcare, supply of healthcare, and so on are the topics of constructive health economics.

The association between the health status of an individual and utilization of medicinal administrations constructs the connection between "Financial matters of Health" and "Financial aspects of Healthcare". Health is a condition of prosperity delighted by an individual or populace of a nation at a state of time.

### **1.2 Importance of Health Economics**

Health finance relates with financial matters related to healthcare area. It addresses the issues, viz. the interest for healthcare benefits in the economy, allotment of assets for the improvement of healthcare offices and supply of healthcare benefits in the economy.

### **1.3 Better Health – a Fundamental Right:**

The preface to the Constitution of the World Health Organization (WHO), states that "the happiness regarding the most astounding achievable standard of health is one of the essential privileges of each individual without qualification of race, religion, political conviction, monetary or social condition" to the prosperity of the family unit.

Great health and human rights are inseparably connected. Infringement of human rights can have genuine health result. Along these lines, the States should take all ventures to diminish introduction to sick health by finding a way to secure the privilege to flexibility from segregation, appropriate to health, ideal to instruction and ideal to lodging. In this manner, there is a necessity to acquaint human rights based approach with wellbeing strategy.

### **1.4 Impact of Good Health:**

Healthy populace is an advantage for an economy while sick and matured populace is a strong asset of any nation. Great health improves the performance in many ways. The World Development Report, 1993 focused on health for prosperity and justified spending large finances on improving health.

Enhanced health accelerates development as:

- i. It diminished misfortunes caused by specialists' illness;
- ii. It allows the consumption of assets that are difficult to reach because of sickness;
- iii. It builds the enrolment of youngsters in schools and makes them able to learn; and
- iv. It makes effective use of assets that must be spent on treatment.

**Table 1.1 Communicable and Non Communicable Diseases**

Disease/Health Condition	Diseases Burden 2005/lakhs	Projected No. of Cases, 2015/lakhs
<b>I. Communicable Diseases, Maternal and Pre-natal Conditions:</b>		
Tuberculosis	85 (2000)	N.A.
HIV/AIDS	51 (2004)	190
Diarrheal Diseases Episodes/Year	760 (2005)	880
Malaria and Other Vector Borne Conditions	20.37 (2004)	N.A.
Leprosy	3.67 l (2004)	To be Eliminated
Infant Mortality Rate (IMR)/1000 live births	63(2002)	53.14
Otitis Media	3.57 (2005)	4.18
Maternal Mortality /100000 births	440 (2005)	NA
<b>II. Non-Communicable Conditions</b>		
Cancers	8.07 (2004)	9.99
Diabetes	310 (2005)	460
Mental Health	650 (2005)	800
Blindness	141.07 (2000)	129.96
Cardiovascular Diseases	290 (2000)	640
COPD and Asthma	405.20 (2001)	596.36
<b>III. Other Non-Communicable (Injuries):</b>		
Hospitalizations	170 (2005)	220
Deaths	9.8 (2005)	10.96

*Source: Report of the National Commission on Macroeconomics and Health (2005), Ministry of Health and Family Welfare, Government of India.*

### **India's Epidemiologic Evolution:**

All nations over the span of their improvement go through 'epidemiologic progress'. Epidemiological progress highlights the change in malady profile of the country. Especially underlining where major illness and mortality changes. India's epidemiologic change, in any case, is set apart by three difficulties in infection control, all of which should be overseen simultaneously.

- i. First, India needs reduce maternal and baby mortality.
- ii. India needs to battle with the rising scourge of non-transmittable sicknesses.
- iii. There is a necessity to build up a framework to adapt to the new and re-developing irresistible ailments like HIV, avian flu, SARS, and novel H1N1 flu.

**Table 1.2 Major causes of Death in India**

Disease/Health Condition	Percentage of Total Deaths	
	Rural	Urban
<b>I. Communicable Diseases, Maternal and Peri-natal and Nutritional Disorders</b>	40%	38%
<b>II. Non-communicable Diseases</b>	40%	42%
<b>III. Injuries and Ill Defined Causes*</b>	10%	10%
<b>Total</b>	<b>100%</b>	<b>100%</b>

*\*Majority of ill-defined causes are at older ages (70 or higher years) and likely to be from non-communicable diseases.*

*Source: Annual Report to the People on Health (2010), Ministry of Health and Family Welfare, Government of India.*

The trend is that Non-communicable diseases are increasing. Rural Urban statistics highlight a little higher percentage of these in Urban (42) as against 40 in rural.

## CHAPTER 2

### REVIEW OF LITERATURE

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This chapter reviews literature on healthcare studies. Existing investigations across nations exhibit that wellbeing studies are on the rise and attracting many researchers. There is a consensus that health and well being influences development.

As pointed earlier changes in wellbeing improves labourer efficiency. Decrease of frailty augments labourer yield. In this study survival rate is used for examining wellbeing. It also lead to improve monetary development (Weil 2003, Weil 2007). Profitability has also been the reward of sustenance. Strauss (1986 has reported improvement in productivity in Brazil with focus on enhanced wellbeing. Thomas and Strauss (1997) support this.

In Indonesia and Vietnam causal effect of wellbeing has been reported on wages and efficiency (Strauss and Thomas 1998, Strauss and Thomas 2007). Frankenberg and Thomas (2002) highlight that augmenting nourishment expanding calorie and protein intake. Along with micronutrients including iron, iodine, zinc, calcium and other key vitamins.

Wellbeing has impact on financial development through expansion of life span and thereby helped in improvement in human capital (Weil 2013). This also helps people to increase funds for retirement as there are many ailments in old age. Weil (2007) opines that increase in survival rate for men are important and vital for GDP.

Wellbeing is theorized to influence financial development is by reducing gravity of illness. Weil (2010) finds that ailments, for example, HIV, intestinal sickness, diarrheal and youth illnesses, and Tuberculosis have affected development by influencing efficiency and levels of instructive fulfilment. (Weil 2007, Ashraf et al. 2013). We want to examine this in Indian setting. In India too this has a support as wellness is important for rural work profitability and performance (Behrman et al. 1988, Deolalikar 1988). Dasgupta and Ray (1986, 1987) relate ailing health to joblessness.

Dreze and Sen (2002) suggest that increase in GDP development in 1990s in India was supported by decrease in baby mortality. Life sustenance has improved since 1950 (Cutler et

al. 2006). The connect of life span and financial development in the India is less apparent. The reason for this is interceding effect of populace development.

Chronic non-communicable diseases contribute highly to disease burden. Earlier this was prevalent in Developed countries, now the impact is seen in developing countries like India as well. This needs to be need to be validated in Indian context (WHO, 2010).

## CHAPTER 3

### Research Design and Research Methods

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This study covers the importance of wellness and also tries to examine a change in disease burden in India. There has been increasing literature to highlight that investment on wellness is a way to march ahead by increasing productivity and efficiency and it is also an investment to stay healthy and have a better life with less diseased. The Indian Government had some out with plans and policies related with health and health care.

#### **Objectives of the study**

The present study has been undertaken with these objectives:

O1: To examine the trends in healthcare expenditure in India.

O2: To examine the trends in disease burden in India.

#### **DATA VARIABLES**

##### **i. Non-communicable disease :NCD**

Non-Communicable Disease (NCD) as the name suggests are diseases that affect persons over an extensive and extended tenure and also lead socio-economic burden to the country. The key NCDs share the risk factors because of unwholesome diet, deficient physical activity, and use of tobacco and alcohol. There could be factors like ageing, rapid unplanned urbanization and globalization. Cardiovascular diseases, Stroke, Diabetes, Cancer, are major such diseases.

##### **ii. Communicable disease: CD**

Communicable Diseases are transferable. CDs could be due to contact with blood, or due to airborne infection. Hepatitis A, B and C, flu, measles etc are CDs. Transmission could also be through bodily fluids, breathing in an airborne virus; insect bite. Tuberculosis or measles travel through the air,

### iii. **Environmental diseases :ED**

Environmental diseases are due to environmental elements. Stress, physical and mental abuse, diet, exposure to toxins, pathogens, radiation, and chemicals are reasons for non-hereditary disease.

There are various types of environmental disease including:

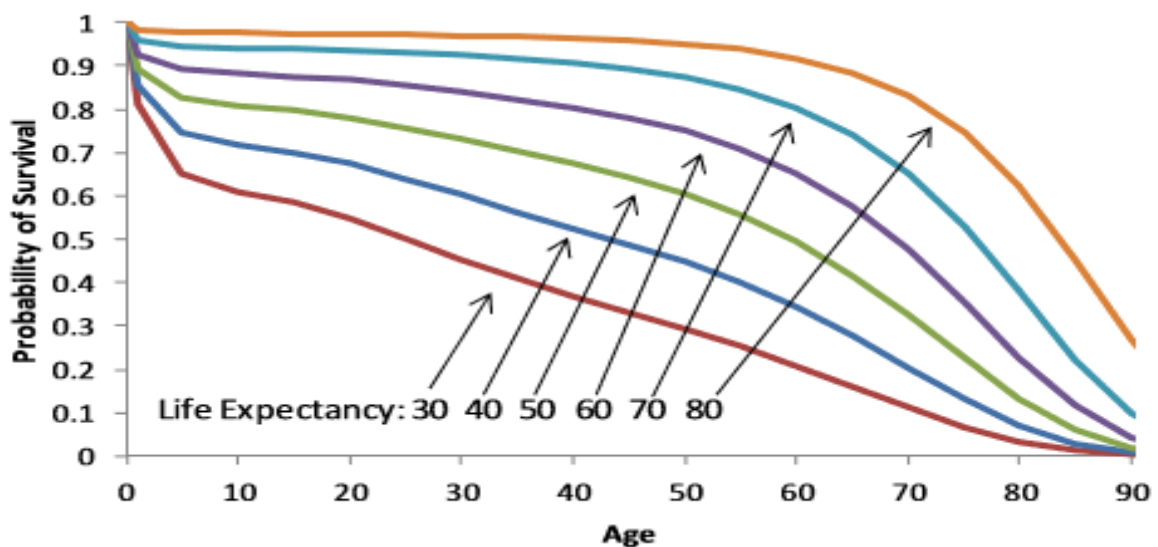
- a. Lifestyle disease such as cardiovascular disease, diseases caused by alcoholism, and smoking.
- b. Disease caused by physical factors in the environment, such as skin cancer. This is due to undue exposure to ultraviolet radiation in sunlight
- c. Disease caused by exposure to toxic or irritant chemicals, viz. toxic metals.

Thus there are different types of diseases. The present study will highlight the trends of diseases and change in nature of the diseases.

## CHAPTER 4

### DATA ANALYSIS AND RESULTS

Life expectancy during childbirth is the quantity of years that an infant would be relied upon to live, utilizing current age-specific survival rates. Future is in this way a scalar outline measure of the hidden vector of age specific survival rates, which demographers call the existence table. (Age specific survival isn't really estimated in numerous cases, and the full arrangement of life table qualities is credited from perception of just a couple of components, for example, newborn child mortality). On a fundamental level, a given future during childbirth is predictable with numerous different conceivable states of the survival work; by and by, there are exact regularities in regards to how the survival work changes shape as future ascents. Demographers develop display life tables that typify these regularities (some of the time with changes for the star groupings of ailments found in different areas or recorded periods).



**Figure 4.1: Probability of Survival**

Figure 4.2 demonstrates the cross-sectional connection between the log of salary per capita and future, utilizing information from 2009. There is clearly an exceptionally solid connection between the two. The R-squared from a basic relapse of future on the log of salary per capita is 0.67. There are no significant exceptions lying over the relapse line, and those lying underneath are portrayed by high rates of HIV (South Africa and Botswana), war

(Afghanistan), or are oil makers that exclusive as of late experienced gigantic increments in wage (Gabon and Equatorial Guinea).



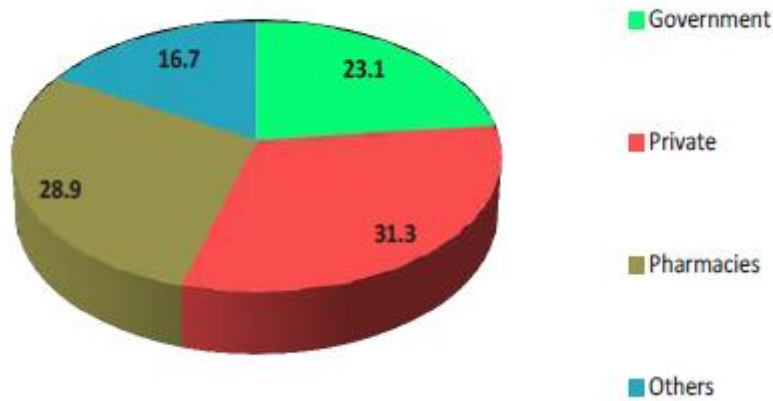
**Figure 4.2 Life Expectancy vis-a-vis Real per capita GDP**

The first objective of the study was :

**O1: To examine the trends in healthcare expenditure in India.**

Guaranteeing good health is key to support improvement. The Figure 4.2 demonstrates life expectancy vis-a-vis Real per capita GDP. Mostly supported by Govt and Govt Health care is 23 percent. Government consumption incorporates General and specific healing centers, family welfare and essential health focuses and so on. Private consumption incorporates general and specific healing centers and facilities. Records 2014-15 mirrors the noticeable quality of private doctor's facilities and centers among health mind suppliers. If we include private as well the it is represented by 29 percent. Out of Pocket Expenditure (OoPE) declined roughly 7 rate focuses amid the period 2004-05 to 2014-15, its offer is still at 62 for each penny according to NHA 2014-15.

Restricted reasonableness what's more, access to quality therapeutic administrations are among the real difficulties adding to postponed or improper reactions to malady control and understanding administration. In India approximately 10 for every percentage of OoPE on health was spent by families on diagnostics in 2013-14.



**Figure 4.3 : Expenditure on Health**

In a creating nation like India, bringing about more elevated amounts of OoPE on health antagonistically impacts the weaker segments. It also augments imbalances. Despite the fact that, OoPE has declined roughly to 7, from 2004-05 to 2014-15, its offer is still at 62 for each penny according to NHA 2014-15.

Diagnostics are a critical piece of the health mind framework that gives data required by specialist co-ops to make educated choices about healthcare arrangement identified with treatment and administration. Constrained reasonableness furthermore, hinders access to quality restorative administrations. These are significant difficulties adding to be deferred or lead to unseemly reactions to infection control and quiet administration.

### **Burden of Diseases- India and the States**

The next objective was:

O2: To examine the trends in disease burden in India.

**Table 4.1 Range in Prices/ average costs of diagnostic tests across cities in India, 2017**

Name of Diagnostic Tests	Costs of Diagnostics (In ₹)		Average Costs of Diagnostics (In ₹)	
	Minimum (of all cities)	Maximum (of all cities)	Minimum (of average price of cities)	Maximum (of average price of cities)
Lipid Profile Test (125)	90	7110	217	759
ANC test (74)	110	6500	389	2396
Albumin test (120)	20	1810	100	203
2d echo test (51)	500	5200	856	2412
Electrolyte test (121)	30	3000	245	627
Liver Function test (117)	100	2500	210	1186
Thyroid test (123)	100	3100	300	721
ESR test (103)	10	1100	35	116
Dengue IgG test (114)	100	3600	314	1312

The DALY's provides a solution for analysing the sickness weight and hazard factors. DALYs is the long stretches of potential life gone because of untimely mortality and the long stretches of beneficial life gone because of incapacity. One DALY represents the loss of what might as well be called multi-year of full health. Utilizing DALYs, the weight of illnesses that cause unexpected passing however little handicap can be contrasted with that of maladies that don't cause passing however do cause inability. The data what's more, information base about changing malady designs. DALYs represents the affect by tumor and sorrow.

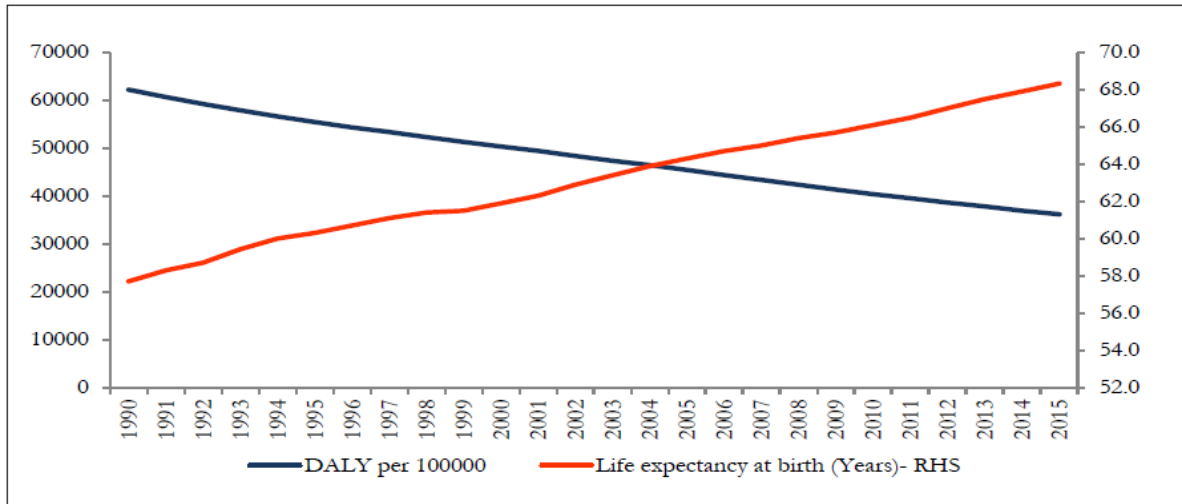


Figure 4.4: All India Trends in LEB and DALYs

As shown through figure 4.4 vast changes in the health is regarding Life Expectancy at birth (LEB). There is significant improvement in it. LEB has improved by 10 years in 2015 in comparison to 1990. There is inverse relationship between life expectancy and DALYs rates.

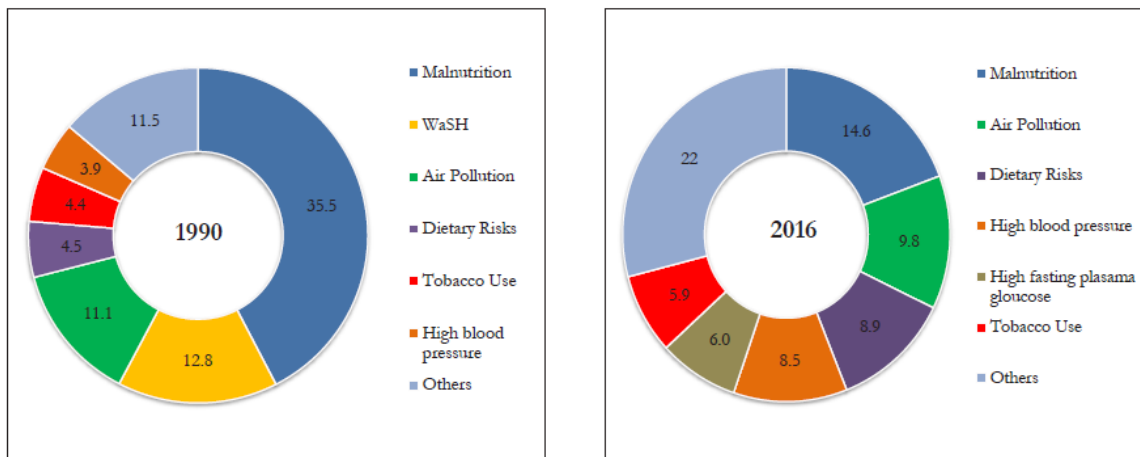


Figure 4.5 : Change in DALYs number attributable to risk factors in India (per cent)

Figure 4.5 highlights the change in DALYs number attributable to risk factors in India (per cent). The DALYs rate dropped significantly and there was decrease to 36 for each penny from 1990 to 2016 in India due to altering for the progression in the populace age structure.

In 1990 DALYs, 61 for each penny were because of transferable, maternal, neonatal, and healthful ailments (CMNNDs). This decelerated to 33 in 2016.

There was increase in non-transferable maladies (NCDs) from 30 to 55 for every penny from 1990 to 2016. For wounds it increased from 9 for each penny to 12 during the same tenure.

In 2016, un-healthiness was the most vital risk factor and it represented 14.6 percent over the period. The Government has initiated a new strategy mediation to improve health and wholesome status of ladies and kids.

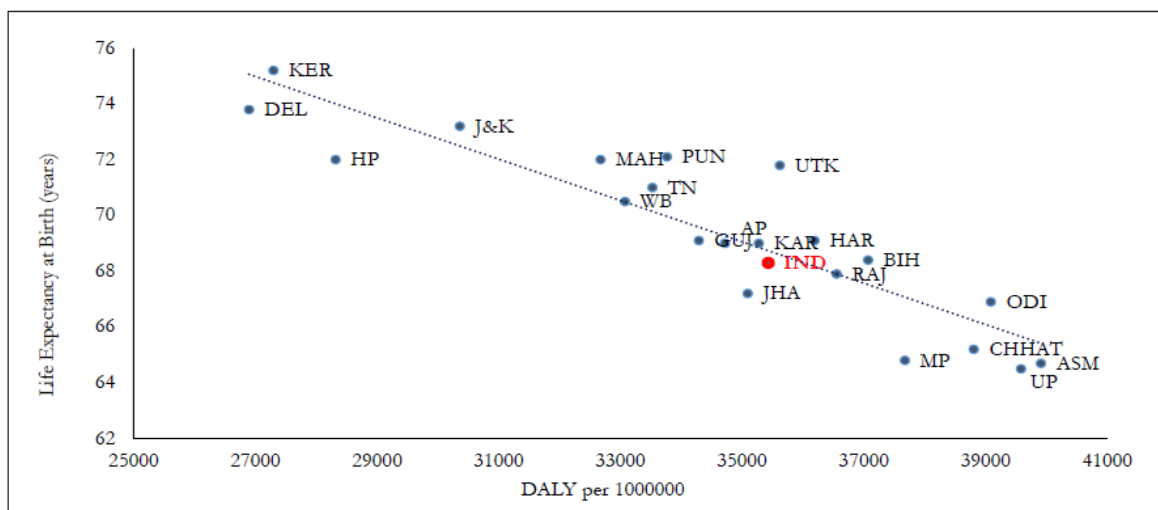
The commitment of air contamination to illness trouble was high in 1990 and was 11.1per % and it decreased to9.8 for every % in 2016.

Non Transferable Diseases (NCDs) moved toward becoming very noticeable in India. In 2016, the dietary risks, which incorporate weight control plans low in natural product, vegetables, what's more, entire grains, yet high in salt and fat, were India's third driving risk factor, following hypertension and high glucose. Unsafe water, sanitation, and hand-washing (WaSH) were the second driving risk factor in 1990, yet its positioning has dropped to seventh place in 2016.

### Dalys: A State Level Examination

Larger part of the States has been the biggest predominance of non-transferable sicknesses and wounds over irresistible and related maladies except for in Delhi, Andhra Pradesh, Uttar Pradesh and Assam. In spite of upgrades in general life expectancy in India throughout the years, disparities still hold on among states with a scope of 64.5 years in Uttar Pradesh to 75.2 years in Kerala in 2015

Figure 13: State-wise DALYs Rate (2016) and Life expectancy at Birth (2015)



## CHAPTER 5

### CONCLUSION

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The present study tried to assess the health and health care investment in India. The study also examined the disease burden in India and also has reported the change in the disease burden from 1990 onwards.

Results highlight a noticeable quality of private doctor's facilities and centers among health suppliers has seen a rise. The primary role is still played by government; however if private is also represented then there is increase by 29 percent. Out of Pocket Expenditure (OoPE) declined roughly 7 rate focuses amid the period 2004-05 to 2014-15, its offer is still at 62 for each penny according to NHA 2014-15.

The disease burden represents that non communicable diseases are increasing and needs attention. Results highlight that there was increase in non-transferable maladies (NCDs) from 30 to 55 for every penny from 1990 to 2016. For wounds it increased from 9 for each penny to 12 during the same tenure.

almost 61% of deaths in India are due to non-communicable diseases. These cover heart disorders, cancer and diabetes. These can lead to premature deaths. This trend is prevalent across the globe and more than 70% of deaths across the globe were accounted by NCDs. In India in 2016 alone 58,17,000 deaths occurred due to diabetes, cancer and heart problems.

Health ministry initiated a door-to-door screening programme for early detection of cancer, heart disorders and diabetes. This will cover 200 districts nationwide by 2018. There is initiative to enhance the setting up of cancer centres across the country. Such steps are needed.

In 2016, un-healthiness was the most vital risk factor and it represented 14.6 percent over the period. The Government has initiated a new strategy mediation to improve health and wholesome status of ladies and kids.

Results also highlight disparity across states in disease burden as well in expenditure on health. This needs to be addressed to. There are various schemes introduced by centre as well as by states, however there is a need to go in for regular assessment. Good health will

go a long way in improving human capital and investment on this is a must. It is not only duty of the government, an individual can also play an important role. Keeping our surroundings clean and adopting some precautions like washing hands and drinking safe water can be some small steps in this direction.

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