WELFARE ECONOMIC ANALYSIS OF PUBLIC HEALTHCARE SYSTEM: A CASE STUDY OF CIVIL HOSPITAL, AIZAWL, MIZORAM.

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WELFARE ECONOMIC ANALYSIS OF PUBLIC HEALTHCARE SYSTEM: A CASE STUDY OF CIVIL HOSPITAL, AIZAWL, MIZORAM.

BY

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Submitted

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CERTIFICATE

This is to certify that the dissertation entitled "**Welfare Economic Analysis of Public Healthcare System: A Case Study of Civil Hospital, Aizawl, Mizoram."** by Shri Lalrinkima has been written under my guidance. This thesis is the result of his investigation into the subject and was never submitted to any other University for any research degree.

DECLARATION

MIZORAM UNIVERSITY

DECEMBER, 2019

I Lalrinkima, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of Master of Philosophy in Economics.

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LIST OF ABBREVIATIONS

AAY	Antyodaya Anna Yojana
ALS	Average Length of Stay
APL	Above Poverty Line
ART	Antiretroviral Therapy
BPL	Below Poverty Line
CC	Civil Cost
CHA	Civil Hospital, Aizawl
CSSD	Central Sterile Service Department
ECG	Electrocardiogram
EEG	Electroencephalogram
ENT	Ears, Nose and Throat
FMW	Female Medical Ward
FY	Financial Year
GO	Generator Operator
GW	General Ward
ICU	Intensive Care Unit
MSHC	Mizoram State Healthcare Scheme
IMR	Infant Mortality Rate
INR	Indian Rupee
MPW	Maternal and Pregnancy Ward

MR	Medical Reimbursement
MRA	Multipurpose Rehabilitation Assistant
MRT	Medical Record Technician
NCD	Non Communicable Disease
NICU	Newborn Intensive Care Unit
OA	Office Assistant
OPD	Out Patient Department
OST	Opiod Substitution Therapy
PC	Private Cost
PFT	Pulmonary Function Test
PMR	Physical Medicine and Rehabilitation
PMW	Permanent Workers
RSBY	Rashtriya Swasthya Bima Yojana
SSR	Staff Sick Room
TIP	Total In-patient
TOR	Turn Over Rate

BRIEF BIO-DATA OF THE CANDIDATE

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1.1: INTRODUCTION

There is a worldwide consensus that health is one of the most important factors for social welfare, economic growth and development and progress at large. A healthy population leads to a vibrant and strong economy by increasing the productivity as well as the working capacity of the labour force. Hence, a healthy population or workforce is necessary for human resource development which will ultimately lead to the desired outcome of any economic policy—sustained long-run growth and development. As such, the importance of health cannot be neglected in the field of economic study and research. At the same time, an unhealthy population riddled with chronic disease, epidemic and many other maladies is a burden for all policy makers and Governments across the world at large. So, a sound economic progress is liked with health and the provision of healthcare facilities to its population.

The word health is an important factor today in everybody's life because if we are physically and mentally healthy then we can definitely enjoy a healthy life too. A good and a strong health is not something that is sold at a store but it is something that we have to create and also maintain at the same time. Good health is very important because a person of good health can put through a large amount of work in a short time. A person of perfect health does not shirk his duties. He can work properly and leaves nothing undone. As a student, he shines in his examinations. As a public worker, he renders valuable service and is duly rewarded. One can start with following the pattern of eating the right things at the right time and also exercising too. These healthy patterns will help to lead to reduced illness

which in turn will also help save a lot of money that we turn up spending for recovering from various illnesses.

Better health is central to human happiness and well-being. It also makes an important contribution to economic progress, as healthy population lives longer, is more productive, and saves more. A good health is achieved by following a few collective patterns which are health related. If we follow this logic we will also realize the importance of having healthy lifestyles which will add to the benefits of having a healthy life. Achieving and maintaining health is an ongoing process, shaped by both the evolution of health care knowledge and practices as well as personal strategies and organized interventions for staying healthy. Therefore, good health is a priceless blessing in life. The famous saying 'Health is Wealth' highlights the importance of good health in our life.

1.2: AREA OF STUDY

Aizawl, the capital of Mizoram, is situated at about 1132 meters above sea level. It is a beautiful city set on ridges of steep hills. Flanked on the north by the craggy peaks of Durtlang, the hill city overlooks the valley of the river Tlawng and ranges of blue hill beyond. It has a mild, sub-tropical climate due to its location and elevation. Aizawl is connected by road with Silchar through National Highway 54, with Agartala through National Highway 40 and with Imphal through National Highway 150. It is air-linked by daily flights from Kolkata and Guwahati. As per 2011 Census the population of Aizawl is 291,822. Sex ratio is 1029 per 1000 males. Average literacy rate of Aizawl city is 98.80 percent of which male and female literacy was 99.30 and 98.31 percent. It is the largest city in the state. It is also the

centre of administration containing all the important government offices, state assembly house and civil secretariat. The population of Aizawl strongly reflects the different communities of the ethnic Mizo people.[1]

1.3: PUBLIC HOSPITAL IN AIZAWL

The present 270 Bedded Civil Hospital, Aizawl had a modest beginning, Established in 1896 with a few Bed, it was functioned as a "Kuli Dispensary" and in 1906 the Hospital had around 12 Beds to cater to the small population of that time.

With the passage of time and moderate increase in populating there was demand for more beds. During 1960's the Hospital had about 56 Beds (Male wards, Female wards, Isolating ward and Separate 12 Bedded T.B. wards).

From 1966 onwards the massive influx of Rural Population to Aizawl in search of Jobs, better Education and other opportunities necessitated the increase of bed strength to cope with the ever increasing demand. Around 1980 the total bed strength was around 200.

The first post graduate trained doctor in general surgery and obstetrics and gynecology joined the Hospital in 1971. Subsequently, more and more post graduate trained doctors (specialists) in various specialties joined the Hospital from time to time leading to the establishment of different departments based on specialty to give need based specialized treatment. At present the following specialties for the best medical care services within the State of Mizoram are available in the Hospital – Surgery, Medicines, Gynecology, Pediatrics, Orthopedics, Dermatology, Radiology,

[1] District Census Handbook, 2011

Ophthalmology, ENT, Pathology, Bacteriology, Biochemistry, Anaesthesiology, Oncology, Forensic Medicines and Blood Bank.[2]

1.4: SIGNIFICANCE OF THE STUDY

Health economics and behavioural economics as a whole have not been extensively studied at research level in Mizoram. As such, there have been only few studies regarding the provision of health facilities and its impact on the economy. Moreover, there has been no suitable study regarding patients' satisfaction and their willingness to pay for health and healthcare facilities. As Mizoram is one of the smallest states rampant with critical illness such as cancer, cardiovascular disease and other lifestyle related diseases such as diabetes and hypertension. Besides the social cost, a study of the economic cost of provision of health and healthcare facilities is one of the most important and much needed studies in economic literature. This research also inquires about the nature of welfare economics and whether the provision of free and basic healthcare facilities to the population leads to welfare of the masses.

This research primarily aims at assessing delivery of health and healthcare facilities to patients in a public hospital. Also, the bahvioural pattern of the patients is studied in order to test whether frontiers of modern microeconomic theory such as information asymmetry, moral hazard and adverse selection exist in the health sector of Mizoram especially regarding the provision of healthcare and health insurance to the marginalized community.

[2]https://health.mizoram.gov.in/page/brief-history-of-civil-hospital-aizawl.

1.5: OBJECTIVES OF THE STUDY

1. To study the institutional provision of public healthcare system in Aizawl.
2. To evaluate the performance of Civil Hospital, Aizawl in facilitating health services to the masses.
3. To elicit the monetary savings and welfare that accrues to the beneficiaries of Civil Hospital, Aizawl.
4. To find out the socio-economic conditions of healthcare beneficiaries of Civil Hospital, Aizawl.
5. To determine the level of patients' satisfaction of Civil Hospital, Aizawl.

1.6: RESEARCH QUESTIONS

1. Does the existing healthcare provision benefit the marginalized community the most when compared to other social strata of the population?
2. Do information asymmetry and moral hazard exist regarding the provision of health and healthcare facilities to its patients by Civil Hospital, Aizawl?

1.7: METHODOLOGY

The study is based on primary and secondary data. Structured interview schedule based on the objectives of the study is prepared and each respondent is individually interviewed. Secondary data from Civil Hospital, Aizawl for the period of April, 2018 to March, 2019 is collected for this study. Further, secondary data is also collected from the Health Directorate of Mizoram Government, Economic Survey, Census of India, NSSO data and other Government reports. Relevant

information pertaining to this study is also collected from various e-resources, books, and journals.

Primary Data

For the purpose of the study, 40 indoor patients are randomly selected and interview is done based on the interview schedule—which is shown in appendix. The questions asked on the interview schedule are both open-ended and closed-ended. The maximum number of indoor patients' census in any particular month during the base period is 263. With this data, 40 indoor patients across various wards are randomly selected which reflect 15 percent of the entire population—as calculated by the maximum number of indoor patients' census in a particular month during the base period, which is significant at 10 percent and 90 percent confidence level and hence reflects the entire indoor patients' population of Civil Hospital, Aizawl. The collected data are analyzed using relevant statistical techniques.

Also, a Likert scaling method is employed to calculate patients' satisfaction. For this, 4 clusters are made to extract patients' satisfaction on doctors, nurses, infrastructure and care given and finally information received. Patients are asked to rank their preference ordinally and each question has a point of 0, 1, 2 and 3 based on their response in which four options are given. Then the points each individual indoor patient scores is scaled on a five point scaling method. That is, for doctors, there are a total of 4 questions and 12 points available, and scaling is done on 1-4-6 & 7-9-12. A score of below 4 are very unsatisfied, below 6 are unsatisfied, below 7 are somewhat satisfied, below 9 are satisfied and above 9 are completely satisfied. Thus the scaling parameter has a five point scale as shown. This same technique is

employed on the other clusters mentioned but some clusters have more questions but the technique employed is the same. Thus, the total scaling points available in each cluster is 5. Finally, for calculating the overall satisfaction of indoor patients, the summation of total points available in each cluster is taken, i.e., there is a total of 20 points on a scale of 5. In total, for 40 indoor patients, the total point available is 200 (40 times 5). Suppose if the score is 130 out of 200, then the points scored is 3.80 out of 5, which means indoor patients are satisfied.

Secondary Data

Secondary data was obtained from both published and unpublished sources like magazines, journals, e-resources, and books etc. for collecting necessary information especially from Civil Hospital, Aizawl. The data collected are analyzed using relevant and appropriate statistical techniques.

The study is conducted to have an insightful knowledge about the institutional and welfare provision of Civil Hospital, Aizawl, the socio-economic status, level of satisfaction of indoor patients through analyzing their behavioural pattern, and then finally to suggest measures for the improvement of Government healthcare provision at large.

2.1: CONCEPTUAL FRAMEWORK

In order to enlighten the readers about the subject matter of this thesis, it is important to briefly elucidate about the conceptual framework—the theories and concepts that will be used as the core of this thesis.

Health is one of the most important factors that affect efficiency and productivity. According to the World Health Organization (WHO), the word health means physical, mental and social well-being, and not merely the absence of disease of infirmity.[1] Healthcare is the maintenance or in other words, the improvement in health through prevention, diagnosis, and treatment of injury, illness or malady and other physical and mental impairments in a person.

In economics, the concept of welfare is used in a narrow sense: it is limited to only material economic welfare. Welfare Economics imparts economic science a normative character. It is the study of conditions that maximize economic welfare of society as a whole. In the words of Oscar Lange, "Welfare economics is concerned with the conditions which determine the total economic welfare of a community." The function of welfare economics is to evaluate alternative economic situations and determine whether an economic situation yields greater economic welfare than others. Welfare economics may also be defined as that branch of economic science which

[1] World Health Organization (1958), *The First Ten Years of the World Health Organization.* Geneva: WHO

evaluates alternative patterns of resource allocations from the viewpoint of maximizing economic welfare of the society as a whole.[2]

There are three main concepts of social welfare. The first concept of social welfare is the paternalist one which describes the views of a paternalist authority or state and not of the individuals of the society. The second is the Paretian concept in which welfare of the society is simply the sum total of the welfare of different individuals comprising it. If some persons are made better off and none worse off, social welfare increases and if some are made worse off and none better off, it decreases. The third concept of social welfare involves interpersonal comparison of utility which is to be made by introducing explicit value judgments.[3] This concept of social welfare has been propounded by Bergson and Samuelson in their well-known theory of social welfare function.[4]

Since welfare economics is concerned with the desirability or otherwise of economic policies, the value judgment plays a crucial role. It means the conceptions or ethical beliefs of the people about what is good or bad. These conceptions regarding values of the people are based on ethical, political, philosophical and religious beliefs of the people and are not based on any scientific logic or law.

Asymmetric information, also known as information failure, occurs when one party to an economic transaction possesses greater material knowledge than the other

[2] Lange, O (1942), 'The Foundation of Welfare Economics,' Econometrica, Vol. 10, pp. 13.
[3] Graff, JDV (1957), '*Theoretical Welfare Economics*,' Cambridge University Press, pp. 7-11
[4] Bergson, A (1938), '*A Reformulation of Certain Aspects of Welfare Economics'*.

party. This normally manifests when the seller of a good or service has greater knowledge than the buyer, although the reverse is possible. Almost all economic transactions involve information asymmetries.[5]

In economics, externalities refer to the beneficial and detrimental effects of an economic unit (a firm, a consumer or an industry) on others. Externalities are of two types—positive and negative. When an economic unit creates benefit for others for which he does not receive any payment, there exist external economies or positive externalities. On the other hand, external diseconomies or negative externalities occur when an economic unit inflicts costs on others for which he is not required to pay.

Asymmetric information is the specialization and division of knowledge in society as applied to economic trade. For example, medical doctors typically know more about medical practice than their patients. After all, through extensive education and training, doctors specialize in medicine, whereas most patients do not. The same principle applies to architects, teachers, police officers, attorneys, engineers, fitness instructors etc.[6]

Moral hazard is a problem that arises when one person, called the agent, is performing some task on behalf of another person, called the principal. If the principal

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[5] Dwivedi, D. N. (2016). *Microeconomics Theory and Applications, Third Edition* . Noida: Vikas Publishing House Pvt. Ltd.

[6] Mankiw, N. G. (2012). *Principles of Microeconomics, 6th Edition* . Delhi : Cengage learning (India) Pvt. Ltd.

cannot perfectly monitor the agent's behavior, the agent tends to undertake less effort than the principal considers desirable. The phrase *moral hazard* refers to the risk, or "hazard", of inappropriate or otherwise "immoral behavior" by the agent. In such situation, the principal tries various ways to encourage the agent to act more responsibly.[7]

This study tries to examine the impact of healthcare system and provide insights on how the theories of economics effectively synchronized with the ground reality regarding access to healthcare.

[7] Varian, H. R (2010), *Intermediate Microeconomics: A Modern Approach*, 8th Edition. New Delhi: East West Press (India) Pvt. Ltd.

3.1: INTRODUCTION

This chapter highlights related literatures or researches done in the field of Health Economics with significant differences in the area as well as methods and goals under inquiry. Review of related literature implies systematic identification, location and analysis of documents containing information related to the search problems. The following reviews mainly deal with the current issues and predicaments regarding the provision of Healthcare in the most efficient way. Many problems have been highlighted and suggestions have also been made by various researchers and scholars regarding the problem at hand. The reviews for this particular research have been deliberately and conscientiously selected in order to have the highest degree of relevance for the current inquiry.

3.2: REVIEW OF LITERATURE

With regard to health insurance, Akerlof *et. al.* (1970) argues that the extent of adverse selection or positive selection into insurance has important repercussion for an insurance provider's ability to cover its costs. Voluntary health insurance cannot be financially sustainable if adverse selection is severe, since only the most costly patients would find it worthwhile to purchase insurance, and premium levels will not be able to cover the high costs of care. (Arkelof, 1970) [1]

[1] Arkelof, G. (1970). The Market for Lemons: Quality Uncertainty and The Market Mechanism . *Quarterly Journal of Economics, vol. 84 (3), 1 August* , pp.488-500.

Tokita *et. al.* (2000) estimates healthcare expenditure functions by age groups and in-/outpatient in order to find the determinants of healthcare expenditure in Japan. The result suggests that difference of the per capita medical expenditure among the prefectures is mainly due to disparities of the number of beds and doctors per capita. (Tokita, Chino, & Kitaki, 2000)[2]

Patients' satisfaction plays a key role in the provision of public healthcare, Mahapatra *et. al.* (2001) identified that Corruption by all categories of staff was the greatest cause for dissatisfaction, followed by general cleanliness, poor utilities etc. Also significantly high level of dissatisfaction was noted regarding patient's assessment of technical quality of doctor's work and less time spent by the doctor with the patients, which are the main causes for people to go for private healthcare organizations, where majority of patients who come for treatment to public hospital are poor and illiterate. (Mahapatra, Srilatha, & Sridhar, 2001)[3]

Kjerstad (2003) writes that in Norway, a new system of Activity Based Financing (ABF) for general hospitals was introduced on a comprehensive basis in July 1997. The main purpose of the reform was to increase activity so that more patients could receive treatment more quickly without reducing the quality of care. His study

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[2] Tokita, T., Chino, T., & Kitaki, H. (2000). Healthcare Expenditure and The Major Determinants in Japan. *Hitotsubashi Journal of Economics, Vol. 41 (1), June* , pp.1-16.

[3] Mahapatra, P., Srilatha, S., & Sridhar, A. (2001). Patient Satisfaction Survey in Public Hospitals . *Journal of the Academy of Hospital Administration, Vol. 13 (2)* , pp.7-12.

concludes that the reform has had significant impact on the number of patients treated. (Kjerstad, 2003) [4]

It is a truism that a strong political will is the prerequisite for any reform policy, Twose *et. al.* (2004) comments that the 'Thai Policy' is a bold reform driven by top level political imperatives and incorporating many innovative features. However, a continued emphasis on monitoring, evaluation, and research will be vital in fine tuning the reforms and major revisions may need to be considered if the policy is to survive. In conclusion, these include allowing greater patient choice, providing greater opportunity for private sector participation and competition in urban areas, strengthening further the rural district health system with adequate clinical staff, protecting key national functions such as teaching and research, and expanding the sources of finance beyond general taxation. (Towse, Mills, & Tangcharoensathien, 2004)[5] Also, Toth (2013) highlights that there seems to be a correspondence between the healthcare models adopted national contexts and the ideological orientation of the governments that have instituted them. Most laws instituting a system of social health insurance have been advanced by conservative governments, while those instituting a national health service have been passed by social democratic governments. The resulting clashes between governments and competing interest are largely attributable to the institutional setting. Thus, his study concludes that

[4] Kjerstad, E. (2003). Prospective Funding of General Hospitals in Norway: Incentives for Higher Production? . *International Journal of Health Care Finance and Economics, Vol. 3 (4), December* , pp.231-251.

[5] Towse, A., Mills, A., & Tangcharoensathien, V. (2004). Learning from Thailand's health reforms . *British Medical journal, Vol. 328 (7431), January 10*, pp.103-105.

in the period from 1945 to 2000, those countries where political power was more concentrated implemented a national health service. Conversely, those countries where political power was more dispersed tended to maintain a system of voluntary or social health insurance. (Toth, 2013)[6]

Health indicators in India may have seen substantial improvements in recent decades but quality and affordable health care services continue to elude the poor, Acharya *et. al.* (2005) suggests that community-based health insurance (CBHI) schemes could provide viable alternatives which are sustained by a pooling of resources as well as the regular "prepayment" of a small amount as premium. Their study concludes that while such schemes are still in their infancy, to ensure a wider coverage and acceptance, CBHI schemes could be attached to other decentralised agencies of governance such as Panchayati Raj institutions. Also, the basic objective of healthcare systems is to meet a country's health needs in the most equitable and efficient manner, while remaining financially sustainable. (Acharya & Ranson, 2005)[7] Bhat *et. al.* (2006) highlights that financing of healthcare through public and/or private channels are one important

[6] Toth, F. (2013). The choice of healthcare models: How much does politics matter? . *International Political Science Review, Vol. 34 (2), March* , pp. 159-172.

[7] Acharya, A., & Ranson, M. K. (2005). Healthcare Financing for the Poor: Community-Based Health Insurance Schemes in Gujarat. *Economic and Political Weekly, Vol. 40 (38), September 17-23* , pp. 4141-4150 .

component of this strategy. Their study examines the relationship between income and public and private healthcare expenditures. (Bhat & Jain, 2006)[8]

Foucade *et. al.* (2006) presents a detailed review of the international literature healthcare access and identifies those findings that appear to be applicable to the Caribbean. Access to healthcare, income and use of services has been shown to be positively correlated both in the rest world and in the Caribbean. Their paper underscores the need for more empirical in the Caribbean to identify the causes and extent of distortions in health outcomes. (Foucade & Scott, 2006)[9]

Since the financial cost of healthcare is an important factor with respect to access to healthcare facilities, Yadav (2007) in a cross sectional study conducted at the Government Medical College Hospital, shows that owing to inflation and rising costs of commodities, some people from the upper middle class can no more afford the costs incurred in the private medical sector and have to therefore seek medical services of a government hospital. (Yadav, 2007)[10] Also, there exists a significant difference between rural and urban areas regarding the cost and availability of healthcare services, Berman *et. al.* (2010) indicates that health expenditure related impoverishment in India is quite

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[8] Bhat, R., & Jain, N. (2006). Analysis of Public and Private Healthcare. *Economic and Political Weekly, Vol. 41 (1), January 7-13* , pp.57-68.

[9] Foucade, A. D., & Scott, E. B. (2006). Health Issues Facing Small Island States in the Caribbean . *Social and Economic Studies, Vol. 55 (4)* , pp. 107-132 .

[10] Yadav, J. U. (2007). Reasons for Choosing a Government Hospital For Treatment . *Indian Journal of Community Medicine, vol. 32 (3)* , pp.235-236 .

high. Rural rates are higher than urban and outpatient services account for a much larger share of the financial burden on households than inpatient services. Their study concludes that these policies have not been successful and that health-related impoverishment remains high. (Berman, Ahuja, & Bhandari, 2010)[11] Moreover, morbidity and its treatment can be potentially burdensome or even catastrophic for poor households, Chowdhury (2011) argues that treatment cost incurred on ailments not requiring hospitalisation is also a substantial burden on the urban poor. Based on his case study of 150 slum households in south Delhi, he concludes that there is a need for a more holistic approach in social safety nets like the RSBY, and for explicitly including uncovered healthcare payments in measurement of the poverty lines for a more accurate estimation of the marginalized. (Chowdhury, 2011)[12]

Tam (2008) examines the institutional origins of the prevalent failures of Chinese public hospitals to treat indigent patients from the perspective of changes in the demand and supply of affordable healthcare. He argues that institutional arrangements were largely adaptations to short-term demands of the ongoing circumstances during the reform era; incremental reforms could hardly put things back on the right track. Instead,

[11] Berman, P., Ahuja, R., & Bhandari, L. (2010). The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings . *Economic and Political Weekly, Vol. 45 (16),* pp.65-71.

[12] Chowdhury, S. (2011). Financial Burden of Transient morbidity: A Case Study of Slums in Delhi . *Economic and Political Weekly, Vo. 46 (33), August 13-19*, pp. 59-66.

comprehensive reforms, such as changes in the criteria for evaluating local government performance, are required. (Tam, 2008)[13]

Selvaraj *et. al.* (2009) presents a study by drawing on evidence from the past morbidity and health surveys (1986-87 to 2004) and consumer expenditure surveys (1993-94 to 2004-05) of the National Sample Survey Organisation. Their study argues that public provision of healthcare in India has dwindled to new lows. Outpatient and hospitalisation care in India in the past 20 years has declined drastically, leading to the emergence of private care players in a predominant way. While healthcare costs have shot up manifold in private provisioning, government health facilities are increasingly compelling patients to look for private outlets for procuring drugs and diagnostics. Their study concludes that due to these developments, millions of households are incurring catastrophic payments and are being pushed below poverty lines every year. (Selvaraj & Karan, 2009)[14]

It is a well-known fact that the existing healthcare provisions have many loopholes and drawbacks; the need for improvement is a global phenomenon, Willis *et. al.* (2009) has outlined key dimensions of health sector reform which are often bundled together under the heading of 'neo liberalism'. The reform policies and processes experienced in both Latin America and sub-Saharan Africa share some characteristics,

[13] Tam, W. K. (2008). failing to treat: Why Public Hospitals in China Do Not Work? . *China review, Vol. 8 (2)* , pp.103-130 .

[14] Selvaraj, S., & Karan, A. K. (2009). Deepening health Insecurity in India: Evidence from National Sample Survey since 1980s. *Economic and Political Weekly, Vol. 44 (40), October 3-9* , pp.55-60 .

most notably a reduction in state provision of health care, growing private sector healthcare and health insurance services. They conclude their study by stating that challenges of implementing such policies and ensuring social equity remain significant. (Willis & Khan, 2009)[15] Rego *et. al.* (2010) points out that the inability of traditional state organisations to respond to new economic, technological and social challenges and the associated emerging problems has made it necessary to adopt new methods of health management. New directions have emerged in the reform of Public Administration together with the introduction of innovative models. The results seem to suggest that the introduction of market processes and changes in organisational structure such as managerial autonomy and corporatisation of public hospitals have had a positive impact on Portuguese public hospitals. (Rego & Costa, 2010)[16]

Gaskin *et. al.* (2011) by employing three years of inpatient discharge data from 11 states and inpatient and patient safety quality indicators from the Agency for Healthcare Research and Quality (AHRQ), they explore whether minority (black, Hispanic, and Asian) patients used lower quality hospitals. Their analysis indicates that it is incorrect to generalize that minorities use lower quality hospitals. They conclude that analysts and policymakers should be cautious

[15] Willis, K., & Khan, S. (2009). Health Reforms in Latin America and Africa: Decentralization, Participation and Inequalities . *Third World Quarterly, Vol. 30 (5)* , pp.991-1005.

[16] Rego, G., & Costa, R. N. (2010). The Challenge of Corporatization: The Experience of Portuguese Public . *The European Journal of Health Economics, Vol. 11 (4)* , pp.367-368.

when making generalizations about the overall service quality of hospitals that treat minority patients. (Gaskin, Spencer, Richard, Anderson, Powe, & Veist, 2011)[17]

In view of poor public service provision in many low/middle income countries, Prashanth (2011) says that a strong move to partner with the private sector is often advocated as a simple and obvious solution. In India, the private sector is widespread and unregulated and this solution appears to be innovative as well as feasible. He concludes that despite the charming appeal, research in this field is scarce and in the lack of evidence, health policy is increasingly dependent on rhetoric or single case studies showing success in specific contexts. (Prashanth, 2011)[18]

For any research to have a strong appeal and credibility, effective and inclusive methodology needs to be adopted. Mitropoulos *et. al.* (2013) discusses the use of Data Envelope Analysis (DEA) to seek improvement in the performance of 96 Greek public hospitals. DEA bias-corrected results indicate that, on average, economic and production efficiency for general hospitals is 72 per cent and 79 per cent respectively. Their study concludes by stating that future interventions should be directed at developing new pricing and costing mechanisms, centralizing the procurement procedures and

[17] Gaskin, D. J., Spencer, C. S., Richard, P., Anderson, G., Powe, N. R., & Veist, T. A. (2011). Do Minority Patients Use Lower Quality Hospitals? *Inquiry, Vol. 48 (3),* pp.209-220 .

[18] Prashanth, N. S. (2011). Public-Private partnership and Health Policies. *Economic and Political Weekly, Vol. 64 (42), October 15-21*, pp. 13-15.

establishing auditing procedures. (Mitropoulos, Mitropoulos, & Sissouras, 2013)[19] Decimoni *et. al.* (2018) says that Brazil has sought to use economic evaluation to support healthcare decision-making processes. Their study argues that while a number of Health Economic Evaluations (HEEs) have been conducted, no study has systematically reviewed the quality of Brazilian HEE. Overall, the full HEE quality of reporting was satisfactory. Their study concludes that to improve their contribution to inform national healthcare policy efforts need to be made to enhance the quality of reporting of HEEs. (Decimoni, et al., 2018)[20] Ning *et. al.* (2018) says that their study is the first review of the evidence, based on longitudinal studies in the United Kingdom, on the association of ill health at any life stage and later social and economic outcomes. Their study highlights that there was strong evidence for the association between early mental health, mainly attention deficit hyperactivity disorder, and lifetime educational, occupational and various social outcomes. They conclude that mental health was consistently found to be associated with a range of social and economic outcomes throughout the lifespan. (Ning, Ploubidis, Nasim, & Goodman, 2018)[21]

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[19] Mitropoulos, P., Mitropoulos, L., & Sissouras, A. (2013). Managing for Efficiency in Health Care: The Case of Greek Public Hospitals. *The European journal of Health Economics, Vol. 14 (6),* pp.929-938.

[20] Decimoni, C. T., Roseli, L., Rozman, L. M., Craig, D., Cynthia, P. I., Novaes, H. M., et al. (2018). Systematic Review of Health Economics Evaluation Studies Developed in Brasil from 1980 to 2013 . *Frontiers in Public Health, Vol. 6, February* , pp.1-13.

[21] Ning, D., Ploubidis, G., Nasim, B., & Goodman, A. (2018). The Impact of Health on Economic and Social Outcomes in the United Kingdom: A Scoping Literature Review. *PLoS ONE, Vol. 13 (12),* pp. 1-21.

3.3: RESEARCH GAP

The above reviews of literature mainly stress on the impact of healthcare on patients' satisfaction and the linkage between income and the types of hospital that a patient uses in various parts of the globe. But as seen from the above reviews, most of them [reviews] do not inquire about the correlation between healthcare provision and welfare and further, no enquiry has yet been done on the selected study area of this research. Also, since information failure is the main cause of adverse selection and moral hazard which further leads to mindless dissipation of financial and human resources. Its [information failure] impact on healthcare cannot be found on the above reviews although some of the impact of information failure on insurance market has been mentioned. This research will try to fill the gap that exists regarding the provision of healthcare for the welfare of the society and the linkage with information economics regarding the realization of economic efficiency, patients' satisfaction and welfare, especially that of the marginalized and impoverished sections of the community under the study area.

4.1: INTRODUCTION

The current 270 bedded hospital has its humble beginnings as mentioned in the introductory chapter. Today, it is one of the most established and well-equipped hospitals even when comparing it with the private hospitals across Mizoram. The hospital, i.e., Civil Hospital, Aizawl (CHA), cater to the healthcare needs of not only the people of Aizawl but the whole Mizoram as a whole. It is a quintessential paradigm for universal provision of basic healthcare facilities to people on all walks of life. The hospital is has various state-of-the-art machines and equipment such as CT Scan and Echo machine which are at the reach of only the rich few since its cost of investigation is quite hefty. The hospital has been providing these kinds of healthcare provision at a minimal cost to the masses. Today, the registration system is fully automated by using the latest technology and patients are not needed to queue for long hours as compared to the earlier days of its establishment. The following analyses, viz. tables and figures, highlight the institutional provision of Civil Hospital, Aizawl and adumbrate the indispensable nature of this particular Public Hospital.

4.2: SECTION A — INSTITUTIONAL PROVISION OF CIVIL HOSPITAL, AIZAWL

This section elucidates the working mechanism of the hospital at large. Since this research is concerned with the provision of basic, affordable yet quality healthcare

services to the masses, it is important to know the various systems that lead to the smooth functioning of the hospital.

4.2.1: Staff Position

In order to understand and inquire about the working mechanism of any institution, the first step is to the number of workers or staff engaged in a particular institution. This provides us valuable information with regard to the human resources that a particular organization, corporation or department engages in order to fulfill its function. Also, one of the most interesting insights or information is the size of the organization, corporation or department which gives us an instant knowledge as whether or not it is useful and influential to the public. Hence, in this study also, first and foremost, the staff position in Civil Hospital, Aizawl is first taken into consideration regarding its institutional provision. It is important to know the number of administrative staff and other technicians, besides doctors and nurses since the latter are not the only ones that contribute to the smooth functioning of the studied hospital. The following table (Table 4.1) highlights the manpower strength and various designated post available at the hospital.

Table 4.1: Staff Position Of Civil Hospital, Aizawl |Regular| as on 31.03.2019

Sl. No.	Designation	Total	Sl. No.	Designation	Total
1	Doctors	84	29	Inspector of Statistics	1
2	Nursing Superintendent	1	30	Physiotherapist	1
3	Clinical Psychologist	1	31	Dialysis Technician	1
4	Sr. Medical Record Officer	1	32	Health Supervisor	1
5	Medical Record Officer	1	33	Health Worker	3
6	Audiologist	1	34	Supdt. Pharmacist	1
7	Ward Superintendent	17	35	Female Attendant	14
8	Staff Nurse	103	36	Cook	2
9	Head Assistant	1	37	Head Pharmacist	1
10	Upper Divisional Clerk	6	38	Pharmacist	9
11	Stenographer Grade III	1	39	O.A	6
12	Chief X-Ray Technician	1	40	MRT	3
13	Sr. X-Ray Technician	1	41	Driver [Spl. Grade]	2
14	X-Ray Technician	12	42	Driver Grade I	3
15	Laboratory Technician	14	43	Lower Divisional Clerk	4
16	Computer Operator	1	44	PMW	1
17	Librarian	1	45	Lab. Assistant	5
18	Dietician	1	46	Lab. Attendant	10
19	Eye Bank Councellor	1	47	Data Entry Operator	1
20	Receptionist	1	48	Physiotherapy Technician	1
21	Ortho/Prost Grd. III	2	49	Electrician	1
22	Ortho/Prost	1	50	G.O	1
23	MRA	1	51	CSSD Technician	2
24	Microscopist	2	52	Projectionist	2
25	ECG Technician	4	53	Artist cum Photographer	1
26	A/C Technician	1	54	Driver	7
27	Ward Boy	3	55	IV Grade	61
28	Mali	1	56	Sweeper	13
	Grand Total:	423			

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.1 shows that there is a total of 423 staff posted at Civil Hospital Aizawl among various departments and with 56 different designations.

Among the various designated posts, staff nurse has the highest number with 103 nurses being posted at the hospital across various departments of the hospital followed by a total of 84 medical doctors. Staff nurses and doctors form the core purpose of the hospital since the sole purpose of setting up a hospital is to provide healthcare services to patients and that cannot be done without nurses and doctors. As shown in the above table, there is a plethora of designated posts from sweeper to artist cum photographer which shows the hospital's diversity in terms of staff dedicated to various purposes other than healthcare services alone. A lot of experts such as laboratory technicians, X-ray technicians, pharmacists, medical record officer and statisticians have been employed to cater to the engineering and administrative aspects of the hospital. It can be seen from the above table that the staff posting in the hospital can be broadly divided into two categories—Healthcare service providers and administrative workers in order to deal with the many complex necessities for a smooth functioning of any kind of institutions in the modern world.

4.2.2: Consultation Schedule

It is a truism that hospitals provide healthcare services whenever the need arise. But it is impossible to provide a 24 hour service besides emergency services that cannot be known when they will occur. As such, for any patient who is trying to avail the healthcare services that a particular hospital provides, he or she should be well-informed about the timing and schedules of the various departments of the hospital. The following

table (Table 4.2) shows the consultation days and hours among the various departments of the hospital.

Table 4.2: Consultation Days and Hours

Sl. No.	Department	Consultation Days	Consultation Hours
1	Gynaecology	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
2	Orthopaedic	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
3	Ophthalmology	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
4	ENT	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
5	Surgery	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
6	Dermatology	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
7	Paediatrics	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
8	Medicine	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
9	AYUSH	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
10	Cardiology	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
11	Psychiatry	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
12	PMR	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm
13	Dental	Monday-Friday	9:00 am-3:00 pm
		Saturday	9:00 am-1:00 pm

Source: Civil Hospital Aizawl, 2019

The above table shows that there are 13 various departments that can be consulted by patients based on their illness by doing a simple registration process, which typically starts before the consultation hours mentioned above commence. It can be seen that all the departments have identical working hours between 9:00 am to 3:00 pm on weekdays and 9:00 am to 1:00 pm on Saturday with Sunday as the only holiday during the week.

4.2.3: Department-wise Distribution of Doctors

Since doctors are of paramount importance regarding the provision of healthcare services to patients. It is worthwhile to know the number of doctors that are posted among the various departments of the hospital.

Table 4.3: Department-wise Distribution of Doctors and Experts

Sl. No.	Department	Doctors	Sl. No.	Department	Doctors
1	Medicine	10	11	Ayush	6
2	Orthopaedic	4	12	Cardiology	4
3	Ophthalmology	5	13	Dietician	-
4	Skin	4	14	OST	1
5	Psychiatry	4	15	ART	3
6	Pediatrics	4	16	PMR	1
7	Gynea and Obst	5	17	NCD	1
8	Surgery	4	18	Tob. Cessation	-
9	ENT	5	19	Emergency	-
10	Dental	5	20	Dressing	-
		66			

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.3 shows the number of doctors posted at various medical departments of the hospital. Medicine department has the highest number of

doctors in a single department with 10 doctors. PMR, NCD and OST departments have only one doctor posted in their department and tobacco cessation, dressing and dietician departments do not have any designated doctor since experts such as social worker, psychologist and dietician have been posted in place of doctors. In table 4.1, it is shown that there are 84 doctors posted in various departments. The remaining 18 doctors are posted in departments such as radio diagnosis and imaging, intensive care unit and emergency which are not listed on the above table as their expertise is on need based rather than the usual out-patient need. The average distribution of doctors is 3.3 per department.

4.2.4: Patients Care

The amount of patients treated during a particular period of time tells the level of healthcare services that a particular hospital provides to its patients. The following table (Table 4.4) shows the amount of patients that are treated at Civil Hospital Aizawl.

Table 4.4: Total Patients Care During 2018-19 FY

Sl. No.	Department	Total no. of Patients	New Case	Old Case
1	OPD	349,885	273,475	121493
2	Casualty	45,083		NIL
	Total:	394,968		

Source: Civil Hospital Aizawl, 2019

It can be seen from the above table, i.e., table 4.4 that a total of 394,968 patients have availed healthcare services during 2018-19 financial year (FY), i.e., 1st April to 31st March, 2019. The Out Patient Department (OPD) has the larger share of patients' visit since Casualty is for only emergency services whose occurrence cannot be anticipated.

A total of 273,475 new cases were registered in both the department and 121,493 old cases were registered—those recurring cases or where patients consulted OPD departments more than once. Since there cannot be any new case regarding casualty department, the number of new cases is nil. From the above table, it can be said that there had been a slight degree of information asymmetry and moral hazard since the ratio of new cases to old cases is merely 2.25:1, i.e., for every 2.25 new cases registered, there is 1 old case registered. However, it cannot be solely argued that information asymmetry and moral hazard exist because many patients required recurring treatment where full treatment cannot be done in one single visit.

4.2.5: Monthly Outdoor Patients Care

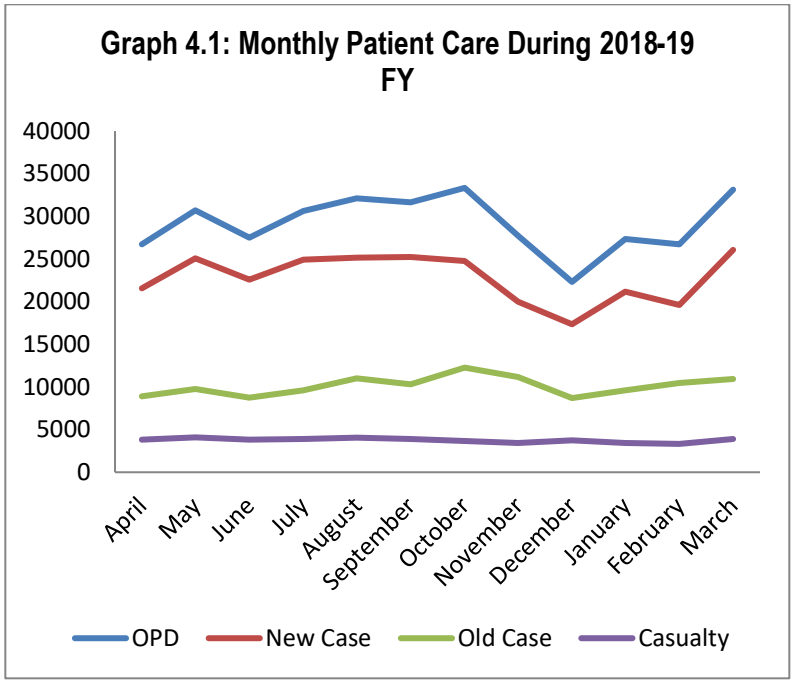
The previous section briefly highlights the number of patient care done during the base period. This section highlights the monthly patient care delivered at the hospital with regard to outdoor patients—OPD and casualty. In order to delve deep and inquire about the institutional provision of Civil Hospital, Aizawl, it is important to elicit the monthly patient care given to patients who avail the healthcare services of the hospital. Also, this analysis has its significance especially with regard to the time-series trend which is a valuable insight in order to have a bird's eye view of the hospital performance. Since outdoor patient care and emergency services are indispensable to the public provided that Civil Hospital, Aizawl charges no fees or whatsoever except a minimal registration fee, it is a vital statistics for any kind of welfare analysis. As such, the following table highlights the monthly patient care done at Civil Hospital, Aizawl:

Table 4.5: Monthly Patient Care [OPD & Casualty] During 2018-19 FY

Sl.No.	OPD	No. of Patients	New Case	Old Case	Casualty	No. of Patient	TPC
1	April	26,705	21,588	8,916	April	3,799	30,504
2	May	30,733	25,065	9,758	May	4,090	34,823
3	June	27,507	22,562	8,750	June	3,805	31,312
4	July	30,602	24,913	9,610	July	3,921	34,523
5	August	32,090	25,125	11,043	August	4,078	36,168
6	September	31,615	25,224	10,286	September	3,895	35,510
7	October	33,337	24,749	12,268	October	3,680	37,017
8	November	27,739	20,014	11,139	November	3,414	31,153
9	December	22,314	17,351	8,698	December	3,735	26,049
10	January	27,337	21,206	9,590	January	3,459	30,796
11	February	26,752	19,607	10,469	February	3,324	30,076
12	March	33,154	26,071	10,966	March	3,883	37,037
	Total:	349,885	273,475	121,493		45,083	394,968

Source: Civil Hospital Aizawl, 2019

The above table, i.e, table 4.5 shows the month-wise statistics of outdoor patients during 2018-19 financial year. The total patient care represented as TPC in the above table amounts to 394,968. The total amount of OPD patients is 349,885 out of which the month of October (2018) records the highest number of OPD patients with33,337 and April (2018) had the lowest with 26,705. The total number of emergency cases attended during the base period is 45,083 where May (2018) recorded the highest number with 4,090 patients and February (2019) had the lowest with 3,324 patients. The following line graph (figure 4.1) highlights more clearly about the fluctuations of outdoor patients:



The above graph, i.e., graph 4.1 clearly illuminates the monthly distribution of outdoor patients. The number of emergency cases is below 5,000 throughout the base period. There had been a decline in the number of patients during the 3rd quarter of 2018-19 financial year and started to increase again in the ensuing quarter.

4.2.6: Department-wise Distribution of Outdoor Patients Care

Since there are various medical departments that cater to the different types of healthcare services, it is noteworthy to highlight the number of recorded patients in each department. This section elucidates the total number of patients in various departments during the base period.

Table 4.6: Department-Wise Distribution of OPD Patient Care During 2018-19 FY

Sl. No.	Department	New Case	Old Case	Total	Daily Average
1	Medicine	47,625	9,735	57,360	204.85
2	Pediatrics	23,760	5,789	29,549	105.53
3	Emergency	45,083	-	45,083	123.5
4	Gynea&Obst	19,626	10,991	30,617	109.34
5	Orthopaedic	19,516	6,576	26,092	93.18
6	Surgery	15,387	3,558	18,945	67.66
7	Eye	22,070	3,907	25,977	92.77
8	ENT	19,266	3,339	22,605	80.73
9	Skin	22,796	2,985	25,781	92.07
10	Dental	12,029	2,754	14,783	52.79
11	Dressing	6,174	20,478	26,652	95.18
12	Ayush	2,971	1,779	4,750	16.96
13	Psychiatry	4,260	1,670	5,930	21.17
14	Cardiology	6,622	7,682	14,304	51.08
15	ART	1,273	29,629	30,902	110.36
16	Diabetic Clinic	1,361	1,562	29,23	10.43
17	PMR	2,245	947	3,192	11.4
18	Dietician	625	206	831	2.96
19	NCD	4,193	1,662	5,855	20.91
20	OST	188	1,780	1,968	7.02
21	Tobacco Cessation	671	198	869	3.1
	Total/Average:	277,741	117,227	39,4968	65.380

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.6 shows the number of outdoor patients in various departments during 2018-19 financial year. It can be seen that medicine recorded the highest number of patients attended with 57,360 patients consulting the department during the base period. The daily average is also the highest in this department with 204.85 patients being attended daily—this calculation also considers Sundays and holiday—throughout the base period. Dietician department recorded the lowest with

only 831 recorded and a daily average of barely 2.96. Dressing, cardiology, diabetic clinic, antiretroviral therapy (ART) and opioid substitution therapy (OST) departments recorded a higher number of old cases as compared to new cases since these departments mainly deal with recurring patient care where complete patient care cannot be done on one single visit. The total amount of new cases registered 277,741 and 117,227 old cases were registered. The daily average of patients in all the departments during the base period is 65.380.

4.2.7: Patients Admitted

Only patients who availed the services of out-patient department (OPD) and casualty services are entitled the indoor patient healthcare services. The following table (table 4.7) highlights the number of admissions issued at Civil Hospital Aizawl.

Table 4.7: Total Admission Form Issued During 2018-19 FY

Sl. No.	Department	Admission Issued
1	OPD	12,816
2	Casualty	1,065
	Total:	13,881

Source: Civil Hospital Aizawl, 2019

The total number of admission issued during 2018-19 financial year, or the base period amounts to 13,881 out of which 12,816 are from OPD and 1,065 from casualty. As mentioned in the introductory part of this chapter, the bed strength of Civil Hospital Aizawl is 270 and with the total number of admission issued, the average number of patients per bed is 51.41.

4.2.8: Operations Done

Besides the provision of outdoor and indoor healthcare services, another important aspect of any typical hospital is the operations done which are required by various patients based on their illness. The following table (table 4.8) shows the number of operations done in Civil Hospital Aizawl.

Table 4.8: Operations Done in 2018-19 FY

Sl. No.	Type of Operation	Number of operations
1	Major	6,589
2	Minor	11,138
	Total:	17,727

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.8 shows that a total of 17,727 operations were done during 2018-19 financial year out of which 6,589 are major operations and 11,138 are minor operations. 48.56 operations are done every day during the base period, out of which major operations and minor operations constituted 18.05 and 30.52 respectively as calculated by the number of days, i.e., 365 days during the base period.

4.2.9: Child Delivery

Besides the services that are mentioned above, another important service rendered by Civil Hospital Aizawl is child delivery service which is one of its most important services since child birth require a great deal of medical attention and care. The following table (table 4.9) highlights the number of child delivery at the hospital.

Here, live birth means successful child delivery whereas stillbirth means the birth of an infant that has died in the womb after having survived through at least the first 28 weeks of pregnancy.

Table: 4.9: Delivery During 2018-19 FY

Sl. No.	Gender	Live Birth	Stillbirth
1	Male	2,031	35
2	Female	1,986	21
	Total:	4,017	56

Source: Civil Hospital Aizawl, 2019

The above table, table 4.9 shows that the total number of live birth during 2018-19 financial year is 4,017 as compared to barely 56 stillbirth. Male live birth is greater than female live birth with 2,031 as compared to 1,986 female live births. However, the ratio of male to female live birth is barely 1.02 males per 1 female. One notable finding from this particular table is the infant mortality rate which is 13.94, way below the national (India) average which is 33 and also below the state (Mizoram) average of 21.

4.2.10: Discharge of Patients

It is important to keep track of the number of indoor patients who are treated as well as those unfortunate ones who kicked the bucket while staying at the hospital. The number of discharge—alive and death gives us the vital statistics necessary for making further recommendations regarding the level of healthcare services provided by a particular hospital.

Table 4.10: Discharge of Patients During 2018-19 FY			
Sl. No.	Discharge	No. of discharge	
1	Alive	13,006	
2	Death	643	
		i. Under 48 hours:	254
		ii. Over 48 hours:	389
	Total:	13,649	

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.10 shows the number of discharged patients during 2018-19 financial year. It can be seen that the total number of discharge amounts to 13,649 out of which 13,006 were discharged alive. The number of deaths that occurs during the base period is 643 out of which 254 patients met their death before 48 hours of being hospitalized and 389 after 2 days or 48 hours of staying at the hospital. The ratio of alive to death discharge is 20.22, i.e., for every single indoor patient death, there were 22.22 patients discharged alive.

4.2.11: Monthly Indoor Patient Care

This section shows the monthly-wise distribution of indoor patients during the base period. It shows the total hospital days and other insightful information that pertains to the inquiry of indoor patients during their stay at Civil Hospital, Aizawl. This analysis is necessary as it shows the number of patients that require deep and prolong healthcare treatment that are otherwise, unavailable at outdoor patient care and emergency services. Also, it is important to know the extent to which Civil Hospital, Aizawl provides indoor healthcare services to the people.

Table 4.11: Monthly Patient Care [In-patient] During 2018-19 FY

Sl. No.	Month	Total Hospital days	ALS	TIP Census	ABO[%]	Bed TOR
1	April	6,165	7.8	6,282	77.92	4.3
2	May	6,143	7.5	6,555	81.19	4.1
3	June	6,737	7.9	6,284	77.36	3.9
4	July	6,314	7.2	6,863	83.4	4.2
5	August	6,467	7.9	7,272	85.61	4.01
6	September	6,680	6.9	7,004	85.33	4.5
7	October	6,917	6.9	7,226	87.3	4.5
8	November	6,090	7.1	6,735	83.15	4.04
9	December	5,549	6.8	6,469	76.02	3.9
10	January	6,027	7.4	7,349	88.21	4.11
11	February	5,968	8.2	6,680	88.47	4.1
12	March	6,942	7.6	7,244	87.45	4.2
	Total:	75,999	7.43	81,963	83.45	4.16

Source: Civil Hospital Aizawl, 2019

Where,

ALS-Average length of stay

TIP-Total in-patient

ABO-Average bed occupancy

TOR-Turnover ratio

The above table, i.e., table 4.11 shows the monthly indoor patient care during 2018-19 financial year. In total, indoor patients spent a total of 75,999 days during the base period and the average length of stay is 7.43 days with 83.45 per cent bed occupancy rate. The bed turnover ratio—the number of times there is a change of occupant for a bed during a given time period—during this period is 4.16 (out of a total

of 270 beds). March 2019 recorded the highest number of hospital days while total indoor patient census is highest in January 2019.

4.2.12: Ward-wise Distribution of Indoor Patients

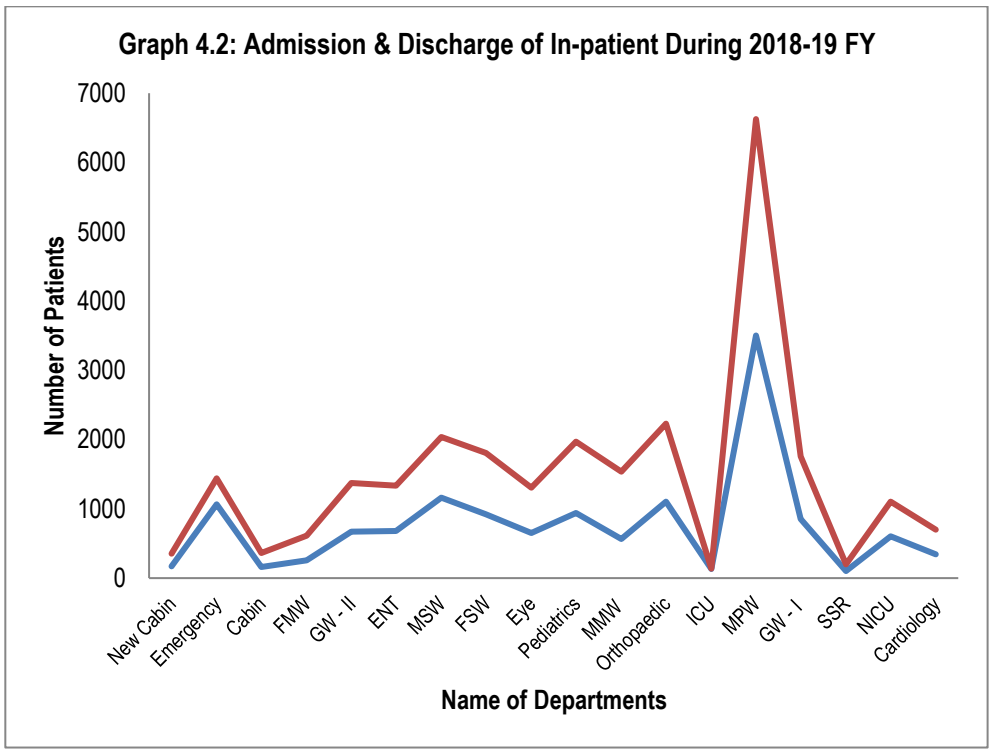
This section highlights the ward-wise distribution of indoor patients during the base period. There are a total of 18 different wards at the hospital that cater to the treatment and recuperation of various maladies that threaten the constitution and well-being of patients.

Table 4.12: Ward-wise Distribution of In-Patient During 2018-19 FY

Sl. No.	Ward	Bed Strength	No. of Admission	No. of Discharge	Death
1	New Cabin	11	167	185	21
2	Emergency	9	1,065	375	111
3	Cabin	15	161	203	35
4	FMW	10	260	351	37
5	GW - II	15	670	707	-
6	ENT	10	676	655	4
7	MSW	16	1,161	879	25
8	FSW	16	922	882	9
9	Eye	11	653	651	1
10	Pediatrics	24	941	1,030	17
11	MMW	26	565	969	98
12	Orthopaedic	30	1,100	1,132	7
13	ICU	5	133	4	153
14	MPW	30	3,502	3,124	1
15	GW - I	15	858	899	2
16	SSR	6	102	97	5
17	NICU	11	599	505	63
18	Cardiology	10	346	358	54
	Total:	270	13,881	13,006	643

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.12 shows the department-wise distribution of indoor patients across 18 wards in the hospital during the study time frame. There are a total of 270 beds with Maternal and Pregnancy Ward (MPW) and Orthopaedic ward having the highest bed strength with 30 beds respectively. Intensive Care Unit (ICU) has the lowest bed strength but recorded the highest number of death with 153 since only critical patients are admitted. The total number of admissions issued during the base period is 13,881 out of which 13,006 patients were discharged and a total of 643 patients were discharged dead. MPW had the highest number of admission with 3,502 and cabin ward the lowest with 161. Staff Sick Room (SSR) has had the lowest number of admission since this ward is available only for the staff of Civil Hospital, Aizawl who need care and treatment for their illness. In terms of frequency as compared to its bed strength, emergency ward has had the highest number of patients admitted during the base period since all patients that need emergency healthcare services are attended and treated. The following graph (figure 4.2) highlights the trends and fluctuations in admission and discharge of indoor patients. On the vertical axis, the number of indoor patients is given with a class interval of one thousand. On the other hand, the horizontal axis shows the various departments or wards of Civil Hospital, Aizawl where patients are admitted according to the care and treatment needed. The higher line shows the admission of indoor patients and the lower—discharge of patients.



The above figure highlights the trends and fluctuations in a line graph which are depicted in the preceding table—table 4.12. MPW and GW-I had recorded the highest number of admission and discharge and the other wards recorded a fairly distributed admission and discharge of patients during 2018-19 financial year.

4.2.13: Daily Census of Indoor Patients

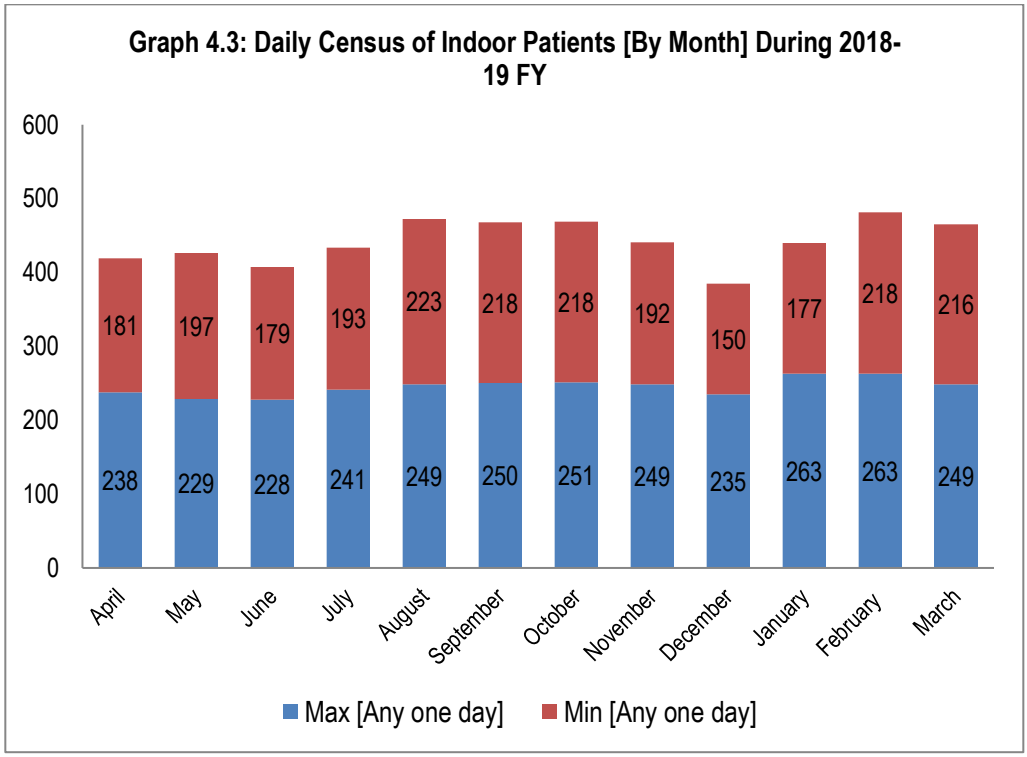
Since census is the most important vital statistics when there exists an interest to comprehensively study any kind of activity in a research, it is also important to know the indoor patient census during 2018-19 financial year.

Table 4.13: Daily Census of Indoor Patients [By Month] During 2018-19 FY

Sl. No.	Month	Max [Any one day]	Min [Any one day]
1	April	238	181
2	May	229	197
3	June	228	179
4	July	241	193
5	August	249	223
6	September	250	218
7	October	251	218
8	November	249	192
9	December	235	150
10	January	263	177
11	February	263	218
12	March	249	216
	Total:	2,945	2,362

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.13 shows the daily census of indoor patients. The highest number recorded in a particular month during the base period is January and February 2019 and the lowest is December 2018. The total of maximum (any one day) is 2945 and minimum (any one day) is 2,362. The difference between maximum and minimum recorded census is 583. The following graph (graph 4.3) illuminates more clearly regarding the maximum and minimum census during the base period. The vertical axis measures the total number of patients with a class interval of one hundred and the horizontal axis shows the months during the base period. Each bar is split into two components—maximum and minimum.



The above graph, i.e., graph 4.3 shows the minimum and maximum census on a particular day in the months included in the time period of the study, i.e., 2018-19 financial year.

4.2.14: Investigations and Follow-up

As mentioned in the introductory part of this chapter—besides the provision of outdoor and indoor patient consultancy service—one of the most important functions of Civil Hospital, Aizawl is the provision of healthcare facilities that are required in order to facilitate the needs of patients that are ridden with various complex illnesses and complications that require thorough investigation. This section illuminates the various

investigations taken up at Civil Hospital, Aizawl during the base period, i.e, 2018-19 financial year.

Table 4.14: Investigation and Follow-up During 2018-19 FY

Sl. No.	Type of Investigation	Total no. of investigation
1	Laboratory	823,632
2	Endoscopy	4,405
3	ECG	8,357
4	EEG	406
5	X-Ray	25,444
6	Ultrasound	4,546
7	Bronchoscopy	96
8	Echo	1,730
9	CT Scan	3,787
10	Physiotherapy	30,133
11	PFT	140
12	Dialysis	3,620

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.14 shows various investigations and follow-ups that were done during 2018-19 financial year. The type of investigations can be broadly classified into 12 broad categories as shown in the table. A total of 906,296 investigations were done during the base period out of which laboratory investigations had the highest amount with a total of 823,632 and bronchoscopy the lowest with only 96 investigations done. The cost comparison between Civil Hospital Aizawl and private clinics has been shown in the following tables (table 4.15, 4.16, 4.17 & 4.18):

Table 4.15: Cost of Investigation [Biochemistry] as Compared to Private Clinic

Sl.No.	Name of investigation	Civil Rate [INR]	Private Rate [INR]
1	Blood Sugar	25	100
2	Blood Urea	25	150
3	Creatinine	25	150
4	Uric Acid	25	200
5	Cholesterol	60	200
6	HDL Cholesterol	60	200
7	LDL Cholesterol	60	200
8	Total Protein	35	150
9	Albumin	35	150
10	Bilirubin Total	35	150
11	Bilirubin Direct	35	150
12	SGOT	35	200
13	SGPT	35	200
14	Alkaline Phosphatase	35	200
15	Amylase	35	500
16	Body Fluid Sugar/Protein	35	300
17	Electrolyte Na+ K+	60	600
18	Calcium	35	200
19	Triglyceride	35	200

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.15 shows that there are a total of 19 investigations that can be done at Civil Hospital Aizawl with regard to biochemistry investigations at a minimal cost as compared to private clinics. Blood sugar test costs only 25 INR at Civil Hospital Aizawl while it costs 100 INR at private clinics. The highest cost of biochemistry investigation at Civil Hospital Aizawl is the three types of cholesterol test and electrolyte test that cost 60 INR respectively as compared to 200 INR for the former and 100 INR for the latter at private clinics.

Table 4.16: Cost of Investigation [Pathology] as Compared to Private Clinic			
Sl. No.	Name of Investigation	Civil Rate [INR]	Private Rate [INR]
1	Haemogram/CBC	40	350
2	Blood Grouping and RH	25	100
3	Hb, TC, ANC, Platelets	40	300
4	Bone Marrow Test	60	500
5	Coagulogram [PT/PTR]	60	500
6	Urine	15	100
7	Stool	15	100
8	Stool Ocult Blood	15	150
9	Body Fluid/CSF etc	60	400
10	FNAC	60	500
11	Malignant Cytology	60	500
12	PAP Smear	60	300
13	ER/PR/Her2 and IHC	900	5200
14	Biopsy HPE [Small Specimen]	100	500
15	BiopsyHPE [Large Specimen]	200	1000

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.16 shows that there are a total of 15 investigations that can be done at Civil Hospital Aizawl with regard to pathology investigations at a minimal cost as compared to private clinics. The highest cost of investigation at Civil Hospital Aizawl is biopsy HPE [Large Specimen] which costs 200 INR as compared to 1,000 INR at private clinics. It costs nearly the minimum cost of private investigation, i.e., stool occult blood which costs 150 INR. The difference between the maximum cost of Civil Hospital investigation and private clinics is only 50 INR.

Table 4.17: Cost of Investigation [Microbiology] as Compared to Private Clinic

Sl. No.	Name of Investigation	Civil Rate [INR]	Private Rate [INR]
1	HBsAg (Hepatitis B)	60	200
2	Hepatitis C	60	350
3	Scrub Typhus	250	600
4	ASO	60	250
5	CRP	50	250
6	RF	50	250
7	RPR	50	250
8	Widal Test	50	200
9	H Pylori	100	300
10	Gram Stain	30	200
11	Fungal Stain	50	200
12	Automated Blood C/S	800	1280
13	Automated Urine C/S	500	1000
14	Automated Stool C/S	500	1000
15	Automated Pus C/S	500	1000
16	Automated Throat C/S	500	1000
17	Automated Other Body Fluids C/S	500	1000
18	Mantoux Test	FREE	150
19	Hepatitis A	100	350
20	Hepatitis E	100	350
21	RUT Dry Test	200	1400
22	Hepatitis D	100	350
23	HBeAg (Hepatitis B Infectivity)	100	350
24	Leptospira Antibody	300	1500
25	Blood MP/Malaria Smear	FREE	100

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.17 shows that there are a total of 25 investigations that can be done at Civil Hospital Aizawl with regard to microbiology investigations at a minimal cost as compared to private clinics. The highest cost of investigation at Civil Hospital Aizawl is biopsy Leptospira Antibody which costs 300 INR as compared to 1,500 INR at private clinics.

Table 4.18: Cost of Investigation [Others] as Compared to Private Clinic			
Sl. No.	Name of Investigation	Civil Rate [INR]	Private Rate [INR]
1	Endoscopy	250	3000
2	ECG	50	450
3	EEG	300	1400
4	X-Ray	300	1700
5	Ultrasound	350	1000
6	Bronchoscopy	1000	5000
7	Echo	400	2000
8	CT Scan	1425	4500
9	Physiotherapy	200 [10 Days]	2000 [10 Days]
10	PFT	FREE	900
11	Dialysis	2000	12000

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.18 shows that there are a total of 11 investigations that can be done at Civil Hospital Aizawl on various other investigations at a minimal cost as compared to private clinics. The highest cost of investigation at Civil Hospital Aizawl is dialysiswhich costs 2000 INR as compared to 12,000 INR at private clinics.

4.2.15: Other Healthcare Services Provided

So far, it has been highlighted that Civil Hospital Aizawl has done three broad kinds of healthcare services—Outdoor patient service, indoor patient service and further investigations of various illness through machines and facilities at its disposal. Besides these three broad activities, other miscellaneous administrative and healthcare services done at the hospital is shown in this section.

Table 4.19: Other Healthcare Services Done During 2018-19 FY

Sl. No.	Month	No. of Autopsy	Cases Referred [OM]	MSHC	RSBY/PMJAY
1	April	6	224	81	73
2	May	12	206	58	392
3	June	2	225	345	50
4	July	6	257	63	429
5	August	2	223	110	347
6	September	7	246	213	194
7	October	2	235	0	0
8	November	4	154	558	0
9	December	8	132	0	0
10	January	11	242	0	196
11	February	5	199	0	390
12	March	8	168	0	328
	Total:	73	2,511	1,428	2,399

Source: Civil Hospital Aizawl, 2019

The above table, i.e., table 4.19 shows three broad activities—autopsy, cases referred outside Mizoram and healthcare scheme/insurance—that were done during the study period. A total of 73 autopsies were done during the base period and there were 2,511 cases referred outside Mizoram in which healthcare services cannot be availed by patients due to certain predicaments such as unavailability of experts, investigative equipment and infrastructural facilities. There were 3,827 MHSC and RSBY/PMGSY beneficiaries during the base period. One interesting finding from this particular analysis is that there were 4 months where MHSC beneficiaries were nil and 3 months in RSBY/PMJSY beneficiaries.

4.3: SECTION B — WELFARE PROVISION OF CIVIL HOSPITAL, AIZAWL

The preceding section inquires the various institutional provisions of Civil Hospital Aizawl. It can be seen that a lot of healthcare services and health related activities have been done by the hospital. This section mainly deals with the monetary and other financial benefits that might accrue to patients and beneficiaries of Civil Hospital as compared to private hospitals in Mizoram. All the money figures used in this section are expressed in term of Indian Rupee (INR).

4.3.1: Comparison of Civil Hospital Aizawl and Private Costs of Consultation

In order to calculate the monetary benefits or savings accruing to patients who approach Civil Hospital Aizawl instead of private hospitals/clinics, the first and foremost needed information is the rate of consultation or existing consultation fee in both Civil and private hospitals.

Table 4.20: Civil and Private Cost of Consultation

Sl. No.		Civil Rate	Private Rate
1	OPD	10	400
2	Casualty	NIL	300
	Total:	10	700

Source: Field Survey, 2019

The above table, table 4.20 shows the rate of consultation or cost for rendering the service of doctors at Civil Hospital Aizawl and other private clinics and hospitals. For patients who visit OPD, a minimal registration fee of 10 INR is charged and there is no registration fee for patients who avail the emergency service. The average cost of

consulting doctors at private clinics and hospitals is 400 INR—the cost may vary depending on the doctor's popularity, reputation, qualifications etc. but the usual cost ranges from 300-500—and for those availing the emergency services of private hospitals is 300 INR. The following table (table 4.21) highlights the monetary benefits that accrue to patients who availed the healthcare services of Civil Hospital Aizawl during the study period:

Table 4.21: Money Savings for Consulting Civil Hospital

Sl. No.	Department	Total no. of Patients	Civil Cost	Private Cost	Savings [PC-CC]
1	OPD	349,885	3,498,850	139,954,000	136,455,150
2	Casualty	45,083	NIL	13,524,900	13,524,900
	Total:	394,968	3,498,850	153,478,900	149,980,050

Source: Field Survey, 2019

Table 4.21 shows that the total cost of availing the studied hospital's services is barely 3,498,850 INR; as compared to 153,478,900 INR that must have been spent on private clinics and hospitals if Civil Hospital Aizawl were not consulted or if the patients had opted for other private entities that provide healthcare services. The difference between private cost (PC) and civil cost (CC) is 149,980,050 INR, which is a huge sum if the economic situation of Mizoram is taken into consideration. The above table alone can convey that public healthcare services alone contribute a lot to the welfare of the masses especially those that cannot afford private services that charge exorbitant fees as compared to Government hospitals.

4.3.2: Comparison of Civil Hospital Aizawl and Private Costs of Indoor Patients

Other than the usual outdoor patient services, another important function of hospitals is the indoor patient care given to patients who need to special medical care and attention. The following table elucidates the comparison between civil cost and private cost of indoor patients during the base period, i.e., 2018-19 financial year.

4.22: Civil and Private Cost of Indoor Patients

Sl. No.	Ward	Bed Strength	No. of Admission	ALS	COA [Civil]	COA [Private]
1	New Cabin	11	167	7.43	NIL	3,000
2	Emergency	9	1065	7.43	NIL	500
3	Cabin	15	161	7.43	NIL	3,000
4	FMW	10	260	7.43	NIL	500
5	GW - II	15	670	7.43	NIL	500
6	ENT	10	676	7.43	NIL	500
7	MSW	16	1161	7.43	NIL	500
8	FSW	16	922	7.43	NIL	500
9	Eye	11	653	7.43	NIL	500
10	Pediatrics	24	941	7.43	NIL	500
11	MMW	26	565	7.43	NIL	500
12	Orthopaedic	30	1100	7.43	NIL	500
13	ICU	5	133	7.43	NIL	5,000
14	MPW	30	3502	7.43	NIL	500
15	GW - I	15	858	7.43	NIL	500
16	SSR	6	102	7.43	NIL	500
17	NICU	11	599	7.43	NIL	5,000
18	Cardiology	10	346	7.43	NIL	500
	Total/Average:	270	13,881	7.43	NIL	1334.88

Source: Field Survey, 2019

The above table, i.e, table 4.22 shows the various wards and bed strength of Civil Hospital Aizawl and the number of admissions issued during the study period. ALS

refers to average length of stay and COA refers to cost of admission. On average, indoor patients stayed 7.43 days during the study period. The average length of stay for each ward and patient cannot be taken into consideration since the study period of this research does not permit such inquiry which requires a lot of time. As such, a simple average of patients' stay during one financial year is used for different wards to evoke the monetary savings that have been made. It can be seen that the total admission during the study period is 13,881 across various wards and the average cost private hospitals for indoor patients for various illness and ailments is 1334.88 INR. The following table (table 4.23) calculates the monetary savings accruing to indoor patients who availed the indoor patient healthcare services of Civil Hospital Aizawl:

Table 4.23: Money Savings for Indoor Patients

Sl. No.	Department	Admission Issued	PAC	Savings [PAC*AI]
1	OPD	12,816	1334.88	17,107,822.08
2	Casualty	1,065	1334.88	1,421,647.2
	Total:	13,881		18,529,469.28

Source: Field Survey, 2019

Table 4.23 highlights the monetary savings that accrued to indoor patients who availed the services of Civil Hospital Aizawl during the study period. PAC represents private average cost and AI admission issued respectively. The total monetary savings is a huge sum of 18,529,469.28 INR.

4.3.3: Comparison of Civil Hospital Aizawl and Private Costs of Investigations and Follow-up

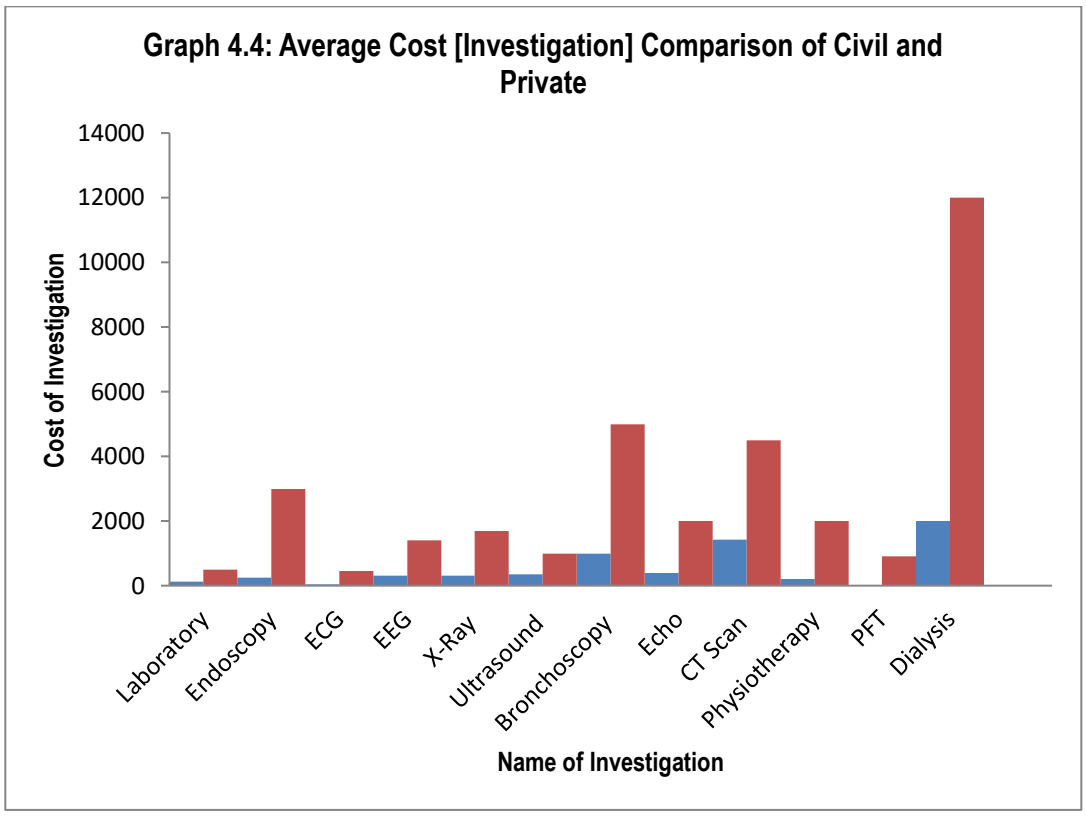
Besides the above two important functions—outdoor and indoor patient care, another function and perhaps one of the most important functions of Civil Hospital Aizawl is the provision of various investigations that are indispensable in the process of recovery from various maladies that impede the well-being of patients. Since its inception, the hospital has been providing medical investigations at a minimal cost which can be availed by any patient. The hospital has many facilities, machines and equipment which are as par with private hospitals, laboratories and clinics. The following table (table 4.24) represents the comparison of civil and private cost of investigation and follow-up:

Table 4.24: Average Cost of Investigation as Compared to Private Clinic

Sl. No.	Name of Investigation	Civil Rate [INR]	Private Rate [INR]
1	Laboratory	125	490
2	Endoscopy	250	3000
3	ECG	50	450
4	EEG	300	1400
5	X-Ray	300	1700
6	Ultrasound	350	1000
7	Bronchoscopy	1000	5000
8	Echo	400	2000
9	CT Scan	1425	4500
10	Physiotherapy	200 [10 Days]	2000 [10 Days]
11	PFT	FREE	900
12	Dialysis	2000	12000

Source: Field Survey, 2019

The above table, i.e., table 4.24 shows civil and private rate on 12 broad types of investigations and follow-up. Dialysis costs the highest and ECG the cheapest on both on both civil and private. The average cost of laboratory investigation is calculated by taking the average cost of various types of investigations, viz., biochemistry, pathology, and microbiology which are shown on the preceding section—tables 4.15, 4.16 and 4.17. Also, there are various kinds of X-ray and CT scan that can be done on various parts of the body in which the cost also varies. So, for simplicity, the average cost, i.e., the summation of the cost of different types divided by the total number of different types, is also taken into consideration. The highest cost of investigation at Civil Hospital, Aizawl is dialysis and the lowest is Pulmonary Function Test (PFT) which is done at free of cost. The highest cost of investigation at Private Hospitals, Clinics or Laboratories is dialysis and the lowest is Electro Cardiogram (ECG). The following graph (graph 4.4) illuminates more clearly, the comparison of Civil Hospital Aizawl and private costs of investigation and follow-up. The cost is measured in terms of money, i.e., Indian Rupee (INR). The vertical axis measures the cost of investigation with a class interval of two thousand rupees. The horizontal axis shows the various types of investigation that can be done at Civil Hospital, Aizawl and at the same time, which are also available somewhere else like private hospitals, clinics and laboratories. Other investigations that are not available or those that cannot be done at Civil Hospital, Aizawl are not taken into consideration as our analysis pertains to the comparison between Civil and Private cost of investigation that are available to both.



The above graph, i.e., graph 4.4 shows the cost comparison of various investigations and follow-up that are shown in the preceding table. The cost of investigation is measured on the vertical axis and the name of the investigation is shown on the horizontal axis. Investigations and follow-up are broadly classified into 21 broad categories out of which the highest figure is laboratory investigations as shown in table 4.14 but the highest cost of investigation as depicted on the above figure is dialysis in both civil and private hospitals. The following table (table 4.25) further highlights the monetary savings that accrued to patients who used the facilities of Civil Hospital Aizawl for doing investigations and follow-up:

Table 4.25: Money Savings by Doing Investigation at Civil Hospital Aizawl				
Sl. No.	Type of Investigation	Total no. of investigation	Civil Cost	Private Cost
1	Laboratory	823,632	102,954,000	403,579,680
2	Endoscopy	4,405	1,101,250	13,215,000
3	ECG	8,357	417,850	3,760,650
4	EEG	406	121,800	568,400
5	X-Ray	25,444	7,633,200	43,254,800
6	Ultrasound	4,546	1,591,100	4,546,000
7	Bronchoscopy	96	96,000	480,000
8	Echo	1,730	692,000	3,460,000
9	CT Scan	3,787	5,396,475	17,041,500
10	Physiotherapy	30,133	6,026,600	60,266,000
11	PFT	140	NIL	126,000
12	Dialysis	3,620	7,240,000	43,440,000
	Total investigation/cost:	906,296	133,270,275	593,738,030

Source: Field Survey, 2019

Table 4.25 shows the various monetary cost of investigations calculated by the number of investigation times the average cost of investigation shown on the previous table—table 4.24. The total money cost of investigation is 133,270,275 INR in Civil Hospital Aizawl and if all the investigations were done at private laboratories or hospitals, the total money cost would have been a whooping amount of 593,738,030 INR. As such, the total monetary savings accruing to patients who availed the services of Civil Hospital Aizawl is 460,467,755 INR—calculated by the potential private cost minus total civil cost from the above table.

5.1: INTRODUCTION

This chapter mainly entails the data analysis and interpretation that have been done through filed survey. The preceding chapter mainly highlights the institutional provision as well as the welfare provision of Civil Hospital Aizawl at large. This chapter delves deeper into various aspects of patients' status and perception of the hospital. In order to have convincing findings and strong arguments regarding the objectives and research questions of this research, a primary observation has been done through an interview schedule. All respondents have answered the open ended and closed ended questions through an interview method. This chapter is broadly divided into three sections. The first section deals with the socio-economic conditions of the respondents and is labeled as Section-A; the second section inquires about patients' perception as well as their satisfaction level and is labeled as Section-B; the last section argues about the validity of certain thought-provoking hypotheses, where many parameters are tested whether or not there is inter-dependence between the studied parameters.

5.2: SECTION-A: SOCIO-ECONOMIC CONDITIONS OF PATIENTS

In order to understand the economic status of the respondents, an inquiry of the socio-economic conditions of patients is a prerequisite to elicit insightful information regarding their standard of living as well as overall well-being. The following tables and graphs highlight the socio-economic conditions of indoor patients:

5.2.1: Age Distribution of Respondents

Age distribution pattern is one of the most useful tools of demographic analysis. Here too, in the study of the socio-economic conditions of indoor patients, the age distribution parameter is taken into consideration to inquire about the age structure and age differences of the indoor patients. This can provide us valuable information such as the age cohort and its frequency. The following table (table 5.1) shows the age distribution of indoor patients of Civil Hospital Aizawl:

Table 5.1: Age Distribution of Respondents

Class interval	Frequency	Percent	Valid Percent	Cumulative Percent
Below 20	7	17.5	17.5	17.5
20-30	3	7.5	7.5	25
30-40	8	20	20	45
40-50	7	17.5	17.5	62.5
50-60	8	20	20	82.5
Above 60	7	17.5	17.5	100
Total	40	100	100	

Source: Field Survey, 2019

From the above table, i.e., table 5.1 the age structure of the respondents is broadly classified into six categories. It can be seen that 30-40 and 50-60 have the

highest frequency with a total of 8 each and amounts to 20 percent out of the total respondents. The age distribution below 20 years, 40-50 and above 60 has the second highest frequency, i.e., 7 or 17.5 percent. Patients who are between 20-30 years have the lowest frequency with only 3 respondents and merely 7.5 percent of the total respondents.

5.2.2: Gender of Respondents

An analysis of gender-wise frequency distribution is necessary in order to understand which gender, i.e., male or female, acquires the healthcare services more. Also, a classification of indoor patients in terms of their gender can give us more insightful information which pertains to the physiology and health related issues of patients. The following table (table 5.2) shows the gender of indoor patients of Civil Hospital Aizawl:

Table 5.2: Gender of Respondents (In-patient)

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	21	52.5	52.5	52.5
Female	19	47.5	47.5	100
Total	40	100	100	

Source: Field Survey, 2019

Table 5.2 shows the gender distribution of indoor patients of the respondents. There are a total of 40 patients out of which 21 are males and 19 female. It can be seen

from the above table that the age distribution of patients is quite symmetrical, i.e., there is no significant difference between male and female in terms of procuring admission to Civil Hospital Aizawl.

5.2.3: Residential Area of Respondents

An inquiry of the residential area of the respondents is necessary for socio-economic analysis as this can tell us about the economic status of the healthcare beneficiaries in terms of the area or place where they come from. It can further highlights the which strata of the geographical area avail free and decent healthcare services. As such, the following table (table 5.3) highlights the residential area of indoor patients of Civil Hospital Aizawl:

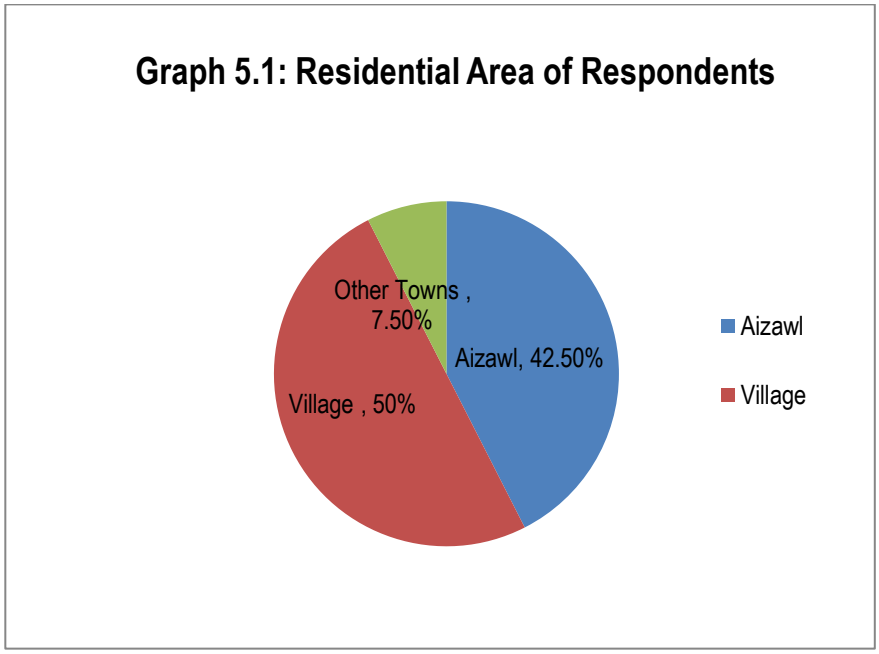
Table 5.3: Residential Area of Respondents

Residential Area	Frequency	Percent	Valid Percent	Cumulative Percent
Aizawl	17	42.5	42.5	42.5
Village	20	50	50	92.5
Other towns	3	7.5	7.5	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.3 shows the residential area of the respondents which is broadly classified into three categories, viz., Aizawl, Village and Other Towns area. It can be seen from the above table that patients from the rural area have the highest frequency with a total of 20. There are a total of 17 indoor patients residing in

Aizawl and 3 from other towns, i.e., from the semi-urban areas which are mainly district capitals in Mizoram. It can be said from this table that Civil Hospital Aizawl serves the need of patients from the rural areas more than urban or cities. The following pie graph (graph 5.1) highlights more clearly about the residential area of the respondents:



5.2.4: Disease type of Respondents

Since human beings have their own unique physiology, the kinds of malady or illness that they can contract is different. Moreover, a classification of disease types tells us more about the need for availing healthcare services. Here, the types of disease are broadly classified into three categories—chronic, natural and accidental. These broad classifications of disease types can give us useful information as people with low income or among the economically marginalized section of the population are more prone to accidental and chronic types of disease which require medical attention. So the

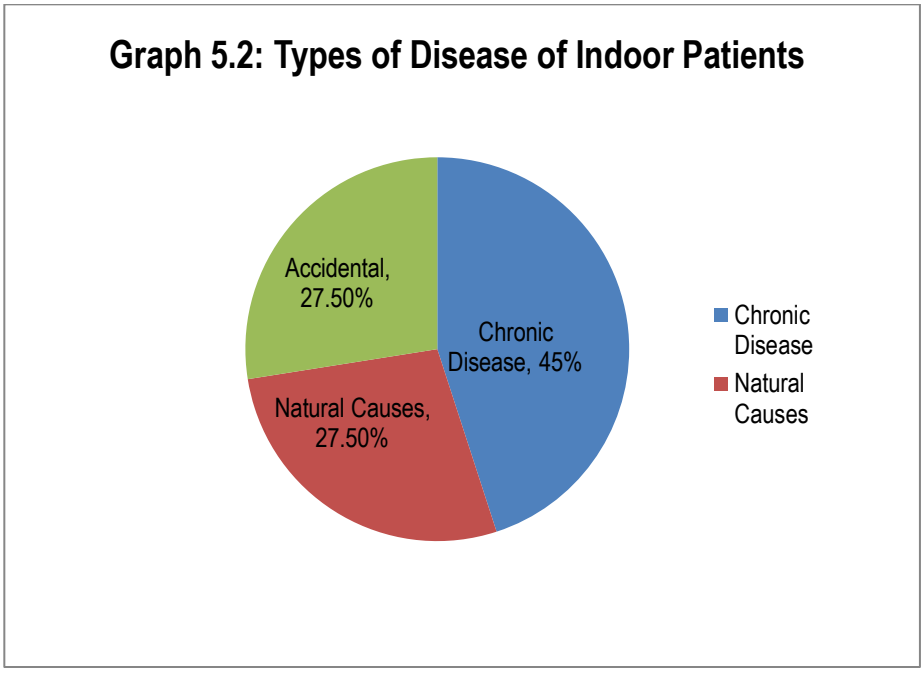
following table (table 5.4) highlights the types of disease of indoor patients of Civil Hospital Aizawl:

Table 5.4: Types of Disease of Respondents

Types of Disease	Frequency	Percent	Valid Percent	Cumulative Percent
Chronic Disease	18	45	45	45
Natural Causes	11	27.5	27.5	72.5
Accidental	11	27.5	27.5	100
Total	40	100	100	

Source: Field Survey, 2019

The above table shows that the types of disease of indoor patients are broadly classified into three broad categories—Chronic, natural and accidental. Chronic disease has the highest frequency with a total of 18 indoor patients, followed by natural causes and accidental with 11 each. The following pie graph (graph5.2) illuminates more about the percentage distribution of disease type of respondents:



5.2.5: Relationship between Residential Area and Disease Type of Respondents

Since the disease types and residential area can have an insightful implication regarding the socio-economic conditions of healthcare services beneficiary, i.e., indoor patients; it is important to analyze this relationship by employing a cross-tabulation of residential area and disease types of indoor patients. The following table (table 5.5) highlights the relationship between residential area and disease type of indoor patients of Civil Hospital Aizawl:

Table 5.5: Residential Area and Disease Types of Respondents				
Residential Area	Chronic Disease	Natural Causes	Accidental	Total
Aizawl	33.30%	63.60%	36.40%	42.50%
Village	50.00%	36.40%	63.60%	50.00%
Other towns	16.70%			7.50%
Total	100.00%	100.00%	100.00%	100.00%

Source: Field Survey, 2019

The above table, i.e., table 5.5 shows the residential area and disease type of respondents. It can be seen that natural causes are highest in Aizawl area with 63.60 percent out 40 indoor patients. Meanwhile, accidental is highest in Village area with 63.60 percent out of 40 indoor patients. Other towns only pertain to chronic disease with 16.7 percent while Aizawl and Village have 33.30 percent and 50 percent respectively. It can be argued from the above table that Aizawl area is prone to natural causes and accidental in village area.

5.2.6: Occupational Structure of Patients

An analysis of patients' occupational structure is important to know the socio-economic condition of the patients. This is because free healthcare services are more attractive to patients who do not have decent, regular income as the cost of healthcare services can be high in private hospitals and clinics. The following table (table 5.6) highlights the occupational structure of indoor patients of Civil Hospital Aizawl:

Table 5.6: Occupational Structure of Patients				
Types of occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Govt. Employees	6	15	15	15
Private Employees	3	7.5	7.5	22.5
Daily Wage Earners	5	12.5	12.5	35
Agricultural Workers	6	15	15	50
Students	7	17.5	17.5	67.5
Children	3	7.5	7.5	75
Housewives	9	22.5	22.5	97.5
Unemployed	1	2.5	2.5	100
Total	40	100	100	

Source: Field Survey, 2019

The occupational structure of the respondents is broadly classified into 8 categories as seen from the above table. It shows that dependentssuch as students, children, housewives and unemployed have the highest in terms of occupational structure as seen in the figures given in the table. The dependent indoor patients have a frequency of 20 which is 50 percent of the total indoor patients studied. Among these, housewives have the highest frequency with 9 or 22.25 percent of the total, i.e., 40 or 100 percent. Government employee and agricultural workers have the same frequency with 6 each which amounts to 15 percent of the total. Private employee has the lowest frequency with 3 which amounts to merely 7.5 percent of the total.

5.2.7: Poverty Status

Another important aspect of socio-economic condition or status of patients is their family's poverty status. In India, poverty status is broadly classified into three

categories—Antyodaya Anna Yojana (AAY), Below Poverty Line (BPL) and Above Poverty Line (APL). The income threshold set by the Government is different in each category. AAY is the lowest income group who are mainly bereft of regular income and decent standard of living. As the interest of this research is whether free and universal basic healthcare services benefitted the economically challenged or marginalized section of the population, an inquiry into the poverty status is an important parameter. The following table (table 5.7) highlights the poverty status of indoor patients' family of Civil Hospital Aizawl:

Table 5.7: Poverty Status of Respondent's Family

Family Status	Frequency	Percent	Valid Percent	Cumulative Percent
AAY	5	12.5	12.5	12.5
BPL	21	52.5	52.5	65
APL	14	35	35	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.7 shows the poverty status of the respondents' family. It is broadly classified into three categories as per Government's classification of poverty status in India. People who are poor or living in relative poverty have the highest frequency with 21 as seen in the BPL category of the table which is 52.5 percent out of the total of 40. Those very poor or AAY have 5 families which is 12.5 percent of the total. Together, families who are in relative poverty and extreme poverty contributes 26 or 65 percent of the total indoor patients studied. Patients' family above the poverty

line is 14 or 35 percent of the total. It can be said that most of the indoor patients of Civil Hospital Aizawl are people from below the poverty line.

5.2.8: Income Distribution

Since classification of poverty status alone does not say about the total monetary income of patients or healthcare beneficiaries, it is important to know their range of income during a year. The following table (table 5.8) highlights the income distribution of indoor patients' family of Civil Hospital Aizawl:

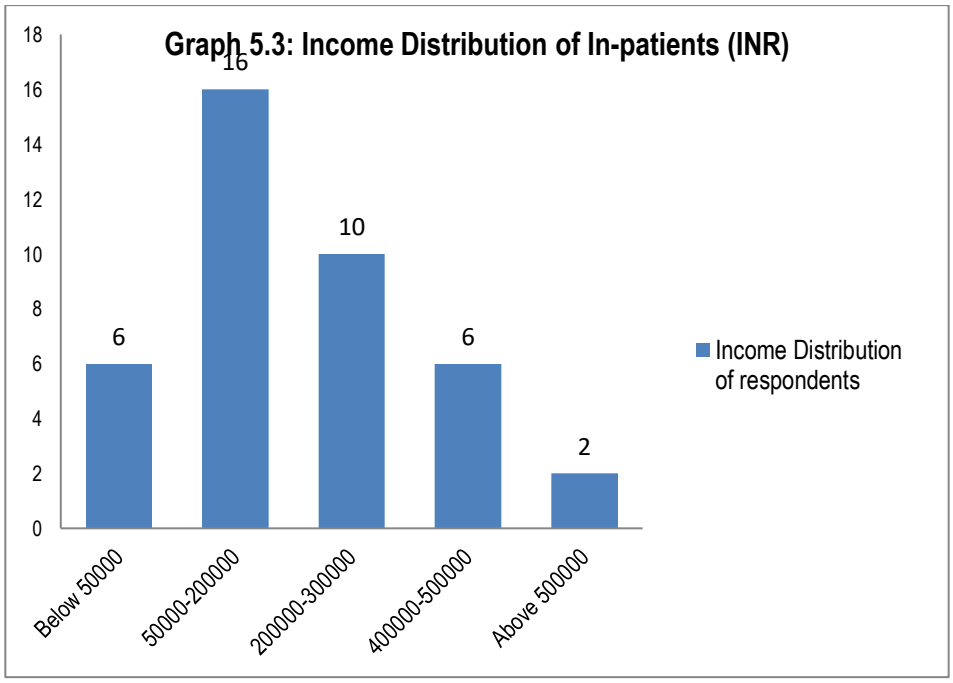
Table 5.8: Income Distribution of In-patients (INR)

Income	Frequency	Percent	Valid Percent	Cumulative Percent
Below 50,000	6	15	15	15
50,000-200,000	16	40	40	55
200,000-300,000	10	25	25	80
400,000-500,000	6	15	15	95
Above 500,000	2	5	5	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.8 shows the income distribution of indoor patients. It can be seen that an income range between 50,000 and 300,000 INR is highest among the patients. This range contributes to 26 or 65 percent out of the total of 40 patients. Further, an income range of 400,000-500,000 INR is only 6 or 15 percent of the total. It

can be said that even those Government employees who avail the healthcare services of Civil Hospital Aizawl are among the lower pay scale strata of Government services. A patient whose family income is below 50,000 INR is 6 or 15 percent of the total. It can be said from this table that most of the healthcare beneficiaries of Civil Hospital Aizawl are from the lower income group of the population. The following bar graph (graph 5.3) highlights more clearly about the income distribution of patients' family of the studied indoor patients:



5.2.9: Poverty Status and Annual Income of Respondents

Since there can exist a difference of income even among the same poverty group as their money income varies from the kind of occupation they have had. It is useful to have a cross-tabulation analysis of poverty status and annual income of the respondents

to understand the variance in income. Even among the lower poverty status families such as AAY and BPL, there can be a significant differences in income since their level of economic activity they are engaged in is different. Here, all income figures and ranges are expressed in terms of Indian Rupee (INR).The following table (table 5.9) highlights the income distribution and poverty status of indoor patients' family of Civil Hospital Aizawl:

Table 5.9: Poverty Status and Annual Income of Respondents

	Annual Income Distribution (INR)					
Poverty Status	Below 50000	50000-200000	200000-300000	400000-500000	Above 500000	Total
AAY	83.30%					12.50%
BPL	16.70%	100.00%	40.00%			52.50%
APL			60.00%	100.00%	100.00%	35.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Field Survey, 2019

It can be seen from the above table, i.e., table 5.9 that respondents' family income below 50,000 INR is from AAY and BPL family. 83.30 percent are from AAY and 16.70 percent from BPL family. Further, only APL families have an income range of higher than 400,000 INR.

5.2.10: Poverty Status and Annual Expenditure on Healthcare

Since the ability to have a good constitution involves spending one's money income for healthcare services that can be costly at times; it is important to evoke the healthcare expenditure of patients based on their poverty status, especially when the

interest of this research is whether people below the lower income strata usually invest little on healthcare services or health-related needs. The following table (table 5.10) highlights the cross-tabulation of poverty status and annual expenditure on healthcare of indoor patients' family of Civil Hospital Aizawl:

Table 5.10: Poverty Status and Annual Expenditure on Healthcare

	Annual Expenditure on Healthcare (INR)				
Poverty Status	Below 5,000	5,000-20,000	20,000-40,000	Above 40,000	Total
AAY	50.00%	11.80%			12.50%
BPL	50.00%	58.80%	85.70%	20.00%	52.50%
APL		29.40%	14.30%	80.00%	35.00%
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Field Survey, 2019

The above table shows annual expenditure on healthcare of indoor patients' family. It can be seen that a spending of below 5,000 INR annually pertains only to BPL and AAY families with 50 percent each on both. The highest annual expenditure on healthcare is above 40,000 INR where there are 80 percent and 20 percent from APL and BPL respectively. It can be said that most of the respondents' family spends between 5,000 INR and 20,000 INR annually where all the poverty groups are included. In this range, i.e., 5,000-20,000 INR, 11.80 percent are from AAY families, 58.80 percent from BPL families and 29.40 percent from APL families respectively. None of the AAY families spend more than 20,000 INR for healthcare annually.

5.2.11: Registration under Healthcare Schemes

Today, healthcare schemes are one of the most important types of insurance since the need for healthcare services that accrue from the occurrence disease cannot be predicted. As such, having a registration under healthcare schemes is crucial because they alleviate the patients from paying all their healthcare fees from their pocket. In Mizoram, there are two healthcare schemes under the Government—Mizoram State Healthcare Scheme (MHSC) which is a state Government initiative and Rashtriya Swasthya Bima Yojana (RSBY) which is a central government initiative. The following table (table 5.11) highlights registration under healthcare schemes of indoor patients' family of Civil Hospital Aizawl:

Table 5.11: Registration Under MHSC/RSBY

Response	Frequency	Percent	Valid Percent
YES	23	57.5	57.5
NO	17	42.5	42.5
Total	40	100	100

Source: Field Survey, 2019

The above table, i.e., table 5.11 shows that 23 families are registered in either RSBY or MHSC while 17 families out of 40 families do not register under any healthcare scheme. The ensuing table (table 5.12) highlights the reasons for not registration:

Table 5.12: Reasons for Non-registration Under MHSC/RSBY

		Frequency	Percent	Valid Percent
Administrative inconvenience		4	10	23.52
Lack of information		7	17.5	41.17
No particular reason		2	5	11.76
Government employee		4	10	23.52
	Total:	17	42.5	100
	Missing:	23	57.5	
	Total:	40	100	

Source: Field Survey, 2019

The above table, i.e., table 5.12 shows the 17 families' reason for not registering in either RSBY or MHSC. Since Government employees are entitled for medical reimbursement, there is no need for registration in either of the healthcare schemes. 41.17 percent or 7 out of the total of 17 families do not register due to lack of information regarding the existence of healthcare schemes. 23.52 percent or 4 out of 17 families do not register due to administrative inconvenience and 11.76 or 2 out of 17 families give no particular reason for their non-registration. Further, the following table (table 5.13) highlights the time taken to avail medical reimbursement bill for patients who avail the services of Civil Hospital Aizawl:

Table 5.13: Time Taken to Avail MR Bill			
	Frequency	Percent	Valid Percent
More than five months	4	10	17.39
Three-five months	16	40	69.56
Two-three months	3	7.5	13.05
Total	23	57.5	100
Missing	17	42.5	
Total	40	100	

Source: Field Survey, 2019

The above table, i.e., table 5.13 shows that the duration of availing medical reimbursement is typically between three and five months among the respondents. The missing numbers are those who do not register under any healthcare schemes.

5.2.12: Post-hospitalization Spending

One of the most important parameters regarding the quality of healthcare services that a particular hospital provides is the post-hospitalization spending of the patients. It is necessary to inquire into this notion because patients can incur quite an amount of money even if they are discharged as healthy form the hospital in which they stay. The following table (table 5.14) highlights the post-hospitalization spending of indoor patients' family of Civil Hospital Aizawl:

Table 5.14: Post-hospitalization Spending of Patients				
Spending (INR)	Frequency	Percent	Valid Percent	Cumulative Percent
Below 5000	6	15	15	15
5000-20000	17	42.5	42.5	57.5
20000-40000	7	17.5	17.5	75
Above 40000	10	25	25	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.14 shows that only 6 or 45 percent of patients spend below 5,000 INR on post-hospitalization. Patients typically spend between 5,000 INR and 20,000 INR where 17 or 42.5 percent out of the total 40 patients spends the said amount. It can be seen that 17 or 43.5 percent spend between 20,000 INR and above 40,000 INR on post-hospitalization. Since the post-hospitalization spending is quite high for patients in Civil Hospital Aizawl, it can be said that a slight degree of moral hazard exists regarding the provision of healthcare services to indoor patients. The following section will try to answer this argument by inquiring about indoor patients' satisfaction.

5.3: SECTION—B: PATIENTS' PERCEPTION AND SATISFACTION

This section contains indoor patients' perception and satisfaction regarding the provision of healthcare services during their stay in Civil Hospital Aizawl. Since satisfaction is a subjective matter and hard to quantify, an ordinal approach of inquiry is used where patients are asked to rank their perception and satisfaction regarding the various elements of healthcare services such as—their perception and satisfaction

regarding doctors and nurses while they avail healthcare services, the infrastructural facilities and finally the information they receive. All of these pertain to the psychological and behavioral aspects of patients which provide deeper and more meaningful insights with regard to well-being. Moreover, an analysis of the behavioral pattern of patients is a quintessential paradigm to evoke a more ubiquitous approach toward overall welfare economics oriented study.

5.3.1: Patients' Perception Regarding Doctors

Doctors are of paramount importance regarding the provision of healthcare services to patients. As such, it is important to know whether a patient is satisfied with doctors regarding the treatment, care and other healthcare services rendered. Since health both involves physical and emotional well-being, it is a prerequisite for doctors in a particular hospital to provide the best treatment with their expertise as well as emotional support to their patients on their treatment and road to recovery.The following table (table 5.15) highlights indoor patients' perception and satisfaction level of Civil Hospital Aizawl regarding doctors:

Table 5.15: Overall Perception of Patients Regarding Doctors

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Unsatisfied	1	2.5	2.5	2.5
Somewhat satisfied	9	22.5	22.5	25
Satisfied	30	75	75	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.15 shows that the overall satisfaction level of indoor patients is quite high regarding doctors. Even though there are no patients who are very unsatisfied or completely satisfied—options are not given since both are nil—it can be seen that most of the patients are satisfied regarding the care and services given to them by doctors of Civil Hospital Aizawl. Out of the total of 40 patients, 75 percent or 30 respondents are satisfied with the doctors and there is only 1 respondent who is unsatisfied with the care and services rendered by doctors. On a five point scale, the overall perception of patients regarding doctors is 3.99 out of 5 which is quite high.

5.3.2: Patients' Perception Regarding Nurses

Even though nurses do not prescribe medicines, they are the most important facilitator of healthcare services as they do almost all the hard work during treatment of patients. As such, the perception of patients regarding nurses is an important parameter of patients' satisfaction. The following table (table 5.16) highlights indoor patients' perception and satisfaction level of Civil Hospital Aizawl regarding nurses and technicians:

Table 5.16: Overall Perception of Patients Regarding Nurses and Technicians

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Unsatisfied	12	30	30	30
Somewhat Satisfied	10	25	25	55
Satisfied	18	45	45	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.16 shows that there is a mix of opinion regarding nurses and technicians by indoor patients. 30 percent or 12 respondents are unsatisfied with the care and services rendered by nurses and technicians and 25 percent or 10 respondents are somewhat satisfied. Nevertheless, 45 percent or 18 respondents are satisfied with nurses and technicians regarding the healthcare services they received from them. Here too, there are no patients who are very unsatisfied or completely satisfied with regard to nurses and technicians. On a scale of five, the overall points score is 3.76 out of 5.

5.3.3: Patients' Perception Regarding Infrastructure and Care

A decent, comfortable and user-friendly infrastructural facility is one important dimension of satisfaction level. The following table (table 5.17) highlights patients' perception and satisfaction level of indoor patients of Civil Hospital Aizawl regarding infrastructure and care (Other help and support received besides the usual mandatory healthcare services):

Table 5.17: Overall Perception of Patients Regarding Infrastructure and Care

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Unsatisfied	17	42.5	42.5	42.5
Somewhat Satisfied	12	30	30	72.5
Satisfied	11	27.5	27.5	100
Total	40	100	100	

Source: Field Survey, 2019

Table 5.17 shows that the satisfaction level and perception of patients regarding infrastructure and other care they received during their stay is somewhat low. Even though there are no extreme cases, i.e., very unsatisfied or completely satisfied, 42.5 percent or 17 patients are unsatisfied with the infrastructure and other care given to them during their stay at Civil Hospital Aizawl. 30 percent or 12 respondents are somewhat satisfied and 27.5 percent or 11 patients are satisfied with the infrastructure and other care they received. On a scale of 5, the overall points score is 3.64 out of 5.

5.3.4: Patients' Perception Regarding Information

Information is one of the most important intangible commodities in our world today. A well informed patient can help oneself in the alleviation or recuperation of the disease. On the same hand, an ill-informed patient can worsen or reduce the chance of recovery. Therefore, the information that a patients receives regarding the treatment process of the disease is important. The following table (table 5.18) highlights indoor patients' perception and satisfaction level of Civil Hospital Aizawl regarding information they received:

Table 5.18: Overall Perception of Patients Regarding Information Received

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unsatisfied	10	25	25	25
Unsatisfied	28	70	70	95
Somewhat satisfied	2	5	5	100
Total	40	100	100	

Source: Field Survey, 2019

The above table shows that the satisfaction level is quite low with regard to vital information that patients received during their stay. Important questions pertaining to vital information toward the provision of healthcare services are asked. 25 percent or 10 respondents are very unsatisfied and 70 percent or 28 respondents are unsatisfied. Here there are no patients who are satisfied or completely satisfied. Moreover, only 5 percent or 2 respondents are somewhat satisfied. On a five point, the points score is 2.72 out of 5. It can be clearly seen from this table that there is a great degree of information asymmetry between patients and healthcare service providers. Also, it can be said that due to this information asymmetry, moral hazard exists is such a way that patients usually spend somewhat large amount of money on post-hospitalization as shown in the preceding section. The moral hazard adversely affects the patients since they have to spend more on healthcare despite their low income or unstable occupation.

5.3.5: Overall Perception of Patients Regarding Healthcare Provision

This section is the summation of the preceding sections' analysis. The following table (table 5.19) highlights indoor patients' overall perception and satisfaction level of Civil Hospital Aizawl:

Table 5.19: Overall Satisfaction of Patients

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Unsatisfied	10	25	25	25
Somewhat Satisfied	9	22.5	22.5	47.5
Satisfied	21	52.5	52.5	100
Total	40	100	100	

Source: Field Survey, 2019

The above table, i.e., table 5.19 shows the overall satisfaction of indoor patients of Civil Hospital Aizawl. It can be seen that altogether, patients are satisfied with the healthcare provision where 52.5 or 21 respondents are satisfied. 22.5 percent or 9 respondents are somewhat satisfied and 25 percent or 10 respondents are unsatisfied regarding the healthcare services they received. On a five point scale, the overall points score 3.71 out of 5. It can be said that even though there are some areas where patients' satisfaction is quite low as in the case of information received, the overall satisfaction level is above average.

5.3.6: Patients' Perception of the Hospital Regarding Giving Recommendation

A sign of satisfaction for any kinds of service that people acquire or avail pertains to the question that whether they will give recommendations to the services they avail. So, an analysis of patients' behavioural pattern regarding giving recommendation to other to avail the healthcare services of Civil Hospital Aizawl, is an important dimension regarding their satisfaction. The following table (table 5.20) highlights indoor patients' perception and opinion regarding giving recommendations to others regarding availing the healthcare services of Civil Hospital Aizawl:

Table 5.20: Patients' Response Regarding Giving Recommendation

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Never	4	10	10	10
Maybe	15	37.5	37.5	47.5
Yes	7	17.5	17.5	65
Always	14	35	35	100
Total	40	100	100	

Source: Field Survey, 2019

The above table shows four kinds of response regarding whether patients would recommend Civil Hospital Aizawl to avail healthcare services to others, especially friends and relatives. 4 or 10 percent of the respondents will never recommend the Hospital to others while 14 or 35 percent shall always recommend the Hospital to others without any second thought or the type of disease or aliment. 7 or 17.5 percent responded by saying that they would normally recommend the Hospital to others as they find that the healthcare services provided by the hospital is satisfactory. 15 or 37.5 percent responded that they might give others recommendation based on the type of healthcare services that they might require. i.e., based on their disease or ailment.It can be seen from this table that there is a blend of opinion regarding giving recommendations to others to avail the healthcare services of the Hospital.

5.4: SECTION—C: TESTING OF HYPOTHESES

This section entails the analysis of various parameters being studied. It compares and analyzes the various findings and patients' responses and tests whether there is any correlation or inter-dependence between two variables under observation.

This section tries to answer and consolidate various questions which will further enlarge the value and significance of this research.

5.4.1: Poverty Status and Overall Satisfaction

The following tables (table 5.21 and 5.22) highlight whether there is any correlation or inter-dependence between indoor patients' satisfaction and their poverty status. The former table shows cross-tabulation of poverty status and overall satisfaction of indoor patients and the latter, chi-square test and correlation values:

Table 5.21: Poverty Status and Overall Satisfaction of Patients

	Overall Satisfaction of Patients			
Poverty Status	Unsatisfied	Somewhat Satisfied	Satisfied	Total
AAY	1 (20%)	0 (0%)	4 (80%)	5
BPL	4 (19%)	3 (14.3%)	14 (66.7%)	21
APL	5 (35.7%)	6 (42.9%)	3 (21.4%)	14
Total:	10 (25%)	9 (22.5%)	21 (52.5%)	40

Source: Field Survey, 2019

The above table, i.e., table 5.21 shows the cross-tabulation of patients' overall satisfaction and poverty status of the respondents. The following table, i.e., table 5.22 further highlights the chi-square value and correlation values of the above analysis:

Table 5.22: Chi-Square Test of Poverty Status and Overall Satisfaction			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.421	4	0.051
Likelihood Ratio	10.634	4	0.031
Linear-by-Linear Association	4.589	1	0.032
Valid Cases	40		

Source: Field Survey, 2019

It can be seen that the chi-square value is 9.421 at 4 degrees of freedom. Since the asymptotic significance value is 0.051, it can be said that there is a significant relationship between poverty status and overall satisfaction of indoor patients. It can be seen from the above tables that satisfaction level is lowest among APL family members. In all cases, there is no recorded response of the two extremes, i.e., very unsatisfied or completely satisfied. Respondents are usually between unsatisfied and satisfied. BPL family members have the highest satisfaction level and AAY family members are in overall—satisfied. It can be seen clearly from this test that patients who are from the lower strata of the income group are not discriminated, and it fact, satisfaction level is much lower among the higher income groups or people above the poverty line. At total, 25 percent of the respondents are unsatisfied, 22.5 percent are somewhat satisfied and 52.5 percent are satisfied. As mentioned earlier, satisfaction level is lowest among APL families and out of the total of 14 patients studied in this category, 35.7percent or 5 respondents are unsatisfied and 42.29 percent or 6 respondents are somewhat satisfied and only a mere 21.4 percent or 3 respondents are satisfied. Satisfaction level is highest among BPL family members. Out of the total of 21 respondents, only 19 percent or 4 respondents are unsatisfied, 14.3 percent or 3 are somewhat satisfied and the rest 66.7

percent or 14 respondents are satisfied with the healthcare services that they received during their stay at Civil Hospital Aizawl.

5.4.2: Gender and Overall Satisfaction

The following tables (table 5.23 and 5.24) highlight whether there is any correlation or inter-dependence between indoor patients' satisfaction and their gender. The former table (table 5.23) shows cross-tabulation of gender and overall satisfaction of indoor patients and the latter (table 5.24), chi-square test and correlation values:

Table 5.23: Gender and Overall Satisfaction of Patients

	Overall Satisfaction of Patients			
Gender	Unsatisfied	Somewhat Satisfied	Satisfied	Total
Male	5 (23.8%)	3 (14.3%)	13 (61.9%)	21
Female	5 (26.3%)	6 (31.6%)	8 (42.1%)	19
Total:	10 (25%)	9 (22.5%)	21 (52.5%)	40

Source: Field Survey, 2019

The above table, i.e., table 5.23 shows the cross-tabulation of patients' overall satisfaction and gender of the respondents. The following table further highlights the chi-square value and correlation values of the above analysis:

Table 5.24: Chi-Square Test of Gender and Overall Satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.096	2	0.351
Likelihood Ratio	2.121	2	0.346
Linear-by-Linear Association	0.692	1	0.406
Valid Cases	40		

Source: Field Survey, 2019

It can be seen that the chi-square value is 2.096 at 2 degrees of freedom. Since the asymptotic significance value is 0.351, it can be said that there is no significant relationship between gender and overall satisfaction of indoor patients. However, it can be seen that only 10 percent or 10 respondents are unsatisfied, 22.5 percent or 9 respondents are somewhat satisfied and 52.5 percent or 21 respondents are satisfied. Further, satisfied male respondents are highest with 61.9 percent or 13 respondents out of the total of 21 indoor patients studied. It can be said that patients are not discriminated based on their gender alone regarding the provision of healthcare services.

5.4.3: Residential Area and Overall Satisfaction

The following tables (table 5.25 and 5.26) highlight whether there is any correlation or inter-dependence between indoor patients' satisfaction and their residential area. The former table (table 5.25) shows cross-tabulation of residential area and overall satisfaction of indoor patients and the latter (5.26), chi-square test and correlation values:

Table 5.25: Residential Area and Overall Satisfaction of Patients

	Overall Satisfaction of Patients			
Residential Area	Unsatisfied	Somewhat Satisfied	Satisfied	Total
Aizawl	1 (5.9%)	4 (23.5%)	12 (70.6%)	17
Village	8 (40%)	4 (20%)	8 (40%)	20
Other towns	1 (33.3%)	1 (33.3%)	1 (33.3%)	3
Total:	10 (25%)	9 (22.5%)	21 (52.5%)	40

Source: Field Survey, 2019

The above table, i.e., table 5.25 shows the cross-tabulation of patients' overall satisfaction and residential area of the respondents. The following table, i.e., table 5.26 further highlights the chi-square value and correlation values of the above analysis:

Table 5.26: Chi-Square Test of Residential Area and Overall Satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.453	4	0.168
Likelihood Ratio	7.249	4	0.123
Valid Cases	40		

Source: Field Survey, 2019

It can be seen that the chi-square value is 6.453 at 4 degrees of freedom. Since the asymptotic significance value is 0.168, it can be said that there is no significant relationship between residential area and overall satisfaction of indoor patients. However, it can be seen from the cross-tabulation table that patients from the rural areas have made use of the Hospital the most with 20 out of 40, i.e., 50 percent of the total respondents, indoor patients being from the rural areas. Satisfaction level is highest among patients from Aizawl area with 70.6 percent or 12 out of 17 being satisfied with the healthcare services they received during their stay at the Hospital. However, the main emphasis of this particular analysis is whether there is a relationship between residential area and overall satisfaction, and it is safe to state that indoor patients are not discriminated based on their residential area or from their place of origin.

FINDINGS

On Institutional Provision (Objective no. 1)

- There are a total of 423 staff posted at Civil Hospital Aizawl among various departments and with 56 different designations. Among the various designated posts, staff nurse has the highest number with 103 nurses being posted at the hospital across various departments of the hospital followed by a total of 84 medical doctors.
- There is a plethora of designated posts from sweeper to artist cum photographer ZKLFK VKRZV WKH KRVSLWDO¶V GLYHUVLW\ LQ W purposes other than healthcare services alone. A lot of experts such as laboratory technicians, X-ray technicians, pharmacists, medical record officer and statisticians have been employed to cater to the engineering and administrative aspects of the hospital.
- The staff posting in the hospital can be broadly divided into two categories ² Healthcare service providers and administrative workers in order to deal with the many complex necessities for a smooth functioning of any kind of institutions in the modern world.
- There are 13 various departments that can be consulted by patients based on their illness by doing a simple registration process. All the departments have identical working hours between 9:00 am to 3:00 pm on weekdays and 9:00 am to 1:00 pm on Saturday with Sunday as the only holiday during the week.

- Medicine department has the highest number of doctors in a single department with 10 doctors. Physical Medicine and Rehabilitation (PMR), Non-communicable Disease (NCD) and Opoid Substitute Therapy (OST) departments have only one doctor posted in their department and tobacco cessation, dressing and dietician departments do not have any designated doctor since experts such as social worker, psychologist and dietician have been posted in place of doctors. There are 84 doctors posted in various departments. The remaining 18 doctors are posted in departments such as radio diagnosis and imaging, intensive care unit and emergency which are not listed on the above table as their expertise is on need based rather than the usual out-patient need.
- There are a total of 19 investigations that can be done at Civil Hospital Aizawl with regard to biochemistry investigations at a minimal cost as compared to private clinics. Blood sugar test costs only 25 INR at Civil Hospital Aizawl while it costs 100 INR at private clinics. The highest cost of biochemistry investigation at Civil Hospital Aizawl is the three types of cholesterol test and electrolyte test that cost 60 INR respectively as compared to 200 INR for the former and 100 INR for the latter at private clinics.
- There are a total of 15 investigations that can be done at Civil Hospital Aizawl with regard to pathology investigations at a minimal cost as compared to private clinics. The highest cost of investigation at Civil Hospital Aizawl is biopsy HPE [Large Specimen] which costs 200 INR as compared to 1,000 INR at private

clinics. It costs nearly the minimum cost of private investigation, i.e., stool occult blood which costs 150 INR.

- There are a total of 25 investigations that can be done at Civil Hospital Aizawl with regard to microbiology investigations at a minimal cost as compared to private clinics. The highest cost of investigation at Civil Hospital Aizawl is biopsy Leptospira Antibody which costs 300 INR as compared to 1,500 INR at private clinics. The highest cost of investigation at Civil Hospital Aizawl is dialysis which costs 2000 INR as compared to 12,000 INR at private clinics.

On the Performance of Civil Hospital, Aizawl (Objective no. 2)

- A total of 394,968 patients availed healthcare services during 2018-19 financial year (FY), i.e., 1st April to 31st March, 2019. The Out Patient Department (OPD) had WKH ODUJHU VKDUH RI SDWLHQWV¶ YLVLW VLQ services whose occurrence cannot be anticipated.
- A total of 273,475 new cases were registered in both the department and 121,493 old cases were registered † those recurring cases or where patients consulted OPD departments more than once. Since there cannot be any new case regarding casualty department, the number of new cases is nil.
- There had been a slight degree of information asymmetry and moral hazard since the ratio of new cases to old cases is merely 2.25:1, i.e., for every 2.25 new cases registered, there is 1 old case registered. However, it cannot be solely argued that information asymmetry and moral hazard exist because many patients

required recurring treatment where full treatment cannot be done in one single visit.

- The total patient care represented as TPC was 394,968 (The total number of people availing the healthcare services of Civil Hospital, Aizawl). The total number of OPD patients was 349,885 out of which the month of October (2018) recorded the highest number of OPD patients with 33,337 and April (2018) had the lowest with 26,705.
- The total number of emergency cases attended during the base period was 45,083 where May (2018) recorded the highest number with 4,090 patients and February (2019) had the lowest with 3,324 patients.
- Medicine department recorded the highest number of patients attended with 57,360 patients consulting the department during the mentioned period. The daily average was also the highest in this department with 204.85 patients being attended daily † this calculation also considers Sundays and holiday † throughout the base period.
- Dietician department recorded the lowest with only 831 recorded and a daily average of barely 2.96. Dressing, cardiology, diabetic clinic, Antiretroviral Therapy (ART) and Opioid Substitution Therapy (OST) departments recorded a higher number of old cases as compared to new cases since these departments mainly deal with recurring patient care where complete patient care cannot be done on one single visit.

- The total number of new cases registered in OPD was 277,741 and 117,227 old cases were registered. The daily average of patients in all the departments during the base period is 65.380.
- The total number of admission issued during 2018-19 financial year, or the base period was 13,881 out of which 12,816 were from OPD and 1,065 from casualty. The bed strength of Civil Hospital Aizawl is 270 and with the total number of admission issued, the average number of patients per bed was 51.41.
- A total of 17,727 operations were done during 2018-19 financial year out of which 6,589 were major operations and 11,138 were minor operations. 48.56 operations are done every day during the mentioned period, out of which major operations and minor operations constituted 18.05 and 30.52 respectively as calculated by the number of days, i.e., 365 days during the base period.
- The total number of live birth during 2018-19 financial year was 4,017 as compared to barely 56 stillbirth. Male live birth was greater than female live birth with 2,031 as compared to 1,986 female live births. However, the ratio of male to female live birth was barely 1.02 males per 1 female.
- The infant mortality rate of 13.94 is way below the national (India) average which is 33 and also below the state (Mizoram) average of 21.
- The total number of discharge was 13,649 out of which 13,006 were discharged alive. The number of deaths that occurs during the base period was 643 out of which 254 patients met their death before 48 hours of being hospitalized and 389 after 2 days or 48 hours of staying at the hospital. The ratio of alive to death

discharge is 20.22, i.e., for every single indoor patient death, there were 22.22 patients discharged alive.

- In total, indoor patients spent a total of 75,999 days during the base period and the average length of stay was 7.43 days with 83.45 per cent bed occupancy rate. The bed turnover ratio † the number of times there is a change of occupant for a bed during a given time period † during this period was 4.16 (out of a total of 270 beds). March 2019 recorded the highest number of hospital days while total indoor patient census is highest in January 2019.
- There are a total of 270 beds with Maternal and Pregnancy (MPW) and Orthopaedic ward having the highest bed strength with 30 beds respectively. ICU has the lowest bed strength but recorded the highest number of death with 153 since only critical patients are admitted.
- The total number of admissions issued during the base period is 13,881 out of which 13,006 patients were discharged and a total of 643 patients were discharged dead. MPW had the highest number of admission with 3,502 and cabin ward the lowest with 161.
- The highest number recorded (indoor patient admission) in a particular month during the base period was January and February 2019 and the lowest was December 2018. The total of maximum (any one day) is 2945 and minimum (any one day) is 2,362. The difference between maximum and minimum recorded census is 583.

- A total of 906,296 investigations were done during the mentioned period out of which laboratory investigations had the highest amount with a total of 823,632 and bronchoscopy the lowest with only 96 investigations done.
- A total of 73 autopsies were done during the base period and there were 2,511 cases referred outside Mizoram in which healthcare services cannot be availed by patients due to certain predicaments such as unavailability of experts, investigative equipment and infrastructural facilities.
- There were 3,827 MHSC and RSBY/PMGSY beneficiaries during the base period. One interesting finding from this particular analysis is that there were 4 months where MHSC beneficiaries were nil and 3 months in RSBY/PMJSY beneficiaries.

On Welfare Provision (Objective no. 3)

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  as compared to 153,478,900 INR that must have been spent on private clinics and hospitals if Civil Hospital Aizawl were not consulted or if the patients had opted for other private entities that provide healthcare services.
- The difference between private cost (PC) and civil cost (CC) is 149,980,050 INR, which is a huge sum if the economic situation of Mizoram is taken into consideration.

- The monetary savings that accrued to indoor patients who availed the services of Civil Hospital Aizawl during the study period is a huge sum of 18,529,469.28 INR.
- The total money cost of investigation is 133,270,275 INR in Civil Hospital Aizawl and if all the investigations were done at private laboratories or hospitals, the total money cost would have been a whooping amount of 593,738,030 INR. As such, the total monetary savings accruing to patients who availed the services of Civil Hospital Aizawl is 460,467,755 INR.

On Socio-economic Conditions of Patients (Objective no. 4)

- The age group, 30-40 and 50-60 have the highest frequency with a total of 8 each and amount to 20 percent out of the total respondents. The age distribution below 20 years, 40-50 and above 60 has the second highest frequency, i.e., 7 or 17.5 percent. Patients who are between 20-30 years have the lowest frequency with only 3 respondents and merely 7.5 percent of the total respondents.
- There are a total of 40 patients out of which 21 are males and 19 female. The age distribution of patients is quite symmetrical, i.e., there is no significant difference between male and female in terms of procuring admission to Civil Hospital Aizawl.
- Patients from the rural area have the highest frequency † the total number of patients from the rural areas as compared to urban and other town areas † with a total of 20. There are a total of 17 indoor patients residing in Aizawl and 3 from

other towns, i.e., from the semi-urban areas which are mainly district capitals in Mizoram. It can be said that Civil Hospital Aizawl serves the need of patients from the rural areas more than urban or cities.

- Chronic disease † among the three main types of diseases † has the highest frequency with a total of 18 indoor patients, followed by natural causes and accidental with 11 each.
- Natural causes are highest in Aizawl area with 63.60 percent out 40 indoor patients. Meanwhile, accidental is highest in Village area with 63.60 percent out of 40 indoor patients. Other towns only pertain to chronic disease with 16.7 percent while Aizawl and Village have 33.30 percent and 50 percent respectively.
- The occupational structure of the respondents is broadly classified into 8 categories. It shows that dependents such as students, children, housewives and unemployed have the highest in terms of occupational structure. The dependent indoor patients have a frequency of 20 which is 50 percent of the total indoor patients studied.
- Housewives have the highest number, i.e, indoor patients who are marked as housewives in the occupational structure, with 9 or 22.25 percent of the total, i.e., 40 or 100 percent. Government employees and agricultural workers have the same number with 6 each which amounts to 15 percent of the total. Private employee has the lowest number with 3 which amounts to merely 7.5 percent of the total.

- People who are poor or living in relative poverty have the highest frequency with 21 (BPL category) which is 52.5 percent out of the total of 40. Those very poor or AAY have 5 families which is 12.5 percent of the total. Together, families who are in relative poverty and extreme poverty contributes 26 or 65 percent of the total indoor patients studied. 3DWLHQWV¶ IDPLO\ DERYH WKH S 35 percent of the total. It can be said that most of the indoor patients of Civil Hospital Aizawl are people from below the poverty line. So, most of the healthcare beneficiaries of Civil Hospital, Aizawl are from the lower income group of the population.
- An income range between 50,000 and 300,000 INR is highest among the patients. This range contributes to 26 or 65 percent out of the total of 40 patients. Further, an income range of 400,000-500,000 INR is only 6 or 15 percent of the total. Respond HQWV¶ IDPLO\ LQFRPH EHORZ AAY and BPL family. 83.30 percent are from AAY and 16.70 percent from BPL family. Further, only APL families have an income range of higher than 400,000 INR.
- Annual expenditure on healthcare of indoor patien WV¶ IDPLO\ VKRZV W spending below 5,000 INR annually pertains only to BPL and AAY families with 50 percent each on both. The highest annual expenditure on healthcare is above 40,000 INR where there are 80 percent and 20 percent from APL and BPL respectively.

- Most of the respondents spent between 5,000 INR and 20,000 INR annually where all the poverty groups are included. In this range, i.e., 5,000-20,000 INR, 11.80 percent are from AAY families, 58.80 percent from BPL families and 29.40 percent from APL families respectively. None of the AAY families spent more than 20,000 INR for healthcare annually.
- 23 families are registered in either RSBY or MHSC while 17 families out of 40 families do not register under any healthcare scheme. 41.17 percent or 7 out of the total of 17 families do not register due to lack of information regarding the existence of healthcare schemes. 23.52 percent or 4 out of 17 families do not register due to administrative inconvenience and 11.76 or 2 out of 17 families give no particular reason for their non-registration.
- The duration of crediting medical reimbursement bill or in other words, the paid back period of eligible medical expenses which are covered by the healthcare scheme is typically between three and five months among the respondents.
- Only 6 or 45 percent of patients spent below 5,000 INR on post-hospitalization. Patients typically spent between 5,000 INR and 20,000 INR where 17 or 42.5 percent out of the total 40 patients spent the said amount. It can be seen that 17 or 43.5 percent spent between 20,000 INR and above 40,000 INR on post-hospitalization.
- Since the post-hospitalization spending is quite high for patients in Civil Hospital Aizawl, it can be said that a slight degree of moral hazard exists regarding the provision of healthcare services to indoor patients.

On Patients' Satisfaction (Objective no. 5)

- The overall satisfaction level of indoor patients is quite high regarding doctors. Even though there are no patients who are very unsatisfied or completely satisfied † options are not given since both are nil † it can be seen that most of the patients are satisfied regarding the care and services given to them by doctors of Civil Hospital Aizawl. Out of the total of 40 patients, 75 percent or 30 respondents are satisfied with the doctors and there is only 1 respondent who is unsatisfied with the care and services rendered by doctors. On a five point scale, the overall perception of patients regarding doctors is 3.99 out of 5 which is quite high.
- There is a mix of opinion regarding nurses and technicians by indoor patients. 30 percent or 12 respondents are unsatisfied with the care and services rendered by nurses and technicians and 25 percent or 10 respondents are somewhat satisfied. Nevertheless, 45 percent or 18 respondents are satisfied with nurses and technicians regarding the healthcare services they received from them. Here too, there are no patients who are very unsatisfied or completely satisfied with regard to nurses and technicians. On a scale of five, the overall points score is 3.76 out of 5 in case of nurses.

- The satisfaction level and perception of patients regarding infrastructure and other care they received during their stay is somewhat low. Even though there are no extreme cases, i.e., very unsatisfied or completely satisfied, 42.5 percent or 17 patients are unsatisfied with the infrastructure and other care given to them during their stay at Civil Hospital Aizawl. 30 percent or 12 respondents are somewhat satisfied and 27.5 percent or 11 patients are satisfied with the infrastructure and other care they received. On a scale of 5, the overall points score is 3.64 out of 5 in case of infrastructure and other care.
- That the satisfaction level is quite low with regard to vital information that patients received during their stay. 25 percent or 10 respondents are very unsatisfied and 70 percent or 28 respondents are unsatisfied. Here there are no patients who are satisfied or completely satisfied. Moreover, only 5 percent or 2 respondents are somewhat satisfied. On a five point, the points score is 2.72 out of 5. It can be said that there is a great degree of information asymmetry between patients and healthcare service providers.
- Due to information asymmetry, moral hazard exists is such a way that patients usually spent somewhat large amount of money on post-hospitalization. The existence of moral hazard adversely affects the patients since they have to spend more on healthcare despite their low income or unstable occupation.
- Altogether, patients are satisfied with the healthcare provision where 52.5 or 21 respondents are satisfied. 22.5 percent or 9 respondents are somewhat satisfied and 25 percent or 10 respondents are unsatisfied regarding the healthcare

services they received. On a five point scale, the overall points score 3.71 out of , W F D Q E H V D L G W K D W H Y H Q W K R X J K W K H U H satisfaction is quite low as in the case of information received, the overall satisfaction level is above average.

- 4 or 10 percent of the respondents will never recommend the Hospital to others while 14 or 35 percent shall always recommend the Hospital to others without any second thought or the types of disease or aliment. 7 or 17.5 percent responded by saying that they would normally recommend the Hospital to others as they find that the healthcare services provided by the hospital is satisfactory. 15 or 37.5 percent responded that they might give others recommendation based on the type of healthcare services that they might require. i.e., based on their disease or ailment.
- There is a significant relationship between poverty status and overall satisfaction of indoor patients. BPL family members have the highest satisfaction level and AAY family members are in overall † satisfied. From this chi-square test, it can be said that patients who are from the lower strata of the income group are not discriminated, and it fact, satisfaction level is much lower among the higher income groups or people above the poverty line.
- Satisfaction level is lowest among APL families and out of the total of 14 patients studied in this category, 35.7percent or 5 respondents are unsatisfied and 42.29 percent or 6 respondents are somewhat satisfied and only a mere 21.4 percent or 3 respondents are satisfied. On the other hand, satisfaction level is

highest among BPL family members. Out of the total of 21 respondents, only 19 percent or 4 respondents are unsatisfied, 14.3 percent or 3 are somewhat satisfied and the rest 66.7 percent or 14 respondents are satisfied with the healthcare services that they received during their stay at Civil Hospital Aizawl.

- There is no significant relationship between gender and overall satisfaction of indoor patients. However, it can be seen that only 10 percent or 10 respondents are unsatisfied, 22.5 percent or 9 respondents are somewhat satisfied and 52.5 percent or 21 respondents are satisfied. Further, satisfied male respondents are highest with 61.9 percent or 13 respondents out of the total of 21 indoor patients studied. It can be said that patients are not discriminated based on their gender alone regarding the provision of healthcare services.
- There is no significant relationship between residential area and overall satisfaction of indoor patients. However, it can be seen that patients from the rural areas have made use of the Hospital the most with 20 out of 40, i.e., 50 percent of the total respondents, indoor patients being from the rural areas. Satisfaction level is highest among patients from Aizawl area with 70.6 percent or 12 out of 17 being satisfied with the healthcare services they received during their stay at the Hospital. Indoor patients are not discriminated based on their residential area or from their place of origin.

EMPIRICAL BASED SUGGESTIONS

- The current staff strength of Civil Hospital, Aizawl, i.e., 423 is insufficient to cater the needs of indoor and outdoor patients. The staff strength, especially doctors and nurses has to be increased in order to provide efficient and good quality healthcare services.
- The existing laboratory and testing facilities is insufficient to cater to the needs and demands of ever increasing patients. Patients have to wait for quite a long time in order to have investigations on their illness especially on CT scan and X-ray. As such, the existing facilities have to be increased and upgraded.
- Since availing medical reimbursement through healthcare schemes such as MSHC and RSBY typically takes a long and arduous process, this has to be improved by lowering administrative barriers and other process. This improvement will further enhance the efficiency as well as increasing the reputation of Civil Hospital, Aizawl.
- 3DWLHQWV¶ VDWLVIDFWLRQ LV XVXDOO\ KLJK RQ received. This should be improved by well-informing patients regarding their illness and the kind of treatment they received.
- Most of the healthcare services beneficiaries of Civil Hospital, Aizawl are people from rural areas. Since this is the case, a question arises as to how well the hospitals in other districts function. This has to be examined and investigated by the concerned authority and take up necessary actions regarding the improvement of public healthcare services in rural areas.

GENERAL SUGGESTIONS

- The infrastructural facilities at large have to be upgraded. As of now, patients with disabilities that require wheelchair cannot move around freely as most of the buildings do not have wheelchair friendly alleys and stairs.
- Most of the buildings are cramped and congested during peak hours which can be quite obnoxious for patients. This has to be improved by upgrading and creating more space for patients who wait for their turn to consult doctors.
- Doctors are mostly friendly and courteous but other staff especially nurses and technicians have to be more polite and approachable to patients.
- The hospital administration should find a way to enlarge the parking space. As of now, only the staff and emergency patients are allowed to park their vehicles inside the hospital area.
- The consultation hours on Saturday has to be lengthened since a lot of patients cannot avail the healthcare services on weekdays.

CONCLUSION

Monetary savings that might have accrued to patients in terms of operations done and child delivery are not taken into consideration in this study. This is because certain legal procedures and the approval of ethics committee are needed which cannot be done given the time constraint of this study. Moreover, the depreciation and maintenance costs of machinery and administrative cost of running Civil Hospital Aizawl and

ultimately the revenue earned by the hospital is not studied due to the same problem mentioned above. Also, due to the time-bound constraint of this study, the case of Out Patient Department and Emergency/Casualty are not studied and conclusions or findings cannot be drawn on these branches of the Hospital. These inquiries are left for further research and analysis. However, it can be said that Civil Hospital Aizawl is a quintessential paradigm for the provision of free and basic universal healthcare services to the poor or marginalized section of the society.

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