

# ROAD TO DECENTRALIZATION IN HEALTH SERVICE DELIVERY IN THE ETHNIC STATES OF MYANMAR

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*IDRC Grant/ Subvention du CRDI: 108739-001-Delivery of public services in ethnic minority states: Gender equality and decentralization in Myanmar*

# ROAD TO DECENTRALIZATION IN HEALTH SERVICE DELIVERY IN THE ETHNIC STATES OF MYANMAR

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**IDRC · CRDI**

International Development Research Centre  
Centre de recherches pour le développement international

**Canada** 

## ABSTRACT

Since political reforms in 2011, the government's health expenditures have increased almost ten-fold from 2011-2017, reaching 4.2 percent of its total budget. While impressive, this amount still falls below global and regional standards. Though health sector decentralization is said to be put in place, the progress so far has not been assessed. There is limited information on how resources are managed and how well is the decentralization. This paper argues that despite the efforts, problems related to governance and decentralization hampered the process. The study is funded by the International Development Research Centre Canada and based on a survey conducted with 2,800 households in Chin, Kachin, Kayin and Magway states/region and a qualitative data collection with communities, policymakers and public service providers. The study concluded that both community and service providers acknowledged the health system improvement while there were regional and ethnic group variations. Government health service was the main service provider especially from the rural population. Community mainly mentioned about the barriers to access the specialist health service in case of serious or emergency situations, along with travel distance barriers. Community reported of limited functioning of health facilities and unavailability of specialist health staff and cost associated purchasing of medicine and supplies at the hospitals. Urgent attention was needed to address the limitation of the specialist health facilities along with qualified staff and other resources. The paper investigates the equity in health service provision in ethnic areas and not having health staff speaking own ethnic language was the main factor, accompanied by the complaints of barriers to access. The associations of selected independent variables and accessibility, affordability and quality scores were computed using Stata version 16. Bamar had a higher chance to access the health service, higher affordability to pay and had better perception about the government health service quality they received. Chin state was a state with highest geographic and language barriers and lowest access and afford to the health care service but had positive view on health quality after Kayin. Kayin state had highest health service access and Kachin state had highest health affordability. Majority of community (88%) agreed that health service was better compared to the previous five years with more positive views on the maternal and child health service. Affordability linked to all kinds of expenses during travel and hospitalization and other logistic cost. Out of pocket expenditure was commonly reported and poor population, particularly from the remote areas, had no choice but to stay at home if they could not bear the travel and opportunity costs. Some demographic variables as education and occupation were found to be associated with accessibility and affordability.

In a resource-poor setting, the gap between community expectations and what service providers could offer is enormous. Understanding of service providers' perspectives provided an insight information for future decentralization. Health service could mainly provide in the conflict-free areas but in equity approach. Overall, more decentralization and autonomy since 2012 and improvements in decentralized decision making in health care supply, including staff, facilities, purchase of medicine and supplies at some levels and some autonomy in budgeting but still not enough. The current system favours top-down decision-making, creating vast gaps of expectations between decision-makers and communities at all levels. The areas needed for the urgent attention were human resource and budget management. Communications and coordination are better between central and state and region as well as with EHO. This paper also argues that the best modality, for the next five years, would be a coordinated mechanism between national and subnational governments for technical guidelines while local governments have the autonomy for governance in human resource, infrastructure, service delivery and budgeting. In the conflict-affected area, sexual and gender-based violence is common, and this paper discusses the health sector response to the victims of violence in the ethnic regions. Kachin state had better GBV health service than other areas. Gender was not well incorporated in the health service delivery design and mostly treated under the women health service program. By understanding the service providers' perspectives and communities' voices, the study could provide the realistic and actionable recommendations, tailored

to the national or local government levels context and contribute to attaining the government's commitment in delivering the Universal Health Coverage in Myanmar in future decentralization

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## List of Abbreviations

DMS	Department of Medical Service
DPH	Department of Public Health
FGD	Focus group discussions
GBV	Gender-based violence
HSS	Health system strengthening
IDI	In depth interview
IMR	Infant mortality rate
IPV	Intimate partner violence
KI	Key Informant interview
MMR	Maternal mortality ratio
MNCH	Maternal, Neonatal and Child Health
MOHS	Ministry of Health and Sports
NHP	National Health Plan
PHC	Primary Health Care
RHC	Rural Health Centre
SRH	Sexual and Reproductive Health
U5MR	Under five mortality ratio
UHC	Universal Health Coverage
WHO	World Health Organization
GCA	Government-controlled area
NGCA	Non-government-controlled area
NSS	Northern Shan State
KDHW	Karen Department of Health and Welfare

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# 1 INTRODUCTION

Since Myanmar began a transition from military to civilian rule in 2011, government spending on health as a percentage of total government expenditure has increased from 1.1% in 2011-12 to 3.7% in 2015-16 and up to 4.2% in 2017(1). The World Health Organization (WHO) ranked Myanmar's health care system as the worst overall (ranked 190<sup>th</sup> among 190<sup>th</sup> member states) in 2018. The country had the lowest life expectancy at birth, the second highest maternal mortality ratio (MMR), under-five children mortality (U5MR) and infant mortality rates in Southeast Asia / ASEAN member states (WHO, 2018)(2).

Myanmar health care system is guided by the National Health Policy and five-yearly National Health Plan (NHP) since 1991<sup>1</sup> and it has undertaken some reforms starting from 2011 (1,3). From 2013 onward, a discussion around Universal Health Coverage (UHC)- defined as all people having access to needed health services without experiencing financial hardship by 2030-emerged and the government<sup>2</sup>committed to moving towards UHC. Under the National League for Democracy (NLD) government's administration, the efforts to attain the UHC goal was accelerated and the current National Health Plan 2017-2021 aims to strengthen the country's health system and explicitly focus on the pro-poor (1).

On the other hand, despite much lauded changes in Myanmar's health system, the quality of health services still lags its neighbouring countries. The economy, social status, different regional circumstances, most importantly, continued armed conflict perpetuate inequalities in the delivery of health services. In ethnic minority areas, government health care coverage is limited due to several factors, including weak governance, bureaucratic obstacles, limited budgets, and facilities, supplies and health staff, compounded by the long-standing conflicts. All these factors account for the variation in the accessibility and quality of health service community received.

Government play a critical role in providing the health service to its citizen (4). The Myanmar Ministry of Health and Sports (MOHS) is the major provider of the comprehensive health care and while provision of equity health service is a challenge. The concept of decentralization is increasing popular to strengthen the health system (HSS) and becomes the fundamental characteristic of many health systems, with sub-national governments often responsible for the delivery and financing of health services (5). Along with health sector reform and the NHP clearly states of practicing more decentralization and autonomy at local state and regional level. However, the progress so far has not been assessed and there is limited information on how resources are managed, how well is the decentralization, and more importantly, how is the effectiveness of the health service in remote or ethnic area.

In a resource-poor setting, the gap between community expectations and offering capacity of the service providers is enormous. Without understanding both demand (community) and supply (service provider) sides' perspectives, the formulated health policy, plan, or strategy could not be able to address the context-specific needs and hence, could not narrow the gap. This paper, therefore, attempts to understand the community's perceptions, attitudes and experiences on accessibility, affordability, quality of health care and service provider's points of views on service delivery including information on how well the budget, human resource and facility management and communications with the Union level.

In this paper, we argue that despite the efforts made to delivery equity health service, problems related to governance and decentralization hampered the process. Without effective health sector decentralization with more authority and decision-making power to states and regions, whether ethnic community could enjoy the equity in health care or not is a question. Therefore, it intends to

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<sup>1</sup> Developed National Health Plans: 1991-1996, 1996-2001,2001-2006,2006-2011,2011-2016

<sup>2</sup> Majority are from Union Solidarity Development Party (USDP) and considered semi-civilian government.



analyse problems relating to health service provision in ethnic areas, with Magway as a control area. It explores the voices and opinions of the implementing health staff at the operational level and communities on the effectiveness, quality, and equity of the health service. It investigates whether there are differences in health service quality, accessibility or allocated resources between states and regions. To understand the how gender differential defines the health service provision, we also include 'gender' topic with more focus on the women's health and gender-based violence (GBV).

This paper aims to provide insight to the realistic and actionable recommendations, tailored to national or local government levels, and contribute to the UHC aim of pro-poor and all-inclusive approach. The main participants are ethnic community from the Kachin, Kayin and Chin states and those from the Bamar-dominant group (Magwe region) and health staff at various levels from that areas. The study was funded by the International Development Research Centre (Canada). We conducted a survey of 2,800 households in Chin, Kachin, Kayin and Magway states/region, as well as interviews and focus group discussions with local communities, policymakers, and public service providers.

### **Objective**

To determine the factors affecting, and variance in, access to the delivery of public health services in ethnic minority areas.

## **2 Myanmar health system, service and community and providers' perspectives**

This chapter presents about the country background information, its health system, health status and financing. Then, there is information on the health service inequality particularly at the ethnic minority areas as well as differential impact of health service on gender in relation to the women-related health and gender-based violence (GBV). The study highlights whether there is variation in health service delivery between states and region, via the variation in quality health service access level and finally, to understand the how well the decentralization or health sector reform has reached so far, the report outlines the topics on the decentralization and health, and service provider's perspective on decentralization. The success of the government health service could be determined via community reliance on health service when ill (health service utilization) and community experience to easily access the quality health service. Community access to health service is discussed as Access Framework in this chapter.

### **2.1 Background, Health System, Health Status and Financing**

**Background:** Myanmar is a country with a total population of 51.4 millions(6), officially composed of 135 different ethnic groups with their own language and culture, spread across 14 states and regions as well as the capital region of NayPyiTaw ( NPT) . Administratively, it has 75 Districts, 330 Townships, 3400 Wards, 13,599 village tracts and 63282 villages (3,7). There are five self-administered zones and one self-administered division for six minority ethnic groups that fall outside of the other territorial and minority categories<sup>3</sup> (8,9). About 66 percent of the population lives in rural areas and 34 percent in urban areas with average household size of 4-5 members per

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<sup>3</sup> Naga Self-administered Zone in Sagaing Region and Kokang, Ta-ang Palaung, Pa-O,Danu and Wa Self-Administered Division in Shan State. The terms Self-administered Zone and Self-administered Division are taken as used in the Constitution of the Republic of the Union of Myanmar (2008). They are demarcated for minority ethnic groups whose populations are above 200 000 and which have continuously inhabited two or more townships.

household. Distribution of population varied among states and regions and for the study areas- Kachin, Kayin and Chin, the proportion of total population was 3.28%, 3.06% and 0.93% respectively. At union level, female has a slightly higher proportion than male with 26.6 million vs 24.8 million (52:48 ratio).

**Health System and governance :** The healthcare system is a mix of public and private sectors, both in terms of financing and provision of services. The MOHS is the major provider of comprehensive healthcare services, which include promoting health, preventing diseases, providing effective treatment and rehabilitation and delivers health services via seven departments namely- the Public Health (DOPH), Medical Services (DMS), Human Resource for Health (HRH), Medical Research (DMR), Traditional Medicine, Food and Drug Administration, and Sports and Physical Education.

Myanmar has developed a National Health Policy, which broadly informed the direction of the National Health Plan (NHP), since 1991 and instituted several four-years plans (Health in Myanmar, MOHS). Health sector was considered as a key part of government ideology before 1988 under Socialist regime and then Military government (1988-2011), has taken obligation on health as part of the development plan. The health sector capacity has started decline by the late 1980s and worsened by the 2000, mainly due to the lack of government investment causing household out of pocket (OPP) expenditure as a main source of finance for health care (10). The ambitious Health Vision 2030 was developed in 2010 to overcome challenges. Along with political transition in 2011, the elected governments made some health sector reforms via NHP 2011-2016 and 2017-2021. The NHPs aims to strengthen health system and improve equitable access to quality service. NHP 2011-2016, was formulated within the framework of Myanmar Health Vision 2030, aligned with national socioeconomics growth of development, and implemented under the semi-civilian government. The strategies work to achieve the UN Millennium Development Goals (MDG). There was initiation on the more bottom-up planning approach, focusing on the UHC, expanding, and enforcing the primary health care (PHC) services. Example noticeable achievements include decline in the maternal, infant and under five children mortality rates, a reduction in malaria morbidity and mortality, targets for TB mortality met, incidence on HIV/AIDS was stabilized and increase in immunization coverage while there were many areas needs to be addressed and improved at the health system level. The current NHP 2017-2021 was developed under the National League for Democracy (NLD) government administration and UHC by 2030 was referred to as key direction and aspiration. Its main goals are to extend access to the Basic Essential Package of Health Service (EPHS) to the entire population while increasing financial protection, to achieve the UHC by 2030. The NHP builds capacity of township health system to improve service availability and readiness, linked to the annual operation plan. So far, the roll out of the EPHS started in 2017 and completed 78 townships (11)

Government administrative structure for health service delivery run from Central/Union (Naypyitaw), State and Regional, District, Township, Rural Health Center (RHC) and Sub-Rural Health Center (sub RHC). DMS is the main service provider for the curative and rehabilitative health service and DOPH mainly oversees the preventive health. The network of hospitals and health centres, expanding down to the village level. Administratively, in each township (out of 330 townships), a township medical officer (TMO) oversees all health-related matter and each township composed of a township hospital, 1-2 station hospitals, 4-7 RHCs, as well as varying numbers of rural sub-RHCs. RHCs are run by a health assistant (HA) and have a catchment population of 20,000. Sub-RHCs often are run by a midwife ( MW) or health assistants, staffed by volunteers, and have a catchment population of 5,000 (3). This latter, most basic component of the formal health infrastructure, conducts immunizations and other health programs. While RHCs are supposed to be the main centers to provide the health service for the rural and remote population, the governance and coverage in ethnic regions, mainly in states with ongoing armed conflict varies across the country. There is increase in physical resource with rate of increase in number of public hospitals (in percentage of change) from less than 3% in 2011-2012 to almost 8% in 2014-2015 (NHP 2017-2021). The number of trained health professionals is increasing but shortage of human resource is a

challenge, with high attrition rate because of low payment, heavy workload and unfavorable working environment (12). According to the WHO, the number of health workers (doctors, nurses, and midwives) per 1000 people nationally was 1.33, which is lower than the WHO recommended minimum rate of 4.45 per thousand required for the UHC (WHO,2016). The health workforce (physicians, specialists, nurses, technicians, etc.) is also over-burdened and remains below optimal coverage ratios, negatively affecting service delivery and quality (Source: WHO, UNICEF, MOHS).

**Health Status at a glance:** The WHO report in 2018 ranked Myanmar health care system as the worst overall with 190<sup>th</sup> out of 190 member countries. Myanmar has the lowest life expectancy at birth (at 66.61 years), and the second highest maternal mortality ratio (MMR) (178 per 100,000 live births), under-five mortality (U5MR) (50.8 per 1,000 live births) and infant mortality rates (40.1 per 1,000 live births) in Southeast Asia / ASEAN member states (WHO, 2018) (2). Among the specific diseases, the leading causes of death and illness are TB, malaria, and HIV/AIDS. Both HIV prevalence and TB incidence are second highest among ASEAN countries whereas non communicable disease ( NCDs) accounts for the more than 40 % of all deaths in Myanmar. A rising burden of noncommunicable diseases (NCDs), frequent occurring of disasters and unstable political situations makes prioritizing essential health services even more challenging in Myanmar.

**Health Financing:** Myanmar's health sector has received low levels of public spending for several decades. Under the military regime, government health expenditure was quite low compared with neighboring countries. Since the transition from military to civilian rule in 2011, government health expenditures have increased dramatically. In 2011-2012, shortly before the country began implementing health reforms, the country was spending only about 0.3 percent of Gross Domestic Product (GDP) on health, about \$1.60 per person and although it increased to 2.3% in 2014, that amount is considered low compared to 6.5% in Thailand and 5.7% in Cambodia (World Bank, 2015). There was increase in the expenditure on health with almost ten-fold from 2011-2017. Expense on health as a percentage of total government expenditure rose from 1.1% in 2011-12 to 3.7% in 2015-16 and up to 4.2% in 2017 (1). Despite it, it still represented a relatively small proportion by global and regional standards.

Traditionally, health was considered as a low priority and lower budget allocation means low investment in health care. It could affect in the human resource and facilities investment and purchasing and maintenance of the equipment, medicines, and supplies. At township and lower levels, including rural and remote areas, the health service provision is limited because of resource constraint, miss management and weak governance. These factors created the low standards of health care delivery and contributed to the country's poor health outcomes, wide health inequalities and, higher risk for financial protection (13).

The government used to be the main financial sources with user charges were introduced in the form of cost sharing in 1993 and since then out of pocket (OPP)payment has become the main finance source. The statutory financing system is very limited with the Social Security Scheme covers only 1% of population. Decades of minimum investment on health care led to the high OPP among community, accounting for 79% of total health expenditure (9). Community spend money on almost all of services at the public hospitals or health centres, particularly for medicines, drugs, supplies and investigations. In 2015, such payments accounted for 74% of total health spending; only five other countries in the world exceeded a 70% OPP payment (MOHS and WHO, 2017).

Inadequate health care budget favors the unequal distribution of public health funding and worsened in the hard-to-reach and conflict affected areas. The World Bank group discussion paper also states that chronic underinvestment in Myanmar health sector has left health facilities in a poor state, leading to the infective and inefficient service delivery, which in turn contributes to the vast disparities in health outcomes, coverage and inequity in access to care (14). As the public spending on health increases, it is therefore, important to understand what the factors are affecting, and variance in, access to the delivery of public health services in ethnic minority areas. Otherwise, not

matter the amount of the increase in resources, the efficiency and effectiveness on how the resources are spending might be a question.

## 2.2 Health service inequality and poor health in ethnic minority areas

Wide geographic and socio-economic disparities, compounded by conflict, widen the gap in health status and service delivery between states and regions. MOHS is facing numerous challenges to manage the health system in ethnic minority areas, where violent conflict persisted for decades. The government has little access in areas where fighting between Ethnic Armed Groups ( EAO) /Ethnic Armed Organization ( EAO) and the Tatmadaw continues. Service delivery in Myanmar relies on a mix of public, private and Ethnic Health Organization ( EHO) providers. The government health staff has over workload with understaff and situation is worsened in the ethnic areas with staffing levels of MOHS fell further short of targets (Asia Foundation Report, 2016, MOHS, Myanmar. Basic Health Services Myanmar, 2014). Long standing civil wars, geographic barriers and poverty were challenges to reaching health service to the ethnic minority and conflict areas.

Communities whenever possible, rely on the private health providers due to physical proximity, shorter waiting times, timely availability of staff and drugs, and perceived quality of care (15). They will seek service from the Specialist, General Practitioner ( GP), or the basic health staff depend on availability of the health staff in their area and cost. People live in urban areas, regardless of states and regions in general, have better access to the health staff compared to the rural and remote areas. Nonetheless, even in urban areas, specialist and tertiary care are more accessible in larger cities from regions compared to ethnic states. In general, the main source of health care for the very poor people or those from the ethnic areas is a range of other private providers including drug shops, quacks, and traditional healers (9), even they are not qualified to provide health care if the public health service delivery in that area is not effective.

In ethnic minority areas with conflict, health service delivery varies between Government-Controlled Areas (GCA) or Non-Government-Controlled Areas (NGCA). Though MOHS is the key health provider, the health care coverage differs based on whether it is GCAs or NGCAs. One significant problem arises changes in the demarcation of these respective areas depending on the evolution of conflict and cease fire agreements. The population living in the conflict areas rely solely on basic health services provided by EHOs , non-governmental organizations (NGO) and/or community-based organizations, many of which lack any government recognition. Government health services have access issues ethnic minority areas (16), thereby increasing variation in health service coverage. There is frequent staff turn-over and attrition rates in some remote and conflict areas due to security, geographical and language barriers, and MOHS staff do not cover some ceasefire areas.

During the years of civil war, EAO established parallel governance systems, including healthcare departments. Since ceasefires were signed between the government and some EAOs in 2011 and 2012, considerable space has opened for greater cooperation between the EHO and the MOHS (16). During prior cease fire periods in the 1990s, the government had opened new health care facilities in north-eastern border areas and sent staff in areas where conflicts had made provision of basic social and health development services very difficult (9). The increase in tensions and renewed conflict between the Tatmadaw and the Northern Alliance since 2011 disrupted the existing health service delivery in Kachin and Northern Shan State (NSS). In Kayin state, EHO is more established and the Karen Department of Health and Welfare (KDHW), a Karen National Union-run body, health organization, operated 48 mobile health clinics serving over 100,000 people with basic primary healthcare (17).

The impact of armed conflict has negative health outcomes in Myanmar regardless of service providers: either by EHOs or MOHS. Several studies conducted in conflict areas suggested how the armed conflict affected health outcomes, with women and children most affected. Others note that

conflict affected areas have significantly worse health indicators than the national average (16,18) and higher child mortality rates (18) .

Regardless of the continued fragility of the ceasefires, and the inevitably slow pace of reconciliation following decades of war, the EHO and MOHS have to work in coordination and in parallel with each other, while seeking some “convergence”. In Kayin state, the cooperation between MOHS and KDHW is in a good shape and working together in many areas including the Maternal and Child Survival Program (19). EAO consider the provisions of health services as one of their key responsibilities toward their constituents while challenges faced by the EHOs appeared as poor planning, health financing (including out-of- pocket payment and reliance on international aid), and poor human resources (20).

Prior to the ceasefires, the MOHS was not able to access most conflict-affected areas and people in those areas often faced restricted mobility, thereby limiting access to health facilities, both those operated by the government or by EHOs. Even after the ceasefires, there are several challenges such as lack of sufficient medical staff, frequent staff turnover, language barriers, and lack of equipment and supplies. As the government is accountable for providing basic health care , the state will need to create the right policy and legal framework; the EHOs will be an important player in achieving Universal Health Coverage due to their unique resources, experience, and territorial access. The NHP 2017-2021 recognizes the EHOs as a one of the key players and work in partnership approach. Understanding of the level of engagement , collaborative activities completed and views from the providers from both sides would be a key in future decentralization in health care and support the government efforts to align the subnational health systems with the national system.

### 2.3 Gendered Implications on Health

This section explains the general picture of how women’s health has some unique components, and therefore a gendered lens helps to understand these differentiated needs. The differential impact of health service on gender is presented in relation to the maternal and child health, sexual and reproductive health (SRH), women’s role decision making on the health care, and health sector response on the gender-based violence (GBV) prevention, response, and management.

Much literature on health emphasizes the differentiated impact of services by gender. Gender is a cross cutting theme for the all the social and development programs including health care provision and gender mainstreaming is essential in designing, allocation of resources and implementation. Health care needs of men and women varied based on biological, physiological and emotional structure and needs. Whether through an analysis of users of health care services, or understanding the delivery of health services, a gender-based analysis helps to better understand the unique needs and experiences of women and men.

Myanmar’s government adheres to principle of gender equality, but there are still significant problems in addressing gender-based concerns in the health sector. The National Strategic Plan for the Advancement of Women (NSPAW) (2013–2022), based on the 12 priority areas of the Beijing Platform for Action, has adopted a gender equality agenda, carried out through inter-ministerial collaboration. The national plan clearly states that public service delivery in the social sector (including health and education) should apply an inclusive approach to achieving gender equality. Although there are institutional mechanisms for gender mainstreaming and the government claims to have gender equality in Myanmar, there still a gender gap between health care service accessibility and affordability, alongside other gender-based issues such as education levels, leadership and political participation. Even at the national level, according to the UNDP rankings, Myanmar stood 106 of the 189 countries for the 2017 Gender Inequality Index which fell under the medium human development score. Only 10% of women shared parliament seat and lower labour

force participation rate of women than men with 51.3% vs 79.9%. (UNDP, Human Development Report. 2017).

For health care sector, Myanmar is still struggling to reduce the preventable maternal, neonatal and child death which is an important indicator to meet the Sustainable Development Goal (SDG), unmet need for family planning and birth spacing service and reduce the GBV, including the intimate partner violence (IPV). Women related cancers are increasing with gynaecology cancers and breast cancers as top four and five cancers in Myanmar.

**Maternal, Neonatal and Child Health:** The maternal, neonatal and child health (MNCH) was high in Myanmar with gap in health outcomes based on the ethnic area, rural or urban and poverty level. Maternal Mortality rate (MMR) and Infant Mortality Rate (IMR) are the second highest among the Association of Southeast Asian Nations (ASEAN) countries. MMR was 282 deaths per 100 000 live births nationwide but 357 in Chin State (one of the two poorest states in Myanmar) and 213 in Yangon region with wide rural-urban variation with 310 deaths in rural with 193 deaths per 100,00 live births in urban areas (21). According to the situation analysis of gender equality and women's rights in Myanmar, MMR is higher in the areas with large proportions of ethnic groups or national races (22) and UNFPA states that it is significantly lower in urban areas and for women who give birth in a facility that can provide basic and emergency obstetric care (23). The leading maternal death causes were postpartum haemorrhage, hypertensive disorders, and abortion. The WHO recommended that every pregnancy should have a minimum number of four or more contacts with basic health staff during pregnancy, for early identification of high-risk case, early referral and immediate management of complications including access operations at designated health facilities. About 71% of maternal deaths occurred after childbirth and during delivery (21). MMR is higher among poor and uneducated women who have limited ability to recognize pregnancy complications and to access care. It highlights the link between gender related equality in health care and improve in health outcomes.

High infant and under five mortality (IMR and U5MR) rates suggest poor community health status and U5MR varied greatly across geographical areas, from 44 deaths per 1000 live births in Mon State to 104 in Chin State while Union level is 72 deaths per 1,000 live births. IMR is 62 per live births compared to 29 in Cambodia and 12 in Thailand and children from the poorer household are more than twice likely to be undernourished than those from better-off households (Census, 2014). Malnutrition is highly prevalent, with more than one third of the children under the age of five stunted. Tracking MNCH status is an important proxy indicator for several factors that contribute to overall health outcomes and access to MNCH care by women is useful as most women repeatedly require such services during their childbearing years of 15-49 age.

**Sexual and Reproductive Health (SRH) :** Increasing trend of single women in Myanmar suggests the importance of sexual and reproductive knowledge, awareness and service. According to the 2014 census, women marriage age (nuptiality) has increased with mean age at first marriage became 23.6 years, 12% of women was never married at age 50 years and female adolescent's marriage had declined to 2.3 %<sup>4,5</sup>. Female adolescents are particularly vulnerable to complications associated with sexual activity and pregnancy because reproductive health services are not sensitive to their needs and cultural, social, and religious norms. Studies showed that unmarried women

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<sup>5</sup> Source: UNICEF global databases, 2018, based on Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and other nationally representative surveys.

report difficulties in accessing contraceptives and have more limited knowledge of the risks associated with sexually transmitted infections. This situation is even true for the married women as UNFPA report, 2017 stated that 49% of Myanmar women did not use modern contraceptives, 16% did not have access to contraceptives at all or the rest only had basic and limited access. High unmet need for birth spacing services led to the significant proportion of unwanted pregnancies and subsequent induced abortions, leading to the preventable maternal death. In fact, 13% of maternal deaths in developing countries accounted from the unsafe abortion ( WHO, 2008<sup>6</sup>). Worldwide, among 222 million women who did not meet their family planning needs, 79% had unwanted pregnancy.

In Myanmar, Myanmar Demographic and Health Survey (MDHS), 2015-2016 and United Nations data , 2017, suggested that 16% of currently married women in the reproductive age group did not meet their family planning needs <sup>7</sup> which are relatively high to the 5.7% in Thailand, 6.4% in Vietnam, 12.1% in Indonesia , and 12.5% in Cambodia (24). Reproductive health indicators demonstrate the capacity of health services to reach out to every women and girls. Thus, addressing SRH and family planning needs by promoting gender equality is an important to improve the MNCH health status in Myanmar.

**Women Role in Decision Making on Family and Reproductive Health Care:** Traditionally, women and girls have barriers to participate in decision -making and leadership due to internalized gender roles, influenced by the limited education or qualification, skills and abilities, income or gender pay gap. It is true for system, community and household levels. Advancing gender equality results in healthier families, better child education, increase in family income and ultimately lead to the safer communities with a stronger economy. Nonetheless, gender stereotypes and cultural norms restrain women’s decision-making power at all level. The study investigates the women decision at household level in terms of decision making on health care when child or family members was sick or decision-making power in family planning. Women’s decision on how many children they would have depend on the husband and in-law. Women’s control over decisions within the household is also limited within the communities, mostly among the lowest education levels in the country (25). Likewise, stigma and discrimination along with cultural and traditional norms would limit single woman and girl’s health seeking behaviour for the proper SRH service.

**Gender-Based Violence :** Gender Based Violence (GBV) is an umbrella term for any harmful act that is perpetrated against a person’s will, and that is based on socially ascribed differences between males and females (26). It is one of the most prevalent human rights violations in the world and Myanmar is not immune to it although currently national statistics relating to the issue are not available, except data for the Intimate Partner Violence ( IPV). Worldwide, an estimated one in three women will experience physical or sexual abuse in their lifetimes (27). GBV is a manifestation of, and a tool to maintain gender inequality (ADB et al.,2016) and undermines the undermines the health, dignity, security, and autonomy of its victims, yet it remains shrouded in a culture of silence.

Women’s health interventions in Myanmar are overwhelmingly focused on maternal, sexual, and reproductive health, with little attention to general health, emotional health, and violence-related

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<sup>6</sup> World Health Organization (WHO). *Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008* [Internet]. Geneva: World Health Organization, 2011 [Cited 2020 Dec]. Available from: [https://apps.who.int/iris/bitstream/handle/10665/44529/9789241501118\\_eng.pdf;jsessionid=7B6783C59062106FDCB82D8B25ED2F69?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/44529/9789241501118_eng.pdf;jsessionid=7B6783C59062106FDCB82D8B25ED2F69?sequence=1).

<sup>7</sup> Unmet need for family planning: Percentage of women aged 15 to 49 who want to stop or delay childbearing but are not using a method of contraception.

health concerns. Weak in the sex-aggregated data collection and reporting causes the limited gender-sensitive health sector planning and gender-responsive budgeting system in the health sector. GBV is a complex issue and requires a multidisciplinary management of prevention and management of HIV and Sexually Infected disease, unwanted pregnancy, physical and psychosocial health care and rehabilitation. The tracing and punishment of the perpetrator by police and juridical sector and social welfare support to the survivors is crucial. Public services on GBV are mostly stand-alone with weak coordination among various line ministries and departments.

Domestic violence of IPV is the one of the most predominant form of violence against women and IPV is prevalent in Myanmar with 17% of women and girls had experienced lifetime physical and/or sexual violence and 11% had suffered physical and/or sexual intimate partner violence in the last 12 months<sup>8</sup> (2). An internal research conducted in the five townships in Yangon region in 2013, based on 600 interviews found that 19% of females had experienced violence directly, and 53% knew of women abused by relatives or neighbours. Underreporting of GBV or sexual violence is also common as only 40% of the direct violence cases were reported<sup>9</sup>.

There were limited measures for protection, counselling, and care to survivors of GBV and women lacked confidence in the police or the legal system. The absence of safe, confidential, and victim-centred health service, social stigmatization of the victims and lack of updated laws on violence against women and girls were the main challenges. All these factors combine to create and perpetuate a culture of silence and impunity. The Committee on the Elimination of Discrimination against Women (CEDAW) expressed particular concern about GBV in ethnic and conflict areas as “There is continuing sexual violence perpetrated by the military and armed groups against rural women and ethnic minority women, in particular in Kachin, Kayah, Kayin Mon and Rakhine States and the low rate of prosecution of perpetrators.” (28). The issue of violence is complex and difficult to tackle. The four main pillars of GBV prevention and responses are based in the health, psychosocial, legal and security sectors, and a multi-sectoral approach is required. Victims have limited access to life-saving medical and psychosocial support that meet minimum international standards mainly due to the fact that government health facilities are not equipped with essential commodities such as post rape treatment kits, and an accompanying clinical protocol, staff lack the capacity to administer treatment appropriately and safely, and there is limited awareness about the procedures to refer emergency GBV cases, as specified in the Emergency Care and Treatment Law 2014 among health workers and the police. Both the public and medical personnel need more information on women’s protection laws and procedures for reporting and acting on violence against women in Myanmar.

Though conflict areas might have higher risk of GBV, the culturally accepted practices of ‘masculinization’ is the major factor leading to cases of abuse against women and girls. Global evidence suggests that sexual violence during and in the aftermath of conflict is a present-day crisis that affects millions of people, primarily women and girls, and destroy families and individuals. The UN Security Council, therefore, adopted resolution 1820 in 2008, linking sexual violence with the maintenance of international peace and security and demanding the “cessation by all parties to armed conflict of all acts of sexual violence<sup>10</sup>.” This report examines the community access to the GBV support and management service provided by the government as well as health staff’s opinions and experiences on the GBV awareness and survivor management. The study was conducted to determine the factors affecting and variance in access to the gender-related health service in the

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<sup>8</sup> Indicator: Proportion of ever-partnered women aged 15-49 years experiencing intimate partner physical and/or sexual violence at least once in their lifetime. Proportion of ever-partnered women aged 15-49 years experiencing intimate partner physical and/or sexual violence in the last 12 months

<sup>9</sup> Breaking the Silence Project. 2013. Gender-Based Violence in Five Yangon Townships: Research Report. Yangon

<sup>10</sup> For more information and resources, see [www. stoprapenow.org/about/](http://www.stoprapenow.org/about/)



conflict-prone and underdeveloped ethnic minorities areas. Understanding of community perceptions on health care along the gender lines can help to understand how the government better to address the emerged issues.

## 2.4 Service providers perspective on decentralization

This study examines the community perception on the factors favouring or hindering access to quality health service; without including the service providers' views of barriers or perspectives, it might be challenging to develop a concrete and feasible health policy, strategy, or activities. By understanding the provider's experience in delivering health care at different levels, the policymaker and implementer could narrow the gaps between supply and demand, particularly for the underprivileged population. Barriers experienced by the service providers emerged in many forms. A scoping review of 43 literature conducted in the arctic and sub-arctic regions[1] reported culture and language barriers between healthcare providers and recipients, practitioner-related barriers, and system barriers. Though the majority could speak Burmese, ethnic minority, especially elders, those with low education status and those from remote areas suffered language as barriers to access health care. Health practitioners related barriers appeared as staff shortages, high staff turnover, limited or lack of training, need for specialist staff to treat the specific medical conditions and distance of working areas. Huot et al. 2019 reported health system-related barriers as healthcare delivery and access, fragmented management of health services, lack of communication between management and implementing staff, and lack of funding for certain communities. In addition to the reported barriers, a significant barrier during the transition of decentralization is the centrally managed or top-down decision-making process.

In Myanmar, under the 2008 constitution, decentralization has been advanced by establishing the Hluttaws in the States and Regions since 2012. Reform initiatives have been introduced in all sectors. In principle, the State and Region governments hold administrative, financial, and legislation power while there was a limited supporting mechanism. Amid decentralization, to consider the health equity on ethnic nationalities' priority, it is important to understand the complex nature of relationships between various aspects of the health system administration, budget and financing, and facility and personnel management. Understanding the service providers' perspectives on the current and future health system's facilitators and decentralization barriers is key. There was little or no study within researcher knowledge, investigating the health service providers' views based on their working experience, assigned areas, and position. The study examines the supply sides' opinions and experiences and intends to provide inputs for capacity building and equipment for the State and Region health staff. The findings will inform the recommendations to provide quality, affordable and effective primary healthcare, particularly for the country's poorest and most vulnerable population.

The findings section describes the service provider's perspectives on the decision-making power across different dimensions, communications channel at central, state/region and township level.

## 2.5 Community access to health care

Access to healthcare is central in the performance of health care systems around the world. To determine the factors affecting and variance in health service delivery, information from both service providers and consumers' perceptions, attitudes and opinions based on their experiences is required. The quality, level of coverage or accessibility provided by the government health service is examined via the various dimensions of access and comparing between ethnic and Bamar areas. In defining access to health care, many scholars applied different but similar concepts and influenced by multi-faced factors. The original access framework has five dimensions- 'Availability, Accessibility,

Affordability, Adequacy and Acceptability' (29). Mooney defined access as a function of both supply and demand (30). Health service coverage received or barriers encountered differed among communities. The vulnerable populations have lesser access to health care and poorer health care outcomes than the general population (31). The vulnerable population could be those from poor socio-economic groups, ethnic minority group, disadvantaged population such as women, disabled, sexually diverse group. Studies from the United States and the United Kingdom revealed that ethnic minorities groups such as black, Hispanic and Asian people, were less likely to access health care and experience more barriers than non- ethnic minorities group and a Canadian study found that use of health service varied based on the ethnicity with low utilization in minor groups (32,33). Like many areas of healthcare practice and policy, the literature on access to healthcare is large, diverse, and complex.

The WHO and UNHCR defined access as a basic human rights and urges government to provide universal and equitable access (34). Yet, there are widespread health inequality exists globally and community access to the health service varied greatly in Myanmar. There were regional variations with high disease-related morbidity and mortality in ethnic areas compared to non-ethnic areas ( Census, 2014). Our study thus adapts the various access concepts and definitions and measures it via three dimensions - 'Accessibility, Affordability and Quality of care' and two cross-cutting areas as 'Gender and Acceptability.' These dimensions are hoped to inform health care service program design and implementation.

### 3 METHODS

#### 3.1 Study design and site chosen

The data for this study was obtained from a research project entitled 'Gender, Democracy, and Decentralization: Public Service Delivery in Ethnic Minority States. The study used a mixed method of quantitative cross-sectional survey and qualitative data collection. It investigates the community and service providers' perspective on health service delivery and compares ethnic and Bamar dominant area (Magwe as a control region). Study sites were chosen as 3 ethnic areas and 1 Bamar dominant area. As a community side, a total of 2,747 respondents with each participant for a single household participated in the survey and a total of 122 respondents of both sexes involved in the 15 Focus group discussions (FGD). For service providers, in-depth interviews (IDI) and group discussion were conducted with service providers, randomly chosen sample of state, region and township level government health (mainly) and social welfare staff, staff from Ethnic Health Organization (EHO) and NGO staff.

Reasons for site selection were:

- Kachin State: Myitkyinar, Momauk and Bhamo townships, to understand the impact of on-going conflict on public service delivery. *(due to uprising tension during data collection in Waimaw township, we replaced that planned township with Momauk and Bhamo townships. Data collection only occurred in wards in Myitkyina township for security reason).*
- Chin State: Hakha<sup>11</sup> and Mindat townships, to understand how poor infrastructure and development affect public service delivery.
- Kayin State: Hpa-An and Thandaunggyi, to understand the effect of the ceasefire and the peace process on public service delivery. *(Thandaunggyi township was NGCA and data could be collected in villages only where Hpa-An township was a mixed GCA and NGCA areas.)*

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<sup>11</sup> We use Hakha where Haka is according to the Census but most common use is Hakha township

- Magway: Minhla and Thayet townships, a majority Burman area with low level of development is a control case.

### 3.2 Sampling and sample size

A complex multi-stage sampling method (35) was used to locate the HH in Myitkyina, Moe Mauk and Bhamo townships in Kachin state; Hakha and Mindat townships in Chin state; Hpa-An and Thandaunggyi townships in Kayin state and Minhla and Thayet townships in Magwe region. For survey, as there was no available documentation or reference to calculate the design effect for the baseline indicators for the public service delivery on health, education and security, the calculated sample size was 350 per township, using design effect=2, alpha=5, confidence interval=95%, For eight townships, we therefore collect data from 2800 participants and after data cleaning, available sample size was 2,747.

To sample villages/wards selection, we used a systematic random sampling. Based on the wards and village lists obtained from the 2014 Myanmar population census (6), we randomly chose wards and villages which served as clusters. Number of wards and villages were determined by the actual ratio of ward and village population in that township. In general, we chose a total of 17-18 clusters with 20 households (HH) per each cluster, reaching a total of 350 sample size (20 HHx17-18 clusters) per township. For township which could not get 350 respondents as planned, we substituted with adjacent or township with similar characteristics townships in the same state/region (e.g., Momauk and Bhamo in Kachin state). Proportion of urban (ward) and rural (village) living in the township were calculated from the population residing in urban and rural in that township for representativeness. For FGD, we conducted FGD with community from selected wards/villages chosen for survey.

### 3.3 Quantitative part of the study

#### Household and Participants

We sampled all residents living in the selected townships who were 18 years and above, currently residing in the randomly selected HH, knowledgeable to answer the questions, agree to allocate estimated one hour to answer survey question and provided consent. We excluded those who did not provide consent and had mental or severe illness. Translator was used for those who could not articulate well of Burmese but understand in Chin state. As a community side, a total of 2,747 respondents aged 18 years and older from the three states- Kachin, Chin and Mon (ethnic areas) and one region-Magwe (Bamar dominant area) participated in the survey and a total of 120 respondents of both sexes involved in the 15 FGDs.

#### Data collection

Before data collection, survey questionnaire developed in English was translated into Burmese, deployed in Kobo data collection tool and pre-tested. Survey data was collected with a tablet using a Kobo application tool (36). The training was given for three days prior to the data collection and data was collected between February to March 2019. The initial focal person from M&PH research team, travelled to the data collection site in advance for administrative approval and site selection. On the day of data collection, for Household and respondent's selection, after choosing the first HH as per sampling, the team determined the eligibility of HH and proceeded the survey. Only one respondent was chosen for each HH and respondent was chosen by ballot method if more than one eligible person. Enumerators identified potential respondents, explained the study nature, confirmed

eligibility and obtained informed consent. The survey questions had two main sections - part A as a 'General Section' and part B is 'Health Section'. General section included individual socio-demographic status, household characteristics, security, community life and migration. Health Section comprised of health service utilization, accessibility, affordability, access to information, satisfaction on health service in terms of general and maternal and child health service, perceived quality of care, comparison with previous and current health service, sexual violence health service and experience in discrimination or variation of service received because of ethnicity, language spoken, being female, disabled and sexual preference.

### Study variables

The explanatory (independent) variables included basic socio-demographic characteristics and explanatory factors including State and Region, Language of interview, Head of Household, Age group, Gender, Marital status, Education Group, Attending formal school or not and Occupation. The main factor of interest (independent variable) was Bamar and Ethnic group. 'Bamar' referred to those who said their ethnicity was Bamar and 'Ethnic group' defined as those who responded as one of major interested ethnic groups such as Kachin, Kayin, Chin and Shan, mixed ethnic group (mix of Bamar and interested ethnic groups) and other small groups. Ethnicity, independent variable (IDV), was obtained by asking respondent ethnicity. Therefore, among 2,747 respondents, Bamar constituted 30.3 % (n=831) and the rest 69.7% (n=1,916) belonged to the ethnic group.

The main outcome variables (OC) in this study were affordability, accessibility, quality of care, to understand health service delivery in terms of utilization aspect, and gender-based violence (GBV). The accessibility section had six questionnaires which measured the barriers to access the health service : distance or geographic barriers, health service not available or not existence, no health staff available, health care facilities (hospital/clinic/health center) were not functioning or not enough, not understanding the health staff language (language barrier) and not having drug or supplies. There were five responses for each question with 'Not at all, a little, somewhat, very much and don't know/ no answer response'. If a respondent answered, 'Not at all', it means that he/she did not have a barrier to access health care and scored 4 and if they chose 'Very much', the score would be '1'. The analysis excluded 'Don't know and no answer' because of lower response rate. Each respondent could score 1-4 points for each question with for six accessibility questions, each participant could get a total score between 1-24.

Likewise, affordability to (access) health service was examined via the four questions asking about which factors prevented the respondent to receive the health care they need. The exploring factors were 'Had paid money to staff at government hospital or clinic, cost prevented to see a nurse or doctor, cost prevented to buy drugs and supplied, and travel and other cost prevented to receive health care the respondent need. Each respondent could score 1-4 points for each question with for four affordability questions, each participant could get a total score between 1-16.

For quality of care, respondents chose between four quality related questions such as ' Don't go to clinic because they don't provide good care, not satisfy with general health service received, not satisfy with maternal health service received and not satisfy with child health service received.' Like the above section, each respondent could get a total score between 1-16 for their perception on quality of health care service.

Overall scores were again categorized into three groups with: High , medium and low for accessibility with 1-8 as low, 9-18 as medium and 19-24 as high; 1-5 as low, 6-10 as medium and 11-16 as high affordability and same ranking for quality of care with 1-5 as low, 6-10 as medium and 11-16 as high respectively.

### Data management and analysis

Data analysis and summarization were done by using Stata version 16.1 software after checking the duplicates and data missing and ensuring data consistency. For descriptive purpose, mean (SD) was presented for normally distributed continuous variables and median (interquartile range) for skewed ones, and then frequency (%) for categorical variables. Among the main outcomes, affordability, accessibility, and quality of care were treated as continuous ones and GBV as the dichotomous categorical one. For comparison of continuous outcomes by ethnicity (between Bamar and non-Bamar or Ethnic), bivariate analysis using independent samples t test was conducted. Multivariable analysis using multiple linear regression was done for comparisons previously mentioned after adjusting covariates. To determine the association between ethnicity and GBV, odds ratios (OR) with 95% CI were estimated by using binary logistic regression for bivariate and multivariable analysis. The independent variables that were considered as covariates such as background characteristics with p-value of less than 0.25 during bivariate analysis were put into multivariable analysis. Regarding multivariable model, assumption for multicollinearity among independent variables, and post regression diagnostic tests for model fitness, and model specification were checked. Level of significance was set at 0.05 and all test statistics were considered two-sided.

### 3.4 Qualitative part of the study

#### Participants

We applied a purposive sampling and conducted 12 IDIs and 1 group discussion with health staff from the departments of medical service (DMS) and public health (DPH), the Ministry of Health and Sports (MOHS) and Ethnic Health Organization (EHO). The selection criteria were those with knowledge and experience working in the public sector or EHO on health service delivery at various levels, had knowledgeable to answer the scope of the questions and those who gave consent and agreed to participate as anonymous respondents. For FGDs with community, we chose communities living in the surveyed township, aged 18 years and above, knowledgeable to discuss about health issue, had experience in taking health service from government or any sectors. A total of 15 FGDs with three at Kachin, Chin and Kayin states respectively and two FGDs at Magwe was conducted. The FGDs were gender-balanced and conducted with male and female respondents together or either males or female group and conducted at both urban and rural areas (6 in urban and 9 in rural).

#### Data collection

Before starting the data collection, separate guidelines were developed for all IDIs and FGDs and later translated into Burmese language. The guidelines were pre-tested with four community with similar characteristics in Yangon by the MPH and team (M&PH research team member). After taking consent, qualitative data collection was conducted and explored relevant topics such as current decision-making level flow at state/region and township level for human resource, facility, health service delivery and budget; communication mechanism with NPT; obstacles and challenges faced; perception about the centralization, decentralization and suggestion for future decentralization, for service provider side. With community, the study examined the information about community's perception on receiving quality health care service; their biggest challenges in using or to use health care facilities (affordability, accessibility, access information); challenges or discrimination felt because of ethnicity, language spoken, being female; felt adequate for general and women and child health service, satisfactory on health care and quality of health care and role of EHO and experience in using. Data collection with community occurred in Feb-March 2019 and KII with service providers

was from February 2019 onwards and slight delay in Magwe region based on the respondents' availability.

## Data analysis

Thematic analysis was used (37). All qualitative data (handwritten or computer note or recorded<sup>12</sup>) were transcribed verbatim in Burmese, saved in a word document and checked for accuracy. MPH translated all transcripts into English, reviewed transcripts and prepared a draft code list. MPH then added thematic codes emerged from a thorough reading of the transcripts and the final code list was developed.

Ethnic group and geographical areas were mostly matched in Magway region and Chin state, with 94% Bamar lived in Magway, and 97% of Chin lived in the Chin state. Kachin and Kayin states showed different patterns, mainly influenced by the study townships. Respondents from Kayin state comprised of Kayin 73%, Bamar 15 % and mixed ethnic 4.4% and those from Kachin state were Kachin 41%, Shan 17.6%, mixed ethnic 17.6% and Bamar 16%.

## 4 FINDINGS: COMMUNITY PERCEPTION ON PUBLIC HEALTH SERVICE DELIVERY

### 4.1 PARTICIPANT INFORMATION AND HEALTH SERVICE UTILIZATION PATTERN

#### 4.1.1 Participant Information

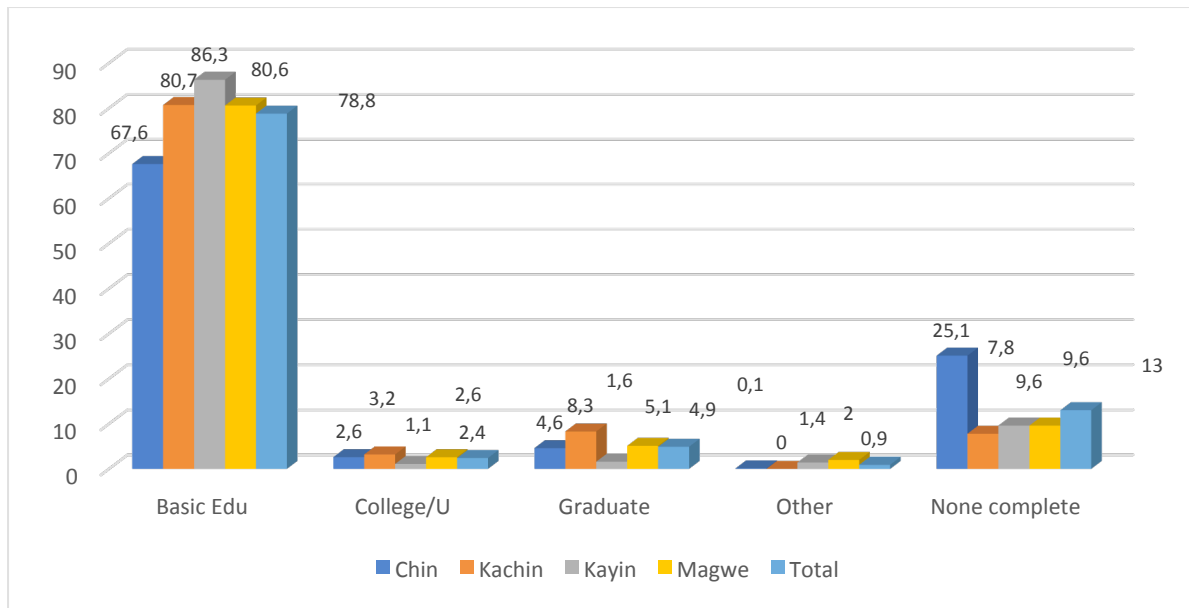
Survey respondents constitutes 53.7% (n=1474) females and 46.4% (n=1273) males while 71% (n=1,937) were from villages while 29% (n=810) were from wards, consisting with national rural urban population based on the census . The mean age of respondents was 42 years. Respondents ethnic group were Bamar 30.3 % (n=831) , Chin 25.5% (n=701) , Kayin 18.7% (n=513), Kachin 10.7% (n=293) , Shan 5.6% (n=152) , mixed ethnic 6.4% (n=175) and others 3.0 % (n=21). The detailed information on background, demography, ethnicity and language were reported in the annex section.

Education, as reported in below figure, 79% completed basic education, 4.9% were graduate, 2.4% were attending college/university, and 13% did not have any education. Chin state had the lowest education status with only 67.6% completed basic education, and 25.1% did not have any education. Eighty two percent (n=2,25) said they had attended the formal education school and the rest 18% did not receive any types of schooling, in addition to the government education. There were no significant differences between males and females with 78.6% female vs 79% males completed basic education; 7.4 % female vs 7.1 % males who were college or graduate and 13.6% female vs 12.3% males who were not having any education.

#### Figure 1: Respondents' education by state and region

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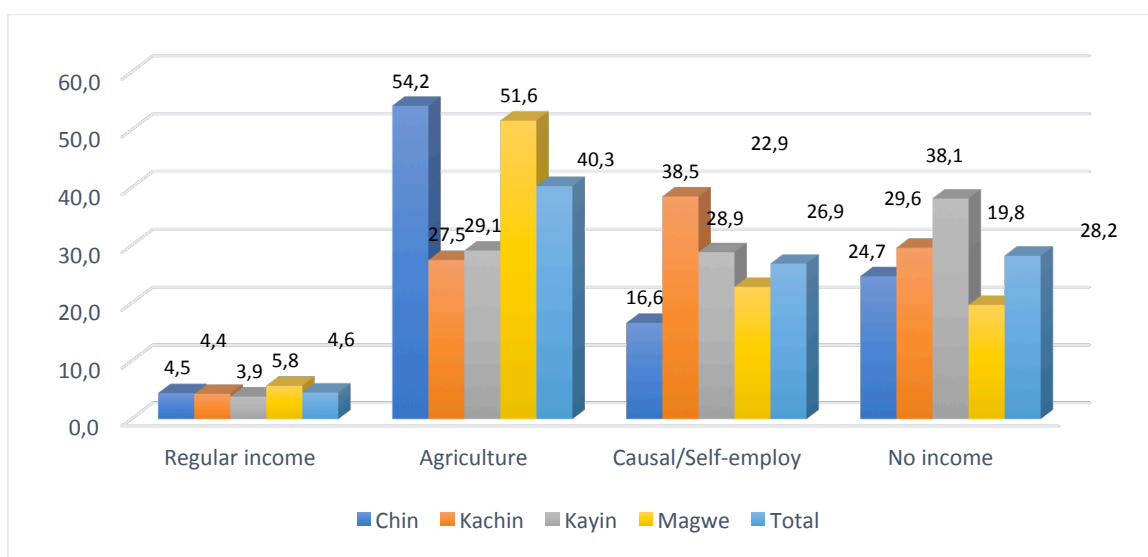
<sup>12</sup> Most qualitative data collection particularly with service providers are hand written or computer note.



**Occupation:** Agriculture or farmer were the highest proportion with 40.3% (n=1106), followed by irregular income jobs ( casual labour, petty trade, vendor, self-employed) - 26.9% (n=737) and regular income jobs (government/private employee)- 4.6% (n=126). Students (1.7%, n=46) or those who were unemployed (26.5%, n=729), coded as ‘no income’ group, were 28.2% (n=775).

Chin state and Magway region had the highest number of farmers with an average of 52% while Kachin and Kayin states had an average 28% each. One-third of respondents in Kachin state were casual workers or self-employed (38.5%), followed by 29% in Kayin, 23% in Magwe and lowest in Chin state (16.6%). Thirty eight percent of respondents from Kayin had no income. The gender difference influenced occupation as those with no income were higher in the female population (40.8% female vs 13. 6% males). The higher male population had either regular monthly income (3.2% females vs 6.2% males) or were worked at the agriculture sector (32.6% female vs 49.2% males) or casual or self-employed (23.3% females vs 30.9% males).

**Figure 2: Respondents’ occupation by state and region**



Seventy percent reported they had monthly **income** and of these, 55.2% earned only <100,000 MMK (low income), 40.3% earned 100,001-300,000 MMK ( medium income) and 4.6% earned > 300,000 MMK (high income) per month. Geographically, Chin state had highest low-income population with 61.6%, followed by Magwe ( 58.0 %), Kayin (.54.1 %) and Kachin ( 48.7 %). Only Kachin state had highest proportion of high-income group with 8.9% and the rest had average 2-4% only.

#### 4.1.2 HEALTH SERVICE UTILIZATION PATTERN

For both survey respondents and FGDs, government health service was the main service provider. In rural areas, the smallest unit of health care facilities providing the primary health care (PHC) and curative services are rural health centre (RHC), sub-RHC and stations hospitals (16-25 bed capacity) (Ministry of Health, 2014, Saw et al., 2019).

Below table described respondent’s health utilization pattern and 73.8% sought government health service ( either hospitals or clinics), 21% used both government and private health care and 5.3% took private health care service when they or family members were sick. Only six respondents said they used EHO health service and almost negligible however it was important to note that data was collected mainly in the MOHS coverage areas. In terms of State and Region, Chin and Kayin states had highest population using government health service ( 89% in Chin and 80% in Kayin) and Kachin state showed only 61.4%. About 30.7% of people living in Kachin state and 26.6% from Magwe region said they used both government and private health care. FGD findings supported survey results as the only choice for the FGD respondents in the villages of all states and region was RHC or nearby hospitals. Those from the urban areas had more option to choose between government and private health service. The justifications for people using mixed services, from the FGDs, were firstly, the study was conducted only at wards in Kachin township and secondly, Magwe region had better geographic location and higher numbers of private clinic. Hence, survey finding was logical as respondents who used private health service mainly used the general practitioner ( GP) clinics and for minor illness. Most common reason to go to the hospitals were for major diseases, operations, child delivery and some investigations.

Respondents from ward said they went to the local private GP clinic (if feasible) for minor illness because it was more cost-effective, save time and received better care, than government hospitals. In general, average clinic visit to see a medical doctor cost about 3000-5000 and a specialist was between 6000-10000 MMK. Some felt there might not be huge difference if all expenses, including travel cost and waiting time, were considered and a respondent said that she visited her Obstetrician at a private clinic and delivered a baby at the public hospital referred by the doctor.

Another respondent claimed that the procedure and expenses at the private health service were more predictable and clearer than the public providers. At public hospitals, though facility and health staff cost were said to be free, patients had to spend for drugs and medicine especially for operation and investigation. Nonetheless, for all the operation or serious illness, government health care service was an only option for the community who could not afford.

*“ I think there is not much cost difference if travel cost or waiting time was considered and we don’t need to wait at GP clinic and get better care. ”* (A respondent, FGD, Ph-an ward, Kayin)

**Table 1: Community health service utilization by state and region**

Health service usage		Chin	Kachin	Kayin	Magwe	Total
Govt health service	n	618	436	563	411	2028
	%	89.1	61.4	80.4	63.9	<b>73.8</b>
Mixed health service	n	70	218	115	171	574



	%	10.1	30.7	16.4	26.6	<b>20.9</b>
Private health service	n	6	56	22	61	145
	%	0.9	7.9	3.1	9.5	<b>5.3</b>

## 4.2 HEALTH SERVICE ACCESSIBILITY AS ACCESS FRAMEWORK

A survey from 2,747 and 15 FGDs ( village-10 FGDs, wards-5 FGDs) provided information on community experiences on government health service.

This section reports triangulation of survey and qualitative study analysis findings. It described about the **community access to health service and its influencing factors** based on respondents' experiences in receiving health service when they or their family members were sick. Respondent's access level measurement was based on the 'Accept Framework' concept, reported in the literature review section. Accessibility, in this study, defines 'Health care is available at the right place and time, taking account of different population needs and the affordability of care' and include geographic access and resources to meet the user's needs (availability)[8]. The FGDs generated six themes (four access related themes and others). Below table listed the themes and findings around the theme were reported along with the survey findings. Whenever appropriate, further survey analysis was illustrated in the report section and annexe.

Community health service accessibility was reported via '(i) Accessibility (location), (iii) Availability, (iii) Affordability, (iv) Awareness/Acceptability, (v) Quality of health service and (vi) Perceived equality'. Availability to health service was further grouped for health facilities/ medicines/supplies and equipment and quality health staff.

**Table 2: Themes on factors affecting community health service access and utilization pattern**

Theme	Subtheme	
1 Access to health facility ( location)	▪ Location (geographical barrier, travel time, distance to reach health service, security)	Access to health service framework (adapted from the access framework)
2 Availability (Access to resources)	▪ Medicine, supplies ▪ Skilled health staff	
3 Affordability	▪ Cost associated with health service and other costs- transport, travel, meal cost	
5 Awareness /Acceptability	▪ Awareness of health information and service. ▪ Language and culture barriers	
6 Perceived equality		
7 Quality of health service		

### 4.2.1 Barriers to access the government health service in general

Factors affecting health service accessibility was examined via the barriers encountered and survey data measures health service accessibility via six questions: (i) distance or geographic, (ii) health facility, (iii) medicine, drugs and supplies, (iv) health care service, (v) health staff and (vi) language. Each respondent chose one out of four responses- **NOT AT ALL, A LITTLE, SOMEWHAT, VERY MUCH,**' for each question and each respondent could give 1 to 24 responses. The study excluded

‘DON’ T KNOW/NO ANSWER’ response as it accounted for only 2-4%. Those who chose ‘ very much’ had the greatest difficulty and ‘not at all’ had the lowest difficulty to access health service.

The survey results were reported as overall barriers for n=2,747 respondents. The highest proportion of barriers answered by the respondents as ‘very much’ in serial order were- ‘Health facilities (hospital/clinic/health centre) were not enough or if present, not functioning(14.5%)’, followed by ‘distance or geographic barrier (8.9%)’, ‘no health care service (6.5%)’, ‘not enough drug or supplies (4.6%)’, ‘staff not available (4.1%)’ and ‘language barrier (1.3%)’. Not having enough or functioning health care facilities remained the top two barriers even after combining of ‘very much and somewhat’ responses with 36% and 19.1% respectively ( table 3).

**Table 3: Barriers to access the government health service in general**

	Not at all+ A little	Somewhat+ Very much
Distance/geographic	80.9	19.1
No health care service	87.6	12.5
Staff not available	90.4	10
Health facility (not functioning/enough)	62.2	36
Language barrier	96.7	3.3
No medical drugs/supplies	83.3	16.7

#### 4.2.2 Distance or geographic barrier

The survey found that Chin state had highest geographic barrier to access the health service followed by Magwe region. Interesting point was those who reported they did not have any distance or geographic barriers to access the health care was similar for ethnic states ( Kachin, Kayin) and Magwe region with average 61% each. The possible reason was we collected survey data close to the urban areas of those ethnic states and consequently, geographic challenge was not a greatest concern. In Kachin, half of survey respondents were from Myitkyina wards and therefore only 9.7% thought they had ‘somewhat and huge’ geographic barriers.

**Table 4 : Geographic barrier to access health care by States and Region**

	Not at all	A little	Somewhat	Very much
Chin	40.3	27.7	14.1	18.0
Kachin	61.8	28.5	8.6	1.1
Kayin	62.5	22.7	7.9	7.0
Magwe	61.4	18.5	10.2	9.9
<b>Total</b>	<b>56.4</b>	<b>24.51</b>	<b>10.17</b>	<b>8.9</b>

Our FGD findings claimed distance to the health facility and geographical barrier discouraged community from seeking and accessing the health service. Respondents made complaints if there were no specialist areas nearby, regardless of resident areas as state or region. Hence, people from rural areas of Chin and Kachin states mainly complaint a geographical as a barrier to receive the health care. Highest complaint came from the Chin state *and* rainy season was the most difficult time to access the health facility.

The severity of challenge sometimes depended on the road infrastructure and distance to travel. Among four states and region, only Myitkyina city ( Kachin state) and Magwe city ( Magwe region)

had the major specialist hospitals. For example, urban areas of Mindat township, Chin state had a better road to access the Pakokku General Hospital in Magwe region by car, compared to the remote villages in Magwe region. Travel distance, time needed for travel and difficulties in arranging transport were the common challenges reported by the respondents. For Kayin communities, transportation cost and travelling time were main barriers rather than the geographical barrier. It might be partly due to the improvement in road infrastructure in recent years after the cease-fire agreement. Transportation and the geographical challenge were based on the distance or road access to the large cities with a specialist hospital.

Some shared that in addition to the geographic challenge, the security situation in the local area led to the longer travel time affecting the lives of the patients.

*“Transportation is difficult when there is a flight along the road, and we could only pass the toll gates at night after permission. Soldiers were there with full-loaded guns, though after explanation, we usually get approval, it is time-consuming in case of emergencies.”* (FGD respondent, Bhamo, Village).

### 4.2.3 Availability of resources as a barrier

#### 4.2.3.1 Not enough health facilities, service, medicine, and supplies

Below table showed reported barriers because of ‘not having enough or functioning health facilities, no availability of health care service and not having enough medicine and supplies by region. Chin state respondents were the highest population complained of not having enough medicines and supplies and second highest in saying their areas did not have enough (any types of) health care services (preventive care, primary and specialist care). For health facilities related barrier, majority of respondents from Chin state (60.8%) felt there was only a small problem (a little) and only a few percent (3.6%) though barrier was ‘much’. The possible reason was, after 2012 and particularly 2014-15, there was an increase in budget allocation to Chin state, areas with least development and high disease burden, with a corresponding increase in health facilities and infrastructure. There are three main funding sources for Chin state: MoHS budget, World Bank loan, and external assistance such as 3MDG Fund and Global Fund. The World bank loan flows via MOHS budget. According to the MOHS report on Chin state (internal report) in 2018, health budget utilization in Chin state has increased gradually with 7893 to 8912 MMK in millions from 2014-15 to 2016-17. However, for Chin people, the medicine and supplies barrier were huge with 10% chose ‘very much’ compared to other States and Region. Although further study is needed for the reason from supply side, possible reasons, based on the FGDs and desk review, suggested of high transportation rates of medicines due to the geographic barrier and weak in the procurement and supply chain system at local level. Interesting finding was Kayin state had the highest proportion reported of not having enough or functioning health facility (24.4%), followed by Magwe (20.1%). Despite located in the central plain area, Magwe region became the most dissatisfied region regarding ‘health care service availability. Discussions with respondents from Magwe suggested that in rural areas, though access to rural health centre (RHC) is not difficult, for serious and diseases like cancer and major operations, their only choice was to go to Pakokku, Magwe or Mandalay specialist hospital. The survey was conducted in 15 villages and 4 wards in Minhla township and 13 villages and 1 ward in Thayet township in Magwe region and that might be the reason for high population complaint of health service unavailability. Likewise, in Kachin state, the fact that survey was able to conduct in Myikyina wards only with no village population because of security reason by that time and despite data was collected in more villages (18 villages vs 3 wards) in Bhamo and Moemauk townships, might be the reason of low proportion who said health service unavailability was high barrier for them.

**Table 5: Not enough or functioning health facilities is a barrier by States and Region**

	Not at all	A little	Somewhat	Very much
<b>Chin</b>	16.3	60.8	19.3	3.6
<b>Kachin</b>	20.6	40.2	28.5	10.7
<b>Kayin</b>	34.0	19.4	22.2	24.4
<b>Magwe</b>	30.9	33.7	15.4	20.1
<b>Total</b>	25.3	38.7	21.5	14.5

**Table 6: Health care service not available is a barrier by States and Region**

	Not at all	A little	Somewhat	Very much
<b>Chin</b>	49.6	33.4	8.5	8.4
<b>Kachin</b>	71.2	21.5	6.0	1.3
<b>Kayin</b>	79.3	13.0	2.2	5.5
<b>Magwe</b>	67.9	13.6	7.4	11.2
<b>Total</b>	67.1	20.5	6.0	6.5

**Table 7: Not enough medicine and supplies is a barrier by States and Region**

	Not at all	A little	Somewhat	Very much
<b>Chin</b>	19.0	47.3	23.8	10.0
<b>Kachin</b>	43.5	47.1	9.0	0.4
<b>Kayin</b>	68.4	21.3	8.3	2.1
<b>Magwe</b>	56.3	30.5	7.0	6.2
<b>Total</b>	46.5	36.8	12.1	4.6

Lack of specialist health facilities in the respondent's villages was a key factor serves as a barrier to access the health service easily. Health staff referred serious and emergency cases to the nearby tertiary hospitals. All 15 FGD respondent's complaint about the lack or limited health facilities, medicines or supplies: challenges emerged existed as a standalone or interrelated. The unavailability of specialist health facilities in their area, along with equipment and supplies and specialist health staff were commonly mentioned during group discussions. Issues as poor communications, no electricity during operation, unavailability of the required drugs at the hospital pharmacy and transportation cost also emerged.

After 2012, with increased international aids (3MDG fund, for example) and government funding [1], RCH was upgraded but mostly on the maternal and child health (MNCH) care services. The rural community acknowledged the increase in the Rural Health Centre (RHC) accessibility but mostly talked about pregnancy care, immunization services and minor illness treatment. For community, unavailability of functioning and well-equipped health facility within their reach was a huge burden affecting their perceived quality on health care and satisfaction to the health service. All respondents claimed the need for more staff, medicines or equipment.

Selected quotes on the resource constraints were reported below.

*"Well, I don't know whether they want to treat us or not as health staff always refer to us to the Bamo hospital." (FGD1, Momauk, village)*

*"I think we need more staff, medicines and equipment." (FGD respondent, Magwe)*

*“We do not need to pay to doctors, but we have to go to Taunggu hospital to take Ultrasonography (USG). We want more equipment and doctors.” (FGD 15, pregnant mother, Thandaunggyi).*

Health staff decision on making referral cases mostly depends on the availability of the specialist, advanced diagnostic material (Computerized Tomography Scan (CT) for example) and distance to travel.

#### 4.2.3.2 Not enough quality health staff

Chin state showed the second highest area with difficulty to access the health service after Magwe region. Access to the quality health staff was influenced by the presence of staff at the hospitals or medical centres when needed.

Magwe region had highest population complaining of not having enough skilled staff with 8.6%. However, it should be noted that almost third fourth from Magwe region( 72.1%) perceived that it was not a problem at all, rural population, involved in the survey, were more than five times than urban population (543 from villages vs 100 from wards) and Magwe region had highest villages participation in the survey compared to the other three ethnic states. Findings after triangulation with FGD findings include RHCs at some respondents’ villages did not have enough staff ( replacement of vacant post had not been filled) and some villages had difficulty to access the main road, to reach to the higher health facilities. Some referred not having quality staff as ‘unavailability of a specialist staff’ in their areas. They have to go to Magwe city which has specialist hospital, for major treatment such as operation or cancer. A notable point to consider was Chin state has been neglected for long time and the health facilities and service improvement occurred recently and the benchmark for Chin and Magwe community would be different with the latter population might likely to have a higher expectation and made complaint.

**Table 8: Staff not available is a barrier by States and Region**

	Not at all	A little	Somewhat	Very much
<b>Chin</b>	53.24	33.48	7.52	5.75
<b>Kachin</b>	67.38	24.18	7.3	1.14
<b>Kayin</b>	80.06	15.4	3.08	1.47
<b>Magwe</b>	72.12	15.38	3.85	8.65
<b>Total</b>	68.13	22.25	5.48	4.14

Among FGD respondents, those who shared as health staff availability as a barrier was mainly from the Chin state. Most of the hospitals in Chin state did not have an ophthalmologist, ENT or ortho-surgeon specialist. A respondent said he was referred to Mandalay or Yangon hospital when a physician or surgeon took leave (for a month), and it costed a lot because of transportation, accommodation, meals and logistic cost for patient and families.

*“ Hakha is 32 miles from our village, but it takes 8 hours to reach to the Hakha hospital as none of us in our village owns a car. I once suffered intracranial bleeding and hospitalized at the Hakha hospital and was again referred to the Mandalay hospital as there was no CT scan there. It cost us more and risky.” (FGD respondent, Hakha, Village)*

Those from the Kayin state community also shared their challenge of not having enough skilful doctors.

State and Region health departments had limited authority ( further explained in interviews with service provider section below) to appoint, transfer or replace the permanent health staff and sometimes, there were gaps to replace the staff at RCH or hospital who were away for personal, training or have been promoted. The delayed in replacement of basic health staff was hence possible. Comparatively, some Kayin villages had better access to the main road than remote villages in Magwe region, located around the Ayeyarwaddy river.

FGD conducted in Magwe region explained the possible reason linking to the survey finding.

*“We don’t have any hospital, clinic or nurse near our villages. There was only a trained nurse. We go to Minhla city for minor illness or Magwe hospital if serious. Have to hire car, and it was difficult for the poor”.* (FGD respondent, Minhla, village)

For all study areas, lack or insufficient health staff (specialist doctor, doctor or nurses) was one of the factor community highlighted during the group discussion. There was no replacement system or procedure for the existing basic health staff at RHC or specialist doctor at the hospital if they were on leave or training.

Those from the poor social-economic (general population) claimed that they wanted a skilful doctor at their village. A few respondents reported that they went to RHC or private clinic opened by the midwives or health assistant if outside clinic hours.

#### 4.2.4 Accessibility scores

##### 4.2.4.1 Overall accessibility between Bamar and Ethnic group

Community’s perception of the **health service accessibility** was computed and compared against Bamar and ethnic group by bivariate analysis. In computing the **accessibility scores**, six questions (geographic, health facility, medicine, drugs and supplies, health care service, health staff and languages) investigating the barriers to health care were analysed.

**Bamar and ethnic variables:** Here, ethnic and Bamar group data were obtained from the question ‘What is your ethnic group?’. Respondents could choose more than one response which were given as eight main ethnic groups in Myanmar (such as ‘Bamar, Kachin, Kayah, Kayin, Chin, Mon, Rakhine, Shan), mixed ethnic group and others. Those who chose more than one ethnic group were considered as mixed ethnic group and others include those who reported as Chinese and Indian or other minor ethnic group. After re-grouping, the respondents’ ethnic group were Bamar 30.3 % (n=831), Chin 25.5% (n=701), Kayin 18.7% (n=513), Kachin 10.7% (n=293), Shan 5.6% (n=152), mixed ethnic 6.4% (n=175) and others 3.0 % (n=21). For bivariate analysis, the ethnic group were again categorized into two groups: Bamar and Ethnic with the former as those who reported themselves as ‘Bamar’ and the latter as those who reported themselves as ‘Any ethnic group except Bamar, Mixed ethnic group (who chose more than one ethnic group and majority came out as Bamar and other ethnic origin) and other minor group’.

**Accessibility scores:** There were four responses for each accessibility questions as reported above- ‘Not at all, A little, Somewhat and Very much’. If a respondent chose ‘not at all’, the score was given as ‘4’ as it means he/she did not have any barrier and likewise, those who chose ‘very much’ got score ‘1’. Each respondent could score 1-4 points for each question with a total score between 1-24

for six accessibility questions. The overall scores were again categorized as high (19-24), medium (9-18) and low (1-8) level to access health service.

The analysis results were presented with a mean difference, p values and confidence interval (CI). Below table reported that the mean accessibility score was 20.14 for Bamar and 19.70 for ethnic group and the mean difference was 0.44. The mean accessibility score for both groups fell under 'High' category. Health service accessibility between the two ethnic groups was statistically significant with  $p < 0.01$ . Bamar had 0.44 higher point to access the health service than the non-Bamar group.

**Table 9 : Accessibility scores on public health service between ethnic and Bamar group**

	Number- Ethnic	Mean- Ethnic	Number- Bamar	Mean- Bamar	Mean difference (coefficient)	P value	95%CI
<b>Accessibility score</b>	1903	19.7	815	20.14	0.44	0.001***	0.17,0.70

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , two-sample t test with equal variance

#### 4.2.4.2 Association between perceived health service accessibility and the selected socio-demographic characteristics

**Bivariate analysis** was performed to measure the association between perceived accessibility and selected socio-demographic characteristics. Background variables ( independent variables) were 'state and region, age group, gender, marital status, attend a formal school or not and occupation'. Only variables with significant associations were reported here and the result table including all variables could be found in the Annex section. The same approach was applied for the 'affordability and quality' scores measurement against ethnic group and bivariate analysis using the socio-economic variables.

Table 9 described that the accessibility score was significantly associated with the respondents' 'state and region, formal school attend or not and occupation type'. In bivariate analysis, Magwe region was put as a reference (zero) because it is a Bamar dominant area. The results found that the place of living was statistically significant (SS) across four areas and overall accessibility to the health service was influenced by their residing states or region. Chin state had the lowest health accessibility scores across all states and region (1.68 scores lower). Kayin state had the highest scores with 0.60 higher and Kachin state had 0.36 higher score than Magwe region.

The respondent's education and type of occupation also influenced the health service access. If a respondent had received any formal education, they had a higher chance to access health service than those who did not have any education at all (higher access score 0.93,  $p < 0.001$ ). Respondent occupation type suggested same input as the results showed that those were reported as 'farmers or agriculture workers' had lower health service access scores (- 0.63,  $p < 0.05$ ) than those who worked at government or private service. That finding is logic as in general, those who did agriculture work were from rural areas and rural population might had lesser access to health service than urban population.

**Table 10 : Factors associated with socio- demographic characteristics and perceived accessibility**

Socio- Demographic Variable	Coefficient	P	95% CI
<b>State/Region</b>			
Chin	-1.68	0.000***	-2.01,-1.35
Kachin	0.36	0.036**	1.70, 2.47

Kayin	0.60	0.000***	1.65, 2.43
Magwe	Ref*	0.000***	0.93, 1.72
<b>Attend formal school or not</b>			
Never attend	Ref		
Currently or previously attend	0.93	0.000***	0.611, 1.25
<b>Occupation</b>			
Have regular income (salary)	Ref		
Agriculture (not regular income)	-0.63	0.038**	- 1.22, -0. 04
Others (no regular income)	0.35	0.251	- 0.25, 0.96
No income	0.14	0.647	- 0.46, 0.74

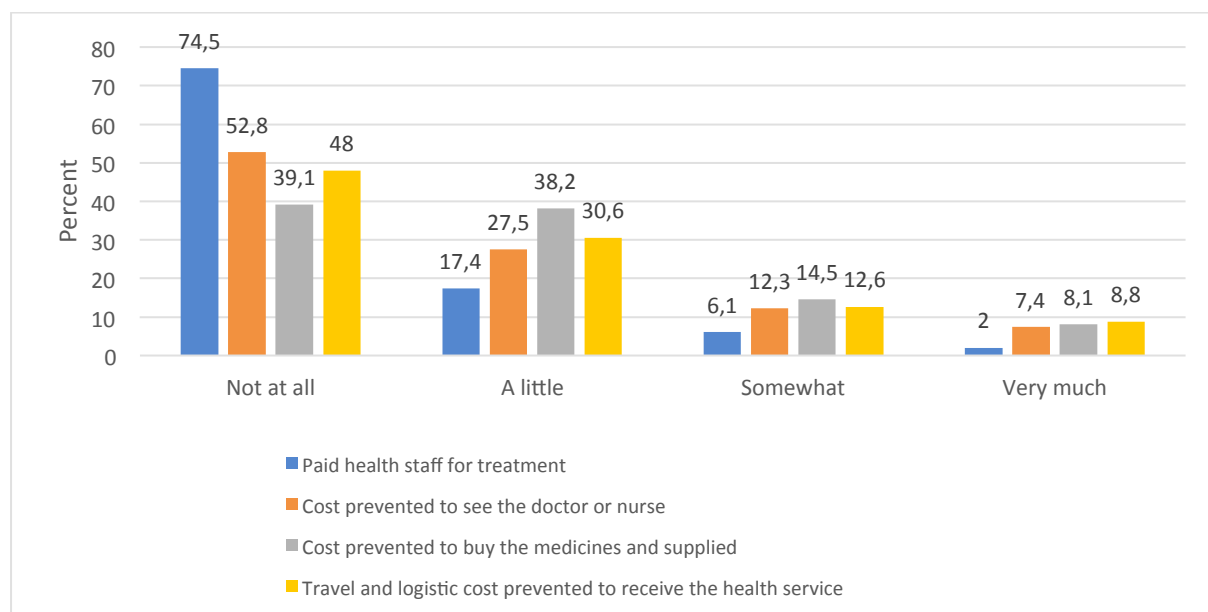
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , (\* Ref= 0.000) . n=2747

#### 4.2.5 Affordability to access the government health service

Affordability to enjoy the government health care service was assessed via the four affordable related questionnaires. Affordability to health care service, in this study, was defined as 'The direct and indirect costs associated with the health care'. The survey asked questions such as 'Did you pay health staff to get a treatment, did cost prevent you to see a health staff, did cost prevent you to buy medicines and supplies and did travel and logistic cost prevent you to receive health service?'

The majority chose 'Not at all and a little response' for all affordable related questions as shown in below figure. The result found that the top two factors preventing them from enjoying health service were cost associated medicine and supplies (22.6%) and travel and logistic (21.4%) after combining responses 'somewhat and very much'. About 19.7% said cost prevented them to see doctors or nurses while only 8% said they had 'somewhat or very much' level of barrier to seek treatment because they had to pay health staff.

**Figure 3: Affordability to access the government health service**





FGD results found that medicine, supplies and travel cost were the top two affordability related costs, similar to the survey. Affordability was a key issue for the respondents even there was hospitals nearby, but the level of hardship depended on the treatment they received ( medical, surgical, childbirth or chemo), duration of hospital stays, the available of free medicines at the hospital or not. Out of pocket payment was still a major challenge for all respondents, unless the hospitals they went could provide free medicines, drugs and investigations.

Majority said they paid for investigations (blood test, Xray, USG), medicines and supplies when there was operation or surgery involved. A few claimed that they paid health staff to get treatment but mainly for operation or child delivery cases while others argued that it was not always the case.

All participating respondents said they could not afford the specialist health care for complex diseases.

Poverty plays, as expected, a key role in hindering quality health care, based on the respondents' experience. FGD participants, based on themselves or their families hospitalization experiences said, hospitalization could cost a minimum 100,000 MMK (FGD 7,9,11)<sup>13</sup>, depending on the case excluding expenses for hospital attendants and transportation. A woman residing at the village in Thatyet township said they were supposed to purchase everything except drip bottle, when her husband had a surgery<sup>14</sup>. Respondents also shared their views of how hospital cost hindered them to access the treatment they need. This factor had impact on their views. For example, a respondent from Moemauk ward said because they were poor, they only went to hospital for serious illness and sometimes, it was too late when they get there<sup>15</sup>. Another respondent from Minhla village, Magwe shared same opinion by giving an example of a villager who had a motorcycle accident but chose to stay at home to avoid operation cost at hospital which would be estimated 5-600,000 MMK<sup>16</sup>. For poor people, their only option was to seek treatment at home with traditional medicine or free health centre (urban or rural health centre) with lower chance to receive the specialist health care than the more well-off people.

Though majority complaint of hospital related expenses, some had positive views. They felt condition was improved as poor people could get free-of-charge ( FOC) for investigations or operations costs. Previously, patients were asked to buy even plaster or bandages but now hospitalization cost was significantly reduced. According to a respondent from Moemauk village, they only need to spend the petrol fees ( transportation) when hospitalized<sup>17</sup> and those from Thandaunggyi, Kayin state shared similar experience as hospital gave the prescribed medicines and patients had to buy medicines not available at the hospital<sup>18</sup>.

As reported in survey finding, transportation cost emerged as another barrier. In addition, difficult to hire a car at night-time was a hindering factor for them, even the cost was low or free, particularly for Chin and Kayin states. FGD conducted in Chin village found that care rental cost was a huge burden for the community, along with medicine and meal costs.<sup>19</sup>

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<sup>13</sup> Focus group with community in Hakha, Minhla and Thayet townships, Feb 2019.

<sup>14</sup> Focus group discussion ( FGD11), Thayet township, Magwe region. March 2019.

<sup>15</sup> Focus group discussion ( FGD11), ward, Moemauk township, Kachin state. March 2019.

<sup>16</sup> Focus group discussion ( FGD11), Minhla township, Magwe region. March 2019.

<sup>17</sup> Focus group discussion 1 and 2, Momauk and 15, Thandaunggyi township. March 2019.

<sup>18</sup> Focus group discussion ( FGD15), Thandaunggyi township, Kayin state. March 2019.

<sup>19</sup> Focus group discussion ( FGD 7), Chin village. March 2019.

There was discrepancy between survey and FGD results when community shared their experiences on affordability to health service. Lower proportion of survey respondents perceived cost as a barrier or an issue but majority of FGD participants did not have same view and claimed cost as major barrier. The possible reasons were difference in sample size with 2,747 participants for survey and 124 respondents for FGDs. Another justification was except payment made to the health staff which accounted for 25%, those who chose cost prevented them to see health staff were 47% , cost prevented to buy medicines or supplied were 61% and travel and logistic cost prevented them to receive health care were 52%, if we combined ' A little, Somewhat and Very much' responses. The third possible factor was government health expenditure has increased in recent years with 4.7% GDP in 2017 (World Health Organization Global Health Expenditure database, n.d.) and consequently, government investment in hospitals for medicines ,supplied and facilities has improved. This factor is likely to influence FGD respondents experience and opinions and some surveyed respondents.

### **Overcoming cost barrier**

Like the earlier out of pocket expenditure study conducted in Myanmar(Save the Children. The World Bank. The Three Millennium Development Fund, 2017), according to the FGD, community solved their financial problem by borrowing money from relatives or friends or selling assets or goods. Health care cost was a major burden for an individual or family and mostly shared by those from Momauk and Hakha townships. On the other hand, FGD respondents from the Thayet, Magew region shared the cost-sharing system at the hospital for an operation which relieved their burden. The only solution for the community to receive health care during hospitalization if could not afford was **borrowing** of money.

*"Most of us do not go to the hospital if far because of financial difficulties. Some people borrow money to go to hospitalization and the interest rate was 1-2% per month. Red cross sometimes supports us for travel cost."* (FGD6, Chin, village)

Additional finding while exploring affordability was reason for some respondents' preference on private health service in comparison with public health care, regardless of their afford level. Waiting time was the main reason and though private hospitals were costly, for an urgent treatment, community borrowed money and went to the private health care<sup>20</sup>. Those from Pha-an township perceived that even there were no health staff or facility cost, there are other cost at the government hospital and there was no waiting time at the private clinic<sup>21</sup>. (FGD 14, Pha an, ward).

## **4.2.6 Affordability scores**

### **4.2.6.1 Overall affordability between Bamar and Ethnic group**

Community's perception of the association between health service affordability and ethnicity were computed, and bivariate analysis was performed to measure the association between perceived affordability and selected socioeconomics characteristics. The four affordable related questions, reported above, asked about which factors prevented them to receive the health care they need. A respondent could score 1-4 points for each question and a total score was between 1-16 points for four affordability questions. All factors such as required to pay money to health staff, cost prevented

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<sup>20</sup> Focus group discussion ( FGD 4), Bahmo village, Kachin state. March 2019.

<sup>21</sup> Focus group discussion ( FGD 14), Pha-an ward, Kayin state. March 2019.

to see health staff, cost prevented to buy drugs and supplies, and travel and other costs prevented to receive health care, were included in the analysis as cost associated variables. The perceived affordability between the two ethnic groups was statistically significant with  $p=0.000$ . Both ethnic and Bamar group affordability scores fell under 'Medium' category, which was between 9-18 scores. Ethnicity determines affordable level and Burmese respondent were likely to have 0.68-point higher affordability point compared to the ethnic people.

**Table 11 : Affordability scores on public health service between ethnic and Bamar group**

	Number- Ethnic	Mean- Ethnic	Number- Bamar	Mean- Bamar	Mean Difference ( coefficient)	P value	95%CI
<b>Affordably score</b>	1901	12.85	804	13.53	0.68	0.000**	0.45,0.91

\*\*\*  $p<0.01$ , \*\*  $p<0.05$ , \*  $p<0.1$ , two-sample t test with equal variance

#### 4.2.6.2 Association between perceived affordability and the selected socio-demographic characteristics

Table 11 described that the affordability score was significantly associated with the respondents' 'state and region, formal school attend or not and occupation type'. Magwe region was put as a reference (zero) as accessibility computation. The results found that the place of living was statistically significant (SS) for Kachin and Chin states, suggesting that residing areas had influence on the health service affordability. Kachin state had the highest affordability scores across all states and region (0.039 higher scores) while Chin state showed lowest scores with 1.62 points below the reference point (Magwe region).

Respondent's education and type of occupation influenced the health service affordability. Those who had attended or enrolled in the formal school were more affordability to health care with 1.74 points than those who did not have any education at all (higher afford score 1.74,  $p<0.001$ ). Income level variation had impact on the health service affordability for both individual and family income variables, and high-income group showed highest affordability, followed by middle income group respondents when low-income group was set as a reference value. Individual who earned more than 300,000 MMK had 1.39 higher scores and between 100,001-300,001 MMK had 0.84 higher scores to afford health service than those with lowest income ( less than 100,001 MMK per month). Likewise, family income assessment showed that, families with highest income were 1.07 higher affordability scores and families with middle-income had 0.86 higher affordability scores than reference low-income group.

Respondent occupation type suggested same input as the results showed that those were reported as 'farmers or agriculture workers' had lower affordability score to access health service (- 1.17,  $p<0.001$ ) than those who were salaried staff. This finding was similar to the health accessibility scores analysis result and had logical sense because government or private salaried staff were more likely to have financial stability than agricultural workers.

**Table 12 : Factors associated with socio-demographic characteristics and health service affordability**

Socio-Demographic Variable	Coefficient	P	95% CI
<b>Affordability</b>			
<b>State/Region</b>			
Chin	-1.62	0.000***	-1.91, -1.33

Kachin	0.39	0.008***	0.10, 0.68
Kayin	0.06	0.705	-0.24, -0.35
Magwe	Ref*		
<b>Attend formal school or not</b>			
Never attend	Ref		
Currently or previously attend	1.74	0.000***	1.47,2.01
<b>Individual Income<sup>22</sup> ( n=1,906)</b>			
Poor	Ref		
Middle	0.84	0.000***	0.59,1.01
Rich	1.39	0.000***	0.79,1.99
<b>Family Income<sup>23</sup> ( n=2334)</b>			
Poor	Ref		
Middle	0.86	0.000***	0.59,1.14
Rich	1.07	0.000***	0.80,1.35
<b>Occupation</b>			
Have regular income (salary)	Ref		
Agriculture (not regular income)	-1.17	0.000***	-1.69,-0.65
Others (no regular income)	-0.003	0.991	-0.54,0.53
No income	-0.3	0.204	-0.87, 0.19

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , (\* Ref= 0.000). n=2747

#### 4.2.7 Awareness/Acceptability

Community knowledge and awareness on where to seek health service, was a key influencing factor in determining health service access level. Respondents' awareness on health service and source of information were examined via survey questions. A vast major proportion knew (average 86%) where to go for treatment if they or their family members were sick. Kachin state had highest awareness with 92.1% while Chin state had 85.5%, Kayin state had 83.8% but Magwe region, despite situated in central plain area, had lowest knowledge with 82.1%. Though qualitative data did not capture the underlying reason, the desk review and field observation suggested that about 40% of survey data was collected in Kachin state occurred in Myitkyina city (a capital city for the Kachin state) which had a tertiary hospital. Respondents living in wards were 100 in Magwe region, 118 in Kayin state, 169 in Chin state and 343 in Kachin state and place of residence might influence the difference in awareness level.

The study also explored whether health staff served as a source of health information, in general and maternal and child health related health information. Among 'Never, Seldom, Sometimes and Often' responses, combination of 'Sometimes and Often' answers found that the highest proportion of Kayin state respondents (74.3%) received general health related information from the health staff, with the lowest in Chin state (43.6%) while 67.1% in Magwe region and 61.2% in Kachin state. Maternal and child health information showed a different pattern, with Chin state had highest proportion reported that their awareness came from the health staff (73.4%), followed by Magwe region-72.1%, Kayin state -66.6% and Kachin state -58.6%.

<sup>22</sup> Poor= < 100,001 MMK, Middle= 100,001-300,001 MMK and High= > 300,001 MMK per month

<sup>23</sup> Poor=

Qualitative study analysis provided mixed responses upon identifying the community knowledge level on access to health care. Those from Mindat village, Chin state and Momauk ward, Kachin state shared that few people did not know where to seek health care or availability of health service. In contrast, community from Magwe region or Kayin state did not mention such a challenge.

#### 4.2.8 Language as barrier to access health service

Though less than 10% of survey respondents said they had barrier to access the health service because of language, Chin state had highest proportion who had language barrier followed by Kayin state. Only three respondents from Kachin and one person from Magwe had a language barrier. It should be noted that the survey was mostly conducted in Burmese (91.3%, n=2507) while 5.5% (n=151) spoke Chin language, 1.9% (n=51) spoke Kayin language and 0.9% (n=27) spoke Kachin language and the rest (n=11) answered in Shan, Chinese and Indian languages. Hence, though the language barrier was reported, mixed responses were observed for the language as a barrier in accessing health care. An indicator exploring who spoke 'mother tongue at home' revealed that those who spoke Burmese 38.2%, Chin 24.9%, Kayin 16.3%, Kachin 12.0% and Shan 4.7%. Those who spoke Burmese at home were scattered in Magwe (60.3%), Kachin (19.0%), Kayin (18.7%) and Chin (2.0%) but 98.1% of those who used Chin language at home lived in Chin state, 99.4% of those who spoke Kayin language at home were from Kayin state and 97.7% who spoke Shan language at home resided in Kachin state, with mainly from Moemauk and Bhamow townships.

FGD findings found that majority could speak both Bamar and ethnic languages and there were health staff who spoke the ethnic language at the hospitals or rural health clinic. Those from the Chin state and one out of three FGDs with villagers from the Moemuak township, specifically mentioned about language as barriers for some people as they had to bring additional person, in seeking health care, who could speak Burmese fluently. FGD respondents perceived other barriers as 'health staff asking money and lack of health facilities and medicines' were more serious than a language barrier. Mixed views from the FGD were reported below.

*"In a rural area, they (health staff) could speak Kayin language, and we do not find language or conflict as a barrier to access."* (Respondents, FGD, Hpa-An village)

*"Most staff at the hospital are Chin, and if we meet Burmese doctors, Chin staff helps us in translation."* (Respondent, FGD, Hakha village).

*"Not all of us could speak Burmese very fluently and have to bring a relative or villager fluent in Burmese."* (Respondent, FGD, Mindat village).

#### 4.2.9 Perceived equality

##### **Perceived equality among surveyed respondents**

Perceived equality in health care determined variance in health service delivery across regions. Equality on government health service provision across states and regions was examined via community perceptions and experiences. Community was asked about any perceived inequality based on their ethnicity, religion, or language. Among four responses 'Not at all, A little, Somewhat, Very much', highest and lowest scales were reported in the below table against Bamar and Ethnic variable. 'Bamar' defined as those who chose their ethnicity as 'Burmese' and 'Ethnic group' referred to those reported that they were any of ethnicity other than Bamar and mixed-ethnic group. When

two positive responses ‘very much and somewhat’ were combined, about 80% said they were treatment equally regardless of religion or language.

As expected, those who felt that they received equal treatment despite language difference was lower among ethnic group than Bamar group (66.9% vs 81.6%). A significant lower proportion of ethnic respondents stated that there were health staff speaking the same ethnic language at the hospitals compared than those (29.1%) compared to Bamar 61.3%. For health expectations related information, higher proportion of Bamar had better perception on health care than ethnic groups. Pregnant women health care seemed to have better coverage than general women health care as 36.7% Bamar vs 27.2% ethnic group said women in their areas received expected health care needs with 9.5% difference while 7% difference for perception on the pregnant women health care need.

**Table 13: Respondents’ perception on the health service equality on vulnerability group by Ethnic and Bamar**

<b>I feel that ....</b>		<b>Very much</b>	<b>Not at all</b>
<b>I was treated equally and fairly at public hospitals regardless of my religion</b>	Ethnic	65.3	9.0
	Bamar	64.7	12.9
<b>I was treated equally and fairly at public hospitals regardless of language I spoke</b>	Ethnic	66.9	8.3
	Bamar	81.6	0.6
<b>Local hospital or clinic have staff from my ethnic group</b>	Ethnic	29.1	5.4
	Bamar	61.3	2.4
<b>Women in my area receive their expected health care need</b>	Ethnic	27.2	30.0
	Bamar	36.7	18.9
<b>Pregnant women in my area receive their pregnant health care need</b>	Ethnic	41.5	4.2
	Bamar	49.5	4.7

Inequalities of health care facilities among townships, across State or Region or Urban or Rural exists. Undoubtedly, FGD findings reported that rural population relied on RHC without a choice. Chin and Kayin states had lower health facilities with each had only four secondary curative hospitals while Kachin state has two and Magwe region has one tertiary curative hospitals<sup>24, 25</sup>.

*“ Momauk hospital could only treat common cold or minor illness and we were usually referred to the Bhamo hospital. We don’t want to go as it is far and we have to hire a transport.”* (FGD respondent, Momauk, Village).

<sup>24</sup> Tertiary specialist hospitals are 500-1000 bed specialist hospitals and secondary specialist hospitals are 100 to 300 bed hospitals depend on district/region or state hospitals.

<sup>25</sup> Referral patterns were described as: those from Momauk township to the Bhamo hospital, Hhakha township to the Mindat hospital, Mindat township to either Mandalay or Pakokku hospital, Minhla or Thayet to Magwe hospital, Thandaunggyi to Taungoo hospital.

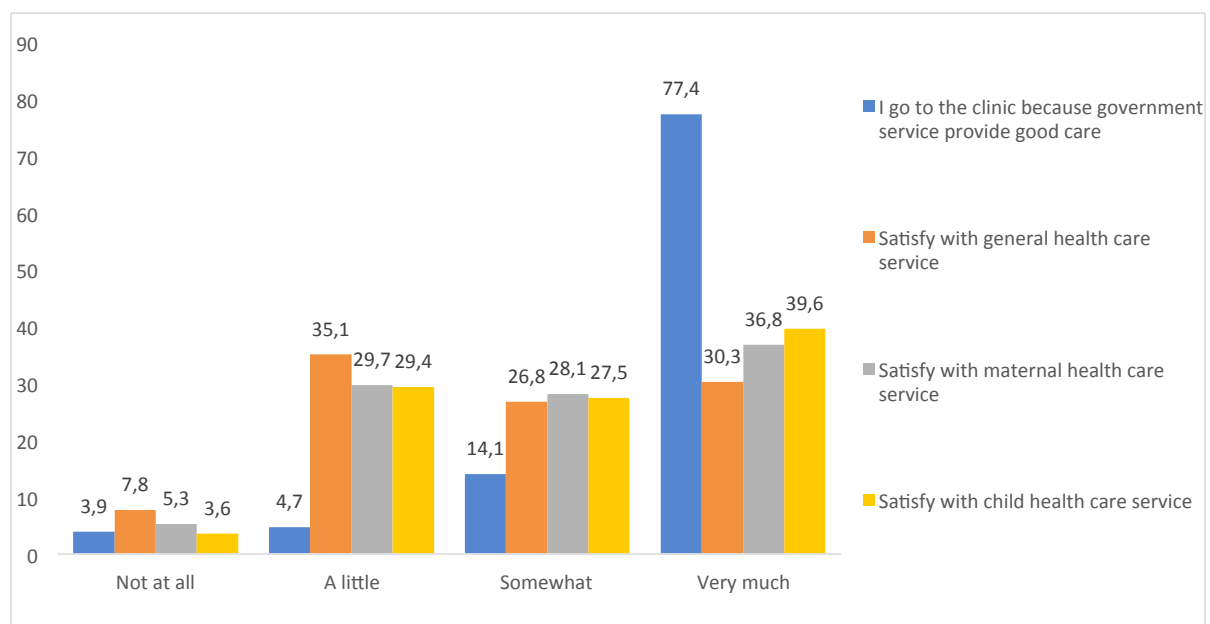
Likewise, respondents in Chin state claimed that because of not having the tertiary level health care, they had to go to either Kalay, Mandalay or Pakokku hospital which was true from FGD respondents from Kayin and Magwe. However, the transportation challenge for them seemed to be lower than the others. Referral patterns<sup>26</sup> were generally from the RCH to a nearby hospital and if needed, to the tertiary hospitals.

#### 4.2.10 Health Service Quality

Community perception on the health service quality they received was measured. Among 2,747 respondents, 88% agreed that quality of health service was improved, 9.6% felt the same, and a small proportion of 2.3% said the quality became worsened. State and region did not show significant variation. Those who agreed that health service was better in five years were - Magwe 89%, Kachin 88.2%, Kayin 87.9%, and Chin 87.5%.

Seventy-seven per cent (77.4%) went to government health clinics because they felt it provided good care<sup>27</sup>. Satisfaction on health service indirectly suggested the quality of care and average 63% were satisfied with the general and MNCH health care with the most satisfactory rate in child health, followed by the maternal health and general health with 67%, 65% and 57% respectively.

**Figure 4 : Quality of health care**



Poor services quality discourages community from accessing and using public health services. Community satisfaction has long been considered as an important component when measuring health outcome and quality of care (Donabedian, 1966).

The community, in general, agreed that government health services were improved in five-year. In contrast, FGD provided more insight information relating to the quality of care linked to the

<sup>27</sup> Double negative question. Those who chose highest score 'very much' for the statement 'I don't go to a clinic because they don't provide good care' means respondent had positive view on the quality.

perceived skills, responsiveness to their needs, adequate provision of information and communications of health staff.

FGD respondents gave various responses, apparently influenced by their individual experience. Those living in the villages did not have the advantage to access doctor, nurse or even midwife easily and access to the hospital at night-time was a challenge. Satisfaction on health service was, however reported by some respondents but mostly in the form of individual health care service (a doctor who was skilful or had a good communication). Some gave feedback that a place with easy availability of the government doctors was mainly at the private clinic.

In comparing health service with the last five years, the community felt it was better though not enough.

*“Health service is better nowadays. Though we still need specialist doctors such as Ear Nose and Throat ( ENT), ortho or ophthalmologist, we are improving compared to other hospitals.”* (FGD 5, Mindat village).

In general, the community showed more satisfaction on the maternal and child healthcare-related treatment. People living in the Hakha, Chin state and Thayet, Magwe claimed that health staff were skilful, treated and provided the necessary service immediately if needed.

*“Yes, they (health staff) treat us nicely and even follow-up if the child does not show up for vaccination. We rely more on the doctor’s skills rather than equipment. I did a caesarian section with a doctor who I trust.”* (FGD 9, woman, Minhla, Magwe). FGD from Pha-an, Kayin shared similar finding.

#### 4.2.11 Health service quality scores

##### 4.2.11.1 Overall quality between Bamar and Ethnic group

###### **Analysis on the perceived health care quality score**

Bamar and ethnic group perceived quality on service they received was compared against the total quality scores. Bivariate analysis was also computed against selected socioeconomic variables reported above. Four quality-related variables (questions) - ‘ I don’t go to clinic because they don’t provide good quality and care, I am not satisfied with general health service received , I am not satisfied with maternal health service received and I am not satisfied with child health service received,’ were included in the analysis.

Below table suggested that the community perception on the government health care quality was significantly associated with their ethnic group (statistically significant with  $p < 0.01$ ) and if a person was an ethnic origin, her/she had higher chance to had ‘lower mean quality score’ than the Bamar group (mean difference 0.92). Each respondent could get a total score between 1-16 and the means quality score for both groups fell under ‘Medium’ range <sup>28</sup>. Although further investigation is suggested, after triangulation with qualitative finding, the study reported that lower quality scores meant that the respondents received a lower quality health service.

**Table 14 : Quality of care scores on public health service between ethnic and Bamar group**

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<sup>28</sup> Same ranking for quality-of-care score with 1-5 as low, 6-10 as medium and 11-16 as high respectively.



	Number -Ethnic	Mean- Ethnic	Number -Bamar	Mean Bamar	Mean difference (coefficient)	P value	95%CI
Quality of health care score	1894	7.93	812	8.85	0.92	0.000***	0.53, 1.31

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , two-sample *t* test with equal variance

#### 4.2.11.2 Association between quality of health care scores and the socio-demographic characteristics

When quality of health scores was computed against the selected socioeconomic variables, respondents' perceived quality was found to be significantly associated with place they lived and had an opportunity to receive formal education or not. The place of living was statistically significant for Kachin and Chin states, suggesting that residing areas had influence on perceived health quality. Magwe region was out as a reference value and a person living in Chin state or Kachin state had lower trust on government health quality compared to the Magwe resident. If a respondent was from Kachin state, he or she had the highest negative views for quality of health care they received ( 1.69 points lower than the reference Magwe region in Kachin state and 1.04 points lower than the reference Magwe region in Chin state). Kayin state did not show any significant despite the higher mean difference with 0.24.

Respondent's education influenced the community perception on the health service quality. Those who had attended or enrolled in the formal school were less likely to have good impression on the government health service quality with 0.48 lower scores than reference zero who were those with no formal education at all. After triangulation with FGD analysis, it was likely that person with some level of education had more knowledge and capacity to understand, access and voice out the quality health service they needed than those with no education. On the other hand, the association with residing state or region and variation on the perceived government health service quality were unclear.

**Table 15 : Factors associated with socio-demographic characteristics and perceived health care quality**

Socio-Demographic Variables	Coefficient	P	95% CI
State/Region			
<b>Chin</b>	-1.04	0.000***	-1.16, -0.53
<b>Kachin</b>	-1.69	0.000***	-2.19, - 1.18
<b>Kayin</b>	0.24	0.351	-0.27, 0.75
<b>Magwe</b>	Ref*		
Attend formal school or not			
<b>Never attend</b>	Ref		
<b>Currently or previously attended</b>	-0.48	0.04**	-0.95, -0.01

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , (\* Ref= 0.000) . n=2747

## 5 FINDINGS:SERVICE PROVIDERS PERCEPTION ON HEALTH SERVICE DELIVERY

Findings from the 12 key informant interviews with government health staff (medical service and public health departments) suggested that states and regions had more decision-making power compared to the previous years. Still, the Naypyitaw office (Union Ministry level) holds power and made a final decision.

The interview generated various themes about service delivery perceptions of public service delivery. In this study, we mainly examined about the current decision-making level flow at state/region and township level for human resource, facility, health service delivery and budget; communication mechanism with NPT and obstacles and challenges faced, different with the tools used with the community. On the other hand, factors favouring or hindering the community health service use in ethnic areas might be heavily depended on the effectiveness of the health system governance. The study examined the respondents' perception of the centralization, decentralization and suggestion for future decentralization.

### 5.1 Decision-making power

All respondents claimed that they had more autonomy and decision-making power since 2011-2012 with a more significant change in recent years, in line with the political transition. Their views on the level of independence received were varied. Apart from the agreement on the need for national-level technical skills and guideline, almost all respondents preferred more decision-making power, especially in HRH and specialist health service facilities. Undoubtedly, health service provision in the ethnic and area of need was increased and received more attention. As the governance and administrative structure is the same for all states and regions, the roles of the respondents were similar across states and regions. There was an increase in the health service delivery, especially for public health service and area in need and ethnic places.

#### 5.1.1 Human Resource Management

The union level managed the staff recruitment, transfer and promotion. The current practice was S/R office prepared the vacant staff list, submitted to the union level, and the union level approved it.

The union level is responsible for the appointment of the gazette officer and above medical doctor and above for medical doctors, matron or sister for nurses and basic health staff while the state and region could appoint only temporary or part-time support and admin staff.

*" We do not have the authority to appoint permanent staff. Some young volunteers helped and attended the patients those who do not have relatives. I appointed one person as part-time staff, but as I could not appoint a permanent staff even, it is non-officer level. There are vacant posts as per organization structure, but I could not fill-in." (K11, Medical Superintendent, H10).*

There were both positive and negative views on the current pattern of sifting between centralized and decentralized, while most felt 'still centralized'.

An official from the DPH said, *" For most of the case, the S/R received the staff they asked for, but conflict could occur if the preference between central and state and region did not match to appoint a certain staff".*

The other mid-level officer said that “ *Main autonomy lies at the union level, but we do not need to consult everything to them, especially preventive health measures or technical guidelines related.*” A respondent shared of increase in the public health service provision at the basic health service level.

“ *There is a policy change, and each RHC now have PHS2 (public health supervisors) which reduce the workload of the existing basic health staff (midwife), and we could visit the remote villages more often.*” (KII, H5, DPH, Myitkyina).

The other HRH challenge was the shortage of the health staff as fewer doctor or nurses joined the government service nowadays because of the long-standing problems of low payment, high workload, and not having enough facility. They preferred to work at the NGOs, private sector or go overseas. There was an incentive system for health staff who proposed themselves to work in remote areas, but the problem still exists. Nonetheless, delay in health staff transfer or deployment affected the health service delivery, whether it might be because of the fewer health staff joined the government service or lengthy administrative barrier at the union level.

The centrally controlled management system would affect the timely replacement of health staff, especially if the specialist team or senior medical doctor took leave for training, postgraduate exam preparation, maternity leave or personal reason. The community in the study described constraints to go to distant hospitals because the specialist at the nearby hospitals was on leave due to personal or career-related reasons. The interviews with health staff suggested that there was no proper system to replace the team who took emergency or related leaves.

A respondent shared a different idea about decentralization as below.

“ *If State and Region practice decentralization and manage their territory only, it will not be possible to transfer staff between state and region. For example- staff from Kachin state could not be assigned to the Myiek (Thannnintharyi region).*”

### 5.1.2 Budget

There is an increase in health sector budget allocation at state and region, but the channel of power flow is same as HRH with union level as the final say. Each year, each department submits an annual budget forecasting to the NYT office, they reviewed and approved.

In general, Union Hluttaw is responsible for the national budget and state Hluttaw works on the state level but based on the union allocation.

According to most respondents, the approval of the requested budget was not a problem and could ask more if needed. The main constraint reported was the waiting time to get the budget approval as well as the inflexibility of the budget line, which affected the service delivery.

“ *In preventive measures (public health), activities should be time-sensitive. For example, we want to do some preventive measures as part of the school health activity, but we could not start until we receive the budget, which makes delay in the activities.*” (KII, H13).

“ *We do not have much flexibility in actual implementation against the submitted budget even we have a budget. Say, we need a computer, but if it is not included in the budget line, we have to seek permission from NYT which takes time. If we have a reasonable independent in the budget at State and Region level, we could provide service quickly.*” (KII, H2 and H13).

Budget allocation and the capacity to appoint health staff were interrelated. While the increase in recruitment of health staff for curative and preventive was observed, a respondent from the medical service (hospital admin) pointed out the issue of general staff allocation and appointment was overlooked (KII, H12).

The study also generated positive views of the current budget system. According to the respondents, changes occurred since 2010 (KII, H5). Some significant factors related to the increase in autonomy at State and Region level were ' procurement of drugs, building and maintaining of health facilities, maintenance of budget and allocating of budget to the township level'.

*" Nowadays, the state and region can decide independently about medical drugs."*

*" NPT decide which hospital or RHC will build or extended at the certain township. The S/R level health could decide for the tender process but need to consult with respective Hluttaw."* (KII, H1)

When discussed the decentralization regards to the human resources, facilities, medicine or supplies, the budget issue has emerged.

*" If we talk about HRH, it links to the budget, decision making power and will affect the service we deliver as all are connected. We have much vacant admin, operation and allied health staff posts. People forgot the role of support staff. If we could have the power to appoint, nurse aid could take care of bed-ridden or post-op patient and nurses could only focus on health service and treatment."* (KII, H12).

*" Because payroll or salary was handled by the Finance/HR department at Naypyitaw and how could we pay if we do not have enough budget to hire the staff even we have the power to appoint."* (KII, H10).

### 5.1.3 Health facilities, medicines and supplies

The same system applied for health infrastructure construction and maintenance. State and Region requested a proposal along with the budget forecast and could ask more if justification to the union if the allocation is small. The MOHS used equity approach with larger population size area could have more facility (KII, H5).

There existing government had paid more attention to the infrastructure. There were mixed reviews on it with some constructive feedback from the state and level mid to senior-level health staff.

*" The current government focused on the infrastructure such as building hospital or equipment. We have a 5-year national health plan and more budget for infrastructure, building and maintenance. "(KII, H5). "I think, it is okay now, we have a ceiling allocated for building or hospital maintenance but the larger amount, NPT process managed tender."* (KII, H10).

The other respondent, however, said that *" Yes, there is an increase in the infrastructure as the building of new RHC, but there is a need to have proper planning and budget for the intangible resources such as staff, medicine, supplies. Sometimes, supply from the central level does not always match with local people need."* (KII, H4).

*" We deal with two budgets: MOHS budget and ADB grant and loan. The state health director prepared the need and requested to the union level"*. (KII, H8).

#### 5.1.4 Health service delivery

Respondents' opinions about the autonomy of the health service delivery sector received the best response if not linked to the workforce, drugs or equipment challenges. Health service is delivered via the Department of Medical Service for curative health care and the Department of Public Health for preventive health care. The basic health staff were main health actor covering the maternal and child health, school health, immunization, nutrition, disease control, epidemiology, environmental sanitation, etc. and provided service for the rural community and urban population via the outpatient urban health centre. Both DMS and DPH had the autonomy to deliver the health service delivery, and there is a national level -technical guideline, standard operation procedure (SOP) and protocol for preventive and curative health service delivery. Though interviewees favoured more autonomy at the state and regional level, they claimed to practice the same approach across the nation for health service delivery and treatment protocol.

*“ MOHS at NYT developed the SOPs to apply nationally and shared each SOP to all states and regions. As public health activities are developed according to the international best practice, and no difference in a general sense except there is some adaption based on the target area. We do not have a problem on it.” (KII, H13).*

*“ Not much to say about the technical guidelines, it should be consistent and follow the union.” (KII, H3)*

For future decentralization, respondents had concerned about the capacity to deliver the same health service quality if state or region managed their health service delivery.

## 5.2 Communications among central, state, or regional level and townships

Communications between state/region and central offices improved significantly compared to the previous five years. There was direct contact between Township Medical Officer (TMO) and NPT office and same with the State and Region. The respondents shared that they used both formal and informal approach, and both were worked.

*“ There is more practice of bottom-up approach via state and region coordination meeting or meeting at Naypyitaw. (KII, H3, H5).*

The involvement of NGOs, INGOs, World Bank and other development partners was stated in the interviews with Kayin and Kachin states as well. A respondent highlighted the need to avoid overlap health service provision among government and partner organizations, and the study found the collaborative efforts.

Some positive shared point as *“ MOHS staff at township level could contract directly to the central level staff if required while other ministries had to follow protocol.” (KII, H5)*

The coordination with the ethnic health organization, particularly with the Karen Department of Health and Welfare (KDHW) showed effective and positive collaboration, evidenced by both government and KDHW staff members. However, challenges in decentralization were mentioned

was also found out. Both parties acknowledged the impact of the coordination while more recognition of roles was stated by the staff from the KDHW.

### 5.3 Perceived challenges and opportunities about the current situation and future decentralization

Perceptions and views about the future decentralization also provided the mixed responses which might be influenced by the department they were working, years of experiences or personal preference. General challenges discussed from the interviews were: No reward system as performance assessment could motivate health staff, affect the quality and contribute to high staff attrition rate, low payment and overwork for government health staff, centrally managed staff deployment and transfer, and governance.

All welcomed to the idea of decentralization and autonomy at state and region. There were mixed reviews on it though all agreed to use the same technical guidelines. Some said there should be centrally guided but state and region-initiated health service plan. On the other hand, some had concerns about the ability to provide the health care service by the state and region alone. Some shared that decentralization at the basic health staff level is in good shape.

“Decentralization is right on track though not reaching full potential” (Kachin)

Like the other countries, Myanmar encountered challenges in the initial phase of decentralization. For example, in Kachin state, the health sector was, as per the 2008 constitution, under the management of Kachin Social Affairs Minister. The Minister had to manage the three important state-level departments –Health, Education and Social Affairs which required the education and technical understanding of relevant sectors.

In actual implementation, health service was delivered in line with the Kachin state health plan and followed MOHS NYT guidelines. While the delegation of decision-making power between central and state and region were discussed, it is important to note about the political role (elected) between union level and state and region minister.

Another finding from the study was the need to prioritize the budget for the conflict area as an emergency budget approval. (KII, H3).

*“ Naypyitaw office usually approves the budget we requested, but there is waiting time, and budget allocation was not the same for each state and region. Those with the conflict-prone area should be prioritized”.* (KII, H3)

Respondents claimed that the best modality, for the next five years, would be a coordinated mechanism between national and subnational governments for technical guidelines while local governments have the autonomy for governance in human resource, infrastructure, service delivery and budgeting.

A group discussion with senior staff from the Karen Department of Health Welfare (KDHW) found there was a positive shift in collaborative working with MOHS. The EHO in Kayin was functioning. Upon discussion on the way forward on decentralization and expected challenges, several issues were discussed. For example, not enough technical resource person at S/R staff level (need more employment), the possibility of unalignment of strategic areas: Competing interest between Central and S/R. For example, centrally focused on UHC while state and region might want to prioritize the quality service provision first. The need to enhance collaborative working with EHO was also

discussed. A respondent shared the concern of the source of budget if subnational took the sole autonomy. The possibility of inequality in health care after decentralization is also reported. Opportunities discussed were: Orientation of decentralized approach at the subnational level, increased in power at state and region compared to the previous five years, staff had exposure in practising the bottom-up approach to a certain extent. A respondent suggested that if the decision-maker knew the local context, it would have high impact in HRH and service delivery and to increase recruitment and assignment of health service who speak the local language and adjust for education requirement. All asked for decentralization and more autonomous power to state and region while central continue supporting technical matter and highlighted to build the capacity state and region staff.

#### 5.4 Gender and Service Providers

Service providers had various levels of gender awareness, and all reported that they provided equal health service regardless of gender or sex. The existing women health services such as MNCH care ((pregnant care, immunization care), SRH care, prevention of mother to child transmission of HIV (PMCT) service had improved significantly across the nation in recent years. However, the health staff understood gender mainstreaming into health service as providing services to the women's health stated above, and gender was not well integrated into the design stage.

*“ Health system and service delivery are designed to promote the health status of every citizen, and we provide health service regardless of sex, and no one would be left out from the health care service.” (KII, H 1, H5, H10, H12).*

Some received gender-related awareness training or workshop provided by the staff from the Naypyitaw office. Others mentioned they did not become aware, in their knowledge, that gender was integrated into every health system in the design stage (KII, H4, H8) while highlighting the importance to understand the context of the health system and service provision nature if mainstream gender into the practice.

Even respondents did not have hands-on GBV management experiences; all acknowledged the existence of GBV, including the Intimate Partner Violence (IPV) cases in the community. GVB services mainly existed as physical treatment, and there was limited service for psychosocial, legal and security issues. There was no specific services or budget for GBV specialist health service at states and regions, and available service was not comprehensive and practised a multi-sectoral approach.

## 6 DISCUSSION AND CONCLUSION

The study provides a novel insight and important information about public health service delivery across three ethnic states and Bamar region with information obtained from the community and service providers' perspectives. Myanmar had fragile health care system with lowest ranking globally and with the inauguration of the new semi-civilian government, based on the 2008 constitution, efforts were made to improve the health system via the National Health Plan (NHP, 2011-2016). The momentum was increase after a civilian, National League for Democracy (NLD), government took office on March 201. In line with NLD's 2015 Election Manifesto, health sector reform program (health system strengthening- HSS) was initiated through the ambitious and the newly formulated NHP (2017-2021) (39). Health sector decentralization was said to be put in place to provide a quality and equal health service however, the progress so far has not been assessed. There is limited information on how resources are managed and how well is the decentralization. The study is the first study documenting the service-user and provider perceptions and experience

for public health service provision in Myanmar in relation to the decentralization aspect. To understand the factors such as 'what have been done, what are the needs, gaps and barriers and areas need to be focused at policy, strategy and functional levels', the study determines the difference between ethnic and Bamar and other related factors. Traditional studies usually focused on sector-wide or at service level while our study attempt to understand the decision-making power at institutional level via the service providers' working at states and regions. Chin, Kachin and Kayin states represented the ethnic areas while Magwe region served as the controlled region.

The study presented as Bamar (30%) and non -Bamar (70%) groups or states and region and mixed population resided in each township except for Chin and Magwe. General findings suggested that ethnicity was important for all respondents, and majority spoke own language at home and married to a person from the same ethnicity. About 81.8% had formal school education with variation degree of completed school grade. Chin state had lowest education level, highest proportion of agricultural work or farmers (along with Magwe region), and lowest income level. Kachin state had highest income level with lowest respondents working in agriculture sector and the fact that study conducted at Myitkyina township wards only might contribute it.

### **Community**

Results from both FGD and survey respondents indicated that government health service was the main service provider. Only choice for the community living in the villages of all states and regions, not just an ethnic area, was RHC or nearby hospitals. Nonetheless, urban population had better choice than rural remote areas, if cost factor was not considered and consequently ethnic areas had more travel and transport challenge. Urban population used a private GP clinic but mainly for the minor illness. There was a wide variation in the access to health service and though health access framework(29) defined access to health service with different dimensions, the researcher found that these factors were bot stand-alone and interrelated. Location of health facilities or availability of materials and human resources affected the community's affordability level, which again determined their perceived quality and satisfaction on the health service they received. Similar to the prior studies(40,41), distance to the health facility and geographical barrier discouraged the community from seeking and accessing the health service. If there was lack or limited health facilities in the ethnic areas, the longer travel distance will be associated with time and cost, and in extreme case, could lead to the loss of lives.

Even there was a hospital, it was important to have a functioning health facility with enough resources in terms of medicine, supplies, equipment investigation facilities and most importantly specialist health staff (doctors and allied health staff). Unavailability of a specialist health staff was mentioned commonly by the respondents in addition the lack or limited replacement system or protocol to replace the staff who was on leave.

Accessibility to health services showed regional variations. Survey findings supported that the top two barriers to access the health service were not having enough or functioned health care facilities (hospital/clinic/health centre) and distance or geographic barrier. Triangulation with both survey and FGD found that Chin states was the area with highest challenge to access the health service because of geographic barrier or travel distance, not having enough medicines and supplies and second highest areas with not enough health care services and not enough staff.

Interesting point from the survey was after Chinn, Magwe region was the second place complaining on travel distance and limited functioning health facilities, medicines, supplies and health care service. Likewise, Magwe population complaint of staff unavailability as a barrier after Kayin state. Possible reason for the high barriers in the Bamar dominated area, although further study was suggested, was firstly, a person with experienced in using government hospital service (e.g-people form Magwe) was more knowledgeable to say about barriers they encountered than those who did not (e.g- ethnic group). Secondly, it is worth to note that the place resident as remote villages or far from the specialist health facilities was an important as well , in addition to the administrative



demarcation of states and regions and majority of respondents represented village population. The MOHS health facilities list supported our finding as only Myitkyina city, Kachin state had two specialist hospitals, one 500 and one 200-bedded hospital and Magwe city, Magwe region had one teaching hospital and three 300-bedded hospitals. Chin and Kayin states had only 200-bedded hospitals with two in Chin and one in Kayin respectively (42). Issues as poor communications, no electricity during operation, unavailability of the required drugs at the hospital pharmacy, transportation cost and challenge to pass the gate from one area to other in conflict areas, were also emerged. On the other hand, there was increase in infrastructure especially RHC reported by the FGD and desk review and MNCH service coverage was increased in ethnic areas.

Language barrier was reported, mostly in Chin state but the level of barrier might be lower than other barriers because community could solve with the help of relatives, friends or health staff who spoke ethnic language. Qualitative study provided insight information and evidently, access to health service was more difficult in ethnic states.

Ethnicity and Regional variations : Health service accessibility, affordability and quality of care between ethnic and Bamar were statistically significant and Bamar had a higher chance to access the health service, higher affordability to pay and had better perception about the government health service quality they received (Ethnic vs Burmese- accessibility score- 19.7 vs 20.1, affordability scores- 12.9 vs 13.5, and quality scores-7.9 vs 8.9). The community accessibility scores were although 'high', they had 'medium' affordability and perceived quality in accessing government health service.<sup>29</sup>

In comparison among states and region, Chin state had the lowest access (1.68 points lower, CI - 2.01, -1.35, p 0.000 ) and afford to health service (1.62 points lower, CI -1.91, -1.33, p 0.000) and second lowest trust on the government health service quality after Kachin (1.04 points lower, CI - 1.16, -0.53, p 0.000). Kayin state had highest health service access (0.60 points higher, CI -2.01, - 1.35, p 0.000) and Kachin state had highest health affordability (0.39 points higher, CI 0.10-0.68, p 0.008).

Upon measuring health service accessibility, health information access was also a key determinant and majority (86%) knew where to go for treatment if sick but only average 60% received health knowledge from the health staff. There was a gap even between two ethnic states as 51.7% of Kayin population and 16.8% of Chin respondents received health information from the health staff.

Affordability to health care served as a main barrier to access the health service as it linked to all kinds of expenses such as hospital cost (mostly medicine, supplies and investigations for operations and some amount on operation and health staff), travel, transport and meal cost for patients and accompanying family members during hospital stay. Several studies suggested that accessibility and affordability were important to community in utilizing health care ((29)(41)(43). Though OPP expenditure as a proportion of total health expenditure was said to be decreased from 79% in 2011, to 51% in 2014 due to the increase in health sector investment, in Myanmar, OPP remained as the main source of health financing and one of the highest in the region (9,39,44,45). Our study did not show any exception as in urgent and life-threatening cases, they required financing from family and others and only option was to borrow money from the relatives, friends or money lenders with high interest rates or selling assets or goods especially agriculture assets as farms, livestock animals. Poor and people from remote areas had no option except relying on the traditional health and remedies.

Quality: Poor services quality discourages community from accessing and using public health services. Community satisfaction has long been considered as an important component when measuring health outcome and quality of care(46). Communities, despite negative feedbacks, generally agreed that the health service had improved in five years with highest in Magwe region with 88% and lowest in Chin state with 87.5% and 77.4% felt government service provided good care,

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<sup>29</sup> Accessibility scores were ranged from 1-24 points and affordability and quality were from 1-16 points

reflecting the public health service delivery improvement. In general, prevention and treatment relating to the maternal and child healthcare received the better impression. Variation of responses were seen based among townships.

Socio-demographic variations: In addition to the ethnicity, some demographic characteristics as gender, marital status, formal school attendance and occupation had association with community health service utilization uptake. Education level or opportunity to get a formal education determined that those attended a formal school could have higher access (0.93 points higher, CI 0.47, 1.32, p 0.000) and afford to the government health service (1.74 points higher, CI 1.47, 2.01, p 0.000) than those who did not but they were unhappier with the quality of health service they received (0.48 points lower, CI -0.95, -0.01, p 0.04). Those with some level of education also had higher GBV related health service access. (1.79 points higher, CI 1.35, 2.37, p 0.000). Likewise, those who worked at agriculture farming had more difficult to access (0.63 points lower, CI -1.22, -0.04, p 0.038) and pay health service cost (1.17 points lower, CI -1.69, -0.65, p 0.0000) than those who had a stable income (government staff or employee). Language difference and occupation types did not play a role in their perception on the health quality. Language spoken played an important role which indirectly reflects the government health service delivery impact on the ethnic community. A Burmese speaking person had more likely to get easy access to health service (0.89 points higher, CI 0.47, 1.32, p 0.000) and more affordable to receive the health care they want (1.34 points higher, CI 0.97, 1.71, p 0.000). In determining access to GBV health service, those using Burmese in interview still had higher access (1.54 points higher, CI 1.06-2.24, p 0.023)

Being a female or being single would give lower quality scores (0.62 points lower, CI -0.99, -0.27, p 0.001) and (0.52 points lower, CI -1.05, 0.001, p 0.055) which might be related to their experience on the health service they received and consequently alarms the need to tackle the underlying reason.

Access to health service on Gender: In providing health care, accessible and availability to the comprehensive gender-based violence service is a critical for a fragile country like Myanmar with high GBV cases due to normal or conflict situations. For GBV victims, their first place to get the health assistance would be the government health centre but more than half of them (58%) felt that GBV victims might not access health service easily. Their perceived belief varied among ethnic and Bamar and higher proportion of ethnic person reported of easier access than Burmese (43.7% vs 37.8%). It is an interesting finding as unlike other accessible, affordable and quality variables, for access to GBV service, ethnic group showed better impression on the health service. In bivariate analysis, Kachin state showed the highest GBV accessibility (1.33 points higher, CI 0.98, 1.81, p 0.067) than the Magwe region. Our finding was in line with other operation study recently conducted. A report (internal document), produced by the consortium working in the development and gender sector in Kachin state stated that 85% of respondents in Myitkyina, Kachin state and some parts of Northern Shan state said there were services for victims of sexual violence (47). Long-standing conflict in Kachin state had caused increased in the number of internally displaced population (IDP), along with the services for prevention, awareness and response on GBV, provided by the international community. Regard to health care service, despite not huge gender difference was observed, the notifiable finding was male influence on the family planning service in Magwe region.

Regional variation on the equality found that language came out as the influencing factors in perceived equality in the case of the limited presence of health staff speaking same language. Apparently, MNCH health care seemed to deliver a better service with more equal distribution than the general women's health service. Efforts made by the international donor in collaboration with Health and Social Welfare Ministries in the ethnic areas (example- 3 MDG Fund, Access to Health Fund and Maternal and Cash Transfer fund<sup>30</sup>) might contribute to improve the MNCH status in recent years.

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<sup>30</sup>Source: Dr. Myat Pan Hmone, Internal baseline study design document. Maternal and Cash Transfer program (MCCT) in Chin state, implemented by the Department of Social Welfare (DSW), funded by the LIFT fund. 2017.

### Health service providers:

Despite the efforts, there were problems related to the governance and decentralization and equity. All respondents claimed that they had more autonomy and decision-making power since 2011-2012 with more significant change in recent years, in line with the political transition but the final decision makers were those from the Naypyitaw office. Their views on the level of autonomy received were varied. The areas needed for the urgent attention were human resource and budget management. The union level is responsible for the appointment of the gazette officer and above while the state and region could appoint only temporary or part-time support and admin staff. This effect the timely provision of the health care service delivery. Likewise, state and region had to prepared budget forecast, submitted and could start implementation only when the budget was approved. The study also found challenges in the health system weakness, low budget spending on health care, health workforce challenge, challenge in production and maintaining of qualified health staff, inadequate technical and material supports to provide a quality and equitable health care services.

The 2008 Constitution has clarified some formal division of responsibilities and powers between the central Union Government and new state and region governments(48) however still the union ministry has direct accountability on the state and region health departments. The division of autonomy and accountability between State and Region level governments and health staff from the Union and sub unions levels was not clear and the study found that governance structure and hierarchy structure was in accordance with the MOHS structure. Interviewees felt that even after decentralization, health sector should be managed by those who had some level of context knowledge.

Though routine health care service delivery might or might not be affected, in overall, respondents claimed that local people knew more on the community especially ethnic community needs. Communications is better between central and state and region as well as with EHO. Gender related health service delivery was reported mainly as women and MNCH care.

Apart from the agreement on the need of national level technical skills and guideline, almost all respondents preferred more decision-making power especially in HRH and specialist health service facilities. Health service provision in the ethnic and area of need were increased and received more attention but disparity and gap in the health service delivery still exist. Awareness on decentralization varied across respondents- depend on job nature and coordination level with NPT. Respondents claimed that the best modality, for the next five years, would be a coordinated mechanism between national and subnational governments for technical guidelines while local governments have the autonomy for governance in human resource, infrastructure, service delivery and budgeting.

The attempt to decentralize within the MOHS was started with the outside funding supports via the coordinated Township Health Plan (THP) and comprehensive THP formulation under various international funding supports while Township Health Department had limited resource and authority (49). Started as a meso plan under the NHP (2011-2016) and along with increased in investment, a current government formulated a NHP (2017-2021) which also set an ambitious aim to achieve the Universal Health Coverage (UHC) by 2030. The MOHS rolled out of Basic Essential Packages of Health Services (EPHS) at township level since 2017<sup>31</sup>. Review on the State and Region health planning and management, 2017 stated that though NHP stated that states and regions had important roles to support and oversee the planning, budgeting and implementation of the Township Health Plan, there was not much information about the expected functions of the states and regions (39,49). Township Medical Officers (TMO) are the backbone of the health system but they have limited authority to challenge the higher level and leadership and guidance by the state and regional level was essential in future decentralization. Wide variations in health service coverage

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<sup>31</sup> Have rolled out 78 townships

from community experience and challenges and opportunities from the providers' perspectives could inform the policy, strategy and action plan needed in future work. Though decentralization was practiced, the study found that many areas were still under the direct management of the central ministry and there was not much flexibility of the contents to respond the local needs.

**EHO:** NHP stated that Myanmar health system was provided by the Government, private and EHO. As our study mainly conducted in GCA except for Tada-Ungyi township, there was not much reported of EHO service usage by the community. MOHS had a good coordination with the Karen Department of Health and Welfare (KDHW), positively influenced by the peace process. Interviewees from both MOHS and KDHW acknowledged the impact of the coordination while KDHW mentioned the need of more recognition by the MOHS. Jolliffe, 2014 noted that how KDHW served over 100,000 Kayin population for basic primary care 21-04-14 12:21(17). An evaluation on the USAID health sector response noted that bringing EHOs into MOHS activities increased coordination and contributed to the MOHS' goal of UHC, as EHO staff could complement work in remote and conflict areas(19). Coordination with EHO in Kachin state was not widely mentioned and although provision of essential preventive health care services as immunization services was provided by MOHS if situation was stable, service could mostly cover in the MOHS governed area such as Kachin state special region1.

### **Policy implications and future decentralization**

As the MOHS's NHP is guided by the equity and inclusiveness principles, Myanmar is working towards decentralization, the study provides important information on how well is the decentralization. More flexibility in budget allocation and focusing on other pressing areas such as better management and more authority on human resource management in recruitment, transfer, promotion and replacement as well as providing the functioning health facilities are essential. A key factor is in providing health infrastructure, rather than an increase in number of facilities, it is important to consider providing the functioning health facilities, along with other human and material resources which had impact on the community . Some demographic characteristics had influence on the respondent accessibility, affordability and quality of care. By knowing that those with education had better position in receiving health care, the policy planner could include social inclusion approach and prioritize education improvement in ethnic areas. Narrowing language barrier in accessing health service could improve the trust (acceptability ) between provider and consumer and it could be achieved by the training , recruiting and keeping of the local ethnic young people. Strategies as flexibility in entrance makers for medical and nursing universities and colleges, enhance capacity building and pay incentives and provide recognition to the staff from the hardship areas. It is important to allow flexibility to reflect the local needs and priority for the state and region health departments and associated action plan and framework of NHP should be served as a living document

### **Limitations**

Our study has several limitations. Most importantly, the cross-sectional nature of the study precludes the ability to distinguish causes from effects. The dimensions used in the community and service delivery were interrelated but not identical as public health service accessibility, affordability and quality of care was measured for community whereas decision maker power relating to decentralization was examined with the service providers. The mentioned factor also serves as a strength point as the study could have an insight idea and information from both community and service providers as demand and supply sides.

### **Conclusion**

Though NHP clearly stated to initiate more decentralization and more autonomy at subnational level, the main decision makers are those from the national level. There were gaps in health service delivery as well as regional and ethnicity variations on the accessibility, affordability and quality of care. Chin state emerged as the lowest health coverage area in all measures while other areas regions had some differences as well. The general finding was Bmar ethnic group had higher chance to access the health service, afford the health care and had a positive view on the quality of health care. Ethnic group such as Chin had a good impression on the health care service especially MNCH care. Unavailability of specialist health facilities along with qualified staff and other resources were the areas need to be addressed in future decentralization. Gender difference exist and particularly in the family planning decision.

Service providers had more autonomy in health staff, facility, purchase of drugs and supplies and budget but with limited power. The union level was the final decision makers and the current system still practice the top-down decision-making which create vast gaps of expectations between decision-makers and communities at all levels. All asked for decentralization and more autonomous power to state and region while central continue supporting of technical matter and highlighted to build the capacity state and region staff. More coordination and more autonomy between national and subnational governments is suggested. The study highlights the areas need to be improved in the future decentralization.

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## 8 Report Annex

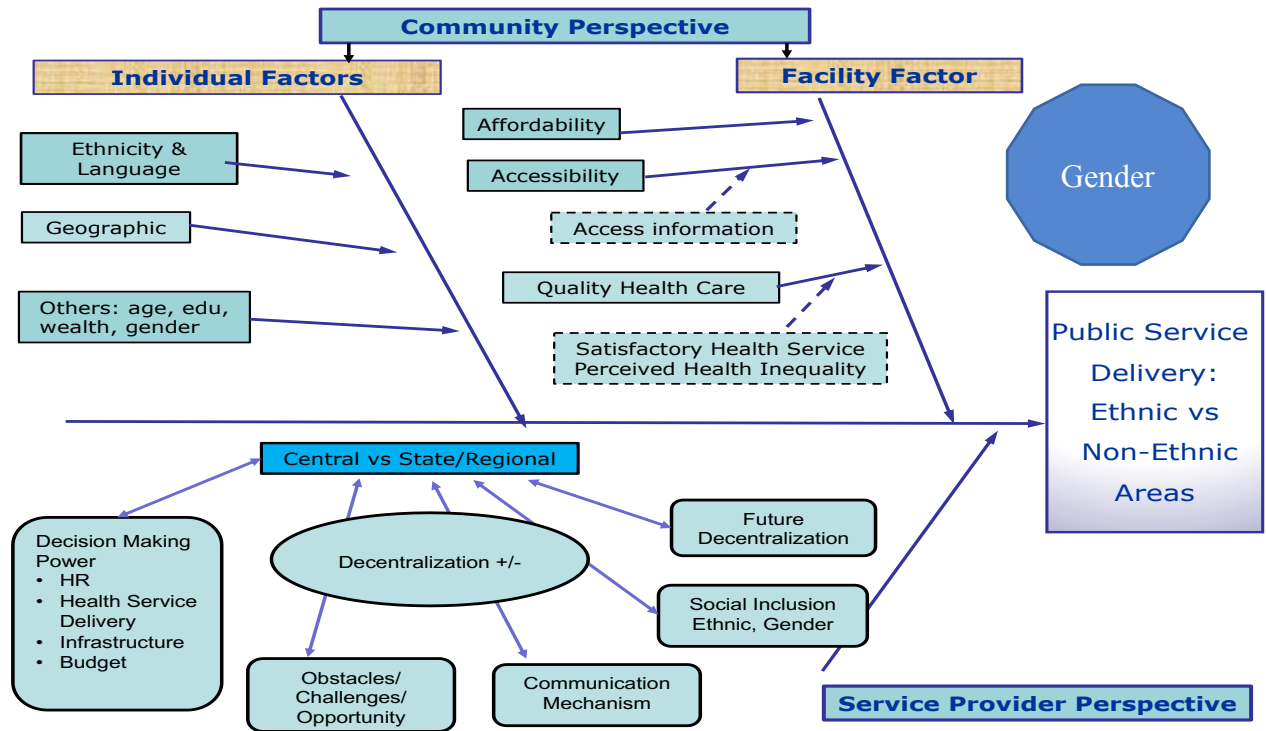
### 8.1 Conceptual framework

Below diagram describes the conceptual framework developed based on the tools used this study and provides information for both community and service provider’s sides. Community side include measuring individual variables such as age, sex, education, occupation, ethnicity, language used, place of residence (geographic) and to measure the health service accessibility or utilization, we measured the affordability , accessibility (accessibility on health staff, medicine, supplies, investigations, facilities, and access to health information), quality of health care including satisfaction to health care received, feedback on health staff communications, perceived feelings of stigmatization because of race, religion, ethnic group or sexuality). For service providers’ aspects, we measure the decision-making powers among central, state or region and township level and



communication mechanisms between central and state and regional level staff in human resource, health service delivery, infrastructure and budget . The study also determines challenges or opportunities in delivering health service, their readiness and expected factors favouring or hindering the future decentralization. As this study aims to explore the health service delivery in gender perspective in future decentralization, the consultant collects gender-related information as a cross-cutting issue.

**Figure 1: Concept framework for community and service provider’s aspect of public health service delivery**



## 8.2 Background information of surveyed respondents

### 8.2.1 General background and demography

Among 2,747 surveyed respondents, 4.4% (n=120) were pregnant women, 11.1% of households had children under one year, and 36.5% (n= 1003) had children under five-year-old. Average household (HH) size was largest in Chin state than other areas with an average of five persons, consistent with the Myanmar Census data.<sup>[1]</sup> Overall, 71% (n=1,937) were from villages, and 29% (n=810) were from wards which match the national population dispersion of 30% urban and 70% rural (Department of Population, Ministry of Immigration and Population, 2014).

Because of administrative approval and security challenges, replacement of study areas led to the variations of urban and rural population dispersion at the township level, especially in Myikyina

township, all respondents were from wards. More than 90% from Baomaw, Momauk, Hpa-An, Thayet and Mindat townships were from the villages, and those from the Thandaunggyi township (KNU controlled area) represented both urban and rural population.

The mean age of respondents was 42 years, and the 18-34 age group were 34.8%, 35-59 aged group were 54.2% and 60 years and above were 11%.[2] Almost 80% were married, 13.3% were single (never married) while 8.2% were either widowed, divorced or separated. Respondents' religions were Buddhist 57%, Christian 42% and the rest 1% were Hinduism, Islam and others. Because of a challenge to get approval for data collection and security reason, the study collected data mainly from the GCA areas except for Thandaunggyi township. Though security issue was reported in qualitative FGD, in the survey analysis, those who said they lived in the government-controlled area were 98.2% (n=2697), EAO controlled territory were 1.1% (n=31) and 0.7% (n=19) lived in the disputed area between government and EAO. As expected, only respondents from Kachin and Kayin said their areas were controlled by EAO or disputed[3]. About 1.9% (56 respondents) reported that there were fighting near their villages in the last twelve months.

### 8.2.2 Ethnicity , language, occupation, education and income

Respondents ethnic group were Bamar 30.3 % (n=831) , Chin 25.5% (n=701) , Kayin 18.7% (n=513), Kachin 10.7% (n=293) , Shan 5.6% (n=152) , mixed ethnic 6.4% (n=175) and others 3.0 % (n=21). Ethnic group and geographical areas were mostly matched in Magway region and Chin state, with 94% Bamar lived in Magway, and 97% of Chin lived in the Chin state. Kachin and Kayin states showed different patterns, mainly influenced by the study townships. Respondents from Kayin state comprised of Kayin 73%, Bamar 15 % and mixed ethnic 4.4% and those from Kachin state were Kachin 41%, Shan 17.6%, mixed ethnic 17.6% and Bamar 16%.

**Ethnicity** plays an important role. Among respondents, 96% felt ethnic trait was important and with highest respondents in Chin state who said race is 'very important' (88.3%). Ninety-three per cent married to persons from the same ethnicity and 96.4% married to those from the same religion.

**Language:** 96% spoke their ethnic language at home (Kachin, Kayin and Chin) but only 67% could write their language. Chin state had the highest proportion who used ethnic language alone at home (97%), and 38% could not speak Burmese. For Kachin and Kayin states, 92% could speak Burmese, but 70% spoke Kayin as the main language at home, and 19% used Burmese. In Kachin state, 47% mainly used Kachin language, 26% used Burmese, and 18% spoke Shan language.

### 8.3 Data collection information

Table1: List of Interviews with service providers and FGDs

No	Place	Sex	Department	Type
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H1	Yangon	M	Department of Public Health	Health-Government	KII
H2	Myikyina	F	DD	Health-Government	KII
H3	Myikyina	M	Department of Public Health	Health-Government	KII
H4	Myikyina	F	Department of Public Health	Health-Government	KII
H5	Myikyina	M	Department of Public Health/Medical Service	Health-Government	KII
H6	Pha-an	M	Department of Medical Service	Health-Government	KII
H7	Pha-an	F	Department of Public Health	Health-Government	KII
H8	Magwe	F	Department of Medical Service	Health-Government	KII
H9	Magwe	M	Department of Medical Service	Health-Government	KII
H10	Magwe	F	Department of Medical Service	Health-Government	KII
H11	Magwe	M	Department of Public Health	Health-Government	KII
E1-Health	Pha-an	2M, 1F	Karen Department of Health and Welfare (KDHW)	Health-EHO	KII/ Group discussion
E2	Pha-an	3M	Focal Person/Coordinator. KNU liaison office	Health-Government	KII/ Group discussion
G1	YGN	F	Gender and Women rights advisor, INGO	Gender	KII
G2	Pha-an	M	Department of Social Welfare, Government.	Health-Government	KII
G3	Pha-an	F	Coordinator, INGO. Gender Equality Network	Health-Government	KII

Table2: List of FGDs with community

No	Place	Sex	#/FGD	Department	Type	
No	Township			Ward/Village	State/Region	
F1	Moemaik		8	A Linn Kaung Ward	Kachn	FGD
F2	Moemaik		8	Kyankhin village	Kachin	FGD
F3	Moemaik		8	Mee Pone village	Kachin	FGD
F4	Bamaw		8	See Inn village	Kachin	FGD
F5	Min Tet		8	A Naut ward	Chin	FGD
F6	Mn Tet		8	Nga Shaung village	Chin	FGD
F7	HaKha		8	Ywarban village	Chin	FGD
F8	Hakha		8	Myo Haung ward	Chin	FGD
F9	Minhla		8	Ward 2	Magwe	FGD
F10	Mnhla		10	Tanpayarkan village	Magwe	FGD
F11	Thayet		10	Bangone village	Magwe	FGD
F12	Pha an		8	Kya in village	Kayin	FGD
F13	Pha an		8	Pha Pu village	Kayin	FGD
F14	Pha an		8	Ward 5	Kayin	FGD
F15	Thandunagyi		8	Thandaung ward	Kayin	FGD

Table 3: Breakdown of data collected by townships

State/Region	Township	Freq.	Percent	Frequency(%)S/R
Kachina	Baomaw+ Moemauk (118+312)	430	15.6	710 (25.8)
Kachin	Myitkyinar	280	10.2	
Chin	Hakha	344	12.5	694 (25.2)
Chin	Min Tet	350	12.7	
Kayin	Hpa-an	350	12.7	702(25.4)
Kayin	Thandaunggyi	350	12.7	
Magwe	Minhla	372	13.5	643(23.4)
Magwe	Thayet	271	9.9	
	<b>Total</b>	<b>2,747</b>	<b>100</b>	<b>2747(100)</b>

Table 4: Completed data collection by males , females and clusters (wards and village tracts/village) for each township

Township	Village Tract	# Sample Size				# Clusters		
		Wards	Male	Female	Total	Village Tract (cluster)	Wards (cluster)	Total (cluster)
Myitkyinar	0	280	147	133	280	0	14	14
Bhamo	111	7	59	59	118	19	3	22
Moemauk	256	56	193	119	312			
Hakha	225	119	189	155	344	11	6	17
Minthet	300	50	176	174	350	15	3	18
Hpa-an	332	20	204	146	352	17	1	18
Thandaunggyi	172	178	211	139	350	9	9	18
Minhla	292	80	156	216	372	15	4	19
Thayet	251	20	139	132	271	13	1	14
<b>Total</b>	<b>1,937</b>	<b>810</b>	<b>1,273</b>	<b>1,474</b>	<b>2749</b>	<b>97</b>	<b>43</b>	<b>140</b>

#### 8.4 Additional Tables and Figures

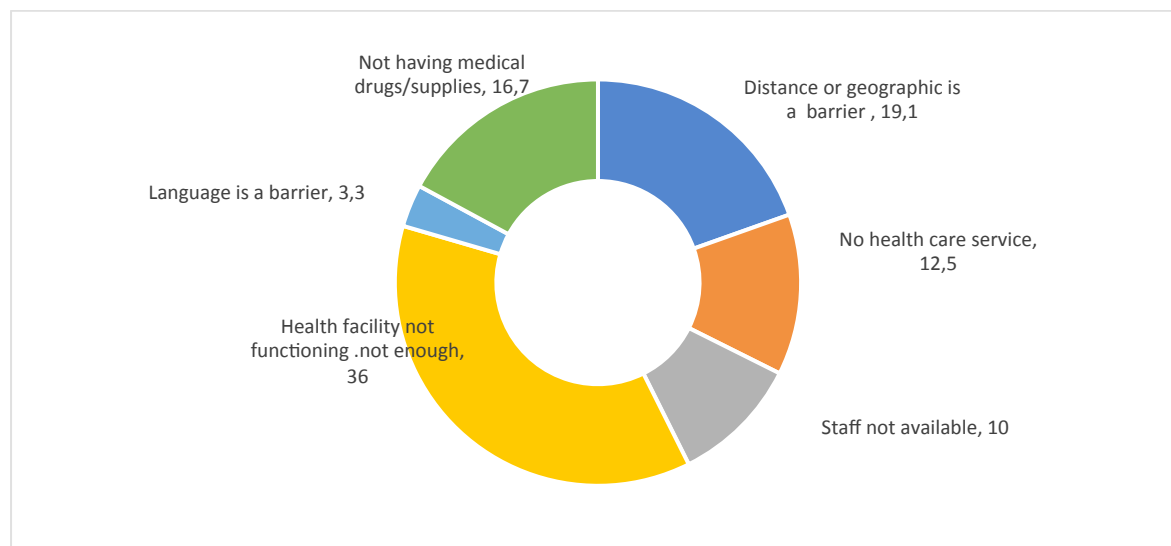
Table 5: Barriers to access the government health service

		Not at all	A little	Somewhat	Very much
Distance or geographic is a barrier	n	1530	665	276	242
	%	56.4	24.5	10.2	8.9 *
No health care service	n	1805	552	161	174
	%	67.1	20.5	6.0	6.5

<b>Staff not available</b>	n	1828	597	147	111
	%	68.1	22.3	5.9	4.1
<b>Health facility not functioning. not enough</b>	n	660	1011	563	380
	%	25.5	36.7	21.5	14.5
<b>Language is a barrier</b>	n	2332	276	53	35
	%	86.5	10.2	2.0	1.3
<b>Not having medical drugs/supplies</b>	n	1236	976	322	122
	%	46.5	36.8	12.1	4.6

\* excluding don't know%

**Figure 1: Barriers to access the government health service –‘Somewhat and Very Much’ responses combined**



**Figure2: Barriers to access the government health service- all four responses ( not at all, a little, somewhat and very much).**

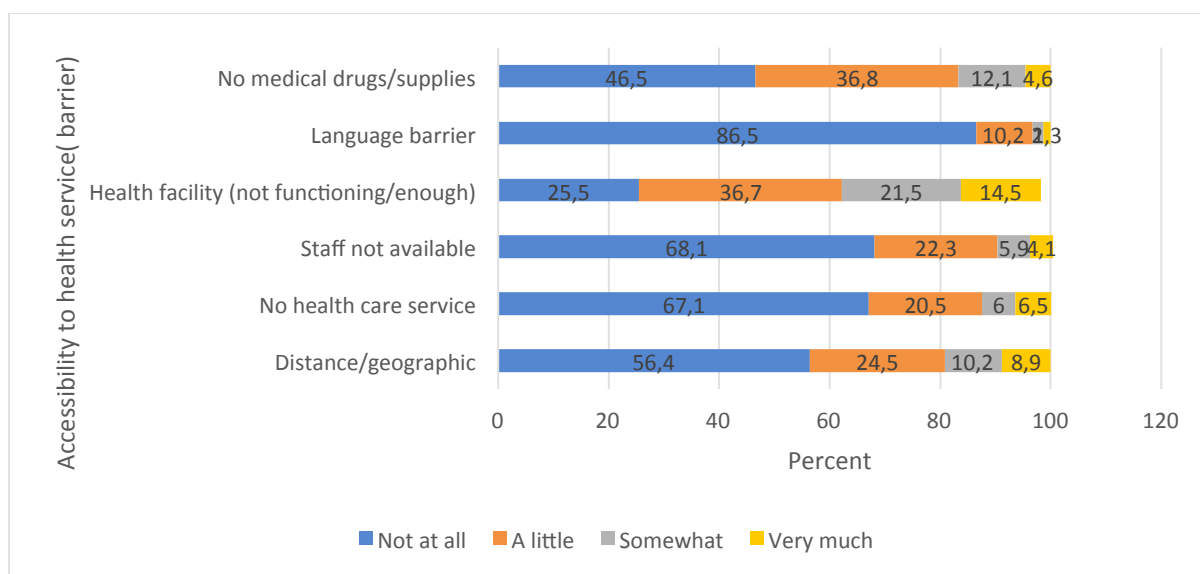


Table 6: Barriers to access the government health service by state and region

	Chin	Kachin	Kayin	Magwe
Use EHO health service	0.14%	0.56%	0.14%	0%
Barriers to health -Not at all, -Very much+ somewhat	40% 32%	62% 10%	61% 14%	60% 19%
Satisfy health service (Very much+ somewhat)	27%	57%	73%	67%
Meet health care need (Y)	67%	85%	91%	82%
Treat equal religion	76%	81%	82%	81%
Compared 5 years (Govt H better) Agree / Strongly agree	58% 26%	72% 16%	47% 34%	56% 30%
Compared 5 years (govt Health trend) increased	71%	64%	67%	73%

### Child health status (MCH)

Table 7 : Selected health status of survey respondents by state and region (number and percentage)

		Chin	Kachin	Kayin	Magwe	Total
<b>Maternal and Child health</b>						
Pregnant women in HH	n	29	37	31	17	114
	%	25.4	32.5	27.2	15	100

Under one child in HH	n	101	81	81	41	304
	%	33.2	26.6	26.6	13.5	100
Under five children in HH	n	345	235	289	134	1003
	%	34.4	23.4	28.8	13.4	100
Under one child death	n	28	11	13	5	57
	%	4.05	1.56	1.86	0.78	2.08
Under five child death	n	31	14	14	6	65
	%	4.46	1.97	2	0.94	2.36

Bivariate analysis of selected socio-demographic variables not significantly associated with accessibility, affordability and quality scores

### Accessibility

Age groups (years)			
18-34	Ref		
35-59	0.14	0.32	- 0.13, 0.40
60+	0.25	0.26	- 0.18, 0.67
Gender			
Male	Ref		
Female	-0.014	0.26	- 0.38, 0.10
Marital			
Married	Ref		
Never married	-0.16	0.377	- 0.52, 0.20
Others	-0.14	0.545	- 0.58, 0.31

### Affordability

Age groups (years)			
18-34	Ref		
35-59	-0.03	0.79	-0.27,0.20
60+	0.17	0.36	-0.20, 0.54
Gender			
Male	Ref		
Female	-0.01	0.363	-0.31, 0.11

### Quality

Language Interview			
Ethnic	Ref		
Bamar	-0.10	-0.76	-0.74, 0.54

<b>Age groups (years)</b>			
<b>18-34</b>	0.000		
<b>35-59</b>	0.12	0.55	-0.28, 0.52
<b>60+</b>	-0.05	0.87	-0.69, 0.58
<b>Occupation</b>			
<b>Have regular income (salary)</b>	<b>Ref</b>		
<b>Agriculture (not regular income)</b>	0.49	0.28	-0.39, 1.38
<b>Others (no regular income)</b>	<b>0.67</b>	<b>0.15</b>	<b>-0.24, 1.58</b>
<b>No income</b>	0.74	0.11	-0.17, 1.65

Access to GBV service

#### Occupation

<b>Have regular income (salary)</b>	Ref		
<b>Agriculture (not regular income)</b>	1.36	0.314	0.75, 2.49
<b>Others (no regular income)</b>	0.83	0.551	0.45, 1.53
<b>No income</b>	0.66	0.172	0.36, 1.20
<b>Age groups (years)</b>			
<b>18-34</b>	Ref		
<b>35-59</b>	1.05	0.674	0.84, 1.31
<b>60+</b>	0.61	0.019**	0.40, 0.92