The Socio-Economic Impact of People Living with HIV at the Household Level in Myanmar

The Socio-Economic Impact of People Living with HIV at the Household Level in Myanmar

ACKNOWLEDGEMENT

Disclaimer:

The views expressed in this publication do not necessarily represent those of UNDP or MoH.

Contacts:

National AIDS Program
Department of Public Health
Ministry of Health and Sports
Naypyitaw, Myanmar

United Nations Development Programme Myanmar
6 Natmauk Road, Tamwe Township
Yangon
Myanmar

Manufactured in Myanmar

Cover image by Sanigest

---

[1] This publication has been approved by the Ministry of Health's Ethical Review Committee

FOREWORD

Over the past decade, significant achievements have been made in addressing HIV in the country. The results are clear, with HIV prevalence falling by nearly 50 percent (from 0.94% in 2000 to 0.54% in 2014) and antiretroviral coverage estimated to reach 50 percent by 2016. These results are due to sustained and strong political leadership, generous donor support, and the tireless efforts of civil society, international non-governmental organizations and development partners.

Despite these important achievements, we recognize that there is an important unfinished agenda to ensure better access, quality and efficiency with the HIV program. This study demonstrates that HIV-affected households face a variety of economic and social challenges. HIV-affected households face higher health care costs and are often forced to draw on their savings, take on additional debt and reduce their spending in other critical areas such as food and education. It is well known that the health impacts of HIV are severe, with higher morbidity and mortality levels in HIV-affected households, affecting the social and economic threads of our country. But the study also shows that people living with HIV and their families often experience HIV-related discrimination, with resulting negative psychosocial outcomes.

Achieving the UNAIDS 90/90/90 goals will require that Myanmar builds on the momentum of the past decade, and expands efforts to ensure universal access to HIV prevention, treatment, care and support for People Living with HIV (PLHIV) and their

families. This study brings a unique perspective to addressing the challenges of PLHIV by taking a holistic perspective of the impact of HIV by adding measurement of chronic diseases such as diabetes, mental illnesses and cancer. The results show that households affected by chronic disease may not endure as dramatic an income reduction as HIV-affected households but employment levels are reduced and internal stigma levels are high. At the same time, households affected by both HIV and a chronic disease are the most vulnerable of the households studied, implying additional support for those households will provide valuable social protection.

Within this context, this report examines the socio-economic impact of HIV at the household level in Myanmar, providing policy-makers with a rich evidence base upon which to strengthen existing impact mitigation strategies, introduce new interventions, and ensure resources are utilised effectively and efficiently. I believe that the valuable results of this study would inform the implementation of the Myanmar's cur-

rent National Strategic Plan on HIV and AIDS 2011-2016 as well as the new strategic plan.

On behalf of the National AIDS Programme, I wish to thank the United Nations Development Programme for supporting the study on the Socioeconomic Impact of HIV at the Household Level in Myanmar, as part of the UNDP Democratic Governance programme. I would also like to recognise the hard work and tenacity of the Burnet Institute, Sanigest Internacional throughout the implementation of this study.

DR HTUN NYUNT OO
Programme Manager
National AIDS Programme
Ministry of Health and Sports

FOREWORD

"The Socio-Economic Impact of People Living with HIV at the Household Level in Myanmar" study conducted by the Ministry of Health and UNDP assesses the socio economic impact of HIV-related diseases at the household level across Myanmar. It collected data on the impact of HIV-related diseases on income, revenues, economic dependency, consumption, education, health, food security, stigma, discrimination, quality of life, and migration. The study also assessed people living with chronic diseases in order to compare the impact of living with HIV/AIDS with the impact of living with a chronic disease.

Stigma, discrimination, and socio-economic exclusion continue to affect the rights and socio-economic opportunities of people living with HIV in Myanmar. Households with a family member who has HIV, have lower incomes, fewer assets and lower home-ownership, compared to households that are not affected by HIV. They also have more household debt, and their families pay a higher rate of interest compared to families not affected by HIV. There is a high proportion of HIV-affected households led by a single parent; they are particularly economically vulnerable. Children from families affected by HIV are more than twice as likely to have missed school to help their family with household chores or to carry out paid work.
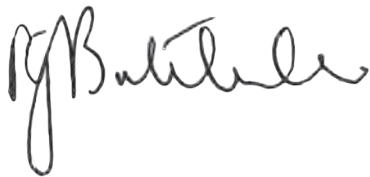
Around a quarter of the households sampled for this report have at least one person who has a chronic disease. Compared to people with HIV, more people with a chronic disease cited bad health. Further-more, more people with a chronic disease seek outpatient care and fewer are satisfied with their access to health services. In rural areas, the distance to the facility is an important reason why people with chronic illnesses do not seek care. Families with a member who has a chronic disease have higher levels of unemployment and are over two and a half times more likely to have medical bills that they cannot pay for, than families where no one has a chronic illness.

As Myanmar strives to implement the Sustainable Development Goals and the 2030 Agenda, the findings of this study will help inform policy discussions on how to meet SDG 3 on Good Health and Good Well-Being, and SDG 10 on Reducing Inequalities, and on how to improve the lives of vulnerable groups and especially those living with HIV/AIDS, through measures such as universal health coverage and social protection.

FOREWORD

Finally, I would like to thank the more than 2,500 households across Myanmar, who gave their valuable time to participate in this important study.

PETER BATCHELOR
Country Director
UNDP Myanmar

ACKNOWLEDGEMENTS

ACRONYMS & ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CD	Chronic Diseases
CI	Confidence Interval
DMR	Department of Medical Research
DOH	Department of Health
FSW	Female Sex Workers
GAR	Gross Attendance Rates
GDP	Gross Domestic Product
HBC	Home-Based Care
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HH	Household
HIV-CD-HH	Household with [a member living with HIV + another member living with a chronic disease] OR [a single member living with both HIV and a chronic disease]
HIV-HH	HIV-affected household (Household with at least 1 member living with HIV)
HIV-HH-NOCD	HIV households where no member is living with a chronic disease
HoH	Head of Household
HoHWCD	Head of Household Without a Chronic Disease
ICF	International Classification of Functioning, Disability and Health
ISCO	International Standard Classification of Occupations
KAP	Key Affected Population
MOH	Ministry of Health
MPG	Myanmar Positive Group
MSM	Men who have Sex with Men
MTCT	Mother-To-Child-Transmission
NA-CD-HH	Non-affected household with a member living with a chronic disease
NA-HH	Non-affected household (Household with no members reported living with HIV)
NA-HH-NOCD	Non-affected household where no member is living with a chronic disease
NAP	National AIDS Programme
NODX-INT	Head of household not diagnosed with a chronic disease or HIV who was interviewed about quality of life
NAR	Net Attendance Rates
NSP	National Strategic Plan
OI	Opportunistic Infection
OR	Odds Ratio
OVC	Orphans and Vulnerable Children

ACRONYMS & ABBREVIATIONS

PLCD	Person/people Living with a Chronic Disease
PLCD-INT	Person/people Living with a Chronic Disease interviewed specifically about their personal experience living with a chronic disease
PLHIV	Person/people living with HIV
PLHIVCD	Person/people living with HIV who is also living with a chronic disease
PLHIV-INT	Person/people living with HIV interviewed specifically about their personal experience living with HIV
PLNODX	People living with no diagnosis of HIV or a chronic disease
PWID	People Who Inject Drugs
Q	Quintile
QOL	Quality of Life
SES	Socio-Economic Status
UNDP	United Nations Development Programme
VCCT	Voluntary Confidential Counselling and Testing
YOA	Years of Age

CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The National AIDS Programme (NAP) launched its report 'The Socio-economic Impact of HIV at the Household Level in Myanmar,' a report of a nationwide cross-sectional comparative study which was conducted with support from the United Nations Development Programme (UNDP). The report highlights a variety of economic and social challenges that are faced by HIV-affected households and provides recommended changes in social and health services to protect those households.

This study is part of a UNDP regional initiative to map the socio-economic impact of HIV on households throughout Asia. Survey modules covered key socio-economic indicators affected by HIV including: household members' educational levels, employment status, health status, and engagement in risky behaviours; household consumption and income patterns, migration patterns and food security status; family composition; gender considerations; stigma and discrimination, quality of life measures, and measures of functional disability. This broad purview provides multi-dimensional information that can aid in identifying root causes, determining the epidemic's impact on households and how households respond to these social and economic challenges, analysing the broader impacts of HIV and considering the policies and programs that best address these concerns.

Figure 1: Summary of Key Socio-Economic Indicators Measured in this Study
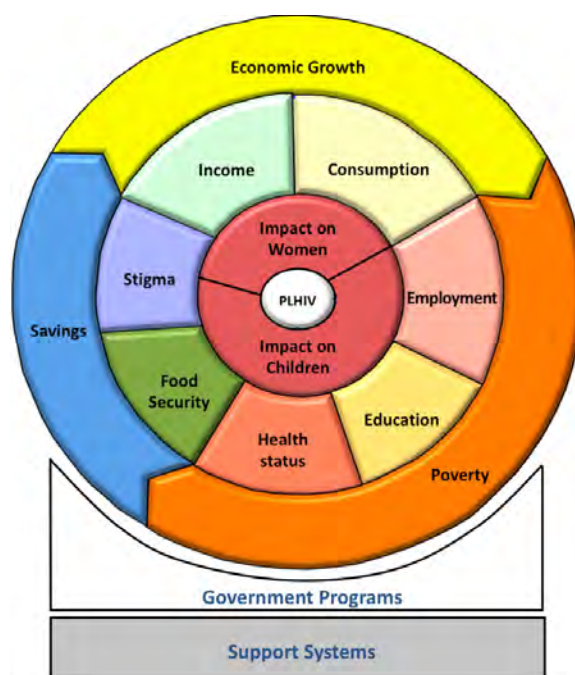
Source: UNAIDS 2013

The report aims to detail the socio-economic impact of HIV at the household level in Myanmar, to provide a basis upon which to design better mitigation strategies, and to inform policy dialogues on social protection of the marginalized population. For example, the report revealed average per capita household income for HIV-affected households (858,624MMK or US$768) was substantially lower than for non-affected households (901,564MMK or US$807) with non-affected households deriving more income from a diverse range of sources (trade/business/petty shops and sale of land or buildings).

Annual per capita household out-of-pocket health expenditures for HIV-affected households are almost double those of non-affected households (304,558MMK/US$272 vs. 163,405MMK/US$146). Children in non-affected households had marginally higher aggregate attendance rate for schooling at all levels (total 84.2%) than children in HIV-affected households (total 81.4%); the biggest difference in attendance rates for boys was among those in upper secondary school (14-18 years) (60.4% with non-affected households, 53.7% with HIV-affected households) while for girls it was among those in lower secondary school (10-13 years) (96.0% with non-affected households, 91.1% with HIV-affected households).

This study is unique as it also explores differences in socio-economic costs between households affected by HIV and those affected by chronic diseases such as diabetes, hypertension and chronic cardiac conditions. The study also revealed socio-economic impacts of various factors on people living with chronic diseases. People living with chronic diseases (PLCD) were significantly more likely to be unemployed (of household members between the ages of 15 and 64) than people living with HIV (PLHIV) and PLHIV or a chronic disease (PLNODX) (34.6%, 27.3% and 13.7%). Those without a chronic disease or HIV were regarded as having the best health (86% were in good or very good health), while PLCD were most likely to report being in bad or very bad health (17.4%). Surprisingly PLCD experience just as much and for some aspects considerably more internal stigma than PLHIV. Over 14% of PLHIV in Myanmar (cf. 10% in Cambodia) and 30% of PLCD reported they stopped work because of their illness. Opportunities for job promotion (13.6% PLHIV vs. 30.1% people living with chronic diseases) and education (15.9% PLHIV vs.17.8% PLCD) were missed. A majority of PLHIV and PLCD avoided getting married (64.3% PLHIV vs. 58.8% PLCD), and small proportions kept away from the local clinic (9.0% PLHIV vs. 5.9% PLCD) and hospital (7.0% PLHIV vs. 6.7% PLCD) even when they needed care.

The report provides policy-makers and programme managers with a rich evidence base on which to strengthen existing impact mitigation strategies, introduce new interventions, and ensure resources are utilized effectively and efficiently. The report highlights the policy conclusions with recommended changes in the scope of services, depth of services and breadths of services, including; integration of targeted HIV impact mitigation programming into "HIV Sensitive" social protection strategies; importance of providing support for chronic disease prevention and management, particularly tobacco cessation for males, in combination with integrated HIV care; integration of prevention and control of chronic diseases as part of comprehensive HIV response across different levels; improved legal protection strategies including legal literary and access to justice for PLHIV to mitigate the study's result showing high eviction rates for HIV-HHs; Expansion of the definition of vulnerable groups in the Social Protection Strategy to include PLHIV specifically and; strengthened coordination with the private sector to maximize inclusion of the population that seeks HCT and other services in the private sector.

CHAPTER 1
INTRODUCTION

BACKGROUND

This study of the socio-economic impact of Human Immunodeficiency Virus (HIV) on households in the Republic of the Union of Myanmar aims to support evidence-informed policymaking and programming related to health and social protection. An estimated 189,000 people are living with HIV in Myanmar, which equates to the fifth largest HIV population in the Asia Pacific region (UNAIDS, 2013) (Figure 2). This region is home to 4.7 million of the 35.3 million people living with HIV worldwide. Just twelve countries, including Myanmar, account for more than 90% of new HIV infections in Asia and the Pacific (UNAIDS, 2013b; UNAIDS, 2013).[2] Although there have been improvements across the region with a decline in new infections, expansion of treatment services and reductions in HIV related mortality, countries face challenges in providing services to the increasing number of people living with HIV.

Globally, the impact of HIV on poverty – at the individual, household and national levels – is clear. In recent years, several studies have examined the socio-economic conditions of HIV-affected households (HIV-HHs) noting additional financial drains when compared to unaffected households and a disproportionate burden on poorer house-

Figure 2: Countries in Asia-Pacific with the Highest HIV Burden and new Infection Trends
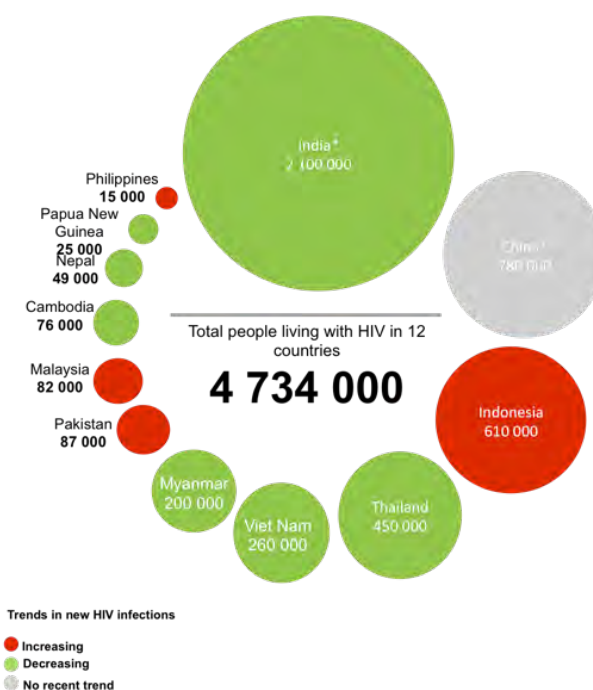
Source: UNAIDS, 2013

holds (UNDP, 2006, 2009, 2009b). "Every death from AIDS represents the loss of income of almost USD 5000— the equivalent of nearly 14 years of income for people earning USD 1 per day at current prices" (UNAIDS, 2008). Healthcare expenses, costs associated with funerals, migration, and unemployment as well as a loss of income from reduced productivity and family members leaving the workforce to care for HIV-affected relatives can all lead families to sell assets and take on loans, often at higher than normal interest rates.

---

[2] The Asia-Pacific region is comprised of Cambodia, China, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Thailand and Vietnam.

Health and education investments are reduced and children, especially girls, may be forced to work or act as a caregiver to an HIV-positive family member. For instance, net school attendance was markedly lower for upper secondary school age girls in Cambodia from HIV-HHs compared with those from non-affected HHs (9% vs. 16%).[3] Reduced educational attainments can influence future HIV prevalence – UNAIDS noted that seven million cases of HIV could be prevented in the next decade if every child receives an education (UNAIDS, 2011).

People Living with HIV (PLHIV) commonly have a poorer quality of life and higher levels of depression and anxiety compared to their peers. Stigma and discrimination can impede access to medical treatment, delay diagnosis and treatment, and make HIV-positive people less likely to disclose

their HIV status; these are factors associated with HIV transmission.

The economic costs of HIV go beyond individuals and households affecting businesses and the government (UN, 2004). Sick employees supply fewer hours to the labour market and are less efficient than healthy workers, and labour supply decreases when household caregivers leave the workforce. HIV infection reduces fertility with long-term effects on population growth and fewer people contributing to the economy. Children orphaned by HIV create new economic burdens on surviving family members and the state. And government subsidized HIV medical expenditures, particularly for ART and treatment of opportunistic infections (OIs), place stress on the state budget. While ART treatment has expanded within the Asia Pacific region, scale-up has slowed

Figure 3: Number of People Accessing Antiretroviral Treatment 2003-2012
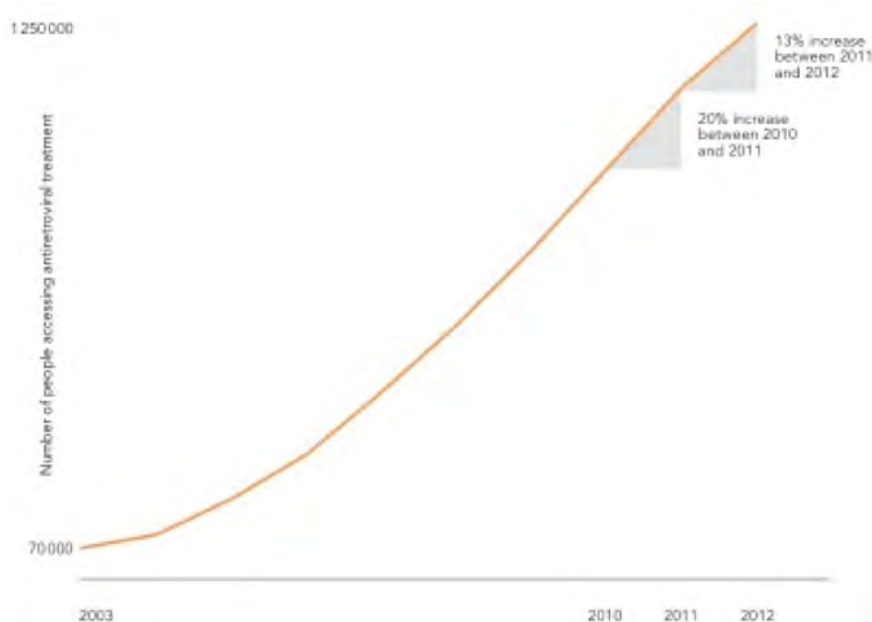
Source: UNAIDS, 2013

---

[3] UNDP 2009. Socio-economic impact of HIV at the household level in Cambodia.

Figure 4: Continuum of Care
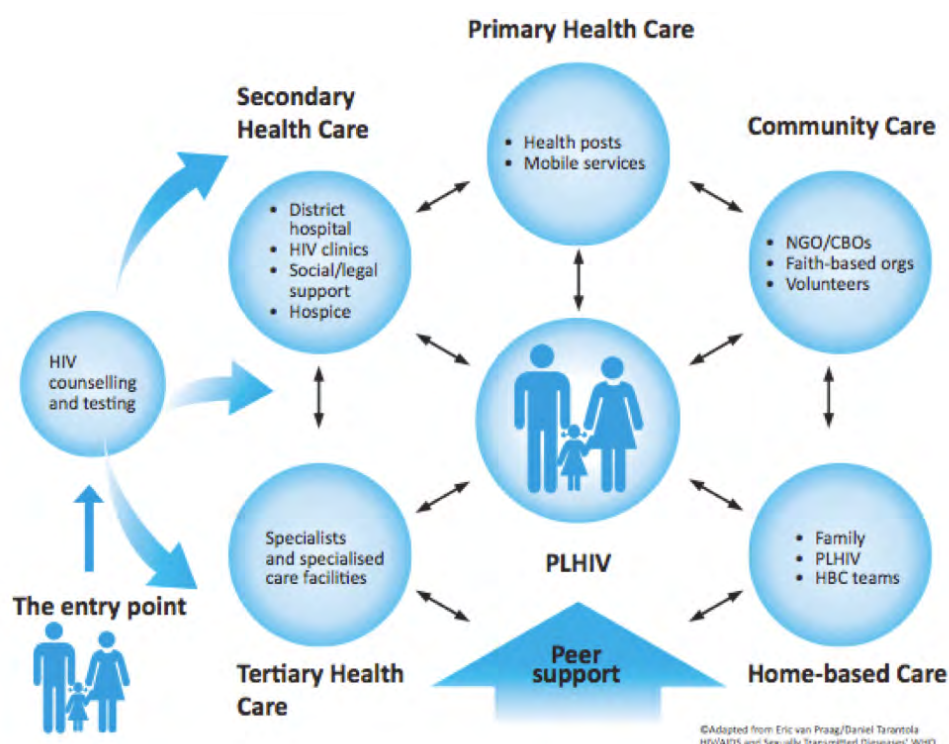
Source: Myanmar Ministry of Health, 2011

from a 20% increase in treatment in the years 2010-2011, to a 13% increase from 2011-2012 (UNAIDS, 2013).

OVERVIEW OF THE RESPONSE TO HIV IN MYANMAR

In Myanmar, 0.47% of residents aged ≥15 years are now living with HIV. This is a decline from 0.94% in 2000. Prevalence among at-risk populations - female sex workers (FSW), men who have sex with men (MSM), people who inject drugs (PWID) - remains high although declines have also been documented: HIV prevalence among FSWs was 8.1% in 2013 down from 9.6% in 2011 and among PWID prevalence declined from 21.9% to 18.7%. In contrast, more MSM are now HIV posi-

tive, with an increase from 7.8% in 2011 to 10.4% in 2013 (UNAIDS, 2014).

The HIV incidence rate in Myanmar peaked in 1999 at over 30,000 new infections per year, but has steadily declined to the current level of around 7,000 new infections per year (see below). This pattern is attributed to both a prevention of new infections and the scale-up of antiretroviral treatment from the late 2000s (UNAIDS, 2014). New infections are occurring among a diverse range of people including all high-risk groups as well as low-risk women and men. This is a pronounced difference from the late 1990s when the majority of new infections were among PWID and FSWs and their clients (Figure 6). Low-risk women now contribute the second high-

Figure 5: Prevalence in Myanmar General Population, 15+ (1991-2015)
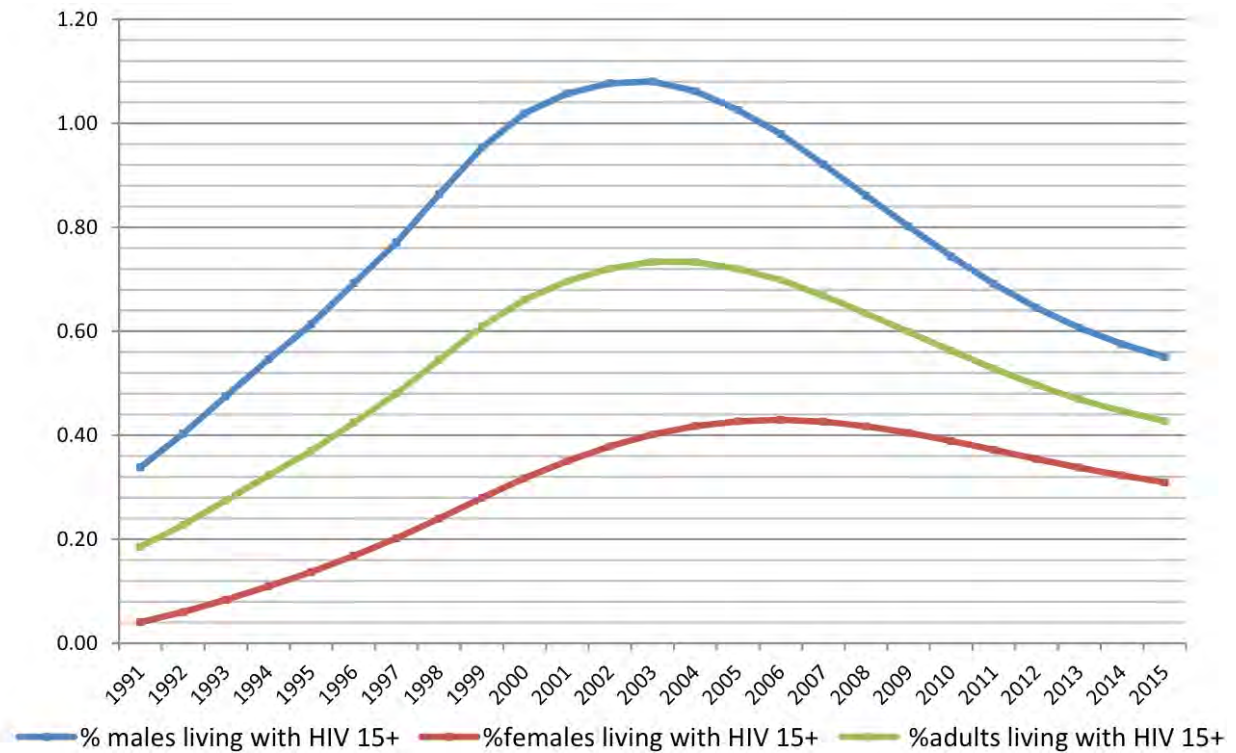
Source: UNAIDS, 2014

Figure 6: Distribution of new infections among key populations in Myanmar (1991–2015)
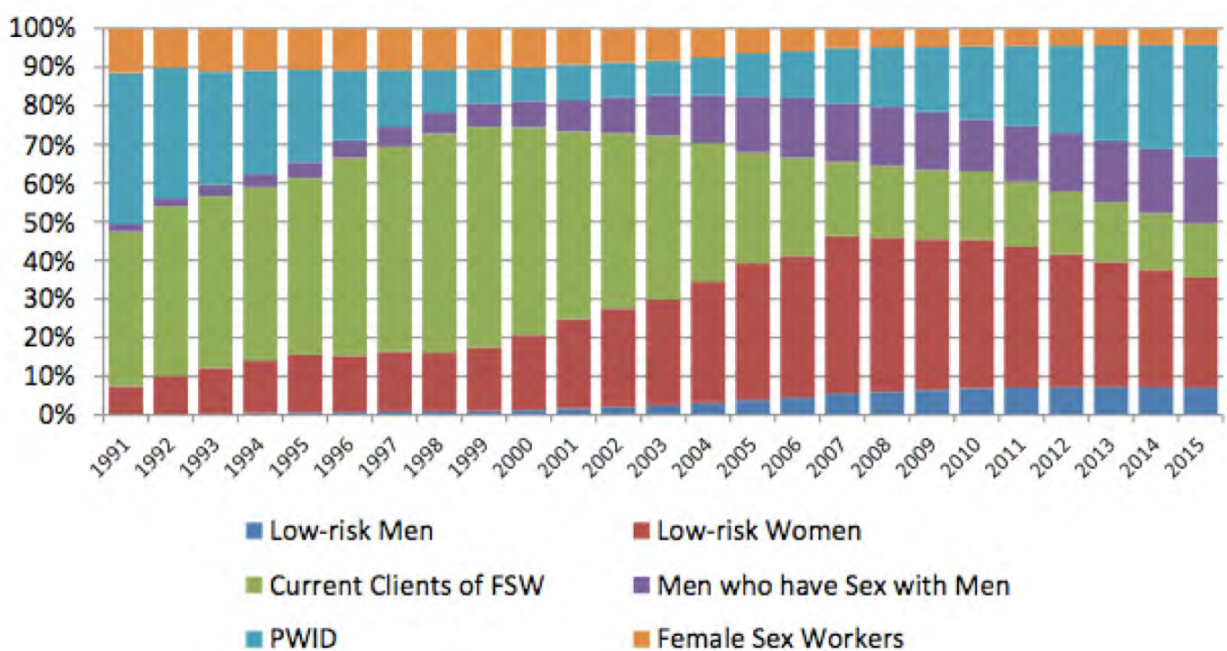
Source: UNAIDS, 2014

Figure 7: Incidence by key populations in Myanmar (1991–2015)
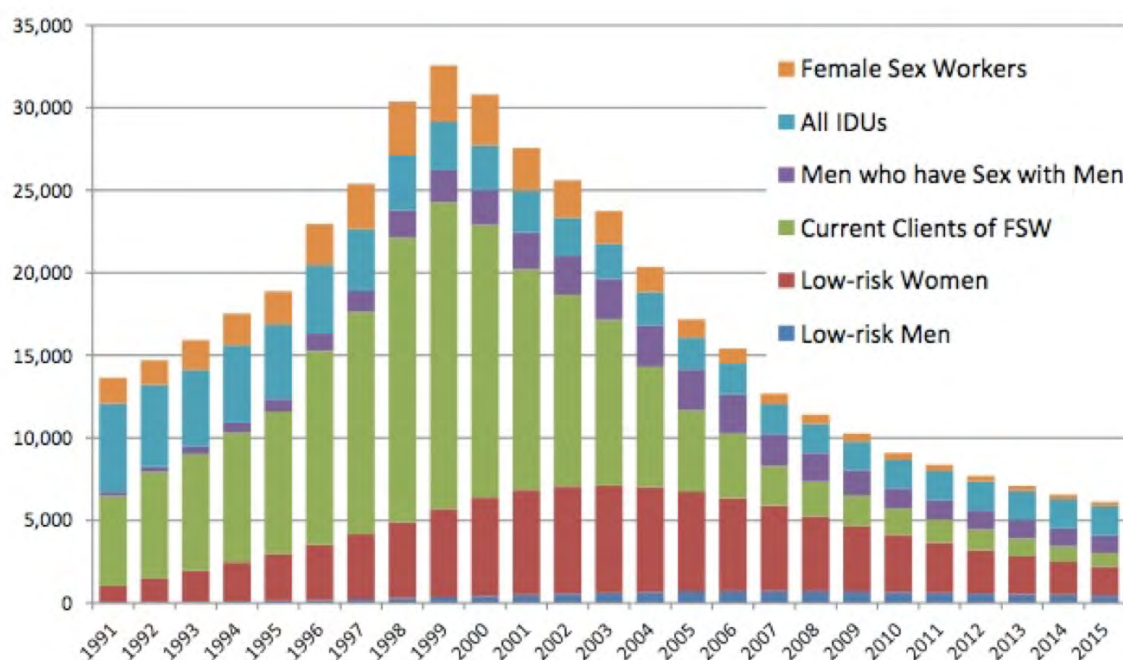
est number of new infections (Figure 7) of which 90% are acquired from their long-term partner (husband or boyfriend) (UN-AIDS, 2009). Most HIV in Myanmar is transmitted through sexual intercourse (77% of new infections in 2010); however, there remain a small number of infections transmitted from mother-to-child (<300 new infections per year) (UNAIDS, 2014). Most people in Myanmar are unaware that HIV can be transmitted this way. In 2013, 37% of PLHIV were women and 15,000 people were estimated to have died of AIDS-related illnesses (UNAIDS, 2014).

Myanmar has made considerable progress in the areas of HIV prevention, care and treatment, and impact mitigation (Myanmar MoH, 2011; UNAIDS, 2014), which contributed to reductions in HIV prevalence. Figure 3 outlines the care, treatment, and support services that are available to peo-

ple living with HIV (Myanmar MoH, 2011).

By the end of 2014, 85,626 people were receiving ART (NAP, 2015), although only 40% of those living with HIV have access to treatment. AIDS and related causes - projected to cause 11,400 deaths in 2015 (UN-AIDS, 2014; UNDP, n.d.) - are expected to decrease with a commitment by the Myanmar Minister of Health to increase funding for HIV treatment by USD5 million to improve treatment coverage to 85% (UNAIDS, 2014b). Myanmar is also focused on reducing HIV transmission via opioid substitution therapy and needle-syringe exchange programmes (UNAIDS, 2014b).

The National AIDS Programme (NAP) under the Ministry of Health (MOH) leads the country's response to the HIV/AIDS epidemic. The National Strategic Plan (NSP) 2011-2016 has three main objectives:

1. Reduction of HIV transmission and vulnerability particularly by people at highest risk;

2. Improvement of the quality and length of the life of people living with HIV through treatment, care and support;

3. Mitigation of the social, cultural and economic impacts of the epidemic.

The NSP includes strategies for achieving these objectives and targets to measure progress.

OVERVIEW OF THIS STUDY

This study is part of a UNDP regional initiative to map the socio-economic impact of HIV on households throughout Asia. The Burnet Institute and Sanigest Internacional carried out the work under the coordination of UNDP Myanmar. Survey modules covered key socio-economic indicators affected by HIV: income, employment, revenues, expenses, consumption, education, health, family composition, gender considerations, stigma and discrimination (The Kaiser Family Foundation, 2007). This broad purview provides multi-dimensional information that can aid in identifying root causes, determining the epidemic's impact on households and how households respond to these social and economic challenges, analysing the broader impacts of HIV and considering the policies and programs that best address these concerns. The instruments were designed to ensure data would be comparable to data from prior surveys.

Unlike previous studies, however, this study also explores differences in socio-econom-

ic costs between households affected by HIV and those affected by chronic diseases such as diabetes, hypertension and chronic cardiac conditions. Nationally representative data on the impacts of chronic diseases on households are lacking for Myanmar and are needed to inform the new strategic plan for national social protection.

In this context, the report aims to detail the socio-economic impact of HIV at the household level in Myanmar, to provide a basis upon which to design better mitigation strategies, and to inform policy dialogues on social protection of the marginalized population. The study was designed with a focus on greater engagement and empowerment of the community, with community member involvement occurring throughout the study, from inception, to design, and survey to finalization.

The Report has twelve sections, including this introduction and overview of HIV in the country. Section Two covers the survey design, sampling methodology and data analysis. Section Three provides an overview of household characteristics, including Head of Household and PLHIV, as well as a profile of an interviewed PLHIV. Section Four details the impact of HIV on economic indicators, including but not limited to income, employment, debt, consumption and savings. Section Five focuses on education. Section Six covers HIV's impact on health, including status, utilisation and costs. Section Seven examines the impact of HIV on food security, including hunger and food support. Section Eight examines stigma, discrimination and internal stigma as well as quality of life. Section Nine looks at the special considerations of HIV's im-

pact, such as its effects on family structures, orphans and vulnerable children, widows, migration, home-based care and key affected populations (KAPs). Section Ten ends the analyses and examines differences in knowledge and awareness regarding HIV. Section Eleven focuses on policy conclu-

sions based on the report's results, and the final section contains a list of the reference used throughout the report. Seven annexes list the participating NGOs, team members, the survey instrument, additional methodological information, and statistical details.

Figure 8: The Micro and Macro Economic Impact of HIV
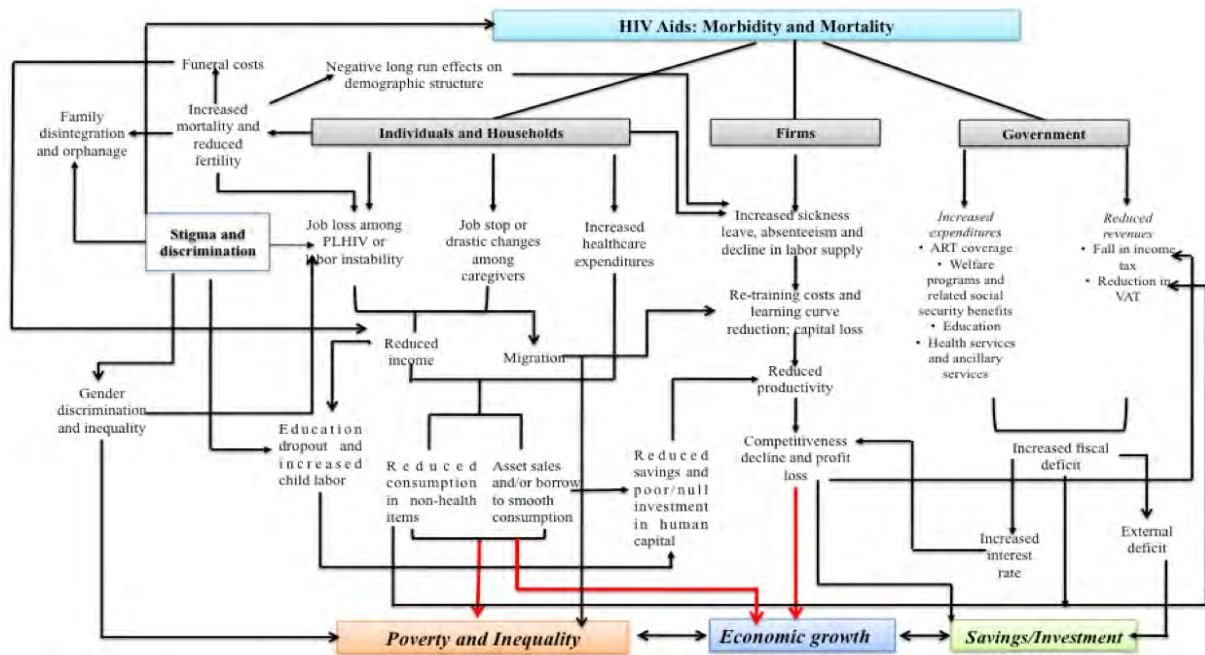
Source: Cercone, J. from UNDP, 2009c

CHAPTER 2
METHODOLOGY & DATA

CHAPTER SUMMARY

☐ The study employed a cross-sectional comparative design using a multi-stage cluster sampling methodology to randomly select households with a resident living with HIV and households where no resident had HIV;

☐ Small clinics and insecure areas were excluded from selection; however, these represented <6% of all PLHIV registered at ART clinics in Myanmar;

☐ 30 urban and 30 rural townships throughout the country were surveyed;

☐ PLHIV were recruited as they attended ART clinics; comparison households were geographically matched to HIV-affected households and recruited separately;

☐ Information about chronic diseases and disabilities were collected from comparison households to allow comparisons of socio-economic costs with households affected by HIV.

2.1. SAMPLE AND SURVEY DESIGN

2.1.1. Study design

This study was a nationwide cross-sectional comparative study that used multi-stage cluster sampling to select participants. The design was based on earlier UNDP studies in the region and represents a balance between ensuring that the data collection did not result in harm for participants, that the study could be completed within a set budget and timeframe, and that the sample recruited was as close to nationally representative as possible.

2.1.2. Sampling methodology

The sample size was calculated based on the following parameters: (i) available data from similar UNDP studies conducted in Asia (Cambodia, China, India, Viet Nam) to ensure the study had sufficient power to detect differences between HIV-affected households and non-affected households (comparison households) for important socio-economic factors[4]; (ii) stratification by urban and rural status; and (iii) 10% inflation to allow for refusals.[5] In all, we aimed to survey a minimum of 2,200 households (1,100 HIV-affected households and 1,100 non-affected house-

---

[4] Socio-economic outcome figures reported in the previous five Asian HIV socio-economic impact studies and used to calculate the sample size included a median estimated odds ratio observed for binary outcomes of 1.7 and a median prevalence of the socio-economic impact of interest in control households of 8.9%.

[5] The Myanmar Positive Group (MPG) advised that a refusal rate higher than 10% was unlikely given previous survey experience with members.

Table 1: Included and Excluded ART Clinics

	Included	Excluded	Notes on Exclusions
States / Divisions	16	1	Chin state (just 20 patients registered)
ART clinics	67	68	
Public Clinics	43	44	Small clinics and those inaccessible in Chin and Rakhine states
Private Clinics	24	24	
PLHIV	65,555	3,954	
	(94.3%)	(5.7%)	Small fraction of total

holds). This amounted to 19 cases and 19 comparisons in each of 60 clusters, which is described in detail below.

First Stage of Sampling: Selection of ART clinics

Government (NAP) and private (NGOs) ART clinics have registers of PLHIV who are currently receiving treatment. There are 135 ART clinics throughout Myanmar; 87 run by NAP and 48 by NGOs. All states and divisions have at least one ART clinic. Together, these clinics have registered 69,509 patients on treatment for HIV, although many more patients not yet eligible for ART also attend these clinics.

This register does not include those who know they are living with HIV but have not sought healthcare and those unaware of the infection; however, this is the only sampling frame available at the national-level for PLHIV in Myanmar. Households where a resident with HIV had already died were also not included for selection unless another household member was also HIV positive and registered at the local ART clinic.

We excluded clinics that were inaccessible due to insecurity and those that had too few patients to recruit the required sample within the survey period (Table 1).[6] These exclusions amounted to 5.7% of all PLHIV registered by ART clinics in Myanmar.

From the remaining sampling frame of ART clinics, we allocated 26 clusters with a probability proportional to the number of patients registered at each clinic. An additional four clusters were purposely selected to improve the geographic coverage of the study. In all, 30 clusters were allocated to ART clinics.

Second Stage of Sampling: selection of township (clusters)

The township of residence for each PLHIV was available from the selected ART clinics, allowing lists to be drawn up of the number of patients from each township attending each ART clinic[7] We opted to sample a limited number of townships, as it was impractical to visit all townships covered by an ART clinic. Townships were stratified by urban and rural status based on govern-

---

[6] The Study required 19 people to be sampled from each cluster (township). We assumed that a clinic had to have at least three times this number of patients registered from a given township to allow 19 patients to be sampled within the survey period.

[7] Township data were not available in advance as permission to access data was required for each individual private clinic. Note also that although patients from the same township might attend different ART clinics, the list of patients by township at any given clinic was considered unique i.e. individual patients were registered at a single ART clinic not multiple clinics.

Table 2: ART Clinics Selected for Sample*

State / Division	ART Clinic	# urban clusters	# rural clusters
Ayeyarwaddy	Pathein General Hospital	1	1
Bago	Consortium*	1	1
Kachin	Bhamo General Hospital	1	1
	MSF-H	4	4
Kayin	Hpaan General Hospital*	1	1
Magway	Pakokku General Hospital-IHC	1	1
Mandalay	Mandalay General Hospital-IHC	1	1
	Central Women Hospital-IHC	1	1
	Decentralized site -NAP/IHC	2	2
	Myingyan General Hospital-IHC*	1	1
Mon	IOM	1	1
Sagaing	Monywa General Hospital-IHC	1	1
	Sagaing General Hospital- IHC*	1	1
Shan-North	Iashio General Hospital -IHC	1	1
	MSF-H	1	1
Shan-South	Taunggyi Saosuntun Hospitai-IHC	1	1
Tanintharyi	MSF- CH	2	2
Yangon	MSF-H	2	2
	Mingalardon Specialist Hospital	2	2
	MDM	1	1
	Thakata Specialist Hospital-IHC	1	1
	MSF-H	1	1
	AMI	1	1

*Sites purposefully selected

ment classifications. One urban and one rural township were randomly selected with a probability proportional to the number of registered patients from each ART clinic giving a total of 60 clusters sampled for the study shows the distribution of townships sampled during the study.

2.1.3. Replacement of ART clinics during data collection

Two clinics originally selected were replaced during the survey:

- **HlaingTharYarMSF-H clinic,** HlaingThar-Yar Township, Yangon region: this clinic had closed, with most clients transferred to Insein Township MSF-H clinic. As Insein Township MSF-H clinic had already been randomly selected, an additional cluster was assigned to account for the new cases moved across from HlaingTharYar.

- **PharKant MSF-H clinic**, Kachin state: Security conditions precluded visiting this clinic. A new clinic was randomly selected proportional to population size

from eligible Kachin clinics. The study team had already deployed to Kachin and it was impractical to randomly select a new clinic from the national list. Bhamo MSF-H clinic was selected which had similar features to the replaced clinic: a private clinic run by MSF-Holland with a similar number of registered patients and serving a population of a similar socio-economic status (SES) according to health authorities.
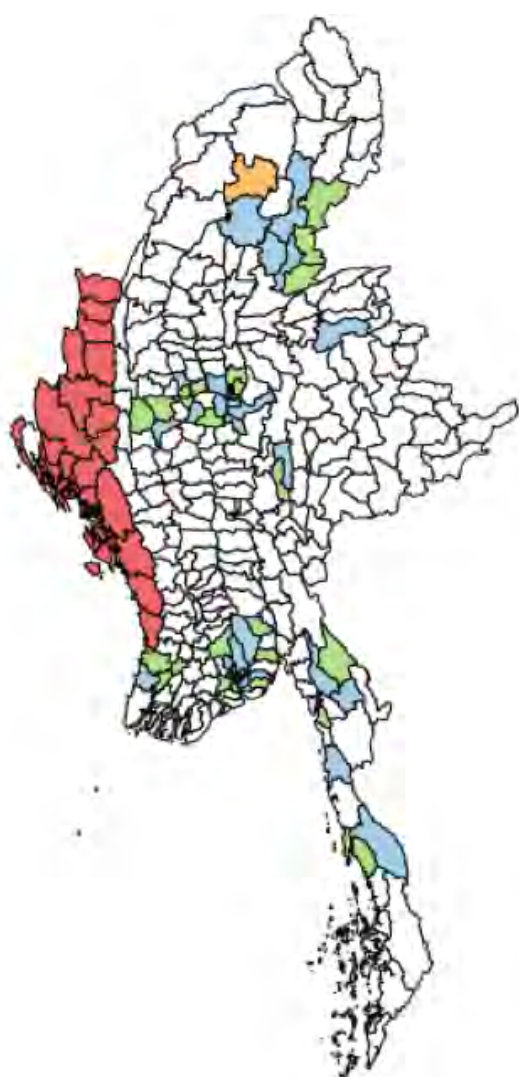
Legend
- Eligible for selection
- Ineligible for selection
- Replaced during study
- Urban (sampled)
- Rural (sampled)

Third Stage of Sampling: selection of cases and comparisons

SELECTION OF HIV-AFFECTED HOUSEHOLDS (CASE HOUSEHOLDS)

Recruitment: PLHIV were consecutively recruited from ART clinics as they attended the facility until at least 19 patients from the selected township had consented to participate (teams found that often more than 19 cases had to be recruited at clinics because some participants gave false addresses). This process aimed to minimise the risk of inadvertent disclosure of their HIV status and enabled recruitment of a mixed group of PLHIVs in each township including people on ART, people eligible but awaiting ART, and those newly diagnosed (PLHIVs who are ineligible for ART are not routinely followed up by ART clinics and are expected to compose only a minority of the sample).

It was not possible to randomly select participants because clinic rules forbid sharing even non-identifiable patient lists. Also, phone coverage in Myanmar is poor and few participants could be safely contacted in advance to consent to participate in the study.

According to participant preference, patients were either interviewed on the same day of recruitment in a private room at the clinic or on a later date in a safe, private location near their home. Volunteers working in the ART clinics or from local community-based organisations of the Myanmar Positive Group (MPG) network helped in the initial recruitment process to confirm that patients were eligible for the study. These volunteers assist

Table 3: Summary of Inclusion and Exclusion Criteria

Eligible township?	≥18 years	Household member already participated in study	Head of Household	Disclosed HIV status to family	Eligible for recruitment
No	.	.	.	.	No
.	No	.	.	.	No
Yes	Yes	Yes			No
Yes	Yes	No	No	No	No
Yes	Yes	No	No	Yes	Yes
Yes	Yes	No	Yes	Yes	Yes
Yes	Yes	No	Yes	No	Yes

medical and nursing staff to provide care to attendees and are well known to registered patients.

Eligibility criteria: Volunteers screened patients to check their eligibility with 3 questions: (i) are they from an eligible township; (ii) are they aged 18 years or over; (iii) are they interested in participating in the study.

The study team supervisor then determined final eligibility by also assessing whether: (iv) the patient was the head of household; (v) they had disclosed their HIV status to their family; (vi) they were willing to provide an exact address; and (vii) if anyone else in their household had already participated in the study. The supervisor explained the purpose of the study and obtained informed consent.

Table 3 summarises the inclusion and exclusion criteria. Basic demographic data (age, sex) for those eligible but who refused to participate was collected.

Definition of Head of Household: If the PLHIV was not the Head of their Household (HoH), surveyors arranged to also interview the head of household to gather the best possible information on the household economic situation. The HoH was defined

as the principal 'breadwinner' for the family (not the eldest resident as recorded by national data systems), as this person was expected to know the most about household income, assets and expenditures. Interviews with HoHs were arranged through the PLHIV and conducted in a safe, private location near their home.

SELECTION OF NON-AFFECTED HOUSEHOLDS (COMPARISON HOUSEHOLDS)

Recruitment: Comparison households were crudely geographically matched to cases: a household located 3-5 houses away from the house of each case and made of similar materials was randomly selected. Midwives from each township health department have excellent knowledge of the local area through home visits and assisted in identifying the address of the case household and selection of the comparison household.

Surveyors interviewed heads of comparison households in their home after obtaining informed consent.

Eligibility criteria: comparison households were excluded if any resident had HIV or tuberculosis (age matching of the head of the

case and comparison households was done in some of the other Asian studies but was not employed in this study). For a summary of eligibility criteria see Annex B.

2.1.4. Survey Non-Response Rate

106 of 1,361 (7.8%) PLHIV who attended ART clinics during the study period and met the eligibility criteria declined to participate. More women (n=84; 11.5%) refused than men (n=22; 3.5%). Only a handful of comparison households refused mostly in urban areas where heads of households said they were too busy to complete the questionnaire.

2.1.5. Questionnaire

The questionnaire was based on the Cambodian Socioeconomic Study[8] and adapted to the Myanmar context after discussions with key informants, including UNDP, UNAIDS, WFP, the ILO and local self-help groups (MPG; Positive Women's Group; Injecting Drug Users Group; female sex worker support group; men who have sex with men support group). Questionnaires were written and administered in the Myanmar language and took about 1-1.5 hours to administer. Questionnaires were paper-based, as surveyors were unfamiliar with electronic forms of data collection.

Pilot testing: The data collection team tested the recruitment process, the questionnaire and surveyors' ability to administer the survey at an ART clinic (Latha) and the WaiBarGi Infectious Disease Specialist Hospital with the approval of DOH and NAP. The pilot test indicated the need for a

revision of the questionnaire layout to facilitate data collection due to its complexity and length (33 pages).

2.1.6. Ethics and Informed Consent

Ethical approval was obtained from the Department of Medical Research (Lower Myanmar) and the Alfred Hospital Human Research Ethics Committee in Melbourne, Australia.

All study participants gave written consent; consent forms were stored separately to questionnaires to avoid any possibility of identification. Names and specific addresses were not recorded on the questionnaire. Instead, a unique identifier linking a specific interview to an individual and date were used and only the study coordinator had access to code. These were used to track interview completion.

Participants received 3000 kyats (~USD3) for transport to and from the interview site. Heads of non-affected households received the same amount.

2.2. PERSONNEL, DATA COLLECTION AND DATA ENTRY

2.2.1. Data Collection

Study team: Four teams were recruited for data collection each consisting of a supervisor and 4-5 interviewers. Supervisors were experienced research personnel from the Department of Medical Research (DMR) with prior involvement in large surveys. Interviewers were a mix of male (59.5%) and female (40.5%) members of the Myanmar

---

[8] United Nations. The socio-economic impact of HIV at the household-level in Cambodia. 2010

Positive Group (MPG) Network (Myanmar Drug Users Network, the Myanmar Positive Women Network and the MSM Network) with a minimum high school-level education. Some of these data collectors were HIV positive and most had been employed on previous HIV studies for the Burnet Institute.

Three medically trained technical advisors from the Burnet Institute Myanmar with extensive experience in study design and implementation oversaw data collection. A Melbourne-based medical epidemiologist provided additional technical support. See ANNEX D: Role and Responsibility of Team Members.

Staff training: Teams received 5 days training (30/09/14 – 4/10/14) including role-playing and field exercises. Staff were formally tested at the end of training on their knowledge of the questionnaire and their interviewer skills. An additional 2 days of refresher training was undertaken the following week to consolidate learning and go over common gaps in knowledge and practice. See Annex E: Training Agenda for Data Collection Team.

Monitoring of data collection: Supervisors reviewed all interviews for completeness and correctness before interviews were concluded. Logbooks and checklists were developed to standardise supervision. Technical advisors reviewed questionnaires from each team before teams were allowed to move to another site. Teams met daily to discuss challenges, seek advice from the technical advisors and agree on standard approaches. Data entry staff again reviewed paper questionnaires before data were entered into computers.

Data entry: Given the complexity of the questionnaire, interviewers themselves were trained to double-enter data into an Epidata 3.1 (http://www.epidata.dk/). Development of the database was supported by a Melbourne-based data manager expert and consisted of extensive logical checks and skip patterns to facilitate accurate data entry. All data entry was overseen by one of the Myanmar technical advisors who reviewed the duplicate entries and compared errors with the original paper questionnaire.

2.3. DATA ANALYSIS

2.3.1. Categories of Analysis

Analyses were conducted at two levels: the individual level and the household level. For each set of analyses different categories were created for comparison as seen in the table below.

The gender / sector distribution of the individuals by their status is shown below. Proportions were similar for most groups, however, more women than men were living with a chronic disease and more PLCD resided in urban rather than rural areas.

2.3.2. Statistical Analyses

The analysis started with basic cross tabs of background information for households and individuals in order to determine inconsistencies in the relationships between variables. The results for the total population and households, as well as the percentages and means were then checked.

Multiple levels of analysis were performed

Categories of Analysis

	Household Group	Definition	n
1	HIV-HH	HH with at least 1 member living with HIV	1,256
2	NA-HH	HH with no members living with HIV	1,256
3	HIV-CD-HH	[HH with a member living with HIV + another member living with a chronic disease] OR [a HH with a single member living with both HIV and a chronic disease]	375
4	NA-CD-HH	NA-HH with a member living with a chronic disease	321
5	HIV-HH-NoCD	HIV-HH where no member is living with a chronic disease	881
6	NA-HH-NoCD	NA-HH where no member is living with a chronic disease	931

	Individual Group	Definition	n
1	PLHIV	All people living with HIV (only members of HIV-HHs)	1,739
2	PLHIV-INT	PLHIV interviewed specifically about their personal experience living with HIV	1,256
3	PLCD	People living with a chronic disease excluding PLHIV (only members of NA-HHs)	591
4	PLCD-INT	People living with a chronic disease interviewed specifically about their personal experience living with a chronic disease (only members of NA-HHs)	261
5	PLHIVCD	PLHIV who also had a chronic disease (only members of HIV-HHs)	293
6	PLNODX	People without HIV OR a chronic disease (members of HIV-HHs and NA-HHs)	8,599
7	NODX-INT	Head of household without HIV or chronic disease interviewed about quality of life	995

Figure 9: Distribution of diagnosis
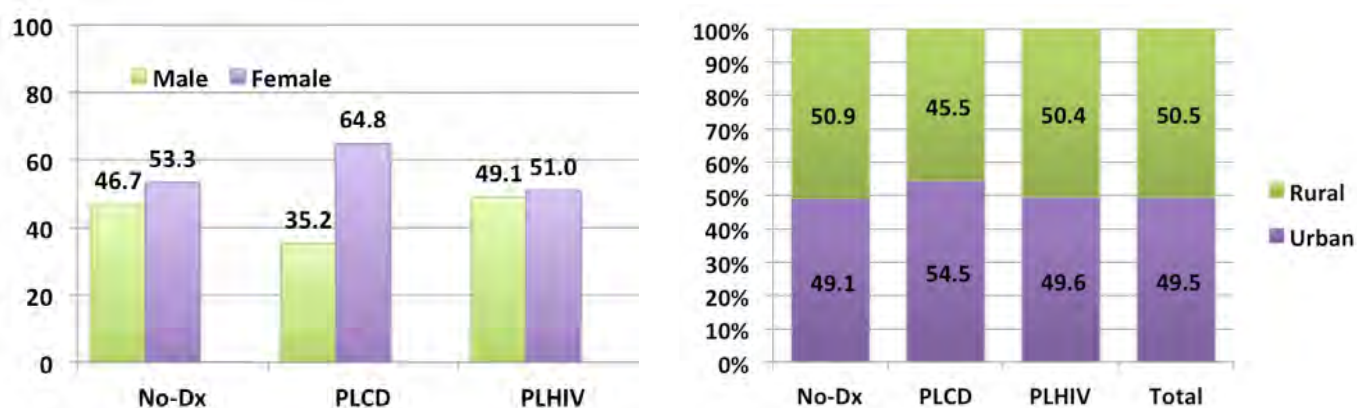
on the survey results. The principle analyses compared the results of different variables by HIV-HHs (case) and to NA-HHs (comparison). The comparisons between HIV-affected and non-affected were conducted while taking into consideration, at both the individual and household-level, a range of socio-economic factors. The analyses were then divided into different topics, including (at the household level) income, consumption, debt, savings, assets and individual characteristics (e.g. education, marital status, age, sector). A detailed analysis of the head of the household, PLHIV and PLCD, among others, were also conducted.

SPSS and STATA were both used for preparing/programming the variables, recoding, merging and tabulation.

Throughout the report, any result with a resulting statistical significance greater than 0.05 is indicated by the use of an * in the figure or table showing the results.

2.3.3. Quintiles of Socioeconomic Status

To analyse the economic impact of HIV at the household level, a measure of wealth / poverty is required. Income, consumption, expenditure and assets have all been employed as measures. Income is commonly used in developed countries, while consumption and expenditure are considered more reliable in developing countries but require detailed localised item lists and extensive data collection. The asset-based measure is gaining popularity particularly in settings where household income is inconsistent or poorly reported and is recommended in the United Nations' Handbook on Poverty Statistics: Concepts, Methods and Policy Use (United Nations, 2005). As some households did not report any income, and expenditures sometimes conflicted with household belongings, a household assets index was constructed using methods advised by the UN text. We excluded uncommon possessions (e.g. smartphone, motorised (1%) and non-motorised boats (1%)) and assets that were divided along rural/urban sectors that did help in the construction of a national socio-economic index (e.g. ownership of an oxcart (2%) or farm animals such as buffalos (6%), horses (1%) and pigs (20%). The following categories were included as the raw list of assets to define socio-economic quintiles:

- √ Member per sleeping room
- √ Roof main material
- √ Floor main material
- √ Main source of lighting

- √ Main source of drinking water in dry season
- √ Toilet facility
- √ Type of cooking fuel
- √ Own a radio
- √ Own a TV
- √ Own a basic phone
- √ Own a refrigerator/freezer
- √ Own a computer
- √ Own a bicycle
- √ Own a motorcycle
- √ Own a car
- √ Own land

By using Stata software and Principal Component Analysis (PCA), the variable "Quintile-Asset" was created, as shown in Table 4. As a result, from 2512 households, household asset data were incomplete for only 14 households, which were excluded from analysis (Table 4).

Table 4: Quintiles of Asset-based approach

Asset Quintile		Number of HH
1	Lowest / Poorest	500
2		500
3		499
4		500
5	Highest / Wealthiest	499
	Total	2,498

2.3.4. Stage of Infection

PLHIV were stratified by their stage of infection using participants' reports of their last CD4 count regardless of when this test might have been done. The CDC Classification System for HIV Infection was used to create three categories as follows:

1. Greater or equal to 500 cells/µL
2. Between 200 and 499 cells/µL; and
3. Lower than 200 cells/µL

The sample was restricted to responses with CD4 count below 1900 cells / µL to exclude outliers.

2.4. LIMITATIONS TO THE STUDY

A number of sampling biases need to be considered when interpreting the findings from this study:

- PLHIV who do not know their status or who have not sought care were not part of our sampling frame. There is, however, no practical way to sample these people.

- Small clinics and insecure areas were excluded from our study. While these make up only a small portion of all PLHIV registered at ART clinics, people from these areas and attending these clinics may be different from those included in our sampling frame.

- Four clinics were purposely sampled rather than randomly sampled proportional to population size. However, there was no difference in findings when including or excluding these four clinics.

- Enrolment of PLHIV at clinics was a non-random process but the only ethically sound means of recruitment.

- 1 in 9 women with HIV refused to participate.

- The selection of comparison households was based on proximity to a case household. These comparison households may not represent the source population from which cases originate.

Many questions asked about historical events for which the recall period varied. Recall bias is a possibility and likely to be more of a problem for questions related to longer recall periods and that asked about exact details such as expenses (Table 5). Misreporting of specific expenses and revenue is a possibility, although surveyors had the impression that respondents were not exaggerating or downplaying their economic circumstances.

Chronic medical conditions were as reported by participants and were not confirmed by health workers or health records. Heads of comparison households with residents living with HIV or tuberculosis (exclusion criteria) may not have disclosed this to surveyors particularly given enrolment was at the household and a local midwife accompanied surveyors.

Analysis adjusted for measured variables, however, there may be unmeasured confounders that we have not accounted for and the matching process precludes examination by the location of households.

Table 5: Recall periods for questionnaire topics

Questionnaire topics	Recall period
Physical activity Food, alcohol and beverage consumption and costs Paid work and primary occupation	7 days
Injury or health problem (nature, stopped usual activities, healthcare sought, costs) Employment (type, earnings etc.) Household expenses (utilities, rent, interest from debt, medical fees, transportation, etc.) Meals eaten per day and food security support received Quality of life questions	4 weeks
Missed work / work lost to ill health	3 months
Non-food expenditure (clothing)	6 months
Child missing school Hospitalisations (number, cost) Deaths in household Revenue (income, remittances, profits from sales, scholarships etc.) Changes in household expenditure as a result of having family member with HIV / NCD Inadequate food for family Stigma and discrimination questions	12 months

CHAPTER 3
PROFILE OF SAMPLE HOUSEHOLDS AND PLHIV

CHAPTER SUMMARY

☐ There was no difference in the urban / rural distribution of HIV-HHs and NA-HHs (49.4% for both)

☐ HIV-HHs were smaller in size on average (3.9 HH members) than NA-HHs (4.8 HH members) as well as the national average of 5 HH members.

☐ HIV-HHs were more likely to have migrated within the previous 5 years than NA-HHs (34.2% vs. 23.1%)

☐ There was no significant difference in the gender distribution of the households' members (males represent 46.3% of HIV-HH members and 46.6% of NA-HHs)

☐ There was no significant difference in the mean age of household members (30.9 years in HIV-HHs versus 31.5 years in NA-HHs)

☐ A significantly larger proportion of HIV-HHs contained a person living with a chronic disease than NA-HHs (30.7% of HIV-HHs versus 26.4% of NA-HHs)

☐ HIV-HH Head of Households (HoH) were more likely to be female than in NA-HHs (33.1% versus 25.7%)

☐ HIV-HH HoHs were more likely to be currently widowed, separated, divorced, or abandoned than those in NA-HHs (30.1% versus 17.0%)

☐ 38.9% of HoHs in HIV-HHs are either PLHIV or PLCD while PLCD represent only 14.4% of HoHs in NA-HHs

☐ A greater proportion of HIV-HHs were in the lowest quintile than in the highest (23% versus 17%) while the reverse proportions was true for NA-HHs

☐ There were no significant differences in the distribution of households across quintiles of socio-economic status based on the gender of the head of household for either NA-HHs or HIV-HHs (i.e., male headed households were not more likely to be in the highest SES quintiles than female headed households)

☐ HIV-HHs were less likely to own their place of residence (64.0%) compared to NA-HHs (79.9%), but ownership within type of household did not vary by the gender of the head of household, nor based on whether a member was living with a chronic disease

☐ HIV-HHs were more than twice as likely to pay rent as non-affected households (20.2% versus 8.8%)

☐ HIV-HHs suffer from reduced asset accumulation, and owned less of almost every item than non-affected households

☐ For NA-HHs, the only significant difference in asset ownership between households with a member living with a chronic disease compared to those without was for radios, where those with a PLCD were more likely to own (31.1% of households without a PLCD compared to 38.4% of households with a PLCD owned a radio)

☐ For both HIV-HHs and NA-HHs, male-headed HHs reported owning more basic assets than female-headed HHs

3.1. PROFILE OF SAMPLE HOUSEHOLDS

This section of the report provides a profile of the surveyed households, highlighting the principal socio-economic and demographic differences between case and comparison households. According to national data, there are about 5 people per household (IHLCA, 2011). NA-HHs in our sample were of a similar size (4.8) whereas HIV-HHs were smaller (3.9) (Table 6). This is likely due to the larger proportion of HIV-HHs that were headed by widows and higher levels of household mortality reported. In addition, HIV-HHs are more likely to have migrated in the previous 5 years (34.2% vs. 23.1% for non-affected households), which could have impacted on household size if not all members moved (see Section 9.2).

Case and comparison households had similar proportions of men and women (46.3% male in HIV-HHs; 46.6% male in NA-HHs) and there were only small differences in the age structure of members with HIV-HH households having fewer older residents (Table 6). The ethnic makeup of each group was nearly identical and the education level of household members was similar.

Slightly more HIV-HHs had residents living with a (non-HIV) chronic disease compared with NA-HHs (30.7% vs. 26.4%). Few households (~6%) counted more than one person living with a chronic disease, however, over 30% of HIV-HHs had more than one family member living with HIV.

3.2. PROFILE OF THE HEADS OF HOUSEHOLDS

The economic standing of the HoH is one of the most important indications of the overall economic status of the household. Myanmar has seen an increase in the proportion of female-headed households (21% in 2010; IHLCA, 2011), a phenomenon that is more common in urban (27%) than rural areas (19%). Table 7 details the important differences that were reported between the HoHs of HIV-HHs and NA-HHs in rural and urban locations as well as both locations combined. Overall, for both rural and urban households, heads of HIV-HHs were significantly more likely to be a female than heads of NA-HHs (33.1% vs. 25.7% overall). For HIV-HHs that number is over 10 percentage points higher than the national data indicates. This is likely connected to the higher number of widows and individuals of unmarried status in the HIV-affected

Table 6: Basic Socioeconomic and Demographic Characteristics of Sample Households

	HIV-HH (n=1,256)	NA-HH (n=1,256)
Mean # of household members / HH	3.9	4.8
	%	%
Location of HH: Urban	49.4	49.4
Household migrated in last 5 years	34.2	23.1
	HIV-HH members (n=4,941)	**NA-HH members (n=5,988)**
Sex of HH members: Males	46.3	46.6
Age of household members		
<5	6.5	7.6
5-14	19.3	18.1
15-24	14.0	17.3
25-34	17.3	15.8
35-44	20.2	13.5
45-54	10.5	11.3
≥55	12.2	16.5
Mean age of household members	30.9 years	31.5 years
Education level of HH members (≥5 YOA[9])	%	%
No school	0.7	0.7
At least some primary school	37.8	33.5
At least some secondary school	50.7	52.2
More than secondary school	10.8	13.6
Ethnicity of HH members	%	%
Myanmar	72.86	72.14
Kachin	10.46	10.6
Shan	5.87	5.71
Other	10.81	11.55
HIV or CD status of HH members		
# of PLHIV	1,693	0
% of Households with PLHIV	100%	0%
# of PLCD (excluding HIV)	483	420
% of Households with PLCD	30.7%	26.4%
# of PLHIV in HIV-HHs:	%	
1 PLHIV	68.1%	n/a
2 PLHIV	27.2%	n/a
3 PLHIV	4.5%	n/a
4 PLHIV	0.2%	n/a
Mean # of PLHIV in HH	1.4	n/a
# of PLCD in HHs:	%	%
0 PLCD	69.3	73.7
1 PLCD	24.3	20.3
2 PLCD	5.3	5.1
3 or more PLCD	1.1	1.0

[9] YOA - Years of Age

households. Additionally, as with national data, urban households were more likely to be headed by a female than rural households, for both HIV-HHs and NA-HHs.

Heads of HIV-HHs were more likely to be under the age of 55, reflecting the impact of HIV on the family structure. Additionally, they were significantly less likely to be married, and more likely to be widowed (overall, 23.0% of all heads of HIV-HHs were widowed vs. 14.2% of heads of NA-HHs). While there were almost no differences with regard to educational status between HIV-HHs and NA-HHs, there were differences overall by urban and

rural locations (almost twice as many HoHs in urban households had more than secondary school than those in rural areas).

There was only a very small difference in the percentage of HIV positive heads of households in rural and urban locations, with 31.3% of surveyed urban HIV-HHs being led by a PLHIV compared to only 29.4% in rural areas (overall, 30.3% of HIV-HH HoHs were HIV positive). There was a difference in the percentage of HoH living with a chronic disease in rural and urban locations, with 16.8% of surveyed urban non-affected households being led by a

Table 7: Basic Characteristics of Heads of Households, by location

	Urban		Rural		All	
	HIV-HH (n=620)	NA-HH (n=620)	HIV-HH (n=636)	NA-HH (n=636)	HIV-HH (n=1,256)	NA-HH (n=1,256)
	%	%	%	%	%	%
Sex of HoH						
Male	65.5	73.2	68.2	75.3	66.9	74.3
Female	34.5	26.8	31.8	24.7	33.1	25.7
Age of HoH						
≤24	1.4	0.8	2.4	1.6	1.9	1.2
25-34	20.6	13.1	20.9	12.5	20.7	12.8
35-44	39.3	22.6	37.5	21.7	38.4	22.1
45-54	20.3	22.7	20.4	26.9	20.3	24.8
≥55	18.4	40.8	18.8	37.3	18.6	39.0
Mean Age of HoH	43.6	50.4	43.4	49.8	43.5	50.1
Current Marital Status of HoH						
Never married	6.4	4.2	7.0	2.7	6.7	3.4
Currently Married	63.0	79.2	63.4	80.0	63.2	79.6
Separated /Divorced /Abandoned	7.4	2.7	6.8	2.8	7.1	2.8
Currently Widowed	23.2	13.9	22.8	14.5	23.0	14.2
Education Level of HoH (≥5 YOA)						
No school	3.4	3.3	6.9	4.5	5.1	3.9
At least some primary school	27.3	27.2	31.1	37.1	31.1	32.1
At least some secondary school	54.9	55.5	50.5	50.8	52.7	53.1
More than secondary school	13.4	14.0	7.1	7.4	10.3	10.7
Status						
PLHIV	31.3	n/a	29.4	n/a	30.3	n/a
PLCD	n/a	16.8	n/a	12.2	20.7%	14.4

Figure 10: Distribution of Sample Households by Socioeconomic Quintiles
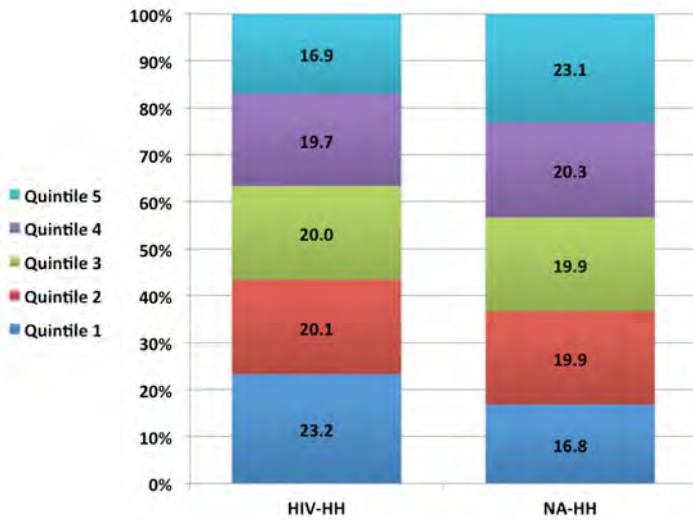
Figure 11: Distribution of Sample Households by Socioeconomic Quintiles, by sex
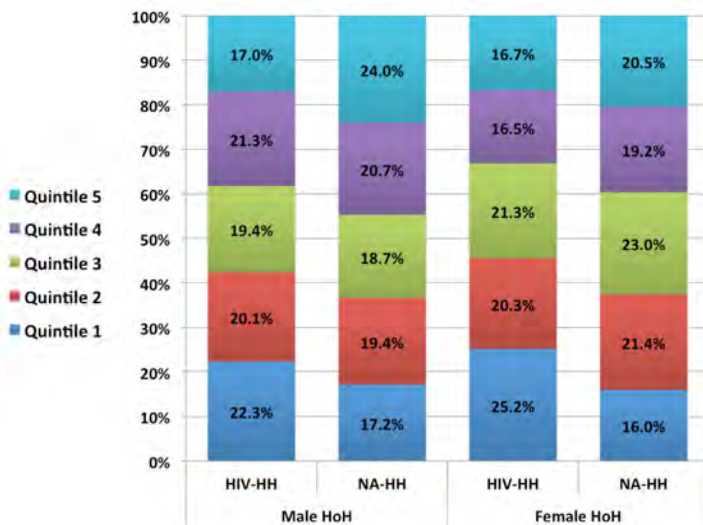
Figure 12: Distribution of Sample Households by Socioeconomic Quintiles, by location
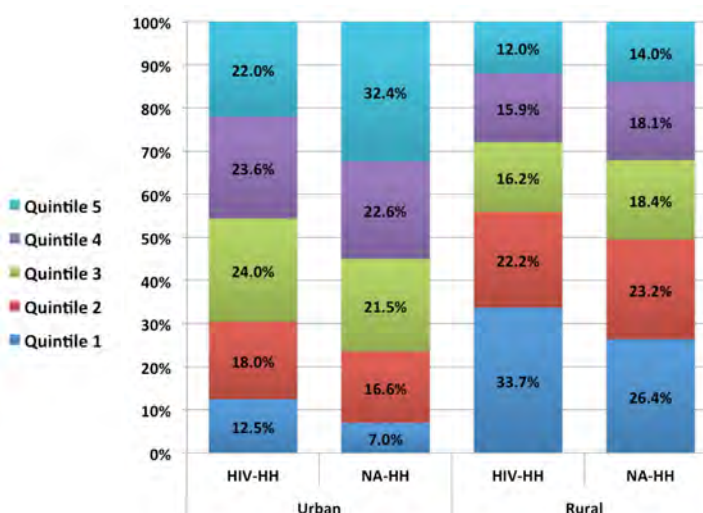
PLCD compared to 12.2% in rural areas (overall, 14.4% of NA-HH HoHs were living with a chronic condition).

3.3. ECONOMIC STATUS OF THE SAMPLE HOUSEHOLDS

In this section, a general picture is presented of the economic status of the sampled households. As outlined in Section 2.3.3, a wealth index was created for households, based on their asset levels. Figure 10 shows the distribution of households by the quintiles of wealth (see Section 2.3.3). As expected, both case and comparison households were fairly evenly distributed among the quintiles, although a significantly greater proportion of HIV-HHs were in the lowest quintile than in the highest (23% versus 17%); these proportions were reversed for NA-HHs. There were no statistical differences in wealth between male and female-headed HHs either for HIV-HHs or NA-HHs (Figure 11), though rural HHs were significantly poorer than urban HHs (Figure 12) consistent with the general economic situation in Myanmar.

The basic amenities of a household, and asset accumulation are often used as indicators of economic status (Table 8 and Figure 13 through Figure 17). HIV-HHs and NA-HHs reported the same number of rooms for sleeping per member (1.6), as did female and male HoHs for both groups. Furthermore, the average number of rooms available for sleeping per member was the same for households with female HoHs and male HoHs, both in HIV-HHs and NA-HHs. HIV-HHs were less likely to have electricity as the main source of home lighting (72.0% vs. 79.9%) and less likely to have a flush toilet (84.1% vs. 88.0%).

Table 8: Distribution of Households by the Status of Basic Amenities

	Urban		Rural		All	
	HIV-HH (n=620)	NA-HH (n=620)	HIV-HH (n=636)	NA-HH (n=636)	HIV-HH (n=1,256)	NA-HH (n=1,256)
# rooms used for sleeping	1.7	1.7	1.6	1.6	1.6	1.6
	%	%	%	%	%	%
Type of Flooring						
Earth / Clay	6.5	7.7	6.9	9.1	6.7	8.4
Wooden Planks	49.0	49.2	47.3	54.9	48.2	52.1
Bamboo Strips	11.5	5.6	21.1	11.8	16.3	8.8
Cement / Brick / Stone	27.0	29.6	18.7	20.4	22.8	24.9
Other	6.0	7.9	5.9	3.8	6.1	5.9
Primary fuel for cooking						
Firewood	24.0	23.1	48.4	47.5	36.4	35.4
Charcoal	32.1	30.2	23.7	21.2	27.9	25.6
Liquefied Petroleum Gas	0.6	1.1	0.3	0.0	0.5	0.6
City power	41.1	44.7	25.5	30.7	33.2	37.6
Other	2.2	0.9	2.1	0.4	2.1	0.7
Electricity main source of lighting	83.9	91.3	60.4	68.7	72.0	79.9
Sanitation: Flush toilet	87.7	89.5	80.5	86.5	84.1	88.0
Assets						
Motorcycle	49.4	59.8	44.7	54.7	47.0	57.2
Radio	33.5	31.9	35.4	34.1	34.5	33.0
Television	74.2	86.0	64.3	75.6	69.2	80.7
Smartphone	52.1	64.4	40.1	49.4	46.0	56.8
Fridge	25.2	36.9	13.4	18.2	19.2	27.5

For HIV-HH, more male than female HoHs used public electricity (70.2% vs. 66.3%) whereas the opposite was true for NA-HHs (76.8% vs. 80.8%). More male-headed households had a flush toilet regardless of the group. Urban households had greater access to these amenities than their rural counterparts.

A critical component of economic security is ownership of the household's dwelling. There were important differences in household ownership[10] shown by the survey, reflecting the underlying impacts of HIV on reduced asset accumulation and sale of assets. As shown in Figure 13, significantly less HIV-HHs owned their dwelling than NA-HHs (64.0% versus 79.9%; Figure 13) with differences more pronounced in urban areas. However, dwelling ownership was greater in rural rather than urban areas. There were no significant differences in dwelling ownership based on the gender of the head of the household for HIV-HHs or for NA-HHs. Figure 14 shows that female-headed NA-HHs were the most likely to report owning their house (82.7%) and male-headed HIV-HHs were the least likely

---

[10] Either the family reported owning the dwelling or being in a shared-ownership arrangement

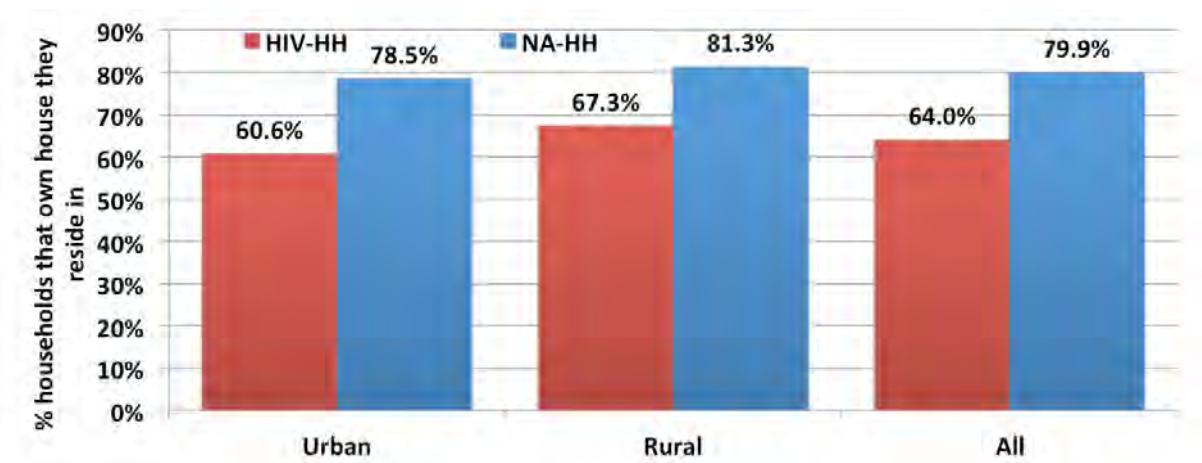*Figure 13: Percentage of Households that Own Dwelling, by location*

Figure 14: Percentage of Households that Own Dwelling, by Gender of HoH
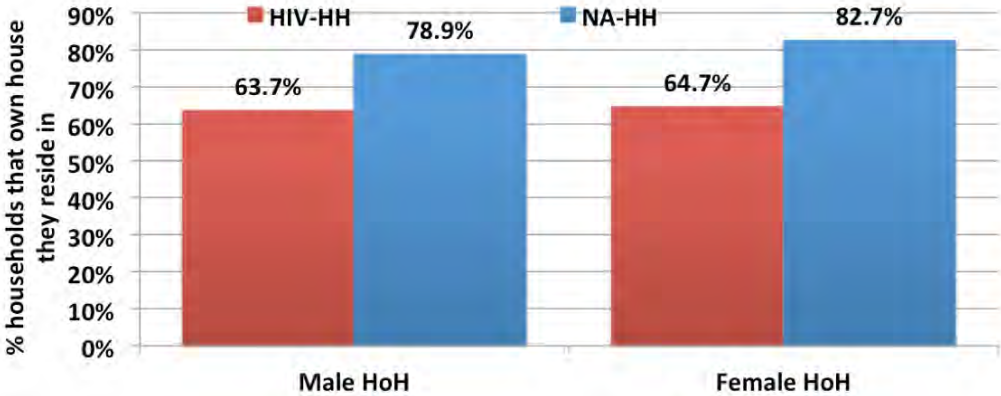
Figure 15: Distribution of Households by Asset Ownership: Percentage of Households that Own a Land Plot
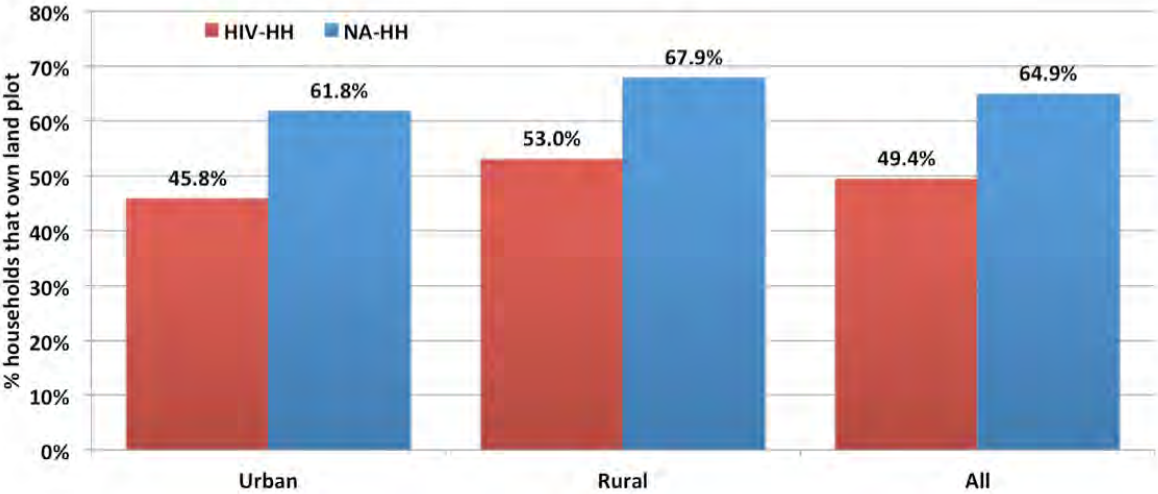
Figure 16: Distribution of Household Asset Ownership
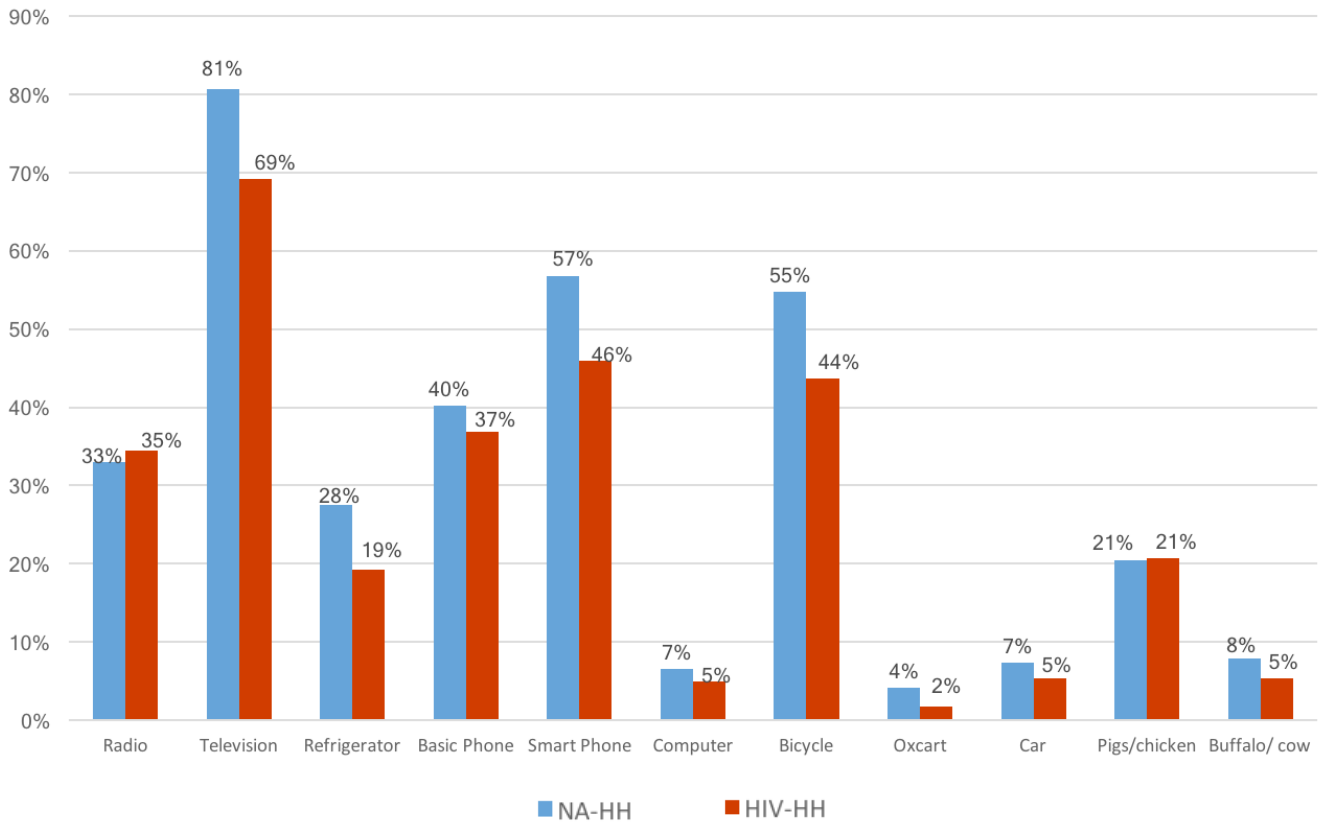
Figure 17: Distribution of Asset Ownership for NA-HHs, by chronic disease status
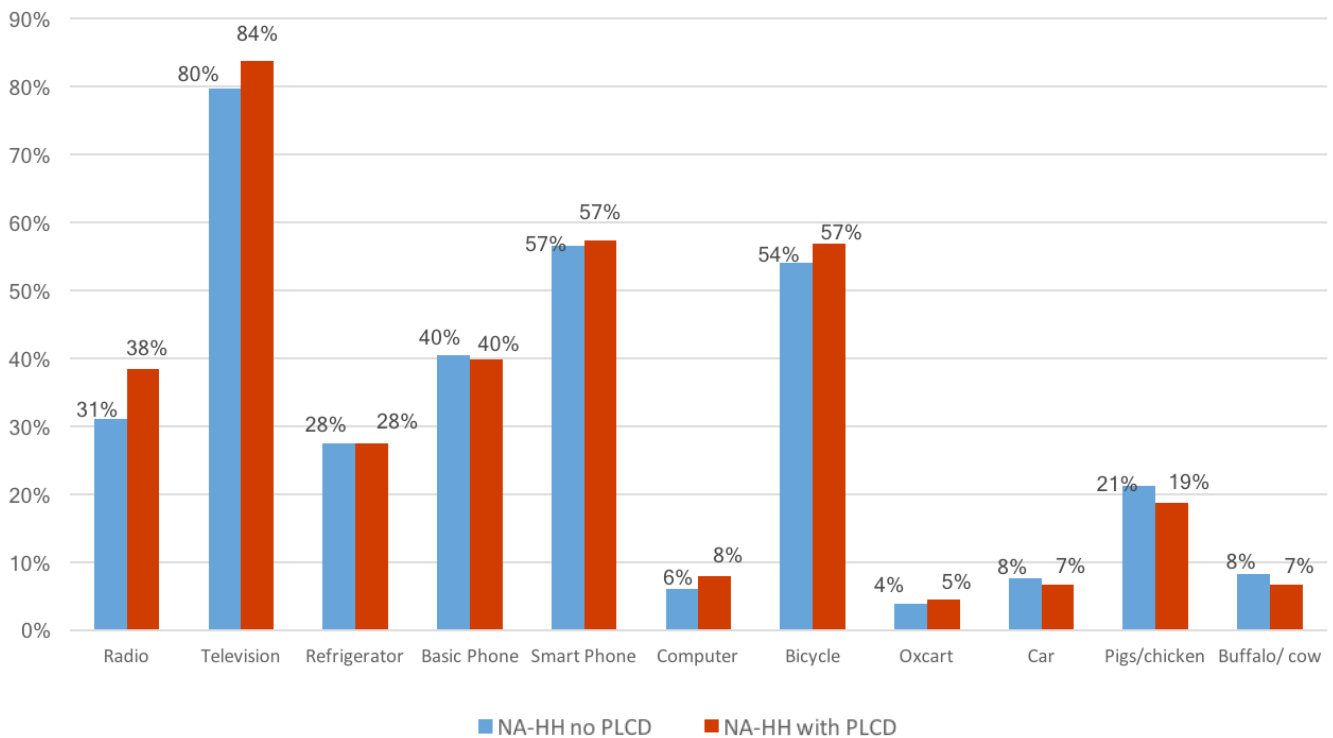
(63.7%), although there were no differences in ownership by gender of the head of the household within each group. Differences in dwelling ownership between HIV-HHs and NA-HHs were consistent over location of residence, though more pronounced in the urban regions.

HIV-HHs were also significantly less likely to own a plot of land than NA-HHs (49.4% vs. 64.9%) and the average size of the plot owned was smaller (2962 sq. ft. vs. 3237 sq. ft). In addition, HIV-HHs were more than twice as likely to pay rent as NA-HHs (20.2% versus 8.8%), and the gender of HoH had little effect on the likelihood if the residence was rented. For both household types, a substantially greater proportion of rural households owned their place of residence than those in urban areas.

With two exceptions (pigs and radios), HIV-affected households had comparably fewer basic assets than NA-HHs including televisions (69.2% vs. 80.7%), bicycles (43.7% HIV-HH vs. 53.7%), and telephones (46.0% vs. 56.8%). These differences have important implications for mobility, food security, employment and educational opportunities, and may trap HIV-HHs in a cycle of poverty. In contrast, there was almost no difference in asset ownership between NA-HHs with and without a member living with a chronic disease (Figure 17). As expected, ownership of many assets increased by quintile of wealth in HIV-HHs (televisions: 26.5% vs. 99.5%; refrigerators: 0.0% vs. 69.3%; smartphones: 17.5% vs. 77.4%; computers: 1.0% vs. 17.9%). A similar pattern was seen with NA-HHs. Some assets showed a negative correlation between wealth and ownership in HIV-HHs

including pigs (37.8% Q1 vs. 6.6% Q5), and buffalo/cows (7.9% vs. 1.4%).

When disaggregated by gender of the HoH, male-headed HHs own more basic household items than female-headed HHs in both HIV-HHs and NA-HHs particularly for smartphones (49.0% of MH-HIV-HH vs. 39.9% of FH-HIV-HH; 58.5% of MH-NA-HH vs. 52.0% of FH-NA-HH) and bicycles (46.4% of MH-HIV-HH vs. 38.5% of FH-HIV-HH; 54.7% of MH-NA-HH vs. 54.5% of FH-NA-HH).

3.4. PROFILE OF INTERVIEWED PLHIV AND PLCD

3.4.1. PLHIV Interviewees

Table 9 shows that slightly more male than female PLHIV-INT (47.2% vs. 52.8%) were interviewed. There were substantial differences in marital status, with women more likely to have been widowed (34.1% vs. 8.6%) and less likely to be currently married (52.6% vs. 59.8%). Men had attained a higher level of education than women and urban PLHIV-INT had more education than those living in rural areas. Female PLHIV-INT reported higher levels of unemployment than males (32.5% vs. 25.4%).

Table 10 displays the characteristics of the PLHIV-INT across the quintiles of socio-economic status. There was little difference between the lowest and highest quintiles with regards to age, but there were significant differences in socio-economic status by marital status (widows composed a greater proportion of the lowest SES quintile (24%) than the highest (17%)), which may reflect differences in gender across quintiles (more males were in the highest

Table 9: Characteristics of Interviewed PLHIV, by location

	Urban HHs		Rural HHs		Total HHs	
	Male* (n=298)	Female (n=325)	Male (n=294)	Female (n=338)	Male (n=592)	Female (n=663)
	%	%	%	%	%	%
Age						
0-14	0.0	0.0	0.0	0.0	0.0	0.0
15-24	1.0	6.5	5.1	6.5	3.0	6.5
25-54	92.6	88.6	86.4	87.9	89.5	88.2
≥55	6.4	4.9	8.5	5.6	7.4	5.3
Marital Status (≥14 YOA)						
Currently Married	60.4	52.9	56.5	52.4	59.8	52.6
Separated /Divorced /Abandoned	7.4	12.3	8.5	7.1	7.9	9.7
Widowed	9.4	32.3	7.8	35.8	8.6	34.1
Never married	22.8	2.2	24.5	4.7	23.6	3.5
Educational status						
No school	2.0	4.0	4.3	7.1	3.1	5.6
Some primary school	21.4	33.3	30.1	39.0	25.6	36.2
Some secondary school or more	75.6	62.3	65.6	53.9	70.7	58.1
Employment Status (15-64 YOA)						
Unemployed >=15 YOA	25.0	33.3	25.7	31.7	25.4	32.5
Working more than one job	3.7	4.9	4.8	5.0	4.2	5.0

Table 10: Characteristics of Interviewed PLHIV, by quintile of socio-economic status

	Lowest (n=291)	Q2 (n=252)	Q3 (n=251)	Q4 (n=247)	Highest (n=212)
	%	%	%	%	%
Sex					
Male	38.8	44.8	44.2	55.3	55.7
Female	61.2	55.2	55.8	44.7	44.3
Age					
0-14	0.0	0.0	0.0	0.0	0.0
15-24	6.2	6.3	2.4	5.7	3.3
25-54	88.6	87.7	90.0	88.2	89.6
≥55	5.2	6.0	7.6	6.1	7.1
Marital Status (≥15YOA)					
Currently Married	57.8	55.6	57.0	55.3	53.8
Separated / Divorced / Abandoned	10.7	8.3	8.0	8.9	8.0
Widowed	24.1	23.8	24.7	19.5	17.5
Never married	7.6	12.3	10.4	16.3	20.8
Educational status					
No school	6.5	6.0	3.3	3.3	2.4
At least some primary school	50.6	38.8	30.5	19.0	11.7
Some secondary school or higher	42.9	54.7	65.7	77.7	84.9
Employment Status (15-64 YOA)					
Working more than one job	7.3	5.5	1.4	4.1	4.2

Figure 18: Mode of Determining HIV Status, by location
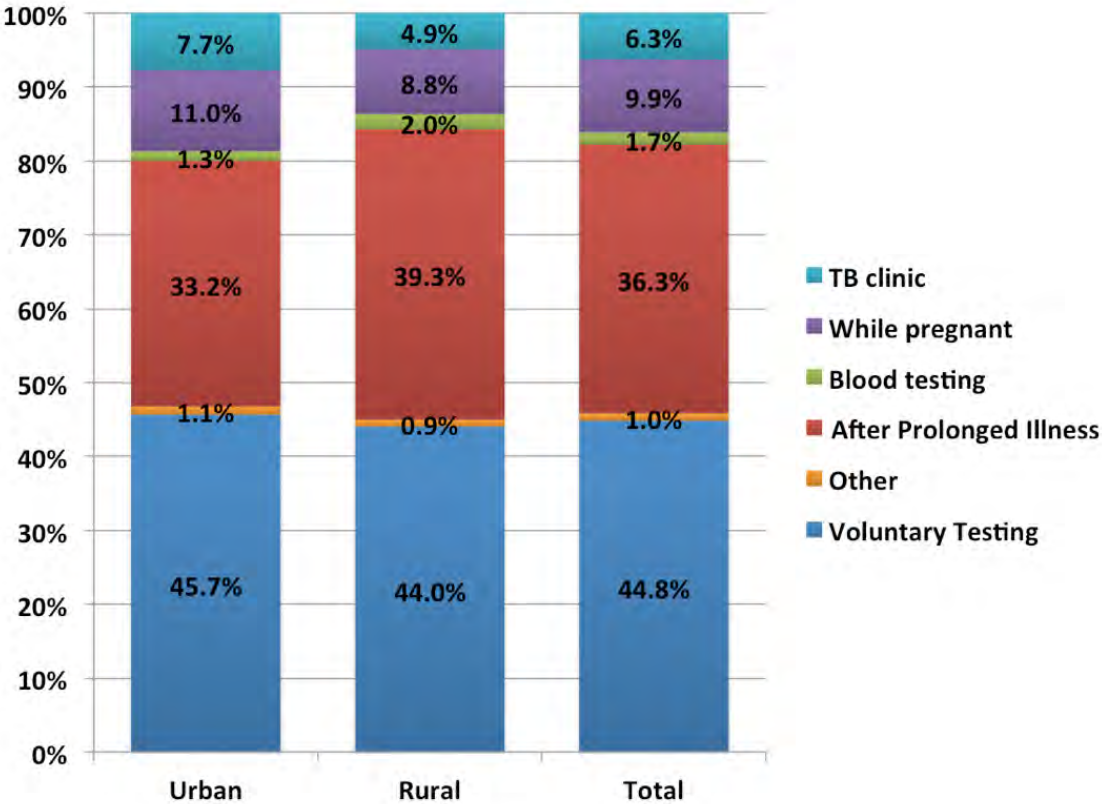
Figure 19: Mode of Determining HIV Status, by quintile

31
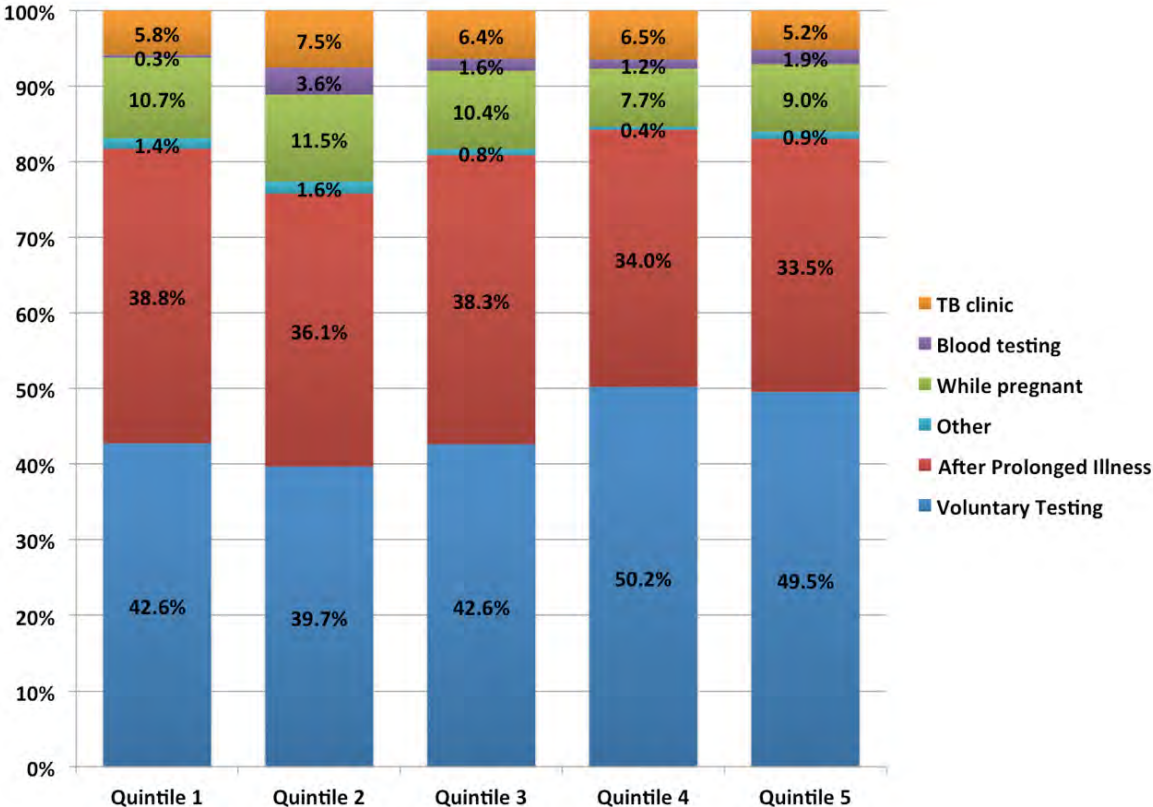
Figure 20: Mode of Determining HIV Status, by States / Regions
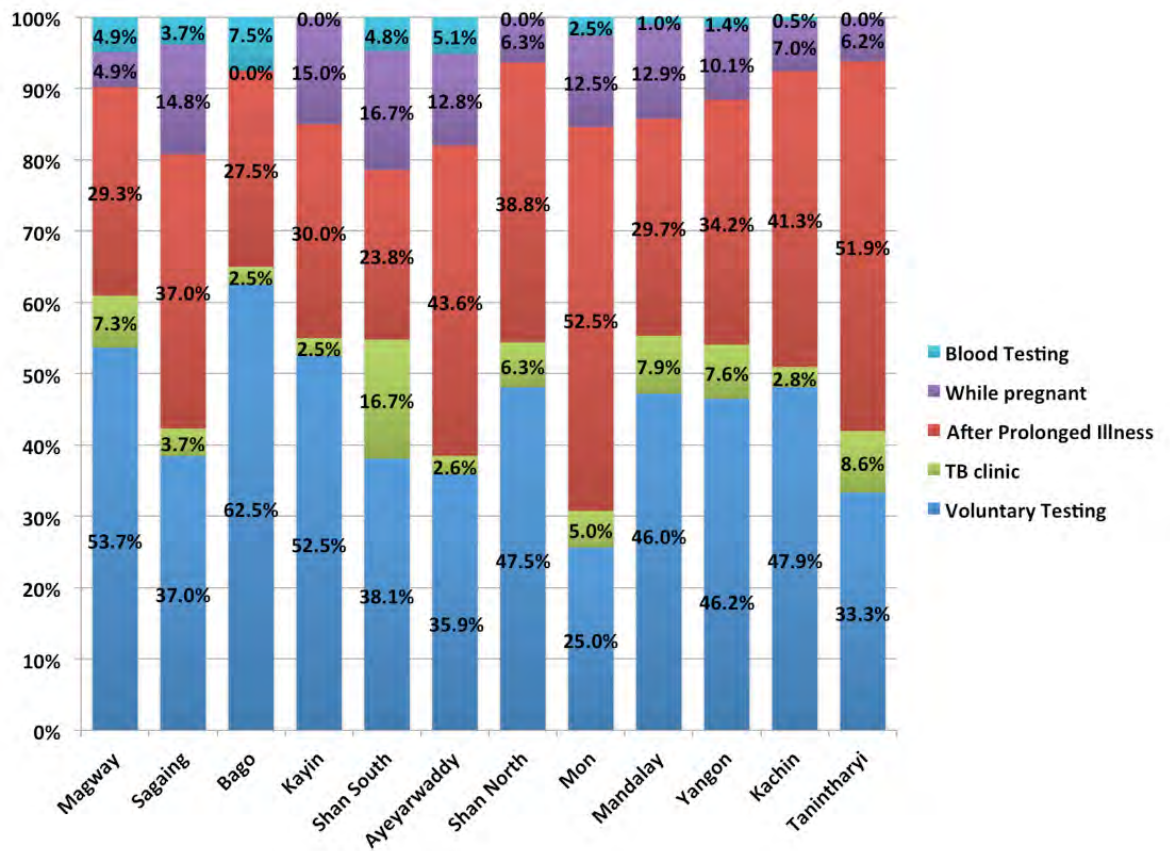
Figure 21: Mode of HIV Transmission, by sex
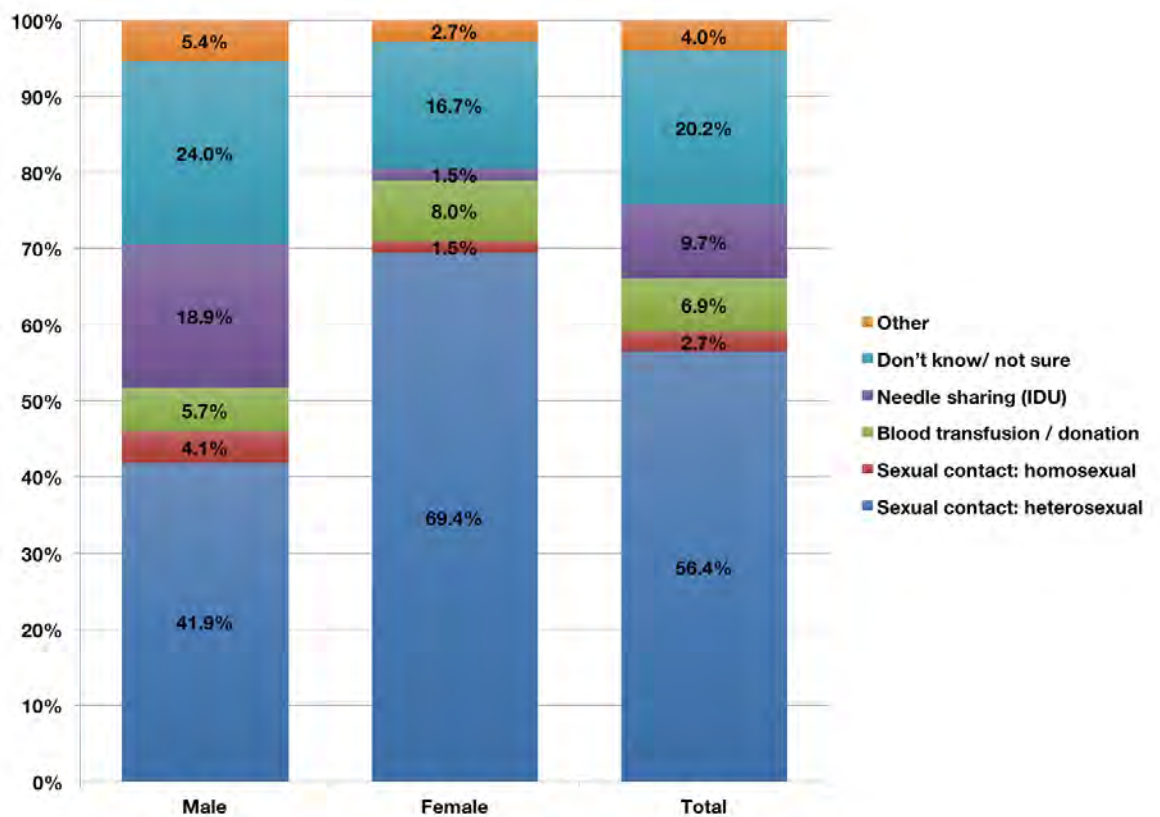
Figure 22: Mode of HIV Transmission, by quintile
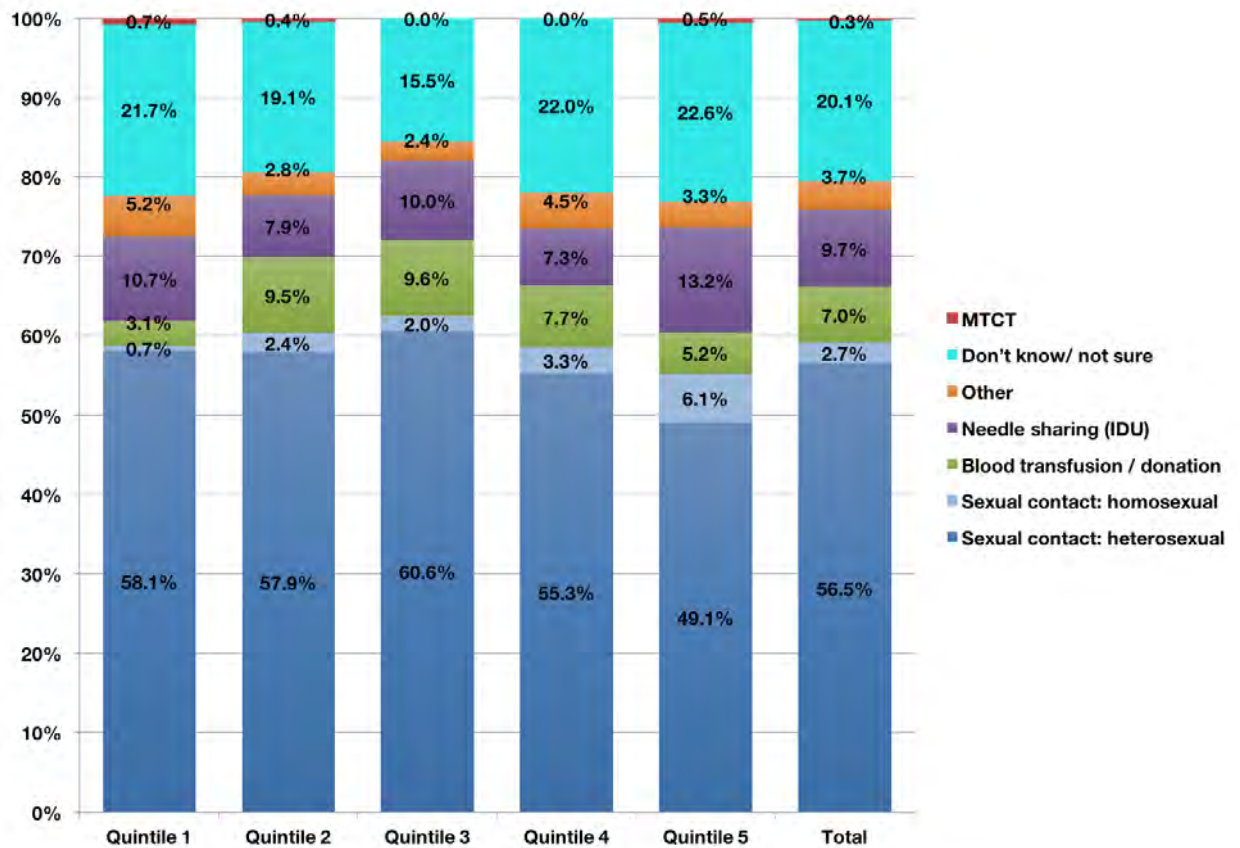
quintile than lowest, with the reverse being true for females) as shown in Table 10.

Differences in educational status and employment status were clear: almost twice the proportion of PLHIV-INT in Quintile 5 had attained some secondary school education or higher than those in the lowest quintile. They also reported lower unemployment rates and were less likely to report working more than one job.

Figure 18 highlights how the status of the interviewed PLHIV was determined. Those living in urban households were more likely than those in rural areas to have been diagnosed with HIV through VCCT (Figure 18), as well as being less likely to have been diagnosed after a prolonged illness. This

may be related to disparities in the quality of HIV-educational programs including peer-support networks and outreach services or access to testing services in urban compared to rural areas.

Similarly, there is an inverse correlation between household wealth and the likelihood of determining status following a prolonged illness (36.1% Q2 to 33.5% Q5) and a positive correlation between households' wealth and HIV diagnosis through VCCT (39.7% Q2 to 49.5% Q5) as shown in Figure 19. This may be due to better access (more poor households are located in rural areas with fewer facilities and greater distances between) or higher levels of awareness regarding the need for testing among wealthier households.

Figure 23: Years Since Diagnosis, by location
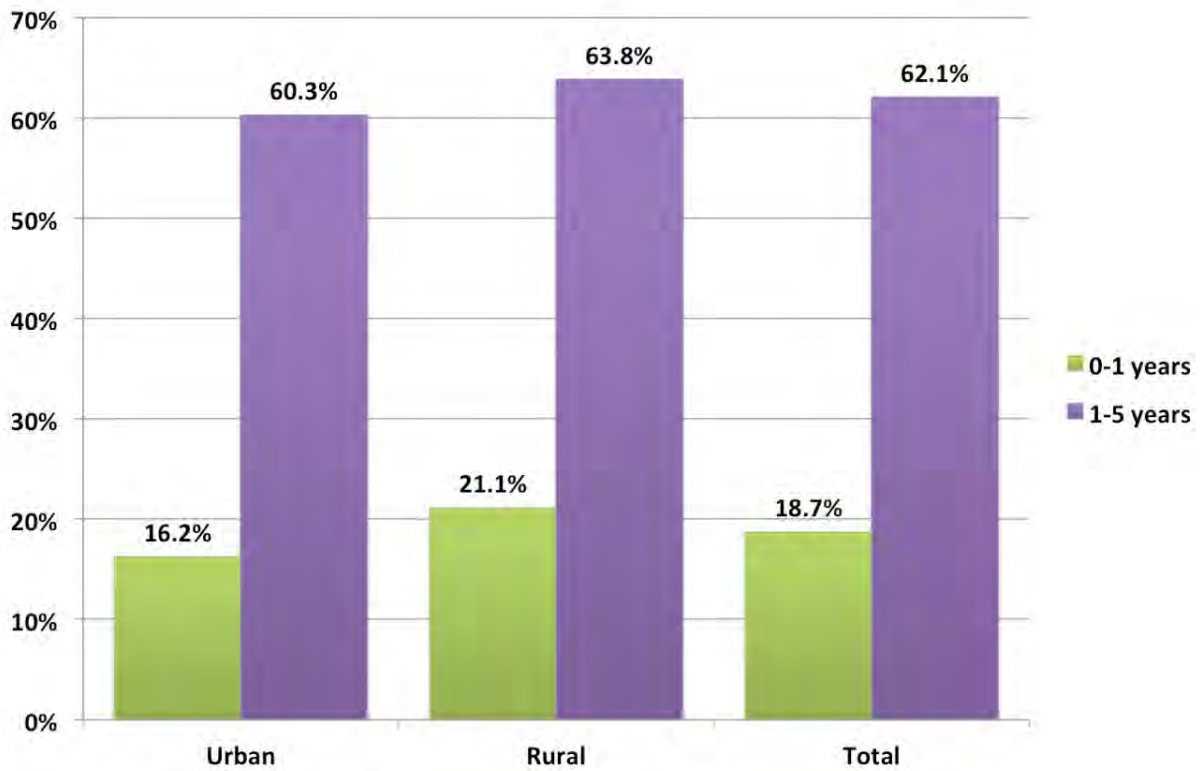
Figure 24: Years Since Diagnosis, by quintile
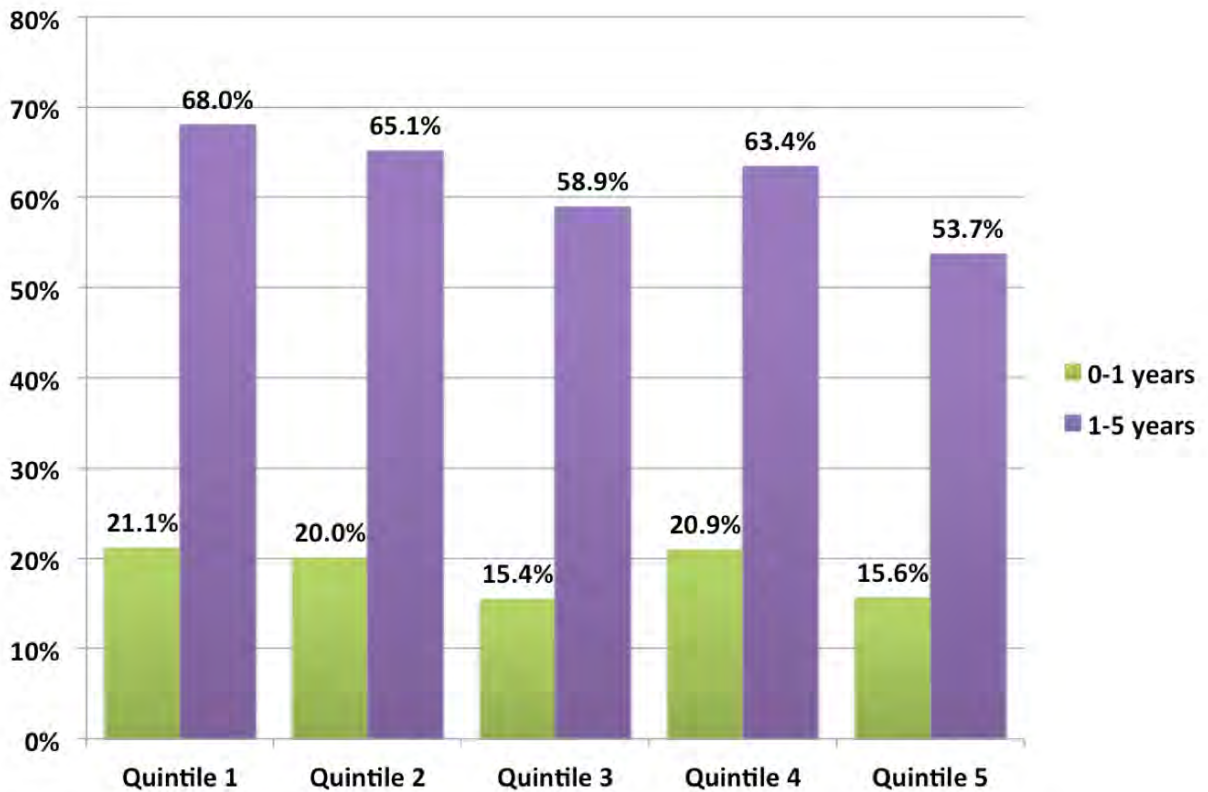
There were no statistically significant differences in the proportion of PLHIV diagnosed through voluntary testing compared to those diagnosed after a prolonged illness by province, however, sample sizes were small (Figure 20). The patterns do point to parts of the country where PLHIV may be being diagnosed at a later stage, suggesting a need for improvements in the access and utilisation of VCCT. For instance, more than 50% of PLHIV in Tanintharyi were diagnosed after a prolonged illness.

Most HIV was reported to have been acquired through heterosexual sexual contact (41.9% men, 69.4% women) and needle sharing (overall 9.7%) (Figure 21). Almost 66% of respondents who said that their transmission was through sex said that their spouse or long-term partner was the source of the infection. Despite recruitment of PLHIV from ART clinics, other modes of transmission may have been underestimated given that the follow-up interviews were only in households and individuals in brothels, rehabilitation facilities and the homeless are not captured. As a result, the number of transmissions through "other" forms will be under-represented in comparison to the overall situation in Myanmar. The results may also partially reflect a bias on the part of survey respondents to not share sensitive information about sexual preferences or drug use.

Figure 22 shows how PLHIV responded differently regarding how they received their HIV infection, across wealth quintiles. The wealthiest PLHIV (Q5) were over eight times more likely than those in the poorest economic band (Q1) to have contracted HIV from homosexual sex (Figure 22). There

were no differences across wealth quintiles for the few participants who contracted HIV via mother to child transmission (MTCT), which was under 1%. This study, however, excluded children and adolescents. National data from 2009 claim that 0.96% of pregnant women were living with HIV, of which 22% transmitted HIV to the child (Myanmar Ministry of Health, 2011).

Two hundred and twenty-three participants (18.7%) said that they had been diagnosed within the last year, and 741 (62.1%) within the last 5 years (Figure 23). Fewer rural PLHIV were diagnosed over 5 years earlier than urban PLHIV (15.1% vs. 23.5%) and fewer poorer participants (Q1) were diagnosed over 5 years ago compared to richer participants (Q5). These patterns may reflect historically better access to treatment for the wealthy and urban dwellers, as well as recent increases in availability of testing (and treatment) across the country (Figure 24).

The proportion of PLHIV in various stages of infection defined by CD4 counts was broadly similar across urban and rural strata (Figure 25) and across quintiles of wealth (Figure 26).

3.4.2. Profile of PLCD members in the non-affected households

In NA-HHs, 420 household members were identified as having a chronic disease. Of these, 262 were interviewed in detail about their experiences living with the disease. Women made up a significantly larger percentage of PLCD-INT than men (62.9% vs. 37.1%), were more likely to have been widowed (26.5% vs. 6.8%), and less likely to be currently married (60.0% vs. 79.1%) (Table

Figure 25: Stage of Infection, by location
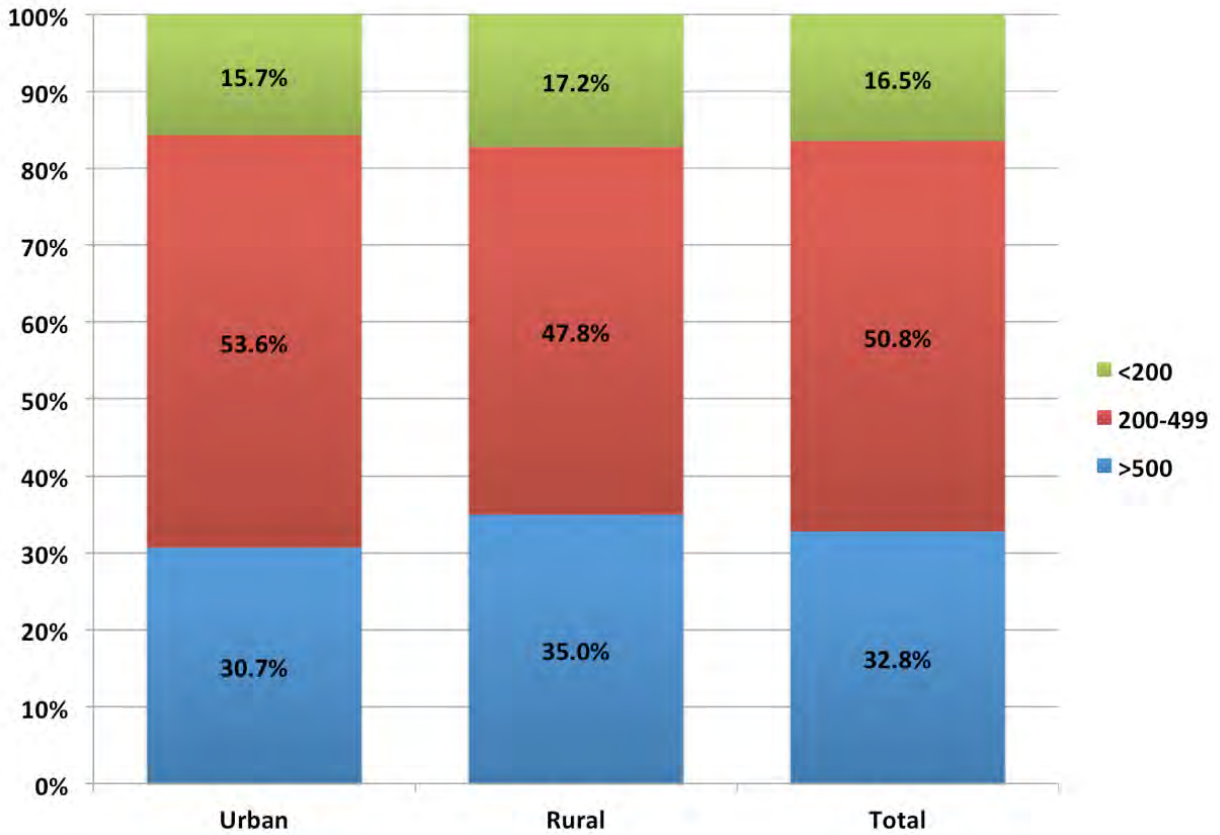
Figure 26: Stage of Infection, by quintile
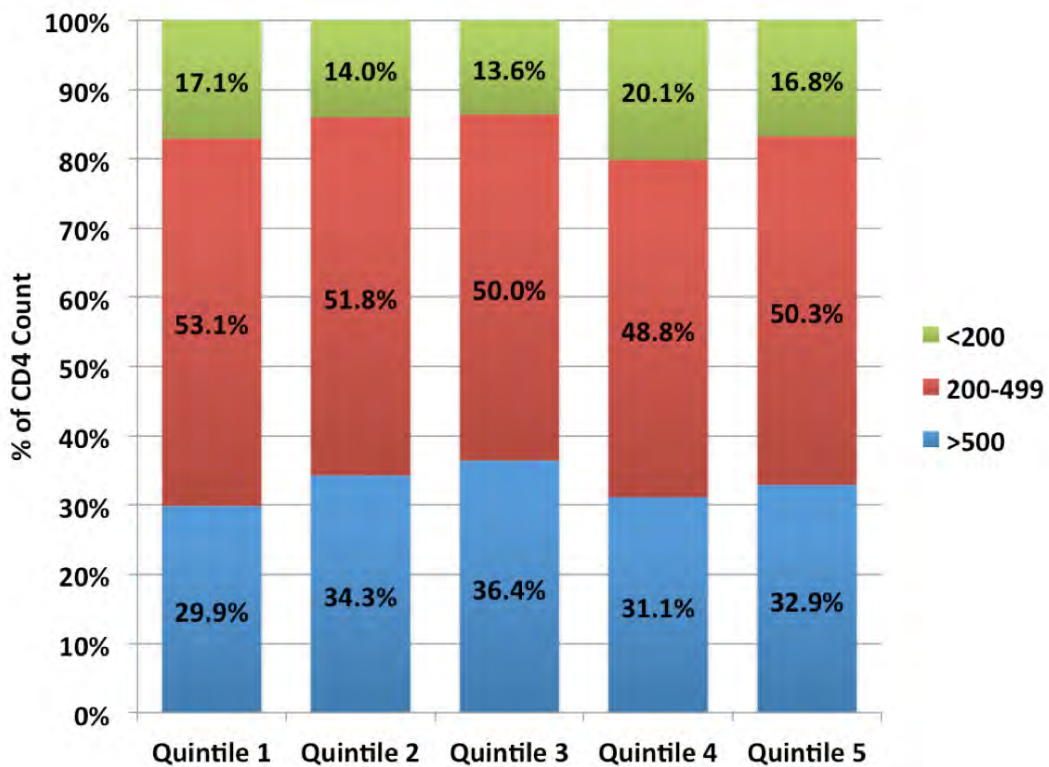
Table 11: Characteristics of PLCD, by location

	Urban HHs			Rural HHs			Total HHs		
	Male (n=52)	Female (n=91)	Total (n=143)	Male (n= 39)	Female (n=80)	Total (n=119)	Male (n=91)	Female (n=171)	Total (n=262)
	%	%	%	%	%	%	%	%	%
Age									
<5	1.1%	0.0%	0.4%	3.1%	0.8%	1.6%	1.9%	0.4%	0.9%
5-14	5.4%	2.7%	3.8%	1.5%	0.8%	1.1%	3.8%	1.9%	2.6%
15-24	2.2%	2.7%	2.5%	1.5%	1.7%	1.6%	1.9%	2.3%	2.1%
25-34	5.4%	5.5%	5.5%	10.8%	8.3%	9.2%	7.6%	6.8%	7.1%
35-44	13.0%	17.1%	15.5%	7.7%	10.8%	9.7%	10.8%	14.3%	13.0%
45-54	18.5%	22.6%	21.0%	20.0%	24.2%	22.7%	19.1%	23.3%	21.7%
≥55	54.3%	49.3%	51.3%	55.4%	53.3%	54.1%	54.8%	51.1%	52.5%
Marital Status (≥14 YOA)									
Currently Married	76.7%	58.5%	65.4%	82.3%	61.9%	68.9%	79.1%	60.0%	66.9%
Separated/Divorced / Abandoned	1.2%	7.0%	4.8%	1.6%	4.2%	3.3%	1.4%	5.8%	4.2%
Widowed	8.1%	26.8%	19.7%	4.8%	26.3%	18.9%	6.8%	26.5%	19.4%
Never married	14.0%	7.7%	10.1%	11.3%	7.6%	8.9%	12.8%	7.7%	9.6%
Educational status (>=5YOA)									
No school	2.2%	3.7%	3.1%	3.5%	7.6%	6.2%	2.7%	5.4%	4.4%
At least some primary school	15.6%	39.6%	29.9%	45.6%	42.9%	43.8%	27.2%	41.0%	35.8%
At least some second-ary school	64.4%	44.0%	52.2%	40.4%	45.7%	43.8%	55.1%	44.8%	48.7%
More than secondary school	17.8%	12.7%	14.7%	8.8%	3.8%	5.6%	14.3%	8.8%	10.9%
Don't know	0.0%	0.0%	0.0%	1.8%	0.0%	0.6%	0.7%	0.0%	0.3%
Employment status									
Unemployed >=15 YOA	37.7%	35.3%	36.5%	35.4%	38.0%	36.7%	36.6	36.6	36.6%

11). As with PLHIV, male PLCD-INT attained a higher level of education than females (55.1% had attained some secondary education vs. 44.8%) and urban PLCD-INT had higher levels of education than those in rural areas.

The age distribution of PLCD-INT was similar across quintiles (Table 12), however, there were more widowers and widows in Q1 compared to Q5 (men: 14.8% in Q1 vs. 2.3% in Q5; women: 29.4% in Q1 vs. 21.8% in Q5). In addition, those in Q5 were more likely to be never married compared to those in Q1 (15.3% vs. 4.9%). Unsurprisingly, those PLCD-INT in Quintile 5 had higher levels of education than those in the lowest quintiles. There were only small differences in levels of unemployment across quintiles, with male unemployment slightly decreasing as wealth increased and female unemployment slightly increasing.

Table 12: Characteristics of PLCD, by quintile of socio-economic status

	Males				
	Lowest (n=18)	Q2 (n=14)	Q3 (n=19)	Q4 (n=15)	Highest (n=25)
	%	%	%	%	%
Age					
<5	3.4%	0.0%	6.1%	0.0%	0.0%
5-14	3.4%	3.8%	0.0%	0.0%	8.5%
15-24	0.0%	0.0%	3.0%	0.0%	4.3%
25-34	10.3%	15.4%	0.0%	4.5%	8.5%
35-44	10.3%	3.8%	9.1%	13.6%	14.9%
44-54	20.7%	23.1%	15.2%	18.2%	19.1%
≥55	51.7%	53.8%	66.7%	63.6%	44.7%
Marital Status (≥14YOA)					
Currently Married	77.8%	96.0%	74.2%	77.3%	74.4%
Separated / Divorced / Abandoned	0.0%	0.0%	3.2%	0.0%	2.3%
Widowed	14.8%	4.0%	6.5%	9.1%	2.3%
Never married	7.4%	0.0%	16.1%	13.6%	20.9%
Educational status (>=5YOA)					
No school	4.0%	8.0%	0.0%	0.0%	2.2%
At least some primary school	36.0%	44.0%	23.3%	28.6%	15.2%
At least some secondary school	60.0%	40.0%	60.0%	47.6%	60.9%
More than secondary school	0.0%	4.0%	16.7%	23.8%	21.7%
Don't know	0.0%	4.0%	0.0%	0.0%	0.0%

	Females				
	Lowest (n=20)	Q2 (n=36)	Q3 (n=33)	Q4 (n=47)	Highest (n=34)
	%	%	%	%	%
Age					
<5	0.0%	2.0%	0.0%	0.0%	0.0%
5-14	2.9%	2.0%	1.8%	1.5%	1.8%
15-24	0.0%	0.0%	5.4%	1.5%	3.6%
25-34	8.6%	8.0%	8.9%	6.1%	3.6%
35-44	11.4%	14.0%	12.5%	13.6%	19.6%
44-54	28.6%	26.0%	25.0%	19.7%	17.9%
≥55	48.6%	48.0%	46.4%	57.6%	53.6%
Marital Status (≥14YOA)					
Currently Married	58.8%	58.3%	60.0%	61.5%	60.0%
Separated / Divorced / Abandoned	8.8%	4.2%	5.5%	4.6%	7.3%
Widowed	29.4%	33.3%	21.8%	27.7%	21.8%
Never married	2.9%	4.2%	12.7%	6.2%	10.9%

Table 12: Characteristics of PLCD, by quintile of socio-economic status (continued)

	Females				
	Lowest (n=20)	Q2 (n=36)	Q3 (n=33)	Q4 (n=47)	Highest (n=34)
Educational status (>=5YOA)					
No school	14.3%	6.8%	7.8%	1.6%	0.0%
At least some primary school	50.0%	50.0%	56.9%	33.9%	21.6%
At least some secondary school	35.7%	43.2%	23.5%	58.1%	56.9%
More than secondary school	0.0%	0.0%	11.8%	6.5%	21.6%
Don't know	0.0%	0.0%	0.0%	0.0%	0.0%

	All (Male and Females)				
	Lowest (n=38)	Q2 (n=50)	Q3 (n=33)	Q4 (n=47)	Highest (n=34)
	%	%	%	%	%
Age					
<5	1.6%	1.3%	2.2%	0.0%	0.0%
5-14	3.1%	2.6%	1.1%	1.1%	4.9%
15-24	0.0%	0.0%	4.5%	1.1%	3.9%
25-34	9.4%	10.5%	5.6%	5.7%	5.8%
35-44	10.9%	10.5%	11.2%	13.6%	17.5%
44-54	25.0%	25.0%	21.3%	19.3%	18.4%
≥55	50.0%	50.0%	53.9%	59.1%	49.5%
Marital Status (≥14YOA)					
Currently Married	67.2%	71.2%	65.1%	65.5%	66.3%
Separated / Divorced / Abandoned	4.9%	2.7%	4.7%	3.4%	5.1%
Widowed	23.0%	23.3%	16.3%	23.0%	13.3%
Never married	4.9%	2.7%	14.0%	8.0%	15.3%
Educational status (>=5YOA)					
No school	9.4%	7.2%	4.9%	1.2%	1.0%
At least some primary school	43.4%	47.8%	44.4%	32.5%	18.6%
At least some secondary school	47.2%	42.0%	37.0%	55.4%	58.8%
More than secondary school	0.0%	1.4%	13.6%	10.8%	21.6%
Don't know	0.0%	1.4%	0.0%	0.0%	0.0%

CHAPTER 4
IMPACT OF HIV
ON ECONOMIC FACTORS

CHAPTER SUMMARY

☐ No differences in unemployment between PLHIV and PLCD, but significantly greater for both groups than for PLNODX

☐ PLHIV were significantly more likely than PLCD and PLNODX to report having missed a day of work

☐ PLHIV and PLCD were both more likely to report being sick than PLNODX

☐ Average per capita income in HIV-HHs was lower than in NA-HHs

☐ More PLHIV needed care (14.3%) than were receiving it (7.9%)

☐ The majority of caregivers (77.0%) for PLHIV were unpaid household members

☐ HIV-HHs faced more deaths than NA-HHs

☐ HIV-HHs consumed slightly less overall than their NA counterparts; however, they had higher per capita medical care consumption than NA-HHs

☐ 56.5% of HIV-HHs reported they had reduced consumption due to HIV, with the main reductions occurring for food consumption

☐ Over 20% of HIV-HHs and NACD-HHs indicated they reduced their savings to finance the costs associated with their illness

☐ HIV-HHs were more likely to be in debt compared to NA-HHs (32.6% vs. 23.6%)

☐ HIV-HHs were more likely to report paying higher monthly interest rates (10.3%) than NA-HHs (8.8%)

In this section, specific differences between the economic circumstances of HIV-HHs and NA-HHs are explored in detail. In addition, the economic impacts of HIV and chronic diseases are compared.

4.1. EMPLOYMENT AND PRODUCTIVITY FOR PLHIV AND PLCD

As shown below in Figure 27 PLCD were significantly more likely to be unemployed (of household members between the ages of 15 and 64) than PLHIV and PLNODX (34.6%, 27.3% and 13.7%).

There were no significant differences by location but for PLNODX, women were significantly more likely to be unemployed than men (no differences between genders for PLCD or PLHIV).

However, for those members who reported they were employed, PLHIV were the most likely to report having missed a day of work in the last three months (41.0%) compared

Figure 27: Unemployment of Working Age HH Members

Figure 28: Unemployment of Working Age Members, by Gender

Figure 29: Percentage Employed Household Members Missed Day of Work

Figure 30a: Impact of Health Status on Reasons for Missing Work

Figure 30b: Impact of Health Status on Reasons for Missing Work
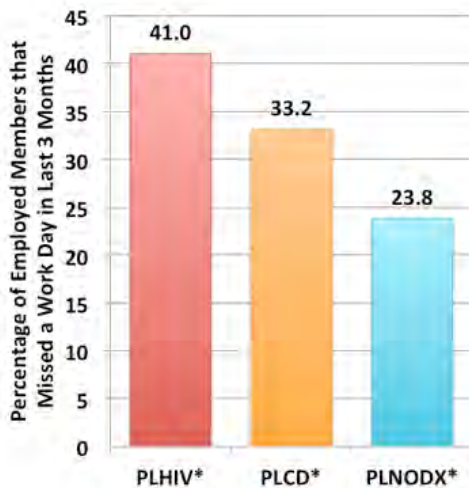
to 33.2% of PLCD and PLNODX (23.8%) (Figure 29). There were no significant differences within each grouping by gender, nor by rural / urban location, although significant differences remained between PLHIV, PLCD and PLNODX for each subgroup.

When further asked the reason for their work absence, PLCD and PLHIV were both significantly more likely than PLNODX to indicate that they had missed work due to sickness, but not significantly different than

one another (PLHIV 40.0%, PLCD 43.3% and PLNODX 28.7%). The differences remained for urban household locations, but not for members of rural locations. Those significant differences remain when stratified between male and female PLHIV and PLNODX, but not between PLCD and PLNODX.

4.2.   HIV AND CHRONIC DISEASES IMPACT ON THE NEED FOR CARE-GIVING

PLHIV and PLCD were interviewed to determine their needs for caregiving as for both PLHIV in the later stages of infection, and individuals living with certain chronic diseases who needed assistance with personal, medical and household related activities. The need for additional care-giving in the home environment can be an economic strain on households in a multitude of ways: household members may need to reduce work hours or time in educational institutions in order to provide care for a sick member, households may migrate to be closer to other family members who can assist in care provision, or households may pay out directly for care, reducing their household's available resources. Additionally, if the household is unable to take on those additional burdens, it may mean the sick individual's health status or productivity is lowered.

Figure 31 shows that PLCD were significantly more likely to report the need of a caregiver (22.6% of PLCD versus 14.3% of PLHIV). There were no significant differences in the proportion of individuals requiring a caregiver between rural and urban locations.

However, out of those reporting they need-

Figure 31: Percentage of PLHIV and PLCD reporting they require a caregiver
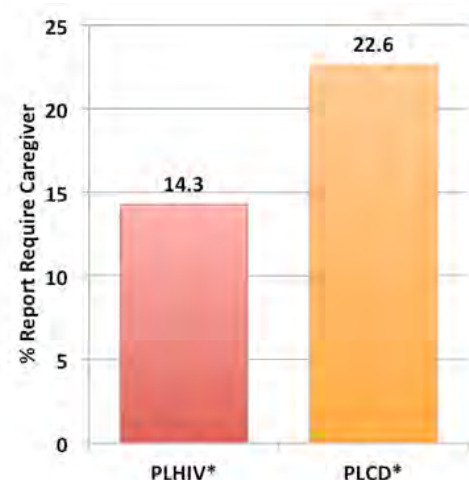
ed a caregiver, PLHIV were significantly less likely to report they actually received the attention they required (only 55.3% of PLHIV requiring care-giving assistance received it within the last three months compared to 78.0% of PLCD). Again, there were no significant differences between urban sand rural households.

Figure 33 provides the profile of the caregivers in the surveyed households. There were significant differences between the caregivers in HIV-HHs and NA-HHs: PLHIV were significantly more likely than PLCD to have a caregiver who is not present in the household. This may partially explain the reasons that PLCD were more likely to report that if they required a caregiver, they had received such assistance in the previous three months. The household-based caregivers of both PLHIV and PLCD were significantly more likely to be female than male (77% and 84% respectively). Twice as many household-based PLHIV caregivers reported they had lost income in order to take on caregiving duties compared to those providing care to PLCD (18% versus

Figure 32: % of Those requiring caregiving assistance who received it
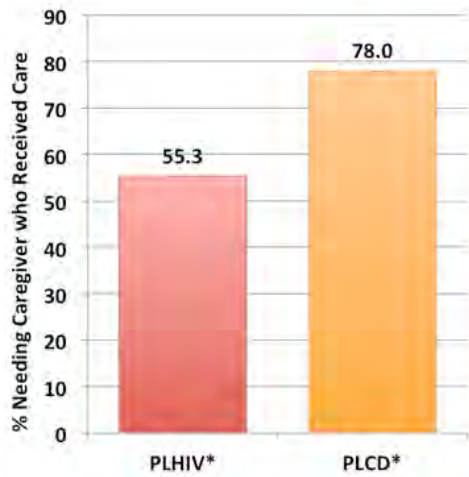
Figure 33: Profiles of the Caregivers
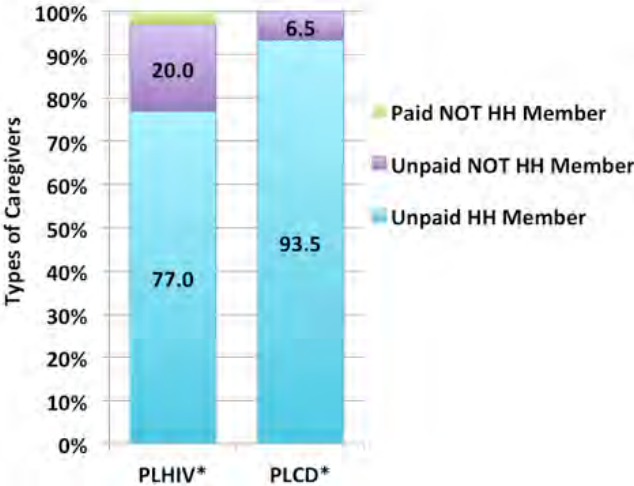
Figure 34: Percentage of HHs with Death in Previous 12 Months
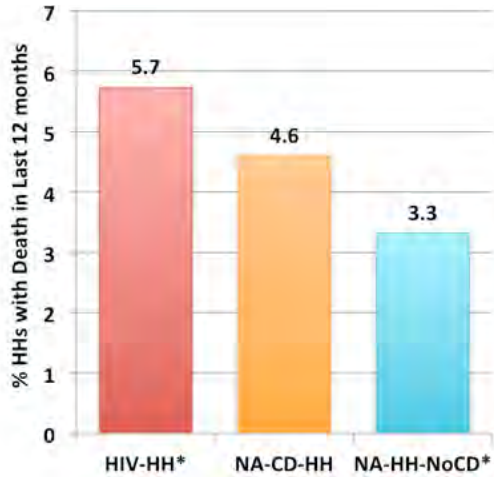
Figure 35: Percentage of Households that Lost an Income-Earning Member in Previous Year
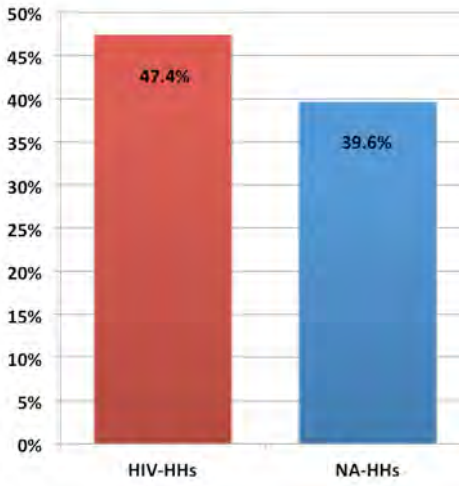
9%) but due to small numbers, that difference was not statistically significant.

4.3. IMPACT OF HIV ON MORTALITY AND INCOME

The death of a household member can have a severe impact on a household – from emotional and psychological impacts to economic suffering through the loss of an income earner. Figure 35 highlights that, while all household groups were forced to

face the consequences of losing a household member in the preceding 12 months, a greater proportion of HIV-HHs reported a death compared to NA-HH without a member with a chronic disease (5.7% vs. 3.3%; Figure 34). There was no significant difference between HIV-HHs and NA-CD-HHs, or between NA-CD-HHs and NA-HH-NoCDs.

Decedents in HIV-HHs were younger than those in other households, but it was not significantly different (49.2 years of age in

HIV-HHs 50.9 in NA-HH-NoCDs and 60.2 in NA-CD-HHs) and more HIV-HHs lost an income-earning family member (47.4% vs. 39.6% in NA-HHs; Figure 35), but again the difference was not significant. However, the average income of the deceased member was significantly greater in NA-HHs (167,800MMK/US$150.15 vs. 80,300MMK/US$71.85), likely related to their older age of death.

4.4. IMPACT OF HIV ON HOUSEHOLD REVENUES

In Myanmar, a large share of household revenue is derived from non-wage income (20.0% for HIV-HH; 23.7% for NA-HH).

4.4.1. Total Household Revenues

Average per capita household income for HIV-HHs (858,624MMK or US$768) was substantially lower than for NA-HH (901,564MMK or US$807) with NA-HHs deriving more income from a diverse range of sources (trade/business/petty shops and sale of land or buildings) (Figure 36). Salaries are the most important economic resource for all households but slightly more important for HIV-HHs than NA-HHs (79.3% of all income vs. 74.9%).

As expected, revenues from agricultural activities are more important for rural households than urban households while income from trade/business/petty shops is higher for urban households (Figure 37). National data shows that Urban involvement in agriculture, hunting and forestry is only 7.1%,
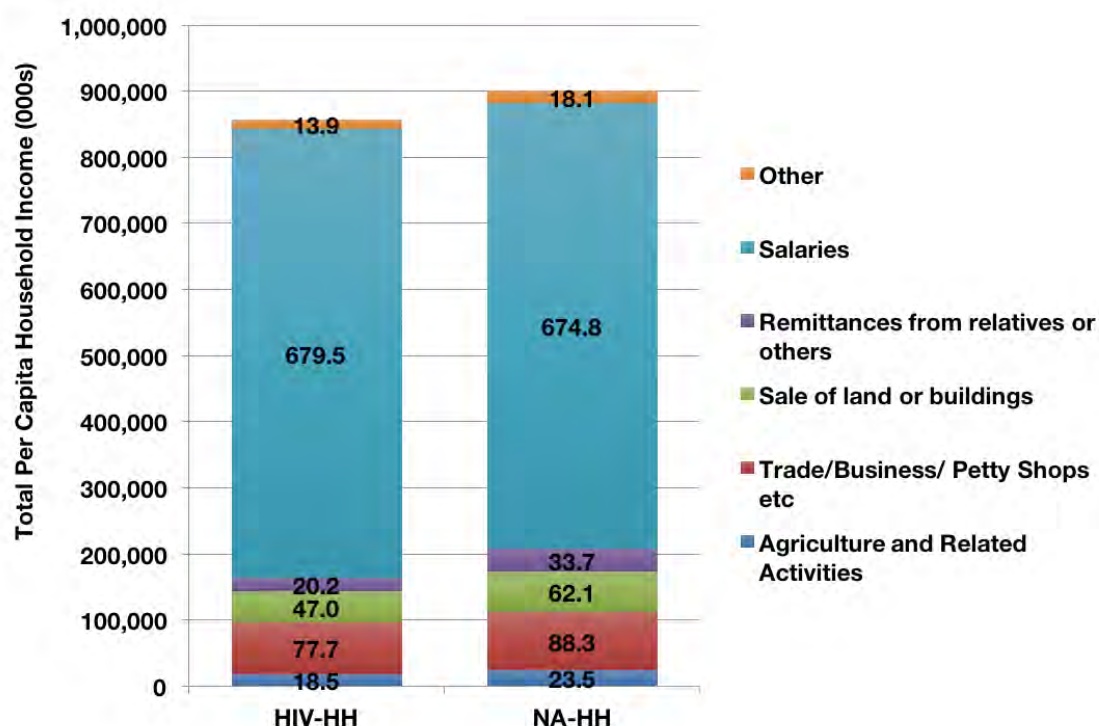
Figure 36: Average Per Capita Household Income (000s)
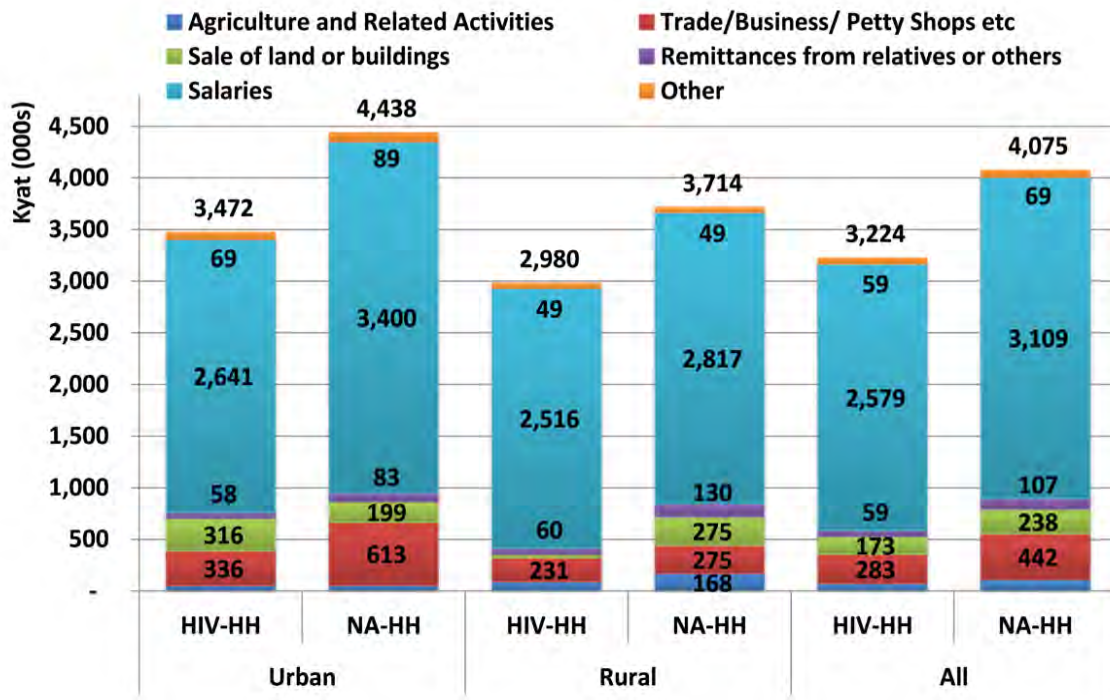
Figure 37a: Source of Total Household Revenues, by location

Figure 37b: Source of Total Household Revenues, by location
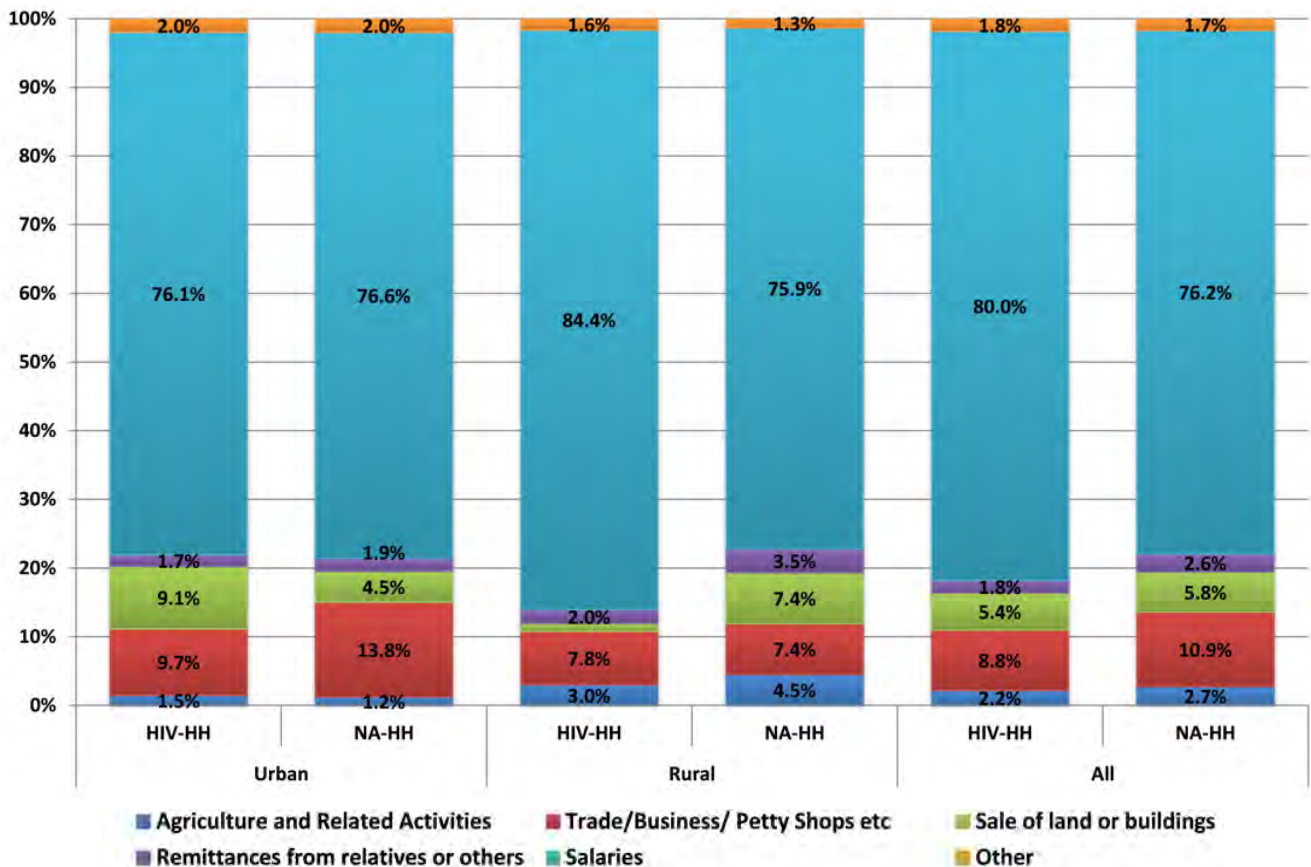
while rural involvement reaches 63.8%.[11] Agricultural related activities in Myanmar are also more important for poor household members (54% involvement in agricultural activities) than non-poor household members (49% involvement).[12] In the survey, revenues from government poverty reduction incentives (<0.1% of for both urban and rural) and interest/dividends (0.2% of household revenues for urban and <0.1% rural) constitute only a small proportion of total household revenues.

Income from both agriculture and trade were higher for NA-HHs than HIV-HHs. In contrast, HIV-HHs received more for student scholarships and assistance programs (776MMK (US$0.69) vs. 4,454MMK (US$3.99)). This suggests that assistance

programs targeting HIV households are reaching their intended recipients. Surprisingly, the revenue received from the sale of land or buildings was no higher for HIV-HHs than NA-HHs, so sales of major assets do not appear to be significant coping mechanisms for HIV-HHs to alleviate economic stress.

Figure 38 shows similar findings across socio-economic quintiles. The importance of agricultural activities decreased with increasing wealth for NA-HHs (Q1 8%; Q5 <1%) and HIV-HHs (Q1 5%; Q5 <1%). For all quintiles, agriculture accounted for a greater percentage of NA-HH revenues than HIV-HH revenues.

Figure 38: Source of Total Household Revenues, by quintile

---

[11] IHLCA Project Technical Unit, Ministry of National Planning and Economic Development, UNDP, Integrated Household Living Conditions Survey in Myanmar (2009-2010), June 2011, Pg. 38

[12] IHLCA Project Technical Unit, Ministry of National Planning and Economic Development, UNDP, Integrated Household Living Conditions Survey in Myanmar (2009-2010), June 2011, Pg. 37

Figure 39: Source of Per Capita Income, by location (000s)

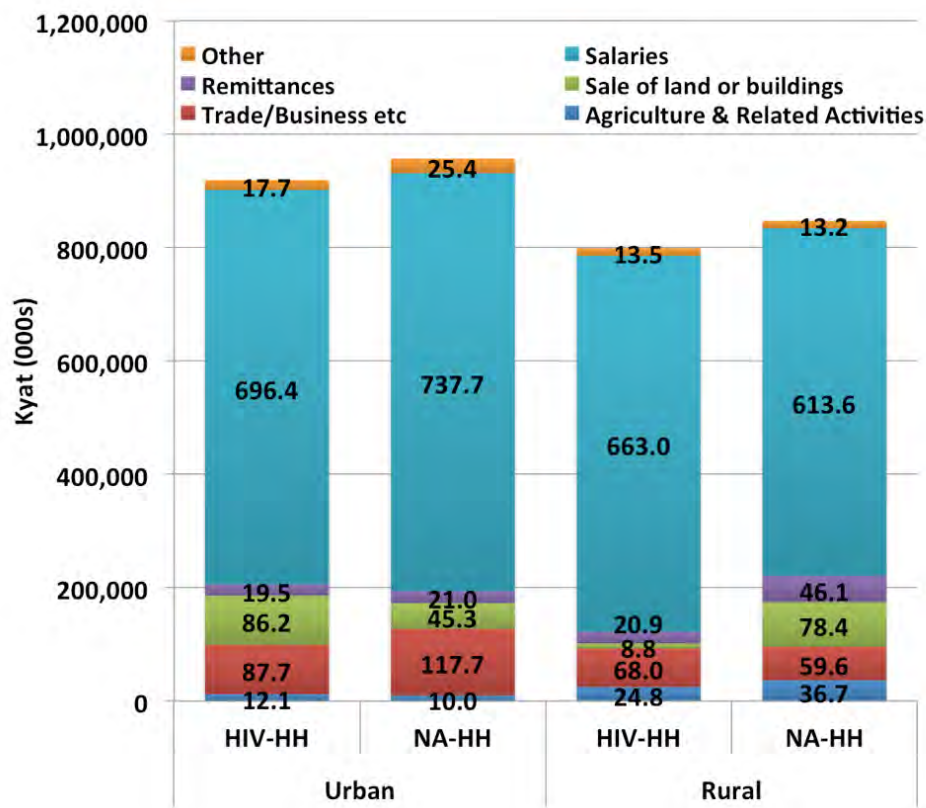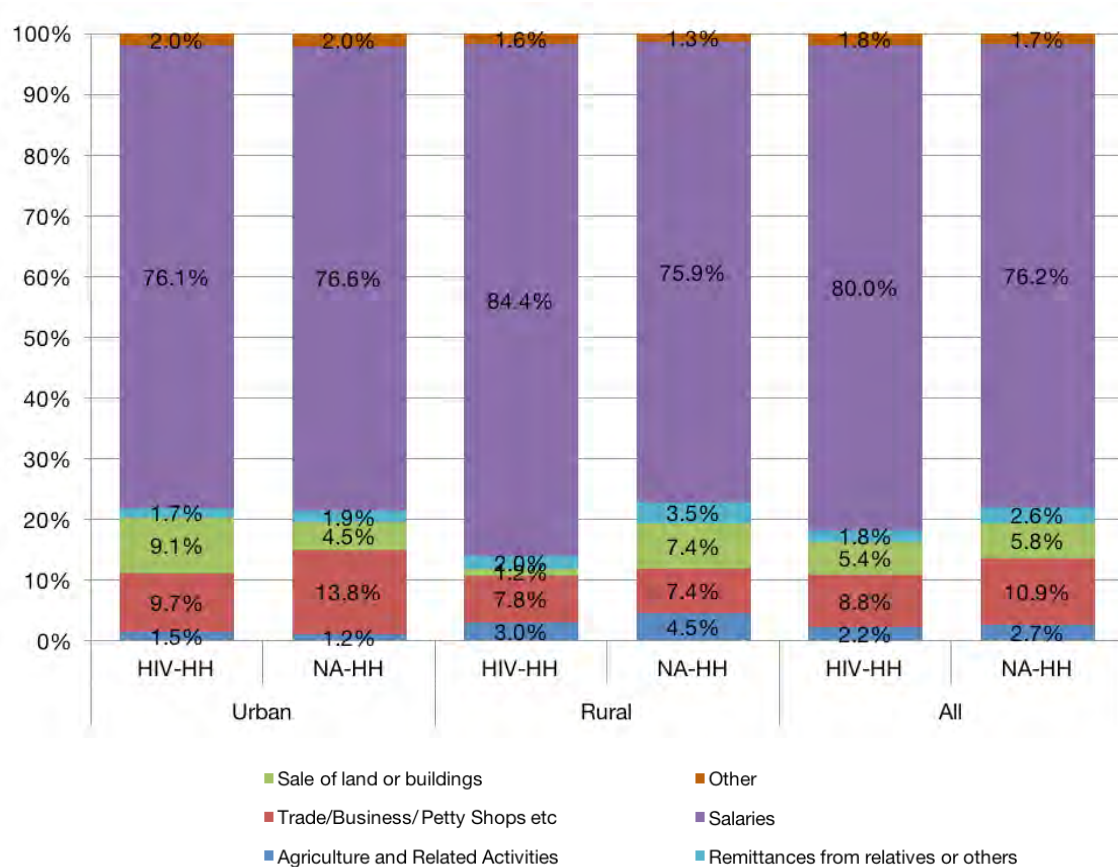*Figure 40: Source of Per Capita Income by Location in Percentage*
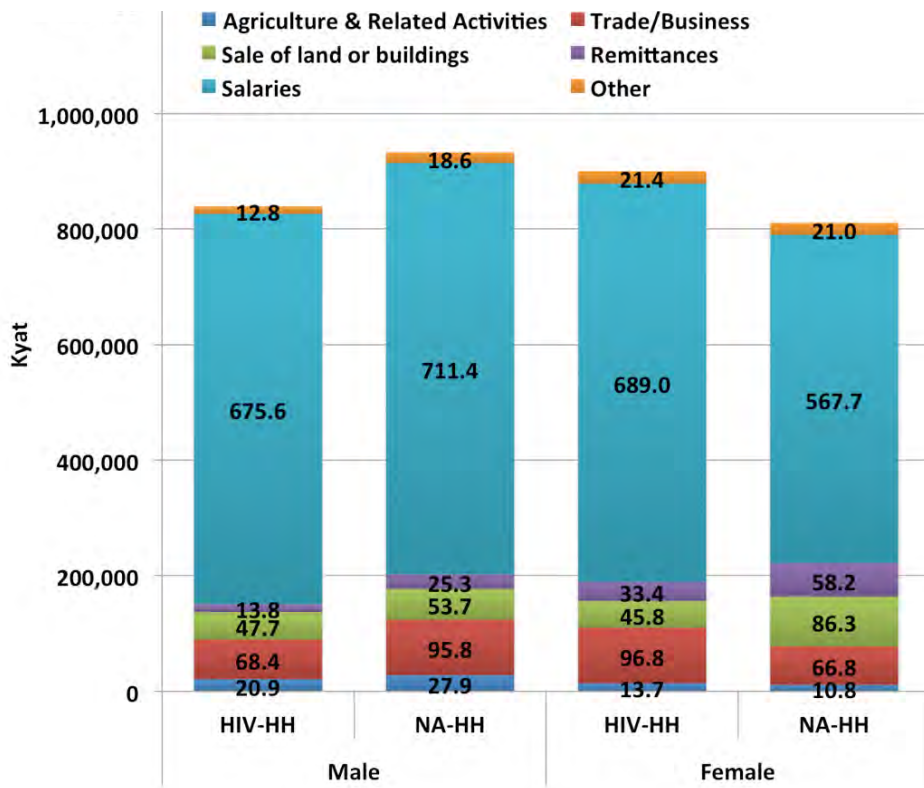

47

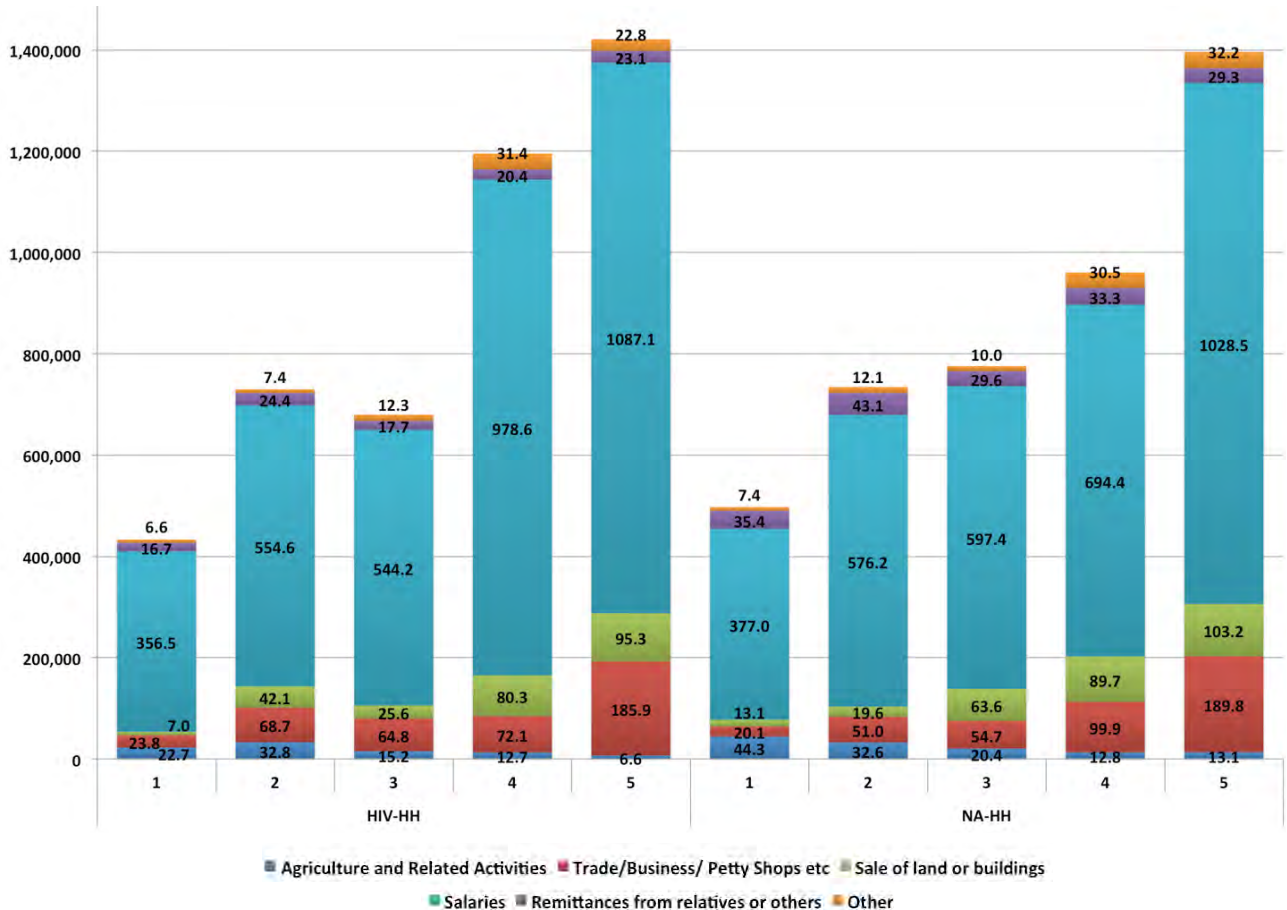*Figure 41: Per Capita Annual Revenue, Gender (000s)*

Figure 42: Source of Per Capita Income, by quintile

48

4.4.2. Impact of HIV on per Capita Income

As with total household revenue, salaries are the most important source of per capita income followed by trade/business/petty shops. Households in urban areas have higher per capita incomes than those in rural areas and NA-HHs make more than HIV-HHs in both locations (Figure 39).

Per capita income from salary is the main income stream for all households followed by trade/business/petty shops and the sale of land or buildings. There are small variations in the major secondary income stream for HIV-HHs and NA-HHs in urban and rural settings (Figure 40).

For all households and for NA-HHs, male-headed households had higher per capita income than female-headed households (Figure 41) as well as higher mean salaries (695,451MMK vs. 635,900MMK). However, female-headed HIV-HHs had higher per capita income than males (899,967MMK vs. 839,180MMK). Female-headed HIV-HHs made more from trade/business/petty shops (96,750MMK) than male-headed households (68,430MMK). Among NA-HHs female-headed households made significantly more money from the sale of land or buildings (86,326MMK vs. 53,713MMK). Agriculture and related activities, pensions, and remittances made smaller contributions to per capita income. Male-headed HHs had higher income from agriculture than female-headed HHs, while female-headed HHs received more income from pensions and remittances.

For the wealthiest quintile, salaries makes up a slightly smaller proportion of income than for the poorest quintile (74.9% vs. 79.4%; Figure 42). Second to salary, trade/business/petty shops comprise 13.4% for the wealthiest quintile but just 4.8% for the poorest quintile. Agriculture, however, comprises 6.9% of income for the poorest quintile.

Similar to the overall trend, salaries in the lowest quintile for HIV-HHs comprise a greater percentage of total per capita income (82.3%) than NA-HHs (75.8%) and secondary income is split almost evenly between trade/business/petty shops (5.5%) and agriculture (5.2%). In this quintile, NA-HHs make relatively more from agricultural activities (8.9%) and less from trade/business/petty shops (4.0%). For the wealthiest, trade/business/petty shops are the predominant source of secondary income in both HIV-HHs (13.1%) and NA-HHs (13.4%), followed by sale of land/buildings (6.7% for HIV-HHs; 7.4% of NA-HHs). Only a small amount of income is generated from agriculture.

Remittances are inversely related to per capita income for all households. Notably, the poorest non-HIV households receive a greater proportion of per capita income from remittances than HIV-HHs (7.1% versus 3.9%).

4.5. IMPACT OF HIV ON DEPENDENCY RATIOS

HIV-HHs and NA-HHs had similar family dependency ratios[13], reflecting the similarity of household age structures (Table 13). Regardless of the number of income earners within households, however, NA-HHs earned more than HIV-HHs on a per capita income basis.

---

[13] The dependency ratio is the population greater than or equal to 65 YOA / population between 16-64 YOA

Table 13: Number of Earners per Household and Household Dependency Ratios

	0 Earners		1 Earner		2 Earners		3 Earner		4 Earners		5 Earners	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	000 k	000 k	000 k	000 k	000 k	000 k	000 k	000 k	000 k	000 k	000 k	000 k
Mean HH Income	545	1666	2413	3279	4685	3996	6394	10829	7154	5926	3615	4872
Mean HH PC Income	226	517	786	847	1182	972	1340	2813	1169	910	924	1169
	#	#	#	#	#	#	#	#	#	#	#	#
Mean HH Size	3	3	3	4	4	4	5	5	6	6	4	5
Dependency Ratio	.50	.50	.50	.67	.50	.50	.50	.33	.33	.25	.25	.50

This information can be compared to the dependency ratios seen throughout the total population of Myanmar. The dependency ratio compares the size of the population of working age (15-64), to those that are either below or above working age and can be considered as dependents. The Demographic Dependency Ratio[14] outlines the dependency burden of households. In Myanmar the ratio has remained relatively stable over time, with a value of 0.53 (IHLCA, 2011).

4.6. IMPACT OF HIV ON LEVELS OF HOUSEHOLD CONSUMPTION

Arguably the most pertinent aggregate measure of the socio-economic impact of HIV on households is not reductions in labour and income but the "trickle down" effects of HIV on reduced consumption. Decisions about which child stays in school, which parent gets access to medication and what a family eats are reflected in measures of reduced consumption. These decisions may have long-term effects on human development for individuals, households and society. Interpretation of consumption needs to consider that:

1. Respondents were asked to recall the value of items they had purchased or received and did not employ the daily diary methodology used by the CSES - data may be biased towards overestimating the value of items

2. Different timeframes were used for different categories (e.g. spending on food in the last week, education expenses over one year) – bias is expected to be worse for longer recall periods

3. Detailed questioning of food and health expenditure may disproportionately inflate these expenses relative to other categories. This is potentially more a problem for health expenditures which tallied for each individual in the household

Figure 43 shows mean per capita household consumption[15] by location. HIV-HHs consumed slightly less than NA-HHs (4,162,010MMK/US$3,724 per capita vs. 4,245,343MMK/US$3,799), and all urban households spent more than those in rural locations. The proportion spent on each

---

[14] The Demographic Dependency Ratio looks at members of a household below the age of 15 and above the age of 59 compared to those aged 15-59

[15] Consumption is the total of the expenditures for the household, including values received as gifts or received in-kind.

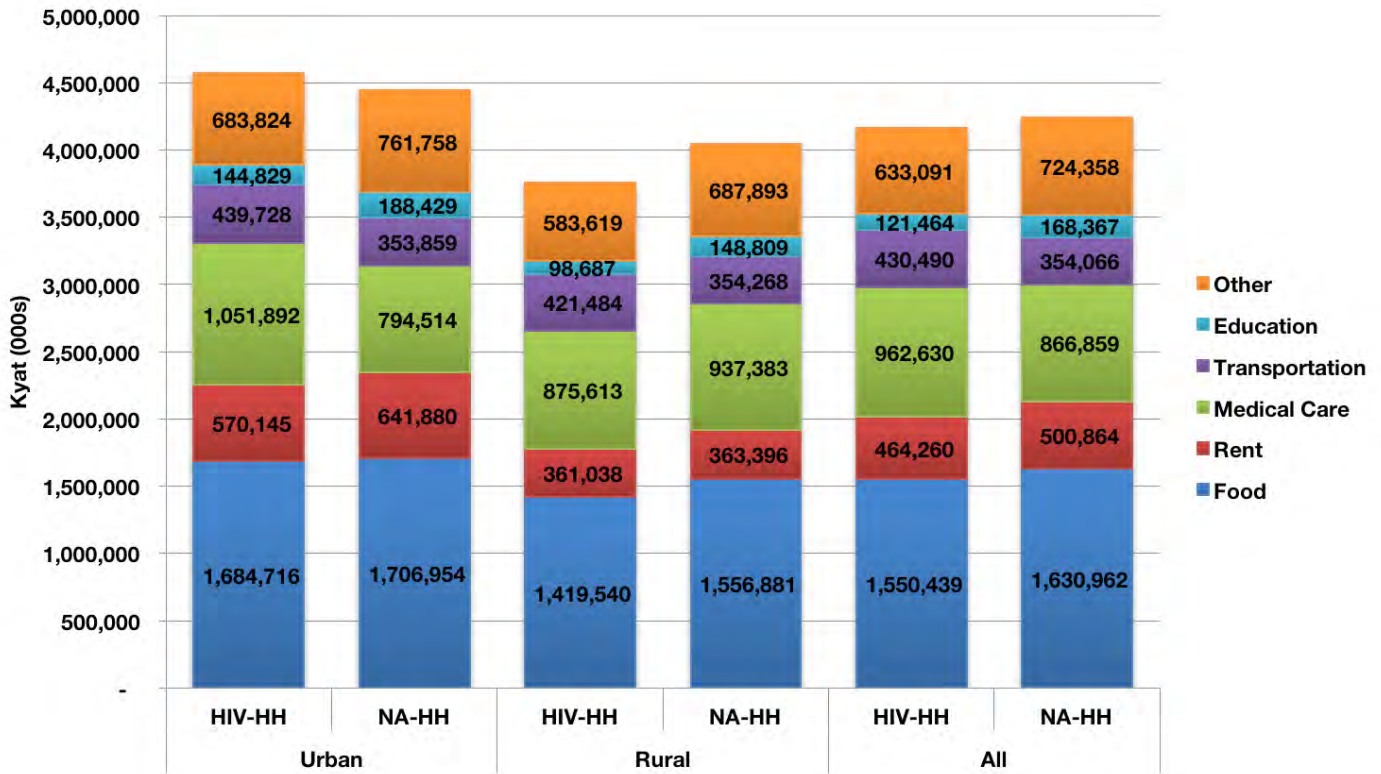**Figure 43: Impact of HIV on Household Total Annual Consumption Expenditure, by location**

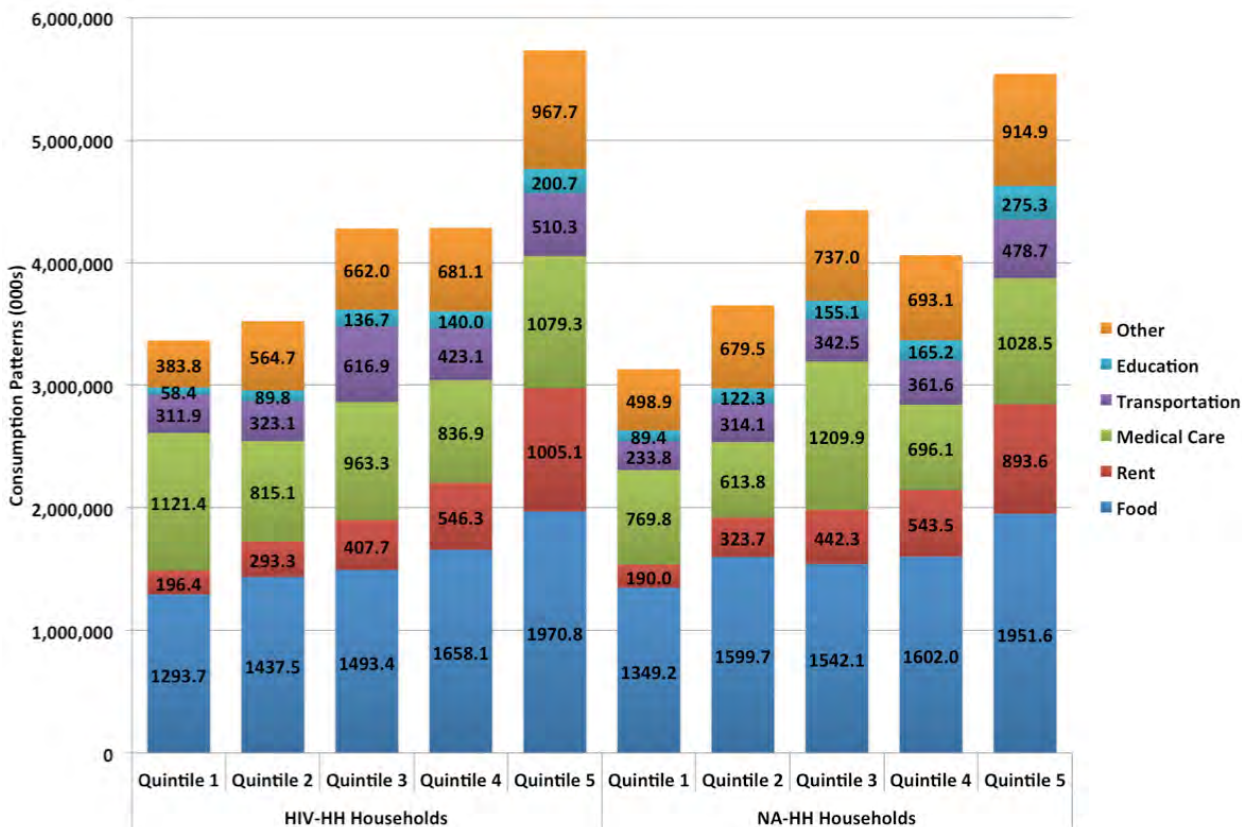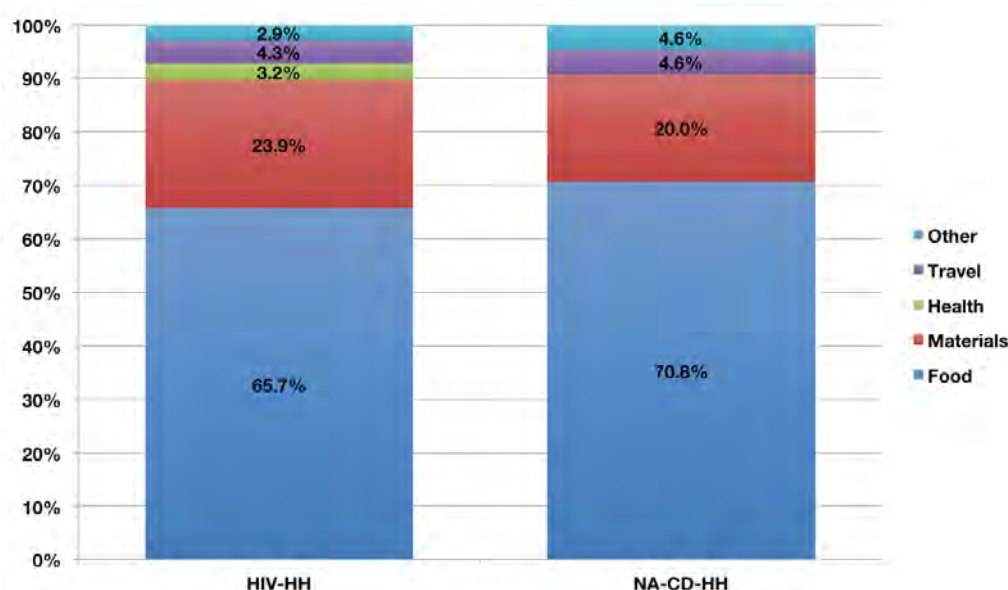**Figure 44: Impact of HIV on Consumption Patterns, by quintile**

Figure 45: Main Areas of Consumption Reduction among HIV-HH and NA-CD-HHs

type of item was generally similar for all households including for food (38% of total per capita consumption). Important differences included higher per capita medical care consumption for HIV-HHs with urban HIV-HHs incurring the greatest expenses (1,051,892MMK/US$941 vs. an average of 870,000MMK/US$778).

Urban households paid more for rents (average of 13% (606,013MMK/US$542) vs. 9% (362,217MMK/US$324) for rural households). HIV-HHs allocated a greater proportion of their per capita consumption to transportation than NA-HHs (10% vs. 8%), while spending a slightly smaller proportion on education (3% vs. 4%).

There was little variation in food expenditures within quintiles for HIV-affected and non-affected households, however, the proportion spent on food decreased as wealth increased. The poorest HIV-HHs spent proportionately less on medical care than the poorest NA-HHs, but spent slightly more in other quintiles.

Households were further asked about the impact of HIV or a chronic disease on their reducing their consumption. There was no significant difference in the proportion of HIV-HHS and NA-CD-HHs which reported they had reduced their consumption due to illness (56.9% of HIV-HHs versus 61.6% of NA-CD-HHs). Figure 45 shows that the main areas of restricted spending (for both HIV-HHs and NA-CD-HHs) was food, followed by materials.

Although many HIV-affected and CD-affected households had little or no savings to start with, more than 20% reported drawing on savings to finance the direct and indirect costs associated with HIV or chronic diseases (Table 14). There was no significant difference between HIV-HHs and NA-CD-HHs in the proportion that reduced savings (23.0% vs. 19.4%). In HIV-HHs there were no differences between urban and rural households, but for NA-CD-HHs, those in rural areas were more likely to report decrease of savings (15.6% in urban vs. 24.0% in rural). On average, HIV-

Table 14: Impact of HIV and /or CDs on Household Savings, by location

	Urban HHs		Rural HHs		All HHs	
	HIV-HHs (n=620)	NA-CD-HHs (n=179)	HIV-HHs (n=636)	NA-CD-HHs (n=146)	HIV-HHs (n=1256)	NA-CD-HHs (n=325)
Households reduced savings in last year, due to HIV or CD (%)	22.3	15.6	23.7	24.0	23.0	19.4
Average reduction in savings over last year (000s kyat)	348.1	567.1	375.7	608.1	362.5	589.9

HHs reduced savings by a smaller amount than NA-CD-HHs (362,500MMK /US$324 vs. 588,900MMK/US$5267), but the difference was not significant.

4.7. COPING MECHANISMS: IMPACT OF HIV ON HOUSEHOLD DEBT

Closely linked to the reduction in savings and changes in consumption is the issue of debt accumulation, as loans are often required to address the reduction in income or the change in expenditure profile of the household. Recent years have witnessed a decline in the amount of indebted households throughout the country, from 48% in 2004, to 30% in 2009, with indebtedness being slightly higher in poor households (33% in 2009) than non-poor households (29.4% in 2009) (IHLCA, 2011). Large differences were seen between HIV-affected and non-affected households with regards to debt: 32.6% of HIV-HHs were in debt, compared to only 23.6% of NA-HHs. Male headed households had more loans than female headed HHs (NA-HHs: 227 vs. 69; HIV-HHs: 269 vs. 141) (Figure 46). Male headed households with HIV in rural areas (147 loans) were seen to take out the most loans while urban HIV-HHs headed by women appeared to be incurring the highest interest rates (13% interest rate).

Household expenditure needs was the most common reason for taking out a loan. More female HoHs reported taking out loans for illness or injury (non-HIV related) than male HoHs (9.9% vs. 6.4%). Men more often sourced a loan from relatives (NA-HHs: 10.4% males vs. 7.1% females; HIV-HHs: 17.4% vs. 11.3%) and were more likely to receive a loan from a bank (NA-HHs: 6.6% vs. 4.1%; HIV-HHs: 1.8% vs. 1.5%). HIV-HHs headed by women were the most likely to use moneylenders, which may explain the high interest rates they incur.

"Household expenditure needs" was the prime reason households took on debt. Illness was a major reason for the HIV-HHs' loans (14.8%) but uncommon for NA-HHs (2.2%). NA-HHs were more likely to incur debts for home improvements or agricultural production/operations (17.6% vs. 9.5%).

Households relied on differed sources for their loans (Figure 48). NGOs accounted for a slight proportion of loans in both households (8.6% of HIV-HH loans, 15.4% of NA-HH loans). A majority of households relied on moneylenders (41.8% in HIV-HHs vs. 40.1% in NA-HHs). A similar proportion of HA-HHs and NA-HHs relied on friends/neighbours and local relatives (30.9% vs. 32.1%). More NA-HHs were able to obtain a

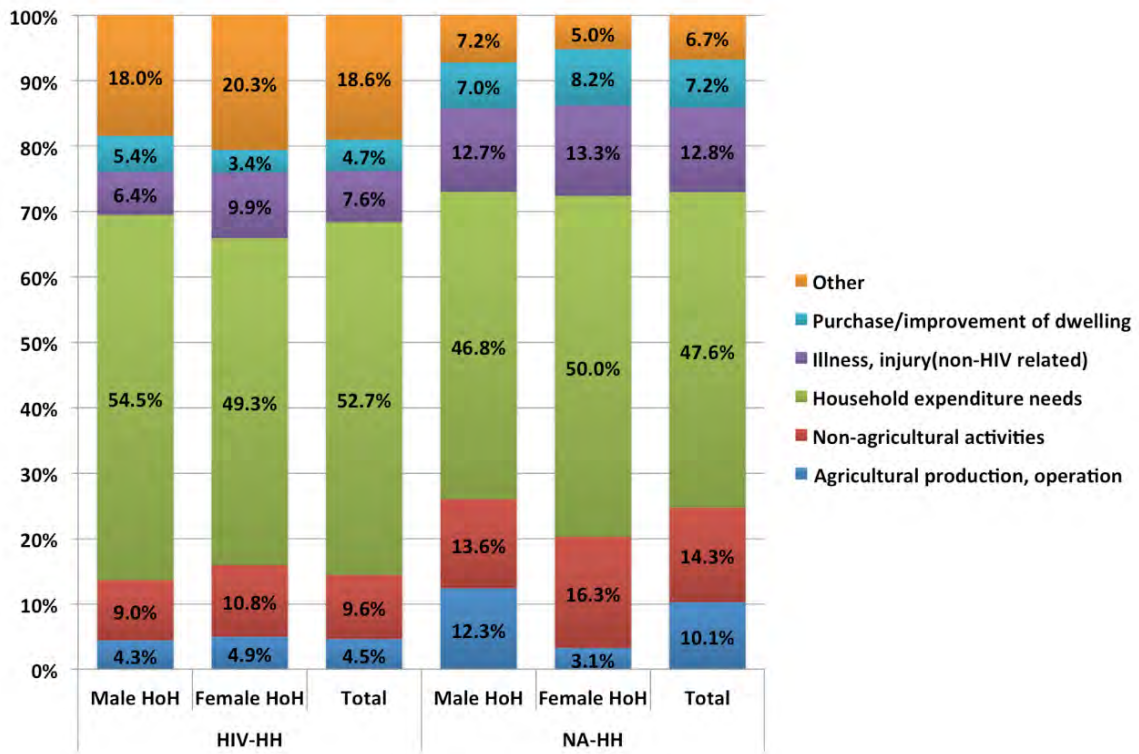*Figure 46: Impact of HIV on Reasons for Household Debt, by sex*

Figure 47: Impact of HIV on Reasons for Household Debt, by location
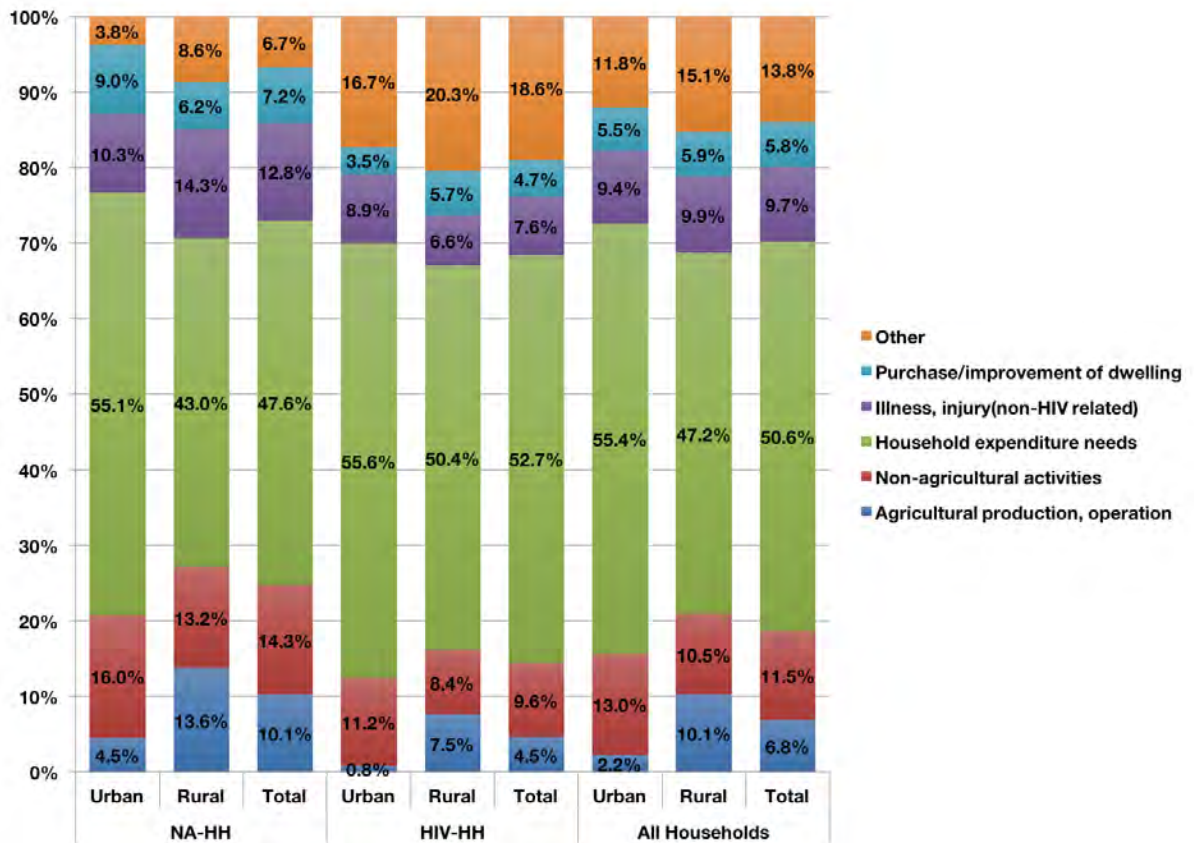
Figure 48: Impact of HIV on Source of Debt and Interest Rates, by location
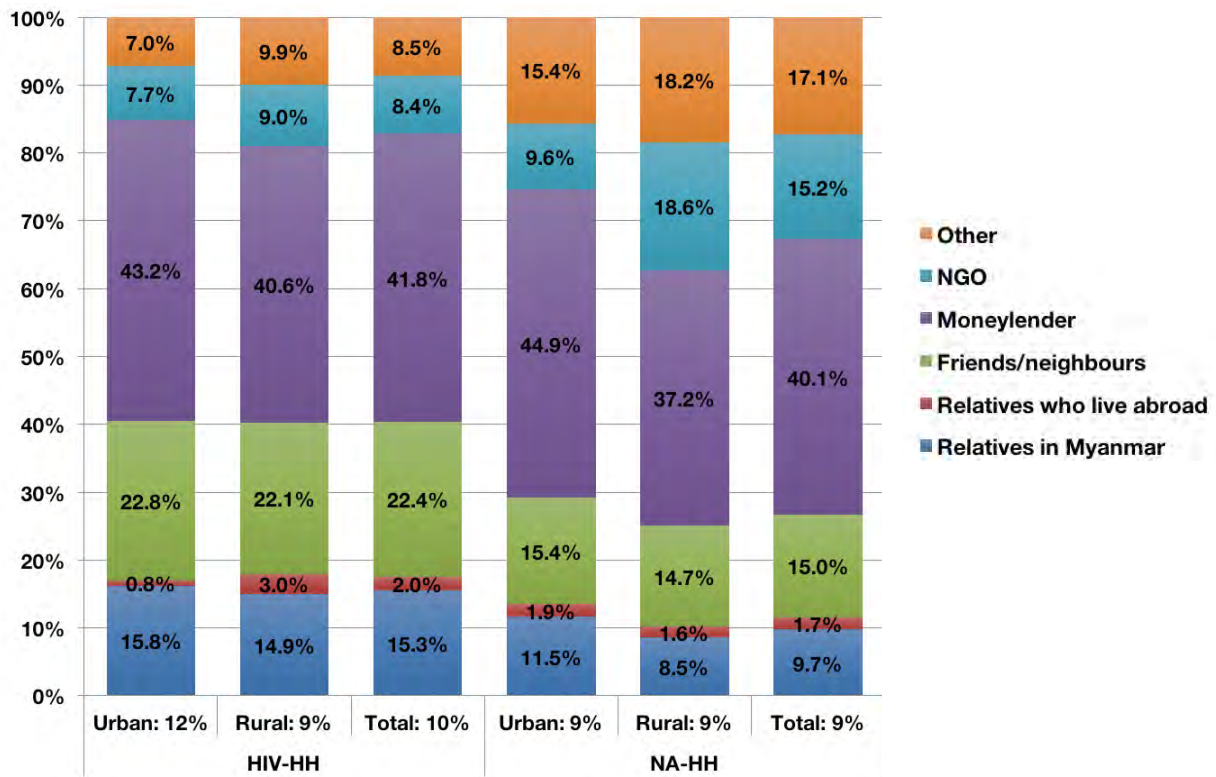

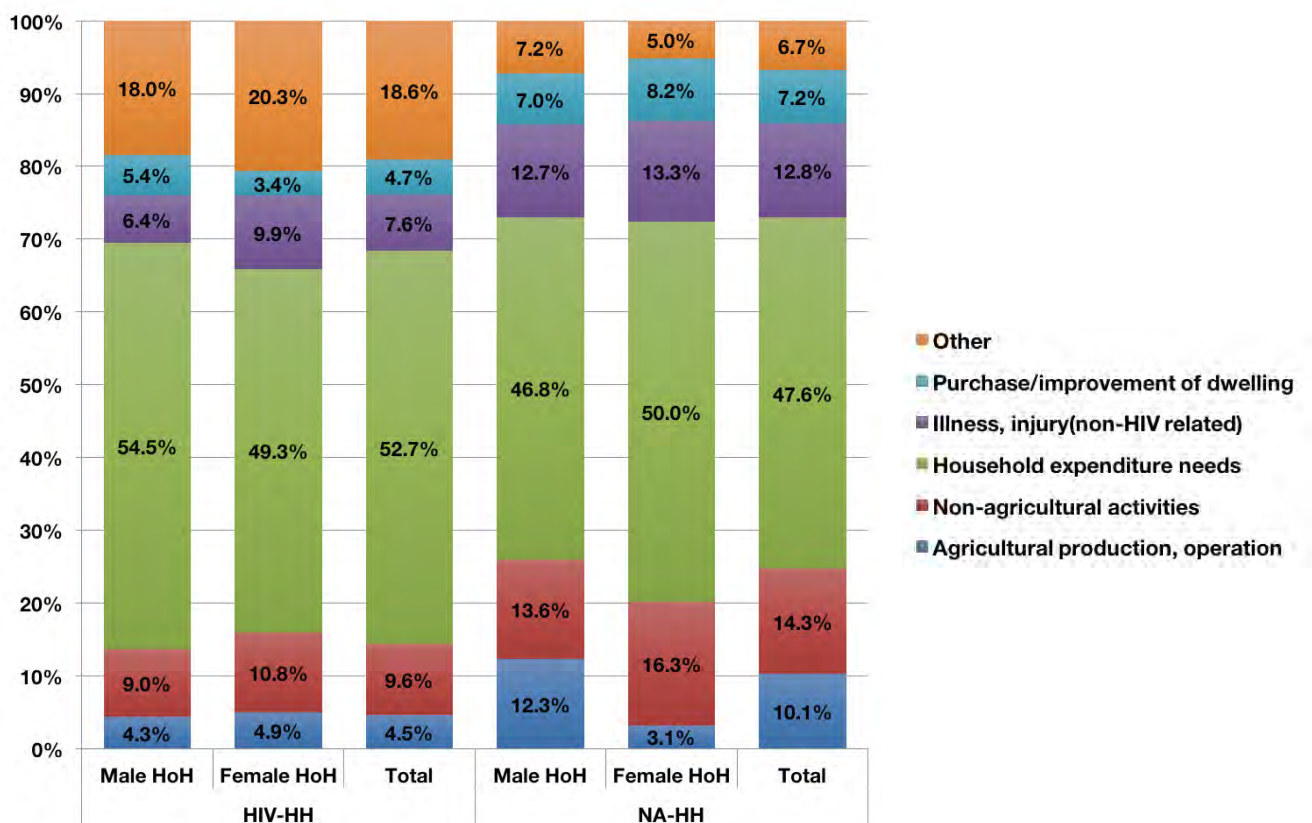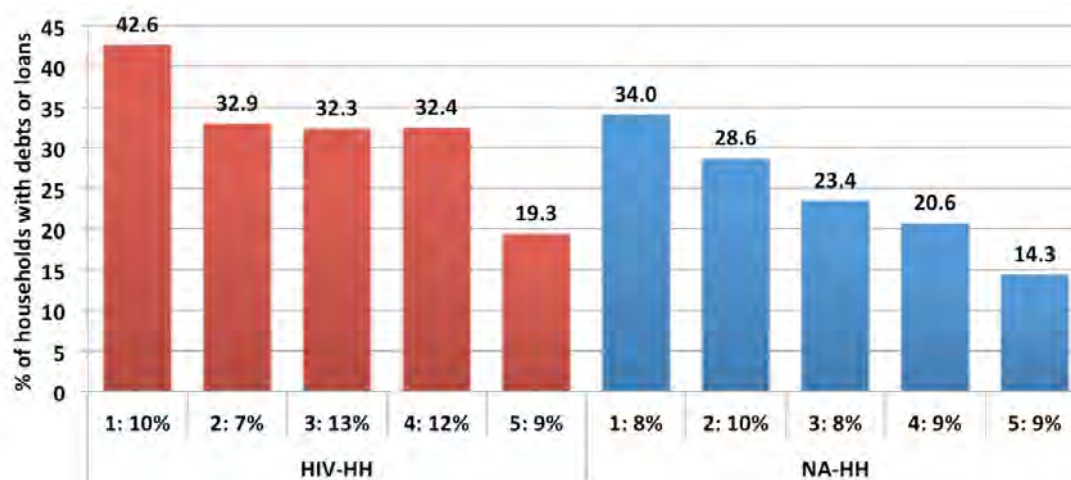*Figure 49: Source of Debt, by sex of HOH*

Figure 50: Impact of HIV on Household Debt, by quintile

loan from a bank (6.0%) than HA-HHs (1.7%). These different sources for loans are likely due to a combination of factors: the purpose of the loan (it is easier to get a loan for home improvements from a bank than for health reasons) and possible stigma and discrimination. Additionally, HIV households were more likely to report paying significantly higher monthly interest rates (10.0%) than non-affected households (9.0%).

Fewer wealthier HHs incurred debts than poorer HHs (Figure 50) with a larger decline between Q1 and Q5 for HIV-HHs than NA-HHs. This is interesting, as one would believe that a greater reduction would occur for NA-HHs, as they were likely to have greater savings and earnings.

NA-HHs were more likely to obtain loans from banks and increasing quintiles were associated with an increased likelihood of obtaining a loan (Q1: 2.8% vs Q5: 13.5%). The opposite trend was observed with loans from NGOs with poorer NA-HHs more likely to receive a loan than wealthier households. There was little difference across quintiles in the proportion of HIV-HHs that had a bank

loan whereas wealthier HIV-HHs received more loans from NGOs than poorer HHs (Q1: 8.1% vs. Q5: 15.8%). The average amount of loans from moneylenders was consistent from Q1 to Q4, and then dropped for Q5 (44.6% of loans in Q4 vs. 29.8% in Q5).

Interest rates in rural areas did not differ substantially for male HoHs based on quintile of wealth. Female HoHs in urban areas paid higher interest rates if they were in the lowest quintile than if they were in the highest quintile (NA-HHs: Q1=10% interest rate Q5=4% interest rate; HIV-HHs: Q1=10% interest rate, Q5=5% interest rate).

All urban NA-HHs in Q1 headed by a woman got their loan from a moneylender, whereas the majority of female-headed HIV-HHs sourced their loan from friends/neighbours (41.2%). Loans from NGOs decreased with increases in wealth for NA-HHs while they increased across quintiles for HIV-HHs (Male HoHs: Q1=6.6%, Q5=8.8%; Female HoHs: Q1=12.5%, Q5=26.1%). NGOs may need to improve the targeting of loans to those most in need.

CHAPTER 5
IMPACT OF HIV ON EDUCATION

CHAPTER SUMMARY

☐ Children living in HIV-HHs reported lower attendance rates than those in NA-HHs but had similar primary school Net Attendance Rates

☐ There was a large difference in attendance rate between HIV-HHs and NA-HHs for girls 10-13 years (91.1% in HIV-HHs versus 96.0% in NA-HHs)

☐ Children in HIV-HHs were twice more likely to have missed school compared to NA-HHs because they had to contribute to the household income or help with household chores

☐ Children in HIV-HHs were more likely to have missed more than 10 days of school in the past year than those in NA-HHs, especially for young children and those in rural areas

☐ There were no differences in the proportion of children who had repeated a grade by type of household.

Beyond reducing the immediate economic capacity of the household, diseases can influence the human capital accumulation of the household and, therefore, long-term impacts by negatively affecting the education of children. Figure 51 summarises the ages at which children in Myanmar are expected to progress through each schooling level.

5.1. IMPACT OF HIV ON SCHOOL ATTENDANCE

One of the most critical measures of a child's educational status is one of the most basic – whether or not they are currently attending school. Figure 52 and Figure 53 display the results of analyses related to school attendance rates. In this case, the analysis looked at all levels of education and various kinds of schooling, including non-formal or vocational training. Overall, children in NA-HHs had marginally higher aggregate attendance rates for schooling at all levels than children in HIV-HHs (Figure 52 and Figure 53). The biggest difference in attendance rates for boys was among those in upper secondary school (14-18 years) while for girls it was among those in lower secondary school (10-13 years). A larger difference was seen for male children as those in HIV-HHs had attendance rates of only 81.5%, compared to 84.4% in non-affected HHs. For girls there were only minimal differences (84.3% attendance in HIV-HHs compared to 84.9% in NA-HHs). Additionally, NA-HHs had higher attendance levels across all age groups, but saw the largest

Figure 51: The Educational System in Myanmar

Level		Length of Time (Years)	Age	Grade
Primary	Lower	3	5+ to 7+	1 to 4
	Upper	2	8+ to 9+	4 to 5
Secondary	Lower	4	10+ to 13+	6 to 9
	Upper	2	14+ to 15+	10 to 11

Source: Ministry of Education, Department of Higher Education (Lower Myanmar), 2013

difference in the lower secondary (or middle school) years of 10-13 years of age (90.8% attendance for children in HIV-HHs versus 95.3% in NA-HHs).

When broken down by both age and gender, the largest difference between HIV-HHs and NA-HHs was seen in boys 14-18 YOA. In HIV-HHs, attendance rate was only 53.7% (the lowest attendance rate of any age / gender group) while in NA-HHs it was 60.4%. In contrast, for girls at that age there was no difference in the level of attendance (62.8% attendance for girls in HIV-HHs versus 62.3% in NA-HHs). However, girls 10-13 years of age saw a comparatively large difference (91.1% in HIV-HHs versus 96.0% in NA-HHs), though it was not statistically significant. Overall, residing in a HIV-HH had a negative impact on the likelihood of a child attending school. There were insufficient numbers of school-aged children living in a NA-HH with a member living with a chronic disease to make any meaningful comparisons regarding the impact of chronic diseases on school attendance.

The gender of the HoH influenced the proportion of children who missed 10 days or more of school for HIV-HH but not for NA-HHs. In female-headed HIV-HHs, 10.3% of children missed 10 days of school or more compared to 8.9% of those in male HoH.

In all households, children in female HoHs were more likely to skip a grade than households headed by men (NA-HHs: 12.3% vs. 10.2%; HIV-HH: 13.9% vs. 10.9%).

Only a small number of children were reported to have never attended school, another important educational measure. Figure 54 shows encouraging results with this indicator, as there was less than one-point difference in the overall percentage of children in HIV-HHs (2.5%) compared to NA-HHs (1.7%) who were reported never having attended school. However, while no difference is seen for girls (1.9% for girls in HIV-HHs versus 1.8% in NA-HHs) almost twice the proportion of HIV-HHs had boys who never attended school compared to boys in NA-HHs (3.1% for boys in HIV-HHs versus 1.6% in NA-HHs).

Different indicators are used to measure enrolment (utilising school data) or atten-

Net Attendance Primary School Rate

$$\frac{\text{Total \# Children (aged 5-9) Attending Primary School}}{\text{\# Children (aged 5-9)}}$$

Gross Attendance Primary School Rate

$$\frac{\text{Total \# Children (all ages) Attending Primary School}}{\text{\# Children (aged 5-9)}}$$

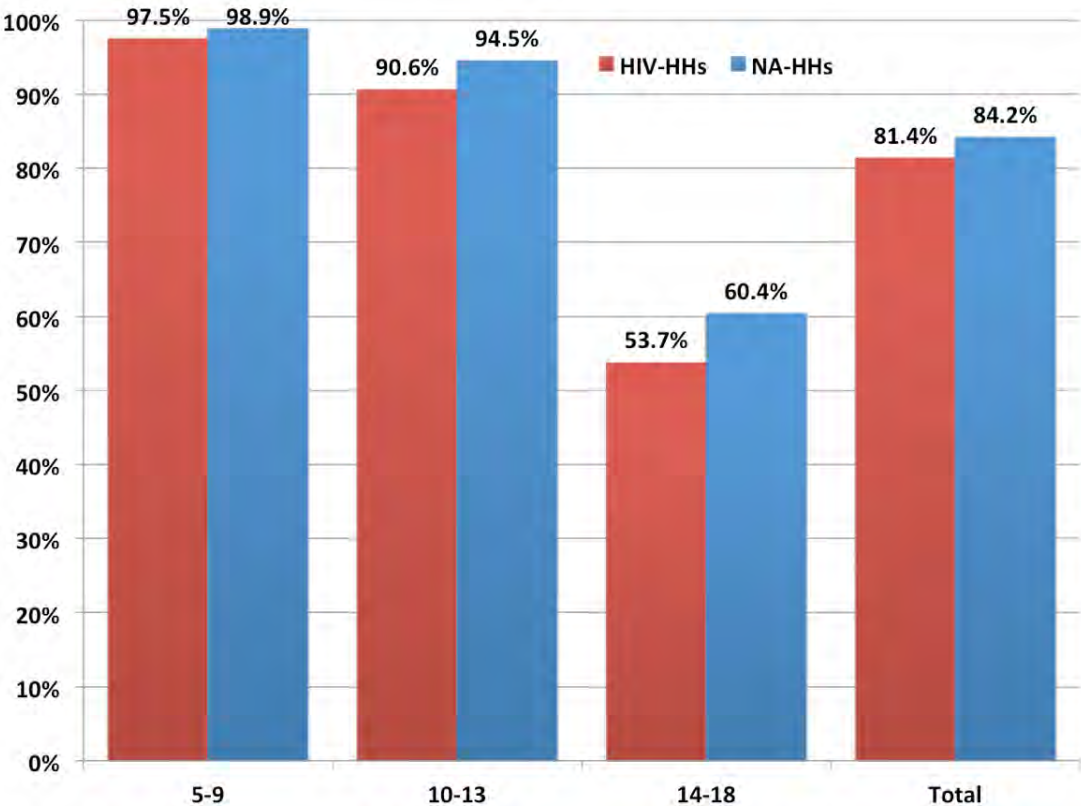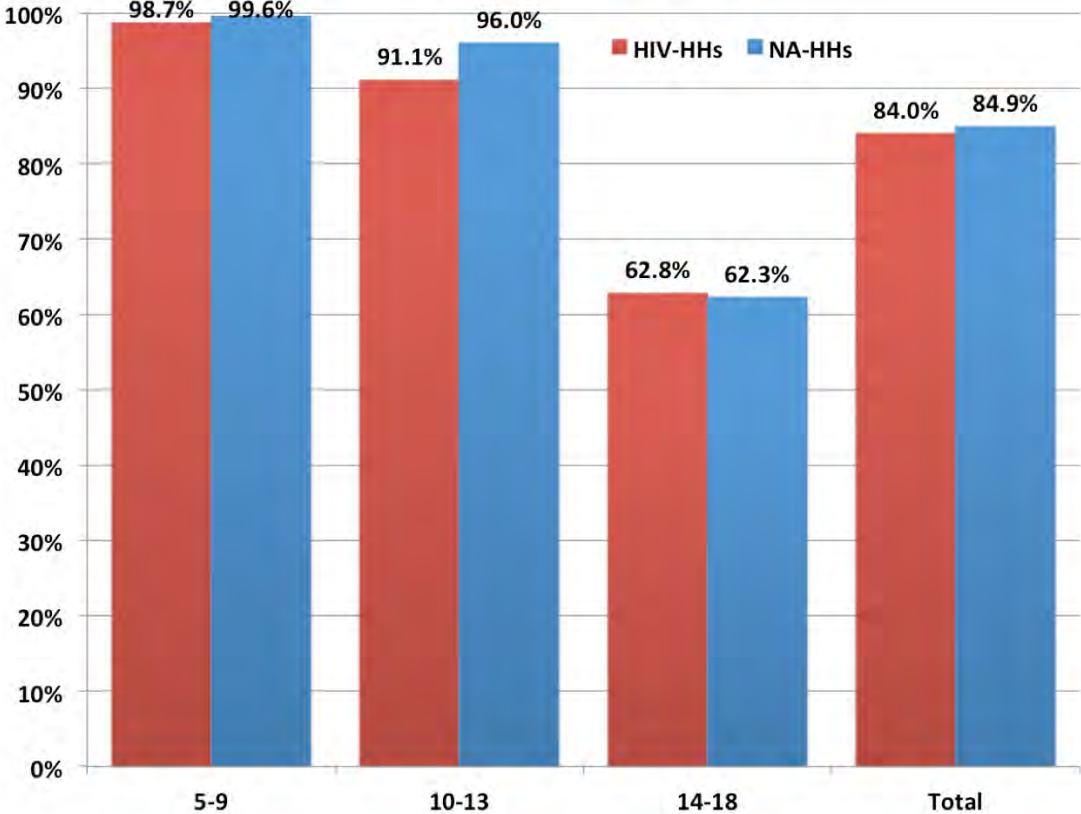*Figure 52: Impact of HIV on Males' Current School Attendance, by age*

Figure 53: Impact of HIV on Females' Current School Attendance, by age

dance[16] (utilising school or survey data) within the country: a net rate and a gross rate. How the different rates are calculated is shown above, using primary school as an example. The Net Attendance Rate (NAR), which can be calculated using the survey data, is the focus of this section.

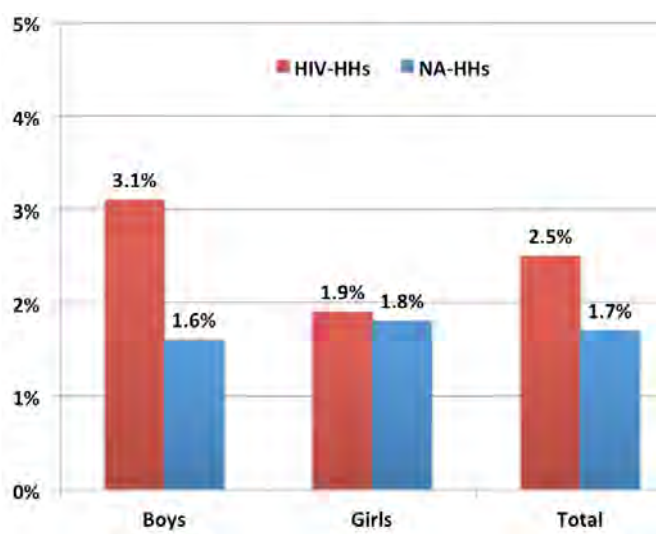*Figure 54: Impact of HIV on Children who have Never Attended School*

Figure 57 displays the NAR of boys and girls for the different educational levels. Overall, for Myanmar, the MICS 2009-2010 survey found a NAR of 90.2 for children of primary school age, with the rate being similar across for boys and girls.[17] In the surveyed households, however, the primary school NAR was 88.3, and there was an interesting difference between boys and girls (girls have a higher NAR of 90.5 versus 86.5 for boys). The NAR for all primary school aged children (5-9 years of age) was the same for both HIV-HHs and NA-HHs. However, the primary school NAR was slightly higher for girls in HIV-HHs,

and slightly lower for boys, than in NA-HHs.

Overall, data from the MICS showed the NAR in Myanmar was 58.3 for children of secondary school age (10-15), with the numbers being similar across boys and girls.[18] Survey responses show similar results. The survey showed a small difference between boys and girls of secondary school age (girls NAR of 60.9 versus 58.2 for boys). There were relatively no differences between boys and girls within NA-HHs nor differences between girls in HIV-HHs and NA-HHs. However, severe differences were seen for boys in secondary school, where the NAR for NA-HHs: 63.3 compared to only 52.3 in HIV-HHs).

Data from the MICS show that nationally the NAR in rural areas is lower than in urban areas (primary NAR urban 89.2 versus rural 93.0; secondary NAR urban 76.0 versus rural 52.0). Figure 57 shows the impact of HIV on NARs in the surveyed households, by the location of the household. Overall for the surveyed households, NARs were similar for HIV-HHs and NA-HHs in urban and rural areas for children of primary school ages. However, for NA-HH children at secondary school age, differences are seen, with an NAR of 66.7 in urban areas compared to only 62.6 in rural areas. Additionally, for rural households, secondary school-age children in HIV-HHs saw worse NARs than their peers in NA-HHs (54.6 for HIV-HHs versus 58.3 for NA-HHs).

When children are not attending school, it

---

[16] Due to the nature of this report being based on household survey results, attendance, not enrolment is reported.

[17] Ministry of National Planning and Economic Development, Ministry of Health, UNICEF, Multiple Indicator Cluster Survey 2009-2010, October 2011, Page 44

[18] Ministry of National Planning and Economic Development, Ministry of Health, UNICEF, Multiple Indicator Cluster Survey 2009-2010, October 2011, Page 44

Figure 55: Impact of HIV on Primary School Net Attendance Rates, by sex
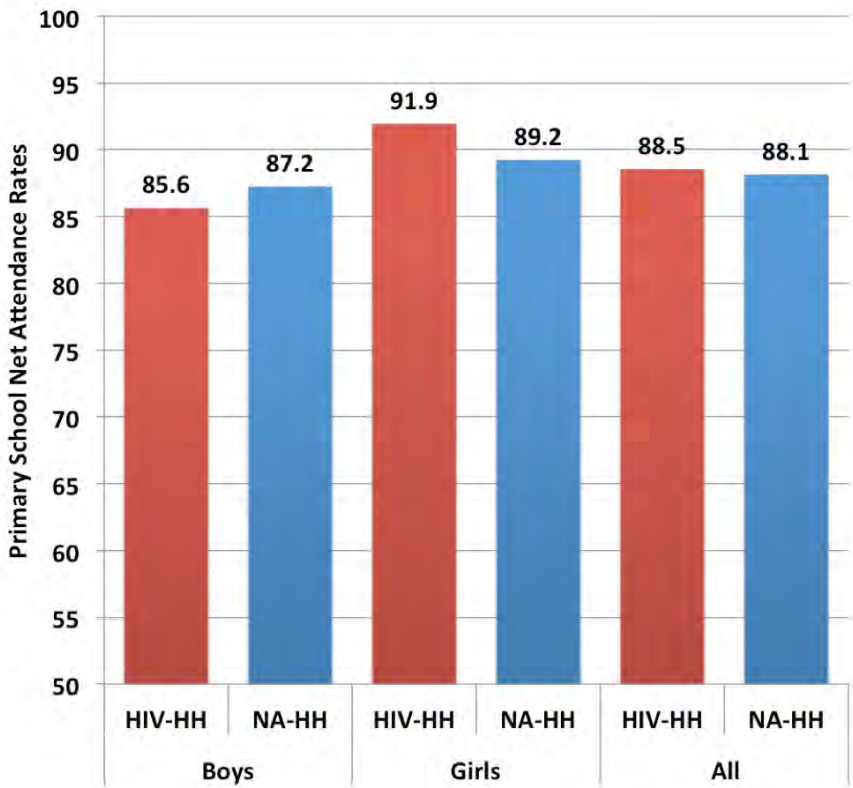

Figure 56: Impact of HIV on Secondary School Net Attendance Rates, by sex
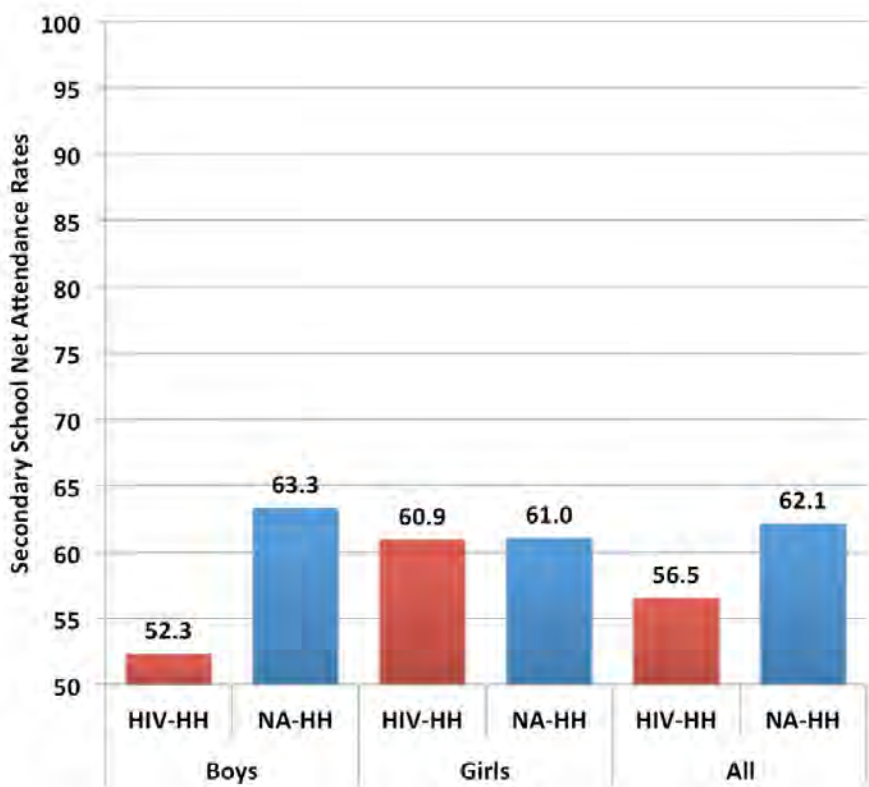
Figure 57: Impact of HIV on Net Attendance Rates (NAR), by educational level and location
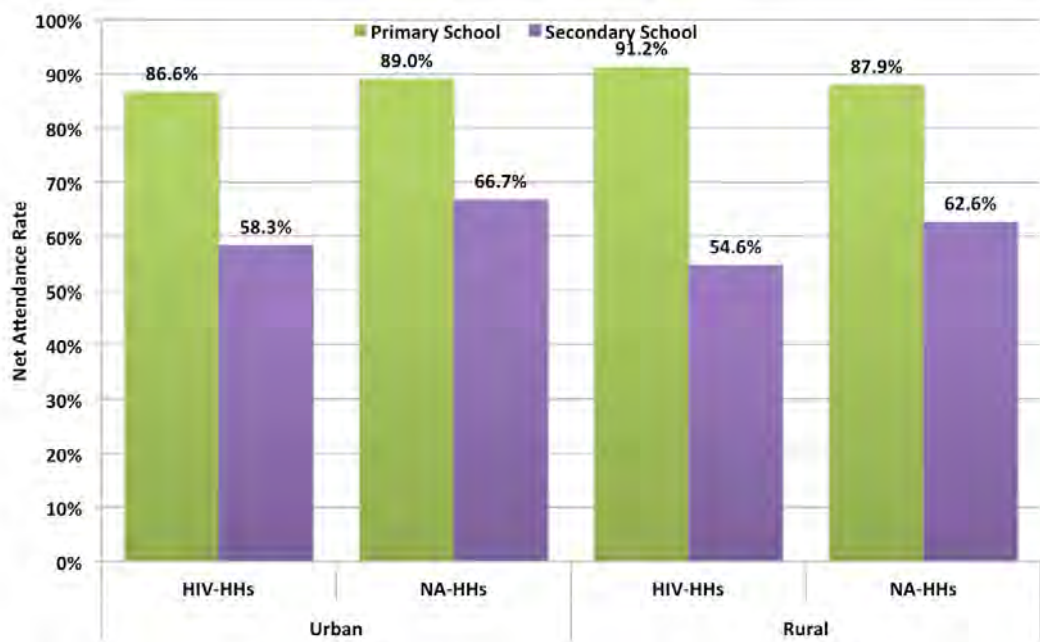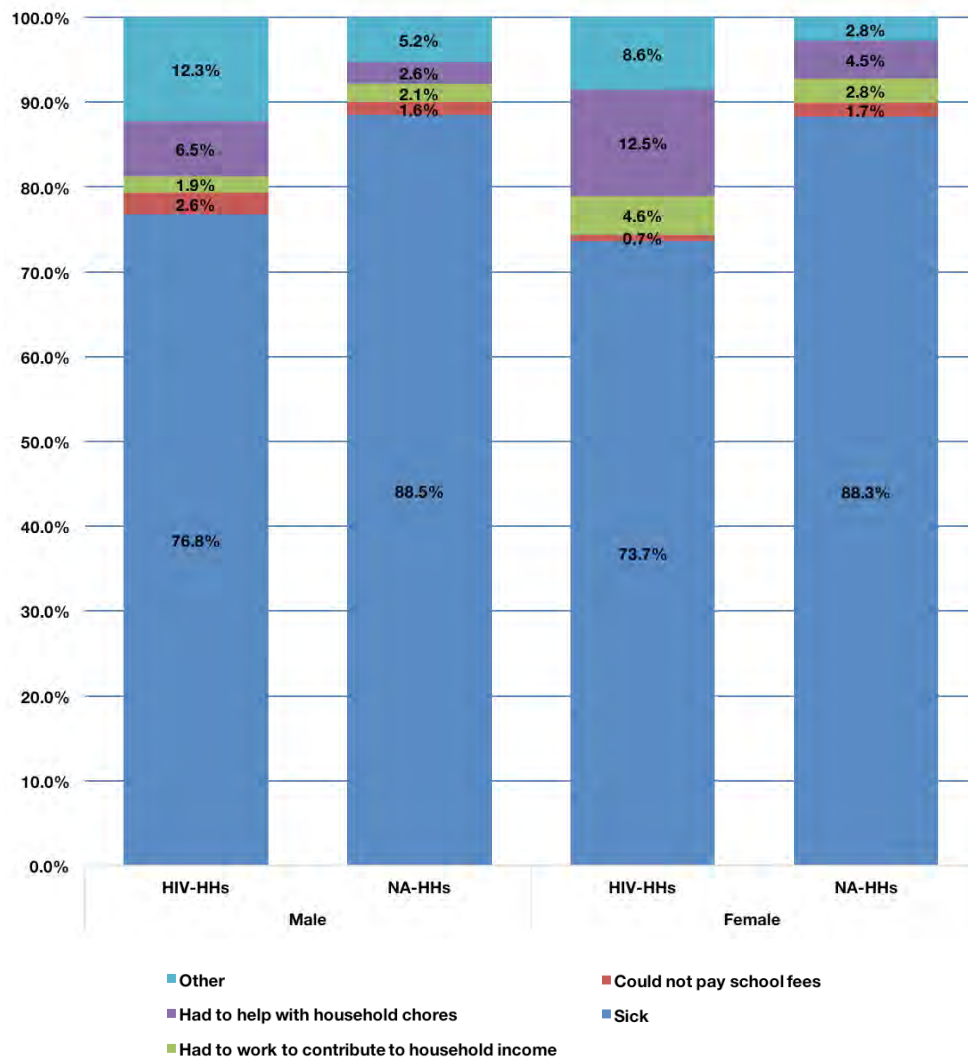

Figure 58: Impact of HIV on reasons for Non-Attendance, by sex

is important to understand the reasons for their non-attendance. Overall, the most frequent reason given for why children were not at school was that the child was sick (NA-HHs 88.4% vs. HIV-HHs 75.0%). Children were said to be absent from school because they had to contribute to the household income or help with household chores in a much higher proportion of HIV-HHs than NA-HHs (12.7% vs. 5.9%). A small proportion of HIV-HHs (3.6%) even stated that children missed school because they had to collect ART for their family member with HIV. Figure 58 shows that in both sets of households, girls were more likely than boys to miss school because they had to work to contribute to the household income or because they needed to help with chores (8.4% boys in HIV-HHs vs. 17.1% girls in HIV-HHs and 4.7% boys and 7.3% girls in NA-HHs). HIV then, is having a clear impact on child school attendance with girls most affected.

5.2. IMPACT OF HIV ON SCHOOL ABSENCES AND GRADE REPETITION

Figure 59 shows the impact of HIV on the percentage of children reported to have missed 10 or more school days in the previous year based on the gender of the HoH. Almost one-third more children in HIV-HHs (9.3%) missed over 10 days of school in the previous year than in NA-HHs (6.6%). Those children aged 5–9 years who live in HIV-HHs were almost twice as likely as those in NA-HHs to have missed more than 10 days of school (11.1% versus 7.3%) as were those 10-13 years of age (10.9% versus 5.9%). However, there was no statistically significant difference among older children who had missed more than 10 days of school by type of household (6% for both). Children in rural HIV-HHs were most affected with 10.4% having missed more than 10 days

Figure 59: Impact of HIV on School Absences, by sex of HoH
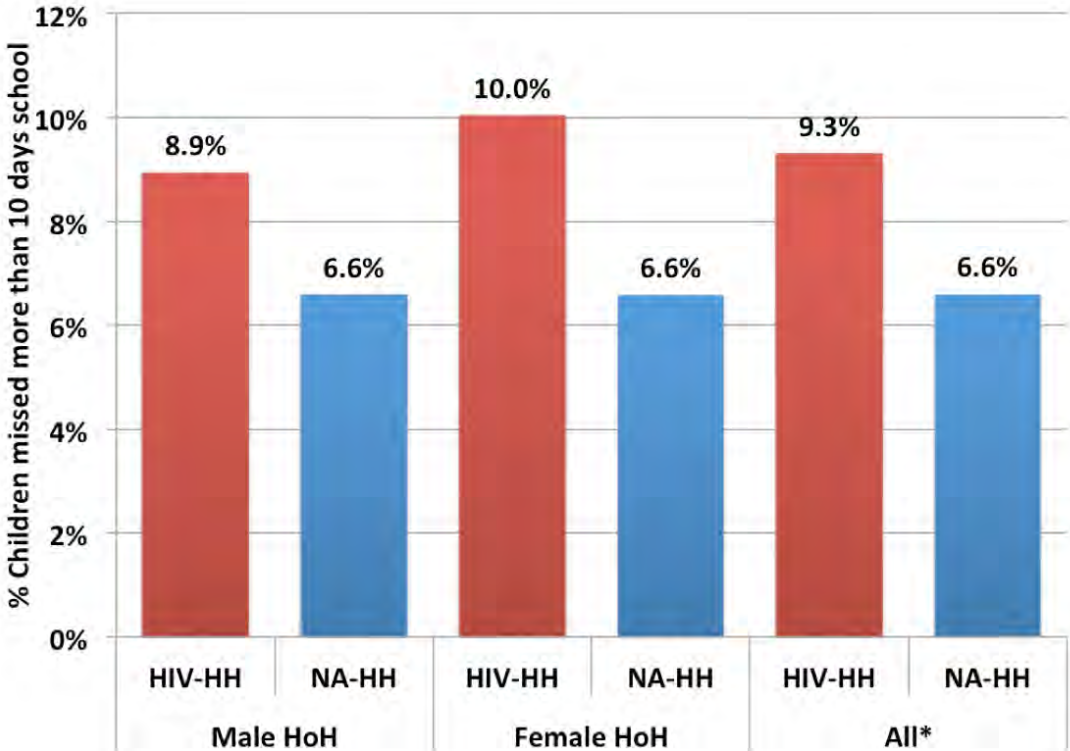
Figure 60: Impact of HIV on School Absences, by age of child
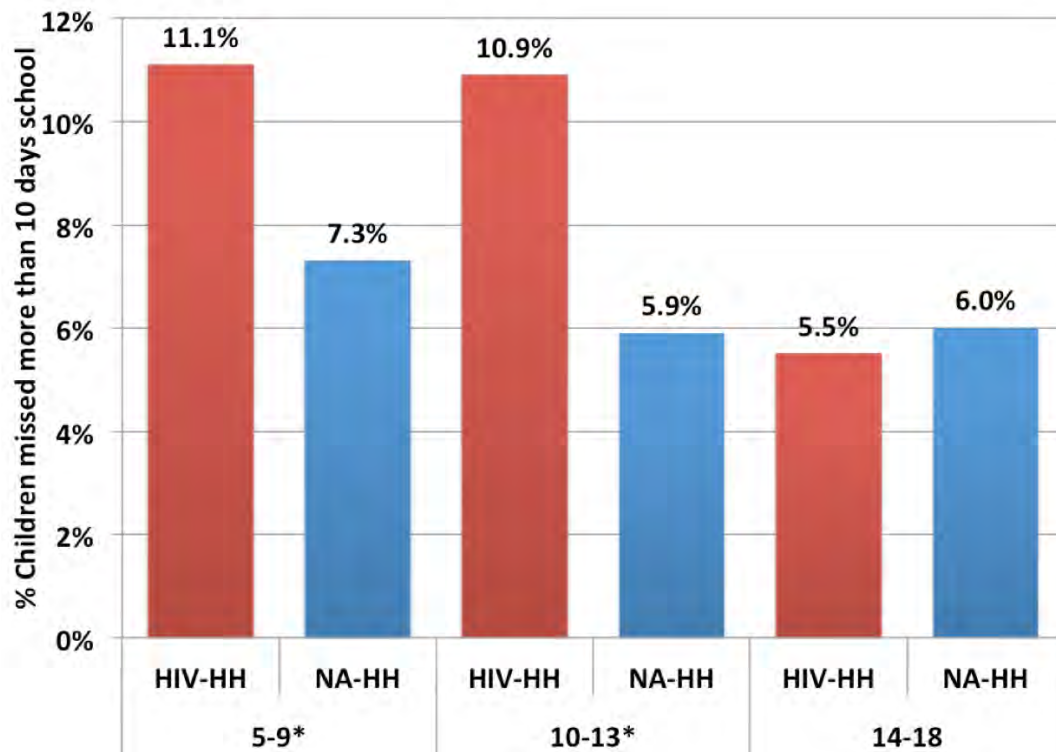
Figure 61: Impact of HIV on Grade Repetition
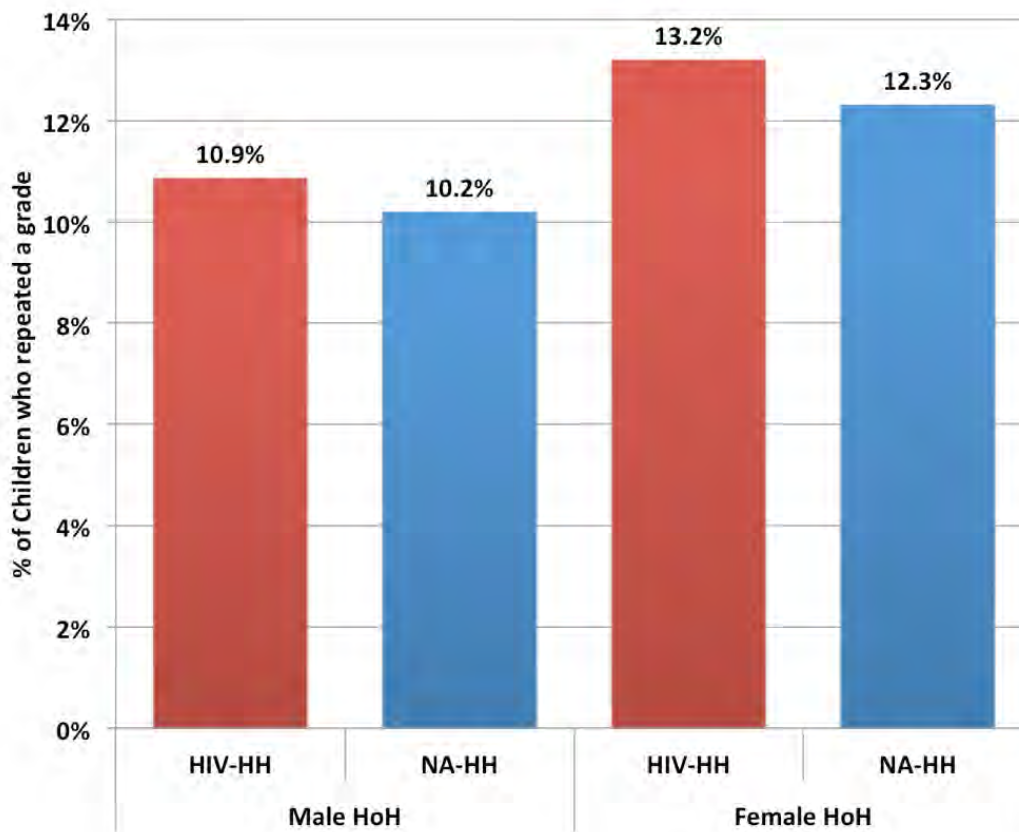
of school in the previous year compared to only 7.8% of those in rural NA-HHs. There was also a lesser difference in urban areas (8.1% HIV-HHs; 5.4% NA-HHs).

There were no statistically significant differences in the proportion of children who repeated a grade by the gender of the HoH, type of household or age of the child (Figure 61). 13.2% of children from HIV-HHs with a female HoH repeated a grade, whereas 10.9% of children in male head of HIV-HHs repeated a grade, but that difference was not significant. There were also no statistically significant differences in grade repetition by sector of the household, nor age of the child.

CHAPTER 6
IMPACT OF HIV ON HEALTH

CHAPTER SUMMARY

☐ Members of HIV-affected households were reported to be in worse health status than those in NA-HHs. However, PLCD self-reported having lower health status than PLHIV

☐ Members of poorer households (both HIV-affected and non-affected) were reported to be in worse health status than those in wealthier households

☐ PLHIV utilised significantly more ambulatory and inpatient health services, and were significantly more likely to seek care in the public sector, than those in NA-HHs

☐ PLHIV were more likely to currently use tobacco or betel nut than those not living with HIV (regardless of their chronic disease status)

☐ PLHIV were a little more likely to have reported heavy drinking patterns, and those who did were more likely to have missed ART in the previous week than those who did not report heavy drinking

☐ Individuals living with a chronic disease (excluding HIV) were more likely to state they rarely or never performed physical activities than individuals not diagnosed with a chronic disease

☐ Non-affected household members were less than half as likely as HIV-affected house-hold members to indicate they did not seek care due to insufficient money.

☐ Almost five times as many PLHIV were hospitalised in the previous year compared to individuals living in NA-HHs (14.1% vs. 2.9%)

☐ PLHIV were significantly more satisfied with their access to health services than survey respondents in NA-HHs

☐ Charges for health care services reported by members of HIV-affected households were significantly lower than those reported by members of NA-HHs, except for fe-male-headed HIV-HHs, which had higher charges than their NA-HH female-headed counterparts

☐ PLHIV were more likely to have healthcare charges exempted than members of NA-HHs

☐ PLHIV reported selling land and other assets, cutting into savings and taking on debt, in order to cover costs associated with prolonged illness prior to diagnosis. However, the amounts were lower than those of NA-HHs

☐ ART utilisation is increasing among all PLHIV. However, utilisation of medications to prevent or treat opportunistic infections is lower for PLHIV living in rural areas

☐ There was a slight difference between the proportion of HIV-affected and NA-HHs who had incurred catastrophic health expenditures, with HIV households only spending 1.5 times more than NA-HHs

6.1. IMPACT OF HIV AND CHRONIC DISEASES ON HOUSEHOLD HEALTH STATUS

6.1.1. Self-reported Health Status

The head of household was asked to rate the health status of household members (Figure 63). Those without a chronic disease or HIV (PLNODX) were regarded as having the best health (86% were in good or very good health), while PLCD were most likely to report being in bad or very bad health (17.4%). This was a significantly higher proportion of PLHIV (6.7%). Men generally reported having better health than women, and urban dwellers better health than those in rural areas.

For HIV-HHs, there was a clear positive correlation between the economic status of households and reported health of residents (Q5: 83% rated health as good or very good vs. Q1: 74%) (Figure 64). HIV-HHs consistently rated health as poorer than those in NA-HHs across quintiles (3.9% of household members were ranked as having bad or very bad health compared to 1.5%).

6.2. IMPACT OF HIV ON BEHAVIOURAL RISK FACTORS

While certain behaviours pose risks for the transmission of HIV, a diagnosis of HIV may itself lead to behaviours that put people at higher risk of developing other chronic diseases. Substance abuse (e.g. tobacco, alco-

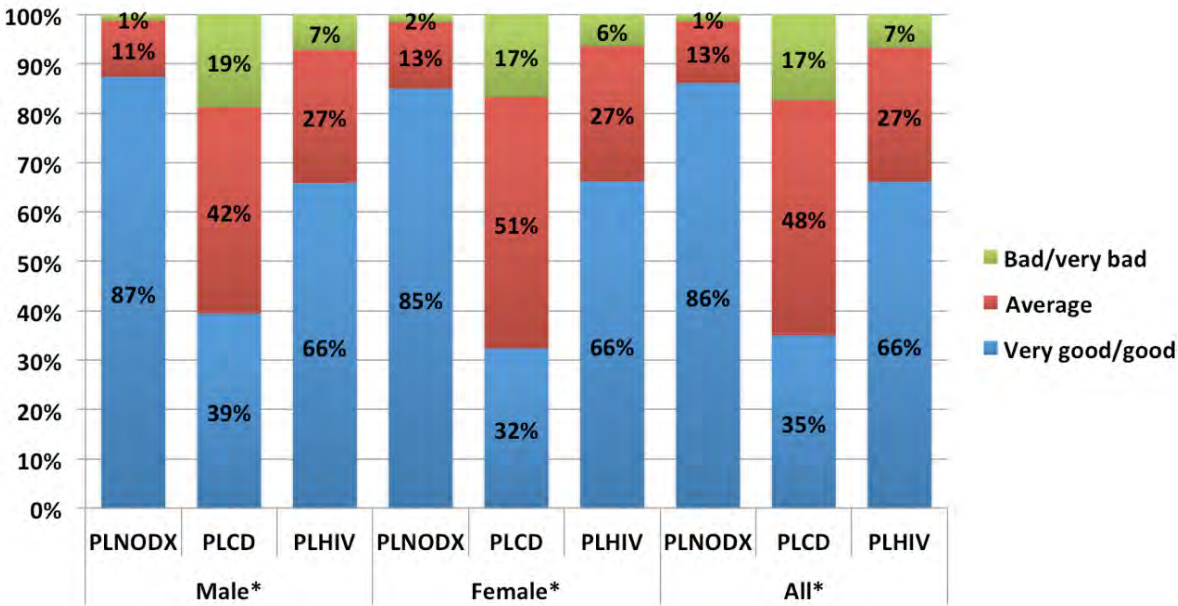*Figure 62: Reported Health Status of Household Members, by sex*

Figure 63: Reported Health Status of Household Members, by location
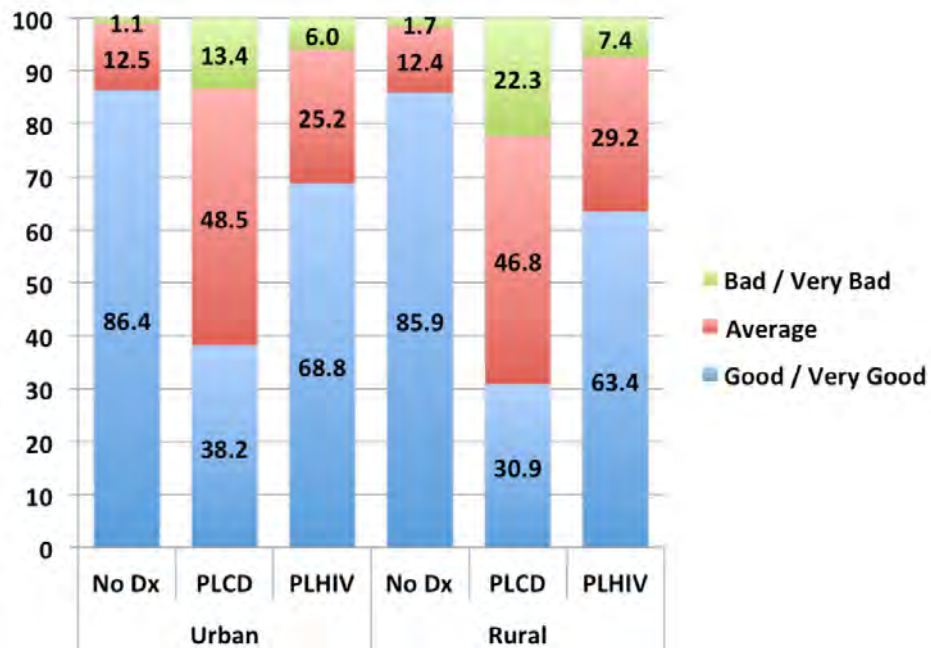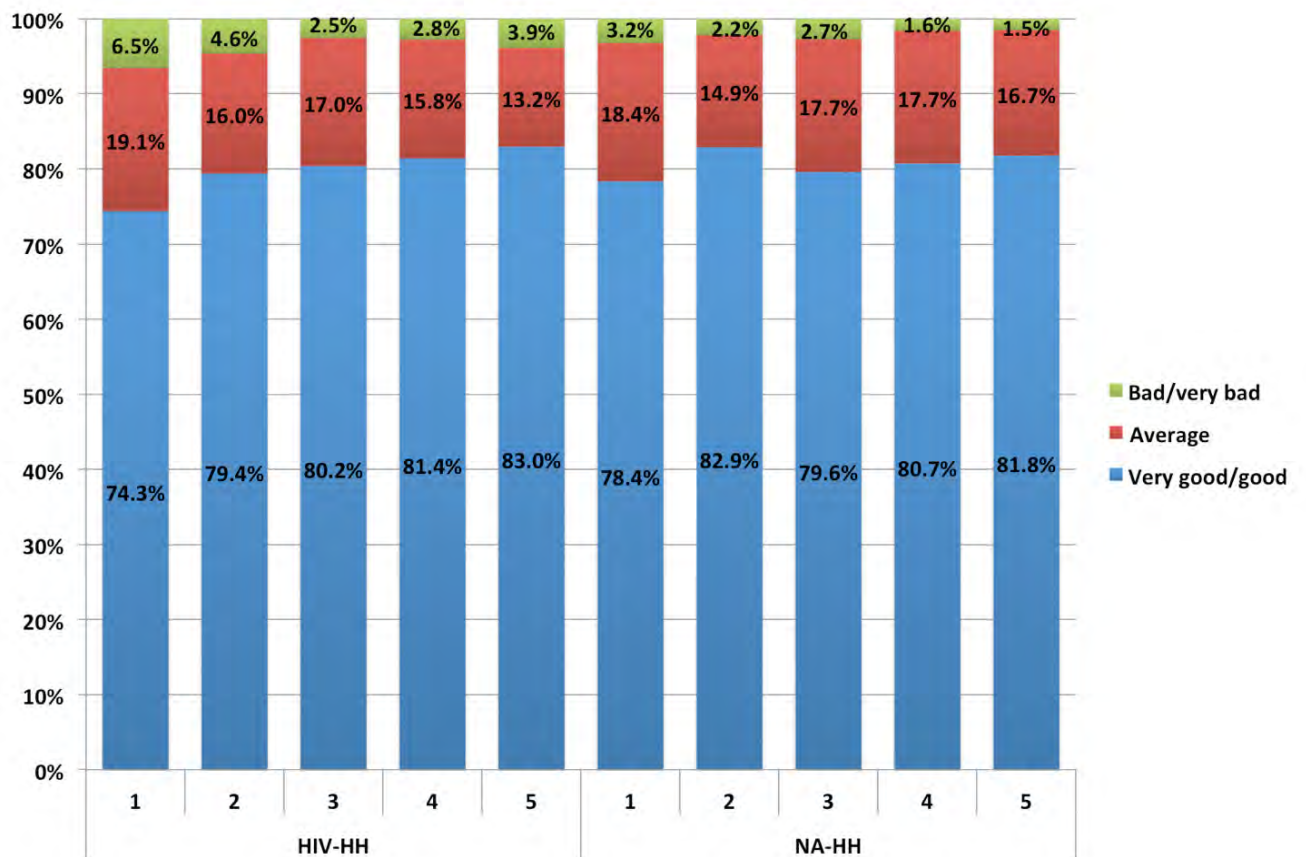

Figure 64: Reported Health Status of Household Members, by quintile

hol) and low levels of physical activity can compound illness experienced by PLHIV. Minimising unhealthy behaviours and encouraging healthy behaviours are just as important for PLHIV as they are for everyone else, but are frequently overlooked elements of care for PLHIV.

6.2.1. Tobacco Use

PLHIV are at a higher risk of heart disease than those not living with the disease due to the direct effects of HIV, side effects of antiretroviral therapies and, in many places, higher levels of smoking (American Heart Association, 2015). Smoking can lower CD4 cell levels increasing the risk of opportunistic infections (Australian Federation of AIDS Organisations, 2009). In India, for example, PLHIV are at a very high risk of tobacco-related disease and death (21.3%). Smoking-cessation programs are not commonly included as part of HIV programs – the current HIV National Strategy for Myanmar makes no mention of tobacco-cessation programs for PLHIV.

In this survey, 41.9% of PLHIV over the age of 15 were using tobacco or betel nut (Figure 65). That compares to only 31.5% of PLCD and 27.7% of PLNODX. There was no significant difference in tobacco/betel nut use between PLHIV with and without another chronic disease (44.3% (n=228) vs. 43.0% (n=1027)). Men with HIV were more likely to be using these products than other males (67.3% PLHIV; 52.2% PLCD; 46.5% PLNODX). Overall, men were almost four times more likely to be using tobacco/betel nut than women. There were no significant differences between urban and rural households or across quintiles of wealth.

6.2.2. Alcohol Use

There is controversy about the direct effect

Figure 65: Tobacco Use by sex
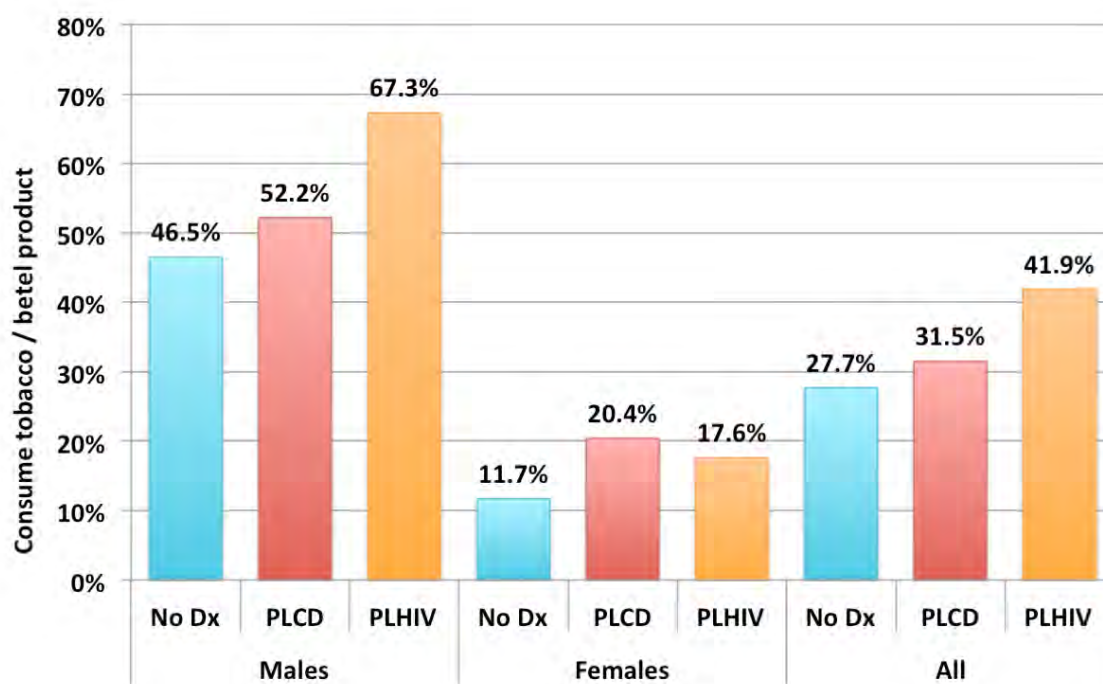
of alcohol on CD4 levels, however, heavy drinkers are more likely to miss antiretroviral treatment than non-drinkers (Baum, M. K., et al, 2010).

In this survey, PLHIV were no more likely to drink heavily than PLCD or PLNODX. Overall, 2.5% of PLHIV aged ≥14 years reported drinking either at least 5-6 standard drinks per day once a week (based on gender) compared to 2.1% of PLNODX and 1.4% PLCD. For all three groups, males were significantly more likely to report heavy drinking than females (PLHIV: 4.2% for males vs. 1.0% for females; PLCD: 2.6% vs. 0.8%; PLNODX 4.4% vs. 0.2%). Among men and women without HIV or a chronic disease, the proportion of heavy drinkers differed by a factor of more than 20.

In Myanmar, there are indications that PLHIV who drink heavily at least once per week may be interrupting their HIV treatment: 13.3% of PLHIV reported they missed a dose of ART because they were either drinking or taking drugs and 5% of heavy drinkers reported missing a dose of ART compared to only 1% of people who did not drink heavily. However, there were few respondents and the latter difference was not statistically significant.

6.2.3. Physical Activity

As discussed earlier, HIV has been associated with a two-fold increase in Cardiovascular Disease (CVD) risk. Lifestyle interventions, including diet and Physical Activity (PA), have been reported in reducing CVD risk in the general population, however there is little information available on the physical activity levels of PLHIV within Myanmar.

At the individual level, PLHIV were slightly less likely than PLNODX to state that they "rarely or never" performed physical activities (11.2% versus 14.5%), however, PLCD were the most likely to state that they never or rarely performed physical activities (20.8%). By household type, there was little difference in the proportion of household members reporting that they did little to no physical activity by household type, but members of the wealthiest households were more likely to do some form of physical activity than those in the poorest households.

6.3. IMPACT OF HIV ON UTILISATION OF HEALTH SERVICES

6.3.1. Impact of HIV on Ambulatory Health Service Utilisation

A greater percentage of PLCD sought outpatient care in the previous four weeks than PLHIV or PLNODX (84.6% of PLCD; 74.8% of PLHIV; 66.8% of PLNODX; Figure 66). This pattern was also the case for male-headed households but not for female-led homes. There were no significant differences in utilisation patterns among urban and rural households compared to those in rural households (although the differences between categories of individuals remained significantly different, within each sector). Female-headed households had no significant differences between types of individuals, nor were individuals in female-headed households less likely to report having sought care than those in male-headed households. However, within male-headed households again PLCD were significantly more likely to seek care than PLHIV and PLNODX.

Figure 66: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by sex
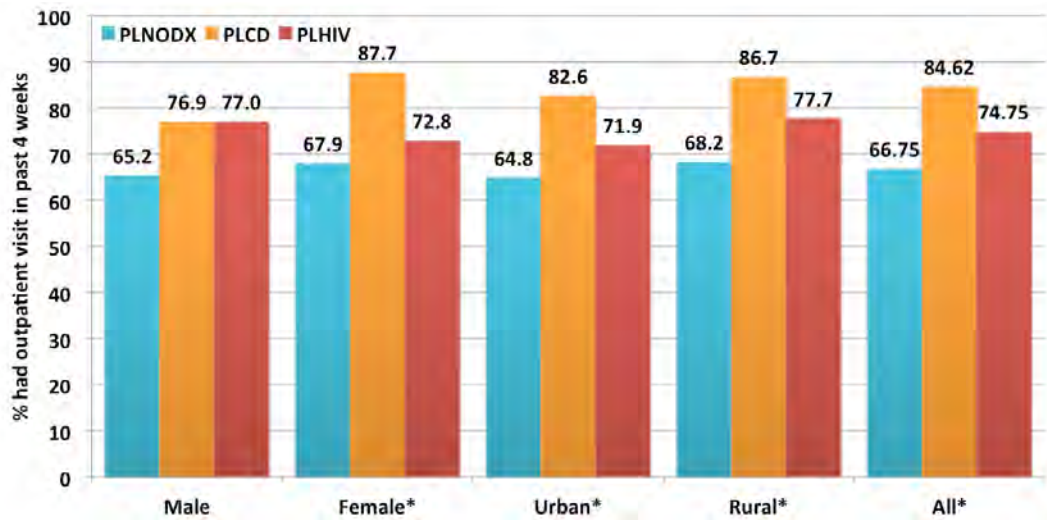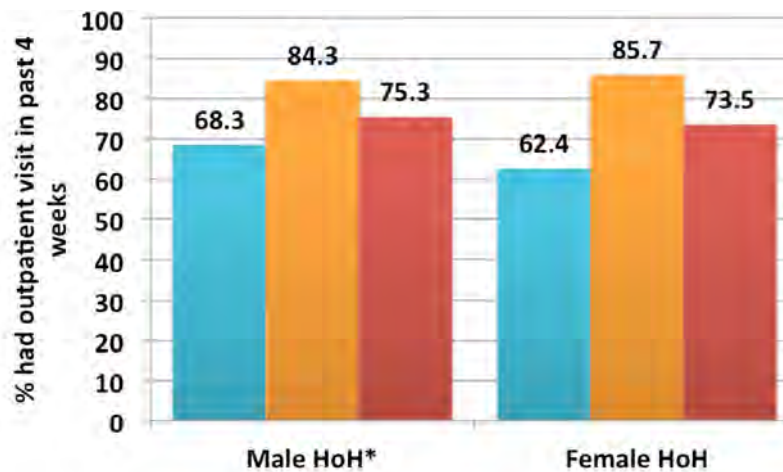

Figure 67: Percentage of Household Utilizing OP services in past 4 weeks, by gender of HoH

More PLHIV in urban areas preferred private clinics (34.9%) than PLCD (22.9%) and PLNODX (19.0%) (Figure 68). There were no significant differences in rural areas. HIV-HHs in the third quintile made more use of ambulatory services than the other households (78.4%), while NA-HHs ranked in the highest quintile had higher utilisation rates than those in the lowest economic quintiles (76.2% vs. 58.0%) (Figure 69).

Different reasons for not seeking health care were given by people who were ill in the previous four weeks but did not seek care (Figure 70): PLNODX were more likely to state they self-medicated (46.5% vs. <40% for PLCD and PLHIV), while more PLHIV said that the illness was not serious enough to merit a visit to the doctor (48.5% vs. ≤40% for PLCD and PLNODX). In rural areas, PLCD were the most likely to state that the health facility was too far (20% vs. 7% of PLHIV and <1% of PLNODX) and PLNODX said that healthcare was too expensive (11% vs. 0% of PLCD and 7% of PLHIV). Men and women voiced similar reasons why they did not seek care for a recent illness.

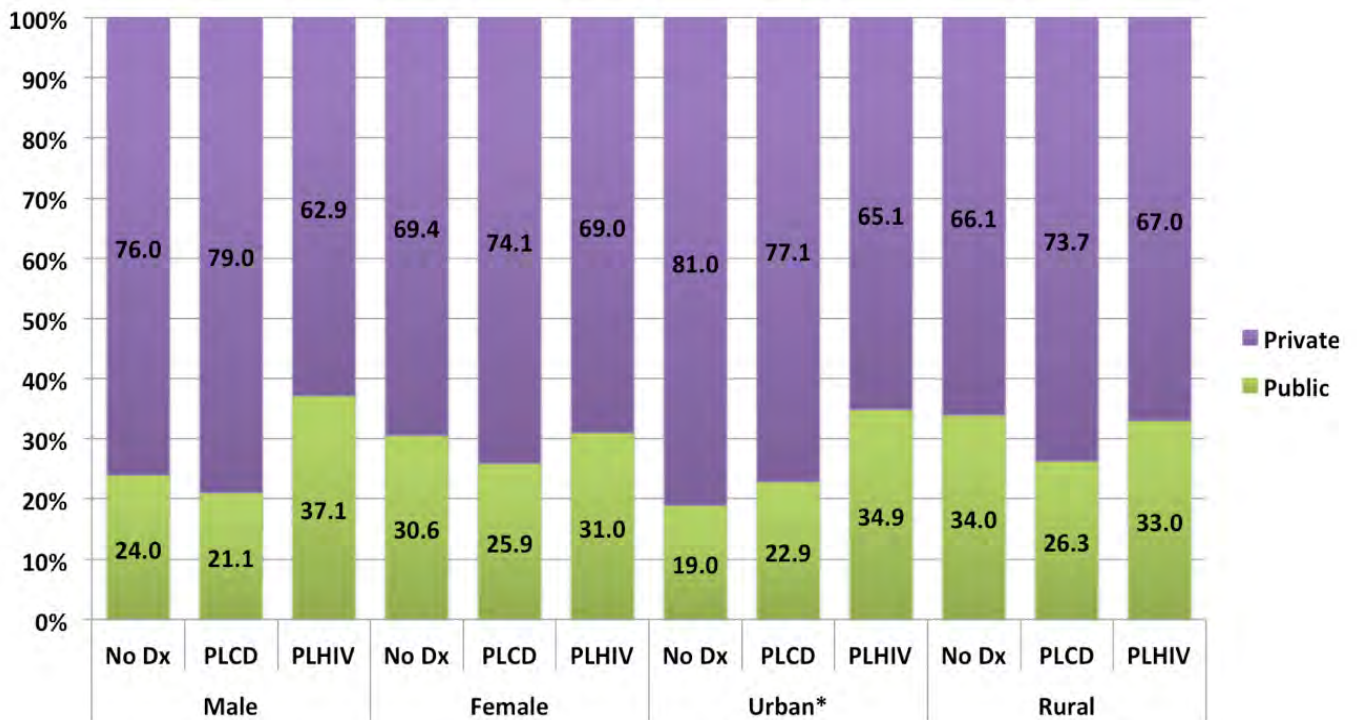*Figure 68: Location of OP provider*

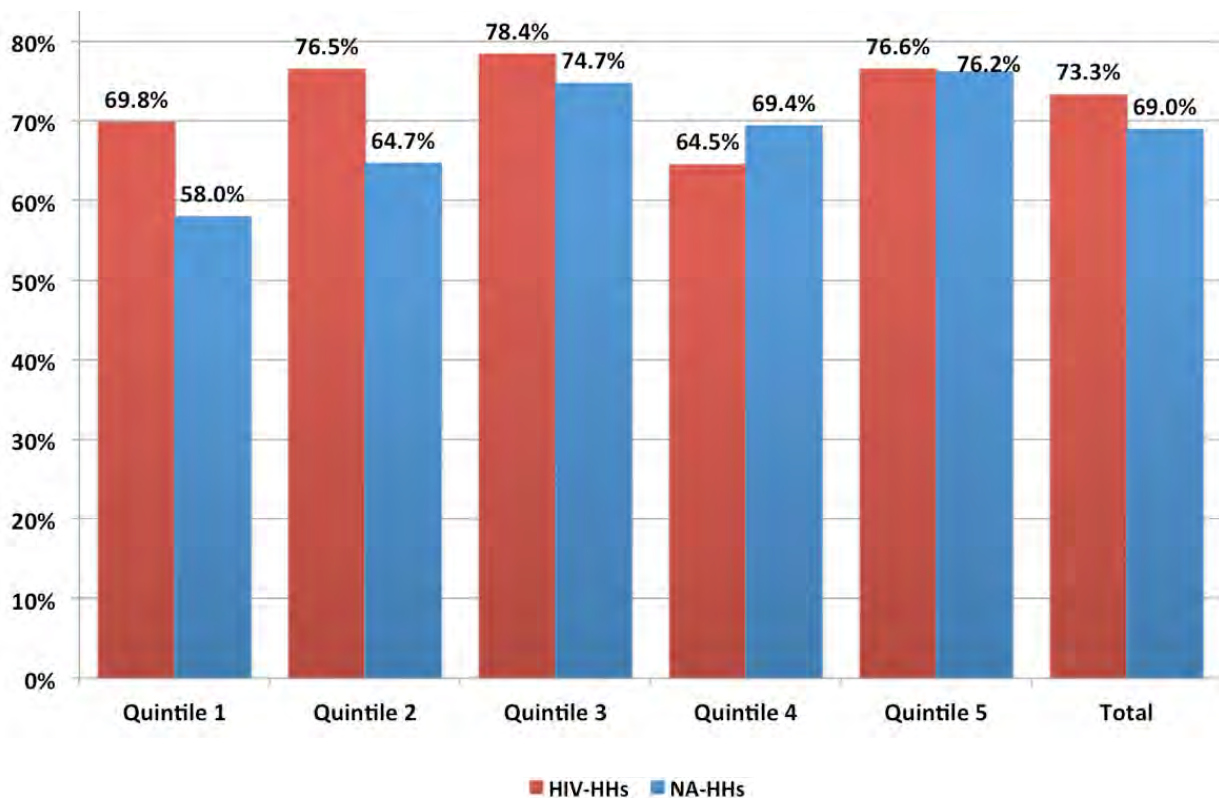*Figure 69: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by quintile*

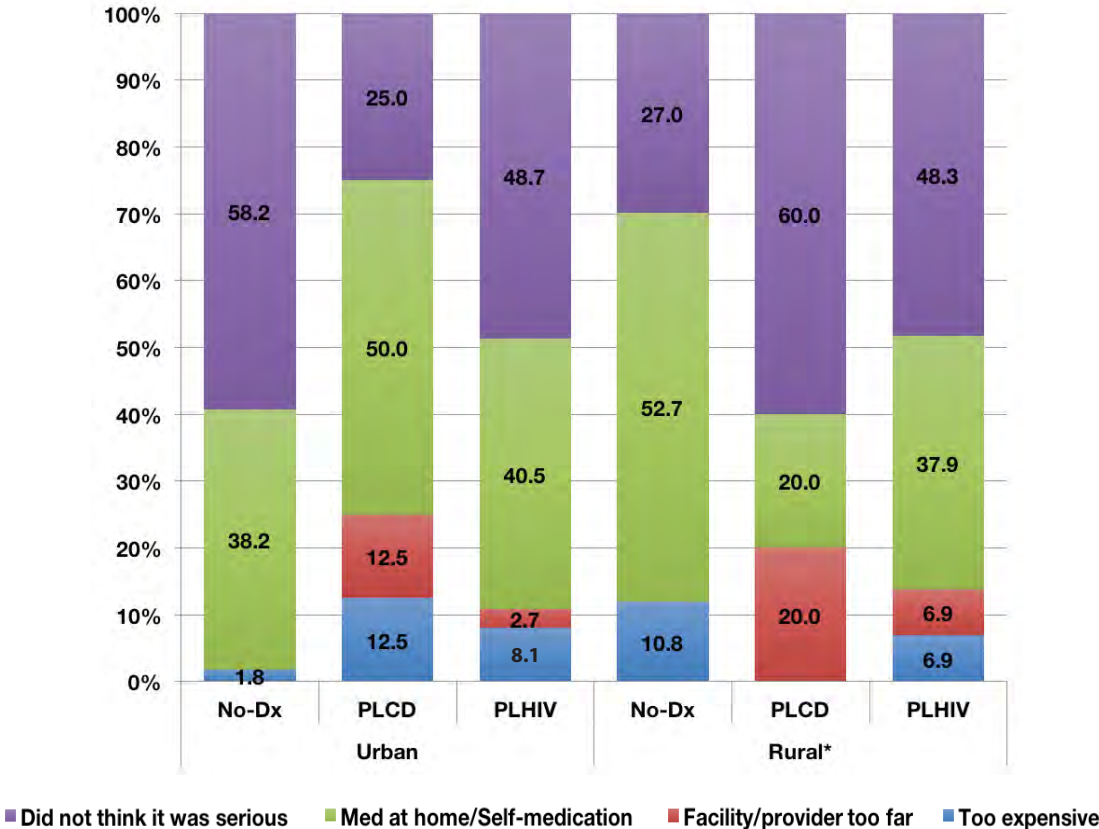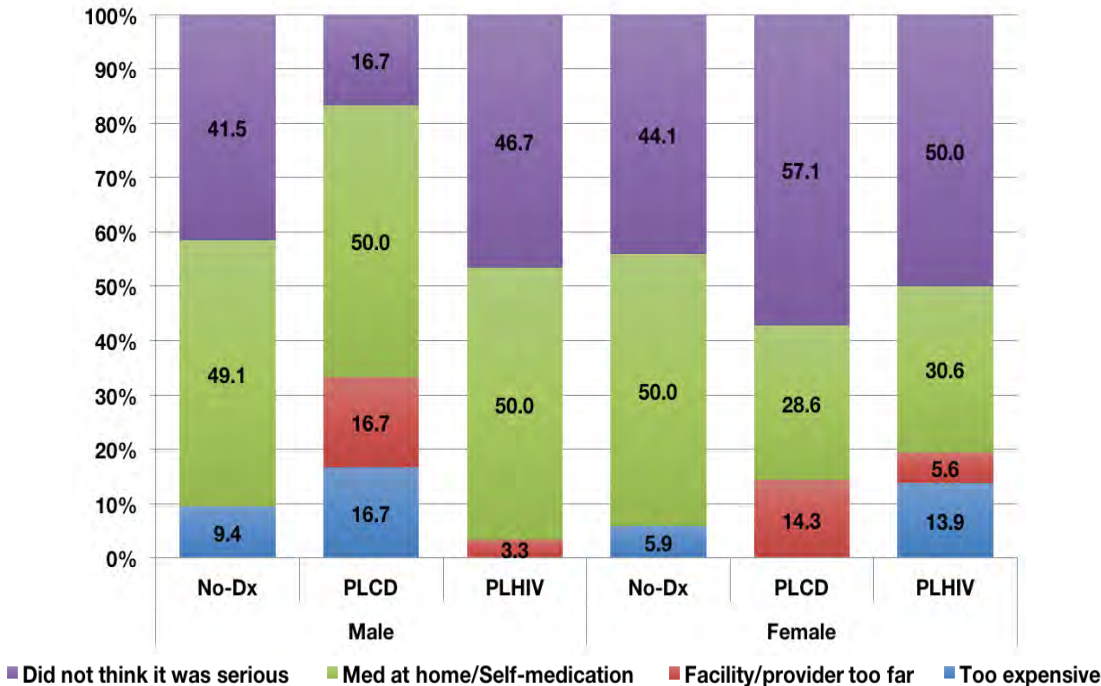*Figure 70: Reasons for Not Seeking Care when Sick, by location*

Figure 71: Reasons for Not Seeking Care when Sick, by sex

6.3.2. Impact of HIV on Inpatient Health Service Utilisation

As a proportion, almost 5 times as many PLHIV were hospitalised in the past year than PLNODX (14.1% vs. 2.6%) and over 33% more than PLCD (10.8%) (Figure 72).

6.3.3. Impact of HIV on Satisfaction with Access to Health Services

According to national data, access to health care, defined as people living within an hour's walking distance of a hospital or health centre, is high throughout Myanmar (81%) and similar for poor (77%) and non-poor people (82%) (IHLCA, 2011). Rural populations face greater challenges in accessing health care than urban residents (75% and 96% respectively) (IHLCA, 2011), a pattern reflected in regional and state differences (e.g. poor access in Sagaing (62%) and Chin (68%).

Suggestive of the recent expansion in services for PLHIV, PLHIV-INT were more likely to report being satisfied or very satisfied with their access to care than PLCD-INT and PLNODX-INT (73.3% of PLHIV-INT vs. 58.2% for PLCD-INT and 53.7% for PLNODX-INT) (Figure 73). Only a minority of people in each group reported being dissatisfied.

6.4. IMPACT OF HIV AND CHRONIC DISEASES ON OUT-OF-POCKET HEALTH EXPENDITURES

National data from 2010 show that expenditures on health care comprised 5% of total household income with the poor (3.7%) spending less than the non-poor (5.1%) (IHLCA, 2011). Similarly, people in rural ar-

eas spent less of the household budget on health than urban dwellers (4.4% vs. 5.9%) (IHLCA, 2011).

6.4.1. Impact of HIV and CD on Total Health Care Expenditures

On average, annual per capita household out-of-pocket health expenditures for HIV-HHs are almost double those of NA-HHs (304,558MMK/US$272.41 vs. 163,405MMK/US$146.16). Total per capita OOP health expenditures were lower than for NA-HHs that have a member with a chronic disease at 259,533MMK or US$232 for HIV-HHs without a chronic disease member compared to 275,218MMK or US$246 for NA-HHs that have a member with a chronic disease. The lowest was for NA-HHs without a member with a chronic disease (123,405MMK/US$110) and highest for HIV-HHs with a member living with chronic disease (406,709MMK/US$364). At the individual level, PLHIV who also had a comorbid chronic disease incur substantially higher health costs than those with HIV alone (883,128MMK/US$790 vs. 109,716MMK/US$98), over eight (8) times more.

Policy makers may need to consider the economic impact of comorbidities on individuals and households in HIV-affected households, as well as the financial impacts of chronic diseases in NA-HHs.

6.4.2. Impact of HIV and CD on Ambulatory Charges

Figure 74 highlights the average charges for ambulatory health services reported for household members in the previous four weeks. It should be noted that these are the
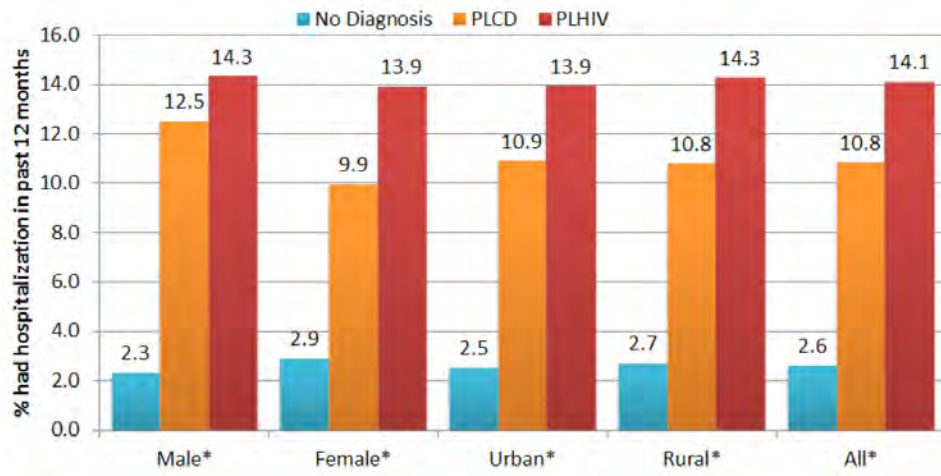
Figure 72: Inpatient Utilisation

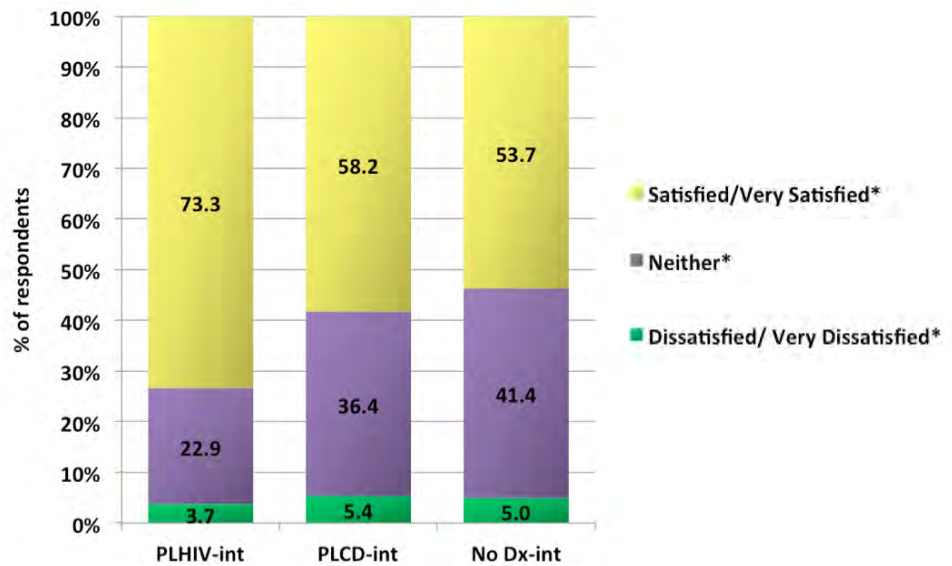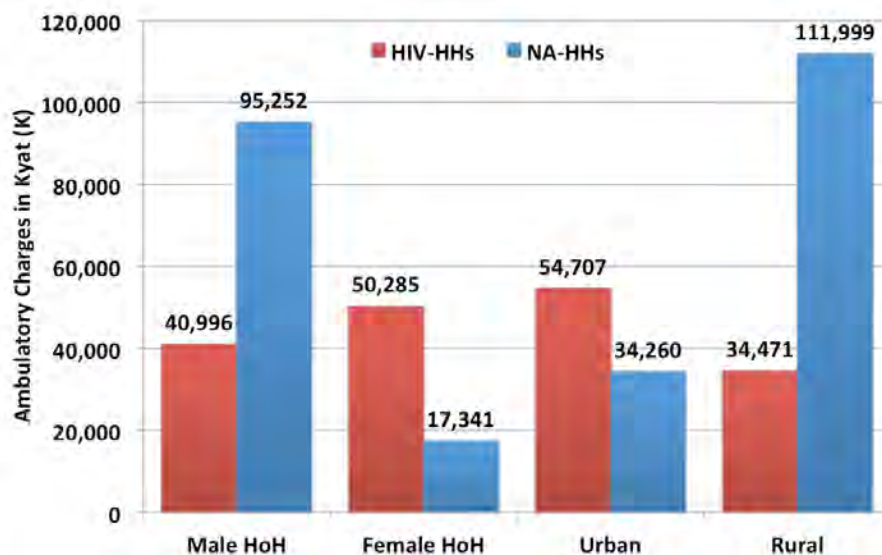*Figure 73: Impact of HIV on Satisfaction with Access to Health Services*

Figure 74: Impact of HIV on Ambulatory Charges, by sex of HoH and location

75

charges for the care received, and not necessarily equal to the amounts paid for care, which were generally less, (especially for HIV-household members as shown in the following section) as many households reported being exempt from portions of their bills.

Members of HIV-HHs, on average, had significantly lower charges for care than NA-HH members. This is likely due to the many free services available to PLHIV provided by the public and not-for-profit NGO sectors. PLHIV are eligible for free ART and OI treatments and HIV-HHs also had markedly lower charges for medications (5,577MMK/US$5 vs. 8,898MMK/US$8). Rural NA-HHs paid 325% more than rural HIV-HHs, and transportation costs for NA-HH members were almost 4.5 times those of HIV-HH members. Against these trends, recent health charges per household member (previous four weeks) were higher for HIV-affected households presumably because of a higher likelihood of requiring a healthcare visit. In addition, urban HIV-HHs paid around 150% more than NA-HHs, and female-headed HIV-HHs spent almost three times more than NA-HHs (50,285MMK/US$45 vs. 17,341MMK/US$16).

6.4.3. Impact of HIV on Inpatient Care Charges

As with ambulatory care, HIV-HH members incurred lower charges for inpatient health services in the last 12 months than people in NA-HHs except for female-headed households, where HIV-HH households had higher expenditures (318,078MMK/US$284.47 vs. 298,057MMK/US$266.56; Figure 75). Overall, the charges for hospitalisations incurred by members of NA-HHs in the previous 12 months were 141% higher than

for members of HIV-HHs (363,231MMK/US$325 vs. 257,076MMK/US$230).

Figure 75: Impact of HIV on Inpatient Health Care Charges, by sex of HoH
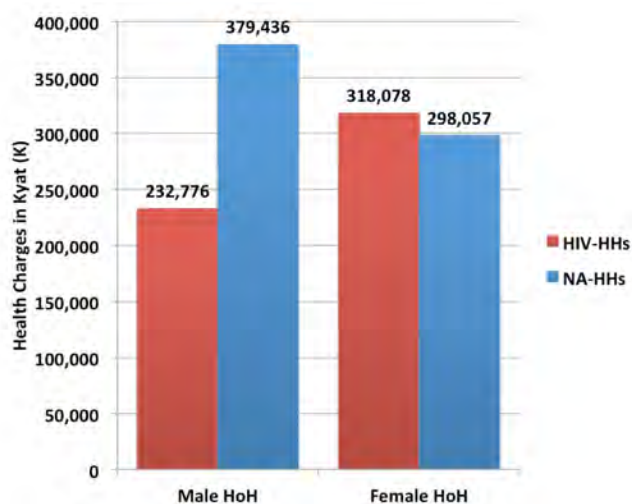
6.5. IMPACT OF HIV ON SOURCE OF FUNDS FOR HEALTH CARE CHARGES

6.5.1. Impact of HIV on Source of Funds for Ambulatory Out of Pocket Expenditures

Survey respondents were asked to list up to three methods they used to cover the charges for their visits, and estimate the proportion that each contributed towards the total cost of care (Figure 76). For example, if a visit cost $10, and $3 was paid from household earnings, $4 was exempt and $3 was borrowed, it would be indicated that 30% of their visit was paid from earnings, 40% through exemptions and 30% through borrowed money. As such, the data represents the value of the various sources of funds for ambulatory costs, not the percentage of the time that households used the method (which would be 33% for each).

Figure 76: Impact of HIV on Source of Funds for Ambulatory Health Care Costs, by location
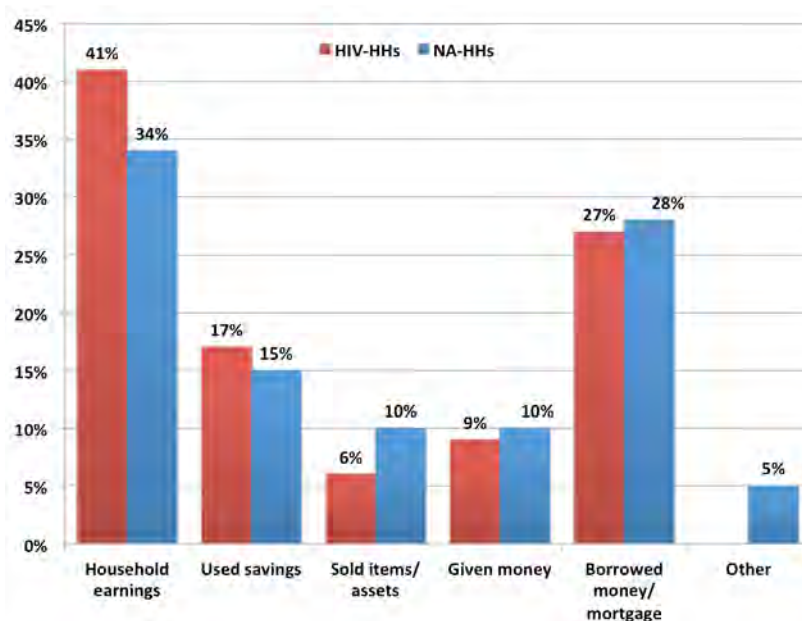
Both HIV-affected and non-affected households covered a greater percentage of the ambulatory charges through household earnings (41% and 34% respectively) and other sources of funds contributed similar proportions for both household types including borrowing money. For both NA-HHs and HIV-HHs, the charges were also covered by using savings, receiving money and borrowing money. While it would be expected that HIV-HHs have a lower capacity to borrow money, HIV-HHs and NA-HHs borrow nearly the same amount to cover ambulatory care (27% versus 28%, respectively). Non-affected household members also used household earnings to cover 1.3 times the charges of PLHIV. This is again likely to be a result of both positive policies and lower earning potential within HIV-HHs. Respondents were asked if they paid more than the "official" amount for ambulatory care services, but <1% (5 respondents) said that they did. This may imply that extra payments are not a major issue in Myanmar, although participants may have been reluctant to discuss this.

6.6. CATASTROPHIC HEALTH EXPENDITURES

Health expenditures that threaten a household's financial capacity to maintain its subsistence are termed "catastrophic" and does not necessarily equate to high health care costs. Even relatively small expenditures on health can be financially disastrous for poor households or households that have high previous debt levels. The ability of HIV-HHs and the poor to cope with even very low health expenditures, compared to richer households, is explored in this section using multivariate analysis. The WHO estimates that families who allocate more than 40% of their non-food expenditure to health care are likely to be impoverished (The World Health Report, 2000). There is no consensus on the catastrophic threshold and cut-off values, thus, this analysis presents the data from a 40% cut-off level.

Households with a low income or headed by an elderly person or with members with

Table 15: Impact of HIV on Catastrophic Health Expenditures*

	CD		No CD		All	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
% HHs with non-cat health expenditures (<40% of non-food expenditures)	86.1%	85.9%	89.7%	94.6%	88.6%	92.4%
% HHs with cat health expenditures (>40% of non-food expenditures)	13.9%	14.2%	10.3%	5.4%	11.4%	7.6%
% Male-Headed HHs with cat health expenditures	12.4%	15.6%	11.6%	6.1%	11.8%	8.5%
% Female-Headed HHs with cat health expenditures	16.9%	10.3%	7.8%	3.5%	11.4%	7.6%

a chronic disease including HIV are usually considered to be at higher risk of catastrophic expenditures. On average, about 10% of all surveyed households reported a catastrophic expenditure with spending at or above 40% of non-food consumption. HIV-HHs are significantly more likely to have a catastrophic expenditure than NA-HHs (11.4% vs. 7.6%). This is consistent with a number of other countries in the region such as India and Indonesia. In Myanmar, however, 1.5 times as many HIV-HHs reported catastrophic health expenditures than NA-HHs as compared to three times the number in both India and Indonesia.

HIV-HHs and NA-HHs with a PLCD were more likely to incur catastrophic expenditures than those without a PLCD. For instance, NA-HHs with a PLCD were 2.6 times more likely to have catastrophic expenditures than NA-HHs without a PLCD. Female-headed HIV-HHs where someone also had a chronic disease had the highest levels of, catastrophic expenditures (17% as compared to 12% of male headed HIV and chronic disease affected households.)

6.6.1. Cross-diagnosis of tuberculosis and HIV

Myanmar has a high burden of HIV and tuberculosis/HIV co-infection - 22% of people newly diagnosed with TB are also living with HIV, which is almost four times the regional average (WHO, 2012). The current survey results also show a high prevalence of HIV among patients diagnosed with TB (almost 54%). Additionally, over 9% of PLHIV also reported being diagnosed with TB compared to 1% of individuals not living with HIV.

6.6.2. ART Utilization by PLHIV

At the end of 2013, an estimated 54% of those in need of treatment were said to be receiving ART (UNAIDS, 2014). This is an improvement on 2009, when ART coverage was only 28% (Myanmar Ministry of Health, 2011). The number of ART treatment sites has increased from 57 sites in 2008 to 147 sites in 2013 (UNAIDS, 2014). More than 88% of PLHIV in this survey were receiving ART and 43% were on medications for opportunistic infections. These figures are much higher than UNAIDS estimates and are likely due to the recruitment of PLHIV from ART clinics. There were no differences in utilisation of these medications among rural and urban PLHIV (Figure 77) or across wealth quintiles (Figure 78). However, while overall coverage in rural and urban areas is similar, rural PLHIV in later stages of infection (CD4 count <200) who benefit most from OI medications are receiving proportionally less (61.5% vs. 67% in urban areas; Figure 79).

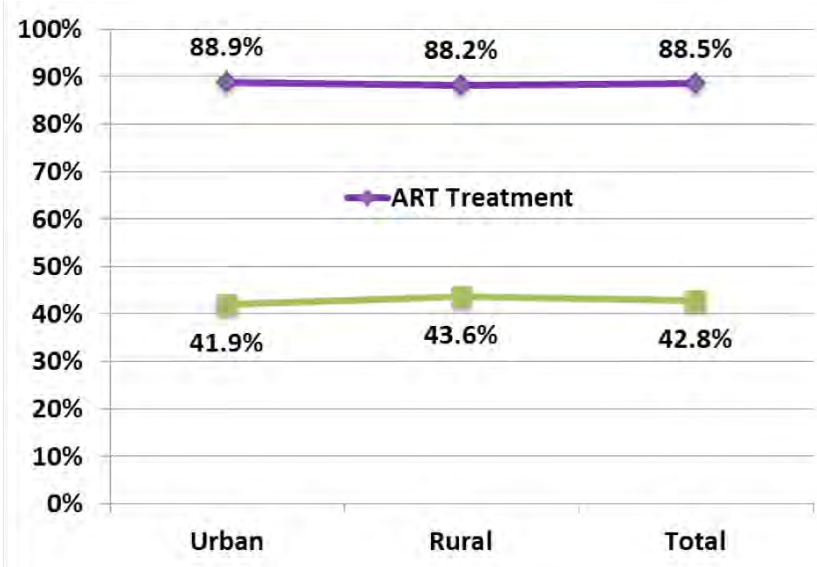*Figure 77: Utilisation of ART and Medications for OI, by location*

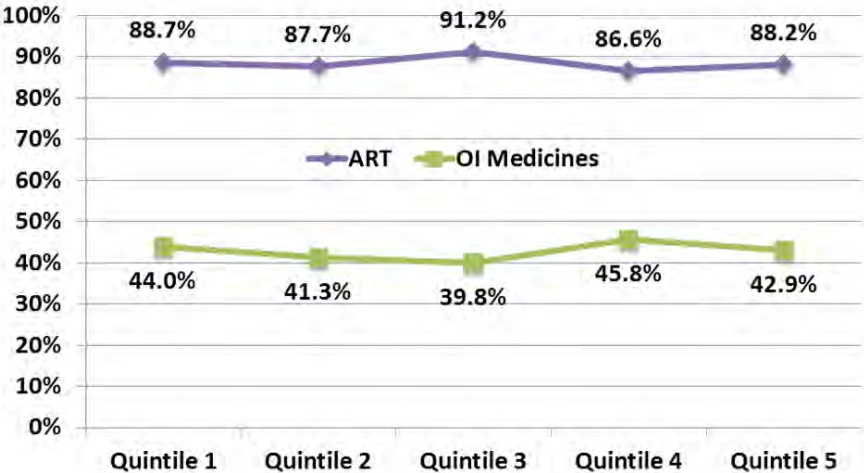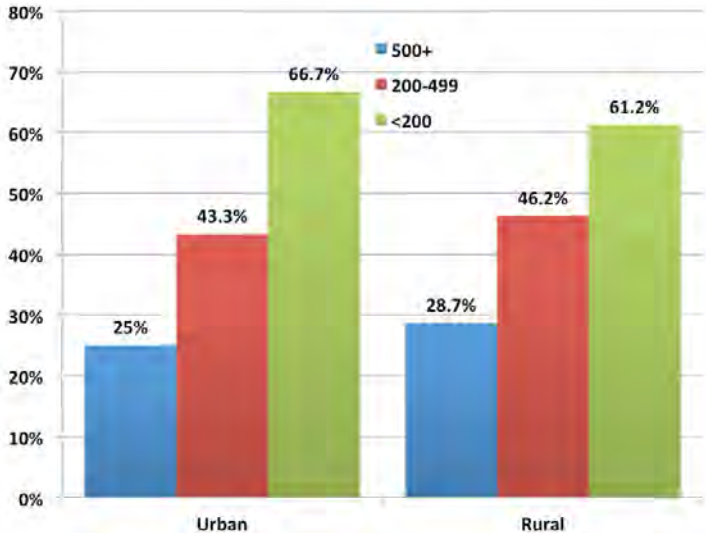*Figure 78: Utilisation of Medications, by quintile*

Figure 79: Utilisation of Medications for OI, by stage of infection and location

CHAPTER 7
IMPACT OF HIV
ON FOOD SECURITY

<table>
<tr><td colspan="2">CHAPTER SUMMARY</td></tr>
<tr><td>☐</td><td>Only small differences exist in the reported number of daily meals between the members of HIV-affected and non-affected households</td></tr>
<tr><td>☐</td><td>However, members of HIV-HHs were significantly more likely to report being hungry but not eating due to lack of food, than members of NA-HHs</td></tr>
<tr><td>☐</td><td>Female-headed HIV-HHs were almost 10 times more likely to go hungry than male-headed NA-HHs (10% compared to 1.5%)</td></tr>
<tr><td>☐</td><td>HIV-affected households received food support at significantly higher levels than non-affected households, and a greater percentage of poor HIV-households received food support than wealthier households</td></tr>
</table>

The nutritional status of a population is critical to a country's economic progress and numerous studies have linked individual caloric intake to productivity and income later in life (e.g., Fogel, 2000; Hernandez, Fuentes and Pascual, 2001). The high prevalence of poverty in Myanmar is one reason that nearly three million people are classified as food poor (WFP, 2015) and 35% of children aged under 5 years are stunted (WFP, 2015). HIV is an additional factor that impacts on individual nutrition and household food security. "The relationship between HIV/AIDS and malnutrition is a particularly extreme example of the vicious cycle of immune dysfunction, infectious disease and malnutrition".[19] This section examines the effect of HIV on household food security and the impact of food assistance programs currently in place.

7.1. IMPACT OF HIV ON HUNGER

Reports of hunger were categorised by four household types: HIV-CD-HH (HIV-HHs where there are also PLCD living), HIV-HH-NOCD (HIV-HHs without a PLCD), NA-CD-HH (NA-HHs with a PLCD member) and NA-HH-NOCD (NA-HHs with only members living with no diagnosis). The percentage of household members who "didn't eat because there wasn't enough food" was significantly higher for HIV-HHs than NA-HHs (6.4% vs. 1.6% overall), regardless of whether a member had a chronic disease or not, were headed by women or men, or were located in a rural or urban area.

---

[19] Dr David Nabarro, WHO Executive Director for Sustainable Development and Healthy Environments, http://www.who.int/mediacentre/news/releases/2003/pr18/en/

Figure 80: Impact of HIV and CDs on members "not eating because there was not enough food", by sex
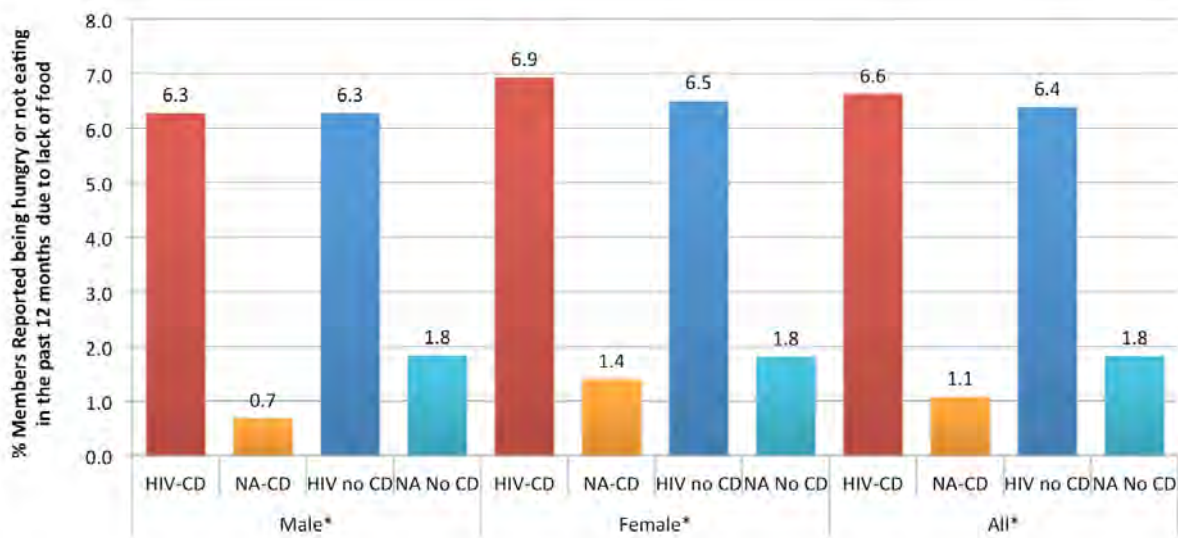

Figure 81: Impact of HIV and CDs on members "not eating because there was not enough food", by location
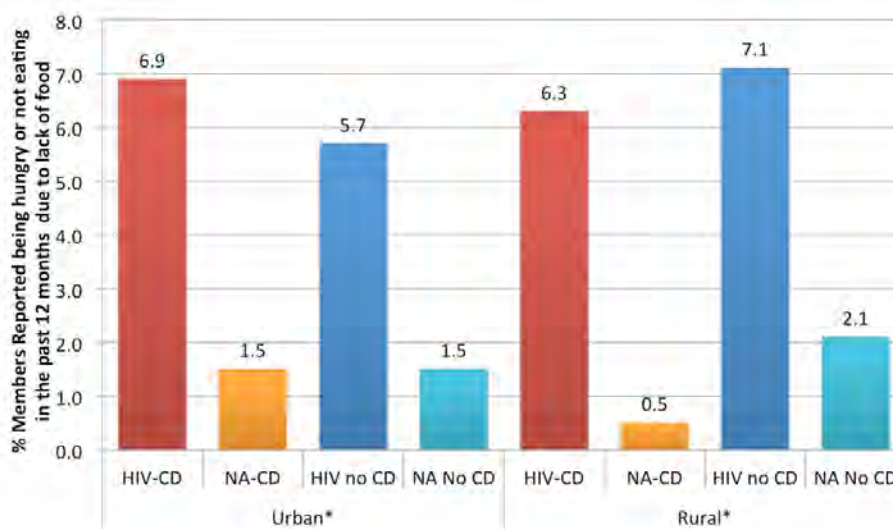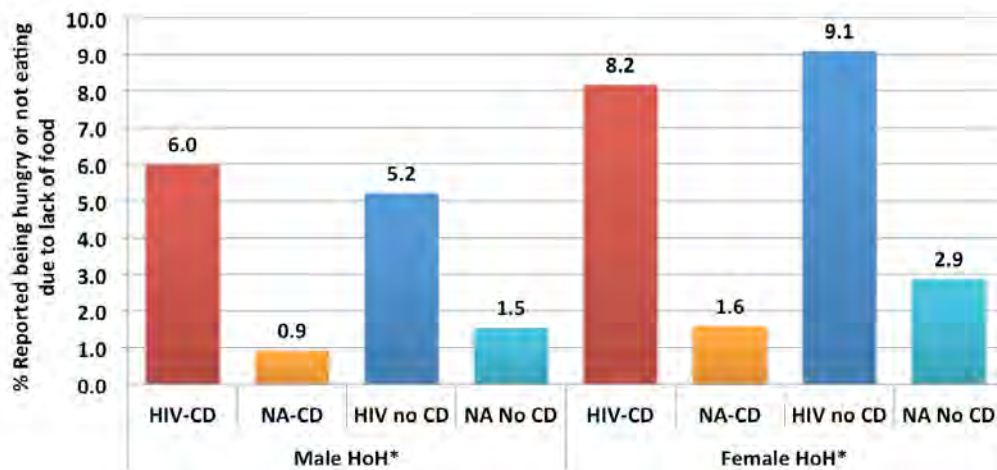

Figure 82: % of Members that Reported being Hungry, by type of household and sex of HoH

Female-headed households for all four HH types were more likely to report not eating than male-headed households (Figure 80). Female-headed HIV-HHs were over nine times more likely to go hungry than male-headed NA-HHs. These findings suggest that female-headed HIV-HHs have a particular need for food assistance.

Hunger was a much more significant issue for poor households than for wealthier households and a greater problem for HIV-HHs (Figure 84).

7.2. IMPACT OF HIV ON HOUSEHOLDS RECEIVING FOOD SUPPORT

Substantially more HIV-HHs received food support than NA-HHs (15.3% vs. 4.0%). Just 50 NA-HHs received food support in the previous month, making detailed segregated analysis less statistically robust. There was no difference in the annual value of food support received by HIV-HHs in urban and rural areas ($17,309 vs. $17,284); however, a greater proportion of urban HIV-

Figure 83: % of Members that Reported being Hungry, by Member's Disease Status and sex of HoH
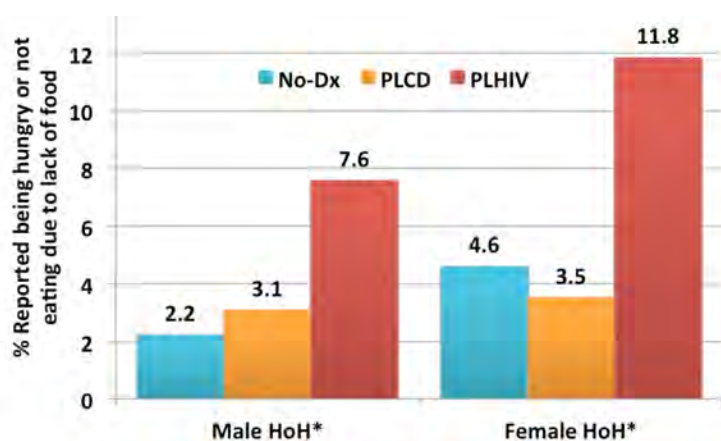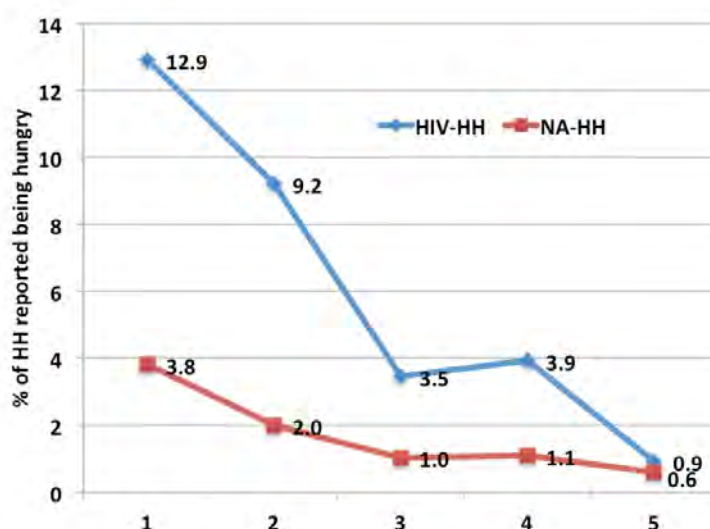

Figure 84: Impact of HIV on Frequency of Hunger, by quintile

HHs received support (16.1% vs. 14.5%). For over 96% of the HIV-HHs, food support commenced as a result of HIV diagnosis, highlighting the effective targeting of food support programs.

For the vast majority of HIV-HHs (92.2%), food support consisted of additional food (Figure 85). Additional food represented a significant portion of the food support received by NA-HHs (74.0%), but they also received cash for food purchases (24.0%), compared to only 7.3% of the HIV-affected households.

Regardless of economic status, HIV-HHs were considerably more likely to have received food support in the previous month (Figure 86). More HIV-HHs in the lowest economic quintile received assistance than those in the highest quintile (23.0% in Q1 vs. 7.6% in Q5), another indication that

food programs have effective targeting mechanisms. The value of food support across quintiles for HIV-HHs did vary, with less received by those in Q1 compared with Q5 (17,040MMK/US$15.24 per month in food vs. 22,431MMK/US$20). Numbers in Q5, however, were small.

There was a wide variation across states/regions in the proportion of HIV-HHs that received food support (Figure 87) from a high of 53.7% in Magway to a low of 5.1% in Ayeyarwaddy. Similarly, the value of the food support varied from a high of 46,442MMK/US$42 in Kayin to a low of 5,563MMK/US$5 in Bago. These large disparities may be due to the sampling methodology, as the study did not aim to determine differences across states/regions. However, the results raise concerns about the equity of food support programs throughout Myanmar.

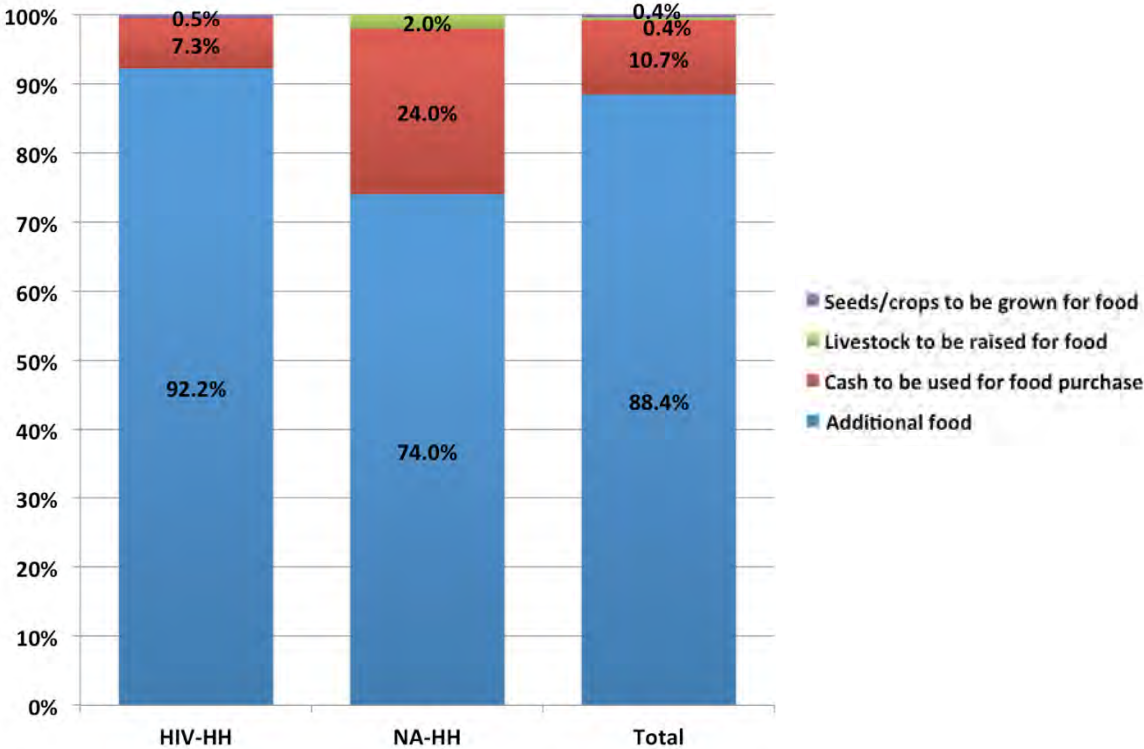*Figure 85: Type of Food Support Received*

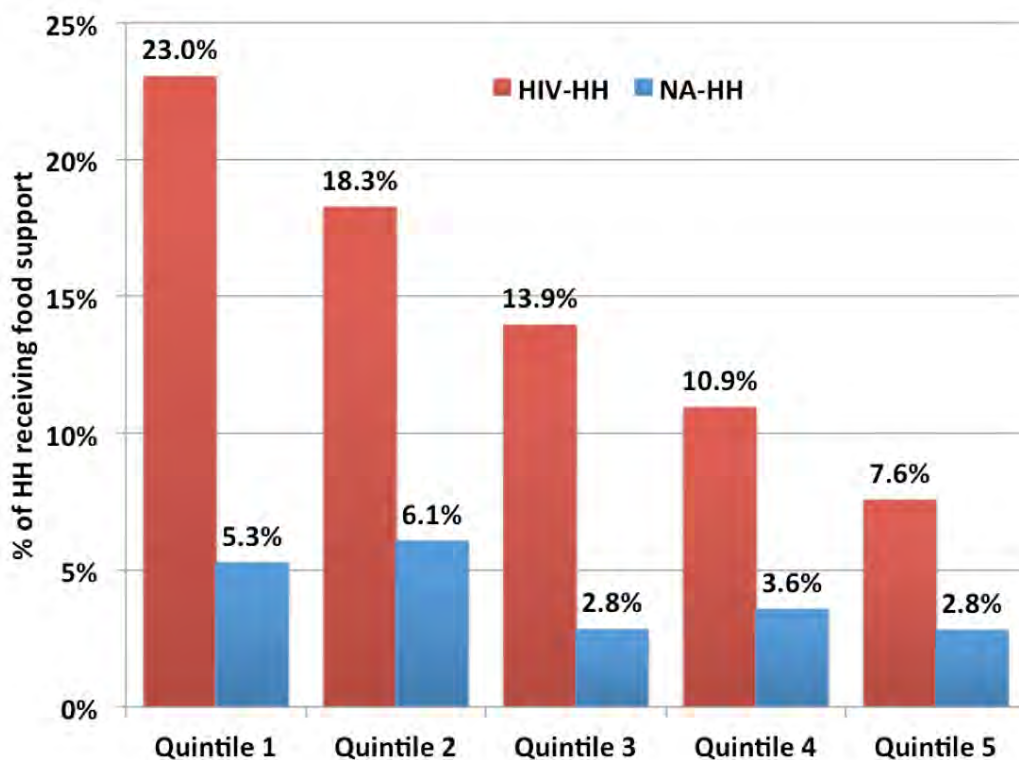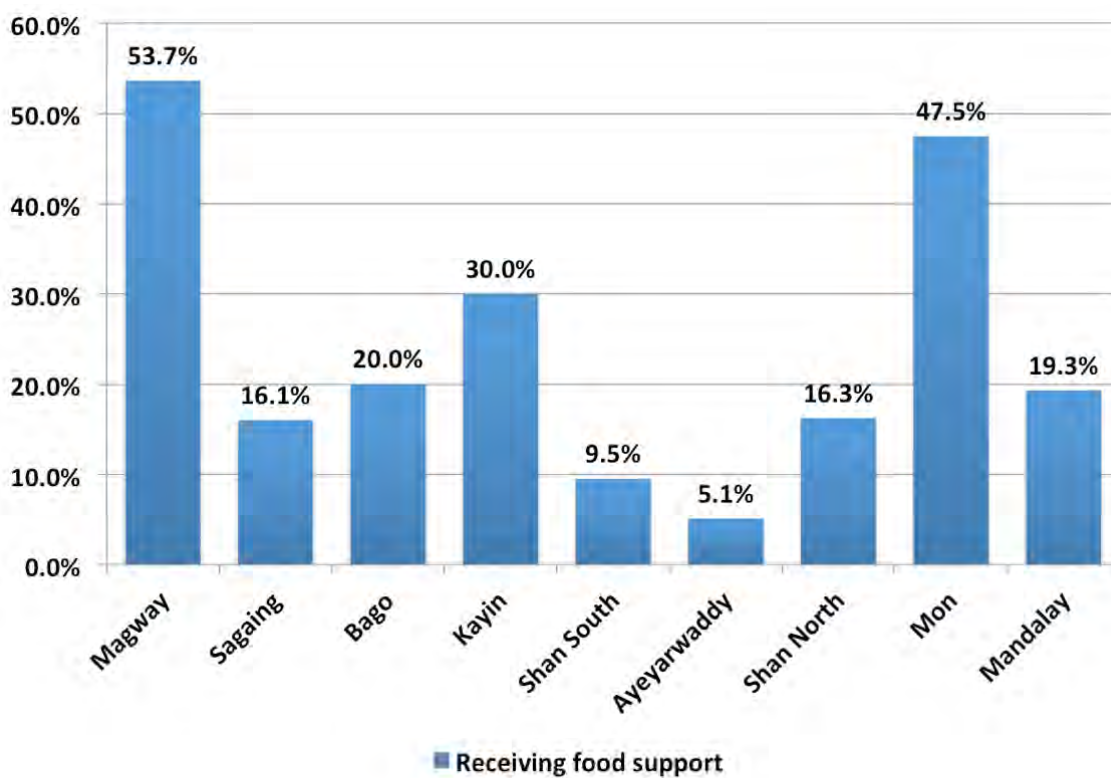*Figure 86: Impact of HIV on Households Receiving Food Support, by quintile*

*Figure 87: Food Support for HIV-Affected Households, by state / region*

CHAPTER 8
IMPACT OF HIV ON STIGMA, DISCRIMINATION AND QUALITY OF LIFE

CHAPTER SUMMARY

☐ PLCD experience higher percentages of stigma compared to PLHIV

☐ PLHIV were more likely to avoid getting married because of their health status, and to avoid going to local clinics or hospitals when they needed to

☐ The majority of married PLHIV and PLCD reported disclosing their status to their spouse or partner immediately after diagnosis

☐ Discrimination from healthcare workers was higher for PLHIV than PLCD, yet still remained relatively low compared to historical levels and neighbouring countries (5.8%)

☐ 6.0% of PLHIV and 8.6% PLCD reported to have lost their job or been refused employment because of their disease

☐ PLHIV were more likely to rate their quality of life as poor or very poor compared to PLCD and HoHWCD (26.8% PLHIV vs. 20.7% PLCD vs. 12.7% HoHWCD)

☐ Higher levels of depression and anxiety were seen in PLHIV than PLCD or HoHWCD

☐ PLHIV were much more likely to report not having sufficient money to meet their needs

☐ PLHIV reported higher levels of satisfaction with healthcare services compared to both PLCD and HoHWCD

☐ Higher levels of self-reported disability were seen in PLCD than in PLHIV

HIV can have a traumatic impact on an individual's sense of self-worth, personal security and social standing within the household and community (USAID, 2006). Emotional, mental and sometimes physical manifestations of stigma and discrimination can further reduce an individual's capacity to engage in productive economic activities. Stigma and discrimination may deter people from accessing HIV testing and treatment, sharing their diagnosis and

Figure 88: Conceptual Framework for Stigma, Discrimination and Internal Stigma
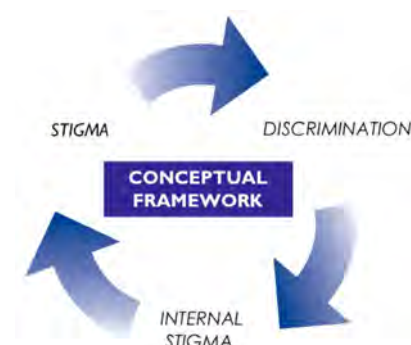
Source: USAID, 2006

Figure 89: Actions Motivated by Internal Stigma
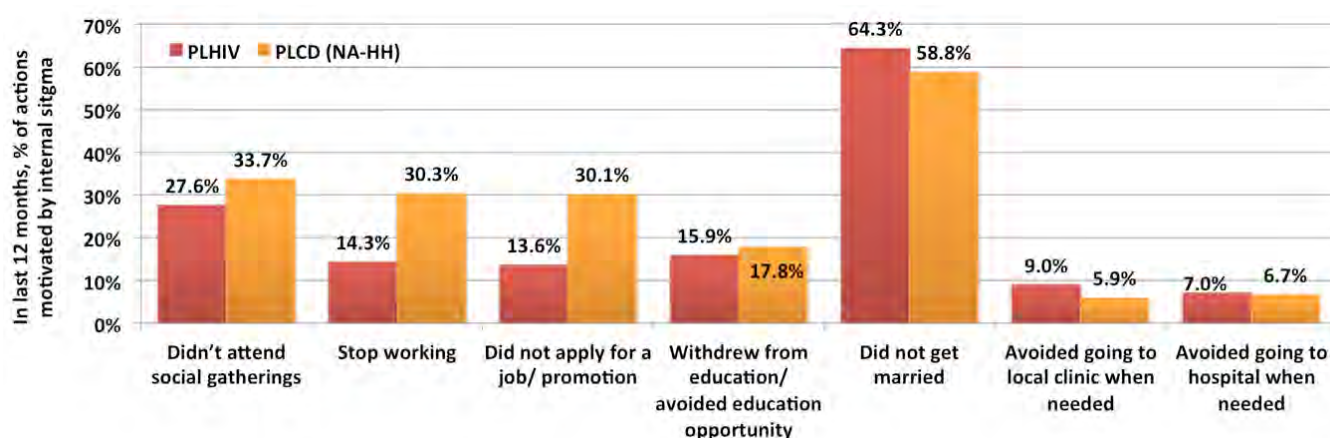
taking action to protect PLHIV. Figure 88 illustrates how three different aspects of HIV-related stigma and discrimination (internal stigma, stigma and discrimination) can lead to a pernicious cycle. Social stigma can fuel discriminatory actions against PLHIV, driving internal stigma that compounds isolation, which in turn generates further stigma in the community

8.1. INTERNAL STIGMA

National studies have found that 11% of people with HIV were often excluded from social gatherings because of their HIV status (Myanmar Positive Group & MMRD Research Services, 2010). Levels of internal stigma recorded in this study were much higher and even well above levels reported in a similar study in Cambodia (17%) (Figure 89): 27.6% of PLHIV had either avoided a social gathering or isolated themselves from friends and family in the preceding 12 months. Surprisingly PLCD experience just as much and for some aspects considerably more internal stigma than PLHIV. Over 14% of PLHIV in Myanmar (cf. 10% in Cambodia) and 30% of PLCD reported they stopped work because of their illness. Opportuni-

ties for job promotion (13.6% PLHIV vs. 30.1% PLCD) and education (15.9% PLHIV vs.17.8% PLCD) were missed. A majority of PLHIV and PLCD avoided getting married (64.3% PLHIV vs. 58.8% PLCD), and small proportions kept away from the local clinic (9.0% PLHIV vs. 5.9% PLCD) and hospital (7.0% PLHIV vs. 6.7% PLCD) even when they needed care.

8.2. DISCRIMINATION

The majority of married PLHIV reported disclosing their status to their spouse or partner immediately after diagnosis (89.91%), and just 0.51% said that they had still not informed their spouse. These figures are similar to PLCD: 95.6% informed their spouse immediately (though 0% elected to not tell their spouse). Discrimination from health providers was relatively infrequent (only 5.8% PLHIV and 0.4% PLCD) compared to some other countries, such as in India where 13% of PLHIV reported being discriminated against by health workers, and below levels recorded in a 2010 national Myanmar study that found 10% of people had been refused health services because of their HIV sta-

tus (Myanmar Positive Group & MMRD Research Services, 2010).

The same 2010 study found that 24% of PLHIV had faced discrimination from their employer with 15% refused employment because of their HIV status (Myanmar Positive Group & MMRD Research Services, 2010). This contrasts with 6.0% of PLHIV in this study (and 8.6% PLCD) who were sacked or refused employment. PLHIV said that they were not employed because of poor health (58.6%), a combination of discrimination and poor health (19.0%) or discrimination alone (17.2%). A small group of PLHIV (3.9%) and PLCD (1.3%) missed job opportunities because of their disease; larger proportions claimed that their status even adversely affected the job prospects of family members (8.1% of PLHIV and 9.6% of PLCD). Only 1.9% of PLHIV and 1.6% of PLCD said that they lost an educational opportunity because of their sickness.

8.3. QUALITY OF LIFE

A series of quality of life related questions were asked of PLHIV-INT in HIV-HHs, PLCD-INT in NA-HHs and the HoH for NA-HHs without a PLCD (HOHNOCD). Significantly greater numbers of PLHIV than PLCD or PLNODX rated their life as poor or very poor (26.8% PLHIV; 20.3% PLCD; 12.8% HoHNOCD) (Figure 90) and more reported being frequently[20] depressed or anxious (Figure 91).

With regards to their overall health, PLHIV and PLCD reported significantly lower satisfaction (22.3% for PLHIV; 25.7% PLCD; 9.7% PLNODX; Figure 92).[21] PLHIV were also much more likely to have felt they did not have sufficient money to meet their needs (52.5% PLHIV; 41.0% PLCD; 31.0% PLNODX). These findings highlight the financial and mental pressures the disease exerts above and beyond non-HIV chronic diseases (Figure 93).

Figure 90: Impact of HIV and CDs on Quality of Life (QoL) and Despair, Anxiety and Depression*

---
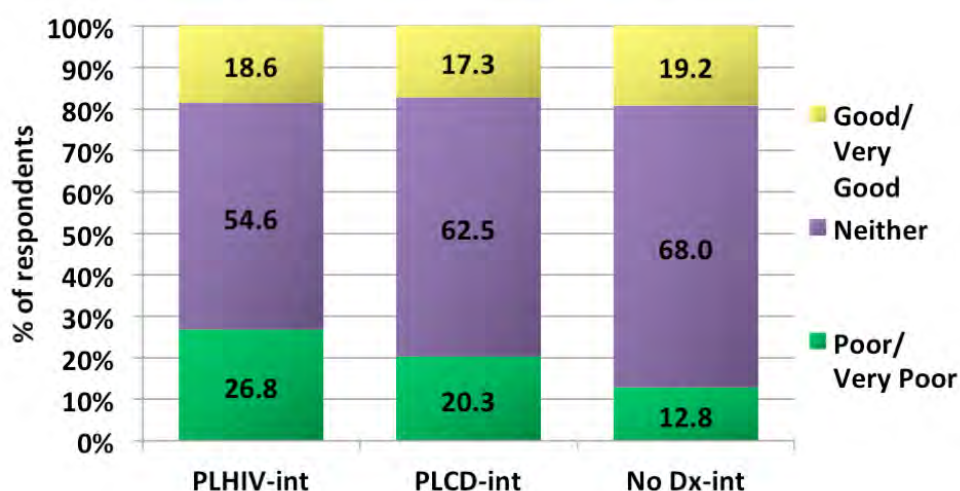
[20] People are classified as being frequently depressed of anxious if they consider their depression/anxiety to occur 'quite often,' 'very often,' or 'always'

[21] Low satisfaction refers to people that rate their satisfaction levels as either dissatisfied or very dissatisfied

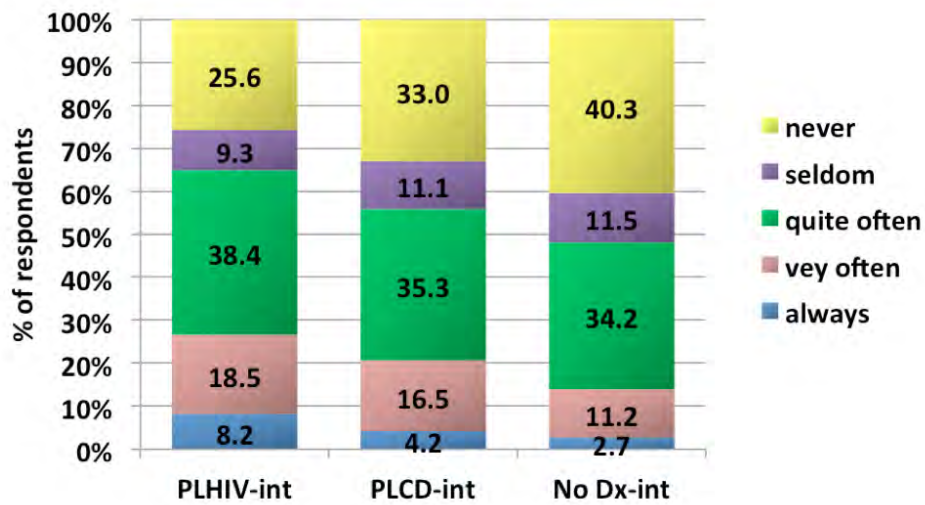*Figure 91: Impact of HIV and CDs on Being Depressed or Anxious**

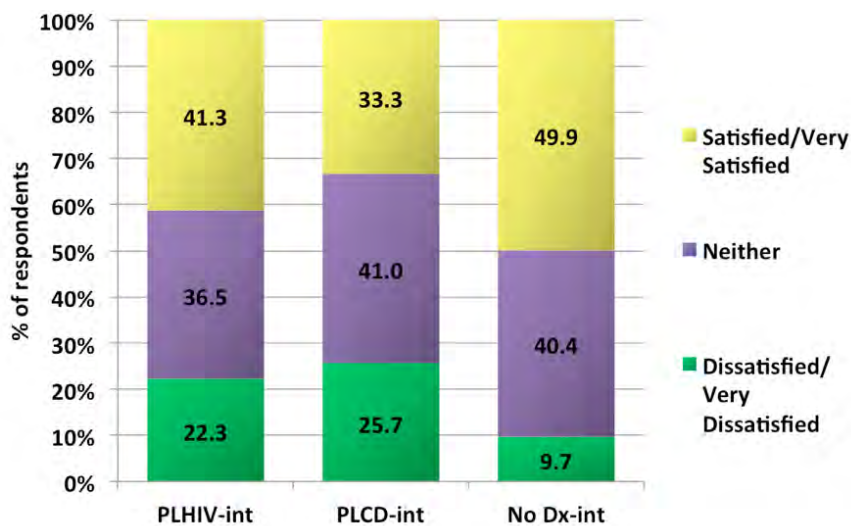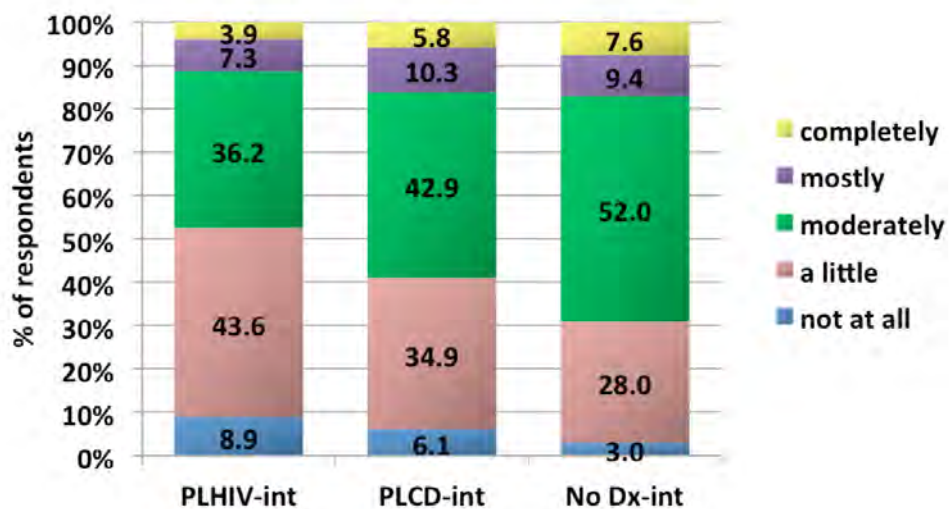*Figure 92: Impact of HIV and CDs on Satisfaction Levels with Health*

Figure 93: Impact of HIV and CDs on Sense of Financial Security and Mobility

8.4. DISABILITY ASSESSMENT

Questions relating to levels of functioning and disability showed that more PLCD experienced difficulties taking care of household responsibilities (21.5% PLCD vs. 15.3% PLHIV vs. 12% PLNODX), completing their day-to-day work (13.7% PLCD vs. 6.4% PLHIV vs. 6.8% PLNODX), learning a new task (39.1% PLCD vs. 23.4% PLHIV vs. 20.6% PLNODX), joining in community activities (21.9% PLCD vs. 13.2% PLHIV vs. 9.2% PLNODX) and concentrating (22.7% PLCD vs. 14.1% PLHIV vs. 15.6% PLNODX). In addition, PLCD were most likely to identify that being emotionally affected by their condition was a difficulty in itself (23.8% PLCD vs. 17.0% PLHIV vs. 11.7% PLNODX).

Data were combined using the World Health Organization Disability Assessment Schedule (WHODAS) to create a composite index. Three versions of WHODAS 2.0 were developed, and all query difficulties in the following six selected functional domains during the 30 days preceding the interview:

- *Domain 1: Cognition* – Assesses communication and thinking activities; specific areas assessed include concentrating, remembering, problem solving, learning and communicating.

- *Domain 2: Mobility* – Assesses activities such as standing, moving around inside the home, getting out of the home and walking a long distance.

- *Domain 3: Self-care* – Assesses hygiene, dressing, eating and staying alone.

- *Domain 4: Getting along* – Assesses in-

teractions with other people and difficulties that might be encountered with this life domain due to a health condition; in this context, "other people" includes those known intimately or well (e.g. spouse or partner, family members or close friends) and those not known well (e.g. strangers).

- *Domain 5: Life activities* – Assesses difficulty with day-to-day activities (i.e. those that people do on most days, including those associated with domestic responsibilities, leisure, work and school).

- *Domain 6: Participation* – Assesses social dimensions, such as community activities; barriers and hindrances in the world around the respondent; and problems with other issues, such as maintaining personal dignity. The questions do not necessarily and solely refer to the International Classification of Functioning, Disability and Health (ICF) participation component as such, but also include various contextual (personal and environmental) factors affected by the health condition of the respondent.

This survey utilised the 12-item version of WHODAS 2.0.

This index also showed that there was no statistically significant difference between the scores of the different population groups.

Further questions were asked to PLHIV, PLCD and PLNODX in order to determine levels of disability and functioning. When

Figure 94: WHODAS Score
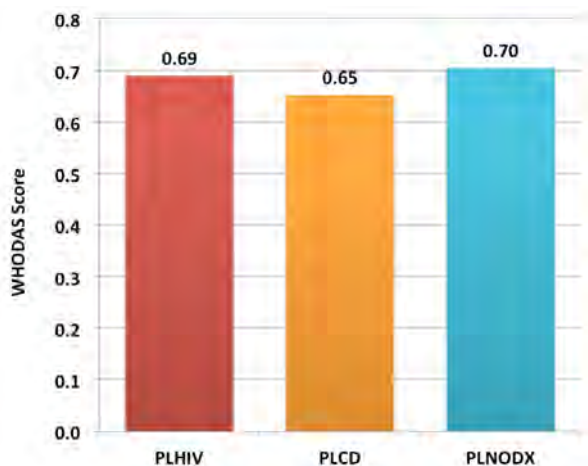
respondents were asked about how many days in the past 30 days, difficulties[22] were present, PLHIV had the highest levels of difficulty in the past 30 days (4.34 days out of 30) measured as increased effort, discomfort, pain or slowness or changes in the way activities were done. This compares to 3.87 days for PLCD and 2.39 days for PLNODX. PLCD were unable to carry out their usual activities or work because of their health condition for 3.05 days in the last month, followed by PLHIV (2.50) and PLNODX (1.107). PLCD also cut back or reduced their usual activities or work because of a health condition for more days (2.74 days) than PLHIV (2.18) and PLNODX (1.26).

---

[22] Difficulties refers to increased effort while doing activities, discomfort or pain while doing activities, slowness while doing activities, or changes in the way activities are done

CHAPTER 9
IMPACT OF HIV:
SPECIAL CONSIDERATIONS

<div style="border:1px solid">

CHAPTER SUMMARY

☐ All of the widows surveyed in NA-HHs and HIV-HHs are female due to an increased likelihood for widows to be females

☐ Widowed HoHs are seen more commonly in HIV-HHs than in NA-HHs

☐ Widows in HIV-HHs were less likely to receive their deceased husband's assets than widows in NA-HHs

☐ HIV-HHs were much more likely to have migrated in the previous five years (34.2%) compared to NA-HHs (23.1%)

☐ The majority of HIV-HH moved to a different village within the same township (34.9%).

☐ HIV-HHs were more likely to report migrating because they had been evicted, and in order to seek medical treatment than NA-HHs

☐ HIV-affected households cited the need to seek medical treatment as responsible for 7.2% of moves, while non-affected households stated this reason for only 2.1% of moves

☐ HIV-affected households gave discrimination as a reason for migration more often than non-affected households (1.9% vs. 0.7%),

</div>

9.1. IMPACT OF HIV ON WIDOWS

Widows appear to be particularly vulnerable to negative socio-economic impacts and especially those living with HIV or whose deceased spouse was HIV positive. In Cambodia, for example, widows in HIV-HHs are more often denied access to their deceased husband's assets than those in NA-HHs (15% vs. 9% respectively) (UNDP, 2011). In Vietnam, 33% of HIV positive widows were asked to leave the household after their husband's death, and 62% were denied a share in their husband's property (UNDP, 2009b). In India, 79% of widows living with HIV were denied a share in their late husband's property and assets (UNDP, 2011), and widow-headed households had much lower household incomes (UNDP, 2006).

This section focuses on two comparisons: (i) HIV-HHs headed and not headed by a widow; (ii) widows in HIV-HHs and NA-HHs with regards to property transfer rights.

All respondents who had lost a spouse were widows (females) as opposed to oth-

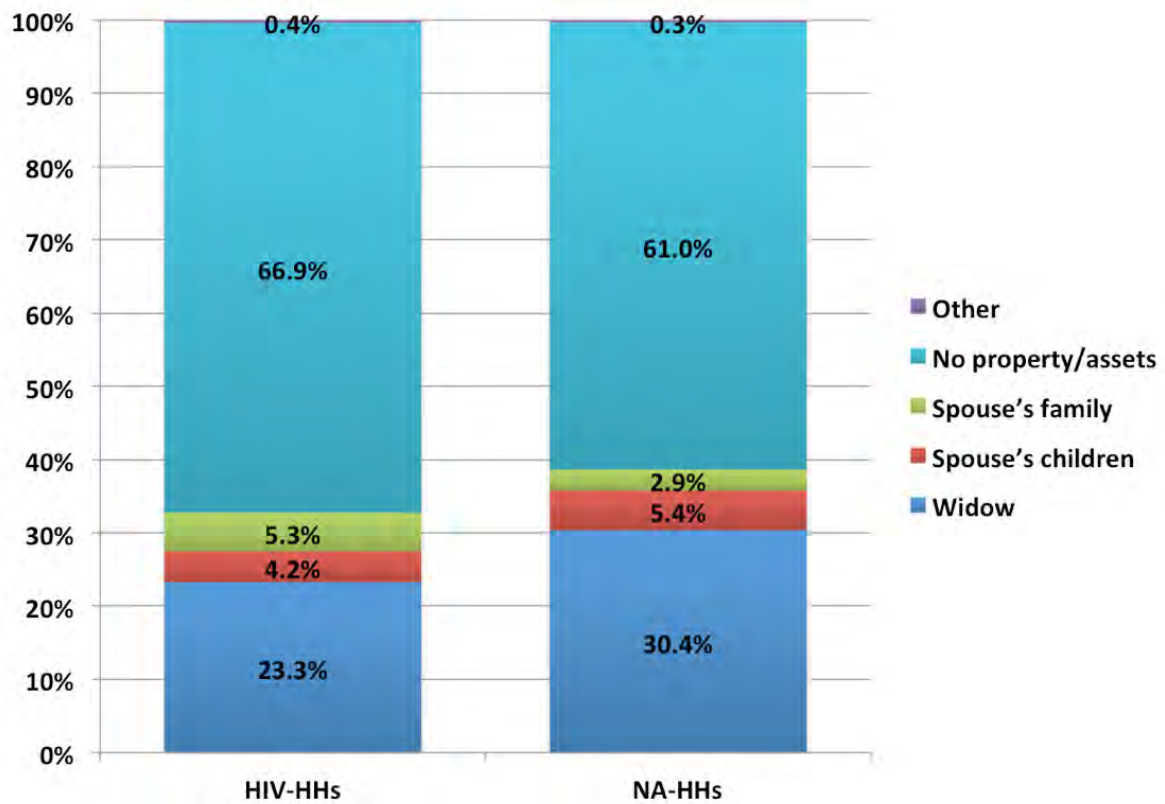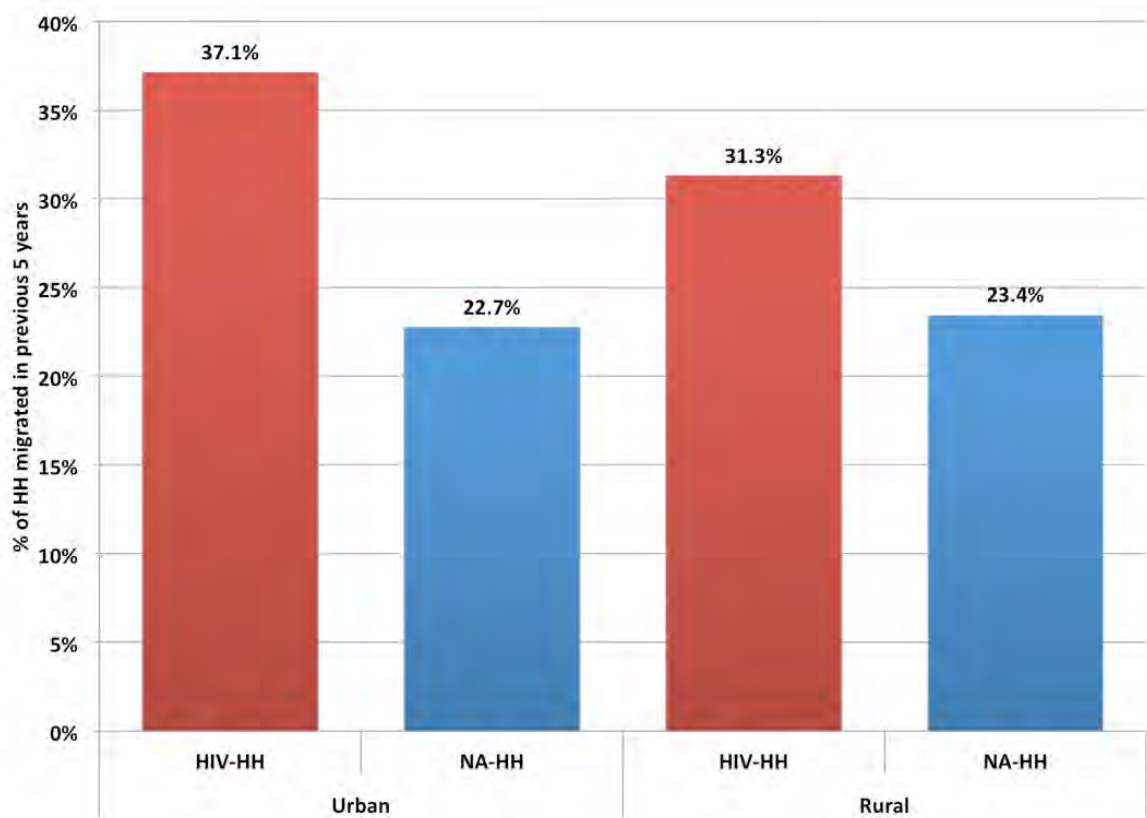*Figure 95: Impact of HIV on Widow Property Transfer Rights*

Figure 96: Impact of HIV on Household Migration

er studies in the region where a minority of participants were widowers (male). For example, in Cambodia 4% of male-headed households were widowers (UNDP, 2011). Presumably in most instances men contract HIV first and transmit HIV to their wives later on. More HIV-HHs were headed by women than NA-HHs (20.3% vs. 13.2%).

The late husband was reported to have a chronic disease in over half of HIV-HHs (57.6%) compared with 44.7% in NA-HHs. In HIV-HHs, 56.5% of late husbands were said to have HIV, and 6.0% cancer. In NA-HHs, deceased spouses suffered from liver disease (18.0%), cancer (17.3%) and hypertension (15.8%).

9.1.2 Impact of HIV on Property Transfer Rights of Widows

In other regional studies, the particular plight of HIV positive widows has been discussed with regards to the discrimination that exists in relation to property transfer rights. Results from the study show that many women in HIV-HHs fail to receive their late husband's assets upon becoming a widow. In most households the late husband had no assets to pass on to family (66.9% of HIV-HH's vs. 61.0% of NA-HH's). In HIV-HHs, 23.3% of widows received their husband's assets compared to 30.4% in NA-HHs (Figure 95). If the widow does not receive the assets, they can be given to the spouse's children (4.2% of HIV-HH's vs. 5.4% of NA-HH's), the spouse's family (5.3% of HIV-HH's vs. 2.9% of NA-HH's), or others (0.4% of HIV-HH's vs. 0.3% of NA-HH's).

9.2. IMPACT OF HIV ON MIGRATION

One of the more disruptive household-level impacts of HIV is migration – sometimes entire families are forced to move due to stigma and discrimination against a family member with HIV. In China and India, 58% and 29% of HIV-affected households respectively stated stigma as their reason for recent migration. In Cambodia, HIV-HHs were almost twice as likely as NA-HHs to report that they had migrated in the past five years (28% vs. 15%) (UNDP, 2011b). In Myanmar, 34.2% of HIV-affected households reported moving in the previous five years compared to only 23.1% of NA-HHs. Migration was more common for urban HIV-HHs whereas more rural NA-HHs made a recent move (Figure 96).

While there was no difference between HIV-HHs and NA-HHs in the mean number of moves in the past five years (1.9), NA-HHs predominantly moved within the same village (44.6%) and HIV-HHs moved to a different village within the same township (34.9%) (Figure 97).

The prime reason for both HIV-HHs and NA-HHs to migrate was to look for work (23.8% and 28.3% respectively) (Figure 98). "Eviction" was the second most common reason for HIV-HHs (19.4%), and was higher than reported by NA-HHs (11.7%). The need for medical treatment was responsible for 7.2% of moves for HIV-HHs but only 2.1% for NA-HHs. This may indicate where people face challenges in accessing services as well as pointing to a need for effective referral processes to maintain care between ART clinics. More HIV-HHs said they migrated because

Figure 97: Migration Destination
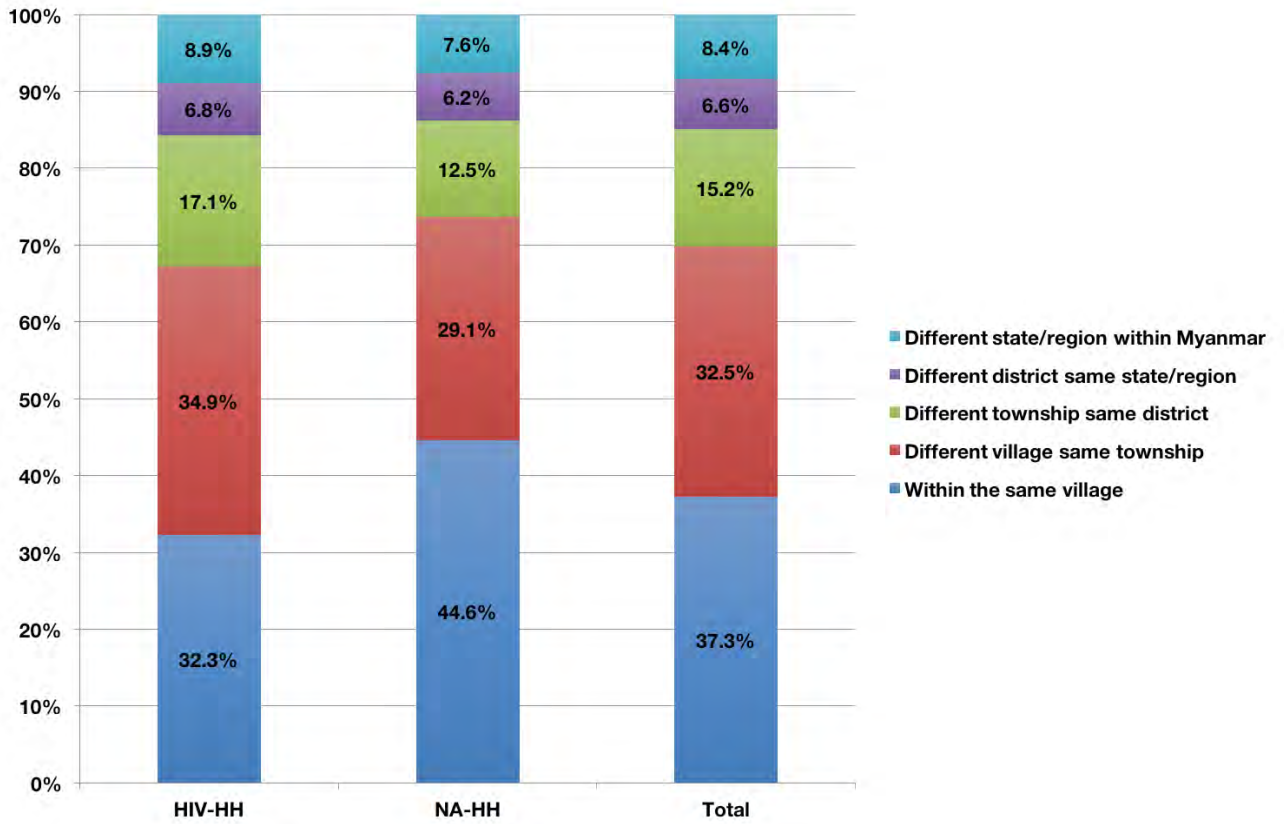
Figure 98: Reason for Migration
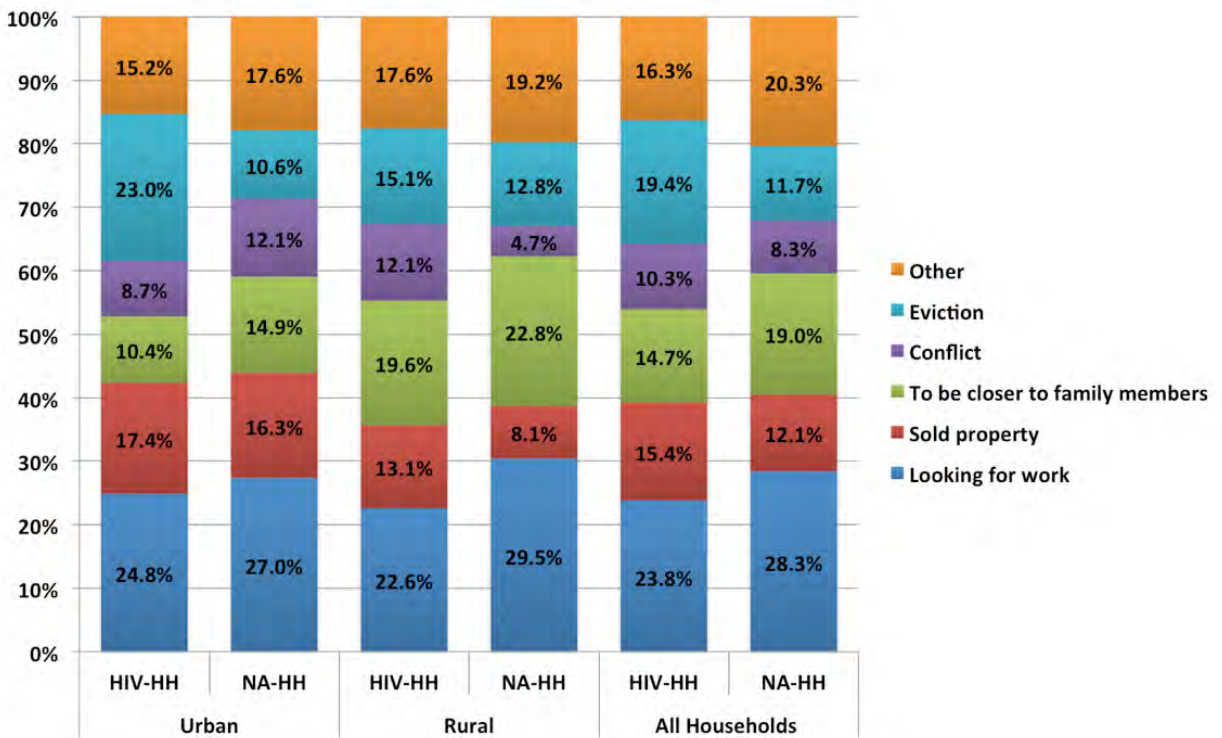
they sold their property (15.4% vs. 12.1%), and "conflict" led to moves for 10.3% of HIV-HHs and 8.3% of NA-HHs. HIV-HHs said that discrimination forced them to move more often than did NA-HHs (1.9% vs. 0.7%).

Urban HIV-HHs had the highest levels of eviction and selling property, which may relate to higher costs and lower home ownership in cities and towns (see section 3). Discrimination was more common in urban areas whereas conflict was more a problem in rural areas among HIV-HHs (Figure 98). The opposite pattern was observed for NA-HHs more urban than rural households migrated because of conflict.

CHAPTER 10
KNOWLEDGE &
AWARENESS OF HIV

CHAPTER SUMMARY

☐ Levels of knowledge of HIV were high for both HIV-HHs and NA-HHs

☐ 99.0% of survey respondents from HIV-HHs reported being tested for HIV, while only 51.4% of respondents from NA-HHs had been tested

☐ 80% of HIV-HHs were aware of a location where they could be tested for HIV compared to only 55.2% of NA-HHs

☐ HIV-HHs were much more likely to have received their testing from INGO's/NGO's compared to NA-HHs

☐ A much greater percentage of people in richer quintiles from NA-HHs had been tested for HIV compared to those in poorer quintiles, however no difference existed in testing behaviour for HIV-HHs based on wealth

☐ A high number of respondents indicated that they did not know that HIV is a preventable disease (10% in affected households; 39% in non-affected)

☐ Knowledge of condom use as a method of prevention was quite low, with 79.0% of people in HIV-HHs being aware of condoms as a prevention method, and only 41.5% awareness in NA-HHs. Notable gender differences existed, with lower levels of knowledge seen in females.

☐ 13.2% of people living in HIV-HHs, and 41.2% of people in NA-HHs did not know that the disease could be transmitted through unprotected sex, with lower levels of knowledge seen in females

☐ 71.3% of people in HIV-HHs and 92.8% of people in NA-HHs were not aware that HIV could be transmitted through mother-to-child transmission (MTCT)

Analysing levels of HIV awareness and understanding is important when determining the best policies and programs to reduce transmission, improve treatment and prevention, care and support services, and address stigma and discrimination. Almost all survey respondents had heard of HIV (99.2% HIV-HHs; 93.8% NA-HHs). However, overall a surprisingly high number of respondents did not know that HIV is a preventable disease (10% in HIV-HHs; 39% in NA-HHs). Low proportions of people knew the following methods of prevention (Figure 99): abstaining from sex (25.7% HIV-

Figure 99: Knowledge of HIV Prevention Methods
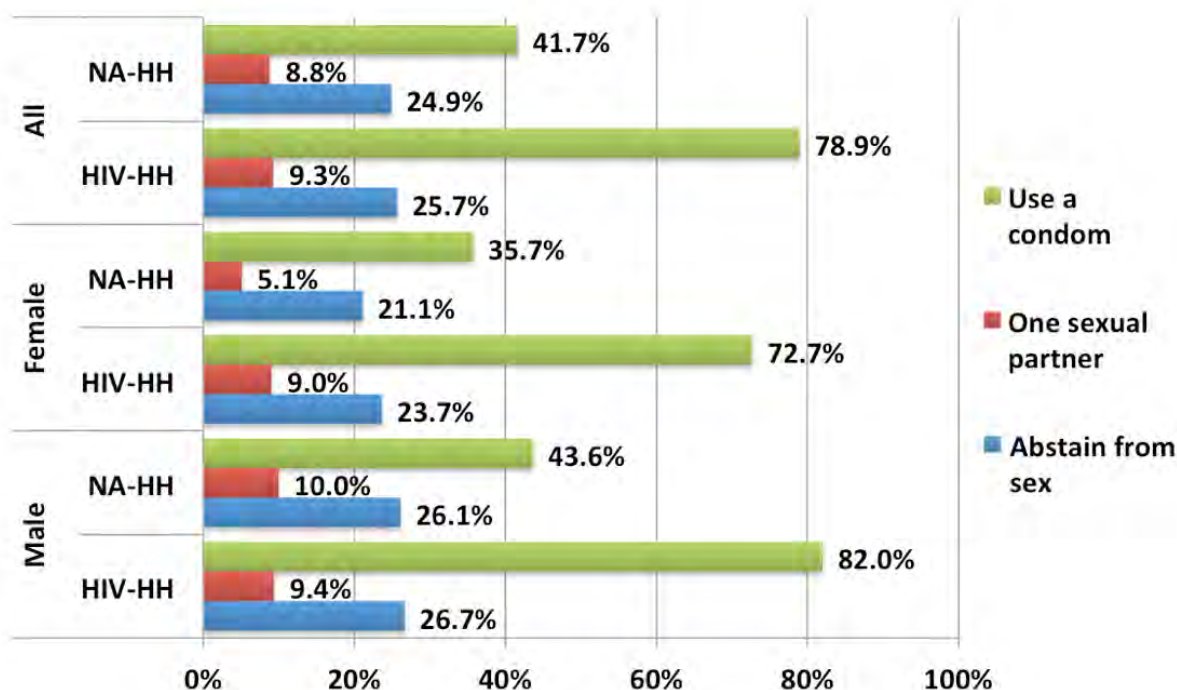
HHs; 24.9% NA-HHs); avoiding contaminated needles (37.3% HIV-HHs; 24.5% NA-HHs); limiting sexual encounters to one partner (9.3% HIV-HHs; 8.8% NA-HHs). Importantly, knowledge that condoms could prevent HIV transmission was not universal among people in HIV-HHs (78.9%) and known by less than half of those in NA-HHs (41.7%). Awareness was much lower among women compared to men (HIV-HHs: 82.0% of males vs. 72.7% of females; NA-HHs: 43.6% vs. 35.7%) and improved across both household types with increasing wealth. 4.4% of residents of HIV-HHs did not know even one way to prevent HIV and 22.5% of people in NA-HHs.

That compares to earlier national data from the Ministry of National Planning and Economic Development (2011) which found that 95.4% of women had heard of HIV, yet only 45% of these women knew that HIV could be prevented by "having only one

faithful uninfected partner, using a condom, and abstaining from sex".

In this survey, in HIV-HHs, 13.2% of members did not know that HIV could be transmitted through unprotected sex (11.64% male and 16.6% female). In NA-HHs, this figure was a staggering 41.2% (38.4% male and 49.3% female). NA-HHs also demonstrated different levels of knowledge by wealth: only 44.7% of people in Quintile 1 were aware that unprotected sex could transmit HIV vs. 70.7% in the wealthiest Quintile 5.

Most respondents did not know that HIV could be transmitted from mother to child (HIV-HHs: 71.3% vs. NA-HHs: 92.8%). In HIV-HHs, 73.0% of men and 68.1% of women were not aware of MTCT of HIV, and in NA-HHs the proportions were 91.8% and 95.9%. Knowledge of blood transfusion as means of HIV transmission was higher but far from general knowledge and again

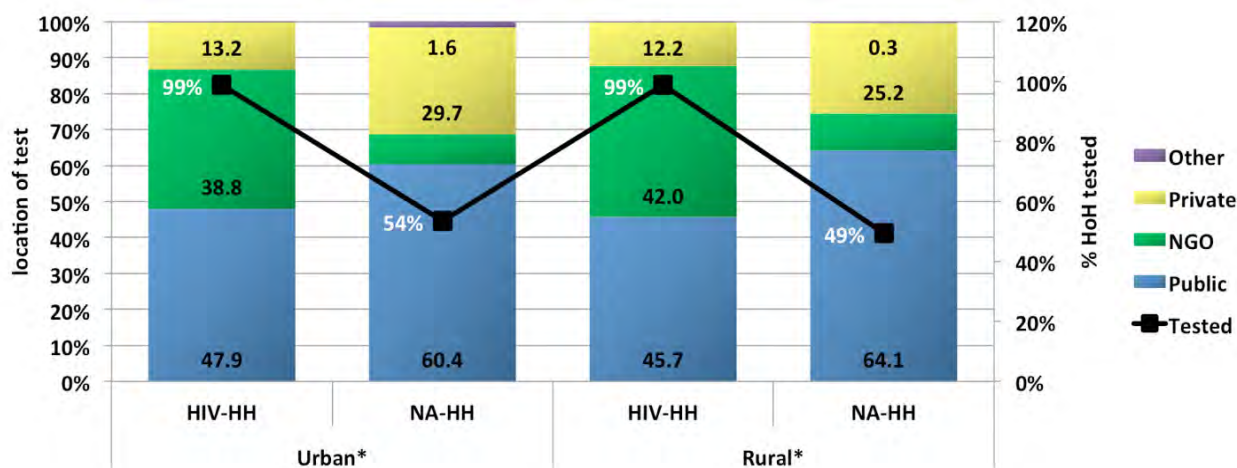*Figure 100: HIV Testing Knowledge and Behaviours, by location*

Figure 101: HIV Testing levels, by sex
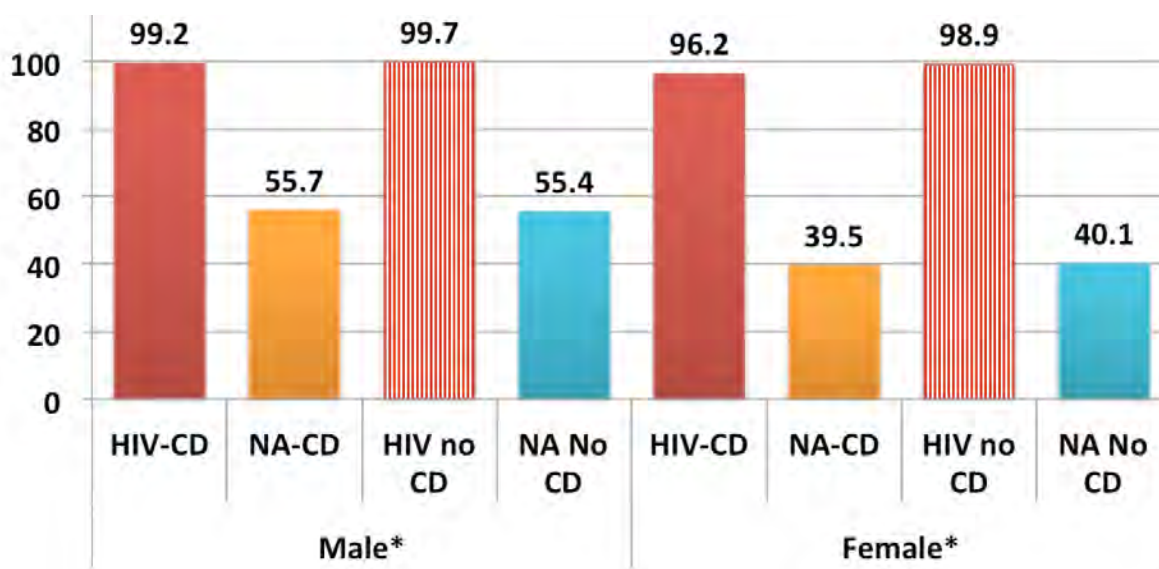
much lower for NA-HHs (48.6% for HIV-HHs and 68.6% for NA-HHs). Only a minority of respondents recognised that items with blood on them could transmit HIV (28.1% for HIV-HHs and 46.0% for NA-HHs).

As expected, reports of being tested for HIV differed substantially by household: 99.0% of respondents in HIV-HHs had been tested compared with 51.4% NA-HHs. Residents of both household types sourced testing from

public and NGO services, although NA-HHs made significantly greater use of private services and less use of NGO services.

For HIV-HHs, there was little difference in testing based on the gender of the HoH; however, in NA-HHs male-headed households were more frequently tested than female-headed HHs (55.3% and 39.8% respectively) (Figure 101). Additionally, there were slight differences between testing in urban

Figure 102: HIV Testing Levels, by quintile
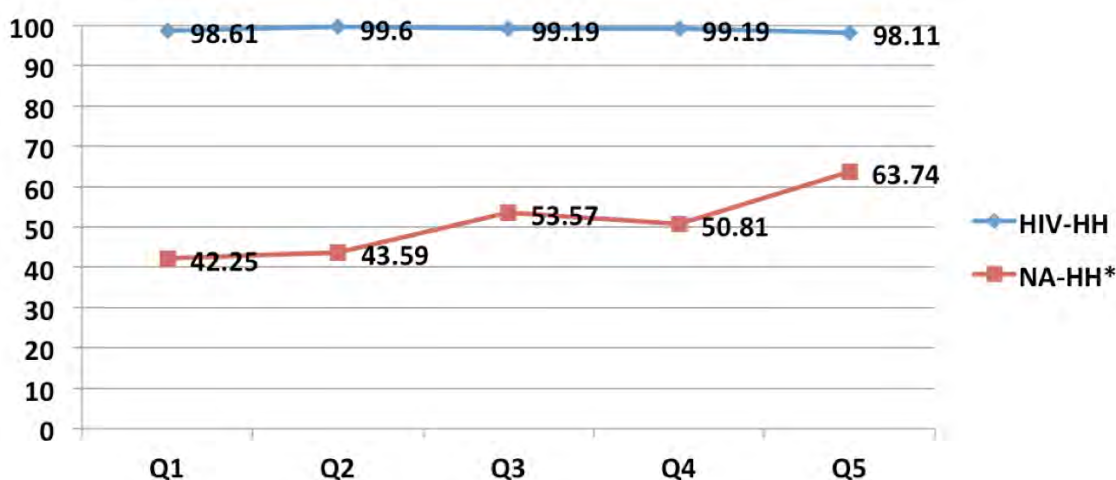
Figure 103: Knowledge of Testing by sex
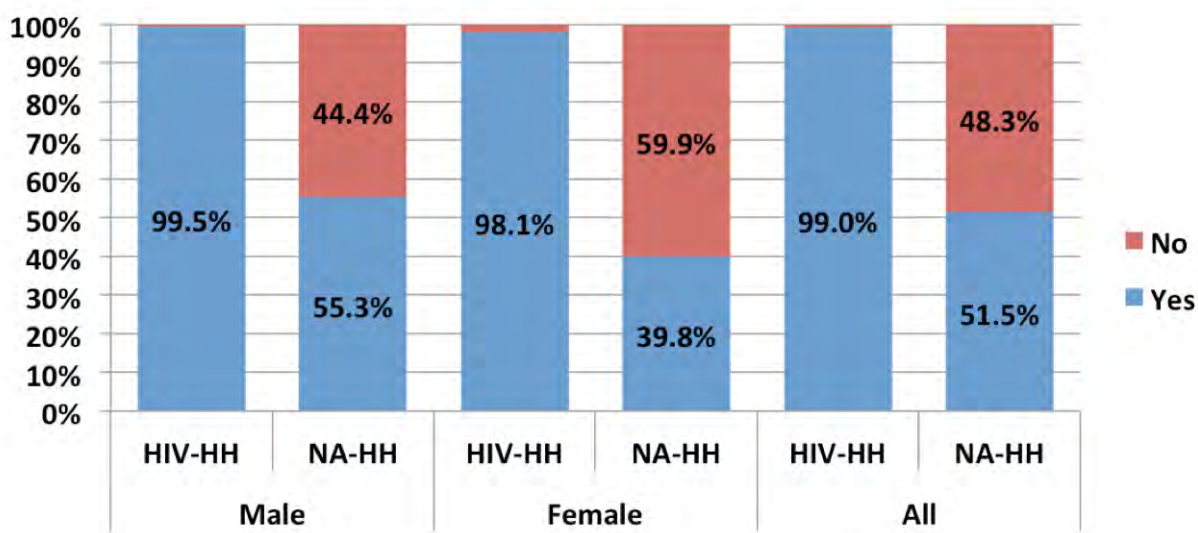
and rural households. A much greater proportion of people in the richer quintiles from NA-HHs had been tested compared to those in poorer quintiles (63.7% in Q5; 42.0% NA-HHs) (Figure 102). These differences may be due to differences in access to facilities, as well as differences in knowledge.

The levels of testing among NA-HHs in this survey are considerably higher than national data previously reported: only 33%

of women in urban areas and 10.5% in rural areas (17.6% overall) reported testing in 2011 (Ministry of National Planning and Economic Development, 2011).

Awareness of where to get tested, however, might be lower in this study population than reported by earlier studies. The Ministry of National Planning and Economic Development (2011) documented that 70.6% of women were aware of where they can be

Figure 104: Percentage of People Who Knew Where To Get Tested
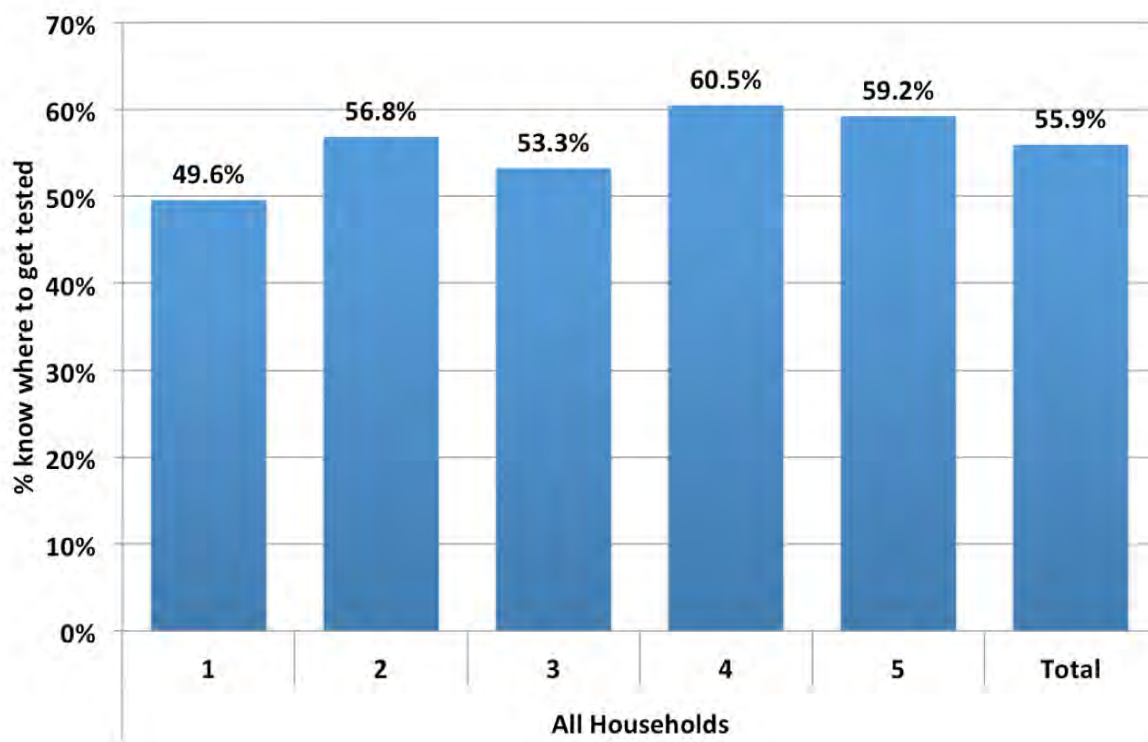
tested for HIV with knowledge better in urban (82.6%) rather than rural areas (65.3%). For poorer women the figure was 50.7% (with 5.9% tested), and for the richest households it was 84% (with 33% receiving testing). In this study, 80% of HIV-HHs were aware of a testing site but just 55.2% of NA-HHs knew where to go to be tested. When stratified by quintiles of wealth, awareness of testing sites was 49.6% for Q1 and 59.2% for Q5 (Figure 104).

A smaller percentage of people in Quintile 5 reported being tested through an INGO/NGO compared to those in in Quintile 1 (41.1% vs. 24.1% respectively), while private testing increased with increasing wealth (11.3% in Q1 and 26.4% in Q5).

CHAPTER 11
POLICY CONCLUSIONS

The scope of services for PLHIV should be expanded to ensure integrated social protection strategies address the myriad challenges of HIV-affected households. In this regard, based on the findings in the previous chapters, the study points to the areas that need to be further addressed through HIV sensitive strategies.

The main recommendations are:

☐ Use key study findings to strengthen the equity and effectiveness of national social protection efforts including universal health coverage.

☐ Integrate targeted HIV impact mitigation programming into "HIV Sensitive" social protection strategies: poverty reduction and income subsidy approaches.

☐ The National Strategic Plan for HIV should include lifestyle issues related to chronic diseases and alcohol and tobacco cessation strategies as well as incorporating chronic disease prevention and management programmes into the care management for PLHIV.

☐ Develop targeted interventions to address negative self-esteem and psychosocial challenges faced by PLHIV and their family members.

☐ Adherence strategies should take into account the broader social risks, e.g. alcoholism, and develop "predictive" models toward case management.

☐ Ensure asset protection strategies for widows through legal and support strategies.

☐ Develop targeted policies for boys aimed at reducing human capital 'wastage' – for example, conditional cash transfers might be targeted to boy's permanence in school.

Many of the current interventions for PLHIV are focused on basic prevention or ART treatment. The study shows the full range of challenges for PLHIV extends well beyond the biological aspects and requires greater depth in the care provided.

The main changes proposed are:

☐ Accelerate community-based rapid testing and self-testing to further strengthen decentralization of HCT.

☐ Increase the use of community health workers to provide a higher level of social care for PLHIV, as well as increasing the reach of the health system to increase testing, counselling and adherence for ART.

☐ Increase activities for knowledge awareness of HIV, prevention and testing, as well as programmes to reduce the stigma of HIV.

☐ Develop targeted approaches to address the challenges of the poorest households in everything from knowledge and awareness to risk mitigation strategies.

☐ Increase emergency food support to all HIV-affected households, with special attention to female-headed HIV-HHs and low-income households. Integrate with social protection measures.

☐ Strengthen mental health and psychosocial support services for PLHIV and PLCD. Training for social workers to diagnose and address basic mental health issues with basic checklist approaches or even the use of technology.

☐ Improved legal protection strategies including legal literary and access to justice for PLHIV to mitigate the study's result showing high eviction rates for HIV-HHs.

☐ Strengthen TB/HIV minimum package to improve coverage.

☐ Expand standardized and online reporting tools to and improve real-time analysis of data from ART and HCT at decentralized sites.

The ambitious goals of the UNAIDS 90/90/90 strategy will require changes in the Breadth of Services offered to the population.

The main recommendations to support this are:

☐ Support the scale up of ART coverage to achieve the goal of 90 percent ART coverage and the goal of 90 percent viral suppression by 2020.

☐ Scale up HIV counselling and testing (HCT) services with focus on increasing yield (e.g. positives/ 100 tests) in support of the goal of 90 percent awareness among PLHIV regarding their HIV status.

☐ Build more flexibility into HCT services and create demand for early testing, especially amongst lower income more vulnerable populations.

☐ Expand the definition of vulnerable groups in the Social Protection Strategy to include PLHIV specifically.

☐ Increase the coverage of chronic disease management programmes for PLHIV and access to the necessary diagnostic, medicines and care to minimise disability.

☐ Strengthen HIV education, along with targeted behavioural and mass communications to "normalize" condom use and increase HCT usage.

☐ Strengthen coordination with the private sector to maximize inclusion of the population that seeks HCT and other services in the private sector.

☐ PLHIV networks must be technically and financially supported and fit for purpose and effectively managed to deliver strategic results for the PLHIV community.

REFERENCES

American Heart Association (2015). HIV and Cardiovascular Disease (Heart Disease). Available at: http://www.heart.org/HEARTORG/Conditions/More/HIVandYourHeart/HIV-and-Cardiovascular-Disease-Heart-Disease_UCM_315419_Article.jsp

Australian Federation of AIDS Organisations. THE IMPORTANCE OF GIVING UP SMOKING FOR PEOPLE WITH HIV, 2009

Baum, M. K., Rafie, C., Lai, S., (2010). "Alcohol use accelerates HIV disease progression" AIDS Research and Human Retroviruses, Vol. 26 (Issue: 5) :511-518

CIA World Factbook. (2007). The World Factbook – Burma. Retrieved from: https://www.cia.gov/library/publications/the-world-factbook/geos/bm.html

IHLCA Project Technical Unit, UNDP. (2011). Integrated Household Living Conditions Survey in Myanmar (2009-2010) – Poverty Profile

International Planned Parenthood Federation, Global Network of People Living with HIV/AIDS, International Community of Women Living with HIV/AIDS, UNAIDS (2008). People Living with HIV Stigma Index. February 2008.

Ministry of Education, Department of Higher Education (Lower Myanmar). (2013). Education System in Myanmar: Self Evaluation and Future Plans. Retrieved from: http://www.myanmar-education.edu.mm/dhel/education-system-in-myanmar/education-structure/

Ministry of National Planning and Economic Development, Ministry of Health & UNICEF. (2011). Myanmar Multiple Indicator Cluster Survey 2009-2010.

Myanmar Ministry of Health (2011). Myanmar National Strategic Plan on HIV and AIDS 2011-2015 [Full Version].

Myanmar Positive Group & MMRD Research Services. (2010). People Living with HIV Stigma Index. Retrieved from: http://www.stigmaindex.org/sites/default/files/reports/Myanmar%20People%20Living%20with%20HIV%20Stigma%20Index%20Report%202010.pdf

The Kaiser Family Foundation (2007). The Multisectoral Impact of the HIV/AIDS Epidemic – A primer.

The World Health Report 2000. (2000). Health systems: improving performance. Geneva: World Health Organization.

UN Data. (2015). Myanmar. Retrieved from: https://data.un.org/CountryProfile.aspx?crName=MYANMAR

UN. (2004). The Impact of Aids. Department of Economic and Social Affairs, Population Division. Retrieved from: http://www.un.org/esa/population/publications/AIDSimpact/AIDSWebAnnounce.htm

UNAIDS. (2008). Redefining AIDS in Asia, Crafting an Effective Response. Report of the Commission on AIDS in Asia.

UNAIDS. (2009). HIV Transmission in Intimate Partner Relationships in Asia. Joint United Nations Programme on HIV/AIDS (UNAIDS) 2009.

UNAIDS. (2011). Women, girls and HIV and AIDS. Education, Women's Economic Empowerment and Workplace Violence. Retrieved from: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/BSP/GENDER/Images/Women%20Girls%20HIV%20Education%20and%20Workplace_Joint%20paper_FINAL.pdf

UNAIDS. (2013). HIV in Asia and the Pacific. Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS Report 2013.

UNAIDS. (2013b). Global Report. UNAIDS Report on the Global AIDS Epidemic 2013. Joint United Nations Programme on HIV/AIDS (UNAIDS).

UNAIDS. (2014). Global AIDS Response Progress Report: Myanmar. National AIDS Programme [Reporting period: January 2012 - December 2013].

UNAIDS. (2014b). Myanmar Confirms Increasing Domestic HIV Funding by US$5 Million. Retrieved from: http://www.unaids.org/en/resources/presscentre/featurestories/2014/october/20141017myanmar.

UNDP. (2006). Socio-Economic Impact of HIV and AIDS in India. New Delhi, United Nations Development Programme.

UNDP. (2009b). Socio-economic impacts of HIV/AIDS on Household Vulnerability and Poverty.

UNDP. (2011). The Socio-Economic Impact of HIV at the Household Level in Asia: A Regional Analysis of the Impact on Women and Girls.

UNDP. (2011b). The Socio-Economic Impact of HIV at the Household Level in Asia: A Regional Analysis.

UNDP. (n.d.). Millennium Development Goals - Myanmar. Retrieved from: http://www.mm.undp.org/content/myanmar/en/home/mdgoverview/overview/mdg6/.

UNESCO Institute for Statistics. (2013). Survival rate to last grade of primary education. UNICEF Global Database

UNICEF (2005). Guide to Monitoring and Evaluation of the National Response for Children Orphaned and made Vulnerable by HIV/AIDS.

USAID (2006). Breaking the Cycle: Stigma, Discrimination, Internal Stigma and HIV.

World DataBank. (2015). Education Statistics - Myanmar.

World Food Program. (2015). Myanmar Overview. Retrieved from: https://www.wfp.org/countries/myanmar/overview.

World Health Organisation. (2009). Use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants. Rapid Advice. November 2009.

World Health Organisation. (2012). HIV/AIDS in the South-East Asia Region. Progress Report 2011

United Nations Development Programme

No.6, Natmauk Road, Tamwe Township
P.O. Box 650
Yangon, 11211Myanmar
Tel: (95 1) 542 910-19, Fax: (95 1) 544 531
www.mm.undp.org

UNDP Myanmar

UNDP_Myanmar

National AIDS Program

Disease Control Division
Department of Public Health
Ministry of Health and Sports
Zabu Kyetthayay Road, Zabu Thiri Township
Nay Pyi Taw, Myanmar.
Phone/Fax: (95 6) 742 1203