THE SOCIOECONOMIC IMPACT OF HIV AT THE HOUSEHOLD LEVEL IN CAMBODIA

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FOREWORD

Within Cambodia, the past decade has seen a continuous decline of HIV prevalence, thanks to strong political leadership, generous donor support, and the tireless efforts of civil society and the private sector. The results of this partnership have been impressive. National HIV prevalence is projected to drop to 0.7% by the end of 2010, down from a high of 2% in 1998.

Despite such achievements, there is still work to be done. This study demonstrates that HIV-affected households continue to face a variety of economic and social challenges. People living with HIV are frequently squeezed out of the workforce, while their children forgo educational opportunities in order to contribute to household income or fulfil caregiving roles. In addition, people living with HIV and their families often experience HIV-related discrimination, with resulting psychosocial outcomes. Furthermore, long-term consequences may be felt in relation to population and macroeconomic growth. It is therefore essential that Cambodia builds on the momentum of the past decade, and expands efforts to ensure universal access to HIV prevention, treatment, care and support for PLHIV and their families.

Within this context, this report examines the socioeconomic impact of HIV at the household level in Cambodia, providing policy-makers and programme managers with a rich evidence base upon which to strengthen existing impact mitigation strategies, introduce new interventions, and ensure resources are utilised effectively and efficiently.

On behalf of the National AIDS Authority, I wish to thank the United Nations for supporting the study on the Socioeconomic Impact of HIV at the Household Level in Cambodia, as part of their program of support to the national HIV response. I would also like to recognise the hard work and tenacity of Sanigest Internacional and the Center for Advanced Study throughout the implementation of this study.

H.E. Dr. Teng Kunthy
Secretary General
National AIDS Authority

FOREWORD

The past decade has seen the Royal Kingdom of Cambodia undergo rapid economic development, with growth forecast to reach six percent in 2011 and Cambodia predicted to become a middle-income country by 2020. Correspondingly, overall poverty figures have dropped from 47 percent in 1993 to 30 percent in 2007. However, associated benefits have not been equitably distributed, resulting in increased inequality between urban and rural areas, and among key sub-populations.

The global financial downturn, with associated food and fuel price inflation, reminded us that macroeconomic growth alone cannot protect vulnerable populations against economic shock. Improving resilience means securing livelihoods against unpredictable natural, human, and economic shocks, as well as strengthening social protection systems.

While Cambodia has made remarkable progress in halting and reversing the national HIV epidemic and scaling up access to antiretroviral therapy and treatment for opportunistic infections, the disease continues to exact a profound impact on Cambodian households.

This study on the Socioeconomic Impact of HIV at the Household Level in Cambodia highlights the extreme vulnerability of HIV-affected households to economic shock. Findings indicate HIV-affected households face decreased income, combined with increased medical expenses, which sees households turn to poverty-inducing coping mechanism such as depletion of savings and assets and increased indebtedness, with negative impacts in relation to food security and psychosocial wellbeing, as well as the status of women and the education of children.

This report recommends the scaling up of HIV-sensitive social protection programmes in mitigating the impact of HIV on affected households, and ensuring poverty-reduction interventions reach the poorest and most vulnerable members of society.

The United Nations in Cambodia would like to thank the National AIDS Authority for supporting this critical piece of work, and congratulate Sanigest Internacional and the Centre for Advanced Study (CAS) for producing an outstanding piece of research which will continue to guide HIV impact mitigation policies and programmes for years to come.

Douglas Broderick
United Nations Resident Coordinator, Cambodia

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This report was written by James Cercone and Étoile Pinder of Sanigest Internacional, with analytical assistance from Luis Fallas. Data collection was coordinated by Dr. Hean Sokhom and Chean Men from the Center for Advanced Study (CAS).

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We would also like to highlight the extensive effort of the NGO network which cooperated with the research team during field work and data collection. They are listed in their entirety in Annex A of the report. In particular, we are grateful for the insights provided by Pen Mony and Chap Chantha from the Cambodian Community of Women Living With HIV/AIDS (CCW) who proved invaluable in understanding the experiences of people living with HIV in Cambodia.

We are grateful for the hard work of the supervisors and the enumerators involved in the field-work for this study. Their efforts resulted in the informative results seen throughout the report.

Finally, thanks are given to the thousands of individuals throughout Cambodia who allowed their stories to be shared through this report. The photos throughout the report are representative of the lives behind the facts: people living in both HIV-affected and non-affected households. All photo credits are to UNAIDS/Oliver O'Hanlon, UNDP or Katherine Moriarty.

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
CAS	Center for Advanced Study
CBHI	Community based health insurance
CCW	Cambodian Community of Women Living with HIV/AIDS
CDHS	Cambodia Demographic and Health Survey
CG	Caregiver
CI	Confidence interval
CPN+	Cambodian People Living with HIV/AIDS Network
CSEIS-HIV	Cambodia Socioeconomic Impact of HIV on Households Survey 2009
CSES	Cambodia Socioeconomic Survey
CSPro	Census and Survey Processing System
GDP	Gross Domestic Product
HBC	Home-Based Care
HEF	Health equity fund
HIV	Human immunodeficiency virus
HH	Household
HIV-HH	HIV-affected household
HoH	Head of household
ISCO	International Standard Classification of Occupations
KAP	Key affected population
KHANA	Khmer HIV/AIDS NGO Alliance
MMM	Mondul Mith Chuoy Mith (Friends Helping Friends)
MTCT	Mother-to-child-transmission
NAA	National AIDS Authority
NA-HH	Non-affected household
NAR	Net Attendance Rate
OI	Opportunistic Infection
OVC	Orphans and vulnerable children
PLHIV	People Living with HIV
PMTCT	Prevention of mother-to-child-transmission
UNDP	United Nations Development Programme
VCCT	Voluntary Confidential Counselling and Testing
YOA	Years of age

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CASE STUDY

THE SOCIOECONOMIC IMPACT OF HIV ON A CAMBODIAN HOUSEHOLD[1]

An estimated 75,000 Cambodians in 60,000 households are living with HIV on a daily basis. While government programs have expanded to improve the quality of life for people living with HIV (PLHIV), many still fall through the gaps, failing to get access to prevention, treatment, care and support services. HIV frequently drives people, rich and poor, out of the labour market and into economic distress, and they frequently face a negative spiral of stigma and discrimination. Additionally, increased morbidity and mortality affect family structures, leaving a third of HIV-affected households with a child orphaned by HIV.

Mealea is an excellent example of a person living with HIV and the socioeconomic impacts the disease has on so many lives. Mealea is a 28 year old mother, with a 11 year old daughter and a three year old son, living in Banteay Meanchey. Four years ago, Mealea's husband became seriously ill, and was diagnosed with HIV. The hospital bills for the sickness pre-diagnosis forced them to sell their cow, and borrow additional money from a local money lender. The interest rate was very high, but he was the only person who would offer them a loan.

Mealea and her husband did not discuss using condoms and Mealea soon became pregnant with their son. It wasn't until she entered the antenatal care program that she discovered her HIV positive status. She wished that she had known that her local hospital provided HIV counselling and testing, but like so many other Cambodians, she did not know where to go.

Mealea and her husband had access to free antiretroviral therapy and medications for opportunistic infections and, thankfully, their son was born HIV-free. Mealea decided not to breastfeed her baby as she was worried about mother-to-child transmission of HIV. She was not aware of the new World Health Organisation (WHO) breastfeeding protocol, recommending exclusive breastfeeding for the first six months, combined with antiretroviral therapy.

Mealea's husband passed away one year ago. She started working as a cleaner in a local hotel, but was dismissed due to frequent absences. Also, while they used to receive an educational stipend that helped her daughter attend school, the stipend stopped last year and so she frequently misses classes in order to help earn income for the household. She is currently repeating sixth grade, but is likely to drop-out next year. Because of their decreased income, the family has cut back on their consumption of protein-rich foods such as fish, meat and eggs.

Mealea was largely isolated from society after her husband died, as the neighbours gossiped that he had died from HIV and excluded her from community events. The increasing stigma and discrimination fuelled a general sense of despair and she even contemplated taking her own life.

These days, however, Mealea is pleased that she will soon receive food support, together with home-based care (HBC). The home-based care team has told her they will be implementing community-based HIV-awareness activities as part of the HBC program, which has also given her hope for a better future. She continues to access free antiretroviral therapy, which is keeping her fairly healthy. She receives an exemption from a health equity fund (HEF) program that reduces her out-of-pocket spending to less than that of her relatives living in non-affected households, but still finds travelling to the local hospital tiring and costly. She has also heard about an innovative program run by a local micro-credit agency that might allow her to buy a sewing machine so she can work from home, repay her debts, and save money for her family's future.

1 *This vignette illustrates the challenges that PLHIV face in Cambodia. The story is fictional, but reflects the average results from the socioeconomic impact study carried out in January 2010.*

EXECUTIVE SUMMARY

Cambodia has slowed the spread of HIV. However, the impact on households of people living with HIV is large...

1. Cambodia has made significant progress in reducing the spread of HIV through aggressive prevention strategies and universal coverage of antiretroviral therapy (ART). Incidence has now decreased from 110 new cases per day in 1994 to 4 cases per day in 2008. Nonetheless, more than 75,000 people living with HIV reside within over 60,000 affected households. The challenges the country faces from HIV - ranging from a decrease in productivity as measured by gross domestic product (GDP) to increased psychosocial and mental health problems - are not insurmountable but require a deep and concerted effort to increase household level support.

...with an especially heavy impact on poor households.

2. HIV has a remarkable socioeconomic impact, affecting current and future development in Cambodia, manifested by job losses, the impoverishment of households, and the erosion of family and community cohesion, among other factors. Multivariable analysis of the socioeconomic impact of HIV on households shows that an HIV household was 23% more likely to be poor, even when controlling for education of the household head, urban/rural status and other socioeconomic variables. Differences between households in the poorest and wealthiest quintiles also show how deep the differences can be across households. For example, children in the poorest quintile were 62% less likely to attend school than children in the wealthiest quintile.

The key to effective HIV programs is to promote evidence based policy making.

3. The needs of HIV-affected households (HIV-HHs) are complex and multivariable, requiring support programs that protect households from financial catastrophe, while enhancing quality of life, and increasing access to essential services. Understanding the extent to which households are affected by HIV will lead to the development of policy recommendations which promote the expansion of effective programs, increase program coverage, and assist policymakers to designate priorities rooted in the best available evidence.

I. METHODOLOGY OF THE REPORT

4. This report aims to detail the socioeconomic impact of HIV in Cambodia at the household level to provide a basis upon which to design mitigation strategies. Understanding the dynamics of disease transmission in Cambodia, and ways in which households are affected, is central to this study. The report was commissioned in the context of a broader United Nations Development Programme (UNDP) initiative to analyze the socioeconomic impact of HIV in Asia.

5. To assess the socioeconomic impact of HIV at the household level, Sanigest Internacional and the Cambodian Center for Advanced Study (CAS) designed a household survey of 2,623 HIV-affected households and 1,349 control or "non-affected" households, including a total of 17,695 individuals. Survey modules covered key socioeconomic indicators known to be affected by HIV in Cambodia: income, employment, revenues, expenses, consumption, education, health, family composition, gender considerations, stigma, and discrimination. The instruments were designed to ensure the data would be comparable, in a regional context, to data from prior surveys. The survey was administered between December 2009 and February 2010.

6. This study used a two stage sampling methodology. A list of 51 health facilities providing ART and OI services in 20 provinces[2] as of December 2008 (National Center for HIV/AIDS, Dermatology and STD, 2008) provided the site-based frame for the first cluster-based level of sampling. A list of provinces was selected, based on composition of urban and rural districts and how many people living with HIV (PLHIV) attended each health facility. At the second stage, a simple random sample of PLHIV was drawn from the previously selected sites using lists of PLHIV from home-based care (HBC) networks as the frame. In each household, only the member of the household selected from the sample was interviewed. Non-affected households (NA-HHs) were selected based on geographic proximity to HIV-affected households. The third house from every other PLHIV house interviewed served as a control household, to ensure comparability of socioeconomic and other demographic characteristics. For the analysis of results across income levels, households were grouped into five wealth quintiles based on per capita annual consumption.

7. Multiple levels of analysis were performed on the survey results. For all data comparing HIV-affected households and non-affected households, a two-sample t-test of the null hypothesis of either equal proportions or means were conducted, at the 95% confidence level. Additionally, multivariate regression analyses were performed for each key socioeconomic sector.

II. OVERVIEW OF THE EFFECT OF HIV ON CAMBODIAN HOUSEHOLDS

Household Characteristics

Heads of HIV-affected households are more likely to be young, female, and single...

8. While household composition was comparable between affected and non-affected households, there were significant differences in the gender composition of the Heads of Households (HoHs). Heads of HIV-HHs were more likely to be young, female, and single. Women headed 53% of HIV-HHs compared to 35% of NA-HHs. For both rural and urban households,

2 *Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Phnom Penh, Prey Veng, Pursat, Siemreap, Sihanouk Ville, Stung Treng, Svay Rieng, Takeo, Oddar Meanchey, Pailin.*

HIV-HH HoHs were also significantly more likely to be under the age of 55. Additionally, they were significantly less likely to be married and more likely to be widowed (37% HIV-HH HoHs were widowed versus 17% of NA-HH HoHs). In HIV-affected households, 78% of the HoHs were HIV positive. HIV-affected households were slightly smaller on average, with fewer members (4.4) than non-affected households (4.6). The report findings might be skewed by the fact that 71% of the 2,623 people interviewed were female.

... and have fewer assets than those not affected by HIV.

9. Urban households (both HIV-affected and non-affected) were significantly more likely to be in the upper two (wealthiest) quintiles than their rural counterparts, reflecting the general distribution of wealth in Cambodia. Surprisingly, HIV-HHs were significantly more likely to have had electricity in their homes (68% vs. 60%), and more likely to have had a flush toilet (57% vs. 53%). However, only 53% of HIV-HHs owned their dwelling compared to 80% of NA-HHs. HIV-affected households owned significantly less of every asset surveyed than the non-affected households. This finding has important implications for mobility, food security, employment, and educational opportunities because fewer resources reduce a household's ability to escape the poverty cycle.

Family structures are affected...

10. The impact of HIV on family structures is clear – one-third of all HIV-affected households reported they care for a child orphaned by HIV. An extra non-income earning person brought into the home reduces the amount of money available for other family members, including educational opportunities. An estimated 85,921 orphans and vulnerable children (OVC)[3] currently live in Cambodia. In addition, only 56% of HIV-affected households maintained the nuclear family structure, likely due to the loss of traditional heads of households and the need for additional income earners or caregivers in the household.

... families are sometimes forced to migrate...

11. Households are also affected by migration, disturbing both their social ties within the community and their economic outlook. Twenty-eight percent of HIV-HHs had migrated in the five years prior to the survey compared to 15% of non-affected households. Reasons for migration varied, but included medical considerations (9%) and discrimination (6%). Non-affected households only cited these reasons for migration 1% of the time.

... and HIV-affected households headed by widows face additional difficulties.

12. Widows are a group whose vulnerability to economic impacts has been well established, especially those who are HIV positive, or whose deceased spouse was HIV positive. Among HIV-affected households, per capita income of widow-headed households is significantly

3 *In this analysis, vulnerable children are those <18 years old who fit any one of the following criteria: (i) Children who have lost one or both parents to HIV (ii) Children who live in a household where either the Head of Household or the HoH's spouse is HIV positive (iii) Any child who is HIV+ (iv) Any child living in a household with either a parent with HIV, or another child with HIV.*

lower than that of non-widow headed households ($539 vs. $632) despite the widow-headed households being smaller on average (4.2 members vs. 4.5 for non-widow headed households). Differences in per capita income might be explained by the death of the primary income earner in the household – the widow's spouse – or that widowed HoHs are more likely to be unemployed than the non-widowed HoHs (31% of widows vs. 24% of non-widows).

Despite these differences, widow-headed households fared similarly or better than their non-widowed counterparts. They are more likely to own their dwelling (55% of widow-headed HHs vs. 51% of non-widow headed HHs) and less likely to be in debt (62% of widow-headed HHs have a loan, compared to 67% of non-widow headed HHs).

Socioeconomic Indicators

HIV-affected households have per capita income levels that are 25% less than non-affected households...

13. Reduction in income and changes in employment status are at the root of many problems faced by PLHIV. Twenty-seven percent of PLHIV reported they stopped earning income after their diagnosis, and for those who remained employed, the average income was less than half of what it was before their diagnosis. PLHIV also experience wage inequality. Non-affected HoHs earned 17% percent more, on average, for the same occupational category, as HIV-affected HoHs. Regardless of the number of the earners within the households, non-affected households in general earned 25% more than affected households.

... and household members must bear the burden of caregiving, as well as supplementing household income.

14. Caregiving duties further complicate household income dynamics. With respect to unpaid household members who provide care to PLHIV, 18% of caregivers (CGs) had to quit their jobs in order to perform these duties. Those able to retain their employment saw approximately a 50% reduction in income. The workforce participation rate for girls in HIV-affected households was 50% higher than in non-affected households. When children work to supplement household income, they forgo schooling, which affects long-term accumulation of human capital.

Consumption, Savings, and Debt

HIV-affected households reduce their consumption by 6 percent...

15. HIV has "trickle down" effects on household consumption. Overall, HIV-affected households consumed nearly 6% less than their NA-HH counterparts, with greater disparities in rural areas. Even adjusted for household size, per capita spending was higher in non-affected households ($759) than in HIV-affected households ($716). There were no significant differences in allocations towards food, health or education - suggesting that government HIV programs

are successfully reducing some of the burdens on affected households. However, 18% of HIV-HHs reported reducing consumption, mainly food, in the previous 12 months due to the disease.

... and take on debt as a coping mechanism.

16. HIV-affected households take on debt as a way of coping with financial hardship brought about by the disease. Despite having very little or no savings to start with, 12% of HIV-HHs indicated that their savings had been reduced in the previous 12 months due to the disease. Reductions averaged just below 30% of total savings. Among all HIV-affected households, 65% had at least one loan compared to 53% of non-affected households. These findings held true even in the richest wealth quintile. Furthermore, HIV-affected households were less likely to be in debt for constructive reasons, such as purchasing or improving their dwelling or invested in agricultural production and operation. Non-affected households were also more likely to receive a loan from a bank. In contrast, HIV-affected households turned to moneylenders more frequently: 26% of HIV-HH loans compared to 21% for NA-HH loans. Over 33% of HIV-affected HHs reported having sold assets or borrowed money and an additional 12% used savings to pay for care prior to their diagnosis.

III. EDUCATION

HIV leaves a long-term impact by pushing children to leave school and enter the workforce.

17. Beyond reducing the immediate economic capacity of the household, HIV influences human capital accumulation at the household-level, and therefore, long-term earning capacity. HIV-affected households were more likely to state that children were not enrolled due to financial reasons (21% vs. 15%) or because the child needed to work (22% vs. 18%) than non-affected households. Despite these figures, enrolment levels between households are statistically equal (86% vs. 85%).

Even those children who stay in school face a challenge to perform well, with greater challenges for girls.

18. If the children of HIV households manage to stay in school, they still face many challenges that decrease school performance. There were large disparities in repetition rates. Children in HIV-HHs were 1.3 times more likely to repeat a grade than children in NA-HHs. The figures were more divergent for females, where the repetition prevalence was 22% versus 16%. Finally, children from HIV-affected households missed more school than their non-affected counterparts (5.4 days compared to 3.2 days).

IV. HEALTH

Delayed diagnosis is costly...

19. Delayed diagnosis and subsequent illness can be a significant financial burden. Overall, 25% of PLHIV received their diagnosis only after a prolonged illness, although this varied widely by province from 19% in Phnom Penh to 44% in Kampot. The longer the HIV diagnosis is delayed, the greater the financial burden from out-of-pocket health-related costs, as individuals (a) must seek care before they are eligible for the publically funded programs targeting PLHIV and (b) are likely to require more care as they are not receiving adequate treatment for their HIV. The economic impact of these pre-diagnosis illnesses was clear – over 33% reported having sold assets or borrowed money and an additional 12% used savings to pay for care before diagnosis. Additionally, only 4% were exempt from charges or received assistance from a health equity fund (HEF). This finding highlights the importance of encouraging routine HIV testing and early detection of symptoms.

... but effective Government of Cambodia social safety nets are in place...

20. Once diagnosed, government safety nets appear to be effective. Seventy-three percent of PLHIV sought care in the public sector compared to 15% of people in NA-HHs. HIV-HHs indicated they were significantly less likely to rely upon their household earnings to pay for their visits (70% vs. 83%). Overall, HIV-affected households were significantly more likely to either be exempt from a charge (32% vs. 16%) or to have been given money (18% vs. 10%). These assistance programs likely allow people to seek needed care without financial worry. There was no difference seen in the percentage of HIV-HHs or NA-HHs who experienced catastrohpic health care expenditures (health expenditures greater than 40% of non-food expenditures). It is noteworthy, however, that most HIV-HHs identify the support programs delivered by NGOs as non-government, despite the fact that they are operating under a government contract framework: only 7% of PLHIV recognized government involvement in HIV treatment and care programs.

... allowing people to seek care.

21. Cambodia has near universal ART coverage, with almost 90% of PLHIV reporting they were on ART. A greater proportion of men than women reported being on ART (91% vs. 85%), but this may be due to differences in stage of infection by gender. There were significant differences in the use of medication for opportunistic infections (OI) by rural and urban households, not explained by stage of infection. Fifty-six percent of rural PLHIV were on medications for OI compared to 71% of those in urban areas, perhaps indicating that access to medicines is lower in rural areas. No significant differences were found in the use of ART or OI medication by wealth quintile, suggesting that income is not a factor in accessing treatment.

Yet health status remains poor...

22. Despite treatment and assistance, self-reported health status of members of HIV-households was lower than that of non-affected households, with 12% of HIV-HH members reporting "very bad" or "bad" health compared to only 8% of those in non-affected households. As a result, those in HIV-affected households sought care more frequently – both in the outpatient ambulatory setting and in the inpatient setting. Eighteen percent of PLHIV had been hospitalised within the past year compared to only 6% of those in non- affected households.

... and risky sexual practices leave many exposed to new infection.

23. According to the survey responses, heterosexual sex was the primary mode of HIV transmission, yet only 37% of women reported using a condom in the last sexual encounter (vs. 63% of men). This supports both national and international data indicating that women are still less likely than men to possess both the knowledge and the power to successfully negotiate condom use. Among women citing sexual transmission of HIV, 98% cited their spouse or long-term partner as the source of the infection, compared to only 80% of males who nominated their spouse or long-term partner. In terms of disease duration, 99% of PLHIV had been diagnosed more than one year prior to the survey. This finding is not surprising considering HIV incidence has decreased significantly over the past 10 years, but may also reflect observational bias within the survey.

V. FOOD SECURITY

Food support programs are well targeted to people living with HIV.

24. The nutritional status of citizens is of vital importance for a country's economic progress. Additionally, the unique nature of HIV, and its treatment, increases the importance of good nutrition for PLHIV. Overall, significantly more HIV-affected households received food support than non-affected households (58% compared to 4%). For over 80% of HIV-affected households, food support was directly related to the diagnosis of the PLHIV. Additionally, the targeting of the food programs appeared effective, as 63% of HIV-affected households in the poorest quintile (Q1) reported having received food support in the previous three months compared to only 44% of households in the wealthiest quintile (Q5). Sixty-six percent of HIV-affected households in the lowest wealth quintile reported household members had eaten three or more meals per day in the week prior to the survey, compared to 61% of non-affected households. For all other quintiles, however, non-affected households reported greater meal consumption than in HIV-affected households. As with HIV treatment and care programs, respondents did not recognise the government's role in food security.

25. In general, recipients were pleased with the food support they received. An adequacy evaluation of food assistance revealed that only 11% of respondents claimed the program barely or did not meet their needs. Satisfaction did not vary based on income quintile.

Despite widespread nutritional support, 51% of members of HIV-affected households experienced hunger during the year prior to the survey, compared to only 35% of non-affected household members. This finding did not vary significantly by urban/rural status or by gender. However, it did vary by wealth quintile. Among HIV-HHs in the lowest wealth quintile, 65% experienced hunger during the year prior to the survey compared to 38% in the highest wealth quintile. These findings suggest that members of HIV-affected households may not have adequate nutrition, particularly among the lowest wealth quintiles.

VI. STIGMA AND DISCRIMINATION

Beyond the economic and human capital challenges, people living with HIV have a large psychosocial and mental health burden brought on by shame, guilt, and low self-esteem.

26. HIV can have a traumatic impact on an individual's sense of self-worth, personal security, and his or her social standing within the community. Forty-seven percent of PLHIV felt ashamed of their HIV status and 49% felt guilty. Men experienced considerably higher levels of shame than women (65% vs. 43%). Self-recrimination was also highly prevalent, with 46% of PLHIV blaming themselves for their disease. Women were more likely than men to blame others for their HIV (28% vs. 9%), likely due to the issue of spousal transmission in Cambodia. The majority of PLHIV (65%) experienced low self-esteem, with 16% of all PLHIV having felt suicidal in the 12 months prior to the survey. Overall, quality of life was poorer among PLHIV than among respondents in non-affected household; 18% of PLHIV rated their lives as poor or very poor versus 14% in non-affected households.

PLHIV are sometimes shunned from their communities and even threatened or abused.

27. Worsened psychosocial and mental health could also be linked to changing social status. Thirteen percent of PLHIV reported that they or their HH members were treated differently by community members due to their status. The main forms of discrimination reported were (a) being verbally abused or teased (b) being neglected, isolated and avoided and (c) their children not being allowed to play with other children. Additionally, 23% of women reported verbal abuse towards themselves and their HH members in 12 months prior to the survey, while 7% of women were physically threatened. On a positive note, only 2% of PLHIV were dissatisfied with their access to health services, which reflects positively on public health services for PLHIV.

VII. KNOWLEDGE AND AWARENESS

HIV awareness is high...

28. Understanding patterns in HIV knowledge and awareness is important for targeting programs to reduce transmission, improve treatment, and reduce stigma. Overall, there were high levels of HIV awareness throughout the country. Not surprisingly, levels were highest in HIV-affected households. Ninety-six percent of survey respondents in HIV-affected households

reported being tested for HIV, while only 37% of those in non-affected households reported getting tested. Among those not tested, 61% (57% rural and 67% urban) reported knowing where they could receive a test.

yet people rarely take steps to protect themselves from the disease...

29. Despite high levels of HIV awareness, respondents rarely took steps to protect themselves from the disease. Condom usage was very low in non-affected households. Only 11% of respondents used one in their last sexual encounter compared to 79% of those in HIV-affected households. Despite these figures the vast majority of all respondents indicated they knew that HIV was a preventable disease (99% of HIV-affected households and 94% of non-affected households).

...and key affected populations are only slightly more likely to have been tested for HIV.

30. There were differences in the percentages of respondents within HIV-affected and non-affected households who identified as belonging to a key affected population (16% of HIV-HH survey respondents identified with at least one key affected population, compared to only 7% of those in non-affected households). Within non-affected households, a greater percentage of members who identified with a key affected population (41%) than those who did not (36%) had tested for HIV. However, PLHIV reported the opposite results, as only 67% of those in a KAP reported they determined their status through VCCT, in comparison to 72% of those not belonging to a key affected population.

Unsafe feeding practices leave babies at risk of infection.

31. Women were found to experience unique challenges in relation to HIV. With reference to mother-to-child transmission (MTCT), ART use among HIV positive women who had given birth in the year prior to the survey was 78%. WHO guidelines recommend that all pregnant women, regardless of their stage of infections, take ART to reduce the likelihood of MTCT. Additionally, 21% of positive women who had given birth in the year prior to the survey indicated they had breastfed the baby for the first six months. 56% of these women were also taking ART. The WHO recommends exclusive breastfeeding during the first 6 months combined continued ART therapy. WHO guidelines concerning ART therapy and exclusive breastfeeding for HIV positive women were changed one month prior to the survey's implementation, and thus these results can be utilised as baseline indicators.

1. INTRODUCTION

CHAPTER SUMMARY

- *The study is part of a UNDP regional initiative to map the socioeconomic impact of HIV throughout Asia.*
- *HIV is known to affect all levels of the economy through a myriad of interactions.*
- *Cambodia has made considerable progress over the last decade in addressing the HIV epidemic through prevention, treatment and impact mitigation policies.*
- *As of 2009, 52 health facilities in 20 provinces offered OI and ART services and approximately 90% of adults in need of ART received it.*

BACKGROUND

This study of the socioeconomic impact of HIV in the Royal Kingdom of Cambodia was prompted by the need to determine the potential impact of the country's HIV epidemic through a better understanding of the dynamics of the epidemic at the household level. Lack of understanding of the epidemic and its potentially devastating impact contribute to poorly targeted policies, stigma, denial and inadequate responses. With the expansion of antiretroviral therapy (ART) in Cambodia, HIV is shifting rapidly to resemble a chronic disease with increasing life-cycle costs for the country over the medium-term. The response, therefore, will need to shift to ensuring long-term social protection for people living with HIV (PLHIV) and their families, while at

the same time, continuing to close gaps in access to voluntary confidential counselling and testing (VCCT), ART and prevention programs.

Globally, the impact of HIV on poverty – at the individual, household and national levels – is clear. In recent years, several studies have explored the socioeconomic conditions in HIV-affected households (HIV-HHs) (UNDP, 2006; UNDP, 2009; UNDP, 2009b). Findings suggest that HIV is a financial drain on households and the disease disproportionately affects already-impoverished households. Poor families have less capacity to handle the effects of HIV because they lack savings and other assets to cushion the impact of illness and death. Healthcare expenses, costs associated with funerals, migration, unemployment and loss of income from reduced productivity, can lead families to sell their productive assets and take on debt. A 2006 report from India found that 56% of low income HIV-affected households had to borrow money or liquidate assets in the 12 months prior to the study, compared to 23% of higher income HIV-affected households (UNDP, 2006). Loss of productive assets and increasing debt means that less wealthy HIV-affected households may not be able to bear the costs of the disease.

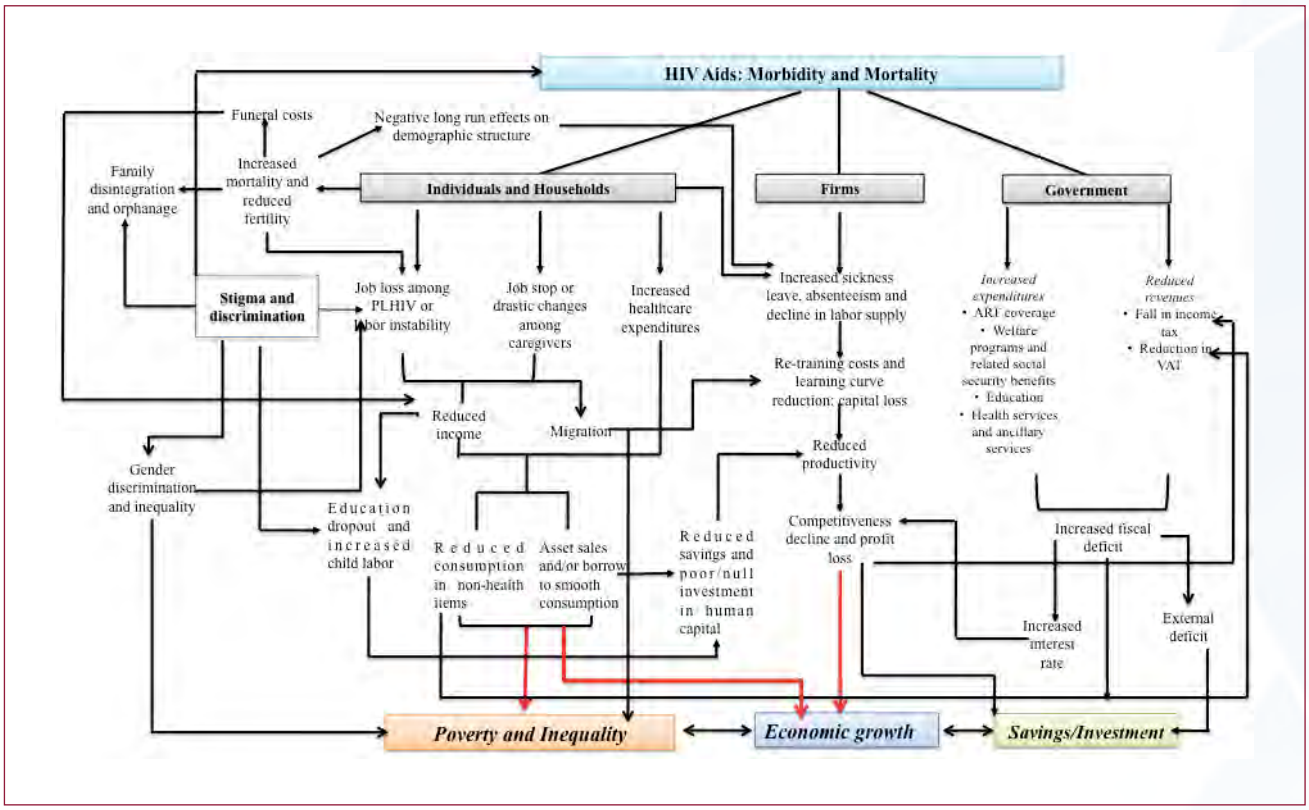
The macro-economic effects of HIV are well documented in terms of its direct impact on health status, healthcare utilisation and economic development through reduced human capital.[4] During the last two decades, a significant number of authors pointed towards the influence of HIV in production, labour force, fiscal budgets, prices and monetary aggregates, among other variables and their analyses concluded that the epidemic negatively affects the performance of the economy. HIV influences economic activities and growth both directly and indirectly. Firstly, the disease reduces healthy life expectancy. Early death and chronic disability result in the loss of future income and in increased health care expenditures. The second effect includes reduced investment in one's own and one's children's education and health, especially in societies with high infant/child mortality and high fertility (a behavioural quality-quantity trade-off). Thirdly, increased healthcare consumption and increased country risk premium negatively affect investment in the economy. In addition to the quantifiable economic costs of HIV, there are also intangible losses in quality of life.

HIV affects all agents in the economy: households, businesses and the government. At both the household and business levels, its direct effects are due to the increased morbidity and mortality (loss of years of healthy life, reduced labour supply, changes in labour force composition and reduced efficiency of labour due to illness). HIV-related morbidity and mortality disproportionately affect people during their productive years. Sick employees supply fewer hours to the labour market and are less efficient than healthy workers. Labour supply also decreases when household caregivers leave the workforce to care for HIV positive family members. Reduced fertility due to HIV has long-term effects on population growth, and results in fewer people contributing to the economy. Children orphaned by HIV increase the economic burden on surviving family members and the state. Government subsidized HIV medical expenditures, particularly for ART and treatment of opportunistic infections (OIs),

4 *A positive correlation between health and economic growth has been established in Bloom and Sachs (1998), Bhargava et al. (2001), Cuddington, Hancock, and Rogers (1994), Cuddington and Hancock (1994), Robalino, Voetberg, and Picazo (2002), and Robalino, Jenkins, and Maroufi (2002) and analyzed in detail in WHO Commission on Macroeconomics and Health (2001) and Haacker (2004b).*

burden the state budget. Delayed diagnosis and associated healthcare costs may become catastrophic at the household level, driving marginally poor households below the poverty line. As a result, income inequality may worsen. Figure 1.1 diagrams these myriad interactions by which HIV affects different levels of the economy.

Figure 1.1: The Micro and Macro Economic Impact of HIV



Source: Cercone, J. from UNDP, 2009c

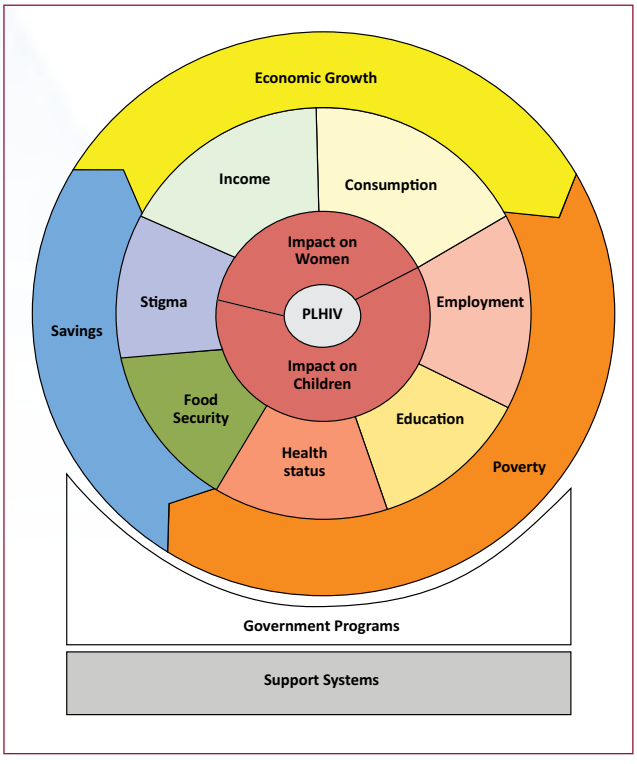
In the private sector, employers lose recruitment and training investments when their employees are lost to HIV. Loss of productive labour shifts the burden of contributing to benefits, including the pension system, to fewer healthy workers. This in turn may reduce benefits or healthy workers' labour supply. Other negative effects include likely effects on trade (both in goods and services) and on balance of payments.

The public sector can also lose recruitment and training investments when their employees are lost to HIV. Public revenues decrease when workers reduce consumption, due to illness or caregiving duties, which in turn means fewer people paying income taxes. The health sector will likely struggle under increasing demand for medical care.

The importance of gross domestic product (GDP) growth and consumption for the level of poverty and the national welfare condition is widely recognised. One of the main issues facing policy makers is how to design more effective national policies and programs and interventions to mitigate the impact of HIV on PLHIV and their

households. The impact of HIV on households should be explored using a multi-dimensional approach - identifying root causes, determining the epidemic's impact on household indicators and using these findings to analyze the impact of HIV on a broader level. By using a household level analysis, understanding the challenges HIV-affected households face can help to determine household coping mechanisms - for example, how HIV-affected households finance care. The following figure, which highlights the main areas where HIV affects society and the economy, constitutes the basis for this study's design. The present study fits well into this framework; supporting the analysis required to better understand exactly what the impact of HIV is on Cambodian households, and to understand what types of policies and programmes would best address key issues for PLHIV and their families.

Figure 1.2: Dynamics of the Impact of HIV

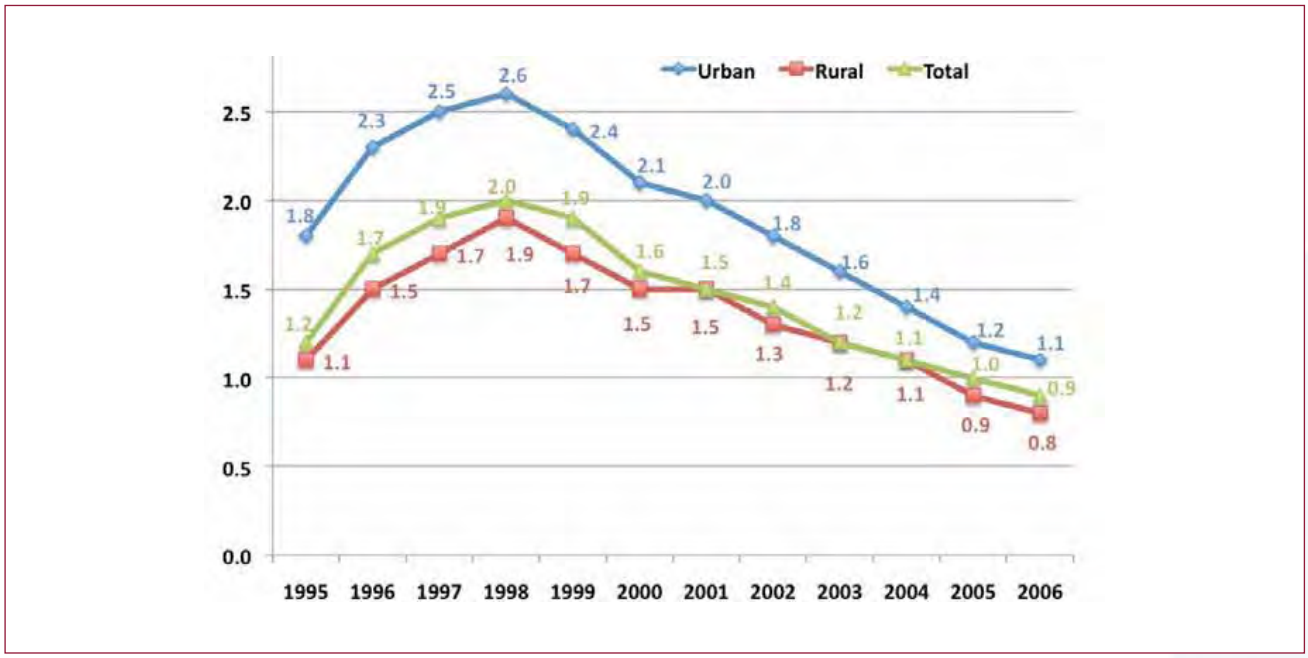


Source: Cercone, J from UNDP, 2009c

The development of policies to mitigate the impact of HIV on households in Cambodia should be crafted within the context of the improving economic situation, while taking into account social and economic inequalities. Despite economic improvement, over 30% of Cambodians still live below the poverty line (World Bank, 2007). In addition, there are few opportunities for the poor to gain necessary livelihood skills. These challenges are likely exacerbated by the presence of HIV in the household, but the question is, by how much?

This study is part of a UNDP regional initiative to map the socioeconomic impact of HIV on households throughout Asia. The work was carried out by Sanigest Internacional and the Cambodian Center for Advanced Study (CAS), under the coordination of UNDP and UNAIDS Cambodia and with the support of the National AIDS Authority (NAA) of Cambodia. In this context, the report aims to detail the socioeconomic impact of HIV at the household level in Cambodia, to provide a basis upon which to design better mitigation strategies. Understanding the dynamics of disease transmission in Cambodia, and ways in which households are affected, is central to this study. Survey modules covered key socioeconomic indicators known to be affected by HIV: income, employment, revenues, expenses, consumption, education, health, family composition, gender considerations, stigma and discrimination (The Kaiser Family Foundation, 2007). The instruments were designed to ensure the data would be comparable, in a regional context, to data from prior surveys.

Figure 1.3: Estimated HIV Prevalence, Persons Aged 15-49, by Location, 1995-2006



Source: Report of a Consensus Workshop, National Centre for HIV/AIDS, Dermatology and STD (NCHADS) 2007

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. Section Four details the impact of HIV on economic indicators, including income, employment, debt, consumption and savings. Section Five focuses on education for children, with particular emphasis on children made vulnerable by HIV. 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 impact, including gender issues, orphans and vulnerable children, widows, migration, home-based care and key affected populations (KAPs). Section Ten ends the analyses and examines differences in knowledge, awareness and behaviours regarding HIV. Section Eleven focuses on recommendations 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.

Overview of HIV in Cambodia

Prior to 2000, Cambodia struggled to control its growing HIV epidemic. The country faced serious social, economic and epidemiologic challenges to disease prevention, yet Cambodia has made considerable progress in addressing the HIV epidemic with balanced progress in the areas of prevention, care and treatment and impact mitigation. Incidence has decreased from 110 new cases per day in 1994 to 4 cases per day in 2002 (Roberts, 2009). UNAIDS attributes these

gains to political commitment, a strong response from civil society and a well-coordinated response by the National AIDS Authority (Bühler, 2006). The data demonstrates the fruits of prevention interventions targeting key affected populations, as well as the general population. The National HIV Response focused on preventing infections in high-risk populations, particularly commercial sex workers. By implementing a 100% condom-use policy in brothels, HIV incidence among this population decreased from 13.9 per 100 person-years in 1999 to 6.45 per 100 person-years in 2002 (Saphonn, 2002). Estimates suggest that in absence of this condom policy, national HIV prevalence could have reached 8-10% by 2007. Instead, HIV prevalence was estimated to be 0.9% in 2006 (NCHADS, 2007) and is projected to drop to 0.7% by the end of 2010 (UNAIDS 2010).

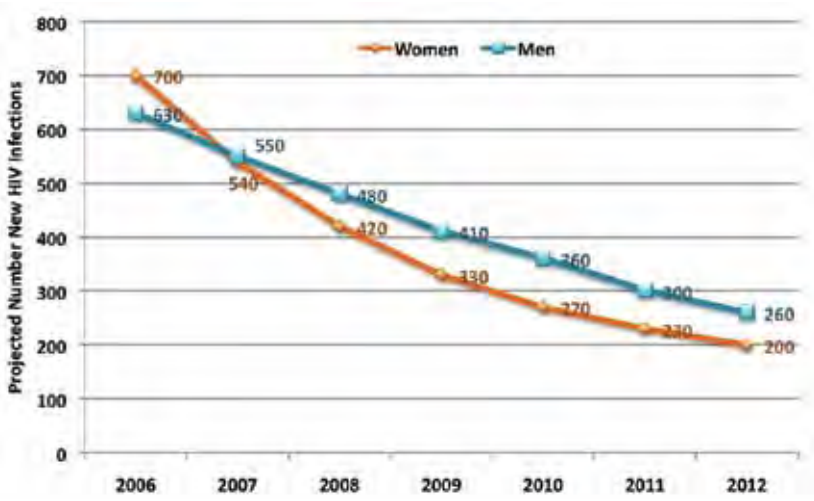
The challenges the country faces from HIV, ranging from a decrease in productivity, measured by an estimated impact equivalent to over 2% of GDP (United Nations, 2010) to increased mental health problems, are not insurmountable but require a deep and concerted effort to increase household level support.

Nonetheless, more than 60,000 HIV positive people (15-49) are burdened by HIV. While national HIV prevalence is relatively low (0.9% in 2006), prevalence is still unacceptably high in certain risk groups, such as female sex workers (13.3% in 2006), indirect female sex workers (9.4% in 2006), men who have sex with men (MSM) residing within Phnom Penh (8.7% in 2006) and injecting drug users (IDU) (15.0% in 2006) (NCHADS, 2007).

Heterosexual transmission outside of brothels continues to be a problem. While condom use in brothels is high (96% according to a 2008 UNAIDS report), men are less likely to use condoms with non-brothel-based sex workers, girlfriends and multiple concurrent partners. According to the 2005 CDHS, only four out of every ten men reported who had sexual intercourse with more than one partner in the 12 months prior to the survey reported using a condom. Only 8.6% of women reported doing so. While the actual number of women living with HIV is decreasing, women comprise an increasing proportion of all HIV infections. In 1997, only 37% of all infections were among women. However, projections for prevalence from the Asian Epidemic Model show that by 2012, 52% of all infections will be present in women. However, as shown in Figure 1.4, by 2012 it is projected that women will account for 43% of new infections, down from 53% in 2006.

HIV infection among women has serious consequences for child health. The Prevention of Mother-To-Child-Transmission (PMTCT) program tested 18.8% of pregnant women and provided prophylaxis for 10.7% of exposed neonates (UNAIDS 2008). As of 2009, 32.3% of HIV positive women received ART to prevent mother-to-child-transmission (MTCT). Despite these efforts, concern still exists regarding the number of new infections that are passed from mothers to their newborns (UNAIDS 2008).

Figure 1.4: Projected Number of New HIV Infections Annually, (Population 15-49 Years), 2006-12



Source: Report of a Consensus Workshop, NCHADS June 2007

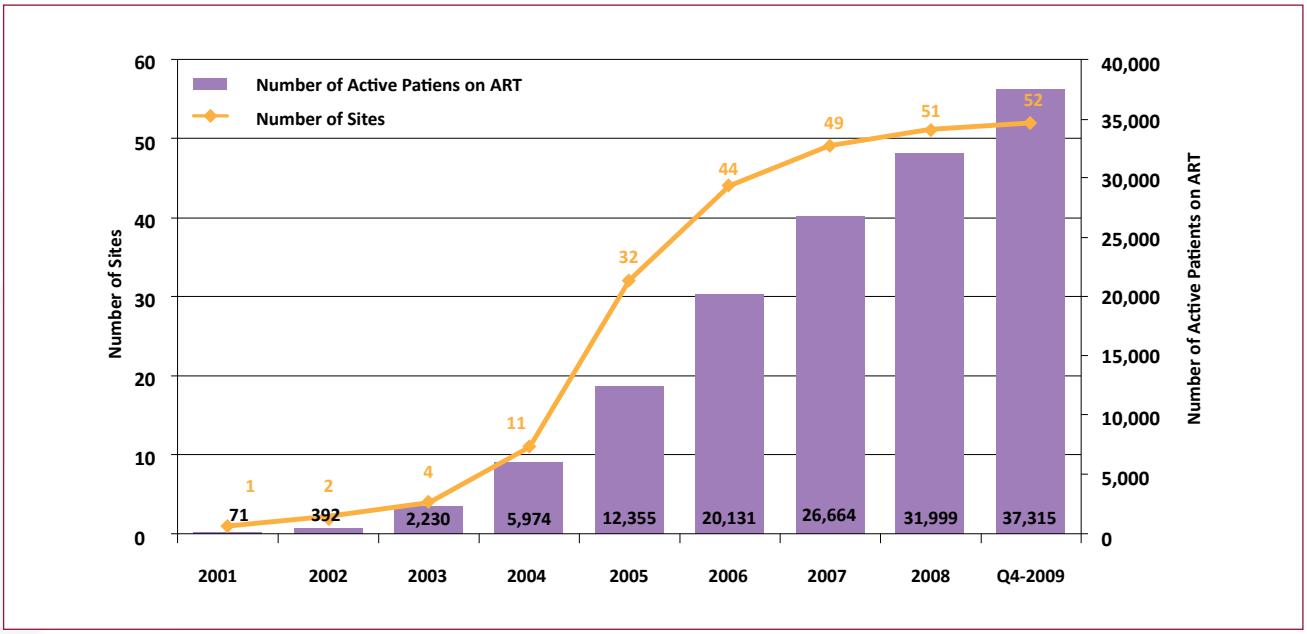
Source: Report of a Consensus Workshop, NCHADS June 2007

In the past few years, Cambodia has made significant progress in mitigating the effects of the HIV epidemic. Increasing the availability of ART/OI treatment sites – a cornerstone of the country's HIV response - has lead to improved treatment coverage over the past 5 years. As of 2009, 52 health facilities in 20 provinces offered OI and ART services of which 26 facilities also provide paediatric care. Thirty-nine Operational Districts have at least one facility providing ART. The central role these sites play is underscored by the close correlation between the number of sites and the number of people on ART. In the fourth quarter of 2009, the coverage of ART was estimated to reach 90 percent for adults in need (NCHADS, 2010). Proper treatment has had a significant affect on health status. The number of PLHIV with advanced HIV infection on ART has more than doubled since early 2006. Furthermore, the survival of PLHIV on ART after 12 months is currently estimated to be close to 90% for adults and over 90% for children (NCHADS, 2010).

While access to treatment has improved, Cambodia still struggles with increasing HIV knowledge and awareness and encouraging voluntary testing and counselling. Despite an increase in the number of testing centres (from 12 in 2001 to 233 in 2009), levels of voluntary counselling and test (VCCT) are still low. According to the 2005 CDHS, only 10% of women and 15% of men had been tested for HIV (UNAIDS, 2010), however, the number of VCCT sites in Cambodia has more than doubled since then (from 109 in 2005). The data from testing sites indicate that in 2009, women made up the majority of test subjects (57% were women, NCHADS 2010).

The majority of young people in Cambodia still lack comprehensive knowledge about HIV prevention. Cambodia has made progress in HIV education, demonstrated by the fact that the majority of young people can correctly identify protection methods. Myths concerning HIV are still prevalent, however.

Figure 1.5: Number of ART Sites and ART Coverage



Source: NCHADS (March 2010) Annual Report 2009

The 2005 CDHS found that one-third of young people (15-24) did not know that a healthy-looking person could have HIV. A number of schools in Cambodia provide life skills-based HIV education (see Figure 1.6). While this has been integrated into primary school education, HIV education in secondary education was funded through an external source and its sustainability is in question.

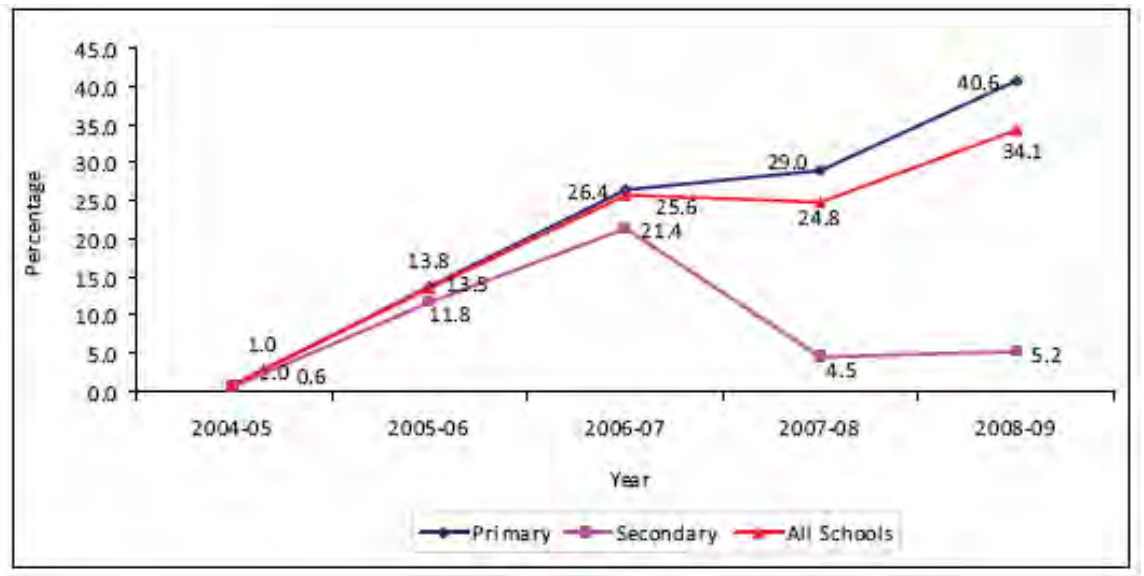
Traditionally, HIV has been considered a disease of poverty. Diseases of poverty are those where the conditions of poverty, such as lack of access to water and sanitation, proper nutrition and adequate housing, are considered catalysts for disease. The relationship between income and HIV is more complicated, however.

Recent studies have shown, that in developing countries HIV prevalence is actually higher in upper wealth quintiles than in lower quintiles (Piot, 2007; Tanzania Commission for AIDS, 2005; Central Bureau of Statistics Kenya, 2004). The Cambodia Demographic and Health Survey (CDHS) found similar results. Higher income was found to be significantly associated with HIV infection (Sopheab, 2009). They postulated that higher infection rates in higher wealth quintiles might be due to greater social mobility and increased number of sexual partners. This finding complicates the analysis of poverty's impact on HIV transmission.

Macroeconomic Impact of HIV in Cambodia

The impact of HIV reaches far beyond morbidity, disability and mortality rates - resulting in the loss of thousands of years of productive life. The increasing allocation of national resources to health in lieu of economic advancement, combined with the loss of human capital, has a measurable impact on a countries' economic growth. The economic toll of HIV in the Cambodian economy is evident. The Report of the Commission on AIDS in Asia estimated that each death from HIV in Asia is equal to the loss of $5,000 (Commission on AIDS in Asia, 2008). In a country where the

Figure 1.6: Schools Providing Life Skills-Based HIV Education, 2004-2009



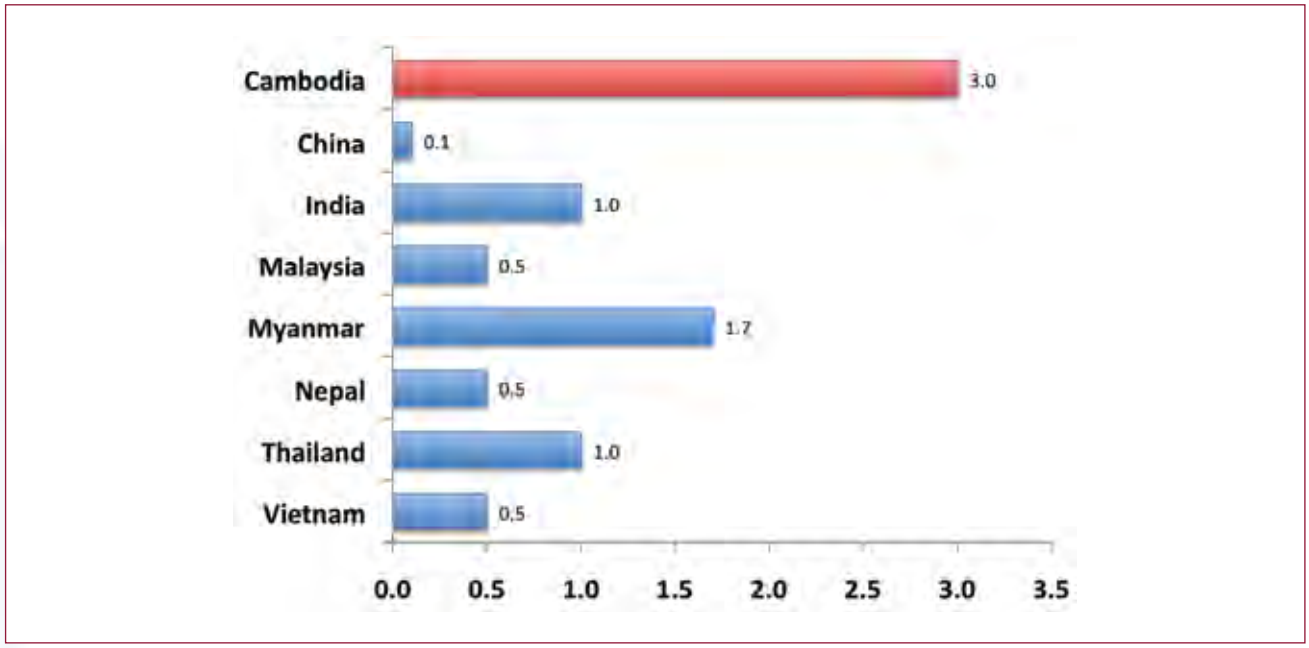
Source: The National AIDS Authority (2010). Cambodia Progress Report for Period January 2008-December 2009.

average yearly per capita income is less than $1, an HIV death in Cambodia is equal to a loss of over 14 years of income. Average life expectancy in Cambodia has decreased by 3 years due to the HIV (see Figure 1.7). Losses occurring among people of working age results in loss of revenue and reduced economic growth.

While this study provides insight into the impact of HIV at the micro level (household), this section of the paper highlights the main results from a sister study that was carried out in connection with the survey on the socioeconomic impact of HIV on Cambodian households (United Nations, 2010). That study evaluates the macroeconomic impact of the HIV epidemic in Cambodia in a broader aggregate perspective by (a) assessing the impact of HIV on the Cambodian economy between 1993 and 2020, (b) evaluating how the most important macro variables would behave under three different scenarios and (c) estimating the fiscal cost of HIV. The report analyses the impact of HIV in Cambodia on population and labour force, impact on GDP, capital, investment and consumption and fiscal impact. Using projected demographic and disease incidence and prevalence information, the study formulated four scenarios (no HIV, HIV without ART, HIV with ART at current coverage levels and 100% ART coverage).

The report found that HIV could have a serious affect on population and labour force. By 2020, Cambodia could expect to lose between 31,952 (100% ART coverage) and 411,199 (HIV with no ART coverage) people compared to a scenario without HIV, and, as a result, large labour force losses. Smaller labour force translates into reduced productivity and output, both contributing to economic losses.

Figure 1.7: Reduced Life Expectancy due to AIDS (in years) for Selected Countries in Asia, 2005



Source: Report of the Commission on AIDS in Asia, Redefining AIDS in ASIA: Technical Annex, 2008

The table below shows the results of scenario modelling in an attempt to estimate the macroeconomic impact of the HIV epidemic in Cambodia in terms of per annum losses of output (GDP), productivity, capital, investment and consumption. Losses are highest in the actual situation compared to HIV but no ART or 100% ART coverage. Not surprisingly, per annum loss is lowest in the scenario estimating 100% ART coverage.

Table 1: Per Annum Economic Losses, as a Percentage Compared to a No-HIV Scenario (1993-2020)

Variable	No ART Coverage	Partial ART coverage	100% ART coverage
Average GDP loss	0.63%	0.59%	0.55%
GDP per capita loss	0.58%	0.57%	0.55%
Average productivity	0.55%	0.55%	0.53%
Average capital loss	0.93%	0.89%	0.79%
Average investment loss	0.64%	0.59%	0.55%
Average consumption loss	0.64%	0.59%	0.55%
Average consumption per capita loss	0.58%	0.57%	0.54%

Source: Sanigest Internacional analysis from United Nations, 2010

The cumulative effect on GDP during the period 1993-2020 shows that the GDP of Cambodia would be 19.7% lower than under a No-HIV scenario. As HIV comes to resemble a chronic disease, loss patterns will shift. Annual losses in productivity would decrease over time, except in the scenario without ART, where losses would continue to increase.

HIV imposes a serious financial strain by representing a significant proportion of total health and total government expenditures, diverting those financial resources away from other types of investments. In GDP terms, HIV costs averaged 1.1% of GDP between 1993 and 2020. The financial burden increased steadily until 1997, when it reached its highest level (2.03% of GDP). The continuous decline in HIV prevalence drove down the costs to a projected low of 0.68% of GDP in 2011. After that, HIV costs are projected to start to grow again because prevalence rates are expected to remain fairly constant, so the total number of PLHIV will increase as people live longer on ART.

2. METHODOLOGY AND DATA

CHAPTER SUMMARY

- *The two-step sampling process selected 3,972 households from 12 provinces containing 17,695 individuals.*
- *A 13-section, multi-faceted survey tool was implemented over a two month period (December 2009 to February 2010) with a non-response rate of less than three percent.*

In order to analyse the socioeconomic impact of HIV at the household and macroeconomic levels, Sanigest Internacional and the Cambodian Center for Advanced Study designed a household survey which was carried out in both households containing a member living with HIV (HIV-affected) and control or "non-affected" households. The sample included 3,972 Cambodian households (2,623 containing a person living with HIV and 1,349 control households), with more than 17,000 individuals (11,566 within HIV-affected households and 6,129 in non-affected households). The survey was administered between December 2009 and February 2010.

The sample selected was representative at the national level, within the context of all HIV-affected households enrolled in an HIV support program, and stratified for representativeness at the urban and rural levels.

2.1. SAMPLE AND SURVEY DESIGN

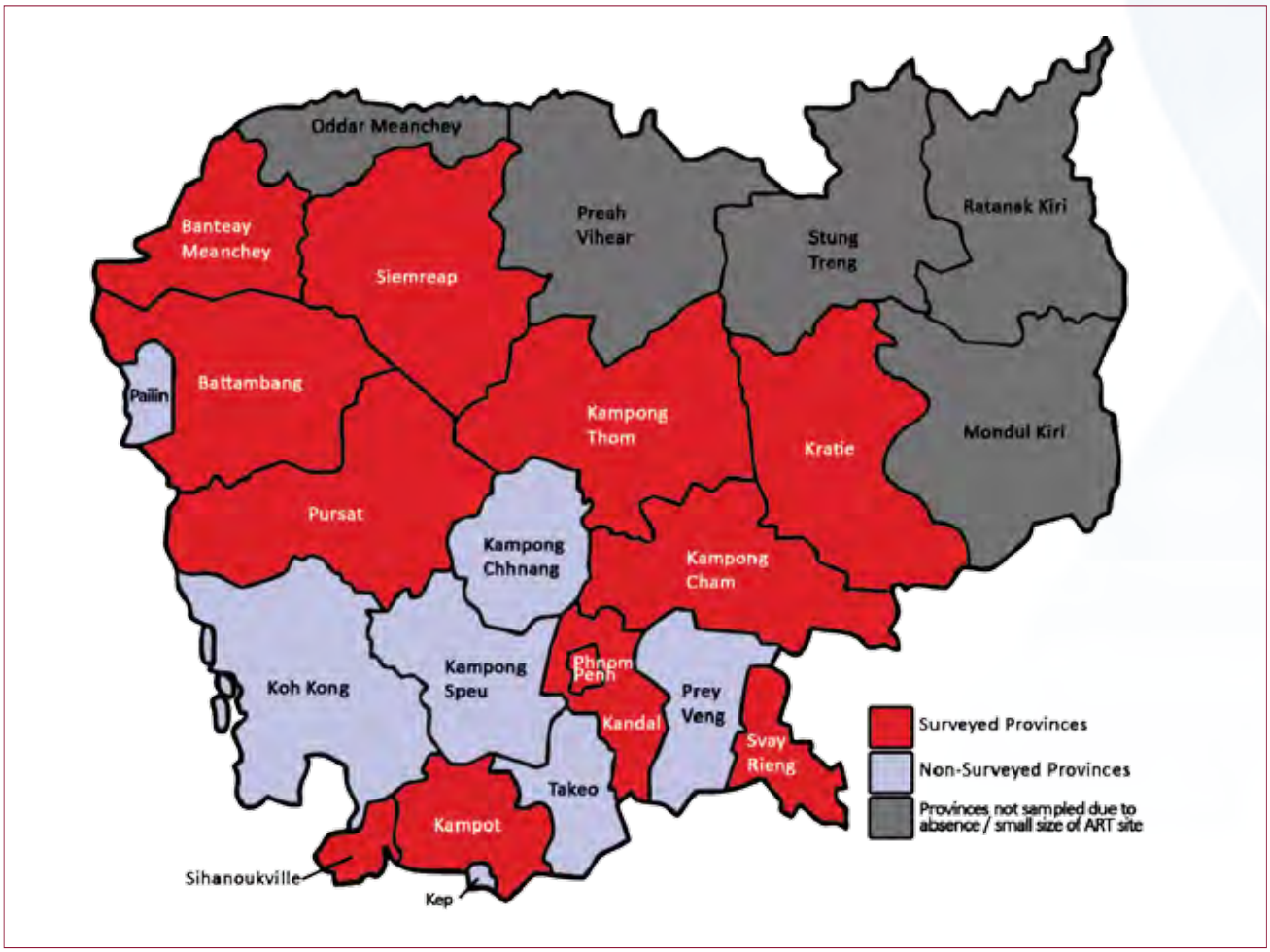
The sampling process for the survey was done in two steps: first a cluster sample to select which provinces would be included, and then a second simple randomization sample of the PLHIV within each selected province.

2.1.1. FIRST STAGE OF SAMPLING: SELECTION OF PROVINCES

The list of 51 health facilities providing ART and OI services in 20 provinces[5] as of December 2008 (NCHADS, 2008) was utilised to create a site-based sampling frame from which a list of provinces was selected, based on their composition of urban and rural districts and numbers of PLHIV attending each site. A district with a population density greater that 300 people per hectare was considered urban. The urban and rural sites were randomized independently. Stung Treng was not included in the randomization due to the small size of its ART site and the small ART site within Pailin was merged with Battambang sites for sampling purposes. That created a list of 17 provinces, and the one region of Pailin combined with Battambang, for randomization.

As shown in Figure 2.1, the randomisation resulted in selection of 12 provinces, including 6 provinces with only rural sites (Banteay Meanchey, Kampong Cham, Kampong Thom, Kampot, Kratie and Pursat), 4 provinces with only urban sites (Kandal, Sihanoukville, Svay Rieng and Phnom Penh) and 2 provinces (Battambang and Siemreap) with both urban and rural sites.

Figure 2.1: Map of Surveyed and Non-Surveyed Cambodian Provinces



Source: Sanigest Internacional

5 *The 20 provinces with ART and OI sites at that time included Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Phnom Penh, Prey Veng, Pursat, Siemreap, Sihanouk Ville, Stung Treng, Svay Rieng, Takeo, Oddar Meanchey, Pailin. Four provinces, Preah Vihear, Stung Treng, Ratanak Kiri, and Mondul Kiri had limited services, but no sites, so were not included.*

2.1.2. SECOND STAGE OF SAMPLING: SELECTION OF HIV-AFFECTED HOUSEHOLDS

The sample size required for the HIV-affected and control households was calculated as 2,701 (assumed 5% non-response rate), to ensure sufficient power to determine differences across provinces, location (urban compared to rural) and different economic strata.

It had originally been indicated that the ART and OI sites would be able to provide contact information for PLHIV, but it was later determined that they did not retain that information in their databases. As a result, an alternative source of contact information was utilised: the support networks of NGOs like CPN+[6] , (see Annex A for a full list of coordinating organisations and health centres). A sample frame database was compiled with 11,070 PLHIV who lived within 20km of the selected sites across the 12 selected provinces. A second randomization process was then conducted to choose 2,701 PLHIV from that sample frame. In each household, only the identified member from the sample was interviewed. Additional HIV positive household members were not interviewed.

Table 2: Sampling Frame and Survey Fraction for HIV-affected Households

# of PLHIV in Database	# Randomized to be surveyed	Survey Fraction
11,070	2,701	24.4%

Source: Sanigest Internacional

The sampling frame and sample fraction is shown in Table 2. It is important to note that, due to the process of identifying PLHIV, the sampling frame for this survey contained a higher percentage of households receiving home-based care than would be standard across Cambodia.

2.1.3. SELECTION OF NON-AFFECTED HOUSEHOLDS

To maximize the cost-effectiveness of the sample frame, the sample included twice as many HIV-affected households as control households. Weighting was used to normalize the two populations. Overall, the final number of non-affected households was 1,356. Non-affected households were selected based on geographic proximity to HIV-affected households (in this case, the third house from every other HIV-affected household interviewed), in order to select households of similar socioeconomic context within the community.

2.1.4. SURVEY NON-RESPONSE RATE

HIV-affected households

After the randomization process, an initial verification process was conducted to ensure that the codes provided by the NGO networks in the database did correspond to identifiable PLHIV, that their households could be located and to ensure there would be no overlap of PLHIV in the same household (e.g., if a husband and wife were both randomized, they would represent only one household). After that initial verification, a second mapping process was undertaken to determine the exact geographic location of the randomized HIV-affected households. During the mapping, the survey team determined that some households were located outside of the

[6] *Cambodian People Living with HIV/AIDS Network*

20km diameter from the selected sites and that some households migrated to other locations (e.g., Thailand) for work.

Subsequently, of the 2,701 PLHIV randomized to be interviewed, 78 individuals had to be removed from the study or were unable to respond for the following variety of reasons (2.9% non-response rate):

- When two randomized PLHIV lived in the same household;
- When the PLHIV was a migratory worker crossing country borders;
- When the PLHIV had moved residence;
- When the PLHIV could not be found;
- When one of the coordinating NGOs was no longer able to assist.

Consequently, 2,623 HIV-affected households were interviewed for the survey.

Control Households

Seven of the 1,356 control households did not respond to the survey (0.5% non-response rate) resulting in a final number of interviewed non-affected households of 1,349 (control). It does not appear that the survey suffered from any non-response rate bias.

Table 3 displays the final numbers (un-weighted) of actual households interviewed, by province and urban or rural status.

Table 3: Distribution of Surveyed Households, by Province and Rural / Urban Status

Province	# of Surveyed Households								
	HIV-HH			NA-HH			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Phnom Penh	680	20	700	364	15	379	1044	35	1079
Banteay Meanchey	230	147	377	108	81	189	338	228	566
Battambang	69	273	342	44	128	172	113	401	514
Kampong Cham	29	64	93	19	28	47	48	92	140
Kampong Thom	45	61	106	18	37	55	63	98	161
Kampot	38	176	214	17	91	108	55	267	322
Kandal	44	126	170	20	65	85	64	191	255
Kratie	25	13	38	13	9	22	38	22	60
Pursat	65	57	122	49	12	61	114	69	183
Siemreap	163	137	300	83	67	150	246	204	450
Sihanoukville	79	21	100	39	11	50	118	32	150
Svay Rieng	11	50	61	7	24	31	18	74	92
Total All Provinces	**1478**	**1145**	**2623**	**781**	**568**	**1349**	**2259**	**1713**	**3972**

Source: Sanigest Internacional

2.1.5. SURVEY INSTRUMENT DESIGN

The survey instrument was designed to focus on the key socioeconomic areas where HIV is known to have an impact – income and employment, revenues, expenses and consumption, education, health and specific areas such as family composition, widows, gender issues and stigma and discrimination (The Kaiser Family Foundation, 2007). It was also designed to ensure it would provide comparable data with other surveys used within the regional context (from India, China, Vietnam and Indonesia). The complete questionnaire is provided in Annex C.

2.1.6. ETHICAL REVIEW PROCESS

After the completion of the draft survey, it was presented to the National Ethics Committee for Health Research, within the Ministry of Health, for approval. After edits based on feedback from the Committee, approval was given to proceed with the survey process in March 2009.

2.2. FIELD WORK AND DATA ENTRY

2.2.1. TRAINING OF SUPERVISORS

The training of the five supervisors who oversaw the five teams of enumerators was conducted in May 2009. The primary purpose of the training was to familiarise the supervisors with the objectives and methodology of the research, and to review the survey instrument in detail. The training of the supervisors also functioned as a pilot test of the survey in order to determine the time required for the interview process.

The initial piloting of the instrument occurred in urban areas of Phnom Penh, and was facilitated by an NGO working with low-income and HIV positive families in Boeung Kak and Borei Keila. Five interviews were conducted in each community, and the time results of the ten interviews are displayed in the table below.

Table 4: Pilot Testing of Survey Instrument during Supervisor Training

	Supervisor										Average Minutes per Section
	A		B		C		D		E		
	1	2	3	4	5	6	7	8	9	10	
Section 1	10	5	10	10	15	10	20	15	10	9	11.4
Section 2	10	7	15	10	15	10	15	10	15	12	11.9
Section 3	5	5	10	20	10	15	15	20	10	10	12
Section 4	30	20	20	20	25	20	25	20	25	22	22.7
Section 5	0	0	0	0	0	0	0	0	0	0	0
Section 6	15	10	5	10	5	5	20	15	10	10	10.5
Section 7	45	30	40	40	40	25	35	30	75	55	41.5
Section 8	10	5	10	10	5	5	10	20	10	0	8.5
Section 9	10	5	5	10	5	5	10	15	7	0	7.2
Section 10	10	0	15	0	5	5	5	10	0	0	5
Section 11	10	15	10	0	25	20	15	20	17	0	13.2
Section 12	20	15	35	0	35	30	25	30	27	0	21.7
Total Minutes	**175**	**117**	**175**	**130**	**185**	**150**	**195**	**205**	**206**	**118**	**165.6**

Source: Center for Advanced Study

As Table 4 highlights, the average length of time for each interview was almost three hours, which was determined to be too long to extract the optimal responses from respondents, especially Section 7 on economic activities. As a result of this training, the survey was edited during a collaborative exercise between UNDP, UNAIDS, CAS and Sanigest Internacional to prevent respondent fatigue.

2.2.2. TRAINING OF ENUMERATORS

Forty-four enumerators were recruited for training in December 2009 (28 male, 16 female). All enumerators held a minimum of a Bachelor's degree and had previous experience in data collection. The training was conducted in Phnom Penh at CAS, by Dr. Hean Sokhom and the five previously trained supervisors. The exercise consisted of three days intensive training and one day of piloting the revised instrument.

2.2.3. DATA COLLECTION

The enumerators were split into five teams of eight or nine members, each headed by one of the supervisors, as shown in Table 5. A full list of the enumerators is provided in Annex B. Each team was assigned a number of different network organisations to work with in order to facilitate the process of being introduced to the HIV-affected households.

Each enumerator conducted three interviews per day: two with households affected by HIV, and one with a non-affected household. Prior to the day of the interview, the NGO would have made contact with the household of the PLHIV to re-confirm their agreement to participate in the survey. Each morning, the teams would meet with the NGO liaisons and then proceed together to the identified households.

The non-affected household chosen each day was the third house from the initially interviewed HIV-affected household. The team would ask to confirm the household did not contain a person living with HIV, in order to maintain the control status of the household.

On average, the interview process required two hours, in both rural and urban households.

Table 5: Distribution of Enumerators and Survey Teams

Supervisors		# Enumerators		# Assigned NGOs		# Households	
		Male	Female	Urban	Rural	HIV	Non
A	Mr. Hun Thirit	5	4	7	10	571	286
B	Ms. Ke Kantha Mealea	5	3	1	3	470	236
C	Mr. Sou Ketya	7	2	5	9	561	288
D	Mr. Lath Poch	4	5	3	11	519	253
E	Mr. Ou Sirren	7	2	2	7	580	286
	Total	**28**	**16**	**18**	**40**	**2701**	**1349**

Source: Center for Advanced Study

7 *Supervisor A- Mr. Hun Thirit B- Ms. Ke Kantha Mealea C- Mr. Lath Poch D- Mr. Sou Ketya E- Mr. Ou Sirren*

2.2.4. INFORMED CONSENT AND CONFIDENTIALITY

After the initial randomization of households from the sample frame, the relevant NGO contacted the households with the informed consent forms to ensure their comfort with the process. All data was processed without personally identifying information attached to the record.

2.2.5. DATA EDITING, CODING AND ENTRY AND QUALITY CONTROL

Editing and coding was done by data entry operators before data entry in order to remove inconsistent or erroneous items and ensure completeness. Coding was then required for various fields, including place of residence by using the village, commune, district and province codes and occupation and industry by using the UN International Standard Classification of Occupation (ISCO) and the International Standard Industrial Classification (ISIC) respectively.

The Census and Survey Processing System (CSPro) of the United States Bureau of Census was used to complete the data entry of the various survey schedules, verify the data captured and check and correct inconsistencies within survey results. Twelve trained data entry specialists input all the data under the supervision of a data entry supervisor. Computer editing and correction was performed using the Batch Edit tool of CSPro for data cleaning. Range checks, indicating the minimum and maximum values of variables that were built in, were also reviewed at this stage. After the final data cleaning, SPSS data files were produced by using the export data tool of CSPro.

2.3. DATA ANALYSIS

2.3.1. WEIGHTING OF SURVEY

The data in this report were weighted to account for the stratification and sampling methodology used in the survey implementation design. All counts and percentages therefore reflect the weighted results, unless otherwise indicated.

2.3.2. STATISTICAL ANALYSES

Multiple levels of analysis were performed on the survey results. For all data comparing HIV-affected households and non-affected households, a two-sample t-test of the null hypothesis of either equal proportions or means was conducted, at the 95% confidence level. For basic comparison analyses that were conducted on just one variable (e.g., the percentage of men in HIV-HHs compared to in NA-HHs), the p-values are displayed in the main body of the document. For more complex analyses with multiple components, the p-values are displayed in Annex F. For all analyses, confidence intervals (CIs) are also displayed in Annex F.

Additionally, multivariate regression analyses were performed with each key socioeconomic sector. The details of each model are described in Annex G.

Table 6: Sample Household Populations: Weighted and Un-weighted, by Location

	Sample Household Populations								
	HIV-HH			NA-HH			Total		
	Urban	Rural	**Total**	Urban	Rural	**Total**	Urban	Rural	**Total**
Un-weighted Counts	6,525	5,041	**11,566**	3,545	2,584	**6,129**	10,070	7,625	**17,695**
Weighted Counts	7,318	4,275	**11,594**	2,881	3,339	**6,220**	10,200	7,614	**17,813**

Source: Sanigest Internacional

2.3.3. WELFARE MEASURES AND POVERTY LINE

Welfare Measure: To analyse the economic impact of HIV at the household level, a measure of welfare / poverty is required. In developed countries, often the measure of household or per capita income is utilised, but in developing countries it has been well-documented that using either an asset-based approach, or a consumption based approach more accurately describes the prolonged economic situation of households. As recommended in the United Nations' Handbook on Poverty Statistics: Concepts, Methods and Policy Use (United Nations, 2005), this report has created a poverty index based on a household's per capita consumption.

Poverty Line: Cambodia's national poverty line is based on a definition of the amount required to purchase food to provide 2100 calories (calculated nationally) and a small allowance for non-food items (region specific) per day. However, due to the nature of this report being utilised within the regional context, the poverty line analysis included uses the international World Bank standard of $1.25 per day.

2.3.4. STAGE OF INFECTION

Throughout the report, some analyses were stratified by the PLHIV's Stage of Infection: I, II, III or IV. Their stages were not determined using a CD4 count, but rather by using the WHO Clinical Staging of HIV/AIDS (WHO, 2007). Annex D provides details regarding this methodology.

Table 7: Quintiles of Consumption

Consumption Quintile	Consumption Range (per capita)	Average Per Capita Annual Consumption
1 Lowest (poorest)	$54 - $358	$275
2	$358 - $493	$426
3	$593 - $656	$573
4	$656 - $931	$776
5 Highest (wealthiest)	$931 - infinity	$1,602

Source: Sanigest Internacional

2.4. LIMITATIONS TO THE STUDY

While the robustness of the study design allows for substantial analysis of the data, it should be noted that there are a number of limitations to the study, including:

(i) The population of PLHIV randomized to this study contained a higher proportion of women to men than previous data would predict: 71% of 2,623 PLHIV sampled for the survey were female. This may partially reflect enhanced health-seeking behaviour in women, or reduced HIV-status awareness in men, or may reflect an evolving demographic profile within Cambodia. However, it is a possible source of selection bias.

(ii) Networks from NGOs that provide HBC were used for the second-stage sampling frame, and created a study population that consists of a greater percentage of HIV-HHs receiving HBC than would normally be reflected in the Cambodian population. This is a possible source of observational bias.

(iii) The sample frame focused on individuals who lived within 20km of an ART / OI site, creating possible selection bias by excluding people with reduced access to healthcare.

(iv) Only a very small percentage (<1%) of the sampled PLHIV had been diagnosed within the previous year. Given the drop in incidence, low levels would be expected, but some selection bias may be present as a result.

(v) The survey asked if respondents were members of a key affected population (KAP) These include men who have sex with men, transgender individuals, sex-workers, injecting drug users, migrant workers and prisoners. However, it should be noted that due to the sensitive nature of the questions, it is likely that many individuals would not divulge that they identified with certain key affected population groups.

3. PROFILE OF SAMPLE HOUSEHOLDS AND PLHIV

CHAPTER SUMMARY

- *HIV-affected households were slightly smaller than non-affected households, and heads of households were more likely to be female and not currently married than those of non-affected households*
- *HIV-affected households were less likely to own their dwelling or other assets.*
- *Female PLHIV were more likely to be widowed or unemployed than male PLHIV.*

3.1. PROFILE OF SAMPLE HOUSEHOLDS

This section of the report provides a profile of the surveyed households, highlighting both the similarities and principal socioeconomic and demographic differences between the case and control households.

Table 8 highlights that while the average size of the households were relatively similar, HIV-affected households (n=2,623) were slightly smaller on average (4.4 household members) than the non-affected households with 4.6 household members (n=1,349). This is likely due to the large percentage of widow-headed HIV-affected households (see Table 9). A greater percentage of HIV-affected households than non-affected households were surveyed in the rural parts of Cambodia (63% vs. 46%). Due to this difference, and the important lifestyle differences and access to amenities that exist between rural and urban Cambodia, most of the analyses throughout the report segregate the households according to a rural or urban designation.

These initial analyses demonstrate that HIV-affected households were significantly more likely to have migrated in the previous 5 years (28% vs. 15% for non-affected households). This is explored in more detail in Section 9.4.

With regards to the actual members of the households (HIV-HHs: 11,594 total members; NA-HHs: 6,220 total members) almost no difference was seen between genders (46% male in HIV-HHs; 47% male in NA-HHs). Regarding the age strata of the case-control households, overall there are only small differences (58% of both households' members are between the ages of 15-54). Finally, HIV household members were less likely to have achieved at least some secondary education or higher (31% vs. 37% of NA-HH members).

While only minor differences were noted between non-Khmer and Khmer household members, it is important to note that this study did not sample from the provinces of Ratanak Kiri or Mondul Kiri (due to their lack of ART / OI centres) and they are two of the regions with the highest percentage of non-Khmer populations in Cambodia, which may have resulted in an overall lower representation of non-Khmer throughout the study.

Table 8: Basic Socioeconomic and Demographic Characteristics of Sample Households

	HIV-HH (n=2,623)	NA-HH (n=1,349)	*P*
Mean # of household members / HH	4.4	4.6	004
	%	**%**	
Location of HH: Urban	63.0	46.3	*<.001*
Household migrated in last 5 years	27.8	15.3	<.001
	HIV-HH members (n=11,594)	**NA-HH members (n=6,220)**	***P***
Sex of HH members: Males	46.1	47.3	*>.05*
Age of household members			
< 5	11.0	7.2	*<.001*
5-14	21.9	27.3	*<.001*
15-24	19.9	19.1	*<.001*
25-34	17.4	14.8	*<.001*
35-44	10.6	16.4	*<.001*
45-54	9.9	8.1	*<.001*
≥55	9.3	7.1	*<.001*
Education level of HH members (≥ 5 YOA)			
No school	10.9	8.2	*<.001*
At least some primary school	10.9	8.2	*<.001*
At least some secondary school	1.5	1.8	*<.001*
More than secondary school	54.8	74.1	*<.001*
Ethnicity of HH members			
Khmer	97.3	98.8	*<.001*
Non-Khmer	2.7	1.2	*<.001*

Source: Sanigest Internacional analysis

3.2. PROFILE OF THE HEADS OF HOUSEHOLDS

The economic standing of the head of household (HoH) is one of the most important indications of the overall economic status of the household. Table 9 details the important differences that were reported between the HoHs of HIV-affected and non-affected households in rural and urban locations. A key difference is seen in the sex of the HoH. For both rural and urban households, heads of HIV-HHs were significantly more likely to be a female than heads of NA-HHs (53% vs. 35% overall). This is likely connected to the higher number of widows and individuals of unmarried status in the HIV-affected households.

Heads of HIV-affected HHs were more likely to be under the age of 55, reflecting some of the family structure impacts of HIV (further outlined in Section 9). Additionally, they were significantly less likely to be married, and more likely to be widowed (overall, 37% of all heads of HIV-HHs were widowed vs. 17% of heads of NA-HHs).

There were also differences with regards to educational status, especially in urban areas, where only 36% of heads of HIV-affected households had attained at least some secondary school, while 46% of non-affected HoHs had attained that level. Reflecting that difference in education, differences were also seen in the occupational categories of the HoHs, with those in HIV-affected households being more likely to hold an elementary occupation[9] (37% vs. 29%).

There was a small difference in the percentage of HIV positive heads of households in rural and urban locations, with 79% of surveyed urban HIV-affected households being led by a PLHIV compared to only 75% in rural areas (in HIV-HHs 78% of HoHs were also HIV positive).

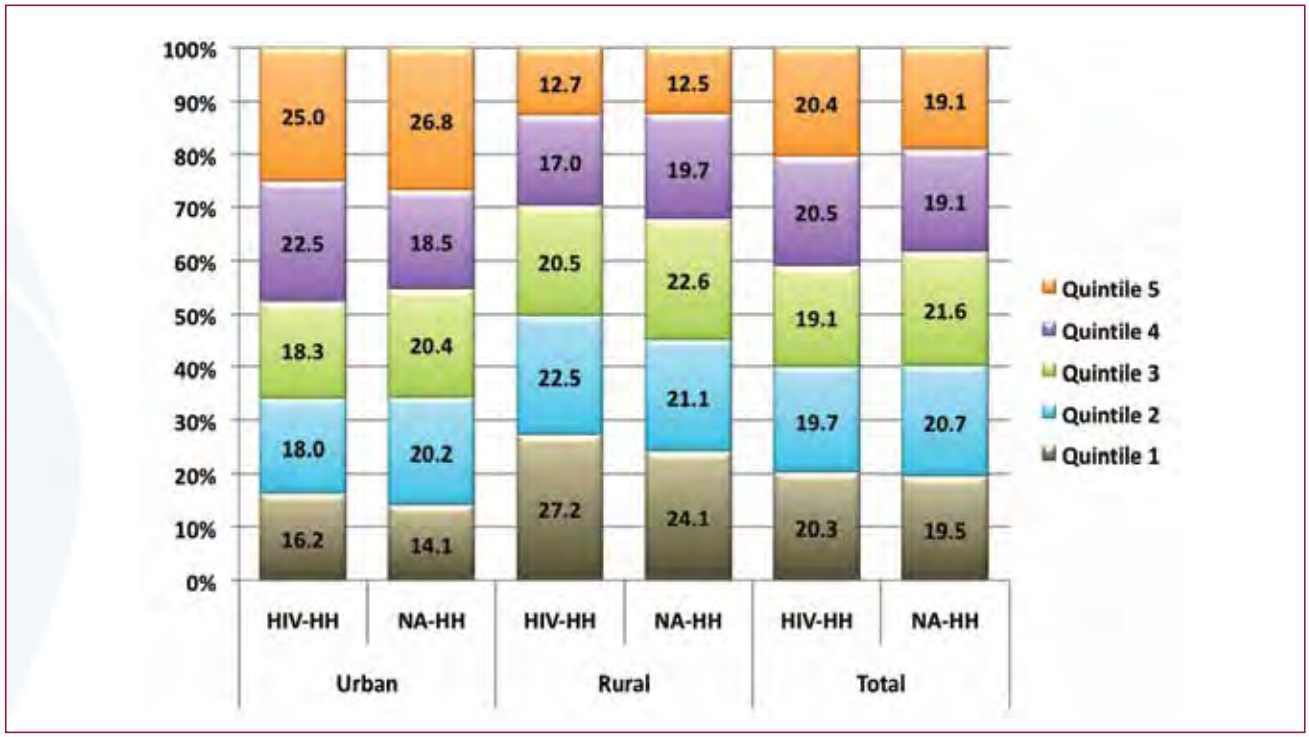
9 *ISCO elementary occupations are defined as those that involve the performance of simple and routine tasks that may require the use of hand-held tools and considerable physical effort. Occupations in this major group are classified into the following sub-major groups: Cleaners and helpers; Agricultural, forestry and fishery labourers; Labourers in mining, construction, manufacturing and transport; Food preparation assistants; Street and related sales and service workers; Refuse workers and other elementary workers. (ILO, ISCO Definitions. 2008)*

Table 9: Basic Characteristics of Heads of Households, by Location

	Urban HHs			Rural HHs			Total HHs		
	HIV	NA	*P*	HIV	NA	*P*	HIV	NA	*P*
	%	%		%	%		%	%	
Sex									
Male	45.7	64.5	<.001	50.0	65.6	<.001	47.3	65.1	<.001
Female	54.3	35.5	<.001	50.0	34.4	<.001	52.7	34.9	<.001
Age of Head of Household									
≤24	0.9	3.5	<.001	0.4	2.3	<.001	0.7	2.9	<.001
25-34	20.0	20.3	<.001	17.0	24.8	<.001	18.9	22.7	<.001
35-44	40.9	23.2	<.001	42.9	26.2	<.001	41.6	24.8	<.001
45-54	23.9	29.0	<.001	21.9	21.3	<.001	23.1	24.8	<.001
≥55	14.4	24.1	<.001	17.7	25.4	<.001	15.6	24.8	<.001
Marital Status of HoH (≥15 YOA)									
Never married	1.5	1.8	<.001	1.7	1.0	<.001	1.5	1.4	<.001
Currently Married	54.8	74.1	<.001	56.6	74.4	<.001	55.5	74.3	<.001
Separated / Divorced / Abandoned	10.9	8.2	<.001	6.8	6.8	<.001	9.4	7.4	<.001
Widowed	32.8	15.9	<.001	34.9	17.8	<.001	33.6	16.9	<.001
Education Level of HoH (≥5 YOA)									
No school	5.3	3.1	<.001	7.4	5.1	>0.05	6.1	4.2	<.001
At least some primary school	58.8	51.2	<.001	63.0	62.4	>0.05	60.4	57.3	<.001
At least some secondary school	35.2	43.5	<.001	29.3	31.7	>0.05	32.9	37.1	<.001
More than secondary school	0.7	2.2	<.001	0.3	0.8	>0.05	0.6	1.4	<.001
Occupation of HoH (≥5 YOA)									
Managers	1.9	1.9	<.001	0.6	1.2	>0.05	1.5	1.5	<.001
Professionals	2.2	4.2	<.001	1.6	3.2	>0.05	2.0	3.7	<.001
Technicians & associate professionals	2.1	1.5	<.001	1.9	1.0	>0.05	2.0	1.3	<.001
Clerical support workers	0.7	1.1	<.001	1.9	1.6	>0.05	1.1	1.4	<.001
Service and sales workers	26.9	27.6	<.001	21.3	19.2	>0.05	24.9	23.3	<.001
Skilled ag., forestry, fishery workers	3.6	7.1	<.001	19.9	22.0	>0.05	9.4	14.7	<.001
Craft and related trades workers	11.7	7.9	<.001	6.4	11.3	>0.05	9.8	9.6	<.001
Plant / machine operators, assemblers	10.2	15.7	<.001	6.6	7.4	>0.05	8.9	11.5	<.001
Elementary occupations	37.5	29.1	<.001	34.8	28.9	>0.05	36.5	29.0	<.001
Armed forces occupations	3.1	3.9	<.001	5.0	4.2	>0.05	3.8	4.0	<.001
PLHIV	79.2	0.0	<.001	74.7	0.0	>0.05	77.5	0.0	<.001

Source: Sanigest Internacional analysis

Figure 3.1: Distribution of Sample Households, by Consumption Quintiles



Source: Sanigest Internacional analysis

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 2.3.2, a welfare index was created for households, based on their consumption patterns. Figure 3.1 shows the distribution of households by the quintiles of wealth, by location. As expected, both case and control households were evenly distributed among the quintiles, although significant differences were seen in the urban and rural distributions. Urban households (both HIV-affected and non-affected) were significantly more likely to be in the upper two (wealthiest) quintiles than their rural counterparts, reflecting the general economic situation in Cambodia.

The basic amenities of a household, and asset accumulation, are often used as indicators of economic status. Table 10 and Figure 3.2 display the summary statistics related to the households, by location. Although similar, on average, HIV-affected households reported fewer rooms available for sleeping (1.2 vs. 1.3). Surprisingly, given the other economic factors, HIV-affected households were overall significantly more likely to have electricity in their homes (68% vs. 60%). However, the results are not significantly different within the rural and urban sub-sectors. They were also more likely to have a flush toilet (57% vs. 53%), although the results are the reverse for the rural areas. Significantly, and expected given the general profile of Cambodia, all urban households had much 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 shown by the survey, reflecting the underlying impacts of HIV on reduced asset accumulation and forced sale of assets. Overall only 53% of HIV-affected households owned their place of residence in comparison to 80% of non-affected households. Differences were consistent over location of residence, though more pronounced in the urban regions.

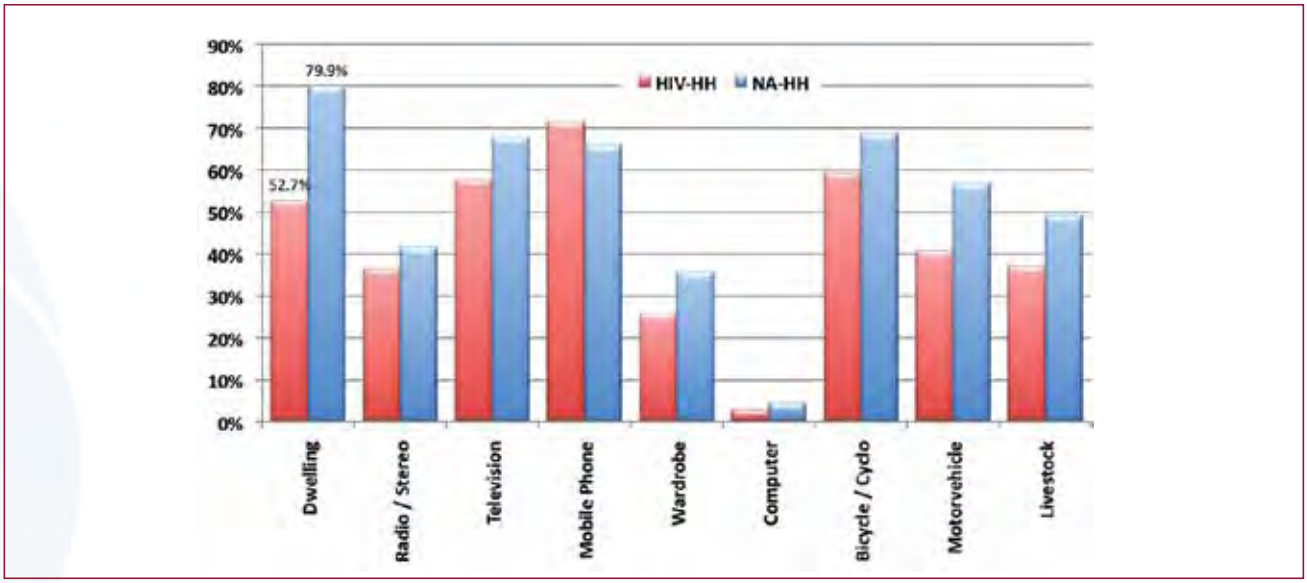
With regards to basic assets, HIV-affected households again suffered from reduced asset accumulation. HIV-affected households owned significantly less of every item than non-affected households (for mobile phones, the differences between households were not significant). This has important implications for mobility, food security, employment and educational opportunities, reducing the ability of HIV-affected households to escape the poverty cycle.

Table 10: Distribution of Households, by the Status of Basic Amenities

	Urban HHs			Rural HHs			Total HHs		
	HIV	**NA**	***P***	**HIV**	**NA**	***P***	**HIV**	**NA**	***P***
Number of rooms used for sleeping	**1.28**	**1.34**	***>.05***	**1.17**	**1.26**	***.003***	**1.24**	**1.30**	***.006***
	%	%		%	%		%	%	
Type of Flooring									
Earth / Clay	10.6	9.8	*<.001*	17.6	12.3	.04	13.2	11.2	*<.001*
Wooden Planks	37.9	44.1	*<.001*	44.7	50.0	.04	40.4	47.2	*<.001*
Bamboo Strips	9.2	12.9	*<.001*	23.6	22.0	.04	14.6	17.8	*<.001*
Cement / Brick / Stone	22.5	16.7	*<.001*	9.9	10.0	.04	17.8	13.1	*<.001*
Ceramic Tiles	18.9	15.3	*<.001*	3.2	4.2	.04	13.1	9.3	*<.001*
Other	0.9	1.2	*<.001*	1.0	0.9	.04	0.9	1.4	*<.001*
Primary fuel for cooking:									
Firewood	35.9	51.1	*<.001*	88.4	85.4	>.05	55.3	69.5	*<.001*
Charcoal	25.1	20.6	*<.001*	8.2	9.1	>.05	18.8	14.4	*<.001*
Liquefied Petroleum Gas	36.6	26.9	*<.001*	2.6	4.9	>.05	24.0	15.1	*<.001*
Other	2.4	1.4	*<.001*	0.8	60.0	>.05	1.9	1.0	*<.001*
Have Electricity	86.3	85.5	*>.05*	36.3	38.7	>.05	67.8	60.4	*<.001*
Sanitation: Flush toilet in house	69.6	63.8	*.009*	34.0	43.4	<.001	56.5	52.9	*.031*

Source: Sanigest Internacional analysis

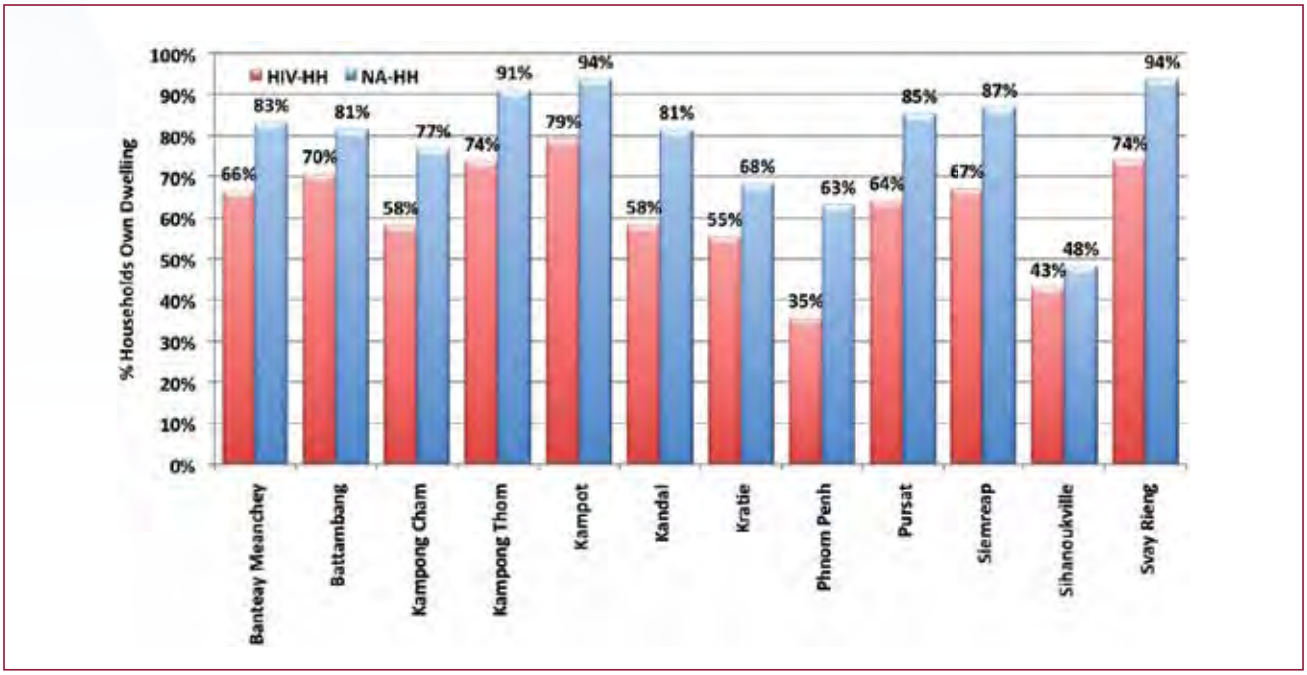
Figure 3.2: Distribution of Households by Asset Ownership



Source: Sanigest Internacional analysis

Given the importance of home-ownership for financial security, Figure 3.3 displays the analysis of the impact of HIV on that economic indicator, across the surveyed provinces. It can be seen that in almost every region of Cambodia significant disparities existed between HIV-affected and non-affected households, with the greatest difference seen in Phnom Penh, where almost twice as many non-affected households than HIV-affected households owned their dwelling (63% of NA-HHs vs. 35% of HIV-HHs).

Figure 3.3: Impact of HIV on Home Ownership, by Province



Source: Sanigest Internacional analysis

3.4. PROFILE OF INTERVIEWED PLHIV

In this section, the basic profile of the 2,623 interviewed PLHIV is presented. Table 11 shows that females made up a significantly larger percentage of the interviewees (29% male vs. 71% female). This does not reflect the previously described overall distribution of HIV prevalence in Cambodia, which the Consensus Group determined to be a 1:1 male to female ratio for 2005 based on TB clinic HIV prevalence data, nor the 2005 CDHS which showed a 0.61% prevalence for men and 0.62% for women. This has important implications for how the data from the study can be interpreted at the national level: either this study reflects a more accurate picture of the gender differences in PLHIV in Cambodia, or reflects observational bias due to the methodology used to create the survey frame, which largely depended upon the home-based care groups present throughout the country, and which women may have a stronger inclination to seek out.

Table 11: Characteristics of Interviewed PLHIV, by Location

	Urban HHs (n=1,653)			Rural HHs (n=970)			Total HHs (n=2,623)		
	Male*	Female	*P*	Male	Female	*P*	Male	Female	*P*
	%	%		%	%		%	%	
Age									
0-14	5.7	2.6	*.001*	6.6	5.9	*.017*	6.0	3.8	*<.001*
15-24	1.3	1.8	*.001*	1.0	1.2	*.017*	1.2	1.5	*<.001*
25-54	89.3	91.9	*.001*	88.7	88.8	*.017*	89.1	90.8	*<.001*
≥55	3.7	3.7	*.001*	3.6	4.1	*.017*	3.7	3.9	*<.001*
Marital Status (≥14 YOA)									
Currently Married	74.8	42.2	*<.001*	80.2	41.4	*<.001*	76.8	41.9	*<.001*
Separated /Divorced /Abandoned	8.3	14.1	*<.001*	7.7	9.5	*<.001*	8.1	12.4	*<.001*
Widowed	8.6	42.6	*<.001*	7.5	48.1	*<.001*	8.2	44.6	*<.001*
Never married	8.2	1.2	*<.001*	4.6	0.9	*<.001*	6.8	1.1	*<.001*
Educational status									
No school	5.2	7.4	*<.001*	7.9	7.6	*<.001*	6.2	7.5	*<.001*

	Urban HHs (n=1,653)			Rural HHs (n=970)			Total HHs (n=2,623)		
	Male*	Female	*P*	Male	Female	*P*	Male	Female	P
Some primary school	48.2	70.6	*<.001*	56.8	76.5	*<.001*	51.5	72.8	*<.001*
Some secondary school or more	46.6	22.0	*<.001*	35.3	15.9	*<.001*	42.2	19.7	*<.001*
Employment Status (15-64 YOA)									
Unemployed	26.2	34.2	*<.001*	31.0	41.5	*.018*	28.0	36.8	*<.001*
Working more than one job	12.8	10.7	*>.05*	15.8	15.9	*>.05*	13.9	12.4	*>.05*

** Urban Male PLHIV n=477; Urban Females n = 1,176; Rural Males = 290; Rural Females = 679*

There were substantial differences between the marital status of the male and female PLHIV, with females more likely to have been widowed (45% females; 8% males), and less likely to be currently married (42% vs. 77% for males). This may be partially due to an increased likelihood for females PLHIV to seek support from a HBC network after suffering the loss of a spouse.

As expected, PLHIV who were male had attained a higher level of education than females in the same location (overall, 42% of males had attained at least some secondary education, compared to only 19% of females). Urban PLHIV had an overall higher level of education than those living in rural areas. Female PLHIV faced higher levels of unemployment than male PLHIV (37% vs. 28%).

Table 12 displays the characteristics of the interviewed PLHIV, across the quintiles of consumption. There was little difference between the lowest and highest quintiles with regards to age, but significant differences with regards to marital status, which may also reflect differences in gender across the quintiles (more males were in the highest quintile than lowest, with the reverse being true for females).

Unsurprisingly, differences in educational status and employment status were clear: a greater percentage of the PLHIV in Quintile 5 had attained a higher level of education than those in the lowest quintiles, and also reported lower unemployment rates.

Table 12: Characteristics of Interviewed PLHIV, by Quintile of Consumption

	Lowest	Q2	Q3	Q4	Highest	*P*
Sex						
Male	16.7	16.9	21.8	21.2	23.4	*<.001*
Female	21.8	20.8	18.0	20.2	19.2	*<.001*
Age						
0-14	6.8	4.5	3.9	3.9	3.2	*.004*
15-24	1.2	1.2	2.0	1.2	1.6	*.004*
25-54	88.9	89.1	89.8	91.1	92.3	*.004*
≥55	3.0	5.2	4.3	3.8	2.9	*.004*
Marital Status (≥15YOA)						
Currently Married	51.3	53.7	50.9	53.1	50.8	*.005*
Separated / Divorced / Abandoned	9.8	8.2	11.4	9.4	17.0	*.005*
Widowed	36.2	35.9	34.5	35.2	28.9	*.005*
Never married	2.7	2.1	3.2	2.3	3.3	*.005*
Educational status						
No school	8.0	7.0	5.9	5.7	8.5	*<.001*
Some primary school	73.6	73.0	62.3	65.9	54.5	*<.001*
Some secondary school or more	18.4	20.0	31.8	28.4	37.1	*<.001*
Employment Status (15-64 YOA)						
Unemployed	40.8	34.7	36.0	33.0	27.4	*<.001*
Working more than one job	10.1	10.3	13.6	16.2	13.7	*>.05*

Source: Sanigest Internacional analysis

4. IMPACT OF HIV ON ECONOMIC FACTORS

CHAPTER SUMMARY

- *HIV-affected households reported lower per capita income than non-affected households.*
- *More children in HIV-affected households were working, especially girls.*
- *Workers in HIV-affected households were more likely to miss a day of work.*
- *Female PLHIV are more likely to be widowed or unemployed than male PLHIV.*
- *PLHIV reported significant drops in income after the diagnosis of HIV.*
- *Significant numbers of caregivers in HIV-affected households reported either leaving their job or having reduced income since taking on care-giving duties.*
- *HIV-affected households were more likely to receive government or NGO financial support and less likely to receive revenues from agricultural activities.*
- *Overall per capita consumption was similar between the households, but rural HIV-affected households had significantly lower consumption values than rural non-affected households.*
- *HIV-affected households spent less than non-affected households on medical care.*
- *The univariate analysis showed a household with at least one PLHIV was 1.7 times more likely to be below the poverty line than a non-affected household*

The study focuses on understanding the dynamics of the socioeconomic impact of HIV on households in Cambodia. This section highlights how HIV has impacted the direct economic dimensions of life for households affected by HIV.

4.1. IMPACT OF HIV ON INCOME AND EMPLOYMENT

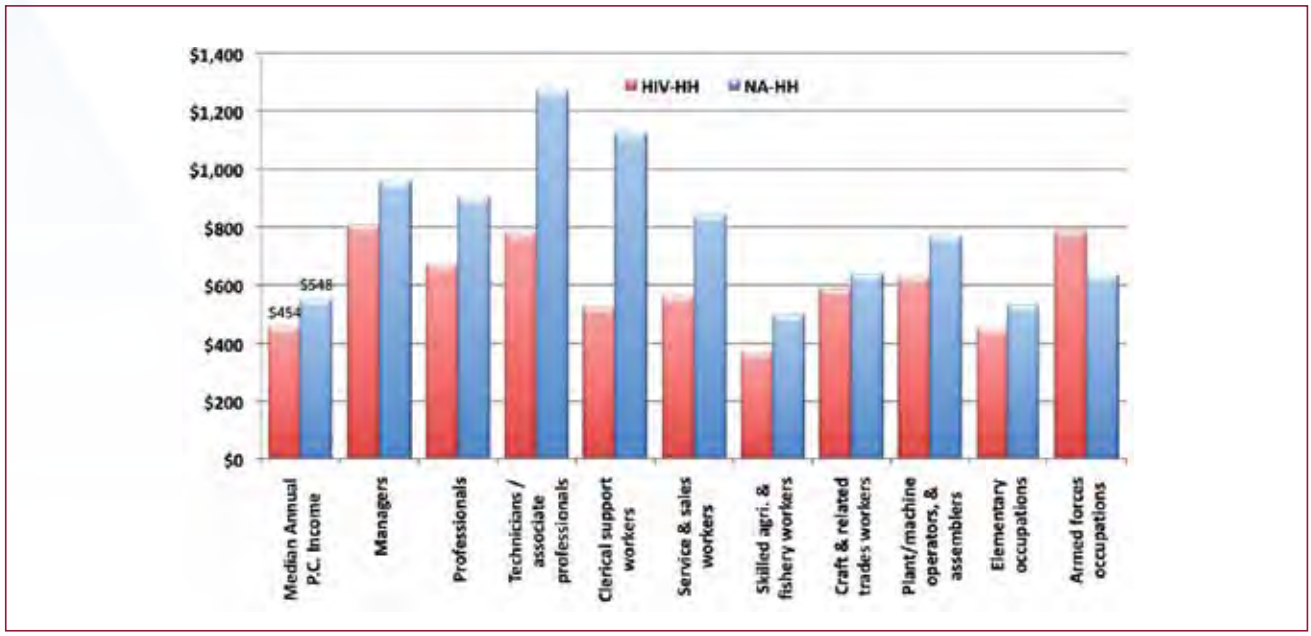
The profile of the households and PLHIV clearly shows the significant impact that the diagnosis of HIV has on the socioeconomic status of households in Cambodia. In this section, some of the mechanisms through which these differences result are explored in detail.

4.1.1. DISTRIBUTION OF INCOME IN SAMPLE HOUSEHOLDS

Figure 4.1 shows that the average per capita household income for HIV-affected households ($454) was significantly lower than for non-affected households ($548). Additionally, there appeared to be significant inequalities with regard to wages earned between HIV-affected and non-affected households. Section 0 showed that the HoHs in HIV-affected households were more likely to hold an elementary position. Additionally, the survey data also demonstrate that not only were they are more likely to hold a lower paying job, but in jobs of the same category, they were likely to earn less, as shown by their household's income.

Figure 4.1 also displays that the average per capita annual household income[10], across almost all occupations, was greater for non-affected households than for their HIV-affected counterparts. The greatest differences across per capita household income were noted in the technical / associate professionals category, where the HIV-affected households had a per capita HH income of $780 compared to $1,269 for non-affected households (there were greater differences for clerical workers, but the number of heads of households in that classification was very small). The only occupational category where the average per capita household income was higher for HIV-affected households was the armed forces.

Figure 4.1: Per-Capita Household Income, by Occupational Category of Head of Household



Source: Sanigest Internacional analysis

10 *Income is the total of all salaries by income-earners residing within the house, as well as all revenues from other sources (as detailed in Section 4.6).*

Table 13 displays the average number of earners per household and their dependency ratios. Non-affected households, in general, were more likely to have a household without any earners (11% vs. 7% for non-affected households), but also more likely to have a household with 4 or more earners (8% vs. 6%). HIV-affected and non-affected households were similar in their family dependency ratios[11] (7.7 for both), reflecting the similar age structures of the households. However, the per capita income of the households clearly shows that, regardless of the number of earners within the households, non-affected households earned more (24% overall).

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

	0 earners		1 earner		2 earners		3 earners		4 earners		Any #	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%	%	%
Consumption Level												
Quintile 1	13.4	9.7	35.3	45.8	27.3	28.8	13.6	10.5	10.3	5.3	100	100
Quintile 2	10.8	9.4	39.7	41.3	27.9	28.2	13.5	12.9	8.2	8.2	100	100
Quintile 3	12.7	5.9	38.2	40.5	31.9	38.3	10.0	11.6	7.2	3.7	100	100
Quintile 4	10.8	6.0	37.2	37.1	34.6	38.9	8.8	13.4	8.6	4.6	100	100
Quintile 5	9.1	6.0	46.7	37.5	31.5	37.6	9.4	13.3	3.4	5.6	100	100
TOTAL	**11.3**	**7.4**	**39.5**	**40.5**	**30.6**	**34.3**	**11.0**	**12.3**	**7.5**	**5.5**	**100**	**100**
	$	$	$	$	$	$	$	$	$	$	$	$
Annual HH Income	421	564	1,391	1,727	2,461	2,888	3,260	3,761	5,008	5,479	1,825	2,389
Per Capita Income	140	144	410	448	578	691	547	737	705	893	454	548
	#	#	#	#	#	#	#	#	#	#	#	#
Avg. HH Size	3.3	4.0	3.7	4.3	4.5	4.4	5.8	5.6	7.5	7.0	4.4	4.6
Dependency Ratio	10.8	9.5	7.7	9.5	8.1	7.1	4.3	4.7	6.5	2.7	7.7	7.7

Source: Sanigest Internacional analysis

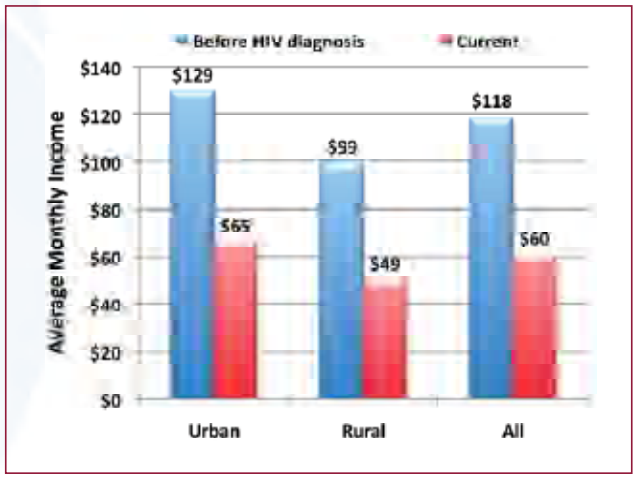
4.2. CHANGE OF EMPLOYMENT STATUS AND INCOME FOR PLHIV

The diagnosis of HIV can have a dramatic effect on the income of newly diagnosed individuals and their families. A reduction in income, or change in employment status, is at the root of many of the problems faced by PLHIV. Overall, the effect of being diagnosed with HIV implied a reduction of 47% in income for men and women. The effect on men was even more significant, with males reporting an average loss of 54% of their income after diagnosis. Figure 4.2 highlights the changes in income that PLHIV reported facing after their diagnosis.

11 *The dependency ratio is the population greater than or equal to 65 YOA / population between 16-64 YOA*

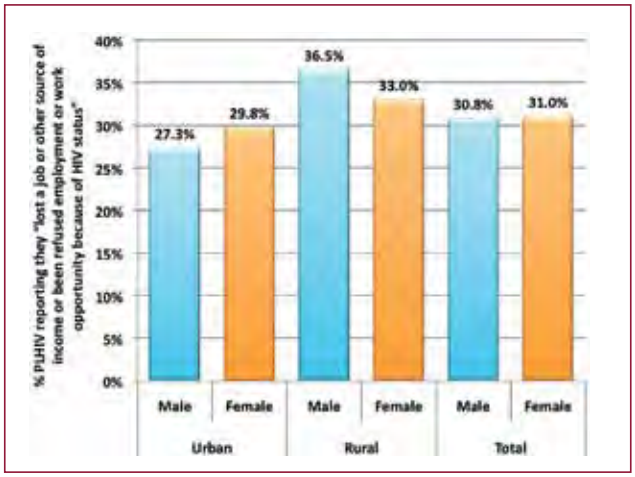
In addition, PLHIV were asked the question, *"In the last 12 months, have you lost a job (if employed) or another source of income (if self-employed or an informal worker) or been refused employment or a work opportunity because of your HIV (or AIDS) status?"*. The results, shown in Figure 4.3 highlight that almost a third of all PLHIV indicated that their employment status had in some way been negatively affected as a result of their HIV status.

Figure 4.2: Change in Income for PLHIV, by Location



Source: Sanigest Internacional analysis

Figure 4.3: Impact of HIV on PLHIV Employment, by Location and Gender

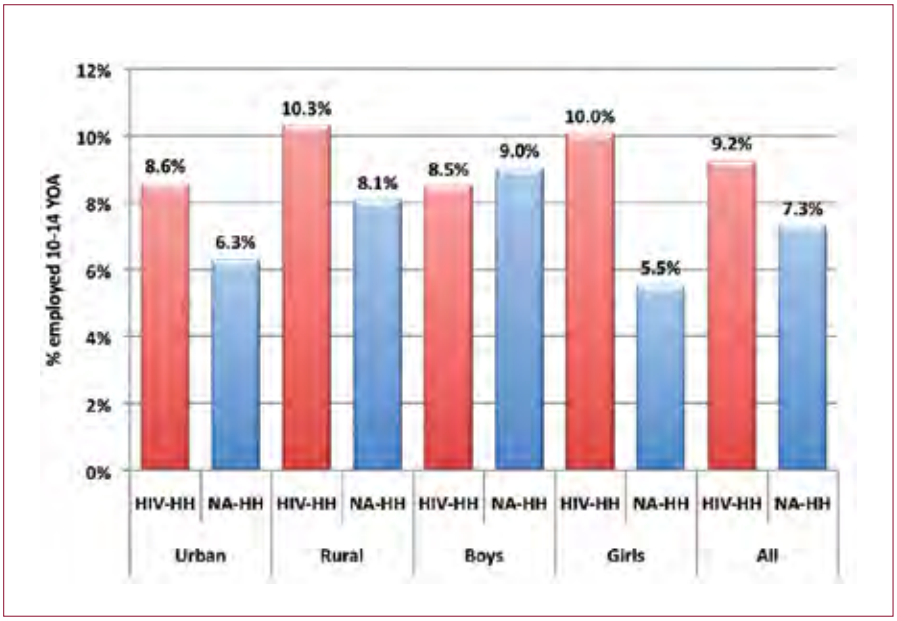


Source: Sanigest Internacional analysis

4.3. CHILD LABOUR, UNEMPLOYMENT AND PRODUCTIVITY

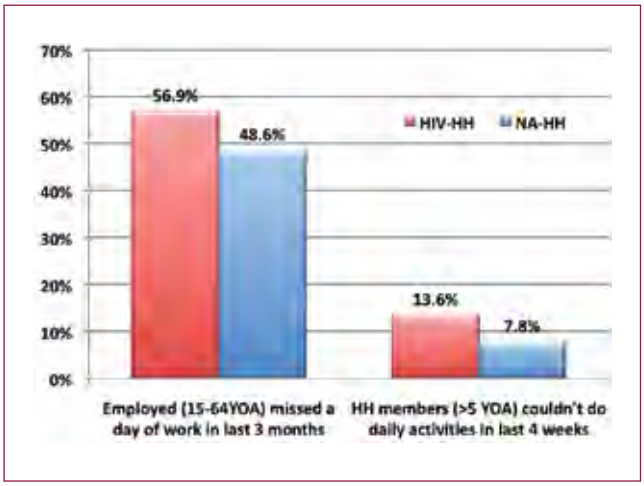
This section examines the differences between employment and productivity levels within the household. As discussed in Section 3.1, the unemployment figures for those aged 15-64 are fairly similar for members within the HIV-affected and non-affected households. However, another important indicator of the socioeconomic status of the household is the percentage of children who are employed (therefore forgoing educational opportunities).

Figure 4.4: Employment of Children Aged 10-14, by Location and Gender



Source: Sanigest Internacional analysis

Figure 4.5: Impact of HIV on Productivity



Source: Sanigest Internacional analysis

Figure 4.4 highlights that the HIV-affected households were more vulnerable to requiring children in the household to be income-earners, with 9.2% of children aged 10-14 employed in HIV-HHs compared to only 7.3% in NA-HHs. Unsurprisingly, rural households turned to child income-earners more often than urban households. However, of greatest note for concern is the significant difference between girls and boys who were forced into the workforce with 10% of girls in HIV-affected households being employed (as opposed to only 5.5% in non-HIV affected households) compared to the non-significant difference for boys of 9.2% (HIV-HHs) and 7.3% (NA-HHs). The negative impact of increased child employment on educational opportunities is further examined in Chapter 5 where the multiple regression analysis shows that children who were working were twelve times less likely to be attending school.

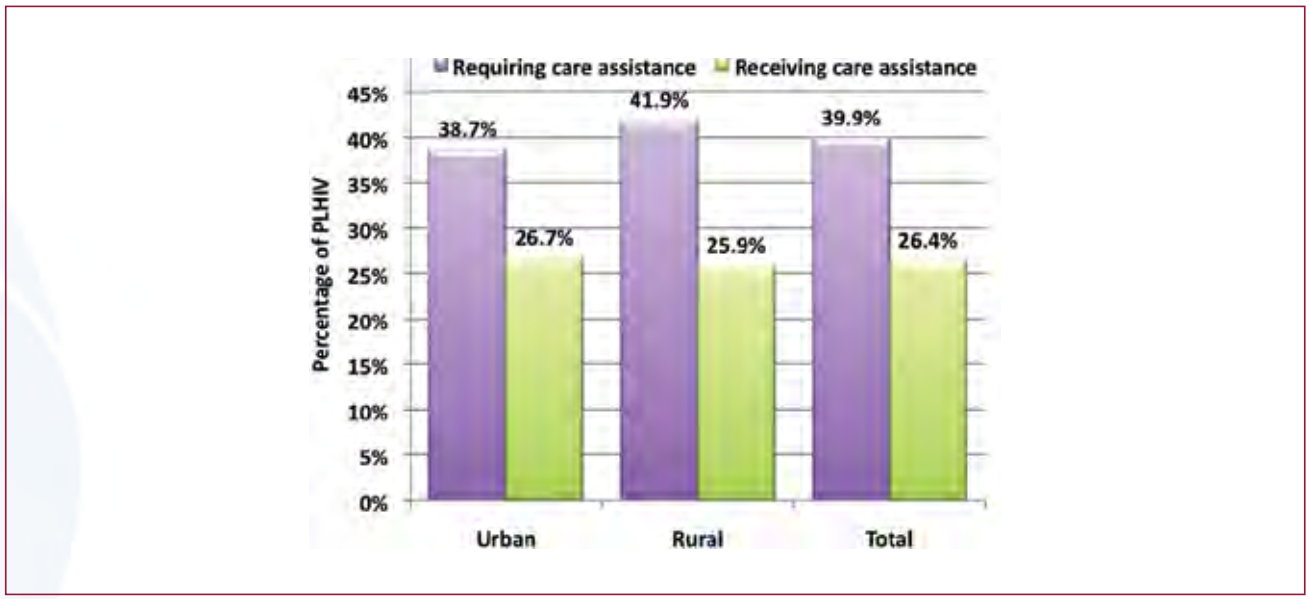
Figure 4.5 displays the impact that HIV had on the ability of PLHIV to be able to continue to contribute to household activities and to the workforce. In general, 14% of HIV-HH members reported being so sick they could not perform their regular activities in the previous 4 weeks, in comparison to 8% of those in non-affected households. In addition, 57% of employed HIV-HH members reported having missed a day of work in the previous 3 months, compared to less than 49% of NA-HH members. This reduced capacity for engaging in productive activities may partially explain the other results in this chapter regarding the reduced incomes and revenues of HIV-HHs compared to NA-HHs.

4.4. THE IMPACT OF CARE GIVING ON INCOME AND EMPLOYMENT

For many individuals living with HIV who are in the later stages of infection, there is a need for assistance with personal, medical and household related activities. Figure 4.6 compares PLHIV who indicated they required care assistance, and those reporting they were able to receive it. Overall, more PLHIV needed care than were accessing it, and even though a greater percentage of rural PLHIV responded that care was necessary, a smaller percentage actually received that care than their urban counterparts.

The need for caregiving within a household has further implications for the household's socioeconomic status. Not only does it imply that the income of the household member requiring care may have been lost or reduced, it also implies that household members providing care may be unable to perform their usual activities, such as work, education or household chores. These activities would then need to be passed onto someone else (often a child) or forgone all together. Figure 4.7 provides the characteristics of the caregivers in the surveyed households. The vast majority (90%) of caregivers were unpaid household members (10% were unpaid individuals coming in from outside the household, while only three households (<0.01%) paid an external individual to provide care-giving activities). Additionally, most caregivers were female (54%).

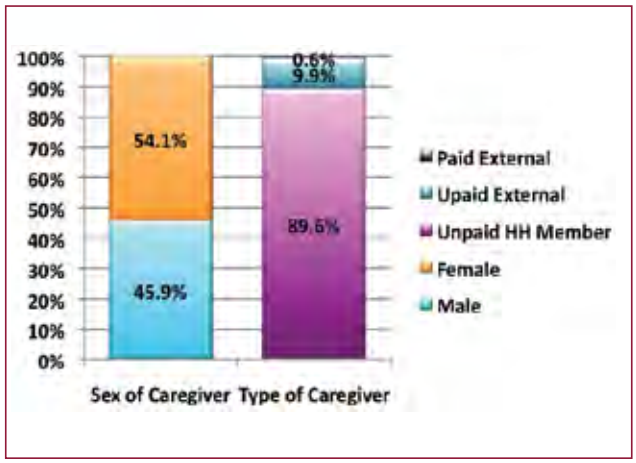
Figure 4.6: Distribution of PLHIV Requiring and Receiving Care, by Location



Source: Sanigest Internacional analysis

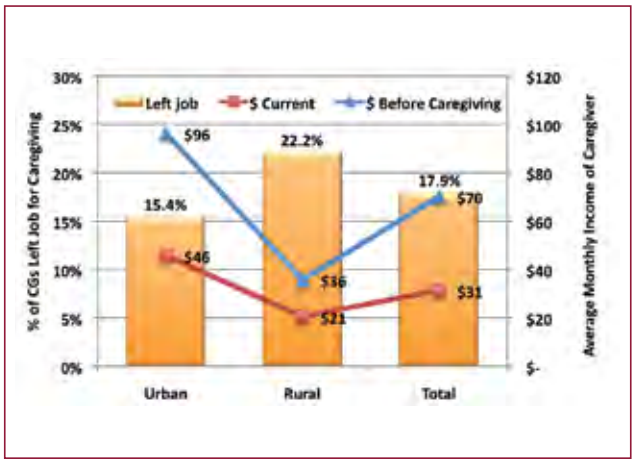
The impact of caregiving activities on the economic status of households is displayed in Figure 4.8. For household members who were employed before they began their caregiving activities, a substantial percentage were forced to leave their jobs as a result of their new role, especially in rural households (15% in urban sector, 22% in rural, 18% overall). Even for those who were able to retain their jobs, 39% were faced with a reduction in their incomes, (41% urban, 38% rural, data not displayed), possibly due to reduced work hours. For those individuals, there was a severe decrease in their monthly income of over 50% (from $70 pre-caregiving to $31 at the time of the survey). In this situation, urban households fared worse reductions, with caregivers who retained their job having their average monthly incomes reduced from $96 to $46 in urban households compared to $36 to $21 in rural households.

Figure 4.7: Profile of Caregivers



Source: Sanigest Internacional analysis

Figure 4.8: Impact of Caregiving on Employment and Income, by Location

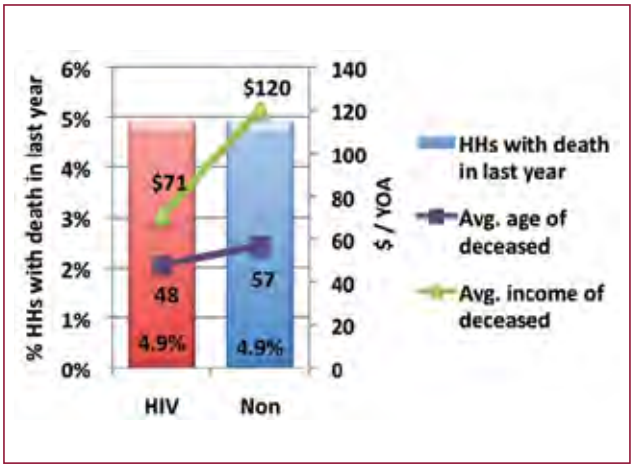


Source: Sanigest Internacional analysis

4.5. IMPACT OF HIV ON MORTALITY AND INCOME

That households affected by HIV face a greater socioeconomic impact from mortality than non-affected households is also an unfortunate possibility. Figure 4.9 highlights that, while both household groupings were equally forced to face the consequences of losing a household member in the preceding 12 months (5%), the average age of the deceased household member was older for the non-affected households (57 vs. 48 years of age, although not significantly different). Additionally, while the percentage of households losing an income-earning member was also similar (of households losing a member, 33% were income earners) the average income of the deceased member was greater in non-affected households, and significantly greater in urban households. This suggests two distinct impacts: the first is a greater initial impact on non-affected households, as the deceased individual is likely to be older and therefore earning a greater income (as seen in urban areas). In contrast, however, it means that the HIV-affected households lose a member before their greatest earning potential is reached, reducing their long-term capacity to attain a higher socioeconomic status.

Figure 4.9: Impact of Mortality on Income Potential



Source: Sanigest Internacional analysis

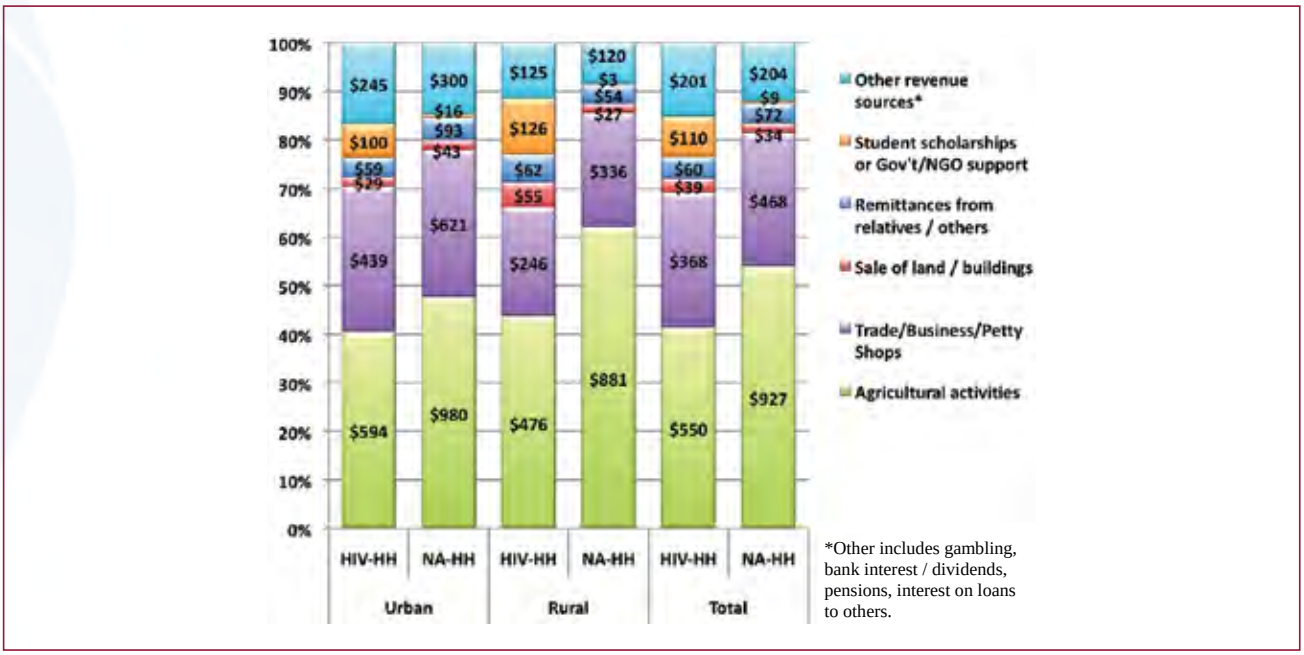
4.6. IMPACT OF HIV ON HOUSEHOLD REVENUES

The impact of HIV on a household's ability to receive revenues through modalities other than wages is very important to examine, as a significant share of Cambodian household income is non-wage income (56% for HIV-affected households; 55% for non-affected). Figure 4.10 shows that the most important source of revenue for the households, regardless of location or HIV status, was agricultural related activities. As expected, it was more important in the rural sector. Income from agriculture and trade were both higher for NA-HHs than HIV-HHs (total and per capita). In contrast, for student scholarships and assistance programs, HIV-affected households received significantly more. This indicates that assistance programs targeting HIV households are reaching their intended recipients. Although it is not statistically different, the revenue received from the sale of land or buildings was higher for rural HIV-affected households, potentially an indicator of their greater need for coping mechanisms (5% of revenues in HIV-HH vs. 2% in NA-HH).

Figure 4.11 shows similar data, but across the quintiles of consumption. Again, agricultural related activities were the most important, across all quintiles. However, they decreased in importance as a source of revenue as household wealth increased, while trade and business accounted for an increasing proportion. For all quintiles, agriculture and trade accounted for a greater percentage of non-affected household revenues than of HIV-affected household revenues. In contrast, the positive effect of government and NGO poverty reduction transfers and scholarships was more pronounced among HIV-HHs. It should be noted that while total HIV-affected household revenues related to assistance were highest for the poorest quintiles,

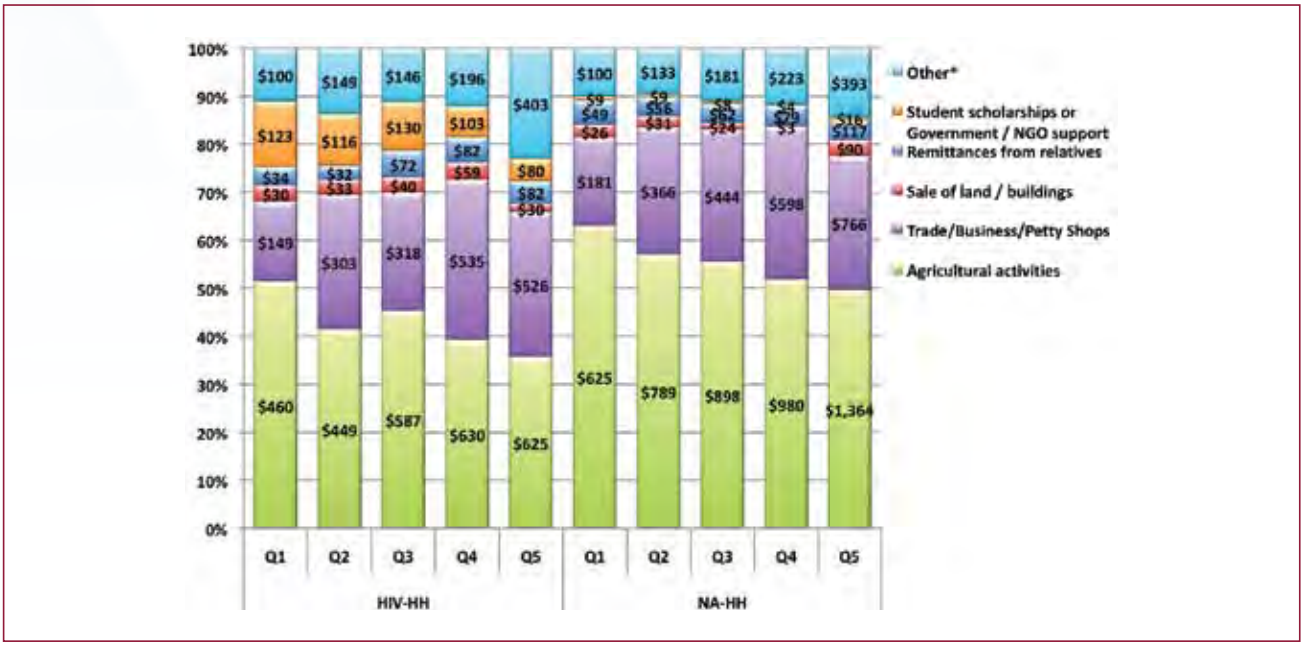
due to their larger household size (5.3 members in quintile 1 compared to 3.3 in quintile 5), there was no difference in the per capita revenues received from government transfer programs for HIV-affected households across quintiles of wealth. Since most households, even in the highest quintile of consumption, were "poor", it is not necessarily inappropriate, but does point to the need for greater assistance to those in the lowest economic strata.

Figure 4.10: Source of Total Household Revenues, by Location



Source: Sanigest Internacional analysis

Figure 4.11: Source of Total Household Revenues, by Quintile



Source: Sanigest Internacional analysis

4.7. IMPACT OF HIV ON LEVELS OF HOUSEHOLD CONSUMPTION

The previous sections outlined the impact of HIV on labour and income, but perhaps the greatest socioeconomic impact is reflected in the "trickle down" effects of HIV on reduced consumption. Reducing consumption implies that PLHIV and their families are forced to make difficult decisions about which child will remain in school, which parent will get access to medication and whether the family will consume protein or carbohydrates. In the end, these decisions have a critical long-term effect on the accumulation of human capital in the country.

Figure 4.12 shows mean per capita household consumption, by a household's location in either an urban or rural area. Certain things should be taken into consideration with the following consumption analyses:

(1) This survey was based on the respondent's ability to recall the value of the items they had purchased or received, not based on a daily diary methodology as used by the CSES. As such, the data is generally subject to a bias towards inflating the values of items

(2) The different categories of items had different time-frames around them (i.e., respondents were asked how much they had spent on food in the previous week, while education had a time-span of a year). As a result there will be greater memory recall issues with the items over a longer period of time.

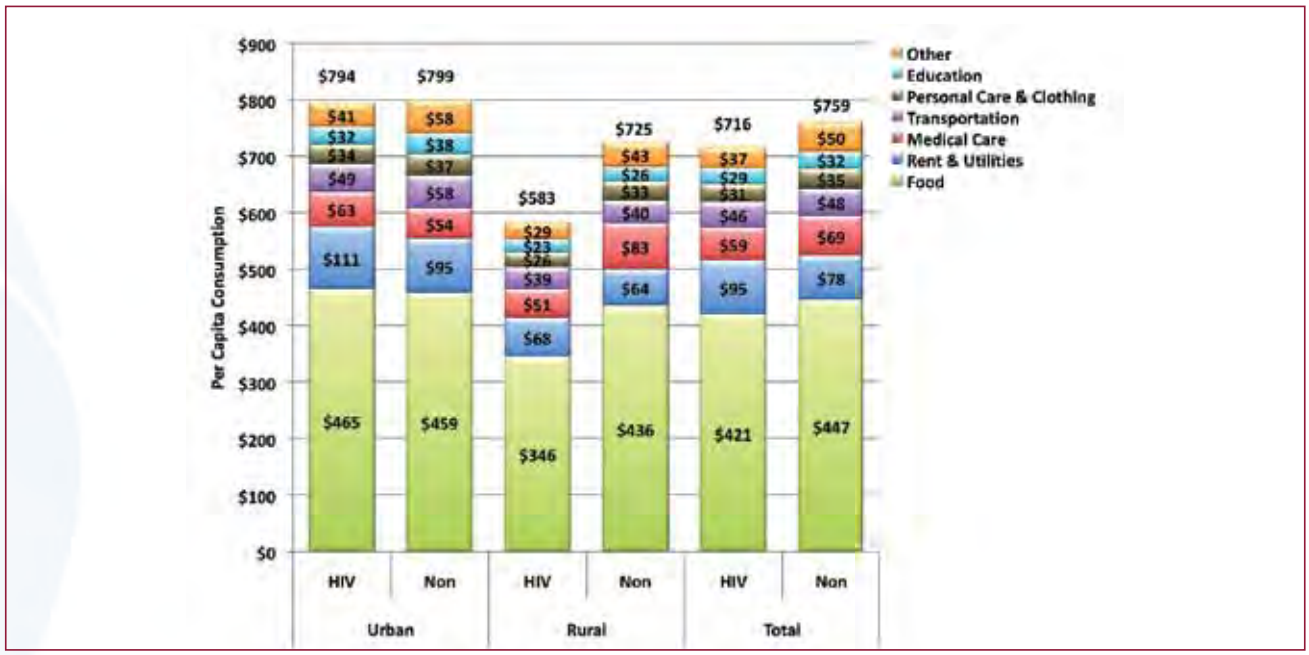
(3) The food and health expenditure questions were asked about in considerably more detail than other categories. As such, it is likely that their values are disproportionately higher than the others.

(4) The health expenditure category, in addition, specifically asked about the health expenditures related to each household member, while the other categories only asked about total household expenditures, which is again likely to lead to a disproportionately higher value being assigned to health.

Overall, HIV-affected households consumed slightly less than non-affected households ($716 per capita versus $759), and both types of households in urban locations spent significantly more than households in rural locations. Both households expended similar amounts on food (59% of total per capita consumption), but the remaining categories did have some differences, the most surprising being that HIV-affected household medical care consumption was lower than that for non-affected households (8% for HIV-HHs vs. 9% for NA-HHs; $59 vs. $69). Per capita health consumption as a percentage of total consumption value was relatively high in comparison to previous studies (National Institute of Public Health et al, 2006), although this is likely due to the reasons mentioned above. HIV-affected households allocated a greater proportion of their per capita consumption to rent and utilities than non-affected households (13% vs. 10%). There were only small differences with education allocations (approximately 4% for both).

Urban HIV-affected households consumed almost the same amount as their urban non-affected counterparts ($794 vs. $799), but rural HIV-HHs spent significantly less ($583) than rural NA-HHs ($725). The greatest rural difference was seen with regards to medical care, with non-affected households spending 60% more than HIV-affected households ($83 NA-HHs vs. $51 HIV-HHs). The reasons for these differences in health spending are analysed in greater detail in the section on the Impact of HIV on Health, but are related to greater exemptions for PLHIV.

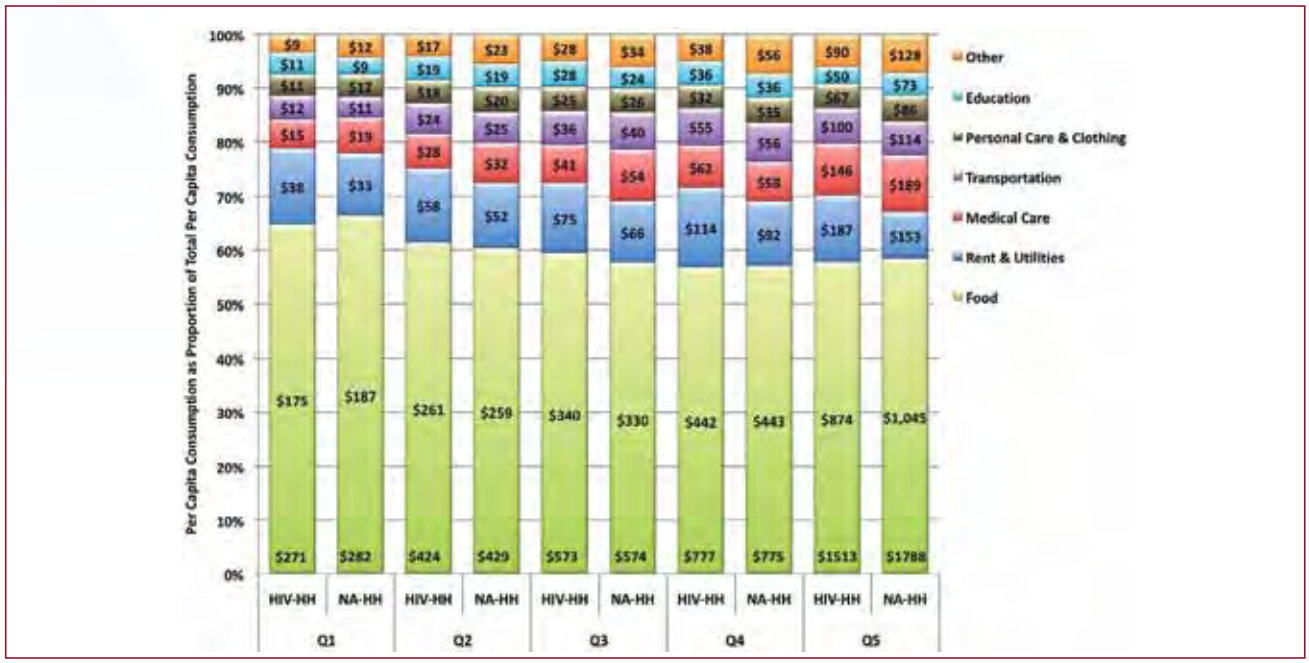
Figure 4.12: Impact of HIV on Household Per Capita Consumption, by Location



Source: Sanigest Internacional analysis

Due to the mechanism by which the quintiles of welfare were created, it would be expected that HIV-affected and non-affected households had no variation in their average per capita consumption across quintiles. Figure 4.13 shows that is indeed the case, except for quintile 5, as the highest quintile has an unbounded top value. Non-affected households within the fifth quintile were significantly wealthier than HIV-affected households in the same quintile ($1,788 for NA-HHs, $1,513 for HIV-affected).

Figure 4.13: Impact of HIV on Consumption Patterns, by Quintile



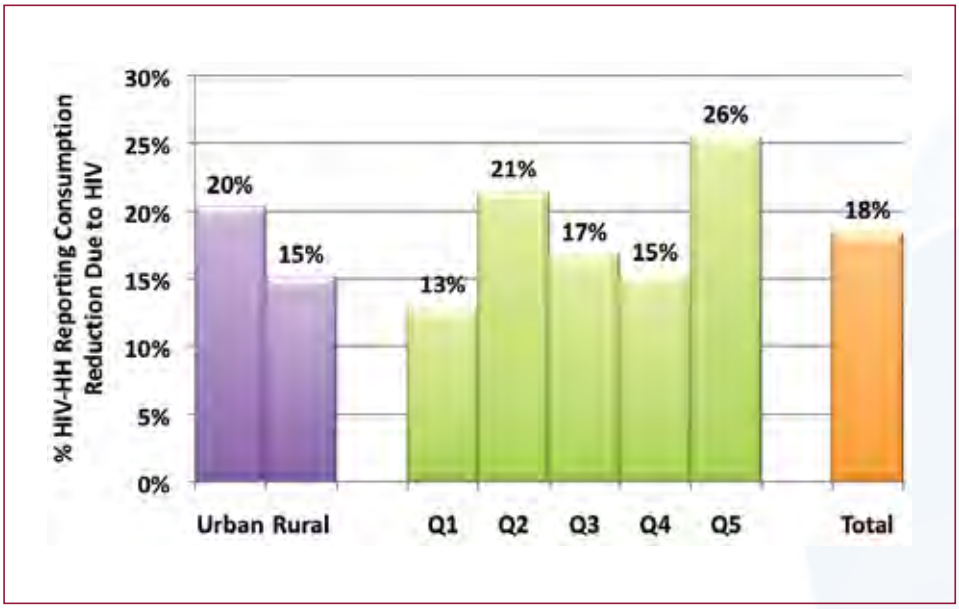
Source: Sanigest Internacional analysis

More important than the actual per capita values across quintiles, is the proportion of each household's consumption allocated to the various categories. The figure shows that while there was little variation within households of the same quintile regarding food expenditures, as wealth levels increased, the proportion spent on food decreased. Across all the quintiles, HIV-HHs spent proportionately less of total per capita conumption, or the same, on medical care than NA-HHs. This result is strikingly different than that seen in a Vietnam study on the socioeconomic impact of HIV on households, where HIV-affected households spent significantly more of their household income on healthcare than non-affected households (UNDP, 2009b). The amount allocated towards medical care increased significantly over quintiles, for both HIV-affected and non-affected households, with the poorest households allocating 5.4% (HIV-HHs) and 6.7% (NA-HHs) and the wealthiest allocating 9.6% (HIV-HHs) and 10.6% (NA-HHs).

Figure 4.14 dramatically highlights the impact of HIV on consumption patterns: 20% of urban HIV-affected households and 15% of rural households reported that they reduced consumption in the previous 12 months, due to HIV (18% of HIV-HHs). Additionally, it can be seen that households with the greatest wealth (and therefore greater likelihood of having more flexibility in spending patterns) were more likely to report having reduced their consumption. The most commonly cited categories where consumption was reduced were food, clothes and travel.

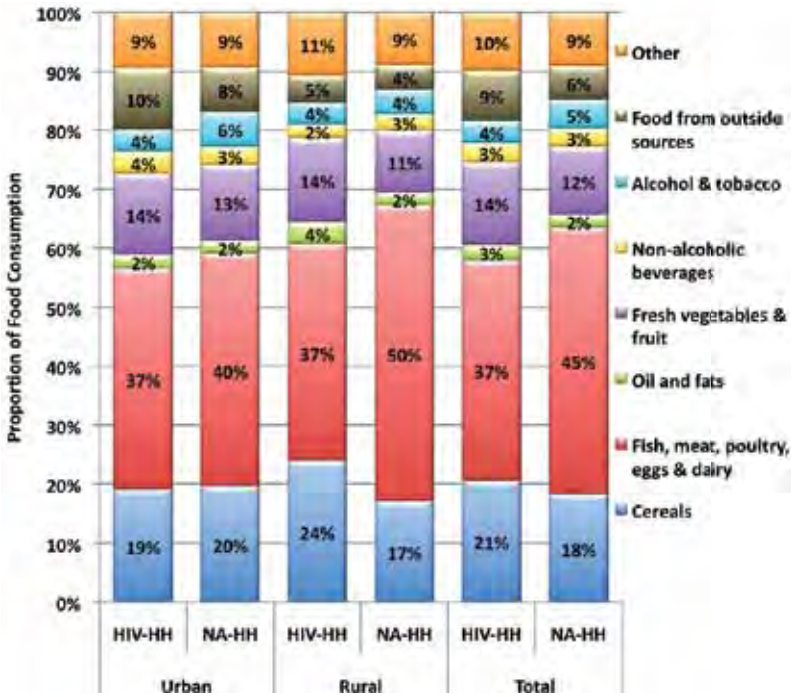
Those reductions in food consumption may account for some of the differences seen in Figure 4.15, which displays information on household food consumption value patterns. It is important for nutritional analysis to see if the HIV-HHs and NA-HHs differ in the food items that they are bringing into the household. The table displays that, overall, HIV-HHs are allocating less of their total food consumption to high protein-content items such as fish, meat, poultry and eggs. This is particularly true for rural households where the NA-HHs allocated over 13% more to protein-based foods than HIV-HHs. This is likely related to the higher cost of those items and the greater possibility of producing their own cereal and vegetable products. Additionally, the food support that many HIV-HHs receive, particularly in the poorest households, consists of a monthly ration of rice, oil and salt, which would increase the value of grains into their households (Thwin, 2006). A more detailed analysis of the situation regarding food security is contained in Section 7.

Figure 4.14: Consumption Reduction among HIV-Affected Households



Source: Sanigest Internacional analysis

Figure 4.15: Impact of HIV on Food Consumption, by Location [13]



Source: Sanigest Internacional analysis

4.8. COPING MECHANISMS: IMPACT OF HIV ON HOUSEHOLD SAVINGS

The impact of HIV on a household's savings is another key dimension that underscores the effect of HIV on a household. Although many of the HIV-affected households surveyed had very little or no savings to start with, still an average of 12% (Table 14) indicated that they had reduced savings in the last 12 months due to HIV. On average, HIV-affected households reduced their savings by just less than 30% of their value (30% in urban HHs vs. 27% in rural HHs).

Table 14: Impact of HIV on Household Savings, by Location

	Urban	Rural	Total
Households reduced savings in last year, due to HIV (%)	14.1%	7.4%	11.6%
Average reduction in savings over last year ($)	103	70	96
Average percentage reduction in savings over last year (%)	29.8%	27.2%	29.2%

Source: Sanigest Internacional analysis

13 *Food from outside sources* includes food purchased outside the home (whether eaten at home or in outside locations).

The reduction in savings amounts across income levels was consistent at around 28-30 percent. Table 15 shows the impact of HIV on reduced savings, by quintile of consumption. As would be expected, in households with the capacity to have more savings to begin with (Q5), a greater percentage stated they had made reductions (17% in Q5 vs. 8% in Q1).

Table 15: Impact of HIV on Household Savings, by Quintile

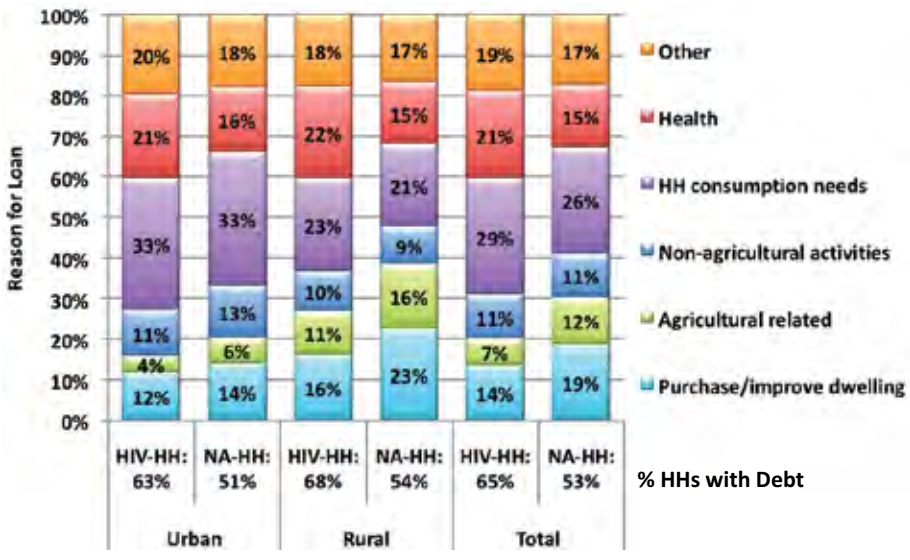
	Q1	Q2	Q3	Q4	Q5
Households reduced savings in last year, due to HIV (%)	7.8	10.7	11.0	11.2	17.4
Average reduction in savings over last year ($)	25.7	117.3	83.47	119.0	105.5
Average percentage reduction in savings over last year (%)	27.3	31.8	32.3	24.9	29.1

Source: Sanigest Internacional analysis

4.9. 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. Figure 4.16 demonstrates the large difference between HIV-affected and non-affected households with regards to debt: 65% of HIV-HHs were in debt, compared to only 53% of NA-HHs. The primary reason debt was incurred, or a loan taken, was the same for both households: "household consumption needs". As expected, HIV and illness were given as a major reason for the HIV-HHs' loans (21%), and more frequently cited than NA-HHs (15%). HIV-affected households were less likely to be in debt for constructive reasons such as purchasing or improving their dwelling or agricultural production and operation (21% for HIV-HHs and 31% for NA-HHs).

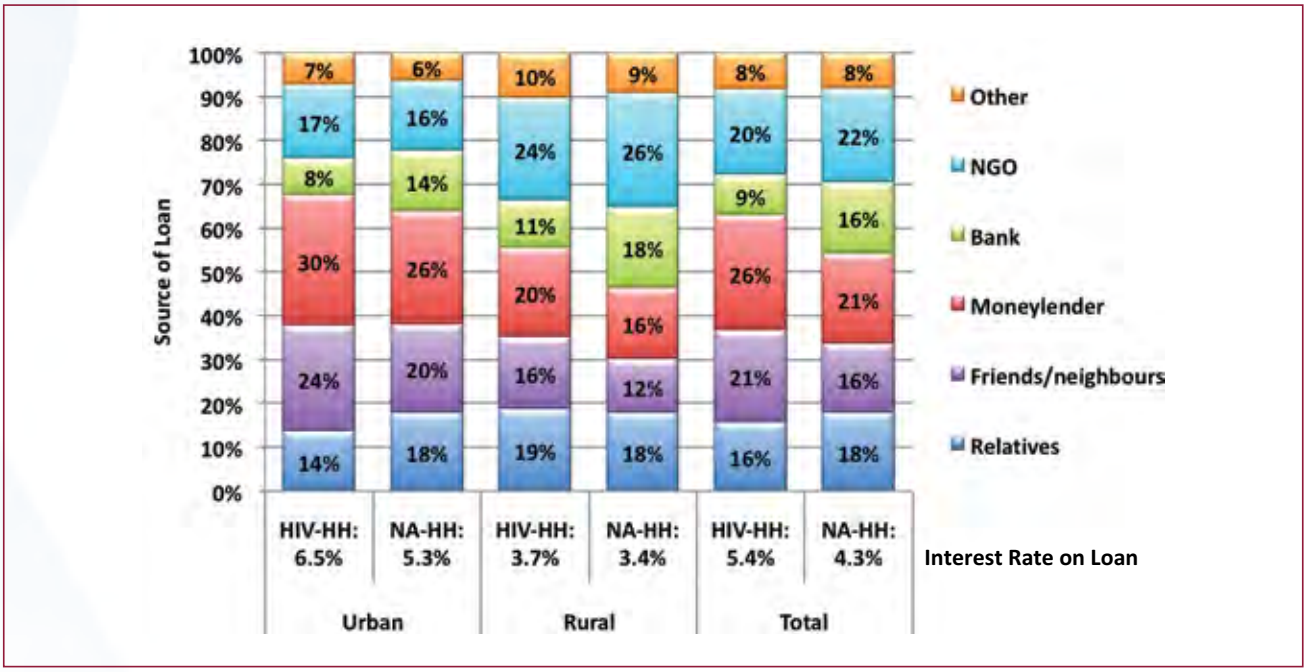
Figure 4.16: Impact of HIV on Reasons for Household Debt, by Location



Source: Sanigest Internacional analysis

The households also differed in the sources of their loans, as shown in Figure 4.17. NGOs were a primary source of loans in both households (20% of HIV-HH loans, 22% of NA-HH loans). However, HIV-affected households relied on moneylenders more frequently (26% of loans) than non-affected households (21% of loans). Non-affected households were also more likely to have received a loan from a bank (16%) than HIV-affected households (only 9%). 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 discrimination. Additionally, these source differences (and causes for debt differences) may be the reason for another concerning result: HIV households were more likely to report paying higher interest rates (5.4%) than non-affected households (4.3%).

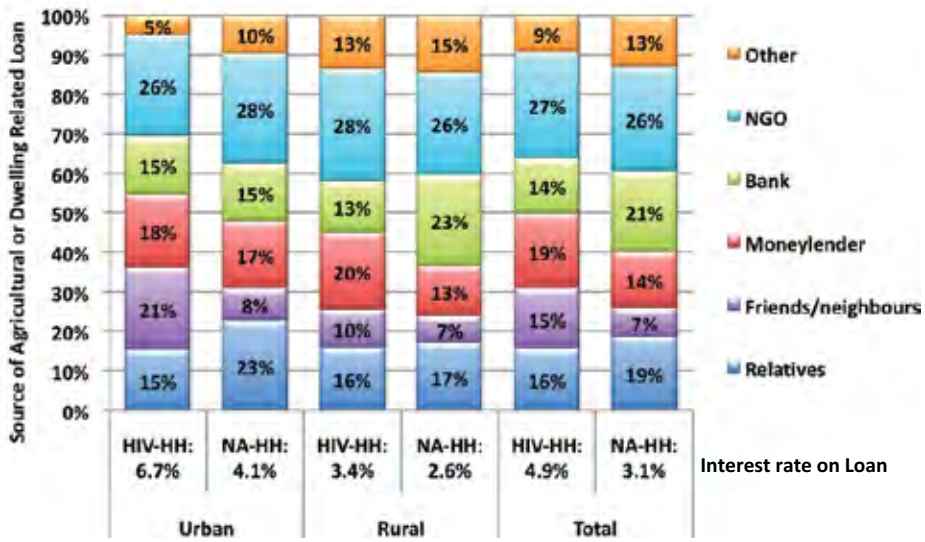
Figure 4.17: Impact of HIV on Source of Debt and Interest Rates, by Location



Source: Sanigest Internacional analysis

To further understand the reasons for the different sources of the loans and the differing interest rates, an analysis was conducted that focused only on loans for either agricultural purposes or for purchase or improvement of a dwelling. Figure 4.18 shows that even for such loans, HIV-affected households still relied more on moneylenders than non-affected households (19% in HIV-HHs vs. 14% in NA-HHs), particularly in the rural sector (20% vs. 13%). In contrast, they were considerably less likely to have received a loan from a bank (14% for HIV-HHs; 21% for NA-HHs). Furthermore, despite the similarity of reasons for the loan, interest rates were still much higher for the HIV-HHs (4.9%) than NA-HHs (3.1%), and even higher in the urban sector (6.7% vs. 4.1%). These results point to the fact that discrimination is likely the main reason for the differences in the source of loans between HIV-HH and NA-HHs (and the resultantly higher interest rates), and points to a need for policies to mitigate these negative impacts.

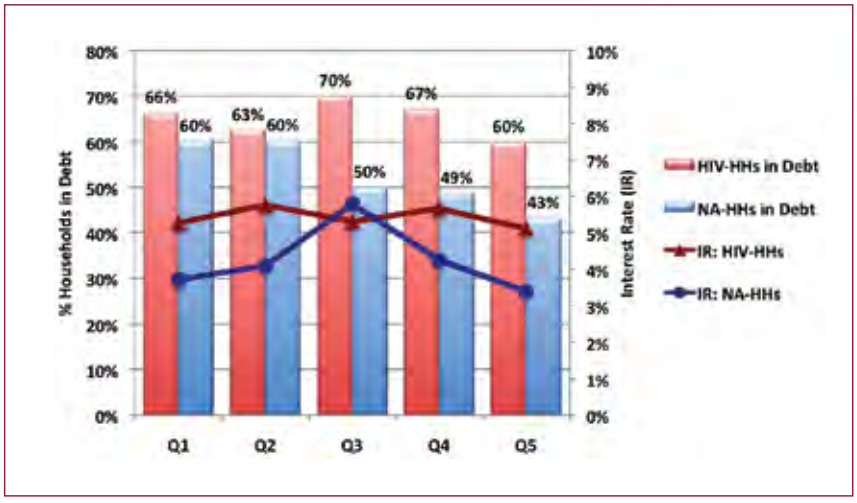
Figure 4.18: Impact of HIV on Source of Agricultural / Dwelling Related Debt and Interest Rates, by Location



Source: Sanigest Internacional analysis

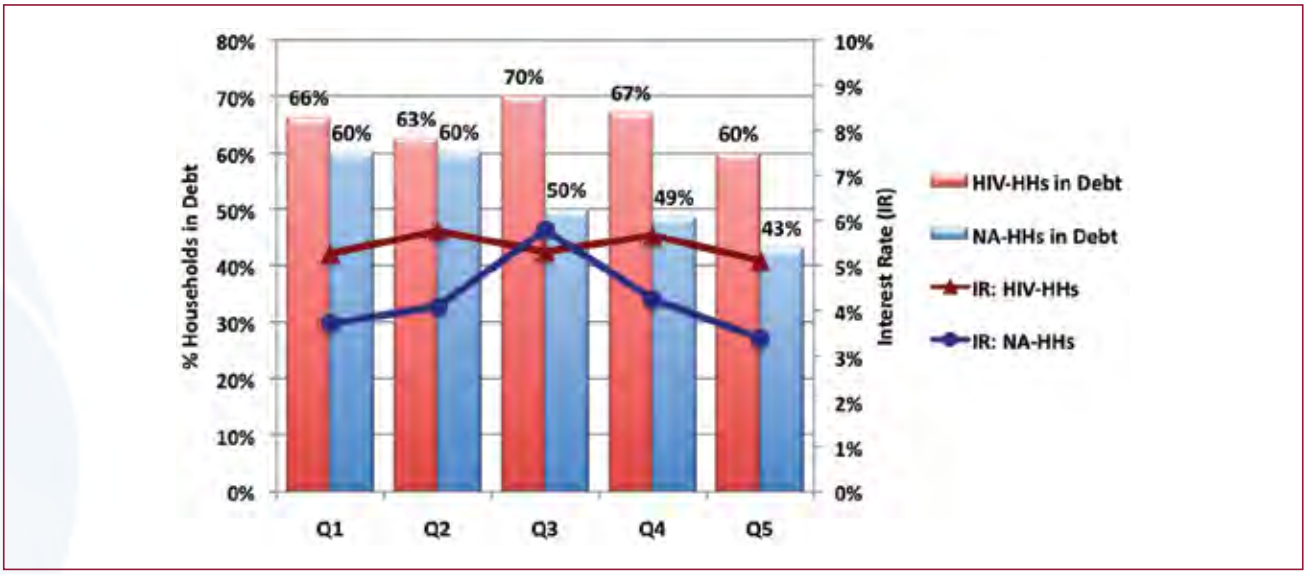
Figure 4.19 illustrates the results with regard to HIV's impact on household debt, by quintile of consumption. The likelihood of a household reporting it had incurred debt decreased as the wealth of the household increased, for both HIV-HHs and NA-HHs. However, there was a greater reduction in the likelihood of being in debt for non-affected households than for HIV-affected households as economic status increased (difference Q1 to Q5 for HIV-HH: 6%; NA-HH 17%), as they were likely to have greater savings and earnings. The figure also shows that (apart from Q3 and Q4, which had no significant differences) HIV-affected households, regardless of their economic status, were more likely to pay higher interest rates on their debt. Annex E provides additional data on debt, but it is important to note that there was no significant difference in the utilisation of banks or moneylenders to obtain loans across quintiles of wealth for either HIV-HHs or NA-HHs, but for all quintiles HIV-affected households were more likely to turn to moneylenders, and non-affected households to banks. Households of lower socioeconomic status were more likely than those of higher status to receive their loan from an NGO (both HIV-HHs and NA-HHs).

Figure 4.19: Impact of HIV on Household Debt, by Quintile



Source: Sanigest Internacional analysis

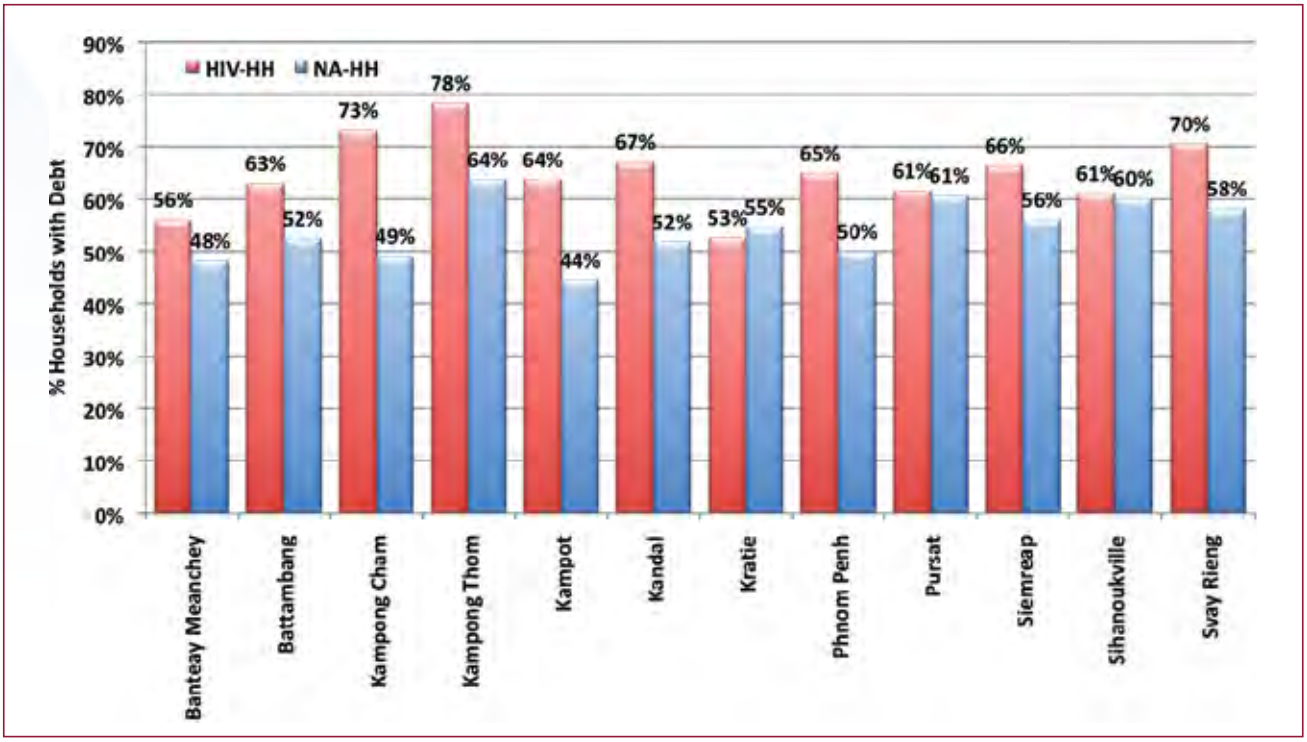
Figure 4.20: Impact of HIV on Household Debt, by Quintile



Source: Sanigest Internacional analysis

The impact of HIV on a household's likelihood to be in debt appeared to be similar across almost all the regions of Cambodia[14], as shown in Figure 4.20. Significant disparities are seen in Battambang, Kampong Cham, Kandal and Phnom Penh.

Figure 4.21: Impact of HIV on Household Debt, by Province



Source: Sanigest Internacional analysis

14 *While no differences are seen in Sihanoukville, and the reverse seen in Kratie, it should be noted the differences are not significant due to the small sample size in those regions.*

4.10. MULTIVARIATE ANALYSIS OF POVERTY

To better understand the complex dynamics of poverty at the household level, this section presents the results of a logistical regression. Univariate and multiple logistic regression analyses were used to determine the independent influences of certain explanatory variables related to poverty. In the logistical regression model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the household as poor and (0) if the household is not poor. Poor was defined as whether the household is below the poverty level of $1.25 per day, as defined by the World Bank (World Bank, 2010). Using Stata version 11 statistical software, variables were retained in each model if they significantly improved the respective model.

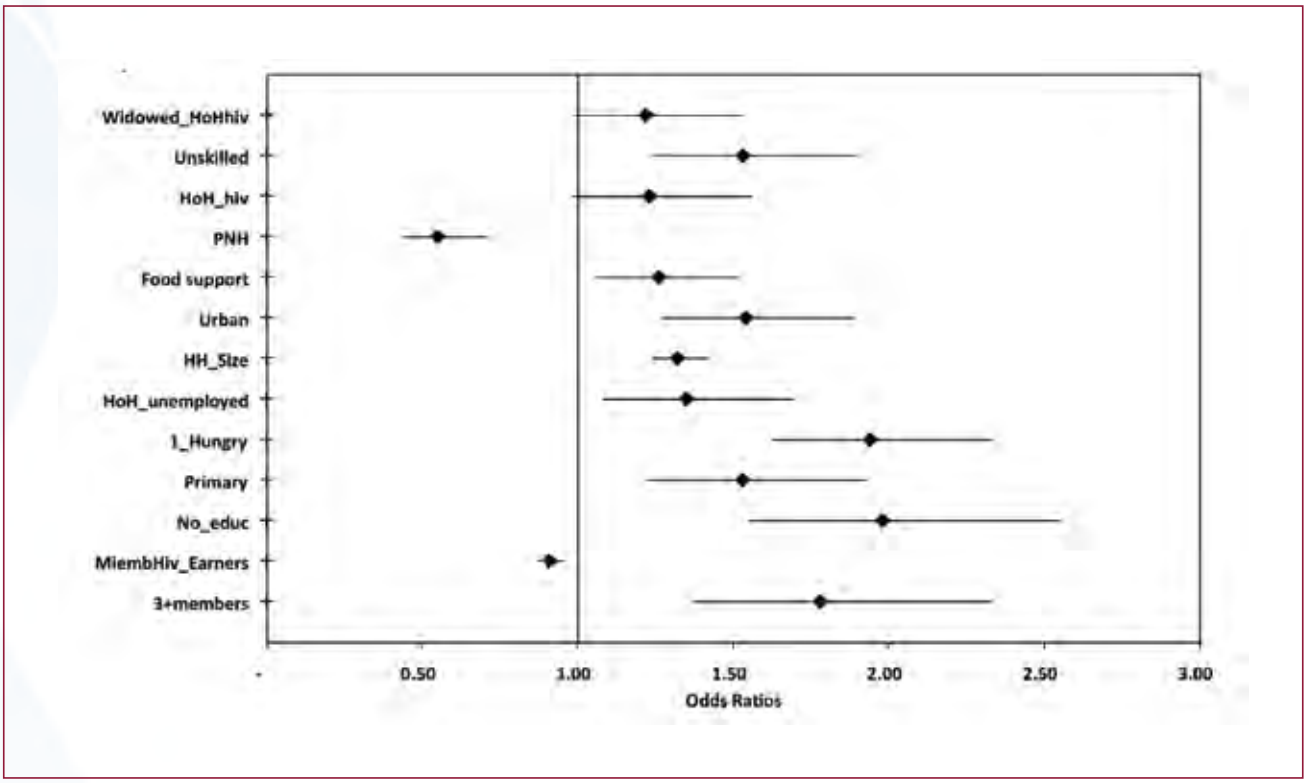
The univariate analysis confirmed that a household with at least one PLHIV was 1.7 times more likely to be below the poverty line than a non-affected household. Overall the probability of a HIV-affected household being below the poverty line was 28%. Being in a HIV-affected household, has a strong effect on reducing the economic benefits of education. Education levels also demonstrated important univariate effects on poverty: for all households, the presence of a head of household with a higher the level of education greatly reduced the probability of being poor, but those positive effects were half for HIV-affected households than for non-affected households. This provides further evidence of the additional obstacles HIV-affected households face in removing themselves from poverty.

The complex poverty dynamics are further explored with multivariate analysis. Included in the stepwise logistic regression analysis as explanatory variables were variables reflecting household characteristics, urban/rural and Phnom Penh residence, HIV-affected/non-affected status of the head of household, gender and age of the household head, total number of years of schooling, number of employed members in the household, whether HIV status was determined only after a prolonged illness, and the household size and dependency ratio (the Annex has the full descriptive details of the models). The coefficients of the model are shown as Odds-Ratios (OR). The odds ratio is one of a range of statistics used to assess the relative probability of a particular outcome (poverty in this case) if certain explanatory factors are present compared to someone who is not exposed to the factor. Tests for multi-collinearity and model specification were not significant, indicating that the model is correctly specified.

The following graph displays the odds-ratios for the variables that were significant after several iterations. The point on each line is the odds-ratio and the line shows the 95% confidence interval. The results show the traditional determinants of poverty, household size and education are present in the Cambodian context. The three most important explanatory factors were having more than 3 people in the household, hunger (as reflected by having not eaten when hungry) and lack of education. Having no education doubled the probability that a household was below the poverty line, controlling for the other explanatory factors; hunger in the household nearly doubles the likelihood of poverty, while size of the household and unskilled occupations were about 1.5 times more likely to be poor; residence in Phnom Penh (the urban capital) reduced by half the risk of being poor. Most importantly, the regression

showed that, even after controlling for the other discussed factors, HIV significantly contributed to the increased probability of being poor by increasing the likelihood by 1.25 times. Variables controlling for the presence of home-based care, to test whether HBC mitigates the effects of poverty for HIV households, were not significant indicating that there was little direct effect on the probability of being poor.

Figure 4.22: Multivariable Analysis of Poverty



Source: Sanigest Internacional analysis

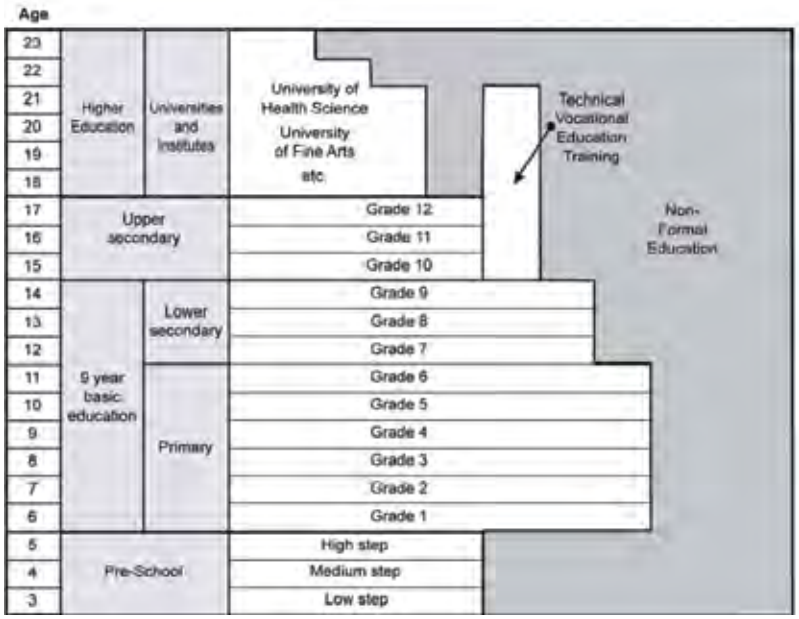
5. IMPACT OF HIV ON EDUCATION

CHAPTER SUMMARY

- *Girls and older children living in HIV-affected households reported lower attendance rates than those in non-affected households.*
- *Children in HIV-affected households were significantly more likely to have missed more than 10 days of school in the past year than those in non-affected households, especially for girls, young children and those in rural areas.*
- *Overall, orphans and vulnerable children (OVC) have equal attendance rates to non-vulnerable children, however OVC rural girls have lower attendance rates than non-vulnerable rural girls.*

Beyond reducing the immediate economic capacity of the household, HIV influences the human capital accumulation of the household and, therefore, long-term earning capacity. The impacts of a diagnosis of HIV on a household's capacity to provide their children with an education are particularly important to examine, as increased barriers to educational opportunities will further reduce the future socioeconomic status of the household. Throughout this chapter, results have been shown both within the international schooling context of ages 5-18, as well as within the specific Cambodian schooling ages of 6-17. Figure 5.1 diagrams the ages at which Cambodian children are expected to progress from each schooling level to the next.

Figure 5.1: The Educational System in Cambodia

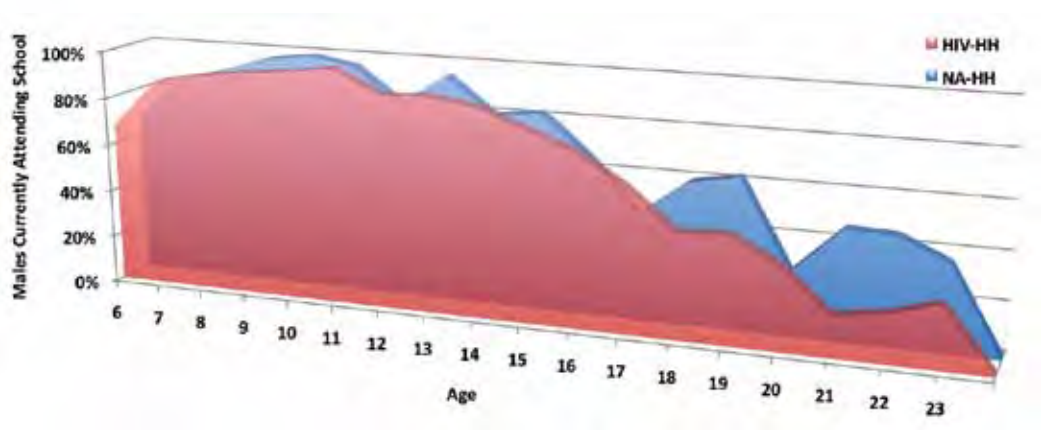


Source: National Institute of Statistics, 2009

5.1. IMPACT OF HIV ON SCHOOL ATTENDANCE

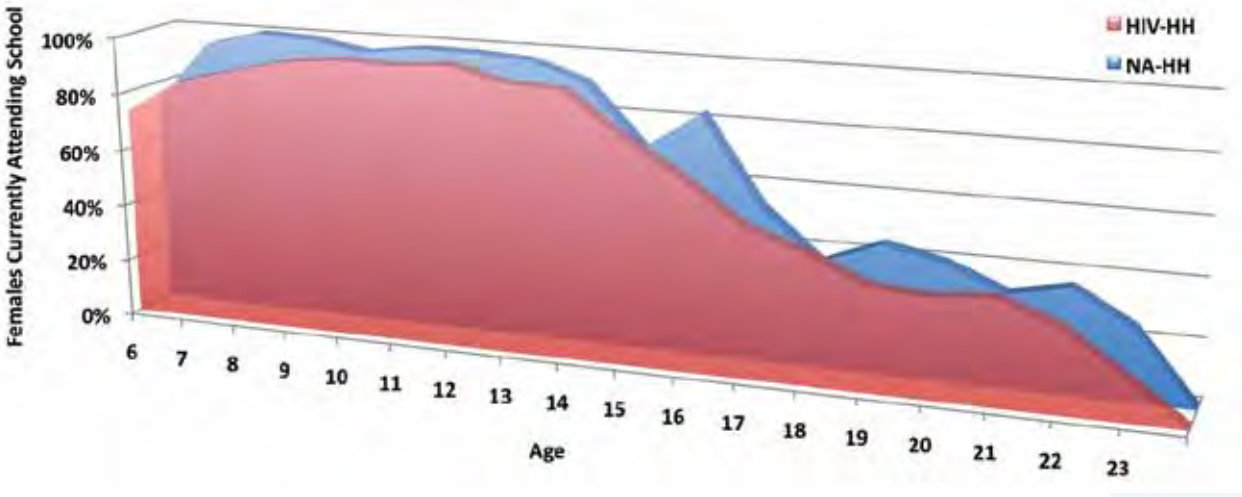
A critical measure of a child's educational status is one of the most basic – whether or not they are currently attending school. Figure 5.2 and Figure 5.3 display the results of responses to a question that asked whether or not the individual was currently attending school (regardless of what level they were at, or whether they were in non-formal or vocational training). While current attendance rates were similar, or even better for some younger males in HIV-affected households, for some older males and females residing in a HIV-affected household had a negative impact on the likelihood of the child attending school.

Figure 5.2: Impact of HIV on Males' Current School Attendance, by Age



Source: Sanigest Internacional analysis

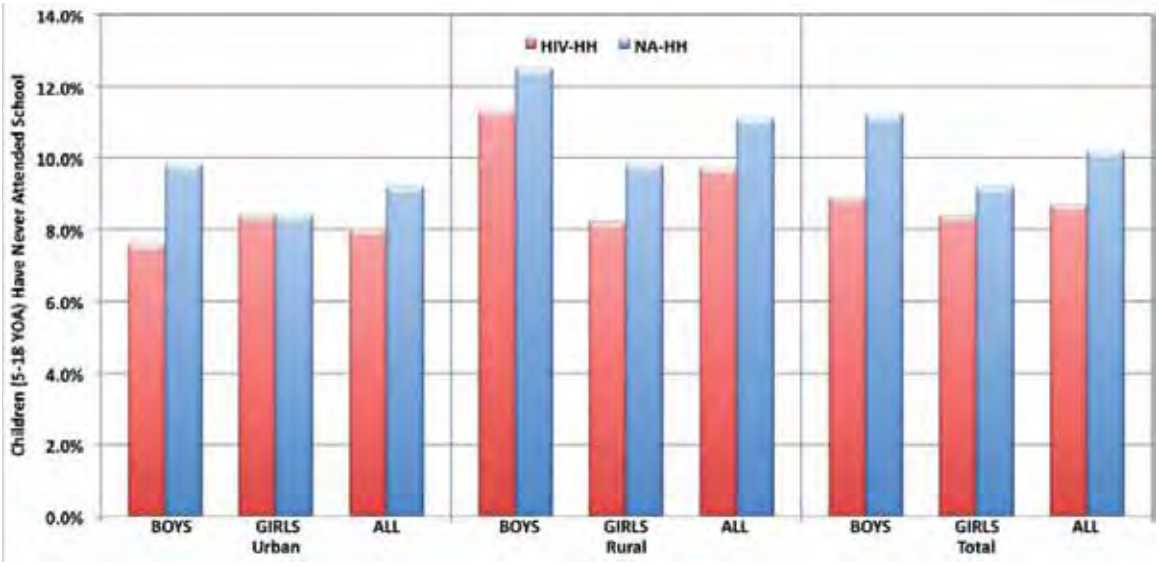
Figure 5.3: Impact of HIV on Females' Current School Attendance, by Age



Source: Sanigest Internacional analysis

Another important educational measure is the proportion of children who have never attended school. Figure 5.4 shows encouraging results with this indicator, as significantly fewer children in HIV-affected households (8.7%) than non-affected (10.2) were reported to have never attended school. The largest difference is seen for males, where 20% fewer boys in HIV-affected households were reported to have never attended school than those in non-affected households. Section 4.6 showed that HIV-HHs receive seven times more than NA-HHs in terms of scholarships and education stipends, and these results may be reflecting the positive impact of that assistance.

Figure 5.4: Impact of HIV on Children who have Never Attended School



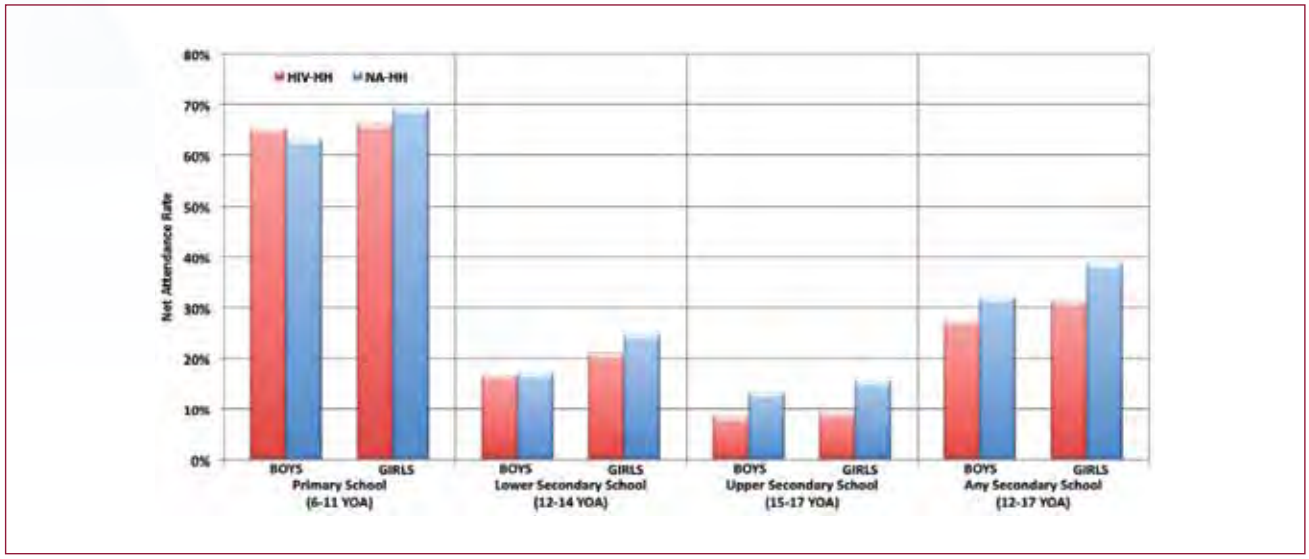
Source: Sanigest Internacional analysis

Net Attendance Primary School Rate:	Gross Attendance Primary School Rate:
Total # Children (aged 6-11) Attending Primary School / # Children (aged 6-11)	Total # Children (all ages) Attending Primary School / # Children (aged 6-11)

The Ministry of Education, Youth and Sport in Cambodia uses different indicators to measure enrolment (utilising school data) or attendance[15] (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 Rates (NAR) are displayed here, while Annex E also contains the Gross Attendance Rates (GAR).

Figure 5.5 displays the results of the analysis of net attendance rates of boys and girls for the different educational levels. As before, it can be seen that primary school aged boys (6 – 11 years of age) in HIV-affected households performing similarly to their peers in non-affected households (65% net attendance rate for HIV-HHs vs. 63% for NA-HHs). No significant differences were seen for girls in that age range either (66% compared to 69%). There was also no difference seen in lower or upper secondary school NARs between boys in HIV-HHs and NA-HHs. However, severe differences were seen between older girls (15-17 years of age) in secondary school, and particularly in upper secondary school, where the NAR for non-affected households was almost twice that of HIV-affected (16% compared to 9%). The impact of age / higher educational level on the disparity between households may be intertwined with the subsidies that HIV-HHs are receiving, as they are focused on ensuring younger children remain in primary school. Once the scholarships or stipends are no longer available, there is a greater chance that the household will be forced to pull the child out of school in order to contribute to household chores or to the household income.

Figure 5.5: Impact of HIV on Net Attendance Rates, by Educational Level and Sex

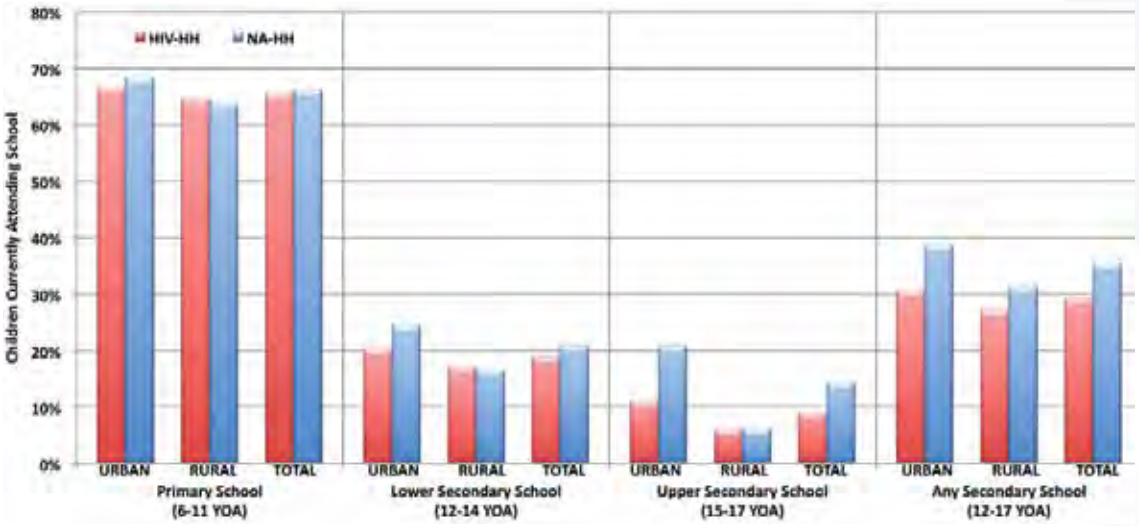


Source: Sanigest Internacional analysis

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

Figure 5.6 shows the impact of HIV on NARs, by the location of the household. In this representation, it can be seen that children living in rural (and generally poorer) HIV-affected households were less impacted by the presence of HIV within the household than those in urban households (there were no significant differences in NARs between HIV-HHs and NA-HHs in rural households at any educational level). The most striking differences were seen at the upper secondary school level, where children from urban non-affected households had almost twice the NAR of HIV-affected household children (21% vs. 11%). These results may again point to the impact of subsidies, as HIV-HHs in urban areas reported receiving, on average, four times the amount of scholarship / stipend revenues as NA-HHs, while in rural areas, the reported differences were substantially greater.

Figure 5.6: Impact of HIV on Net Attendance Rates, by Educational Level and Location

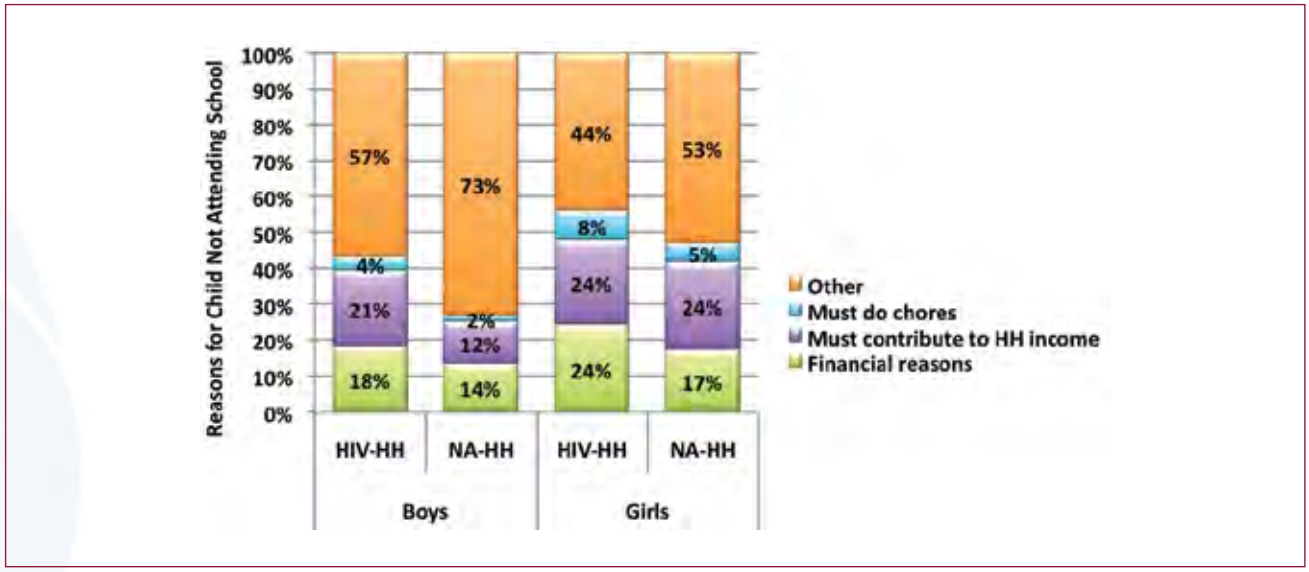


Source: Sanigest Internacional analysis

When children are not attending school, it is important to understand the reasons for their non-attendance. Overall, HIV-HHs were more likely than NA-HHs to state that children were not enrolled for financial reasons[16] (21% vs. 15%), or because the child must contribute to the household income (22% vs. 18%). It was more likely for NA-HHs to provide an alternative reason for non-attendance than HIV-HHs (50% HIV-HHs vs. 64% NA-HHs). Figure 5.7 shows that, in both sets of households, girls were more likely than boys to not be attending school due to financial reasons, or because they needed to help with chores (23% boys in HIV-HHs vs. 33% girls in HIV-HHs). These factors help to explain some of the lower attendance rates seen earlier for girls, and indicate that in many HIV-HHs, children are not attending school due to the socioeconomic impacts of HIV on their lives, and that girls bear the brunt of the impact.

16 *"High cost of schooling or no money"*

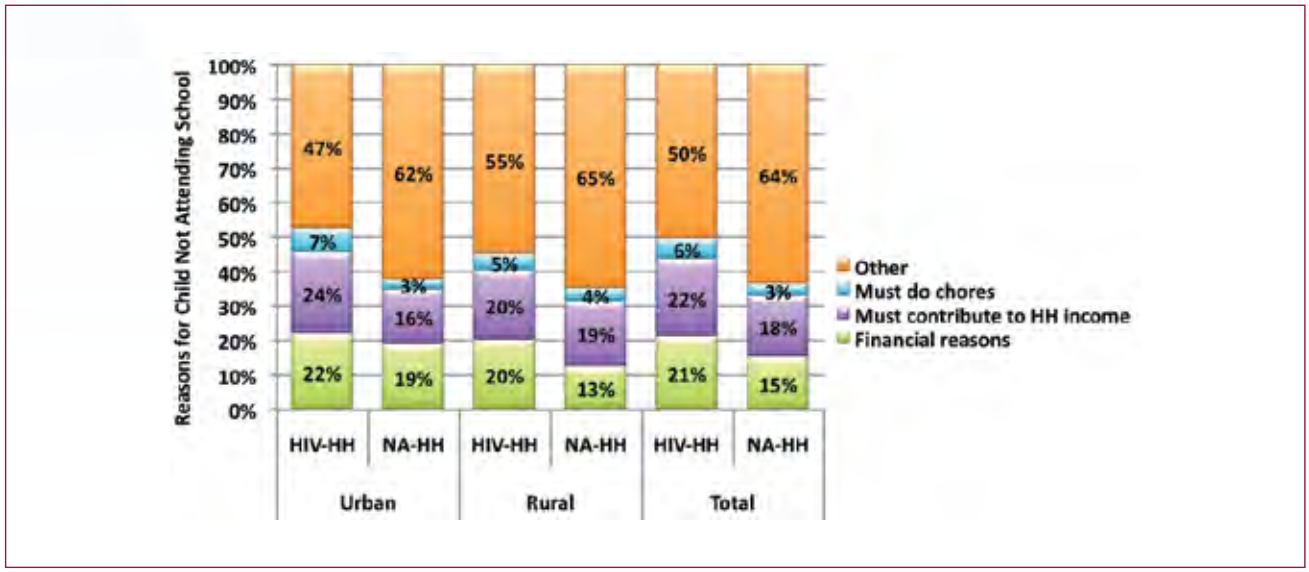
Figure 5.7: Impact of HIV on Reasons for Non-Attendance, by Sex



Source: Sanigest Internacional analysis

Figure 5.8 highlights differences between the urban and rural households with regards to reasons given for non-attendance. Urban HIV-HHs were more likely to cite financial reasons, or the need for the child to contribute to household income or assist with chores (53%) than rural HIV-HHs (45%) while NA-HHs were much more similar between urban and rural settings (only a 3% difference). This may again relate to differences in subsidies or, perhaps, the greater availability of employment opportunities in urban areas. However, rural HIV-HHs were much more likely than rural NA-HHs to cite financial reasons for non-attendance by, pointing to the overall lower financial status of rural HIV-HHs.

Figure 5.8: Impact of HIV on Reasons for Non-Attendance, by Location

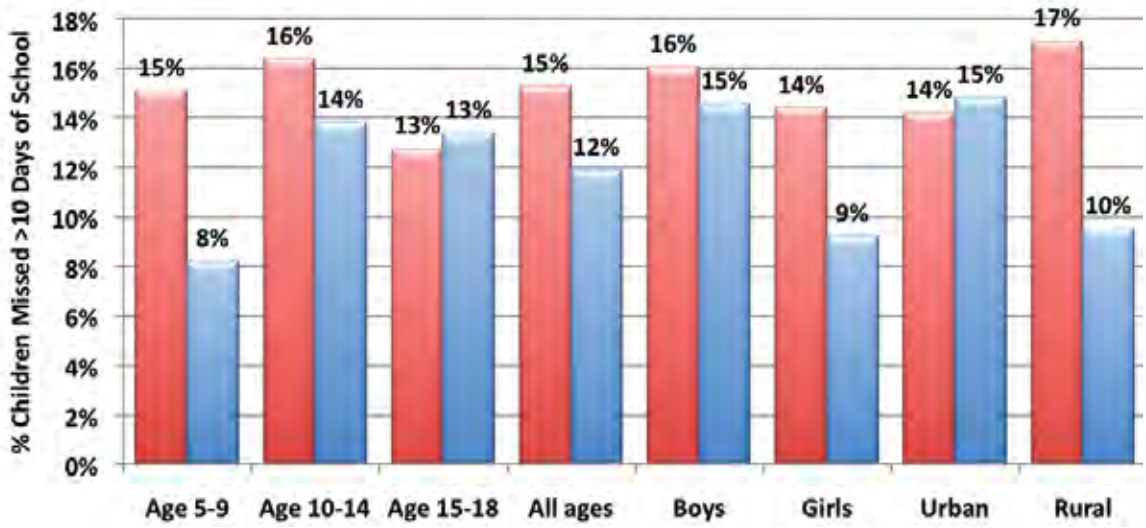


Source: Sanigest Internacional analysis

5.2. IMPACT OF HIV ON SCHOOL ABSENCES AND GRADE REPETITION

Figure 5.9 shows the impact of HIV on the percentage of children reported to have missed 10 or more school days in the previous year. The negative consequences of HIV were seen clearly here, especially for younger children, girls and children in rural households. Those children in the age range of 5 – 9 who live in HIV-HHs were almost twice as likely as those in NA-HHs to have missed more than 10 days of school (15% vs. 8%). Girls in HIV-HHs were again seen to receive a greater impact, with over a 50% increase in the percentage of HIV-HH girls (9%) having been absent 10 days or more than girls in NA-HHs (14%). That compares to a non-statistically significant increase for boys (15% vs. 16%). Finally, in contrast to the data on net attendance rates, children in rural HIV-HHs realised the worst results, with 17% of HIV-HH children having missed more than 10 days of school in the previous year, compared to only 10% of those in NA-HHs. That contrasts significantly with the almost equal proportions of children from HIV-HHs and NA-HHs in urban areas (14% HIV-HHs; 15% NA-HHs). These differences in missed school days may have an impact on the level of education the children from HIV-HHs will be able to achieve, the need to repeat a grade, and eventually income earning potential.

Figure 5.9: Impact of HIV on School Absences, by Age and Sex

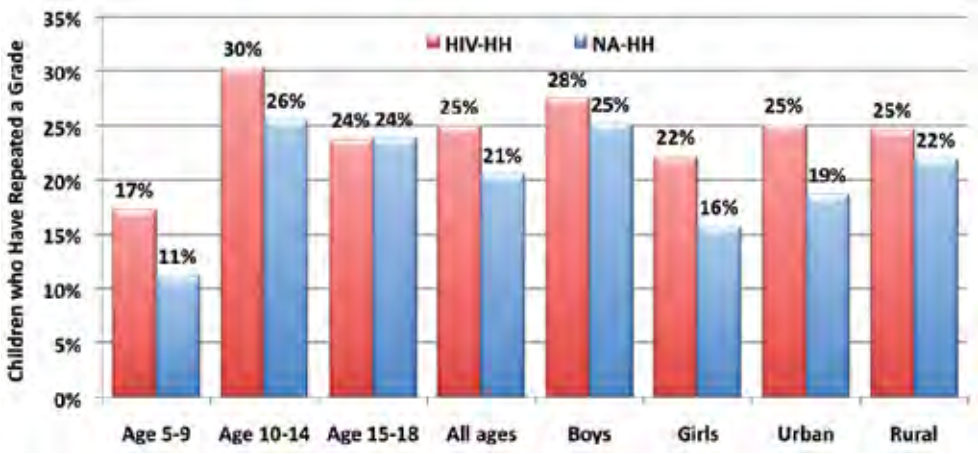


Source: Sanigest Internacional analysis

Figure 5.10 shows the impact of HIV on the percentage of children who were reported to have repeated a grade[17]. Overall, more children living in HIV-affected households had repeated a grade than those in non-affected households (25% HIV-HH; 21% NA-HH). However, certain populations

appeared more vulnerable to the impact of HIV than others: younger children, girls and those in urban households. While the youngest children (aged 5-9) were understandably less likely than older children to have repeated a grade, those in HIV-HHs were over 50% more likely to have repeated a grade than those in NA-HHs, compared to only a 15% increase for those aged 10-14 and no difference in those aged 15-18. The difference between girls in HIV-HHs and NA-HHs was twice as great as that for boys. As with net attendance rates, HIV had a greater impact in urban households, with the differences being twice as great in urban areas than in rural areas.

Figure 5.10: Impact of HIV on Grade Repetition



Source: Sanigest Internacional analysis

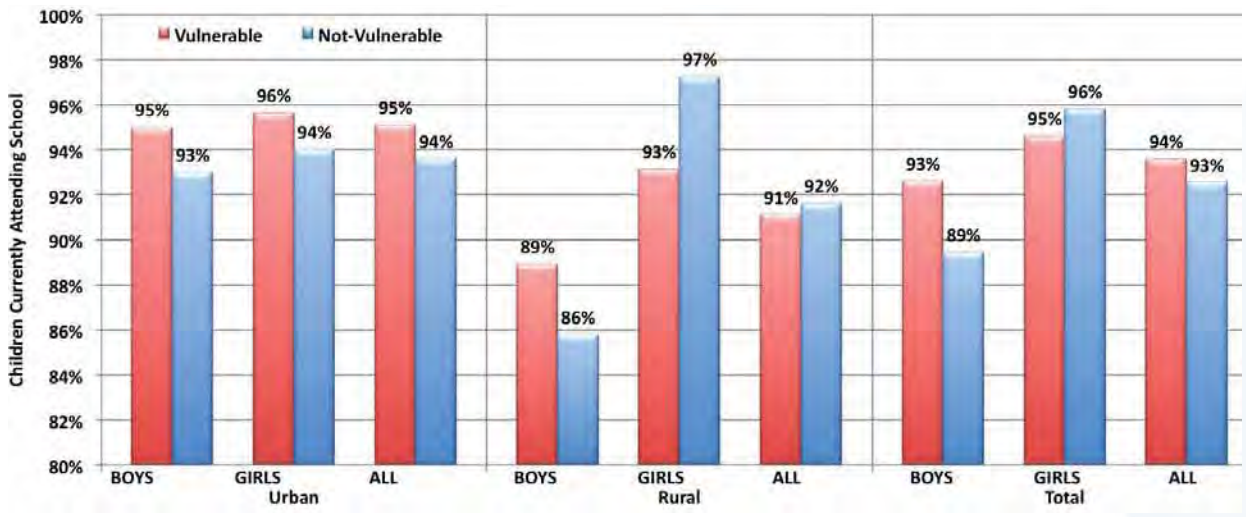
5.3. ORPHANS AND VULNERABLE CHILDREN AND EDUCATION

One of the core indicators created by UNICEF to monitor children made vulnerable[18] by HIV is the OVC child school attendance ratio, which is the percentage of OVC (aged 10-14) currently attending school to non-vulnerable children (aged 10-14) currently attending school (UNICEF, 2005). Figure 5.11 shows Cambodia doing very well with this indicator as boy OVC had a higher attendance rate (93%) than non-vulnerable children (89%) and no differences were seen overall. However, a more concerning ratio was seen for rural girls (93% compared to 97%).

17 *This indicates whether the child has EVER repeated a grade, not whether the child repeated their last grade.*

18 *In this analysis, vulnerable children are those <18 who fit any one of the following criteria: (i) Have lost one or both parents to HIV (ii) Live in a household where either the HoH or the HoH's spouse is HIV positive (iii) Is HIV+ (iv) Lives in a household with either a parent with HIV, or another child with HIV.*

Figure 5.11: School Attendance by Orphans and Vulnerable Children, by Location and Sex



Source: Sanigest Internacional analysis

5.4. MULTIVARIATE ANALYSIS OF EDUCATION

To better understand the determinants of school attendance, this section presents the results of a logistical regression. In the univariate model the endogenous variable is a dichotomous variable, with (1) representing the condition of whether a child had missed more than 10 days of school and (0) that the child had not missed more than 10 days of school In the multivariate model, the endogenous variable is a dichotomous or dummy variable, with (1) representing attendance and (0) representing non-attendance. Using Stata, variables were retained in each model if they significantly improved the respective model.

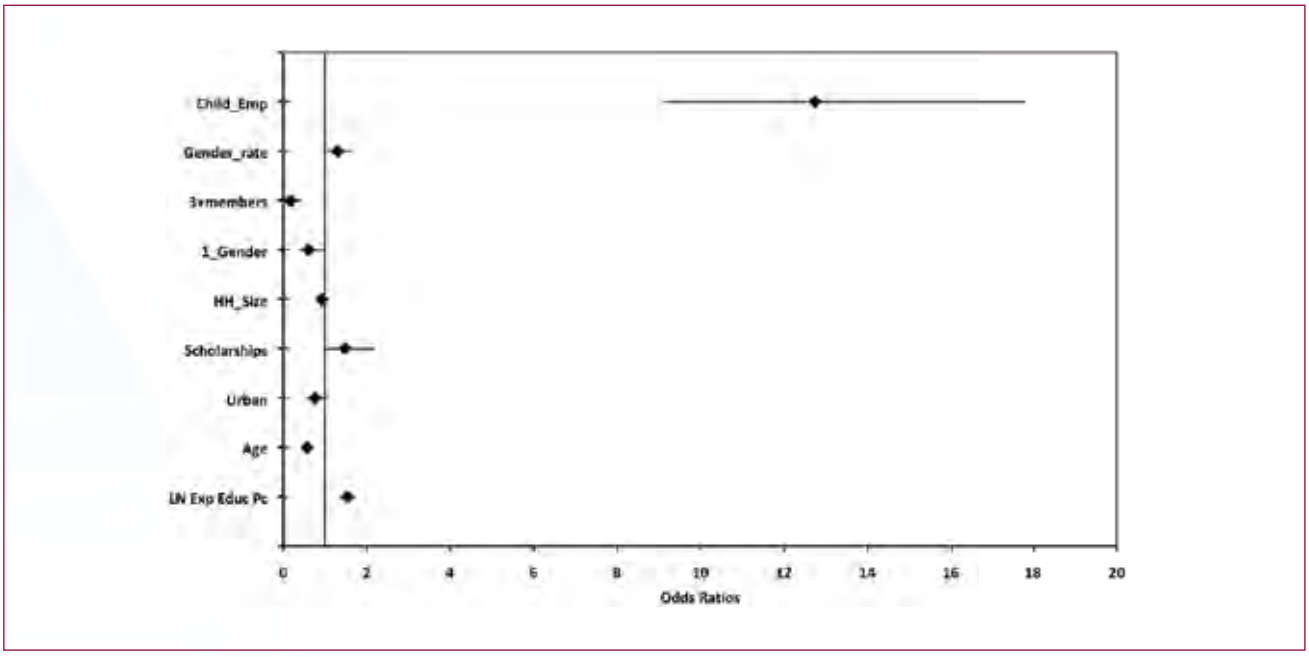
The univariate results show that the HIV status of the household is a significant risk factor for a child missing more than 10 school days in the last period. A child living in a household affected by HIV was three times more likely to have lost more than ten days than a child from a non-affected household: 41.8% versus 18.8%. The results also show that a female child in a HIV-HH had 2.7 times greater the chance of repeating a grade than a female child in a NA-HH.

To further understand the interaction between the variables, the multivariate regression confirms the affect of HIV and gender on schooling. Included in the stepwise logistic regression analysis as explanatory variables were variables reflecting the following household characteristics: urban/rural and Phnom Penh residence, affected/non-affected status of the head of household, gender and age of the household head, total number of years of schooling, number of employed members in the household, whether HIV status was determined only after a prolonged illness, and the household size and dependency ratio. The coefficients of the model are shown as Odds-Ratios (OR). The odds ratio is one of a range of statistics used to assess the relative probability of a particular outcome (school attendance in this

case) if certain explanatory factors are present compared to someone who is not exposed to these factors. Tests for multi-collinearity and model specification were not significant, indicating that the model is correctly specified.

Figure 5.12 displays the odds-ratios for the variables that were significant after several iterations. The point on each line is the odd-ratio and the line shows the 95% confidence interval. The results show the overwhelming affect that child workforce participation had on attendance. A child was 12 times more likely to be in school if he/she was not working, underlining the importance of keeping children out of the workforce. At the same time, those households that spent more on education per capita also had a higher probability of their children staying in school, most likely showing that spending on education is a proxy for household commitment. Government scholarships were also a significant explanatory factor, and increased the probability of staying in school by nearly 1.5 times. On the other hand, variables controlling for the presence of home-based care and food support, to test whether these programs mitigate the effects of poverty for HIV households, were not significant, indicating that there is little direct effect on the probability of children being in school. Finally, whether the child resides in an HIV-affected household is not statistically significant in the model.

Figure 5.12: Multivariable Analysis of School Attendance



Source: Sanigest Internacional analysis

6. IMPACT OF HIV ON HEALTH

CHAPTER SUMMARY

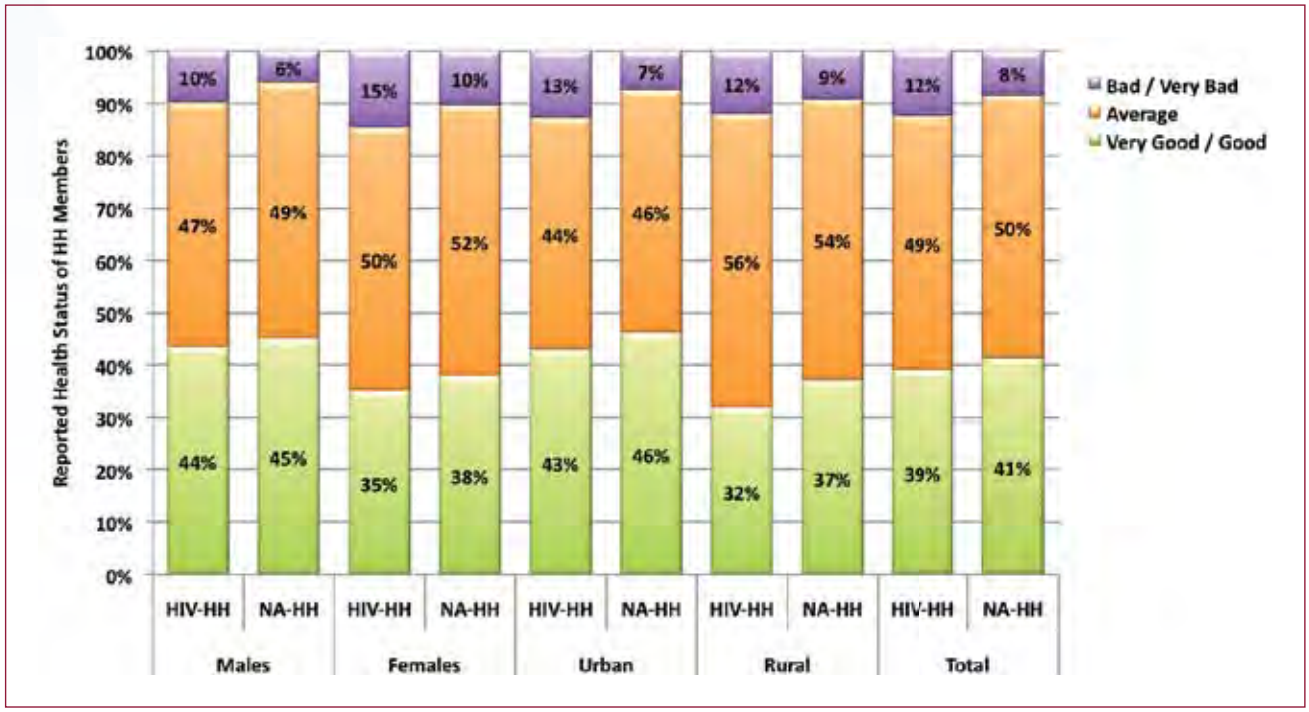
- *Members of HIV-affected households were reported to be in worse health status than those in non-affected households.*
- *Members of poorer households (both HIV-affected and non-affected) were reported to be in worse health status than those in wealthier households.*
- *PLHIV utilised significantly more ambulatory and inpatient health services, and were significantly more likely to seek care in the public sector, than those in non-affected households*
- *PLHIV were significantly more satisfied with their access to health services than survey respondents in non-affected households.*
- *Charges for health care services reported by members of HIV-affected households were significantly lower than those reported by members of non-affected households.*
- *PLHIV were more likely to have healthcare charges exempted than members of non-affected households.*
- *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.*
- *Male PLHIV, and those living in rural areas, were less likely to have been diagnosed with HIV through VCCT than females and those living in urban areas.*
- *Overall, there was no difference between PLHIV who identified themselves as members of key affected populations, and those who did not, with regards to being diagnosed through VCCT.*
- *ART utilisation is high among all PLHIV. However, utilisation of medications to prevent or treat opportunistic infections is lower for PLHIV living in rural areas.*
- *There was no difference between the proportion of HIV-affected and non-affected households who had incurred catastrophic health expenditures.*

Before the expansion of publicly funded ART within Cambodia to the current level of approximately 90%, the impact of HIV on health (morbidity and mortality, as well as impoverishing health expenditures) was of critical concern. Regionally, recent socioeconomic impact studies from India, China and Vietnam (where ART is not provided nationally, as it is in Cambodia) found healthcare spending to be one of the most destructive direct economic impacts of HIV at the household level. In Cambodia, differences in healthcare utilisation and spending among HIV-affected and non-affected households were found to be much smaller than in other countries, and generally reflected gaps in coverage rather than a systematic problem in access to care. Such findings further support calls for increased ART coverage, globally.

6.1. IMPACT OF HIV ON HOUSEHOLD HEALTH STATUS

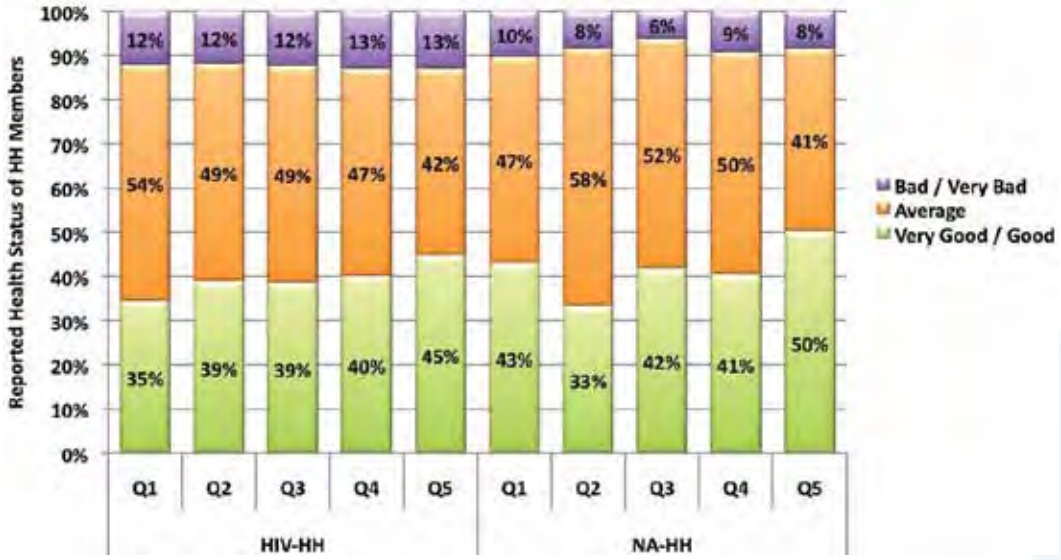
Figure 6.1 indicates how survey respondents reported the health status of household members in response to the question, "How would you evaluate [NAME]'s health". Overall, as expected, the members of HIV-affected households were rated as being in worse health than those in non-affected households (12% of HIV-HH members reported as in bad or very bad health status, compared to 8% of NA- HH members). Males were generally reported as being in better health status than females, while individuals in rural locations were significantly less likely to be reported as being in good or very good health than their urban counterparts. Overall, the results for non-affected households closely mirror those seen in the 2007 Cambodia Socio-Economic Survey, where 7% of members were reported to be in bad or very bad health status (9% women; 6% men).

Figure 6.1: Reported Health Status of Household Members, by Location



Source: Sanigest Internacional analysis

Figure 6.2: Reported Health Status of Household Members, by Quintile



Source: Sanigest Internacional analysis

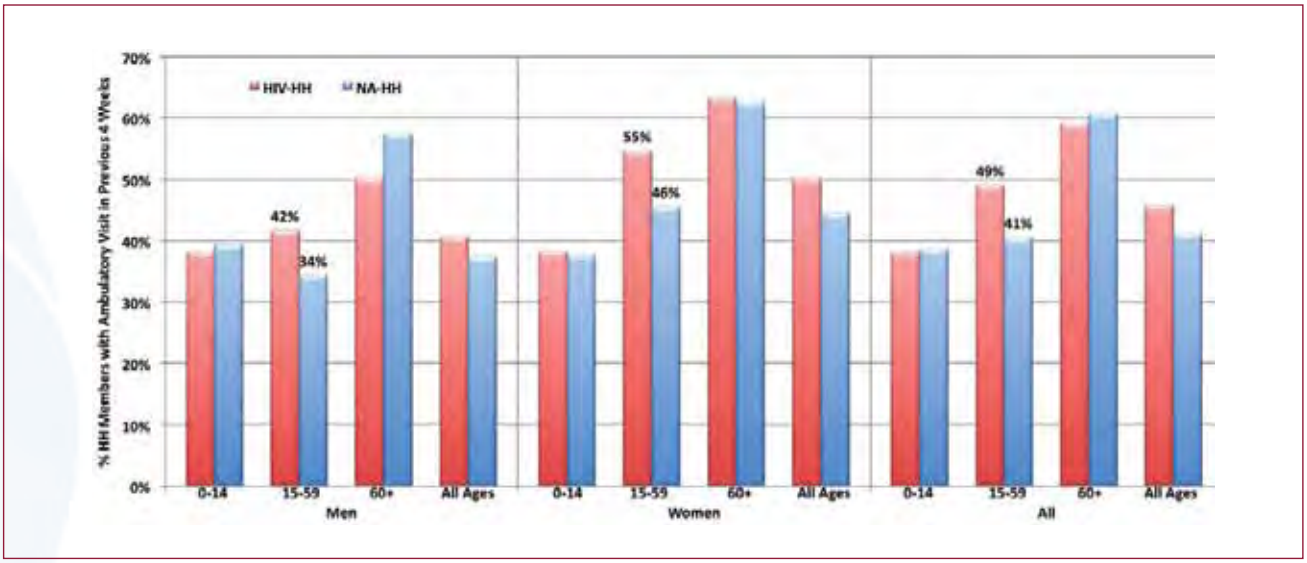
Figure 6.2 displays the results of the same question, but by quintile of wealth. For HIV-affected households, there was a clear positive correlation between the economic status of households and the likelihood of members' health being rated as good or very good (only 35% of quintile 1 members compared to 45% of quintile 5). Additionally, even in the highest wealth quintile, the percentage of household members reported to be in bad or very bad health was higher for HIV-affected households than non-affected households (13% compared to 8%).

6.2. IMPACT OF HIV ON UTILISATION OF HEALTH SERVICES

6.2.1. IMPACT OF HIV ON AMBULATORY HEALTH SERVICE UTILISATION

Figure 6.3 indicates that, overall, a greater percentage of individuals in HIV-affected households sought care in the ambulatory setting, than those from non-affected households (46% of HIV-affected household members sought outpatient care services in the previous 4 weeks, compared to only 41% of non-affected household members). Given the small percentage of HIV positive children and those over 60, it is not surprising that there was little difference between the utilisation figures for those age ranges, while for those in the highest prevalence HIV range (15-59 years old), significant differences were seen. Additionally, due to maternity-related care, higher utilisation rates were seen for women aged 15-59 than for men, for all households. Overall, no significant differences existed between the utilisation patterns of those in urban households compared to those in rural households (data in Annex E).

Figure 6.3: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by Age and Sex

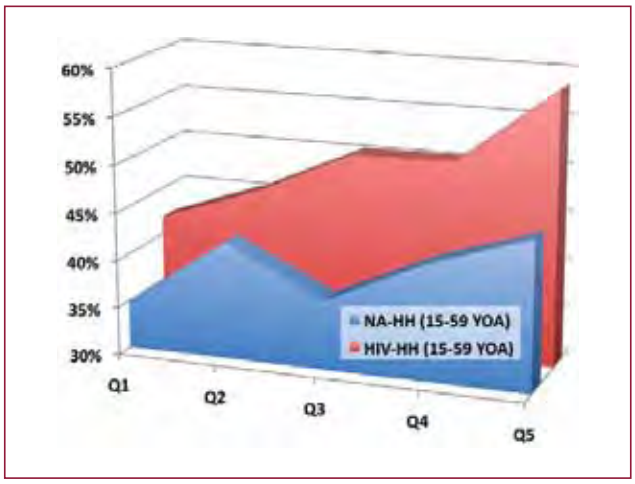


Source: Sanigest Internacional analysis

Figure 6.4 displays data on ambulatory utilisation by economic quintile for those aged 15-59. Both HIV-affected and non-affected households within the highest quintile had significantly higher utilisation rates than those in the lowest economic quintile. However, the differences were more elevated in HIV-affected households (17% increase) than in non-affected (11% increase).

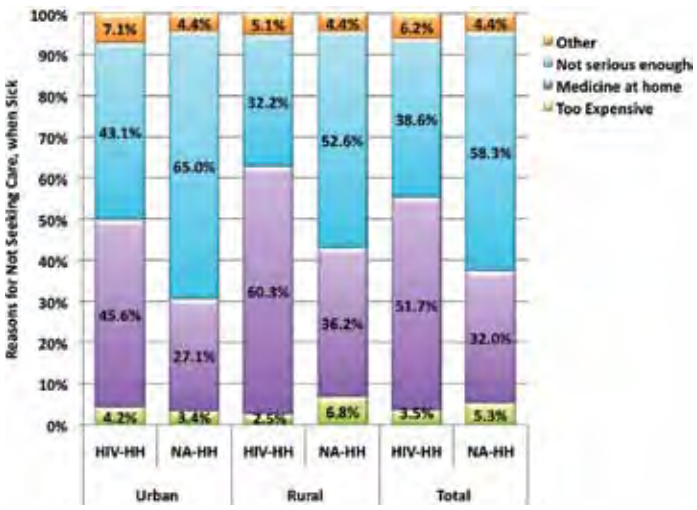
Individuals who were reported to be sick or ill in the previous four weeks, but did not seek care, were analysed according to the reasons given for not seeking care, as displayed in Figure 6.5. There were significant differences in the reasons given by the affected and non-affected households: NA-HH members were more likely to state the illness was not serious enough to go to the doctor, while HIV-HH members were more likely to have indicated they already owned the medicine and self-medicated. Small but statistically significant differences were seen between households citing financial reasons for not seeking care, with HIV-affected households less likely to have reported economic reasons (3.5% for HIV-HHs vs. 5.3% for NA-HHs). Importantly, in rural areas, non-affected household members were more than twice as likely as HIV-affected household members to indicate they did not seek care due to insufficient money, or the high cost of care, a positive reflection on the Cambodian policies in place to reduce the cost of care for PLHIV.

Figure 6.4: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by Quintile



Source: Sanigest Internacional analysis

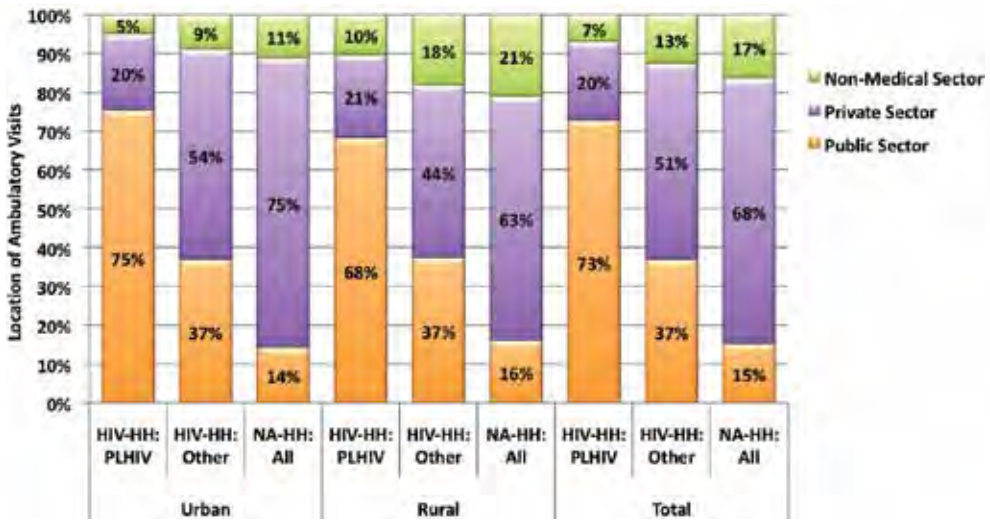
Figure 6.5: Reasons for Not Seeking Care when Sick, by Location



Source: Sanigest Internacional analysis

Figure 6.6 highlights the significant differences in where the household members sought ambulatory care. In HIV-affected households, 50% of all members (73% of PLHIV and 37% of other members) sought care in the public sector, in comparison to non-affected households, where members sought care in the public sector only 15% of the time. The differences were slightly more pronounced in the urban sector. This is a clear result of the programs in place providing public free care to those individuals who are HIV positive. It is likely that some of the increase in public utilisation for other members of HIV-affected households (i.e., not the interviewed PLHIV) is due to the fact that 39% of HIV-affected households contained more than one person living with HIV.

Figure 6.6: Impact of HIV on Location of Ambulatory Care Health Services, by Location

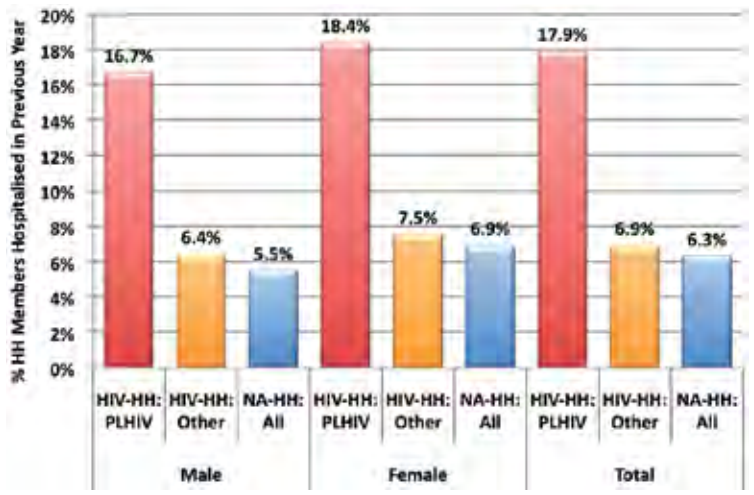


Source: Sanigest Internacional analysis

6.2.2. IMPACT OF HIV ON INPATIENT HEALTH SERVICE UTILISATION

Figure 6.7 displays the percentage of household members who required an inpatient hospitalisation in the previous 12 months. The results are split between the interviewed PLHIV, other HIV-HH members, and members of NA-HHs, so as to highlight the large impact HIV had on inpatient utilisation. Significantly, a much greater percentage of PLHIV were hospitalised in the previous year: almost three times the percentage of individuals living in non-affected households (18% vs. 6%). Following international trends, women were more likely to be hospitalised than men, in all subgroups. Finally, although the data is not displayed here, there were no significant differences in hospitalisations between the urban and rural populations (18% of both urban and rural PLHIV were hospitalised in the previous year).

Figure 6.7: Impact of HIV on Hospitalisations, by Sex

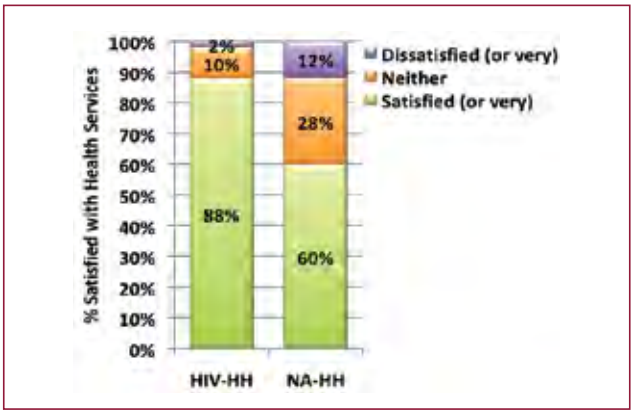


Source: Sanigest Internacional analysis

6.2.3. IMPACT OF HIV ON SATISFACTION WITH ACCESS TO HEALTH SERVICES

Survey respondents and the PLHIV were asked about their satisfaction with access to health care services in the previous four weeks. Figure 6.8 highlights that PLHIV were considerably more likely to have reported being satisfied or very satisfied with their access to care than survey respondents in non-affected households (88% of PLHIV vs. 60% for the NA-HH members). This is likely related to the place of service differences discussed above, and the reduced costs that PLHIV generally encountered at the point of service (see sections 6.3 and 6.4).

Figure 6.8: Impact of HIV on Satisfaction with Access to Health Services



Source: Sanigest Internacional analysis

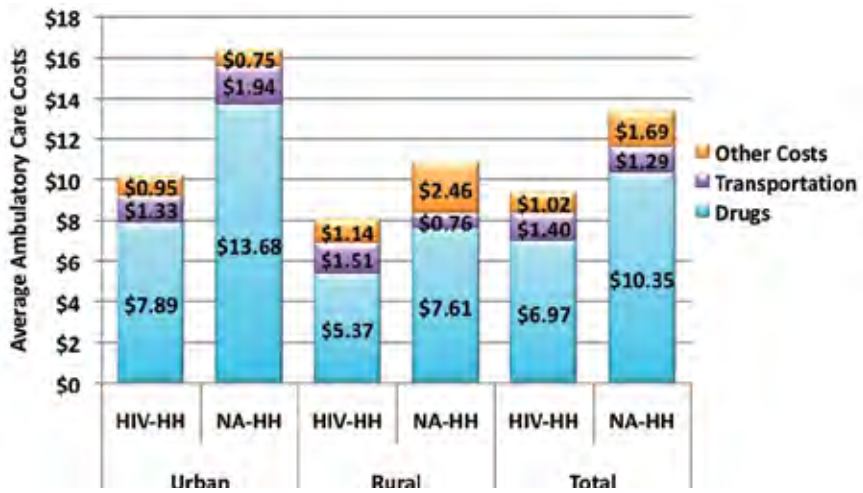
6.3. IMPACT OF HIV ON HEALTH CHARGES

6.3.1. IMPACT OF HIV ON AMBULATORY CARE CHARGES

Figure 6.9 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 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 for portions of their bills.

Members of HIV-HHs, on average, had significantly lower charges for their care than NA-HH members. This is likely predominantly due to the differences discussed above with regards to the location of services, with PLHIV being more likely to have visited a public sector facility. In the public sector, PLHIV are eligible for free ART and OI treatments, leading to the lower charges for drugs ($6.97 for HIV-HH members vs. $10.35 for NA-HH members). The differences were greatest in the urban sector, with charges for NA-HH members 60% greater than for HIV-HH members. In rural areas, differences between households were much less. In fact, transportation costs for HIV-HH members were almost twice that of NA-HH members. It should be noted that, while average charges per household member in the previous four weeks were lower for the HIV-affected households because they were more likely to have required a visit, total healthcare consumption figures were very similar for both households.

Figure 6.9: Impact of HIV on Ambulatory Charges, by Location

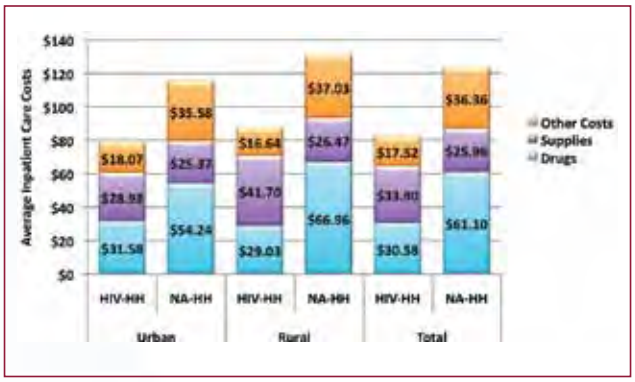


Source: Sanigest Internacional analysis

6.3.2. IMPACT OF HIV ON INPATIENT CARE CHARGES

Figure 6.10 displays the results of the analysis of charges for inpatient health care services in the previous 12 months. Again, as with ambulatory care, HIV-HH members, on average, incurred much lower charges than those in NA-HHs. Overall, the charges for hospitalisations incurred by members of NA-HHs in the previous 12 months were 50% higher than for members of HIV-HHs ($123 for NA-HH members vs. $82 for HIV-HH members). However, it should be noted that, as with ambulatory care, utilisation rates for members of HIV-HHs were much higher than for NA-HHs, leading to similar total levels of household health expenditures.

Figure 6.10: Impact of HIV on Inpatient Health Care Charges, by Location



Source: Sanigest Internacional analysis

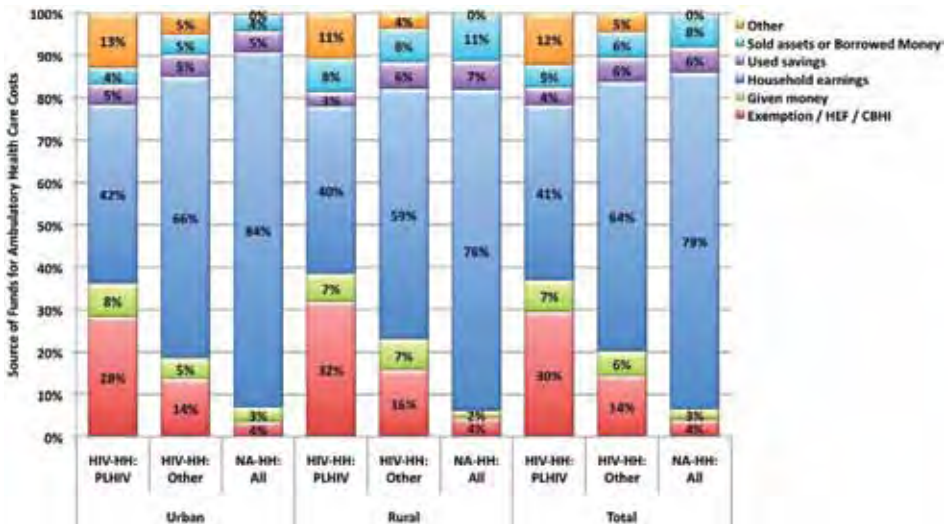
6.4. IMPACT OF HIV ON SOURCE OF FUNDS FOR HEALTH CARE CHARGES

6.4.1. IMPACT OF HIV ON SOURCE OF FUNDS FOR AMBULATORY CARE CHARGES

Figure 6.11 shows the sources of funding used to pay for ambulatory care in the previous four weeks. In this question, respondents were asked to list up to three methods they used to cover the charges from their visits, and weight how much that method was used to pay for their care. 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).

The positive impact of government policies designed to reduce the economic burden of HIV for PLHIV is noticeable here, with 30% of HIV-HH ambulatory charges reported as exempt, funded by a health equity fund (HEF) or community based health insurance (CBHI) scheme, compared to only 4% for NA-HHs. In urban settings, the charges were equally covered by selling assets, borrowing money or using savings for both HIV-HHs and NA-HHs (9%). However, in rural settings, more of the charges for NA-HHs were covered through those mechanisms (18%) than for HIV-HHs (11%). This may be partially a reflection of positive policies, and partially due to the fact that HIV-HHs are less likely to have assets or savings, and have diminished capacity to borrow money. The most significant method for all households was using household earnings to pay for ambulatory care. However, non-affected household members used household earnings to cover twice the charges of PLHIV. This is again likely to be a result of both positive policies and lower earning potential within HIV-HHs. The "other" responses, which accounted for 12% of the charges for PLHIV, and 0% for NA-HHs, generally referred to assistance from NGOs.

Figure 6.11: Impact of HIV on Source of Funds for Ambulatory Health Care Costs, by Location



Source: Sanigest Internacional analysis

The survey asked respondents if they paid more than the "official" amount for their ambulatory care services, but less than 90 respondents (<0.01%) answered yes. This may imply that the requirement for under-table payments is not a large issue, but could also point to the reluctance of respondents to discuss the practise.

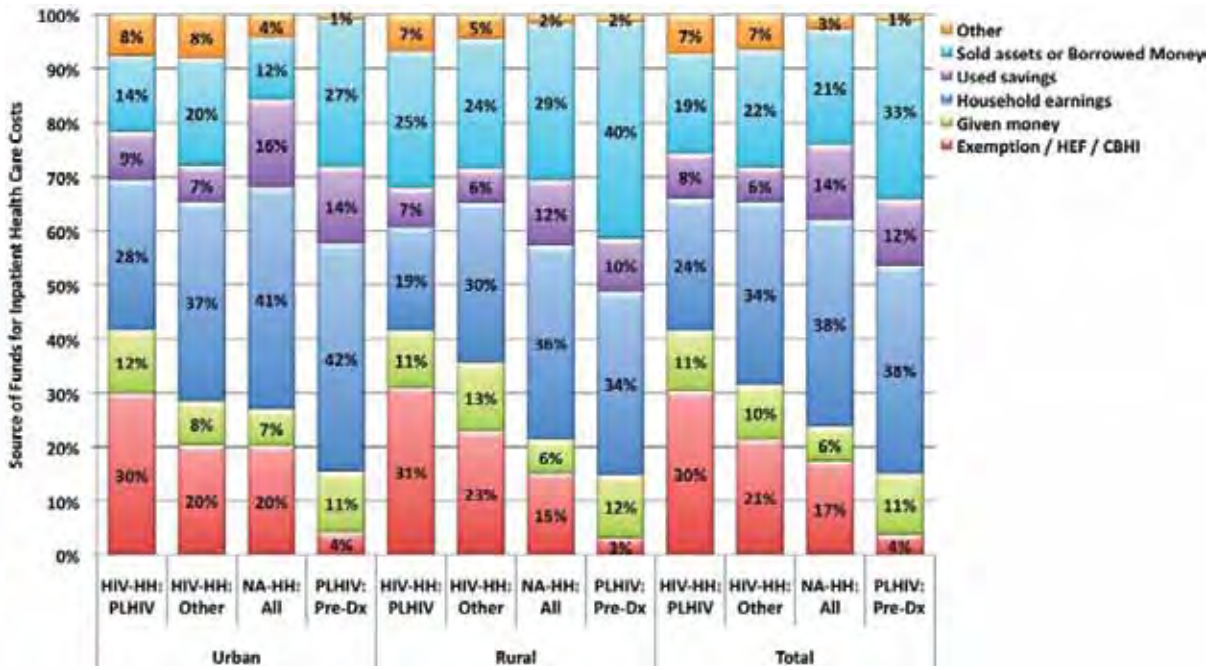
6.4.2. IMPACT OF HIV ON SOURCE OF FUNDS FOR INPATIENT CARE AND PRE-DIAGNOSIS CHARGES

PLHIV were asked if they had been seriously ill (non-trauma related) in the months prior to their diagnosis with HIV, and then asked how they paid for that care before their diagnosis. Additionally, survey respondents were asked about the sources of payments for inpatient care for all household members hospitalised in the previous year. The analysis of those two sets of questions is shown in Figure 6.12. Regarding charges for hospitalisations within the last year, as with ambulatory care, PLHIV reported using household earnings to cover less charges than non-affected household members (24% vs. 38%), though all household members utilised household earnings less than for ambulatory care, likely due to the higher costs associated with inpatient care. HIV-affected households were again significantly more likely to have more of the charges covered through an exemption, HEF or CBHI (30% for PLHIV vs. 17% of costs in NA-HHs). However, the protective policies are seen to have reduced the impact of these higher cost services, as HIV-affected households sold assets and borrowed money to cover similar proportional cost values as non-affected households (19% vs. 21%). However, savings were used to cover a lower percentage of charges for PLHIV than for those in NA-HHs. Again, this is likely due to both the increased coverage of exemptions and HEFs, and the reduced capacity for savings.

Most importantly, however, the figure displays the large differences in how PLHIV paid for the serious illness that resulted in their diagnosis of HIV, in comparison to their current funding mechanisms. Overall, only 4% of the charges incurred by PLHIV before their diagnosis were covered through an exemption or assistance by an HEF or CBHI, in comparison to the 30% of current costs. Additionally, the high percentage of charges that were covered through selling assets or borrowing money (33%) and by using savings (12%) suggest the initial sickness leading to diagnosis may inflict irreversible damage on the economic standing of the HIV-affected household.

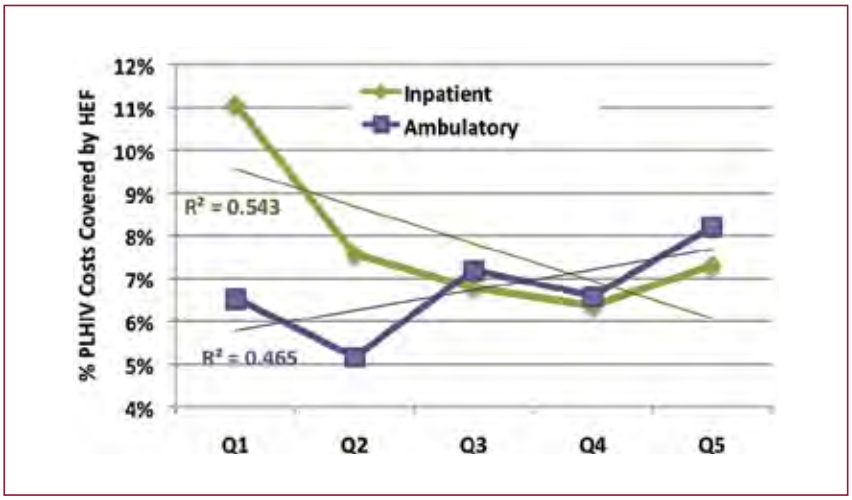
This has implications regarding the importance of voluntary confidential counselling and testing. Section 6.5 highlights the disparities that exist between urban and rural households with regards to the percentage of PLHIV who discovered their status through VCCT (significantly less in the rural households). The higher the percentage of PLHIV who are diagnosed through VCCT and not as the result of a severe illness, the lower the percentage of households that will incur the debt and asset-loss associated with health care services for which they are not eligible to receive subsidies and financial assistance.

Figure 6.12: Impact of HIV on Sources of Funds for Inpatient Health Care Costs, by Location



Source: Sanigest Internacional analysis

Figure 6.13: HEF Utilisation by PLHIV, by Quintile



Source: Sanigest Internacional analysis

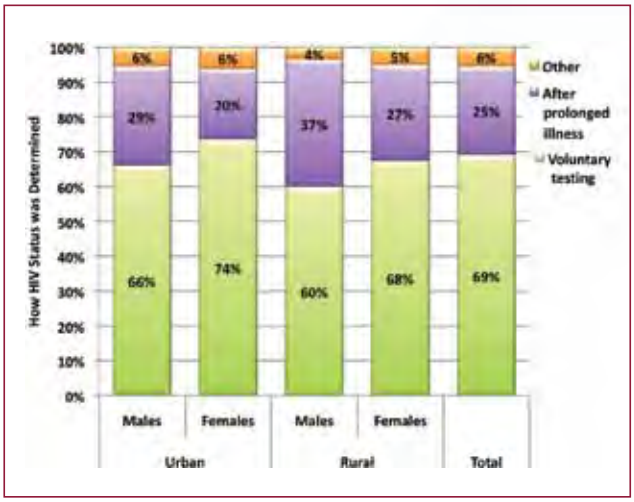
The potential of expanding the role of health equity funds in the country has been discussed in recent years as a way in which to further assist in reducing the economic impact of health costs on the poor. Figure 6.13 shows an analysis of the percentage of health care costs for PLHIV that were covered through an HEF, by quintile of wealth. It can be seen that, for inpatient care, the poorest quintile does receive more assistance than the others, but there is no clear trend overall, highlighting a need for better targeting within HEF organisations.

6.5. IMPACT OF SOCIOECONOMIC FACTORS ON HIV TESTING, TRANSMISSION AND ACCESS TO CARE

Previous sections have focused on the effects of HIV on socioeconomic indicators such as income, education and health utilisation and expenditures. However, those indicators may also affect an individual's risk of HIV transmission, as well as their access to HIV testing, treatment, care and support.

Figure 6.14 highlights how the status of the interviewed PLHIV was determined. Women were more likely than men, and those living in urban households more than those in rural, to have detected their status through VCCT, and conversely, less likely to have been diagnosed after a prolonged illness. This supports facility data showing that the majority of individuals who were tested in 2009 were women (57%, NCHADS, 2010). The greatest differences were seen between urban women (20% diagnosed after a prolonged illness) and rural men (37%). It is possible the differences between the sexes are due to women being more likely to have been infected by their spouse (see below), and therefore turned to VCCT after being informed of their spouse's status. The differences between urban and rural testing may indicate better HIV-educational programs or better access to testing services in urban areas.

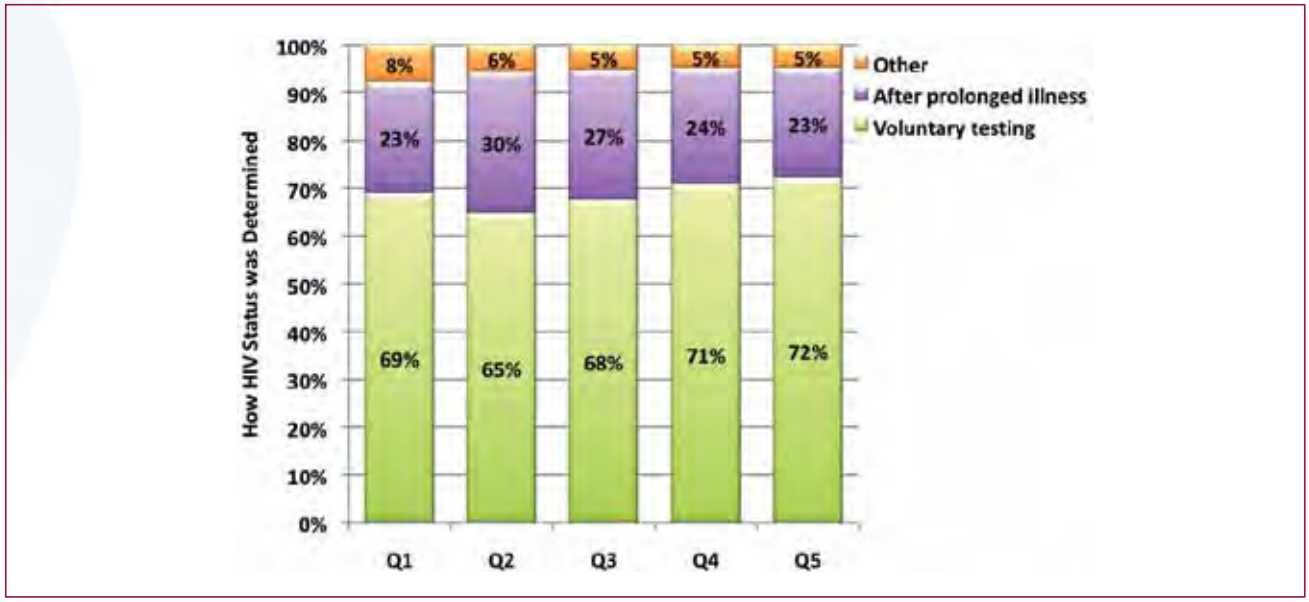
Figure 6.14: Mode of Determining HIV Status, by Sex and Location



Source: Sanigest Internacional analysis

Figure 6.15 displays the results of how PLHIV discovered their status, by quintiles of consumption. While the poorest quintile seemed disparate from the overall trend, from Q2 through Q5 there was a correlation between reduced likelihood of determining status following a prolonged illness (30% Q2 to 23% Q5) and increased likelihood of VCCT (65% Q2 to 72% Q1), perhaps due to better access (more poor households are located in rural areas with fewer facilities and greater distances between) or awareness regarding the need for testing.

Figure 6.15: Mode of Determining HIV Status, by Quintile



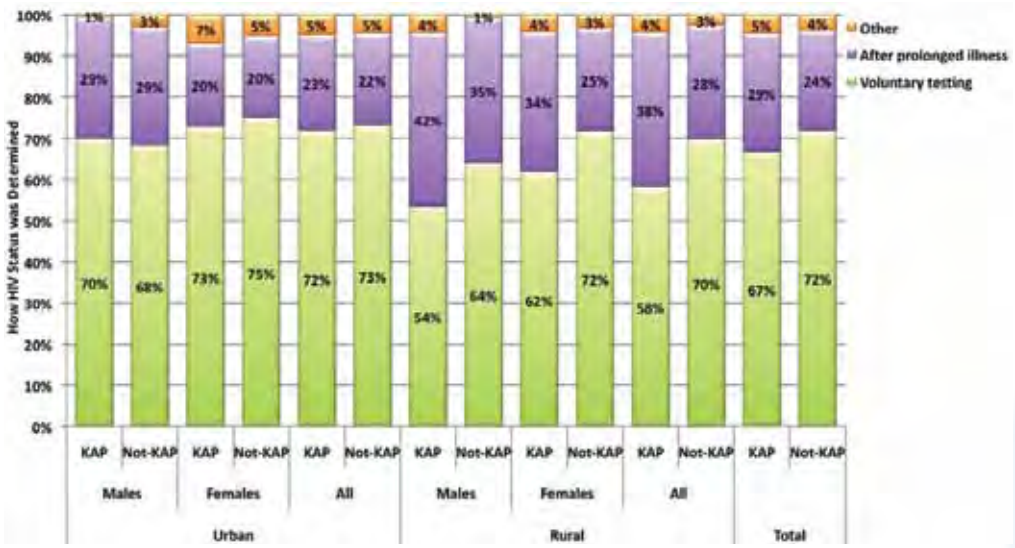
Source: Sanigest Internacional analysis

As discussed earlier, VCCT plays an important role in helping PLHIV avoid the impoverishing costs associated with a prolonged illness before diagnosis. Cambodia has been implementing programs to increase voluntary testing for key affected populations[20] who are known to be at higher risk for HIV transmission. Figure 6.16 displays the varying results of the impact of those programs[21]. There was very little difference seen in urban areas between the key affected populations and the non key affected populations regarding the percentage of PLHIV who determined their status through VCCT. However, negative differences can be seen in rural areas, where only 58% of PLHIV from key affected populations determined their status through volunteer testing in comparison to 70% of lower-risk PLHIV. The data indicate that programs targeting key affected populations throughout rural Cambodia, either need to be intensified or re-evaluated.

20 *These population groups include individuals who identified with being a member of the following population groups: men who have sex with men, transgender individuals, sex-workers, injecting drug users, migrant workers and prisoners.*

21 *This population for this analysis is smaller than the total population of PLHIV, as the question regarding risk status was only asked of PLHIV who were also their heads of household. As a result, the results are not directly comparable to those in Figure 6.14 and Figure 6.15.*

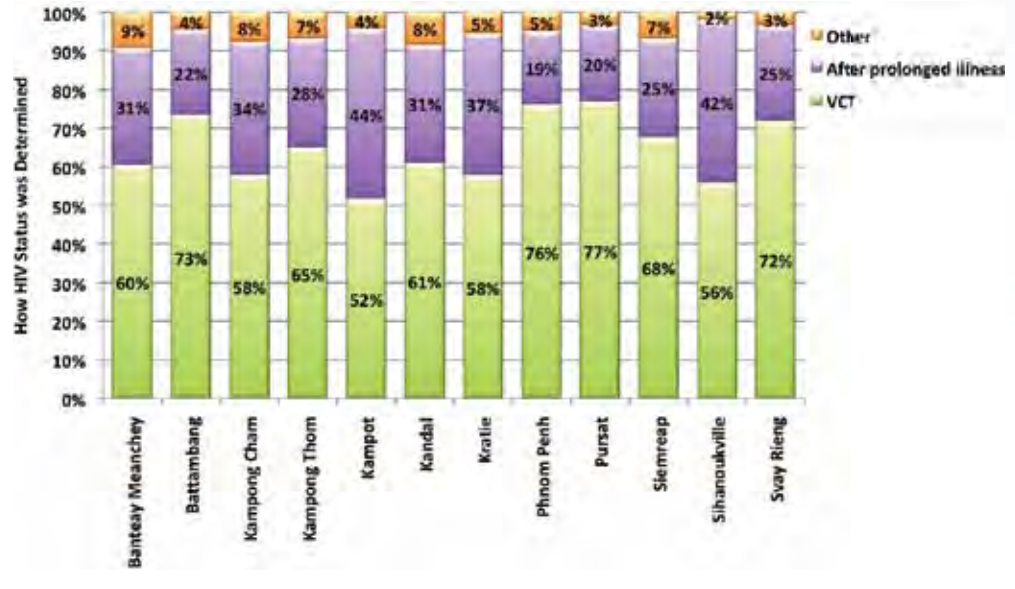
Figure 6.16: HIV testing among Key Affected Populations, by Sex and Location



Source: Sanigest Internacional analysis

The potential issue of regional access affecting the levels of VCCT is further explored in Figure 6.17. It can be seen that there are large provincial differences in the percentage of PLHIV who were diagnosed through voluntary testing in comparison to after a prolonged illness. Phnom Penh had the lowest proportion of individuals who were sick before discovering their status (only 19%), while those in Kampot and Sihanoukville were more than twice as likely to have been sick (44% and 42% respectively). The results clearly highlight the need to increase education regarding the benefits of voluntary testing, and access to VCCT facilities, in areas outside of Phnom Penh.

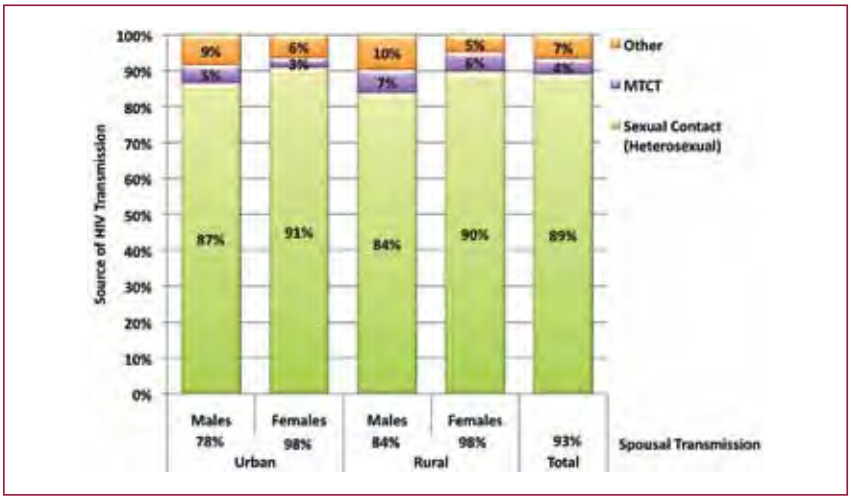
Figure 6.17: Mode of Determining HIV Status, by Province



Source: Sanigest Internacional analysis

Figure 6.18 shows that the vast majority of reported HIV transmission was through heterosexual sexual contact (86% men, 89% women) followed by MTCT (overall, 4.3%). It should be noted that as this is a household survey, individuals in brothels, rehabilitation facilities and the homeless are not captured. As a result, the number of transmissions through "other" forms, which includes needle-sharing / IUD will be under-represented in comparison to the overall situation in Cambodia. 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. The issue of women being disproportionally infected by their spouses is shown here, as almost all women (98%) who reported their HIV status was due to sexual transmission cited their spouse or long-term partner as the source of the infection, compared to 80% of men.

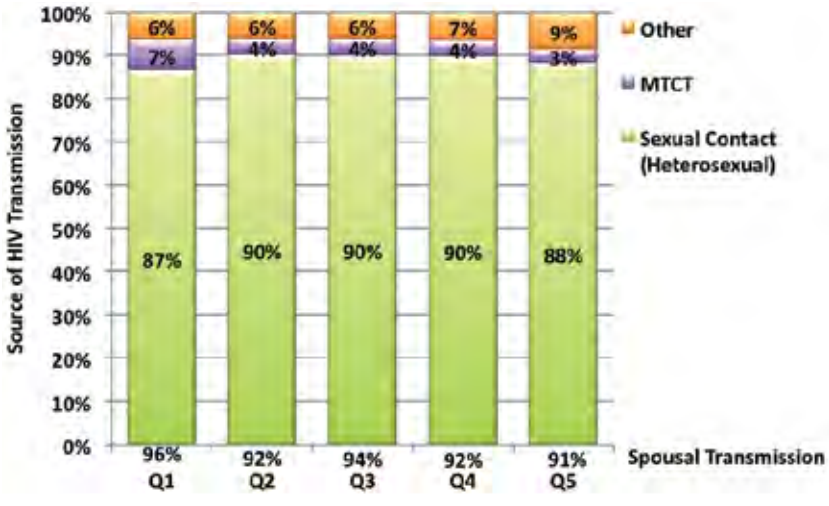
Figure 6.18: Mode of HIV Transmission, by Sex and Location



Source: Sanigest Internacional analysis

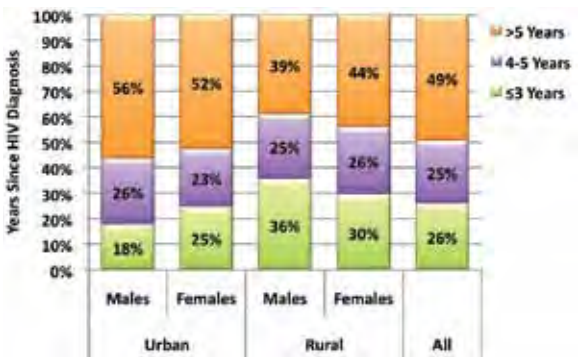
Figure 6.19 shows how PLHIV responded differently regarding how they received their HIV infection, across wealth quintiles. Those in the poorest quintile were twice as likely as those in the highest economic band to have received HIV from their mother. However, the average age of the PLHIV reported to have received HIV through MTCT is 12, and thus represents data on the access to treatments to prevent PMTCT from over a decade ago.

Figure 6.19: Mode of HIV Transmission, by Quintile



Source: Sanigest Internacional analysis

Figure 6.20: Years Since Diagnosis, by Sex and Location



Source: Sanigest Internacional analysis

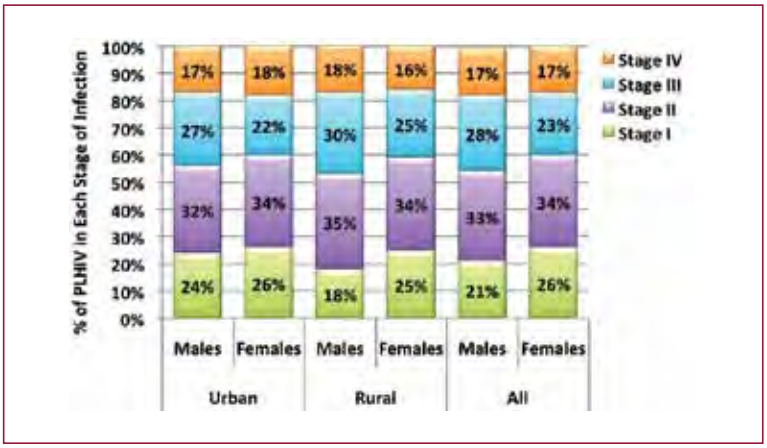
Figure 6.20 details information provided by the respondents on how many years had passed since their diagnosis. It is important to note that only three individuals (0.1%) in total reported that they had been diagnosed within the last year. This is a potential source of observational bias brought into the survey through the use of the home-based care networks to create the database of PLHIV i.e., this study will generally reflect PLHIV who have been diagnosed with HIV for a longer period of time than is reflected in the general PLHIV population of Cambodia. However, as incidence rates have been dropping every year for almost a decade, it would be expected that only a small percentage of the surveyed PLHIV would have been diagnosed in the last three years. Substantially more urban PLHIV than rural PLHIV indicated they had been diagnosed over 5 years earlier (54% vs. 42%). This may only be a reflection of the progression of the epidemic throughout the country (HIV bloomed earlier in Phnom Penh and then spread to the other urban and rural areas), but could be an indication that PLHIV in urban areas are living longer. Figure 6.21 shows the data on reported years since diagnosis, across quintiles of wealth. Significantly more of the wealthiest PLHIV had been diagnosed over five years earlier (53%) compared to only 42% of the poorest PLHIV. The differences may partially be the result of differences in levels of access to facilities and treatments, and the types of facilities available.

Figure 6.21: Years Since Diagnosis, by Quintile

Source: Sanigest Internacional analysis

Figure 6.22 shows that the proportion of PLHIV in the various stages of infection was fairly similar across urban and rural / male and female strata, although there were significantly fewer Stage I men then women, and fewer Stage I rural men, than urban men (18% vs. 24%). This may be partially a reflection of the mechanism used to determine stage, which requires the PLHIV to accurately report their symptoms, and gender biases can exist with reporting of diseases.

Figure 6.22: Stage of Infection, by Sex and Location



Source: Sanigest Internacional analysis

Figure 6.23 highlights a correlation between the PLHIV's quintile of consumption and stage of infection: only 20% of the poorest PLHIV reported symptoms reflective of still being in Stage I, compared to 29% of PLHIV in the highest economic quintile. This contrasts with the years since diagnosis results seen in Figure 6.21, where poorer PLHIV were more likely to have been diagnosed more recently. These results are possibly due to delayed HIV testing, reduced access to treatment, diminished nutritional status and other lifestyle factors related to their lower income status.

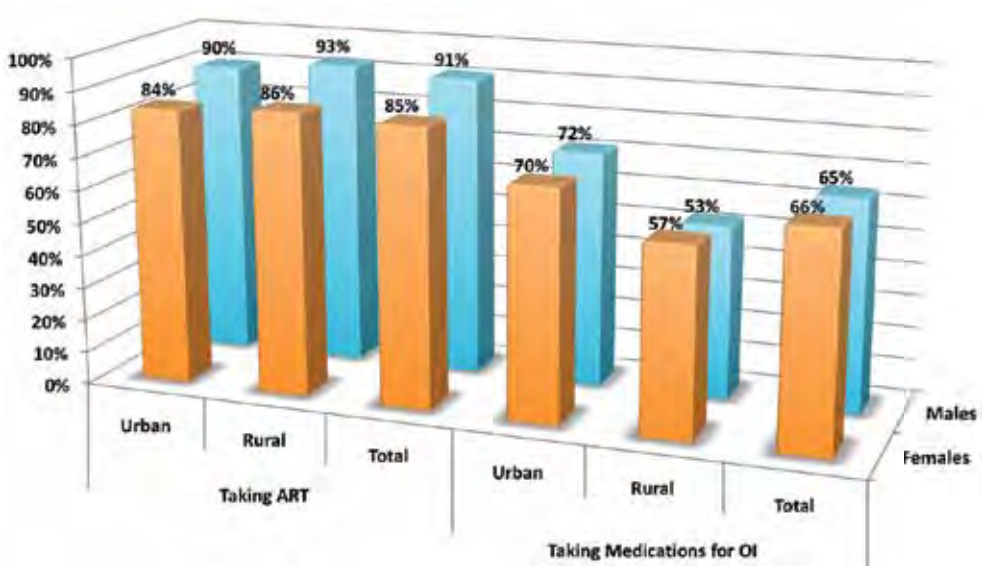
Figure 6.23: Stage of Infection, by Quintile

Source: Sanigest Internacional analysis

Figure 6.24 shows that ART coverage among the surveyed population of PLHIV was high (almost 90%) and corresponds to levels reported by NCHADS for the last quarter of 2009 (87%). There are significant differences between the percentage of men and women taking ART medication (men 91%; women 85%), but this may reflect the differences in stage of infection with women being more likely to be in Stage I. Additionally, there are significant differences between rural and urban populations with regards to utilisation of medications for opportunistic infections (56% of all rural PLHIV vs. 71% of urban). Figure 6.25 shows that there are no significant differences in the utilisation of medications across wealth quintiles, a positive indicator of the overall ability of individuals, regardless of economic status, to receive the medications they need. However, given the impact of controlling opportunistic infections on a PLHIV's ability to remain economically active, a deeper analysis was conducted in order to more fully understand

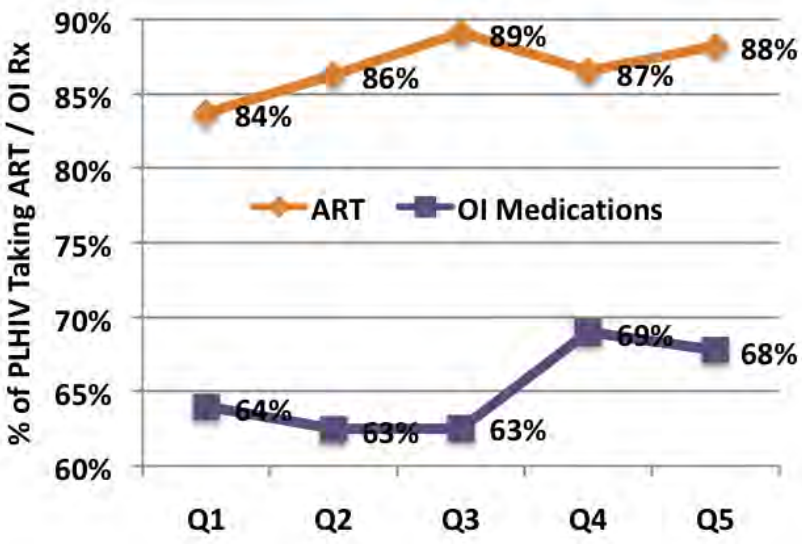
the factors influencing the differences in rural/urban utilisation, by stratifying across stage of infection. Figure 6.26 reveals that differences in access to OI medications seen across household location are consistent across all stages of infection, highlighting possible issues with access to medications for opportunistic infections in rural communities.

Figure 6.24: Utilisation of ART and Medications for OI, by Sex and Location



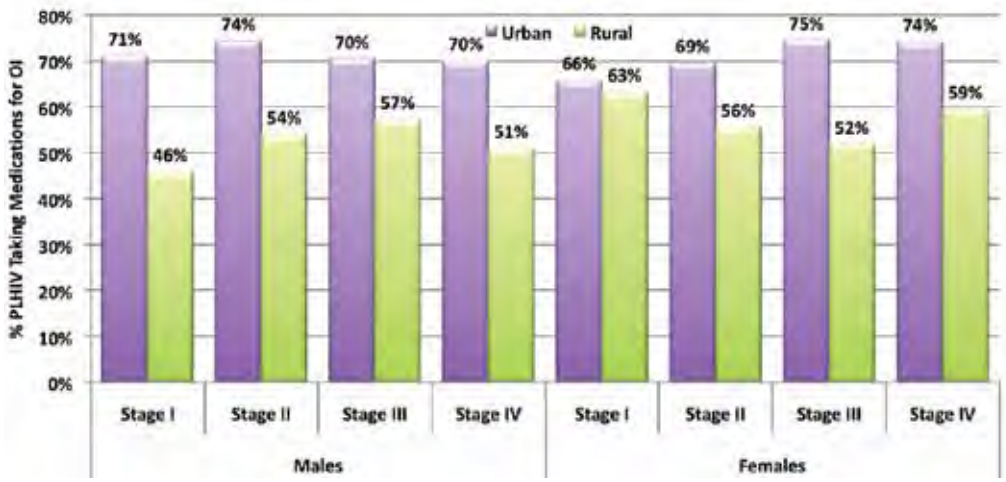
Source: Sanigest Internacional analysis

Figure 6.25: Utilisation of Medications, by Quintile



Source: Sanigest Internacional analysis

Figure 6.26: Utilisation of Medications for OI, by Stage of Infection



Source: Sanigest Internacional analysis

6.6. MULTIVARIATE ANALYSIS OF CATASTROPHIC HEALTH EXPENDITURES

Any health expenditure that threatens a household's financial capacity to maintain its subsistence needs is 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 HIV-affected households which 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. WHO estimates that families who allocate more than 40% of their non-food expenditure on health care are likely to be impoverished[22]. There is no consensus on the catastrophic threshold and cut-off values. Thus, this analysis presents the data from a 40% cut-ff level, while Annex G provides the results from three additional cut-offs of 20%, 30% and 60% of non-food expenditure in the household.

Households with certain characteristics, such as those headed by an elderly person or a PLHIV, those with a low income and those who have a member with chronic disease, are generally considered to be at greater risk of catastrophic expenditure. At the broadest level, the descriptive statistics displayed in the following table show that HIV-affected households are equally likely, on average, to have a catastrophic expenditure as non-affected households. On average, about 15% of all households have a catastrophic expenditure, at the level of 40% of non-food consumption level.

22 *The World Health Report 2000. Health systems: improving performance. Geneva: World Health Organization; 2000.*

Table 16: Impact of HIV on Catastrophic Health Expenditures

	HIV-HH	NA-HH	*P*
Health expenditures: <40% of non-food expenditures	85.1%	85.0%	*>.05*
Catastrophic health expenditures: >40% of non-food expenditures	14.9%	15.0%	*>.05*

Source: Sanigest Internacional analysis

To analyze the relationships in more detail, a regression analysis, based on a dichotomous choice (logistical regression) model, was developed to predict the probability of catastrophic health expenditure in households. It was assumed that households having catastrophic health expenditures were affected by patterns of illness and treatment, household characteristics and their economic status. The share of health care expenditure in non-food expenditure (Rj) was derived as follows:

$$Rj = \frac{H\exp}{NF\exp} \times 100$$

where, Rj is the share of health expenditure in non-food expenditure, Hexp is the average household monthly expenditure and NFexp is the average household monthly non-food expenditure. Ultimately this will present evidence of which households are at risk of facing catastrophic payment and what factors lead to catastrophic health expenditure.

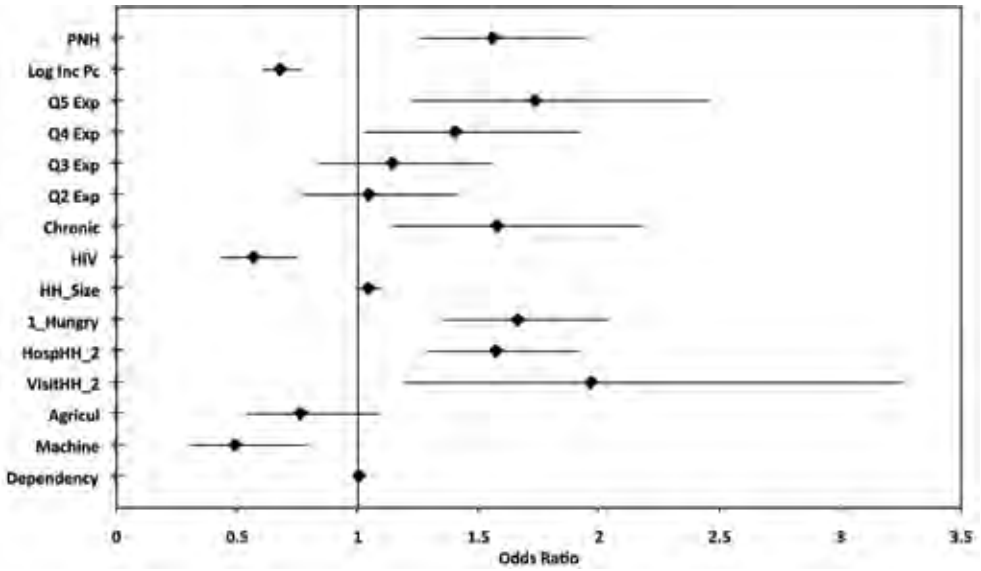
The first group of explanatory variables included illness and treatment patterns. The number of illness episodes that occurred in households is positively correlated with the likelihood of catastrophic expenditure. Utilization was separated at the hospital level and at the outpatient level. Whether the survey respondent classified a household member as a chronic disease sufferer was also highly explanatory. Chronic disease sufferers were 1.6 times more likely than a non-chronic disease patient to have catastrophic health expenditures, controlling for all other explanatory factors. Households that reported hunger were 1.7 times more likely to have suffered catastrophic health spending, perhaps due to having less disposable income for food. Increasing household size slightly increased the chance of having incurred catastrophic health expenditures.

At the same time, a number of variables were associated with lower catastrophic expenditures. Most importantly, Figure 6.27 shows that the HIV status of the household was a key factor for reducing the likelihood of catastrophic spending. In comparison to the summary results shown in Table 16, which highlighted no significant difference between HIV-affected and non-affected households, the figure shows that when controlling for other variables, the explanatory power of HIV increased. HIV households were 44% less likely to have catastrophic expenditures, all other things equal. At the same time, the results yielded the interesting and, at first, surprising results that lower income per capita actually led to a lower chance of catastrophic health expenditures. This is also shown by the quintile dummy variables shown in comparison to the likelihood of a poor household. In this way, the richest quintile households were 1.7 times more likely to have incurred catastrophic expenditures than the poorest households (q1 which is missing dummy). Based on the HIV-affected households' access to care, support programs and food, the results highlight the possible effects of financial protection on HIV-affected households, which are also disproportionately poor in the sample. This fact is reinforced by the influence that living in Phnom Penh has on the likelihood of

catastrophic spending (1.6 times more likely) since people in the sample from Phnom Penh were less likely to have received home-based care and support, all other things equal.

The model goodness-of-fit was assessed by Hosmer–Lemeshow test and linktest and shown to reject the hypothesis of problems regarding the specification of the model.

Figure 6.27: Multivariable Analysis of Catastrophic Health Expenditures



Source: Sanigest Internacional analysis

7. IMPACT OF HIV ON FOOD SECURITY

CHAPTER SUMMARY

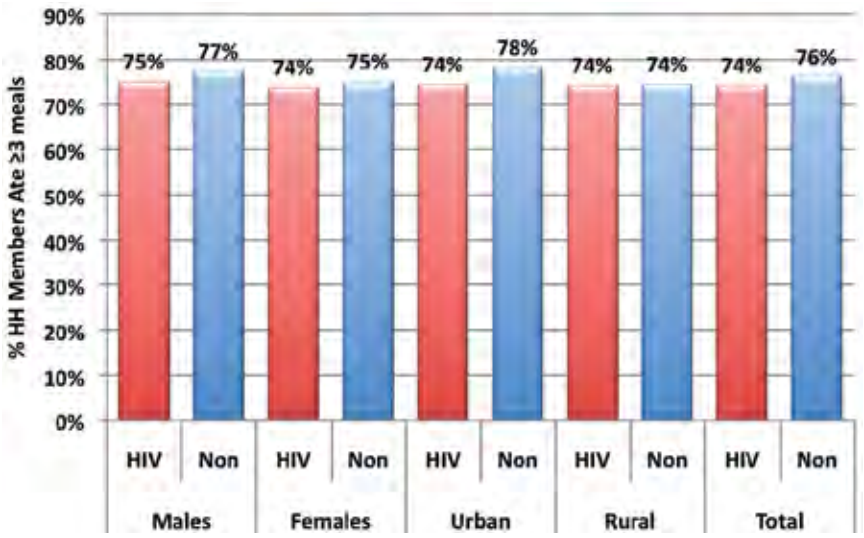
- *Only small differences exist in the reported number of daily meals between the members of HIV-affected and non-affected households.*
- *Members of HIV-affected households were significantly more likely to have been hungry and not eaten due to lack of food, than members of non-affected households.*
- *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.*
- *Large provincial variations were reported in the percentage of HIV-affected households receiving food support.*
- *HIV-affected households where the head of household identified themselves as Khmer were more likely to have received food support than those with non-Khmer heads.*

The nutritional status of citizens is of vital importance for a country's economic progress, regardless of other factors such as HIV, with numerous studies especially linking the caloric intake of the population to their productivity and income later in life (e.g., Fogel, 2000; Hernandez, Fuentes and Pascual, 2001). Additionally, the unique nature of HIV and its treatment increases the importance of improving the nutritional status of PLHIV. However, with recent increases in the price of fuel and the global economic crisis, the cost of food has risen, having a devastating

impact on the ability of the poor to be able to consume sufficient calories. This is especially true in Cambodia, which is classified by the World Food Program (WFP) as a low income food deficit country (WFP, 2010).

This section looks at the situation with regards to food security in the surveyed households, looking at both the impact of HIV and the food assistance programs which are currently in place.

Figure 7.1: Impact of HIV on Quantity of Daily Meals, by Sex and Location



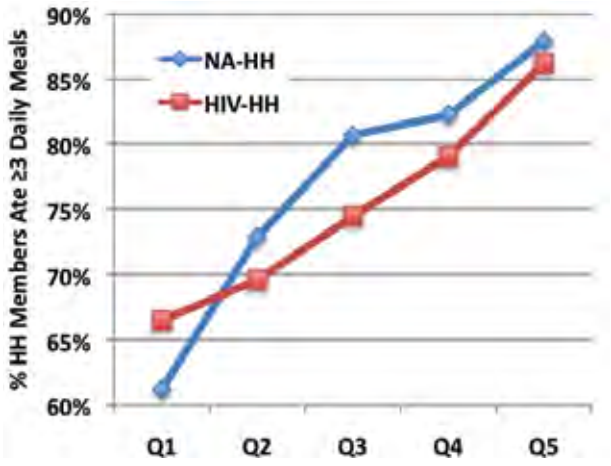
Source: Sanigest Internacional analysis

7.1. IMPACT OF HIV ON HUNGER

Figure 7.1 shows that there were only slight, but significant differences between the percentages of individuals in HIV-affected and non-affected households that ate three or more meals a day, on average, in the previous month (74% for HIV-HH members vs. 76% NA-HH members). There were no differences between rural households or females, but there were differences between urban households (74% HIV-HH members; 78% NA-HH members) and between males.

Figure 7.2 shows the impact of HIV on food security, by quintile. As anticipated, the percentage of members who ate an average of three or more daily meals increased with economic status. However, significantly more members in the poorest HIV-affected households ate three or more meals daily than those in non-affected households (66% of HIV-affected household members ate 3 meals or more vs. 61% of NA-HH members). This may be attributable to the food assistance programs that many HIV-affected households receive (discussed in the upcoming section) as significantly more of the poorest HIV-affected households reported they received food support than the poorest non-affected households.

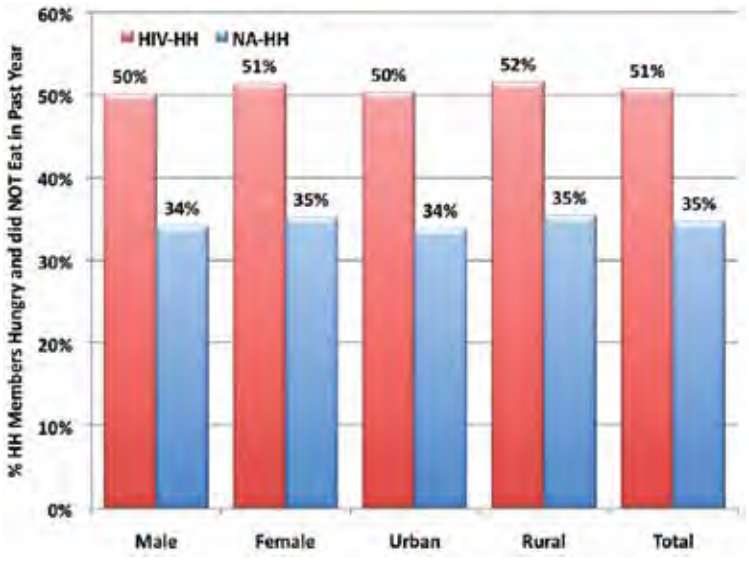
Figure 7.2: Impact of HIV on Daily Meals, by Quintile



Source: Sanigest Internacional analysis

However, Figure 7.3 shows that despite the similar numbers of meals eaten per day, the percentage of household members who reported that they were hungry in the last year, but "didn't eat because there wasn't enough food" was significantly higher for HIV-HHs than NA-HHs (51% vs. 35%). Similar differences are seen between men and women and across rural and urban strata. It is likely that the increased hunger is partially due to the differences in the types of food (i.e., lower levels of protein) being brought into the households, as described in Section 4.7.

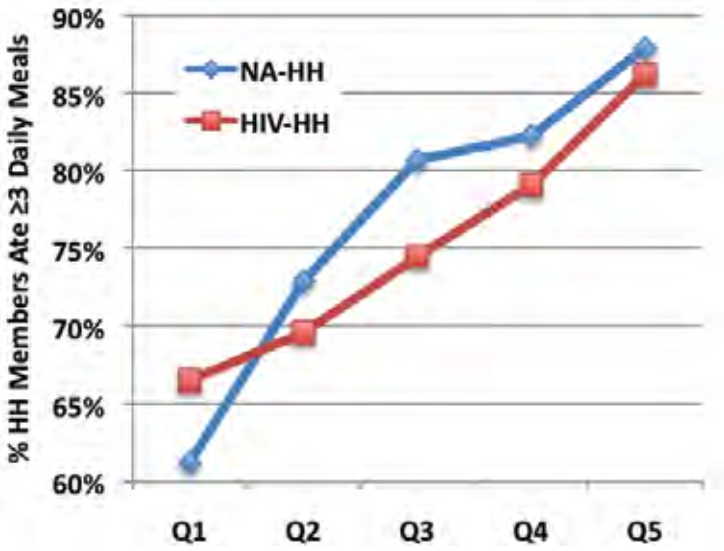
Figure 7.3: Impact of HIV on Frequency of Hunger, by Sex and Location



Source: Sanigest Internacional analysis

Figure 7.4 shows that hunger was reported to be a much more significant issue for the poorest households than for the wealthier households. However, the disparity between hunger levels in HIV-affected and non-affected households was lowest for the poorest households (difference of only 8% in Q1 vs. 18% in Q5). This may be partially the result of the increased levels of food support received by the poorest HIV-affected households, as described below.

Figure 7.4: Impact of HIV on Frequency of Hunger, by Quintile



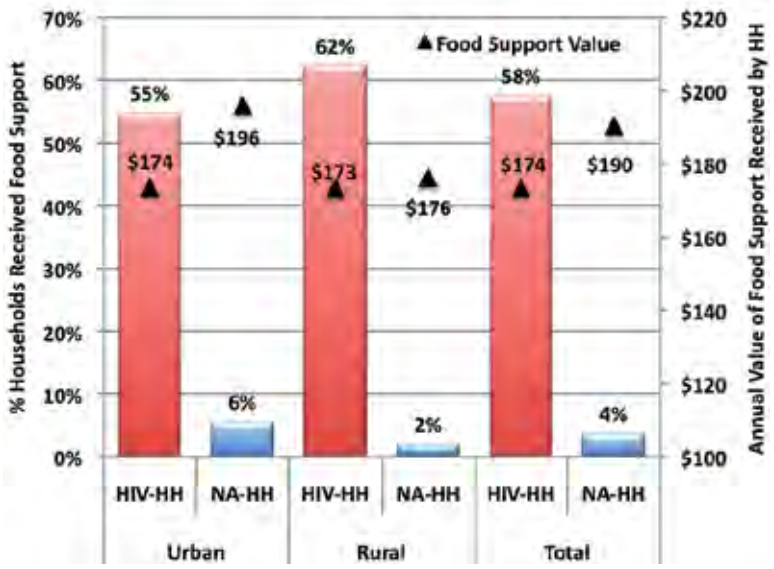
Source: Sanigest Internacional analysis

7.2. IMPACT OF HIV ON HOUSEHOLDS RECEIVING FOOD SUPPORT

Since 2003, The Ministry of Health, Khmer HIV/AIDS NGO Alliance (KHANA) and the World Food Program (WFP) have worked together to provide food support, in coordination with home-based care. By mid-2006, 29 NGOs working in 14 provinces were including food support with their HBC, and by the end of 2008, more than 5,985 HIV-affected households were receiving food support (Thwin, 2006; KHANA, 2008).

Figure 7.5 demonstrates the wide implementation of food support programs for HIV-affected households in this survey. Overall, substantially more HIV-affected households received food support than non-affected HHs (58% vs. 4%). Indeed, only 48 non-affected households indicated they had received food support in the previous month, making detailed segregated analysis less statistically robust. In addition, there was no difference in the annual value of food support received by HIV-affected households in urban and rural areas ($174 in urban HIV-HHs, $173 in rural HIV-HHs). However, more rural HIV-affected households were likely to have received support (62% of rural vs. 55% of urban HIV-HHs). For over 80% of the HIV-affected households, survey respondents indicated that food support commenced as a result of HIV diagnosis, highlighting the effective targeting of the home-based care and other government and NGO programs.

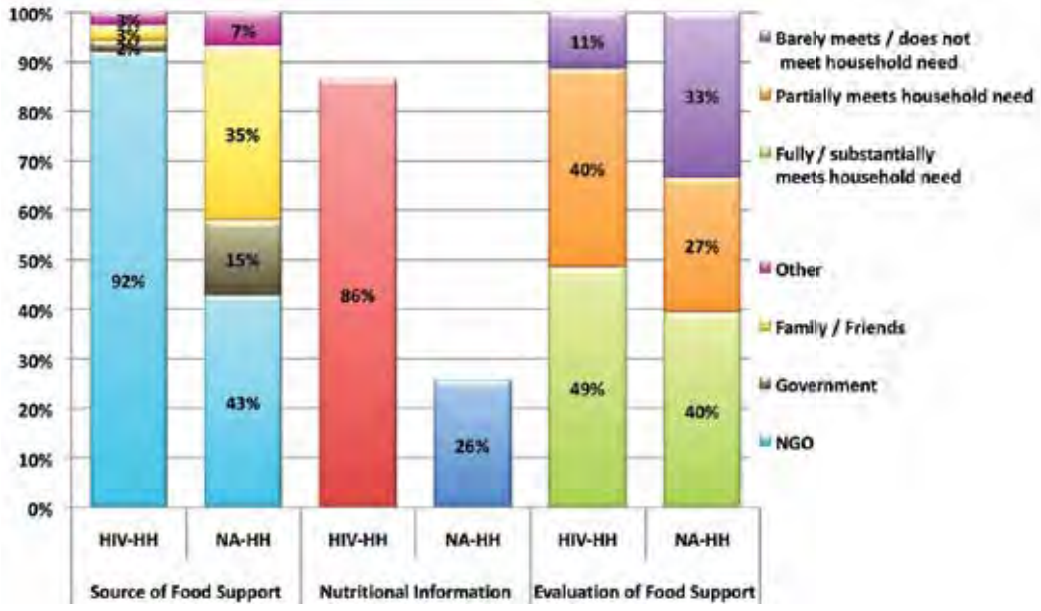
Figure 7.5: Impact of HIV on Households Receiving Food Support, by Location



Source: Sanigest Internacional analysis

For HIV-affected households, the source of food support was reported to be almost entirely from NGOs (92%). While NGOs provided a significant portion of the food support received by non-affected households (43%), food support was also received from family members and friends (35%) and from the government (15%). It is interesting to note that only 2% of the HIV-

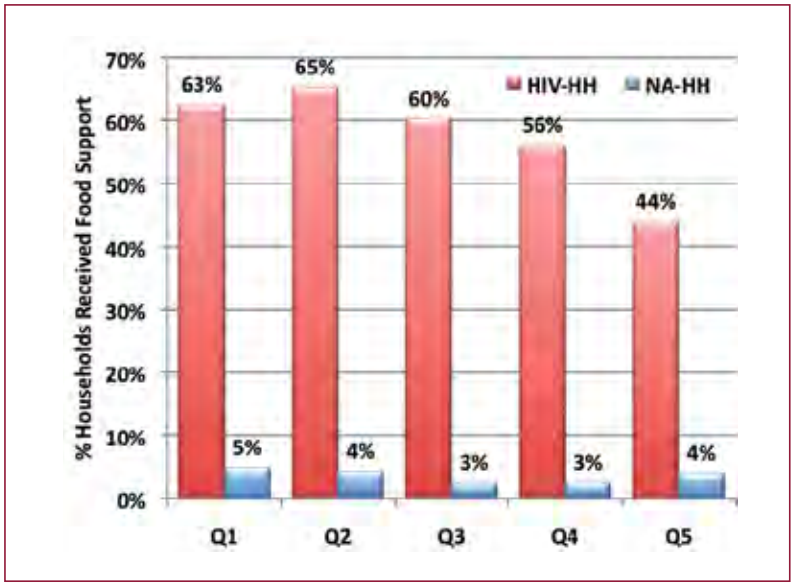
Figure 7.6: Impact of HIV on Food Support



Source: Sanigest Internacional analysis

affected households indicated that the government was the source of the food support, even though most food support programs are supported by the government. This may be partially due to the format of the question, but may indicate an opportunity for government to increase awareness of their role in this vital activity. Nutritional education was a key component of the assistance received by HIV-affected households (86% received nutritional information along with food support, compared to 26% of non-affected households). Finally, HIV-affected households were more likely to state that food support programs met their needs, than non-affected households (89% reported food support programs fully / substantially or partially met their needs, compared to 67% of non-affected households).

Figure 7.7: Impact of HIV on Households Receiving Food Support, by Quintile

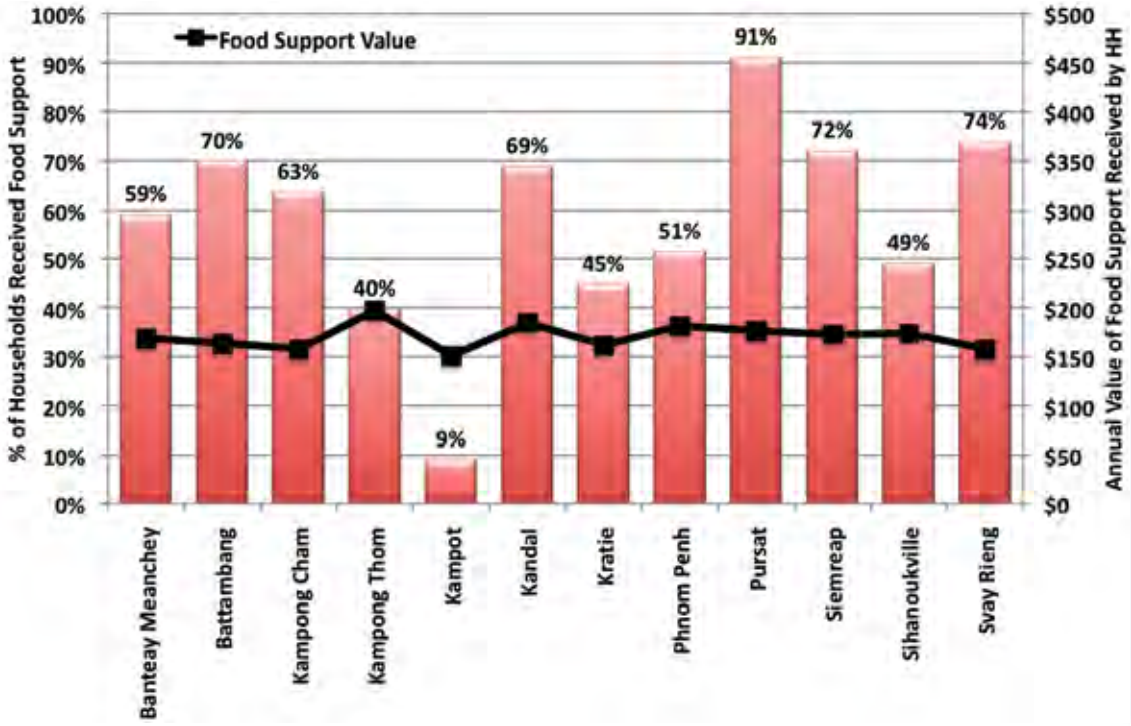


Source: Sanigest Internacional analysis

Figure 7.7 displays the results of survey responses to questions about food security, across quintiles of consumption. As noted earlier, due to the small number of non-affected households receiving food support, only limited comparative analysis in possible, but it is clear that, regardless of economic status, HIV-affected households were considerably more likely to have received food support in the previous month. Positively, a statistically significant greater percentage of HIV-HHs in the lowest economic quintile received assistance than those in the highest quintile (63% vs. 44%), another indicator that the programs have effective targeting mechanisms. The value of the food support across the quintiles for HIV-HHs did not vary, with an average value of $169 per year in food being received in households in quintile 1 compared to $170 in quintile 5 (Annex E). This is likely due to the standard package provided to each household, and encouragingly points to the consistency of the programs.

Figure 7.8 shows the percentage of HIV-affected households that received food support, across the different provinces surveyed. There was wide variation, from a high of 91% in Pursat to a low of 9% in Kampot. These large disparities may be partially due to the sampling methodology of the study: it is possible the NGOs that assisted with the sampling frame compilation in Kampong Thom, Kampot, Kratie and Sihanoukville, which all had less than 50% penetration of food support, are less likely to provide food support, and therefore this survey reflects that bias. However, as one of the Key Areas in the Standard Package of Activities for home-based care is nutritional support, the results raise concerns regarding the equity and effective geographic distribution of food support programs throughout Cambodia. However, again, there was a high level of consistency in the value of the food support provided.

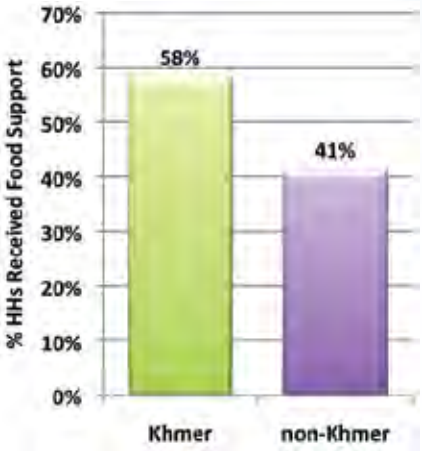
Figure 7.8: Food Support for HIV-Affected Households, by Province



Source: Sanigest Internacional analysis

The data displayed in Figure 7.9 shows that there was variation in the percentage of HIV-affected households that reported they had received food support, based on the ethnicity of the head of household. Households headed by someone who did not identify as Khmer, and were therefore more likely to be marginalised, were less likely to have received food support. Some of these differences might be explained if particular food support programs required recipients to be Cambodian. In this case, Vietnamese migrants, for example, who formed the majority of non-Khmer respondents[23], would not be eligible for food support.

Figure 7.9: Food Support for HIV-Affected Households, by Ethnicity



Source: Sanigest Internacional analysis

23 *Respondents were asked if they belonged to any of the following groups: Khmer, Cham, Other local group, Chinese, Vietnamese, Thai, Lao or Other.*

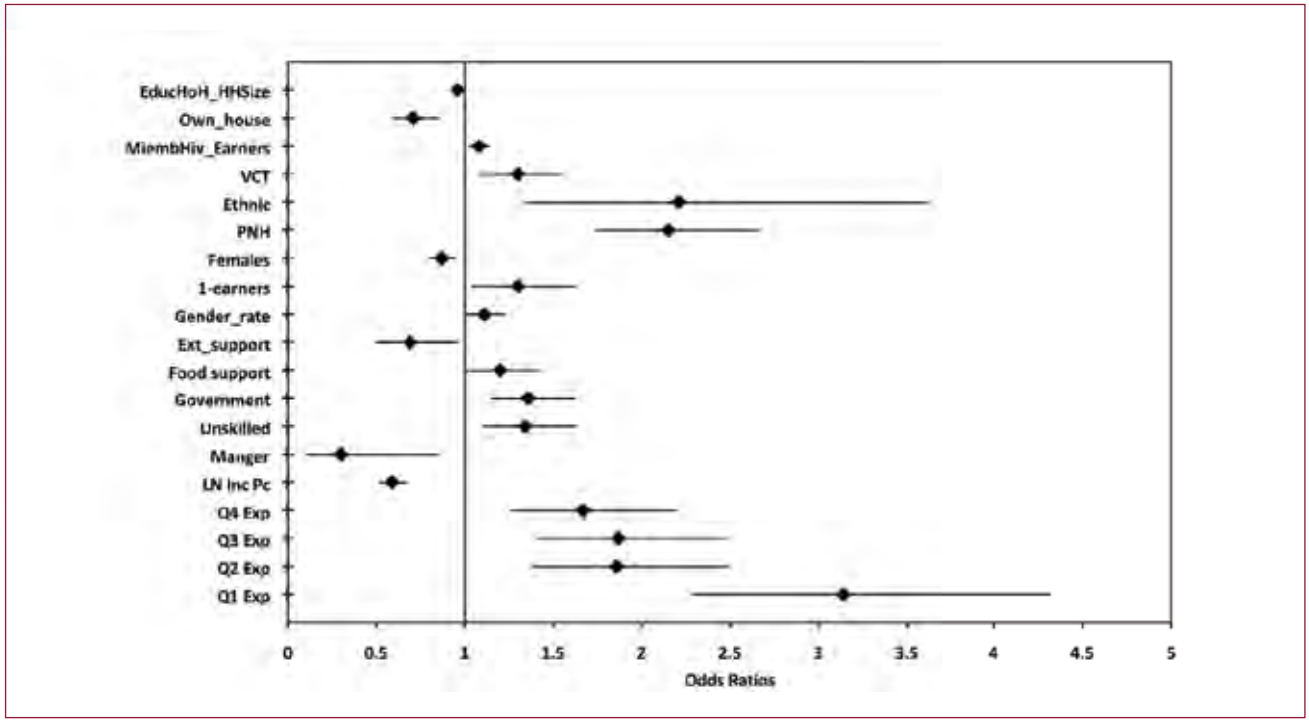
7.3. MULTIVARIATE ANALYSIS OF FOOD SECURITY

7.3.1. MULTIVARIATE ANALYSIS OF HUNGER

To better understand the factors that contribute to hunger in the household, this section presents the results of a logistical regression. Multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to being hungry and not having enough food to eat. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having experienced hunger and (0) representing the condition of not having experienced hunger. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

Included in the stepwise logistic regression analysis as explanatory variables were variables reflecting household characteristics, urban/rural and Phnom Penh residence, affected/non-affected status of the head of household, income level by quintile, gender and age of the household head, total number of years of schooling, number of employed members in the household, whether HIV status was determined only after a prolonged illness, and the household size and dependency ratio. The coefficients of the model are shown as Odds-Ratios (OR). The odds ratio is one of a range of statistics used to assess the relative probability of a particular outcome (hunger in this case) if certain explanatory factors are present compared to someone who is not exposed to the factor. Tests for multi-collinearity and model specification were not significant, indicating that the model is correctly specified.

Figure 7.10: Multivariable Analysis of Hunger



Source: Sanigest Internacional analysis

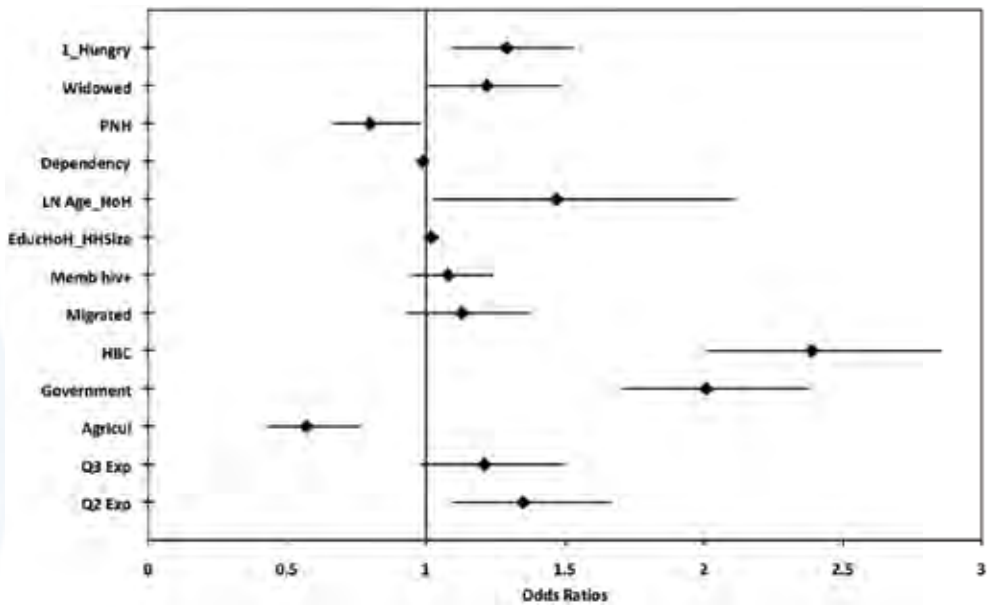
Figure 7.10 displays the odds-ratios for the variables that were significant after several iterations. The point on each line is the odd-ratio and the line shows the 95% confidence interval. As expected, the poorest households were over three times more likely to have been hungry, and all other income groups were also much more likely to have been hungry than the wealthiest 20 percent of the population. Ethnicity also played a part in hunger, as non-Khmer households were more than two times more likely to have experienced hunger, possibly connected to their reduced likelihood of having received food support. Residence in Phnom Penh also increased the probability of being hungry, which would initially seem illogical given the higher income levels. However, as discussed earlier, PLHIV in this study were largely included from HBC networks, except for those in Phnom Penh, many of whom were included based on their participation with NGOs that do not provide HBC. As a result, the increased hunger levels in the Capital point to the fact that HBC visits, which frequently include food support, appeared to have a positive effect on reducing hunger. Factors that diminished the probability of hunger included: having received external support (which decreased the probability of having been hungry by about 25%); income per capita, which is to be expected; and higher occupational status, as defined by the ISCO category.

7.3.2. MULTIVARIATE ANALYSIS OF FOOD SUPPORT

To better understand the factors that affect access to food support programs, this section presents the results of a logistical regression conducted upon only the HIV-affected households. Multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to having food support. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having received food support and (0) if the household did not receive support. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

Included in the stepwise logistic regression analysis as explanatory variables were variables reflecting household characteristics, urban/rural and Phnom Penh residence, affected/non-affected status of the head of household, income level by quintile, gender and age of the household head, total number of years of schooling, number of employed members in the household, whether HIV status was determined only after a prolonged illness, and the household size and dependency ratio. The coefficients of the model are shown as Odds-Ratios (OR). The odds ratio is one of a range of statistics used to assess the relative probability of a particular outcome (enrolment in food support program, in this case) if certain explanatory factors are present compared to someone who is not exposed to the factor. Tests for multi-collinearity and model specification were not significant, indicating that the model is correctly specified.

Figure 7.11: Multivariable Analysis of Food Support



Source: Sanigest Internacional analysis

Figure 7.11 displays the odds-ratios for the variables that were significant after several iterations. The point on each line is the odd-ratio and the line shows the 95% confidence interval. The most important factor was enrolment in HBC (nearly 2.5 times more likely), which is expected given that many HBC teams are responsible for providing food support. Households that received other support programs were also associated with receiving food support. Older heads of households were also more likely to receive food support. As expected, the poorer households were more likely to have received food support than households in quintile 5, although the poorest (quintile 1) were not any more likely, indicating that poverty may not figure strongly enough among the factors used for targeting food support. Factors that diminished the probability of receiving food support included, once again, residence in Phnom Penh for the observational bias reasons discussed before. However, households where the head was an agricultural worker were only half as likely to receive food support, potentially because of their migratory status or because of the conflict between employment conditions and the hours during which HBC teams make visits.

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

CHAPTER SUMMARY

- *Internal stigma was high: 16% of PLHIV reported suicidal thoughts and 65% reported low self-esteem.*
- *23% of female PLHIV had been verbally attacked and 7% had been physically threatened or attacked, because of their status.*
- *PLHIV reported very low levels of discrimination from health-care workers (less than 1%).*
- *PLHIV were more likely to report their quality of life as poor or very poor, than respondents in non-affected households.*

HIV can have a traumatic impact on an individual's sense of self-worth, personal security and their social standing within the household and community (USAID, 2006). Emotional, mental and sometimes physical manifestations of stigma and discrimination are not only personally damaging, but are often correlated with other medical co-morbidities, and can further reduce an individual's capacity to engage in productive economic activities. Internal stigma, stigma and discrimination can also reduce the likelihood of an individual accessing HIV testing, seeking treatment, or sharing their diagnosis and taking action to protect others. Figure 8.1 diagrams the inter-relationship between how the three different aspects of HIV-related stigma and discrimination (internal stigma, stigma and discrimination) can escalate one another and leads to a cycle that is difficult to break. Stigma within the community leads to discriminatory actions against the person living with HIV, which in turn leads to increased levels of internal stigma within the PLHIV, creating reduced socialisation, which can lead to further stigma in the community.

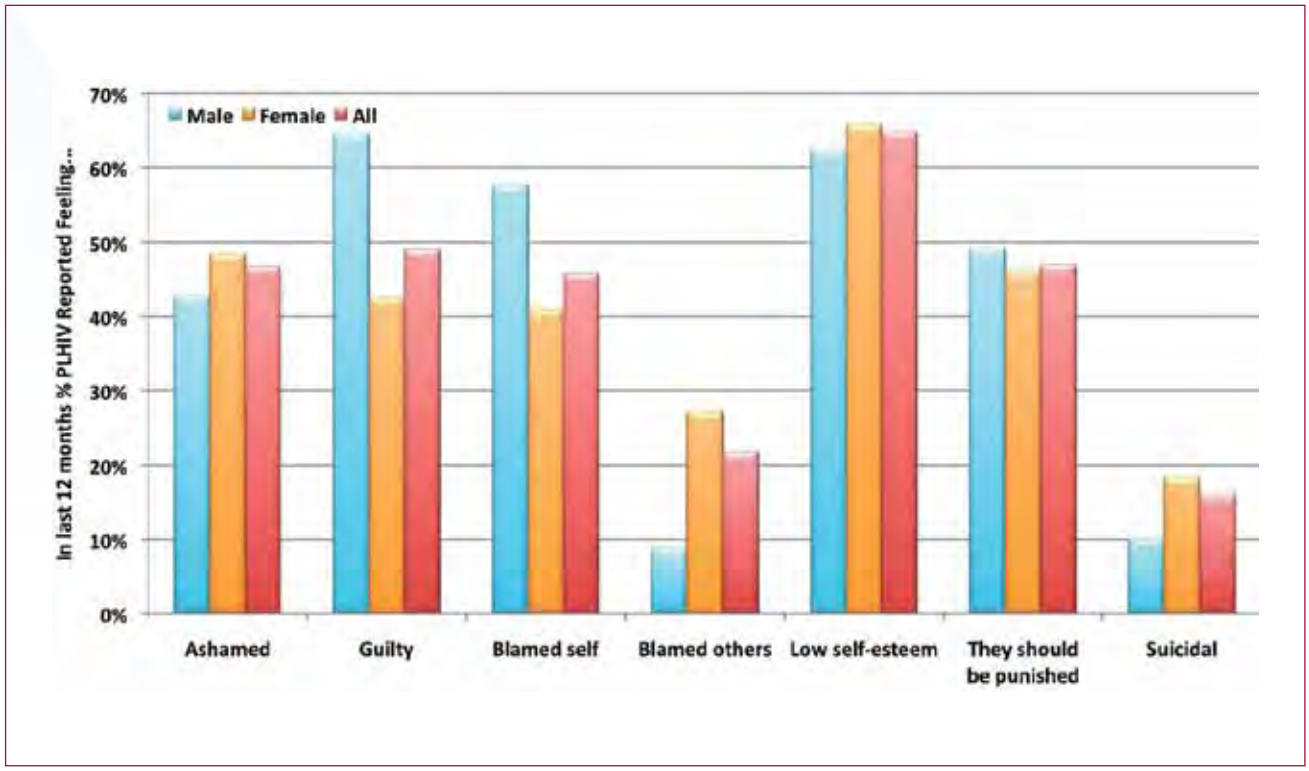
Figure 8.1: Conceptual Framework for Stigma, Discrimination and Internal Stigma

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

8.1. INTERNAL STIGMA

The survey based the majority of the stigma and discrimination questions on the "People Living with HIV Stigma Index" (International Planned Parenthood Federation, 2008). Figure 8.2 displays the results of the responses by PLHIV to the internal stigma related question, "In the last 12 months, have you experienced any of the following feelings because of your HIV status?". Overall, high levels of low self-esteem were reported (65%) as well as the feeling that they should be punished because of their HIV status (47%). One of the most concerning responses to the question was the high level of PLHIV who indicated they had felt suicidal in the previous 12 months (16% of all respondents; 18% of women; and 10% of men) highlighting a need for additional mental health support, particularly for women.

Figure 8.2: Internal Stigma Faced by PLHIV, by Sex



Source: Sanigest Internacional analysis

Significant gender differences also existed for responses regarding guilt and blame assoicated with HIV. Men were considerably more likely than women to have reported they felt guilty as a result of their HIV status in the previous 12 months (65% men vs. 43% women) and to have reported they blame themselves (58% men vs. 41% women). Conversely, women were more likely than men to have reported they blamed others (28% women vs. 9% men). These variations may be partially due to the gender differences seen earlier with regards to spousal transmission, leading to higher levels of blame among women, and higher levels of guilt and self-recrimination among men.

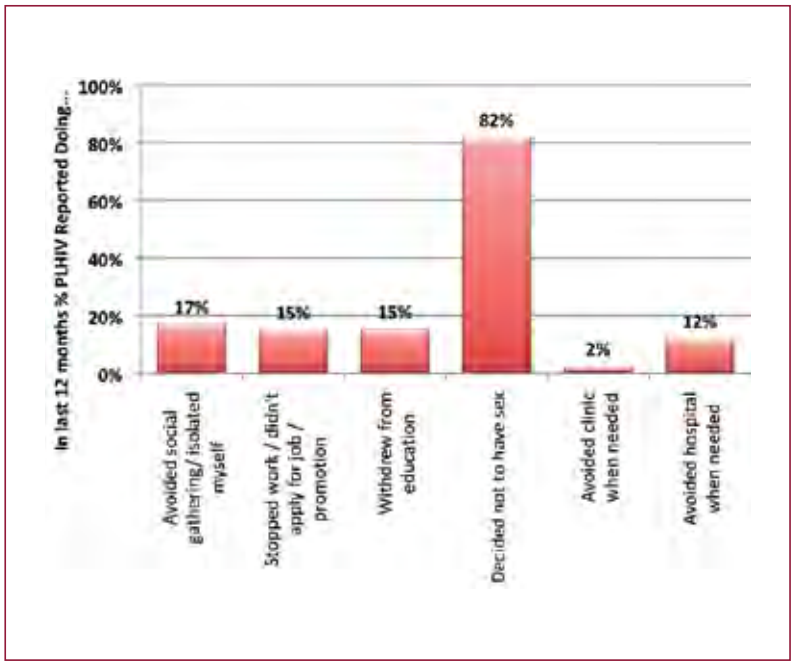
Figure 8.3 highlights how the internal stigma a PLHIV feels often results in them changing their actions and may result in lowered economic and educational opportunities, reduced social support and worse health outcomes. In response to the question "In the last 12 months, have you done any of the following things because of your HIV (or AIDS) status?" overall, 17% of PLHIV reported they had either avoided a social gathering or isolated themselves from friends and family. 10% of PLHIV reported they stopped work or did not apply for a job or promotion, as a result of their HIV status and 15% missed an educational opportunity. The most striking response was regarding whether PLHIV had decided not to have sex within the previous 12 months because of their status, to which 82% answered "yes". In terms of health utilisation, a worrying 12% of PLHIV in the survey said they had avoided going to the hospital when they needed to, because of their HIV status.

8.2. DISCRIMINATION

Additionally, overall, 13% of PLHIV reported that they or their HH members were treated differently by community members due to their HIV status (see Annex E for more details). The main forms of discrimination reported were (a) being verbally abused or teased (b) being neglected, isolated and avoided and (c) their children not being allowed to play with other children.

Figure 8.4 displays data on PLHIV fears in relation to personal safety, as well as actual verbal and physical abuse they endured in the previous 12 months. 27% of all PLHIV reported they had been fearful of verbal abuse in the previous 12 months, while 11% reported being fearful of physical harassment or abuse. Women were more vulnerable to these fears (30% of women vs. 22% of men reported a fear of verbal harassment), which is likely because reports of verbal and physical discrimination against women were higher than for men: 23% of women

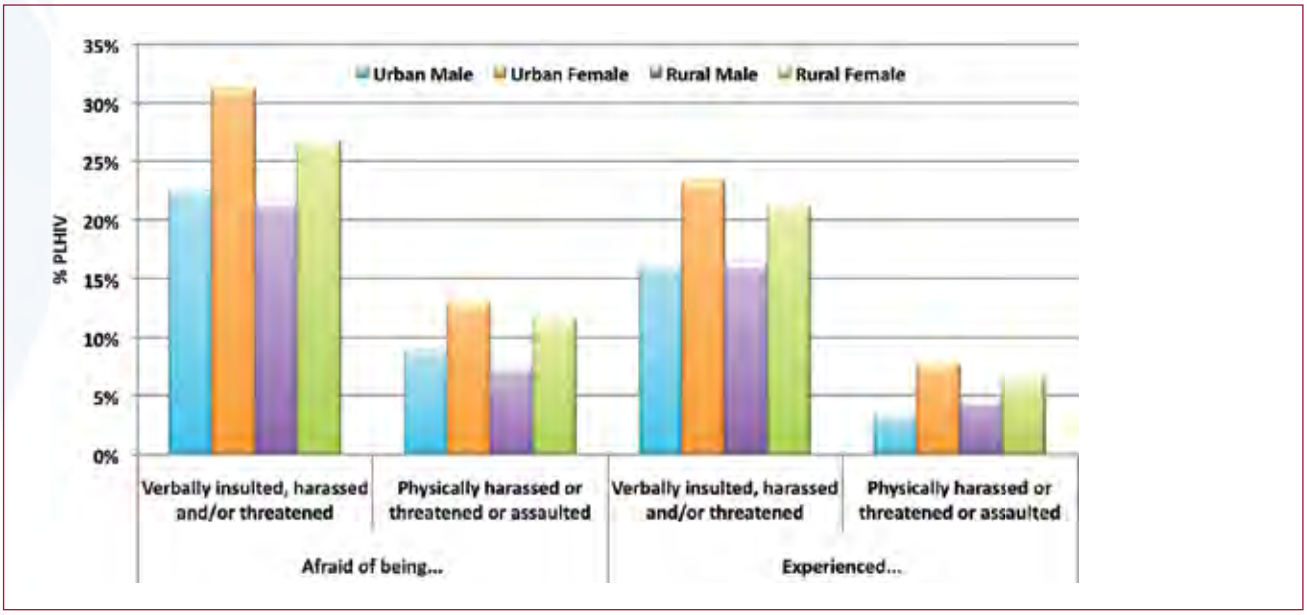
Figure 8.3: Actions Motivated by Internal Stigma



Source: Sanigest Internacional analysis

reported being verbally abused in the last 12 months, compared to 16% of men, while 7% of women were physically threatened or attacked compared to 4% of men. Overall, while the level of reported verbal abuse is high, and an indicator of the need to increase efforts to reduce stigma and discrimination within Cambodia, it was lower than in Vietnam, where 37% of PLHIV reported having experienced verbal abuse (UNDP, 2009b).

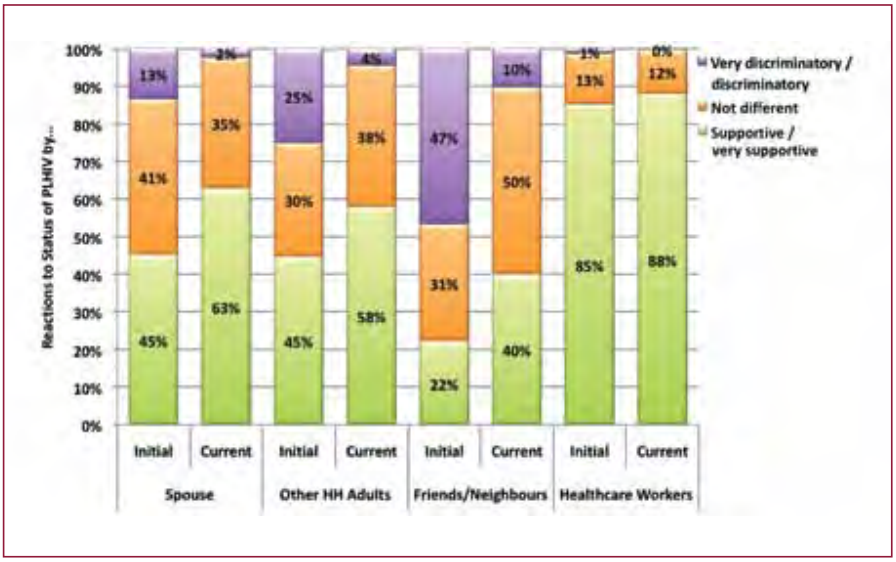
Figure 8.4: Verbal and Physical Abuse Against PLHIV, by Sex and Location



Source: Sanigest Internacional analysis

In addition to the overall stigma and discrimination questions highlighted above, PLHIV were asked about the disclosure of their status to household members and the community, how those individuals responded and how those responses have changed over time (i.e., what was the person's initial reaction to being told of their HIV status and what was their reaction at the time of the interview). The results are shown in Figure 8.5.

Figure 8.5: Reactions (Initial and Current) to Disclosure of Status by PLHIV



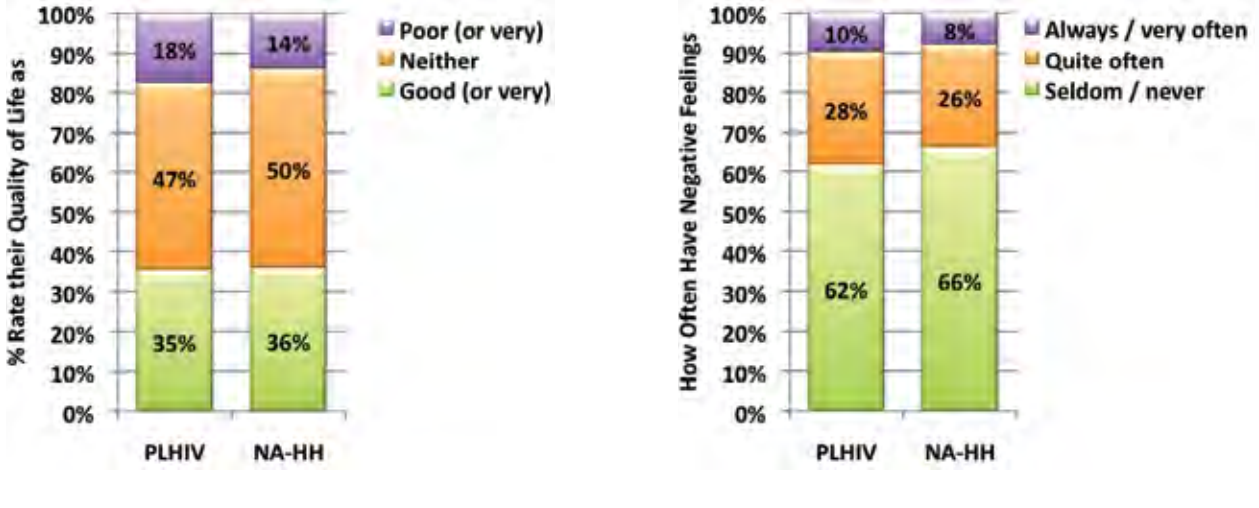
Source: Sanigest Internacional analysis

The majority of married PLHIV reported disclosing their status to their spouse or partner immediately after diagnosis (85%), and only 1% reported they had not yet informed their spouse. However, it should be noted that potential observational bias exists in these results, as it is unlikely that HIV positive individuals who have not disclosed their status, would be receiving HBC services. Thirteen percent of PLHIV reported that their spouses' responses were initially discriminatory or very discriminatory, with male PLHIV reporting higher levels of discrimination (17% of male PLHIV vs. 11% of female PLHIV). More dramatically, 47% of PLHIV reported initial discrimination from friends and neighbours, although only 10% of PLHIV indicated that those individuals were still discriminatory. The initial situation was worst for rural women, who reported the highest levels of discrimination at 55% (vs. 40% for urban men: see Annex E for full results). On a positive note, discrimination from health workers was reportedly very low (only 1% initially and 0% currently) which is in contrast to regional reports, where, for example, 13% of PLHIV in India reported experiencing health worker discrimination.

8.3. QUALITY OF LIFE

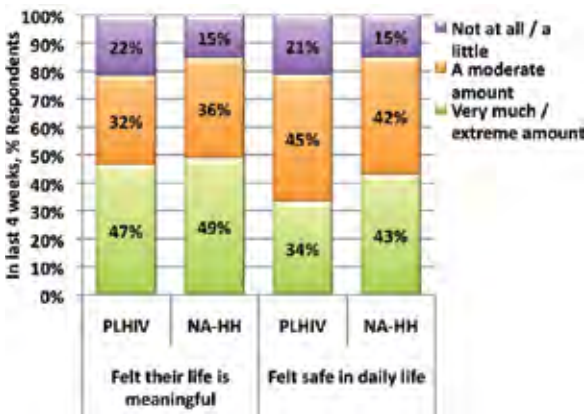
A series of quality of life related questions were asked of both the PLHIV and the survey respondent in the non-affected households. The responses to those questions are highlighted in the following figures. Overall, greater numbers of PLHIV than respondents from NA-HHs rated their life as poor or very poor (18% PLHIV vs. 14% NA-HH), and felt their life had little meaning (22% PLHIV vs. 15% NA-HH). Additionally, PLHIV were more likely to have reported being frequently depressed or anxious (10% PLHIV vs. 8% NA-HH). In accordance with the previous stigma questions, 21% of PLHIV reported not feeling safe in their daily lives, compared to only 15% of those in NA-HHs. PLHIV also reported less satisfaction with their ability to perform activities of daily living and capacity for work (both 21% for PLHIV vs. 12% NA-HHs). Again, these findings are in line with previous data on missed days of work and productivity levels for the PLHIV. PLHIV were also much more likely to have felt they did not have sufficient money to meet their needs, highlighting the financial and mental pressures the disease exerts.

Figure 8.6: Impact of HIV on Quality of Life vand Despair, Anxiety and Depression



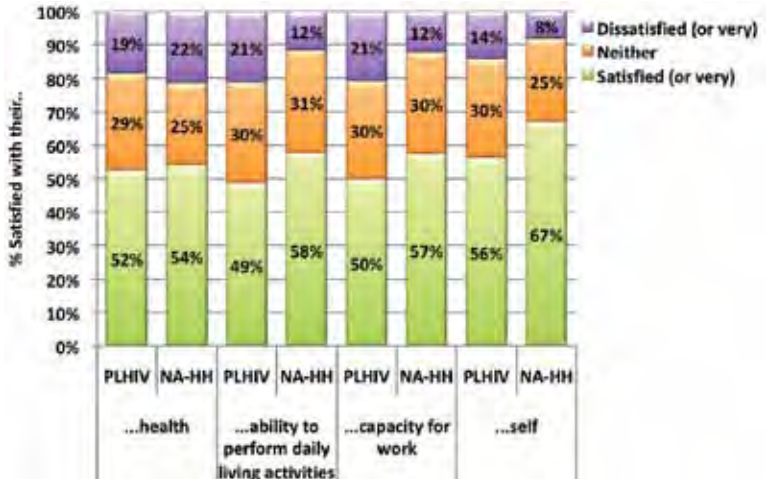
Source: Sanigest Internacional analysis

Figure 8.7: Impact of HIV on Perception of Self and Safety



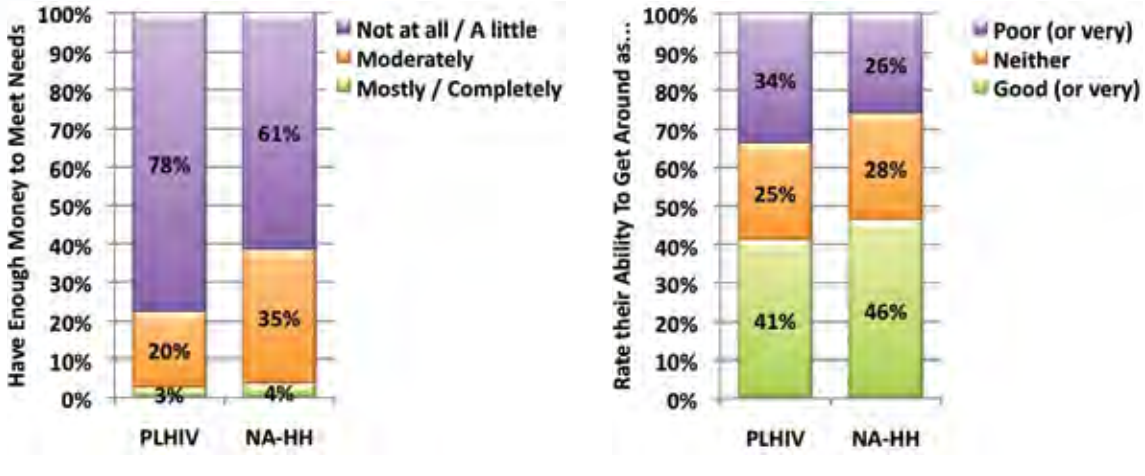
Source: Sanigest Internacional analysis

Figure 8.8: Impact of HIV on Satisfaction Levels



Source: Sanigest Internacional analysis

Figure 8.9: Impact of HIV on Sense of Financial Security and Mobility



Source: Sanigest Internacional analysis

9. IMPACT OF HIV: SPECIAL CONSIDERATIONS

CHAPTER SUMMARY

- *Over one third of HIV-affected households reported caring for a child orphaned by AIDS.*
- *It was estimated there are over 85,000 children made vulnerable by HIV in Cambodia.*
- *Widow-headed HIV-affected households had lower per capita incomes, and children within these households were more likely to have repeated a grade.*
- *Widows in HIV-affected households were less likely to have inherited their late husband's assets.*
- *Very low levels of HIV positive pregnant women reported breastfeeding their babies.*
- *Significantly more HIV-affected households migrated within the previous five years than non-affected households.*
- *HIV-affected households were significantly more likely to contain members who identified as belonging to a key affected population.*
- *Female PLHIV and those living in poorer households were the most likely to have received a home-based care visit.*
- *The percentage of HIV-HHs who had received a home-based care visit in the previous three months also differed by provincial location and ethnicity.*

9.1. IMPACT OF HIV ON FAMILY STRUCTURES, ORPHANS AND VULNERABLE CHILDREN

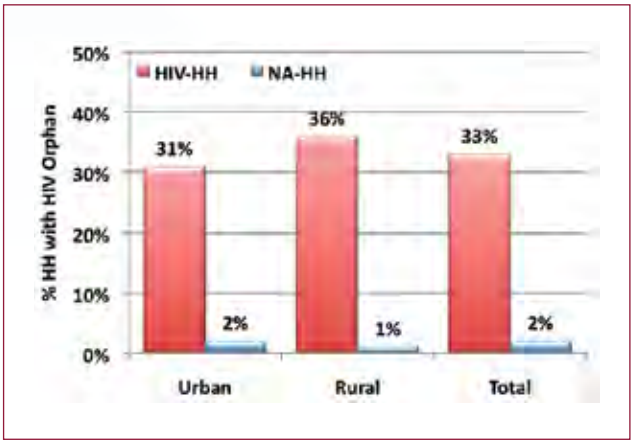
Children orphaned by AIDS[24] must often be taken care of by a single parent, or within the extended family structure. Figure 9.1 shows the large number of HIV-affected households that reported caring for a child made vulnerable by AIDS (33%), with households in rural areas more likely to care for such a child than those in urban areas (36% for rural, 31% for urban). In HIV-affected households, 16% of the children orphaned by AIDS were reportedly HIV positive. However, it should be noted their average age was reported to be 11 years old, therefore reflecting the PMTCT policies of over a decade ago. The average age of the orphans who were HIV negative was slightly younger (10 years), perhaps indicating a trend towards improved implementation of such policies.

As discussed in the section on Orphans and Vulnerable Children and Education, orphans are not the only children negatively affected by HIV. Children whose parents are living with HIV, or who live in a household where another child has HIV also face serious socioeconomic challenges.

An analysis was therefore performed to examine how many children in Cambodia have been made vulnerable as a result of the HIV epidemic. Overall, it was estimated that there are 85,921 children made vulnerable due to HIV living in Cambodia, or almost 2% of all children less than 18 years of age.

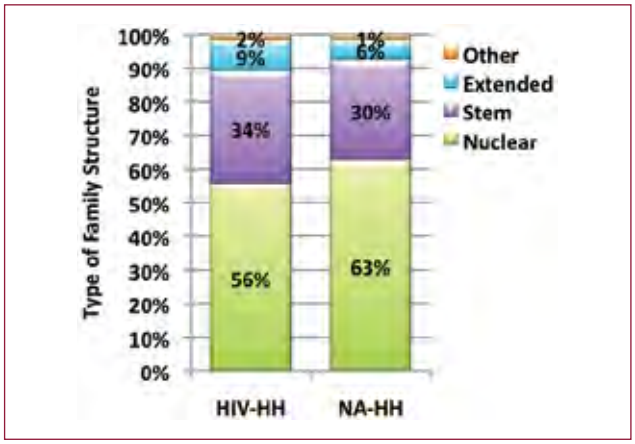
Figure 9.2 displays data on the main types of family structures reported within HIV-affected and non-affected households. A much smaller percentage of HIV-affected households had a nuclear structure (parents living with their children), but instead consisted of either a stem family (three generations of family members) or an extended family where adult sisters or brothers were living within the household. This is often done to (i) assist in meeting the economic and care needs of the PLHIV when they are no longer as economically productive as before their diagnosis, (ii) replace a lost income-earner, as is the case with many of the HIV-affected households in the survey where a household member had died, leaving a widow to head the family or (iii) as discussed above, a child due to AIDS who has lost both parents is taken in by another family member.

Figure 9.1: Impact of HIV on Caring for an HIV Orphan



Source: Sanigest Internacional analysis

Figure 9.2: Impact of HIV on Family Structure



Source: Sanigest Internacional analysis

24 *A child is considered an orphan due to AIDS if they are less than18 years old and have lost either one or both of their parents to AIDS.*

9.2. IMPACT OF HIV ON WIDOWS

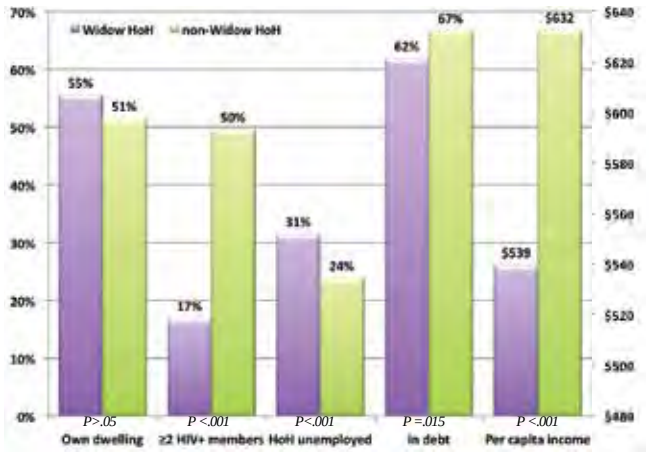
Widows are a group whose vulnerability to negative socioeconomic impacts has been well established; especially those who are HIV positive, or whose deceased spouse was HIV positive. In Vietnam, 33% of HIV positive widows were asked to leave the household after their husband's death, and 62% reported being denied a share in their husband's property (UNDP, 2009b). In India, the average household income was reported to be significantly lower for widow-headed households (UNDP, 2006). This section focuses on two analyses: (i) how did HIV-affected households headed by a widow differ from those not headed by a widow, and (ii) how did widows in HIV-affected households fare differently from those in non-affected households with regards to property transfer rights.

9.2.1. IMPACT OF WIDOWHOOD IN HIV-AFFECTED HOUSEHOLDS

Given the large percentage of HIV-affected households headed by widows in this study, this section focuses specifically on how they compared to the HIV-affected households not headed by widows. Figure 9.3 displays the results of some basic economic indicators for those households with a widowed head of household, and those with a non-widow as head of household. The most important fact displayed is that the per capita income of widow-headed households was significantly lower than that of non-widow headed households ($539 vs. $632). This is despite the fact that widow-headed households were smaller on average (4.2 members vs. 4.5 for non-widow headed), and likely due to both the fact that the household would have lost an income-earner in the widow's spouse, and that the widowed HoH is more likely to be unemployed than the non-widow HoH (31% for widows vs. 24% for non-widows).

However, with regards to other economic indicators, widow-headed households either fared similarly or better than their non-widowed counterparts. They were slightly more likely to own their dwelling (55% for widow-headed HHs; 51% for non-widow HHs) and slightly less likely to be in debt (62% of widow-headed HHs had a loan compared to 67% of non-widow headed). The percentage of households with two or more people living with HIV was much smaller for the widow-headed households, which is unfortunately probably due to the death of a HIV positive spouse.

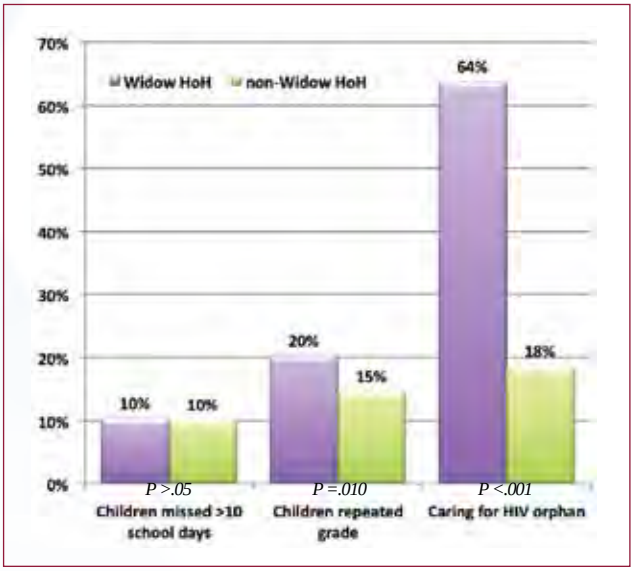
Figure 9.3: Impact of Widowhood on Economic Indicators in HIV-affected Households



Source: Sanigest Internacional analysis

Figure 9.4 highlights the impact of widowhood on children within HIV-affected households. It can be seen that households with a widow head of household were over three times as likely to contain a child orphaned by AIDS, which is understandable as the definition includes children who have lost only one parent to AIDS. On the positive side, no differences were seen in the percentage of children who had missed more than 10 days of school in the previous year. Unfortunately, however, children in widow-headed households were significantly more likely to have repeated a grade than those in a household headed by a non-widow.

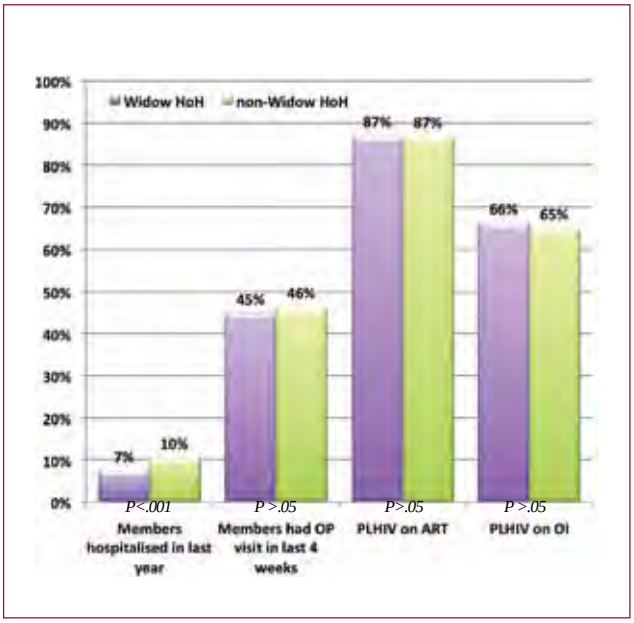
Figure 9.4: Impact of Widowhood on Children



Source: Sanigest Internacional analysis

The overall health-related impact of having a widow-headed household was minimal, given the results displayed in Figure 9.5. There were small differences seen in the percentage of members who had been hospitalised in the previous year, but this is likely due to the differences in the percentage of members who were reported as HIV positive (as discussed above). There were no differences in outpatient visits, or access to ART or medications for opportunistic infections.

Figure 9.5: Impact of Widowhood on Health

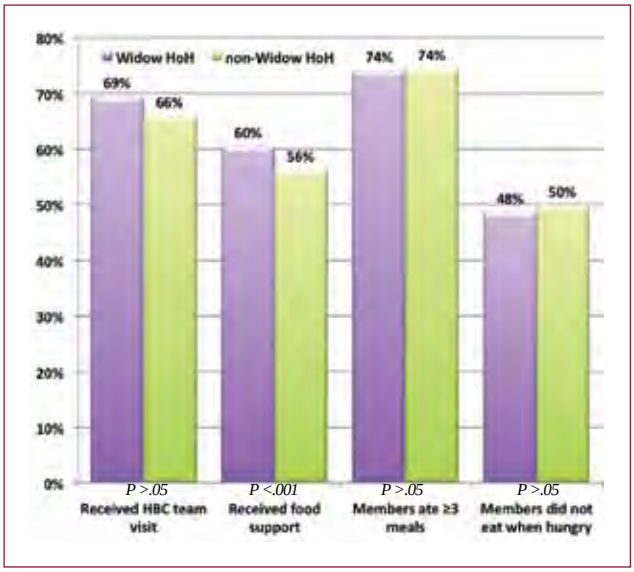


Source: Sanigest Internacional analysis

The lack of differences in utilisation of essential drugs, may be partially due to the results demonstrated in Figure 9.6 that show widow-headed households were as likely as non-widow headed households to have received a home-based care visit. Given the overall lower income of the widow-headed households, that result would be predicted, but it is encouraging to confirm that despite their extra vulnerability and therefore increased likelihood to slip through cracks of the safety net, widow-headed households received expected levels of support.

The figure also indicates that widow-headed households were more likely to have received food support, and, despite their lower economic standing, similar proportions of members reported that they had consumed three or more meals, and equal proportions of members indicated they had not eaten when hungry.

Figure 9.6: Impact of Widowhood on Support Services and Food Security

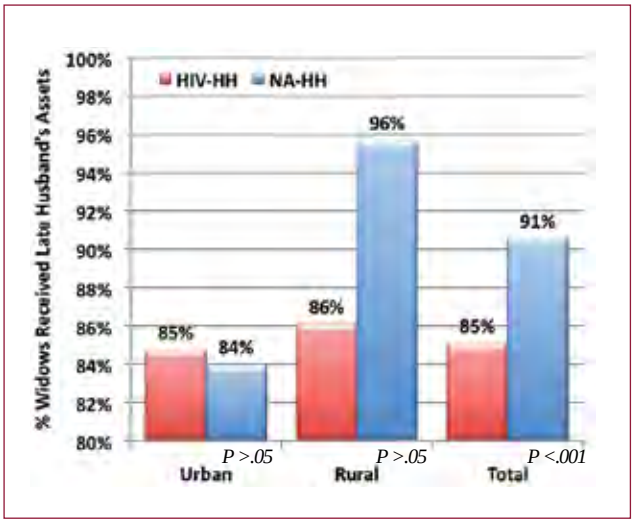


Source: Sanigest Internacional analysis

9.2.2. 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. Figure 9.7 shows that in urban households, regardless of HIV status, widows were equally likely to have inherited their husband's assets, but in the rural communities (and overall) widows within HIV-affected households were less likely to have received those valuable economic assets (only 86% of widows in rural HIV-HHs inherited their husbands assets compared to 96% of widows in rural NA-HHs).

Figure 9.7: Impact of HIV on Widow Property Transfer Rights



Source: Sanigest Internacional analysis

9.3. IMPACT OF HIV ON REGNANCY, PMTCT AND BREASTFEEDING PRACTICES

This section focuses on pregnancy and breastfeeding. The initial analysis is of the differences between HIV-affected households and non-affected households, while the subsequent analysis focuses on specific issues facing HIV positive women with regards to preventing mother-to-child-transmission.

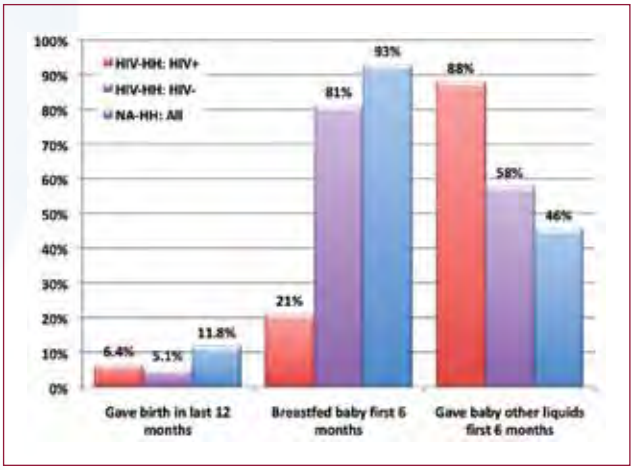
9.3.1. IMPACT OF HIV ON PREGNANCY AND BREASTFEEDING

Figure 9.8 presents data that indicate that women (aged 15-45) in non-affected households were twice as likely as those in HIV-affected households, regardless of their HIV status, to have given birth in the previous year. It also shows the large differences in breastfeeding practices (discussed in more detail below) where women in non-affected households were over four times more likely to have breastfed their baby for the first six months after birth than HIV positive women25. Even HIV negative women in HIV-affected households were less likely to have breastfed their baby, perhaps indicating that they had acted in accordance with old recommendations on breastfeeding practices for HIV positive women. Finally, despite international recommendations that babies be exclusively breastfed for the first six months, a very high percentage of all women

25 *The issue of changes in WHO recommendations regarding breastfeeding and regnancy for HIV+ women in detailed in Section 9.3.2.*

reported providing other liquids to their baby. HIV positive women were twice as likely to have reported doing so (88% of HIV positive women) than women in non-affected households (46%). Again the influence of living in a HIV-affected household is seen, with HIV negative women in HIV-HHs reporting higher levels of non-exclusive breastfeeding (58%) than those in non-affected households.

Figure 9.8: Impact of HIV on Pregnancy and Breastfeeding



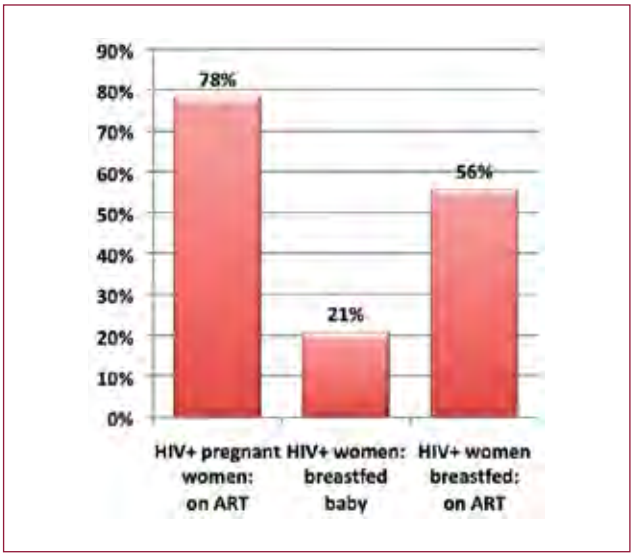
Source: Sanigest Internacional analysis

9.3.2. PMTCT AND BREASTFEEDING IN HIV POSITIVE WOMEN

In November 2009, a month before the survey was implemented, WHO announced new guidelines for PMTCT practices and breastfeeding. The new recommendations for ART utilisation in pregnant women indicate *"All HIV-infected pregnant women who are not in need of ART for their own health require an effective ARV prophylaxis strategy to prevent transmission to their infant"* (WHO, 2009). This was a change from previous recommendations in 2006 when it was recommended that only those populations with either advanced clinical staging or low CD4 cell counts should be treated. Additionally, breastfeeding recommendations were changed to "Mothers known to be HIV-infected *(and whose infants are HIV uninfected or of unknown HIV status) should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breast-feeding for the first 12 months of life".*

Figure 9.9 shows the results of the analysis of PMTCT practices in the HIV positive women who had given birth in the year prior to the survey interview. It shows that only 78% of women who gave birth were on ART during their pregnancy, which is lower than the overall percentage of women on ART (85%). These findings are perhaps understandable when two factors are considered (i) pregnant HIV positive women are likely in an earlier stage of infection than other HIV positive women, and (ii) the previous prophylaxis recommendations. With regards to breastfeeding, it can be seen that only a minority of HIV positive women breastfed their baby for the first six months (21%) and only 56% of those women were on ART. It is hoped these statistics can be utilised as baseline data for new indicators that will measure the implementation of the new recommendations.

Figure 9.9: PMTCT Practices in HIV Positive Women



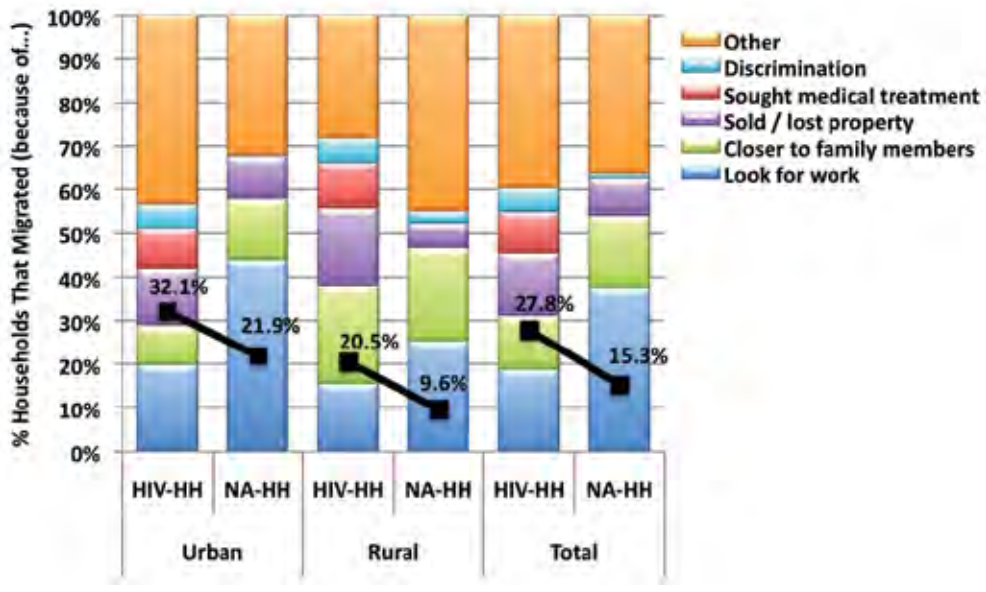
Source: Sanigest Internacional analysis

9.4. IMPACT OF HIV ON MIGRATION

One of the more disruptive household-level impacts of HIV is household migration – sometimes to avoid discrimination that might, for example, lead to loss of employment, or for other reasons, such as seeking medical care or being nearer to family members who can act as caregivers.

Figure 9.10 details responses in relation to questions on migration. Clearly, HIV has a notable impact, as almost twice as many HIV-affected households reported a migration in the previous five years (28% vs. 15%). Significantly more urban than rural households reported a move. The reasons for the migration varied between HIV-affected and non-affected households. Overall both HIV-affected and non-affected households reported "other" as the primary reason, followed by looking for work, but HIV-affected households were significantly less likely to cite looking for work than non-affected households (19% vs. 38%). HIV-affected households cited the need to be closer to medical care as responsible for almost 10% of moves, while it was not a factor at all for non-affected households. This is important for further analysis, as it may indicate a need for additional or improved medical facilities in some areas of Cambodia. Additionally, it points to the need for effective referral processes that track patients as they move between operational districts. That will help (a) ensure that they are not lost to follow-up (b) ensure that they will receive optimal treatment at their new location, and (c) improve the quality of national data regarding outcomes. Having sold or lost property accounted for 14% of the HIV-affected household's migrations (only 8% for non-affected), perhaps tied to the need to sell assets due to prolonged illnesses prior to diagnosis. Finally, HIV-affected households gave discrimination as a reason significantly more often than non-affected households (6% vs. 1%), supporting evidence highlighted in the section on Stigma and Discrimination regarding the need for intensified action to address HIV-related stigma and discrimination.

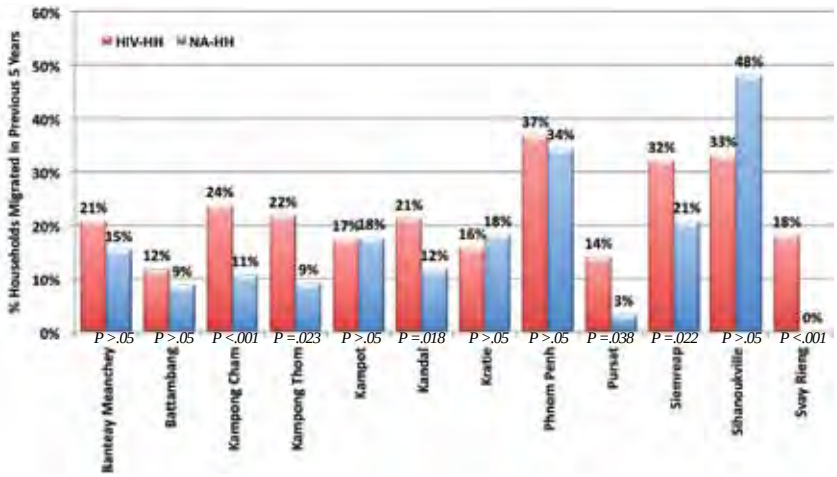
Figure 9.10: Impact of HIV on Household Migration



Source: Sanigest Internacional analysis

Figure 9.11 displays the responses to the questions on migration, stratified by province. Within Phnom Penh, the large ur ban capital offering greater economic opportunities (and perhaps a greater degree of anonymity), differences between HIV-HH and NA-HH migration patterns were much smaller (37% for HIV-HHs, 34% for NA-HHs), while for almost all the other provinces the disparity remains.

Figure 9.11: Impact of HIV on Migration, by Province [26]



Source: Sanigest Internacional analysis

9.5. KEY AFFECTED POPULATIONS AND HIV

In order to implement cost effective HIV prevention strategies it has been recommended that countries engage and focus on key affected populations (UNAIDS, 2010). As was discussed earlier with regards to VCCT, survey respondents were asked whether they were members of any of the following keyaffected populations: sex workers, men who have sex with men, people who inject drugs, migrants and mobile workers, and prisoners.

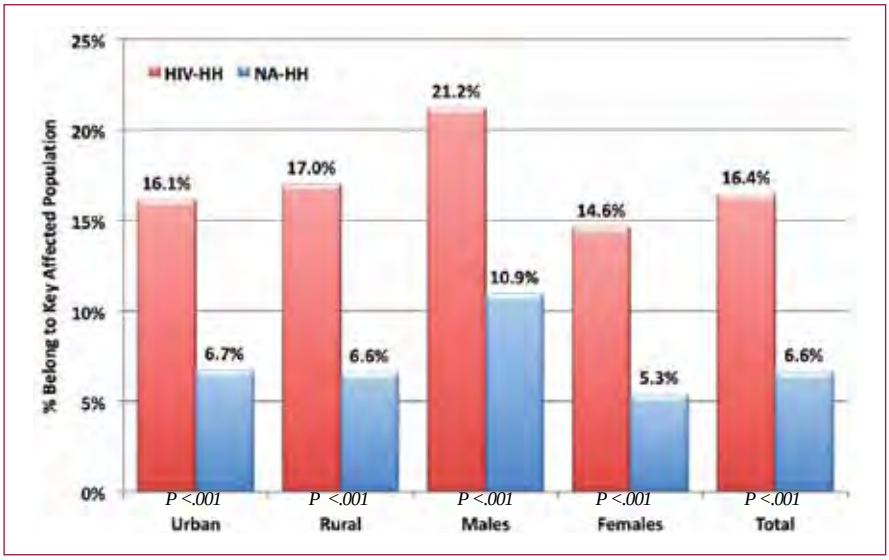
Figure 9.12 highlights that, in both rural and urban locations, survey respondents in HIV-affected households were more likely to identify with a key affected population than survey respondents in non-affected households. Additionally, the differences held across males and females within the sample. The largest percentage of individuals within a Key Affected Population (KAP) was urban males in HIV-HHs (21.2%) in comparison to the smallest percentage within rural females in NA-HHs (5.3%). Given the previous results showing that urban HIV positive males were the least likely to have determined their status through VCCT, this data again show the need for greater attention to be given to improving testing within that population.

9.6. HOME-BASED CARE VISITS

Community home-based care teams were developed in 1998 in Phnom Penh to address the multitude of issues facing people living with HIV at the time, including limited access to ART,

26 *The data for Sihanoukville should be interpreted with caution as only 13 non-affected households migrated within the previous five years.*

Figure 9.12: Key Affected Populations, by Location and Sex

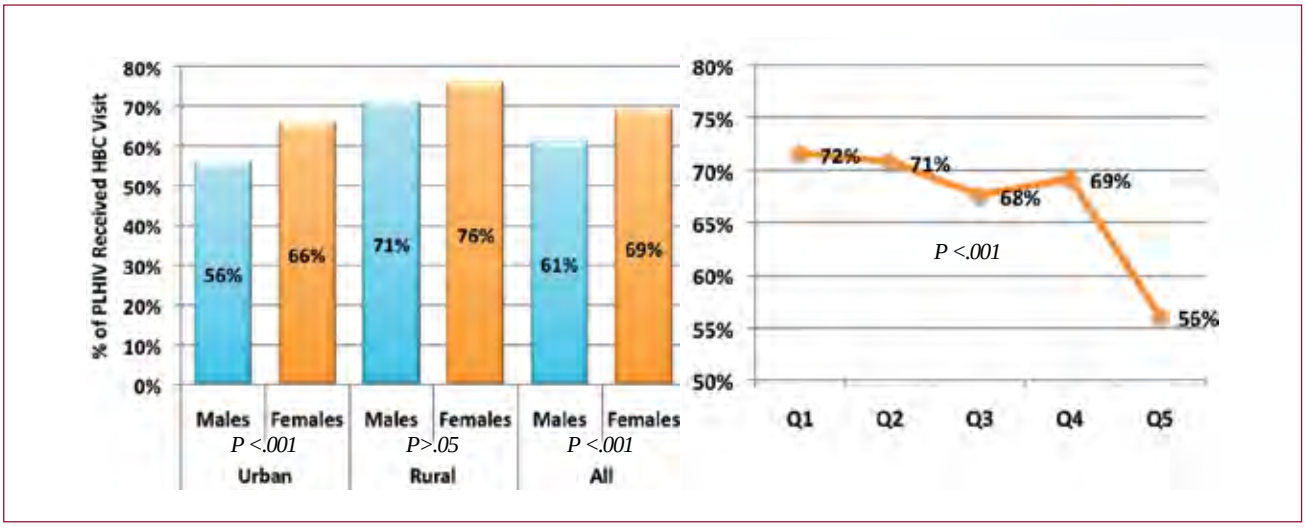


Source: Sanigest Internacional analysis

limited public capacity to serve other health needs, and widespread stigma and discrimination, which further limited access to health care (NCHADS, 2006). Today, there are over 250 HBC teams throughout the country, providing assistance to more than 13,757 PLHIV (KHANA, 2008). This study endeavoured to analyse the impact HBC is having on reducing the socioeconomic impact of HIV on households in Cambodia. This section first analyses the penetration of HBC within the study's population of PLHIV, and then examines the impact of those visits.

Figure 9.13 shows that the proportion of PLHIV who reported they received a visit from a HBC team in the previous three months was significantly higher for PLHIV in rural areas, and for women in urban areas, and for those living in the lowest quintiles of wealth. As discussed in Section 2.1.2, urban / rural differences are largely due to the fact that, in urban Phnom Penh, some non-HBC networks participated in providing the sample frame of PLHIV, while most of the rural networks were providers of HBC services. Additionally, the differences between males and females may be partially due to a greater tendency of women to request assistance from a HBC team. While the differences between quintiles may be partially

Figure 9.13: PLHIV Who Received a HBC Visit in Previous 3 Months, by Sex, Location and Quintile

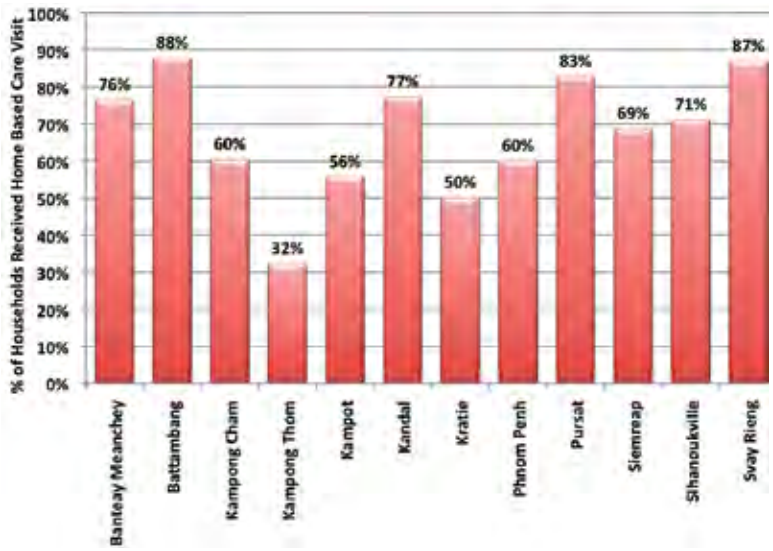


Source: Sanigest Internacional analysis

due to the confounding influence of rural / urban locations on economic status, it is also likely the result of good targeting of the lowest income households by the HBC organisations.

Figure 9.14 further analyzes the distribution of households that received a HBC visit in the last three months, by province. While it is unknown what impact the sampling methodology had upon these results, it is clear that disparities do exist, with households in Battambang (88% of households) being almost three times as likely to have received a visit than those in Kampong Thom (only 32% of households). Due to the observational bias previously discussed with regards to Phnom Penh, it is probable that HBC coverage with Phnom Penh is higher than indicated by the results of this survey.

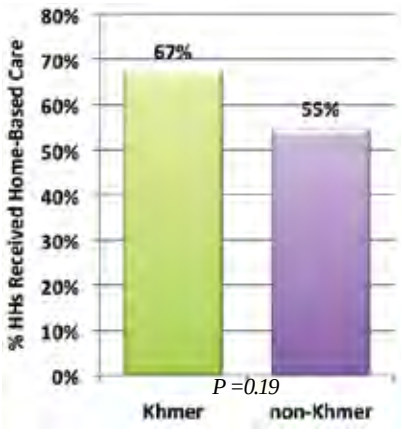
Figure 9.14: Distribution of Home-Based Care Visits, by Province



Source: Sanigest Internacional analysis

As with food support, Figure 9.15 shows that households headed by an individual who did not identify as Khmer, are less likely to have received a home-based care visit in the previous three months. Again, this may be due to their marginalised status, or may be related to policies that require that program recipients are Cambodian.

Figure 9.15: Distribution of HBC visits, by Ethnicity



Source: Sanigest Internacional analysis

EXPANDING SOCIAL PROTECTION

There are three main forms of social protection generally used to help protect against poverty:

(1) *Social insurance: for example, health insurance or unemployment insurance schemes.*

(2) *Labour market interventions: programmes to protect workers (e.g., minimum wage legislation).*

(3) *Social assistance: when resources, either cash or in-kind, are transferred to vulnerable individuals or households. This social assistance includes:*

- **(i)** *Unconditional social transfers: generally small, but regular and predictable transfers in cash, vouchers or food directly to households or individuals (examples include social pensions, child benefits, disability allowances and regular food or voucher distribution).*
- **(ii)** *Conditional cash transfers: a more recent and innovative form of social assistance, they have an aim of providing income support to poor families, but the transfer is made conditional on something, such as families sending their children to school or visiting health clinics.*
- **(iii)** *Transfers-in-kind: e.g., the free distribution of ART to PLHIV or school feeding programs.*
- **(iv)** *Public work programmes: provide employment for those without jobs in exchange for cash or food. Usually utilised at times of crisis, providing people with a temporary safety-net.*
- **(v)** *Provision of subsidised or free use of services: can play a key role in increasing poor people's access to health and education services (or housing and food). While impactful, there are often other non-subsidised costs which prevent the targeted population from utilising the service without additional financial support (Department for International Development, 2006).*

PLHIV in Cambodia are generally not receiving assistance from either the first main category of social insurance (there is very limited participation in CBHI schemes) or the second category of labour market interventions (the only minimum wage standard in Cambodia is for garment workers, recently set at $61 / month, Ministry of Labour and Vocational Training, 2010).

Additionally, with regards to the third form of social assistance, while HIV-HHs are clearly benefiting from educational stipends, home-based care, and food support, it is not sufficient to alleviate the increased poverty they are facing as a result of HIV.

Two things should be further considered:

(1) *The need for social protection at the individual level, rather than the household level (e.g., currently food support is the same to each household, regardless of whether there are one, two or even more PLHIV in the dwelling).*

(2) *The need for additional income-supplementing forms of social protection, particularly with regards to conditional cash transfers. Ideally, the home-based care team would function as a case manager for all the social protection programs benefiting the HIV-affected household.*

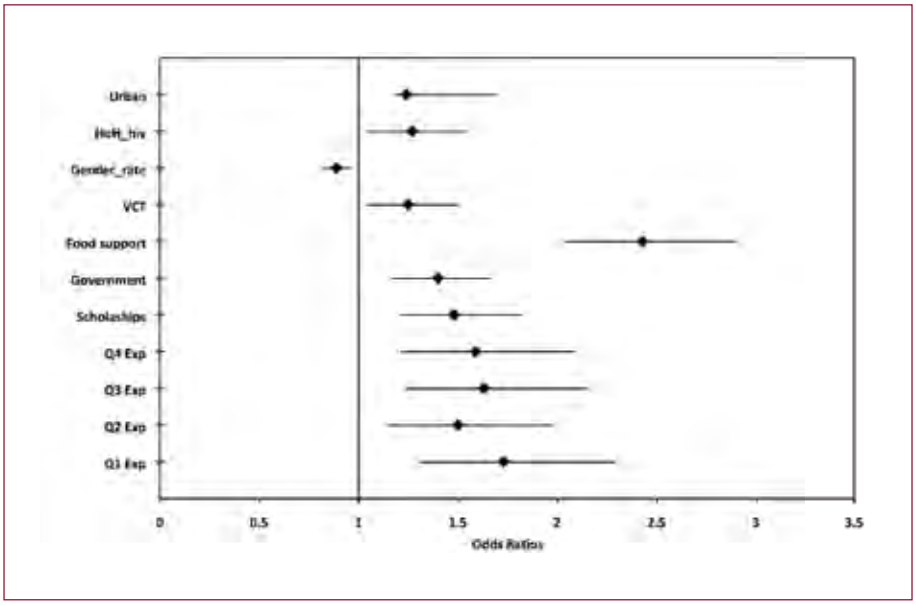
9.7. MULTIVARIATE ANALYSIS OF HOME-BASED CARE

To better understand the factors that influenced whether or not a HIV-affected household had received home-based care, this section presents the results of a logistical regression. Multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to enrolment in the HBC program. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having received a home-based care visit in the previous three months and (0) representing the condition of not having received a HBC-visit visit. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

Included in the stepwise logistic regression analysis as explanatory variables were variables reflecting household characteristics, urban/rural and Phnom Penh residence, affected/non-affected status of the head of household, income level by quintile, gender and age of the household head, total number of years of schooling, number of employed members in the household, whether HIV status was determined only after a prolonged illness, and the household size and dependency ratio. The coefficients of the model are shown as Odds-Ratios (OR). The odds ratio is one of a range of statistics used to assess the relative probability of a particular outcome (home-based care visits in this case) if certain explanatory factors are present compared to someone who is not exposed to the factor. Tests for multi-collinearity and model specification were not significant, indicating that the model is correctly specified.

The following graph displays the ORs for variables that were significant after several iterations. The point on each line is the odd-ratio and the line shows the 95% confidence interval. The results reveal relatively positive findings regarding the targeting of HBC programs to specific populations. As expected, those households that had received food support, were in the poorest quintile, or whose head of household was a PLHIV, were 2.5, 1.5 and 1.25 times more likely, respectively, to be enrolled in HBC. Interestingly, these results also suggest government support and scholarship programs were correlated with HBC enrolment, indicating the opportunity to combine social protection programs for PLHIV.

Figure 9.16: Multivariable Analysis of Home-Based Care



Source: Sanigest Internacional analysis

10. KNOWLEDGE AND AWARENESS OF HIV

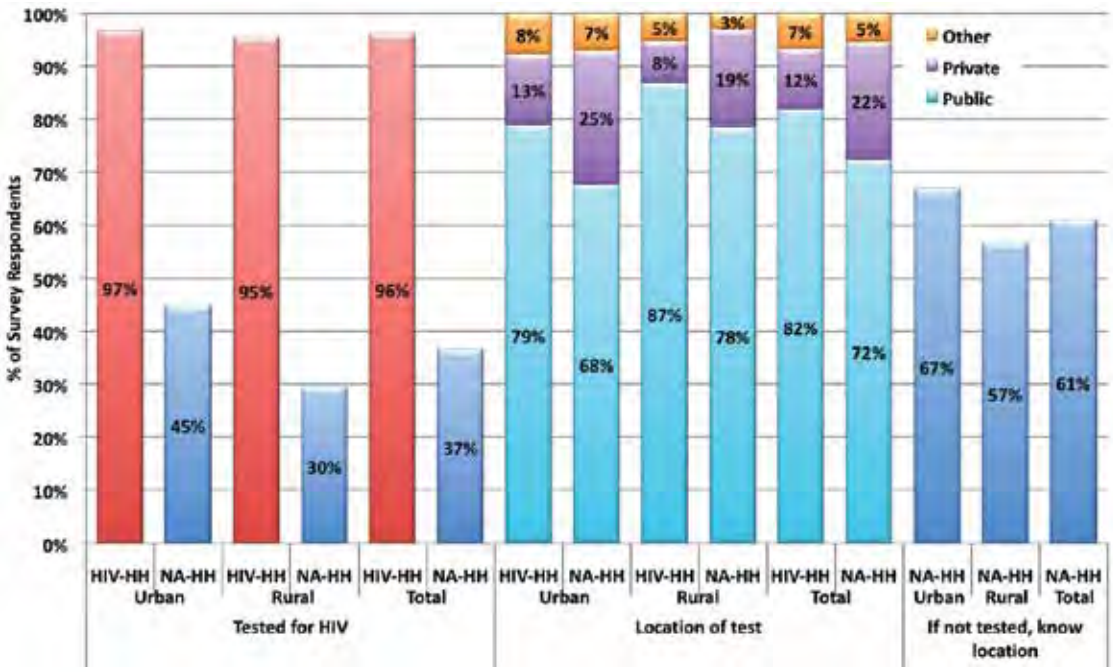
CHAPTER SUMMARY

- *37% of survey respondents in non-affected households had been tested for HIV.*
- *Respondents in higher-wealth quintiles were more likely to have been tested than those in the poorest quintiles.*
- *61% of individuals in non-affected households who had not been tested for HIV reported knowing where they could go to receive a test.*
- *Respondents identifying with a key affected population were more likely to have been tested for HIV than members of the general population.*
- *11% of respondents in non-affected households and 79% in HIV-affected households used a condom in their last sexual encounter.*

Analysing levels of HIV awareness and understanding is important when determining the best policies and programs to reduce transmission, improve treatment, care and support services, and address stigma and discrimination. The survey showed that levels of knowledge concerning the existence of HIV were 100% across both HIV-affected and non-affected household survey respondents, as well as across urban and rural sectors. Self-reported testing for HIV, however, differs substantially by household, as would be expected. Ninety-six percent of survey respondents in HIV-affected households reported being tested for HIV, while only 37% of those in non-affected households reported being tested. This is still

substantially higher than the 10% testing rate for women, and 15% for men, reported in the 2005 CDHS, and is likely a positive reflection of the increase in VCCT sites throughout the country (from 109 in 2005 to 233 in 2009; NCHADS 2010). In non-affected households, the difference between testing in urban and rural house-holds was significantly different, with only 30% of rural respondents having been tested (vs. 45% for urban). This may be due to both differences in access to facilities, as well as differences in knowledge levels.

Figure 10.1: HIV Testing Knowledge and Behaviours, by Location



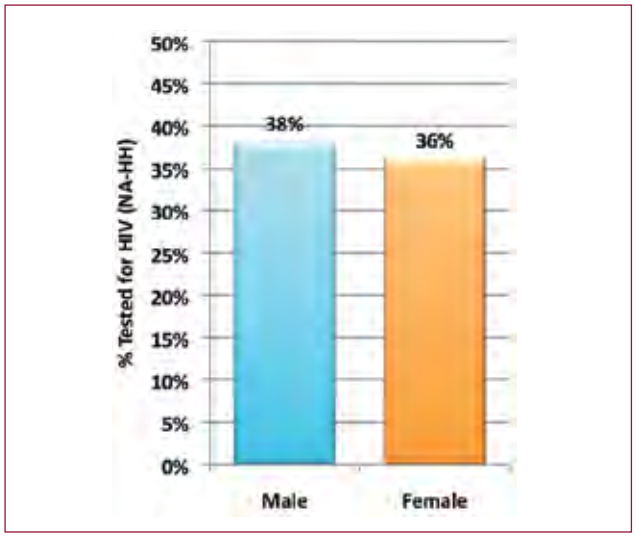
Source: Sanigest Internacional analysis

The location of where individuals received their HIV test also differed between households and locations: 87% of those in rural HIV-affected households reported receiving their test in the public sector compared to 68% of urban non-affected respondents. Even within HIV-affected households, testing is more likely to have occurred in the public sector in rural areas than in urban areas. These differences are important in discussions regarding continuity of care, as they highlight the importance of establishing easy channels for individuals who are diagnosed with HIV within the private or other (non-medical) sectors to be transitioned into the public sector.

Of note is the fact that of those in non-affected households who had not been tested for HIV only 61% (57% rural, 67% urban) reported knowing where they could go to receive a test. This difference in knowledge between the urban and rural sectors is likely to explain some of the differences seen within non-affected households regarding testing levels.

The data in Figure 10.2 indicates that both male and female survey respondents in NA-HHs had been tested at almost the same rates, with 38% of men reporting they had been tested for HIV and 36% of women.

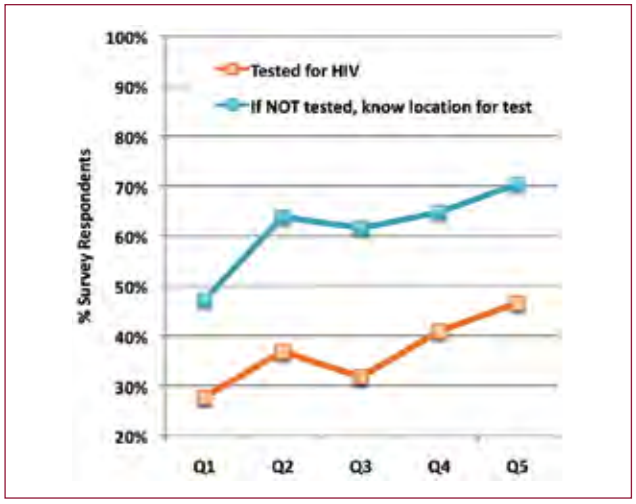
Figure 10.2: HIV Testing levels in Non-Affected Households, by Sex



Source: Sanigest Internacional analysis

Figure 10.3 displays data on non-affected household respondents' testing behaviour and knowledge, according to their quintile of consumption. Significantly, a much greater percentage of those the richer quintiles has been tested (47% in Q5; 28% in Q1). Additionally, of those who had not been tested for HIV, the percentage with knowledge of where they could go for testing increased with wealth (47% of the poorest untested non-affected HoHs compared to 70% of those in quintile five).

Figure 10.3: HIV Testing Levels in Non-Affected Households, by Quintile

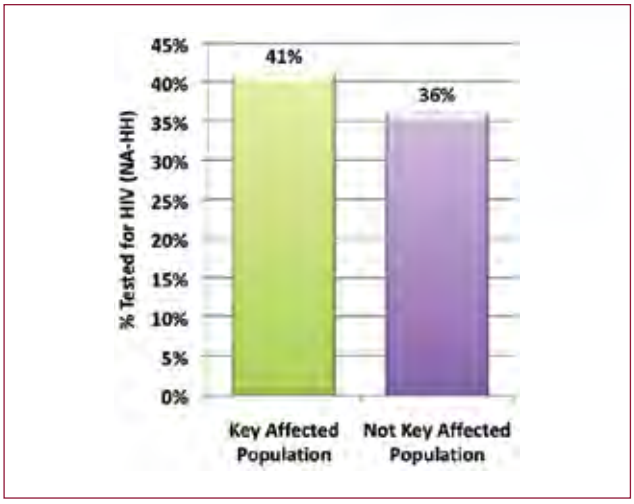


Source: Sanigest Internacional analysis

To further investigate the impact of current policies targeting those individuals at higher risk for HIV, Figure 10.4 shows the percentage of survey respondents in non-affected households who had been tested for HIV, based on whether they had identified themselves as a member of a key affected population. It can be seen that targeting did have limited impact on testing levels for the surveyed population, as 41% of individuals who identified with a key affected population had been tested, compared to only 36% of those who did not identify with such a population. However, due to the small number of members of key affected populations in the NA-HHs, the difference was not statistically significant. In combination with (i) the fact that HIV-affected households have twice the percentage of members that identified as belonging to a KAP, and (ii) a smaller percentage of PLHIV who consider identified with a KAP than non-KAP PLHIV discovered their status through VCCT, these results point to the need for additional targeted testing of key affected populations.

The vast majority of all respondents indicated they knew that HIV is a preventable disease (99% in affected households; 94% in non-affected).

Figure 10.4: HIV Testing Levels in Non-Affected Households, by Key Affected Population Status

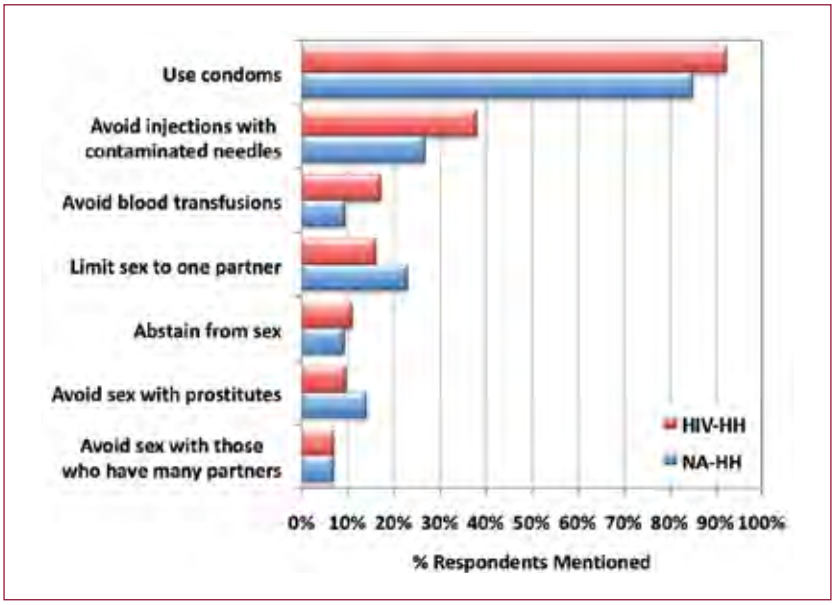


Source: Sanigest Internacional analysis

The main methods of prevention cited (Figure 10.5) were condom usage (92% HIV-HHs; 85% NA-HHs) avoiding contaminated needles (38% HIV-HHs; 27% A-HHs) and limiting sexual encounters to just one partner (16% HIV-HHs; 23% NA-HHs).

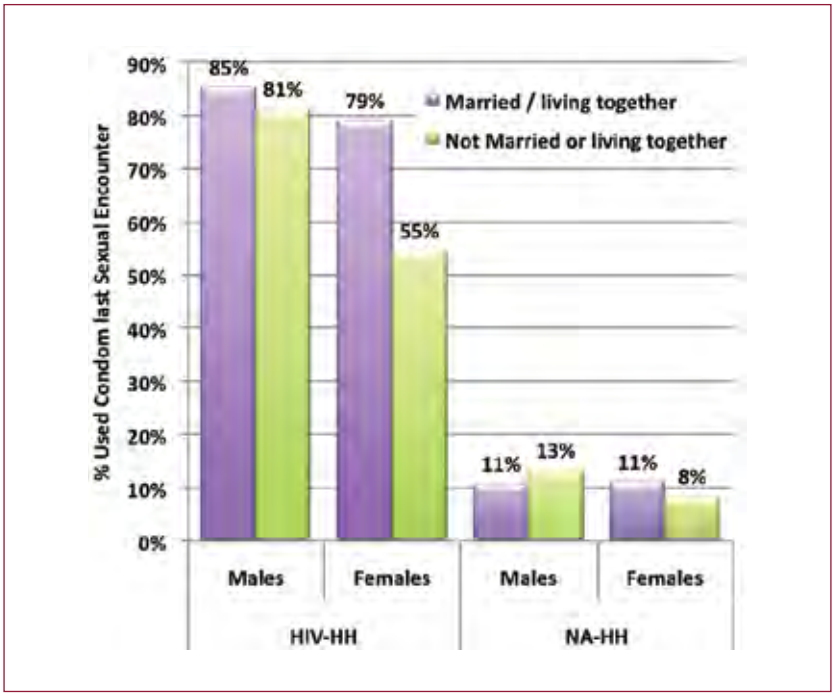
However, despite high levels of knowledge regarding the use of condoms as a method to prevent the transmission of HIV, only 11% of those sexually active (within the previous 12 months) in non-affected households reported using a condom in their last sexual counter (compared to 79% in HIV affected-households). In Figure 10.6 the condom usage results are analysed by the marital status of the survey respondent, and show that while there is little variation in condom usage within non-affected households, within HIV-affected households, sexually active unmarried[27] women were significantly less likely to have used a condom in their last sexual encounter than married women. This result highlights the importance of providing comprehensive sexual and reproductive health services, through the continuum of care, for both HIV-affected and non-affected women.

Figure 10.5: Knowledge of HIV Prevention Methods



Source: Sanigest Internacional analysis

Figure 10.6: Impact of HIV on Condom Usage, by Marital Status



Source: Sanigest Internacional analysis

27 *Unmarried = divorced, separated, widowed, or not / never in a long-term relationship.*

11. POLICY CONCLUSIONS

Cambodia has made impressive progress in addressing the national HIV epidemic over the past decade. The evidence is clear in terms of declining incidence and prevalence – reflecting a concentrated epidemic – near universal coverage for ART and good access to healthcare services for PLHIV. Even in the "softer" measures of the epidemic, such as stigma, discrimination, and gender differences, Cambodian households fare substantially better than those in other Asian countries. Despite these gains, the consequences of the epidemic continue to strain households and the economy, affecting the poorest HIV-affected households, OVC and female-headed households the most. At a time when economic growth and stability are paramount, the importance of cost-effective impact mitigation strategies has never been more apparent.

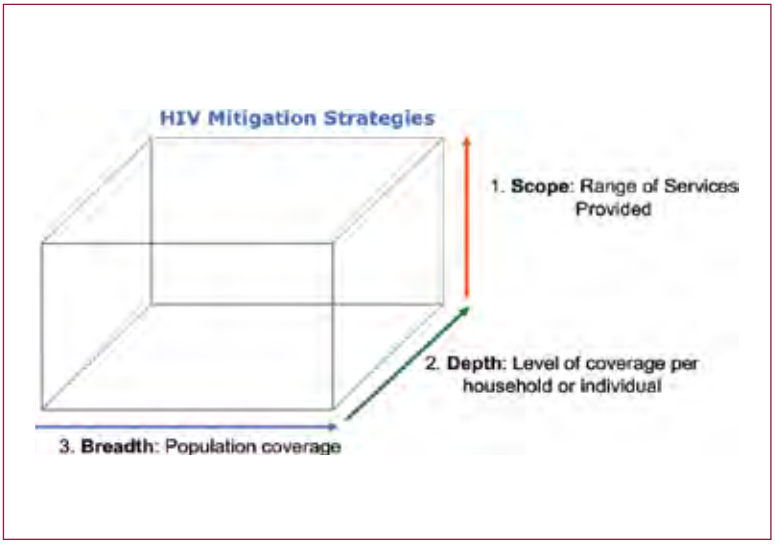
The Royal Government of Cambodia has recognized the need to change national impact mitigation strategies to meet the population's evolving needs. The current strategy framework highlights the shift to greater integration of social services through the development of a national social protection system, the continuation of the pro-poor health equity schemes and improving targeting through the national ID-Poor Programme. The expectation is that conditional cash transfer programmes will provide the poor with an improved safety net to promote human capital development. The challenge is to ensure that these programmes are inclusive of PLHIV and that they build on existing initiatives, such as home-based care, that provide a safety net for PLHIV and their families.

The results of the study on the socioeconomic impact of HIV at the household level in Cambodia provide considerable evidence of the need to protect PLHIV and their household members from the devastating consequences of the disease. The conclusions and recommendations outlined in the report should provide policy-makers with insight into the dynamics of the epidemic and how to target programmes to best address household needs. Underscoring this, as the epidemic matures, it has significant and lasting impact on the ability of households to cope with loss of family members, loss of income, and loss of educational opportunities, particularly for girls, who drop out of school to care for family members. The results also point to the extremely positive impact that targeted interventions, such as food support, access to ART, and free healthcare and welfare programs are beginning to have on the health, nutrition, well-being and quality of life of HIV-affected households, and underline the importance of refining and expanding such interventions within the framework of strengthened systems and strategies for health delivery and social protection. Most importantly, they provide further empirical evidence of the effects of HIV at the household level that can be used to better prioritize interventions in the region.

Cambodia is poised at a time of rapid economic growth and prosperity, with economic growth approaching 10 percent per year for the past several years. However, the study shows that HIV-affected households are somewhat insulated from this growth and prosperity. HIV-affected households are disproportionately burdened, even in prosperous times. Their vulnerability underscores the need for concerted action to mitigate the impact of the disease, and to limit the risk of further impoverishment after having already liquated assets, depleted savings, and exhausted lending options, to cope with the loss of income due to illness and death. As the effects of the global economic crisis continue to be felt, HIV-affected households have no financial cushion on which to rely and, in most cases, no social security or protection. They are thus among the most vulnerable, and need to be prioritized for social protection within the short-term stimulus measures and emerging social protection strategies recently initiated by the Royal Government of Cambodia.

The policy conclusions of the report may be contextualised within three key policy dimensions. The dimensions reflect (1) the scope of services provided (2) the depth of interventions to address structural issues related to poverty, decline in human capital accumulation, and issues associated with knowledge, behaviour, stigma and discrimination, and (3) the breadth, or coverage, of various interventions. The three dimensions can be visualized in the following cube (Figure 11.1), and recommendations are oriented toward each of these dimensions.

Figure 11.1: Three HIV Policy Dimensions



Source: Sanigest Internacional

RECOMMENDED CHANGES IN THE SCOPE OF SERVICES

The need to explore changes in the range of services provided to PLHIV and their families is highlighted in this section. Despite mounting challenges posed by the epidemic at the household level, studies point to a consistent set of interventions which could ameliorate the short and medium-term effects of the epidemic on PLHIV and HIV-affected households throughout Asia. Within the Cambodian context, key policy recommendations include:

1. Targeted HIV impact mitigation programming needs to be integrated into "AIDS Sensitive" poverty reduction and income generation approaches and schemes. A key innovation would be to work with micro-finance organizations throughout the country to develop dedicated lines of credit, which are marketed to PLHIV and their families, similar to those targeting people with disabilities and small business owners.

2. Maximize women's and widows' access to credit and income-generating opportunities by generating options for sustainable livelihoods, such as the provision of vocational skills, start up funds for micro-enterprise, partnerships with the private sector, and linkages with the market, among other initiatives. It is particularly important, in the context of targeted poverty reduction efforts, to focus on the most vulnerable groups.

3. PLHIV and their households should have access to a full continuum of care and related services – extending well beyond ART – to further reduce the catastrophic financial burden of HIV-related medical expenditure. Financing mechanisms should cover a full range of medicines, laboratory services, transport, nutrition and mental health services to ensure maximum results. This should include exploring ways to link medical support for PLHIV to existing health insurance systems, such as Health Equity Funds or Community Based Health Insurance, or developing vouchers or other reimbursement schemes.

4. Redefine the role of HBC services to include a greater scope for poverty reduction interventions, and better integration with national approaches for social protection, to protect the broader needs of HIV-affected households. The study points to the deleterious effect HIV has on human capital – not only due to HIV-related morbidity and mortality, but also due to reduced investment in children's education, particularly girls. Ensuring that existing risk mitigation strategies targeted to PLHIV, such as HBC, are integrated into the scaling up of national poverty reduction strategies is critical for cost-effectiveness. At the same time, introducing pro-poor targeting through conditional cash transfers, micro credit and other social protection programmes is required to support the people, households and communities who are hardest hit by the economic crisis and the HIV epidemic.

5. Increase efforts to target specific areas with low coverage, or effectiveness. For example, low levels of exclusive breastfeeding among HIV positive women highlight the need to ensure the changes in the breastfeeding protocol are effectively implemented. ART coverage is lower among HIV positive women who had given birth in the year prior to the survey, than among all female PLHIV (78% versus 85%), which has consequences for MTCT. Only 21% of HIV

positive women who had given birth indicated they had exclusively breastfeed for the first six months, and of those, only 56% were on ART. These figures demonstrate the challenges in adopting the latest WHO recommendations on exclusive breastfeeding, and the use of ART to prevent MTCT.

6. Improve public awareness of the critical role that government financed and supported programs have on the welfare of PLHIV and their families. At present, programmes which are managed by NGOs are not perceived as public actions, thereby constituting a missed opportunity to demonstrate the effectiveness of public system and national leadership in addressing the needs of PLHIV.

RECOMMENDED CHANGES IN THE DEPTH OF SERVICES

While it is clear that HIV-affected households are receiving beneficial support from HBC and food support programs, study results should be used to look at levels of support, and whether they should be increased, to cover households' broader needs. Seventy-eight percent of PLHIV indicated they did not feel household money met their needs compared to 61% of non-affected respondents, underscoring the need to expand support services, and further, highlights the need to ensure measures are introduced which increase economic self-reliance by individuals within HIV-affected households by increasing their capacity for earning potential. Furthermore, because of HIV's impact on family structure (a third of all HIV-affected households also cared for an HIV orphan); the "depth" of service should be carefully estimated to reflect specific household needs.

The main recommendations in this area include:

1. While HBC has been shown to be effective in many areas, fundamental improvements need to be made in the "case management" function of home based teams to coordinate all of the care needs of PLHIV and their families. HBC teams could serve as a source of information and access, a portal as it were, to all government; NGO and private sector support opportunities, as well as liaising with health services, HEF and micro-finance and related services to ensure improved financial protection for HIV-affected households.

2. Increase emergency food support to the poorest HIV-affected households. Despite the fact that 58% of HIV-HHs indicated they received food support (compared to only 4% of NA-HHs), the multivariate regression analysis shows that affected households were still 1.25 times more likely to have gone hungry than non-affected households.

3. Strengthen mental health and psychosocial support services for PLHIV. PLHIV should be explicitly integrated into the National Mental Health Strategic Plan 2011-2015 and the 2011 Operational Plan currently being developed, The study identified significant mental health issues among PLHIV, including widespread depression, anxiety and suicidal tendencies, as well as reduced quality of life, and pervasive stigma and discrimination at the community level. HBC teams could assist with the coordination of the care for PLHIV in need counselling, psychosocial support or pharmaceutical assistance.

4. Targeted interventions should be developed to address the negative self- esteem experienced by PLHIV and their family members. Continued community outreach and other programmes to reduce stigma and discrimination should be strengthened, and tools should be developed to measure home-based care's effectiveness in this area. This would include specific activities related to volunteer counselling services at the point of testing and notification, as well as strengthening the capacity of Home-based Care Teams, CPN+, self-help groups and MMMs to support their members in this regard.

5. Develop a centralized data base on PLHIV and their families socioeconomic status to enhance the ability of government and non-government service providers to identify the needs of PLHIV, to ensure effective reporting of outcomes and to integrate with nationwide social protection programmes. This would include integration of PLHIV and their families to the ID-Poor programme to ensure the poorest quintile of PLHIV and OVC are included. The high levels of migration and cross-border care underline the need to monitor program implementation and effectiveness. Current efforts by NAA and MoSVY together with other government, civil society and development partners to develop and implement a comprehensive M&E system for tracking support to OVC and to PLHIV as well as to their households should be consolidated.

6. Strengthen legal empowerment measures for women living with and affected by HIV. Legal reforms should be stressed to improve women's equal rights to inheritance and property ownership, especially widows. These assets are critically needed, following the death of a spouse, to provide women and children with shelter and economic assets so they are better able to cope with the impact of the death of their family member.

7. Prioritize efforts to keep children from HIV-affected households in school, especially girls by targeting them in conditional cash transfer programmes and HBC interventions. Interventions are needed to ensure that children from HIV-affected households receive the same level of education as children from non-affected households, and do not drop out in order to work or become caregivers. Conditional cash transfers should be explored, specifically targeting girls, to ensure increased enrolment and retention rates for HIV-affected children, thereby reducing the negative impact on human capital accumulation.

8. Develop a single HIV vulnerability index to improve targeting, and unify benefits available to HIV-affected households. Integrated specific parameters that emerge from the socioeconomic study of PLHIV into the development of ID-Poor and national social protection programmes. A number of developing countries have advanced towards the establishment of vulnerability indices to improve the transparency and effectiveness of social protection programs. Developing a unified index would facilitate work in many of the areas outlined in the policy recommendations.

RECOMMENDED CHANGES IN THE BREADTH OF SERVICES

The following recommendations concerning service coverage are particularly important for maintaining significant reductions in HIV incidence, and ensuring basic rights of all men, women and children in Cambodia, including the poorest and most vulnerable populations.

1. Building flexibility and quality into VCCT services and creating demand for early testing should be a cornerstone of efforts to reduce the incidence of HIV, especially among key affected populations, hard-to-reach and vulnerable populations. The study found low VCCT uptake in rural areas, and among low-income households, likely due to the cost of seeking testing and increased levels of stigma and discrimination. The results show that late testing and delayed diagnosis are major contributing factors to impoverishment as individuals (a) must seek care before they are eligible for the publically funded programs targeting PLHIV (b) are likely to require more care after accessing public programs as they initially were not receiving adequate treatment for their HIV. Additionally, the study showed that while more than twice as many individuals in HIV-affected households (16%) than in non-affected households (7%) identified as being a member of a key affected population. Additionally, for PLHIV, a greater percentage of those who were not in a KAP determined their status through VCCT than those who did identify with a KAP. This points to the need for increased VCCT targeting to the key affected population groups.

2. Strengthen HIV education, along with targeted behavioural and mass communications to "normalize" condom use, particularly among key affected populations and their clients and partners, in order to reduce the HIV burden in years to come. Condom usage among survey respondents was very low, particularly among members of NA-HHs (11% in NA-HHs and 79% in HIV-HHs). Despite these figures, the vast majority of all respondents indicated they knew that HIV was a preventable disease (99% in HIV-affected households and 94% in non-affected households). Focused HIV education, as part of a package of services for key affected populations, their clients and partners and evidence-based targeted and mass communications to maintain and sustain consistent and correct condom use are a pre-condition to prevent a second wave of the HIV epidemic in Cambodia.

3. Strengthen coordination with the private sector to maximize inclusion of the population that seeks VCCT and other services in the private sector. Efforts to design effective programs must not overlook the fact that a large percentage of the population is getting tested in the private sector. The study shows that a significant share of all people were tested in a private clinic laboratory. Presently, there is little evidence of coordination between private sector diagnoses and prompt placement on ART in the public sector (CoC), which should be improved to ensure that individuals who test positive in a private facility are efficiently transitioned to the public sector.

4. Continue efforts to expand universal access to quality ART coverage and support services so that PLHIV can remain productive members of the household economy. While the results of expanding ART in Cambodia are notable, especially in comparison to other Asian countries, there is a cohort of people who still have no access.

5. PLHIV Networks must be technically and financially fit for purpose and effectively managed to deliver strategic results for the PLHIV community: Survey results point to the impact of support networks on quality of life and effectiveness of interventions. However, there is little standardization across the region in terms of the range of services offered, and even fewer results on program monitoring and impact evaluation. CPN+, as a priority, need to action the key recommendations of the CPN+ Functional Task Analysis, guided by the Functional Task Analysis Reference Group.

6. Studies which track the conditions of PLHIV and their households over time should be developed to improve targeting and enhance the measurement of results over time. By developing longitudinal studies which follow cohorts of households over extended periods of time, potentially using sentinel surveillance methods, policy makers can better understand the evolving dynamics of HIV on household socioeconomic indicators, how household behaviour changes as the disease evolves, and the effect of existing and future programs on household outcomes.

Finally, the population of PLHIV randomized for this study contained a far higher proportion of women to men than previous incidence and prevalence estimations and projections would predict. This may partially reflect enhanced health-seeking behaviour in women, or reduced HIV-status awareness in men, but may also reflect an evolving demographic profile for PLHIV within Cambodia. To ensure that prevention and early diagnosis strategies, and other mitigation policies are targeting the most relevant populations, further analysis of the ratio of males to females living with HIV should be conducted.

12. REFERENCES

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ANNEX A: LIST OF PARTICIPATING NGOS

Acronym	Organisation Name
AUA	ARV Users Association
BFD	Buddhism for Development
BWAP	Battambang Women's AIDS Project
Cartitas	Caritas Cambodia
Centre of Hope	Sihanouk Hospital Centre of HOPE
CHC	Cambodian Health Committee
CHEC	Cambodian HIV/AIDS Education and Care
Chhuksar	Chhuksar
CHO/MMM	Cambodian Hope Organisation
CNMWD	Cambodia Network Men Women Development
CNHCC	CNHCC
CPN+	Cambodian People Living with HIV/AIDS Network
CPU	Cambodia Prostitutes Union
CSCN	Cambodian Save Children Network
CSDA	Cambodian Socio-Economic Development and Democracy Association
CWDCC	Children and Women Development Centre Cambodia
FAP	Friends' Association Pioneer
FRIEND	FRIENDS / Mith Samlanh
IDA	Indradevi Association
Kasekor Thmey	Kasekor Thmey
KHEN	Kien Kes Health Education Network
KOSHER	Key of Social Health Educational Road
KWWA	Kampuchea Women's Welfare Action
KYA	Khmer Youth Association
Maryknoll	Maryknoll
MDSF	Modern Dress Sewing Factory
Meatophum Komar	Meatophum Komar (Homeland)
MMM	Mondul Mith Chouy Mith (Friends Helping Friends)
MODE	Minority Organisation for Development of Economy
NHCC	New Hope for Cambodian Children
PC	Partners in Compassion
PSO	PSO
PWHO	Positive Women for Hope Organisation
SCC	Salvation Centre Cambodia
SEAD	Sharing Experience for Adapted Development
SEADO	Social, Environment, Agricultural Development Organisation
TASK	Tro Trong Ning Appivath Sokhapheap Neak Krey Kro
Thomayatra	Thomayatra
VC	Vithei Chiwit
WNU	Women's Network for Unity
WOMEN	Women Organization for Modern Economy and Nursing
World Vision	World Vision

ANNEX B: LIST OF PERSONNEL INVOLVED IN THE SURVEY

INTERNATIONAL ORGANISATIONS

Caitlin Wiesen-Antin, Regional HIV/AIDS Practice Leader, UNDP Asia-Pacific Regional Centre
G. Pramod Kumar, Senior Programme Advisor, UNDP Asia-Pacific Regional Centre
Tony Lisle, Country Coordinator, UNAIDS Cambodia
Savina Ammassari, Monitoring and Evaluation Advisor, UNAIDS Cambodia
Katherine Moriarty, HIV Programme Specialist, UNAIDS/UNDP Cambodia

CONSULTANTS

James Cercone, Sanigest Internacional
Ana Casanova, Sanigest Internacional
Silvia Molina, Sanigest Internacional
Maria Fernanda Torres, Sanigest Internacional
Daniel Gottlieb, Sanigest Internacional
Étoile Pinder, Sanigest Internacional
Rodrigo Briceño, Sanigest Internacional
Luis Fallas, Sanigest Internacional
Nicole Dionne, Sanigest Internacional

Dr. Sokhom Hean, CAS
Dr. Hean Sokhom
Chean Men, CAS

TEAMS FOR FIELDWORK

Supervisor	Enumerators	Provinces Covered
Ms. Ke Kantha Mealea	Mr. Tang Kruy	Phnom Penh, Kampot, Sihanoukville
	Ms. Chuon Putthysa	
	Mrs. Mao Sophon	
	Ms. Sron Sok Aun	
	Mr. Hueng Makara	
	Mr. Pha Engsry	
	Mr. Teng Sam Ol	
	Mr. Vong Pheakdey	
Mr. Lath Poch	Mr. Ban Ravuth	Phnom Penh, Kandal, Svay Rieng, Kampong Cham, Kratie
	Ms. Ben Sokly	
	Ms. Meng Bopha	
	Ms. Net Chariya	
	Ms. Sam Marakat	
	Ms. Oum Mony Raksmey	
	Mr. Kit Thira	
	Mr. Rang Chandary	
	Mr. Touch Vannara	

Supervisor	Enumerators	Provinces Covered
Mr. Sou Ketya	Mr. Nou Chan Ra	Phnom Penh, Siem Reap, Kampong Thom
	Mr. Huy Kang Orn	
	Ms. Keo Sophea	
	Ms. Uy Lida	
	Mr. Ban Lina	
	Mr. Chhean Vatha	
	Mr. Kim Sanpiseth	
	Mr. Mey Sokseyha	
	Mr. Sok Thoeurn	
Mr. Ou Sirren	Mr. Hok Vantha	Phnom Penh, Banteay Meanchey
	Ms. Chum Vicheata	
	Mr. Som Bony	
	Ms. Meas Linmoniroth	
	Mr. Ek Bunthorn	
	Mr. Kim Chantharith	
	Mr. Korn Bounthorn	
	Mr. Touch Boon Rath	
	Mr. Uy Sen	
Mr. Hun Thirith	Mr. Phach Chesda	Phnom Penh, Pursat, Battambang
	Ms. Bun Malene	
	Mrs. Chhim Sayoth	
	Ms. Som Dany	
	Ms. Sot Vanara	
	Mr. Bun Narith	
	Mr. Lay Sophy	
	Mr. Tol Channath	
	Mr. Touch Vannarath	

Teams for Data Entry

Supervisor	Data Entry Staff
Mr. Saint Lundy	Mr. Sok Kosal
	Mr. Mao Chhem
	Mr. Sok Mean
	Ms. Ten Vanry
	Mr. Moa Vannoeun
	Mr. Lay Sophat
	Ms. Som Chariya
	Mr. Nou Phirun
	Mr. Chav Phiv
	Mr. Hoy Kimheang

ANNEX C: SURVEY INSTRUMENT

CONFIDENTIAL All information collected in this survey is strictly confidential and will be used for statistical purposes only.	UNAIDS JOINT UNITED NATIONS PROGRAMME ON HIV/AIDS UNHCR UNICEF WFP UNDP UNFPA UNODC ILO UNESCO WHO WORLD BANK UNDP Cambodia	Household ID

CAMBODIA SURVEY ON SOCIO-ECONOMIC IMPACT OF HIV and AIDS ON HOUSEHOLDS

HOUSEHOLD QUESTIONNAIRE – HIV HOUSEHOLDS

To be completed by interviewer before interview:																	
Province/City									**Code:**								
District/Khan									**Code:**								
Commune/Sankat									**Code:**								
Village/Mondol									**Code:**								
Group																	
Sector (Urban=1, Rural=2)																	
ART/OI Center									**Code:**								
To be completed by interviewer:																	
Confirm that PLHIV is still living in household (Yes/No):																	
Name of Household Head:												**Phone:**					
Was the Head of Household the interviewee (Yes/No):				**If no, name of Interviewee:**													
Address (house no, street, or other identification)																	
Date of first visit to Household																	
Date of last visit				**Day**			**Month**			**Year**							
Team Number				**Day**			**Month**			**Year**							
Interviewer's name:									**Interviewer's signature**								
To be completed after filling-out list of household members				**Male:**			**Female**			**Total members:**							
To be completed by supervisor after checking completed squestionnaire thoroughly																	
Supervisor's Name:												**Supervisor's ID:**					
Date checked by Supervisor				**Day**			**Month**			**Year**							
Supervisor's Signature																	
Reception							**Preparation**						**Data Entry**				
Id			**Date**				**Id**		**Date**				**Id**		**Date**		

1. LIST OF HOUSEHOLD MEMBERS – TO BE ANSWERED BY HH

ID NUMBER	Please give the names of all household members, starting with head of the household.	Sex	What is ..[NAME]..'s age in completed years?	Relationship to the head of household	
	A person is counted as a household member if he/she lives here or has been absent for less than 12 months.	1 = Male 2 = Female	Write '0' if less than one year of age, and " - " if don't know	1 = Head 2 = Spouse 3 = Son/Daughter 4 = Stepchild 5 = Adopted child/Foster child 6 = Parent 7 = Sibling 8 = Grand child	9 = Niece/Nephew 10 = Son/Daughter-in-law 11 = Brother/Sister-in-law 12 = Parent-in-law 13 = Other relatives 14 = Servant 15 = Other non-relative including boarder 16 = Caregiver for PLHIV
			Years		
	1.1.	**1.2.**	**1.3.**	**1.4.**	
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1. LIST OF HOUSEHOLD MEMBERS (CONTD.) – TO BE ANSWERED BY HH

ID NUMBER	Marital Status: (For members aged 15 and over)	Has..[NAME].. ever been widowed? (For females only)	Who received most of..[NAME]..'s late husband's property / assets?	Was ..[NAME]..'s late husband HIV positive?	Is ..[NAME].. Khmer or another ethnic group?	What level of Khmer does ..[NAME].. speak?	How many weeks has ..[NAME].. been absent from home during the past 12 months?
	1 = Married /Living together 2 = Divorced /Separated 3 = Widowed (=>> 1.7) 4 = Never married / Never lived with a partner (=>> 1.9) 5 = Aged 14 and under (=>> 1.9)	1 = Yes 2 = No (=>> 1.9) 99 = Don't know (=>> 1.9)	1 = ..[NAME].. 2 = Spouse's children 3 = Spouse's family 4 = Other_____ (Specify) 5 = No property/ assets	1 = Yes 2 = No 99 = Don't know	1 = Khmer (=>> 1.11) 2 = Cham 3 = Other local group 4 = Chinese 5 = Vietnamese 6 = Thai 7 = Lao 8 = Other (Specify)	1 = None 2 = Poor 3 = Average 4 = Good 5 = Very Good	Write '0' if less than one week
					(Select all that apply)		Weeks
	1.5.	**1.6.**	**1.7.**	**1.8.**	**1.9.**	**1.10.**	**1.11.**
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2. HOUSING – TO BE ANSWERED BY HH

2.1.	**Did your household change its place of residence in the last 5 years?**		
	1 = Yes	2 = No (==> 2.4)	99 = Don't Know (==> 2.4)
2.2.	**Where did you move from?**		
	1 = Within the same village 2 = From a different village but same district 3 = From a different district but same province	4 = From a different province, but from within Cambodia 5 = From a different country	Specify (Code of Commune or country name if not Cambodia)
2.3.	**What were the reasons for changing residence?**		
	1 = Looking for work 2 = Loss of property: fire, flood etc. 3 = Sold property	4 = To be closer to other family members 5 = To seek medical treatment	6 = Discrimination (e.g., from landlord, school, community) 7 = Other pecify)_____
2.4.	**What is the floor area of the housing/dwelling unit occupied by your household?**		Number of Square Meters (m^2)
2.5.	**How many rooms in the household are used for sleeping?**		Number of sleeping rooms
2.6.	**What is the primary construction material of the roof of the housing /dwelling unit occupied by your household?**		
	1 = Thatch/leaves/grass 2 = Tiles 3 = Fibrous cement 4 = Galvanized iron or aluminium	5 = Salvaged materials 6 = Mixed but predominantly made of galvanized iron/aluminium, tiles or fibrous cement 7 = Mixed but predominantly made of thatch/leave /grass or salvaged materials	8 = Concrete 9 = Plastic sheet 10 = Other (Specify)
2.7.	**What is the primary construction material of the floor of the housing /dwelling unit occupied by your household?**		
	1 = Earth, clay 2 = Wooden planks 3 = Bamboo strips	4 = Cement/Brick/Stone 5 = Parquet, polished wood 6 = Polished stone, marble	7 = Vinyl 8 = Ceramic tiles 9 = Other (Specify) _____
2.8.	**Is there electricity in the house?**		
	1 = Yes 2 = No		

2. HOUSING (CONTD.) – TO BE ANSWERED BY HH

2.9.	**What is your household's main source of drinking water in wet season?**		
	1 = Piped in dwelling or on premises 2 = Public tap 3 = Tubed/piped well or borehole	4 = Protected dug well 5 = Unprotected dug well 6 = Pond, river or stream	7 = Rainwater 8 = Tanker truck, vendor, otherwise bought 9 = Other (Specify) _____
2.10.	**What is your household's main source of drinking water in dry season?**		
	1 = Piped in dwelling or on premises 2 = Public tap 3 = Tubed/piped well or borehole	4 = Protected dug well 5 = Unprotected dug well 6 = Pond, river or stream	7 = Rainwater 8 = Tanker truck, vendor, otherwise bought 9 = Other (Specify) _____
2.11.	**How much did you (HH) pay last month in water charges?**		Put "0" for not buying water source. Riels
2.12.	**What toilet facility does your household have inside the premises (in the area close to the dwelling)?**		
	1 = Pour flush (or flush) connected to sewerage 2 = Pour flush (or flush) to septic tank or pit 3 = Pit latrine with slab	4 = Pit latrine without slab or open pit 5 = Latrine overhanging field or water (drop in the field, pond, lake, river, sea)	6 = Latrine overhanging water (drop in lake, river, sea) (Only for the household living in boat) 7 = None 8 = Other, specify
2.13.	**How much did your household HH spend on sewage or waste water disposal last month?**		Write '0' if nothing. Riels
2.14.	**How much did your household spend on garbage collection last month?**		Write '0' if nothing. Riels
2.15.	**What type of fuel does your household mainly use for cooking?**		
	1 = Firewood 2 = Charcoal 3 = Liquefied petroleum gas LPG	4 = Kerosene 5 = Publicly-provided electricity/City Power 6 = Household generator	7 = None/don't cook 8 = Other (Specify)

2. HOUSING (CONTD.) – TO BE ANSWERED BY HH

2.16.	**How much did the household spend on the following last month (including lights and cooking)?**	Riels
	Include the value of own production, or received as payment in kind for work, or as gift, or free collection. Enter 'O' if did not spend anything.	a. Electricity
		b. Natural Gas (LPG)
		c. Kerosene
		d. Firewood, straw
		e. Charcoal
		f. Battery
		g. Other (specify)_____
2.17.	What is the legal status of the dwelling?	
	1 = Owned by the family (=>> 2.19) 2 = Not owned but no rent is paid (=>> 2.19) 3 = Rented 4 = Other (Specify) _____ (=>> 2.19)	
2.18.	How much did you pay for rent of this house last month?	Riels
2.19.	How much did you spend on maintenance and minor repairs of the dwelling last month?	Riels

3. KNOWLEDGE OF HIV AND AIDS – TO BE ANSWERED BY HH

3.1.	**Have you ever heard of a disease called HIV (or AIDS)?**		
	1 = Yes	2 = No (=>> 3.7)	99 = Don't know (=>> 3.7)
3.2.	**Have you ever been tested to see if you have HIV (or AIDS)?**		
	1=Yes	2=No (=>> 3.4)	3 = Unsure (=>> 3.4)
3.3.	**Where did you go for the test?**		
	Public medical sector: 1 = Provincial hospital 2 = District hospital 3 = Health centre 4 = Other public	**Private medical sector:** 5 = Private hospital 6 = Private clinic 7= Other private medical	**Other source:** 8 = Dedicated drug store 9 = Shop selling drugs/market 10 = Other (specify) All responses to (=>> 3.5)
3.4.	**Do you know a place where you could go to be tested for HIV (or AIDS)?**		
	1 = Yes	2 = No	
3.5.	**Is there anything a person can do to avoid getting HIV (or AIDS)?**		
	1 = Yes	2 = No (=>> 3.7)	
3.6.	**What can a person do?** **...Anything Else?**		RECORD ALL MENTIONED Do not read the alternative codes!
	1 = Abstain From Sex 2 = Use Condoms 3 = Limit Sex To One Partner/Stay Faithful To One Partner 4 = Limit Number Of Sexual Partners	5 = Avoid Sex With Prostitutes 6 = Avoid Sex With Persons Who Have Many Partners 7 = Avoid Sex With Homosexuals 8 = Avoid Sex With Persons Who Inject Drugs Intravenously	9 = Avoid Blood Transfusions 10 = Avoid Injections with Contaminated Needles 11 = Other (Specify) 99 = Don't Know
3.7.	**Did you use a condom in your last sexual encounter (within the last 12 months)?**		
	1 = Yes 2 = No	3 = Not Applicable (not sexually active in last 12 months) 99 = Don't know	
3.8.	**Do you belong to, or have you in the past belonged to, any of the following categories?**		(Multiple responses possible)
	1 = Men who have sex with men 2 = Transgender 3 = Sex worker 4 = Injecting drug user	5 = Refugee or asylum seeker 6 = Internally displaced person 7 = Member of an indigenous group 8 = Migrant worker	9 = Prisoner 10 = I don't belong to, and have never belonged to, any of these categories

4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	How would you evaluate ..[NAME]'s.. health?	Compared with others of the same age would you say that ..[NAME]'s.. health is...	Does ..[NAME].. have any disability? Enter up to 3 most important			Is ..[NAME].. suffering from any chronic disease?	Which chronic disease has been diagnosed by a medical professional? Enter up to 3 most important		
	1 = Very good 2 = Good 3 = Average 4 = Bad 5 = Very bad 99 = Don't know	1 = Much better 2 = Some what better 3 = About the same 4 = Some what worse 5 = Much worse 99 = Don't know	Enter '0' if none. 1 = Seeing difficulties 2 = Hearing difficulties 3 = Speaking difficulties 4 = Moving difficulties 5 = Psychological difficulties 6 = Learning difficulties 7 = People who have seizures 8 = Other (specify) 99 = Don't know			1 = Yes 2 = No (=>>4.6)	1 = Asthma 2 = Diabetes 3 = Epilepsy 4 = Hypertension 5 = Cardiomyopathy 6 = Chronic renal disease 7 = COPD 8 = Arthritis 9 = Osteoarthritis 10 = Osteoporosis 11 = Stroke 12 = Bronchiectasis	13 = Vascular headaches 14 = Lung cancer 15 = Colorectal cancer 16 = Parkinson's disease 17 = Coronary heart disease 18 = Dysrhythmias 19 = Multiple Sclerosis 20 = Schizophrenia 21 = Anaemia 22 = HIV (or AIDS) 23 = Other (Specify)	
			#1	#2	#3		#1	#2	#3
	4.1.	**4.2.**	**4.1.a**	**4.3.b**	**4.3.c**	**4.4**	**4.5.a**	**4.5.b**	**4.5.c**
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4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	Did ..[NAME].. have any illness, injury or other health problem in the past 4 weeks?	What kind of illness, injury or other health problem related symptom? Enter up to 5 most important					Was [NAME] so ill that s/he could not do his/ her usual activities?
	1 = Yes 2 = No (=>> 4.11)	1 = Stomach ache 2 = Back pain 3 = Head ache 4 = Ear pain 5 = Eye pain 6 = Fever 7 = Diarrhea 8 = Cold & cough without rapid / difficult breathing 9 = Cold & cough with rapid / difficult breathing 10 = Bronchitis 11 = Pleurisy 12 = Tuberculosis	13 = Diabetes 14 = Disease: urinary system 15 = Disease of heart 16 = Measles 17 = Hypertension 18 = Typhoid fever 19 = Dengue fever 20 = Chickenpox 21 = Meningitis 22 = Encephalitis 23 = Cancer 24 = Gynecology 25 = Avitaminosis / other nutritional 26 = Anaemia	27 = Jaundice 28 = Skin disorder 29 = Leprosy 30 = Malaria 31 = Food-borne disease 32 = Water-borne disease 33 = Mental disorders 34 = Dropsy (Swollen belly) 35 = HIV (or AIDS) and OIs 36 = Mine injury 37 = Road accident 38 = Other injury 39 = Antenatal care 40 = Postnatal care 41 = Other care need (specify)			1 = Yes 2 = No (=>> 4.11) 3 = No usual activities (=>> 4.11) (e.g. small children, old person, etc.)
	4.6.	**4.7.a**	**4.7.b**	**4.7.c**	**4.7.d**	**4.7.e**	**4.8.**
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4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	How many days (of last 4 weeks) was ..[NAME].. so ill that s/ he stopped doing usual activities?	How many of these days were due directly to HIV (or AIDS) or related infections of a PLWHA?	Did ..[NAME].. seek ambulatory health care services in the past 4 weeks?	If ..[NAME].. had a health problem but care was not sought, what were the causes for not seeking care in the past 4 weeks?	How many times did ..[NAME].. seek care in the last 4 weeks?	Which provider(s) did ..[NAME].. consult for ambulatory care in the last 4 weeks? (List up to 4)			
	Enter number of days	Enter number of days	1 = Yes (=>> 4.13)	1 = Too expensive 2 = Facility/provider too far away 3 = Had medicine at home/self- medicated 4 = Did not have time 5 = Did not think serious enough 6 = Not applicable (did not have health problem) 7 = Other (specify) (=>> 4.18)	Enter number of visits	**Public sector:** 1 = National hospital (PP) 2 = Provincial hospital (RH) 3 = District hospital (RH) 4 = Health centre 5 = Health post 6 = Outreach 7 = Other public (Specify) **Private medical sector:** 8 = Private hospital 9 = Private clinic 10 = Private pharmacy		11 = Home / Office of trained health worker /nurse 12 = Visit of trained health worker /nurse 13 = Other private medical (Specify) **Non-medical sector:** 14 = Shop selling drugs / market 15 = Kru khmer / Magician 16 = Monk/religious leader 17 = Traditional birth attendant 18 = Other (Specify)	
	4.9.	**4.10.**	**4.11.**	**4.12.**	**4.13.**	**4.14.a**	**4.14.b**	**4.14.c**	**4.14.d**
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4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	How much were ..[NAME]..'s costs related to ambulatory care for the last 4 weeks?						How did ..[NAME].. pay for ambulatory medical expenses in the last 4 weeks? (% from top three sources)			Did ..[NAME].. pay more money than the official fee or give a gift to the medical staff in order to receive better services?		
	Riels						1 = Household earnings 2 = Used savings 3 = Sold stored food 4 = Sold livestock 5 = Sold land 6 = Sold assets 7 = Given money 8 = Borrowed money 9 = Exempt from charge 10 = CBHI 11 = Other health insurance 12 = Health Equity Fund 13 = Other			1 = Yes 2 = No 99 = Don't know		
	Provider	Facility	Drugs	Trans-portation	Supplies	TOTAL	1 (%)	2 (%)	3 (%)			
	4.15.a	**4.15.b**	**4.15.c**	**4.15.d**	**4.15.e**	**4.15.f**	**4.16.a**	**4.16.b**	**4.16.c**	**4.17.**		
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4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	Did .. [NAME].. require hospitalisation for treatment/ care during the past 12 months?	How many times was [NAME] hospitalised the last 12 months?	Were any of those hospitalisations due to HIV (or AIDS)?	Thinking about.. [NAME]..'s last hospitalisation, for how many nights was s/he hospitalised?	Thinking about the last hospitalisation, how much were .. [NAME]..'s costs related to the following:						
	1 = Yes 2 = No (=>> 4.25)	Number of separate hospital stays	1 = Yes 2 = No	Number of nights spent in last hospitalisation.	Riels						
					Provider	Facility	Drugs	Tran-sportation	Supplies	HIV 'extra' expenses	TOTAL
	4.18.	**4.19.**	**4.20.**	**4.21.**	**4.22.a**	**4.22.b**	**4.22.c**	**4.22.d**	**4.22.e**	**4.22.f**	**4.22.g**
01											
02											
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13											
14											
15											

4. HEALTH (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	**How did ..[NAME].. pay for hospitalization (inpatient) medical expenses in the last 12 months?** **(% from top three sources)**			**Did ..[NAME].. pay more money than the official fee or give a gift to the medical staff in order to receive better services?**
	1 = Household earnings 2 = Used savings 3 = Sold stored food 4 = Sold livestock 5 = Sold land 6 = Sold assets 7 = Given money 8 = Borrowed money 9 = Exempt from charge 10 = CBHI 11 = Other health insurance 12 = Health Equity Fund 13 = Other			1 = Yes 2 = No 99 = Don't know
	1 (%)	2 (%)	3 (%)	
	4.23.a	**4.23.b**	**4.23c**	**4.24.**
01				
02				
03				
04				
05				
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07				
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13				
14				
15				

4. HEALTH (CONTD.) - TO BE ANSWERED BY HH (ONLY ASK ABOUT FEMALE HOUSEHOLD MEMBERS)

ID NUMBER	Did [NAME] give birth in the last 12 months?	Did [NAME] breastfeed their baby?	Was the baby given other liquids during the first 6 months after birth?	What other liquids did they provide the baby with?
	1 = Yes 2 = No (=>> 5.1) 99 = Don't Know (=>> 5.1)	1 = Yes 2 = No 99 = Don't Know	1 = Yes 2 = No (=>> 5.1) 99 = Don't Know (=>> 5.1)	1 = Plain water 2 = Sugar/honey water 3 = Sugar/Salt water 4 = Herbal tea 5 = Juice/Coconut water 6 = Milk (not breastmilk) 7 = Infant formula 8 = Other (specify)_____ 99 = Don't know
	4.25.	**4.26.**	**4.27.**	**4.28.**
01				
02				
03				
04				
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5. MORTALITY – TO BE ANSWERED BY HH

5.1.	**Are any children or youth (<18 YOA) in the household orphans due to HIV (or AIDS) related deaths?**			
	1 = Yes 2 = No (==> 5.3)	3 = Not applicable (none<18) (==> 5.3) 99 = Don't know (==> 5.3)		
5.2.	**Indicate Household ID numbers of any orphans due to HIV (or AIDS):** (Indicate all that apply)		Child 1 Household ID number	a.
			Child 2 Household ID number	b.
			Child 3 Household ID number	c.
			Child 4 Household ID number	d.
5.3.	**Was there any death of a member in the household in the last 12 months?**			
	1 = Yes	2 = No (==>6.1)		
5.4.	**How many members of the household have died in the last 12 months?**		# of deaths	

DECEASED PERSON NUMBER	**Name of deceased person**	**How old was ..[DECEASED PERSON].. when he/she died?**	**What was ..[DECEASED PERSON]..'s sex?**	**What was ..[DECEASED PERSON]..'s relationship to head of the household?**		**What was the cause of death of ..[DECEASED PERSON]..?**
		Write '0' if less than one year of age, and " - " if don't know Age in years	1 = Male 2 = Female	01 = Head 02 = Spouse 03 = Son/daughter 04 = Stepchild 05 = Adopted/foster child 06 = Parent 07 = Sibling 08 = Grandchild	09 = Niece/nephew 10 = Son/daughter-in-law 11 = Brother/ sister-in-law 12 = Parent-in-law 13 = Other relative 14 = Servant 15 = Other non-relative including boarder	Cause of death as stated by any medical person, otherwise as best known by the respondent. Otherwise describe the illness or symptoms the deceased was suffering from. Otherwise accept don't know as answer.
	5.5.	**5.6.**	**5.7.**	**5.8.**		**5.9.**
01						
02						
03						
04						
05						

5. MORTALITY – TO BE ANSWERED BY HH

DECEASED PERSON NUMBER	**Was .. [DECEASED PERSON].. HIV (or AIDS) positive?**	**Was ..[DECEASED PERSON]..'s death related to their HIV (or AIDS) status?**	**Was ..[DECEASED PERSON].. employed in the 12 months preceding his / her death?**	**How much was ..[DECEASED PERSON].. earning? (per month)**	**After his / her death did the household receive any financial benefits:**	
	1 = Yes 2 = No (==> 5.12) 99 = Don't know (==> 5.12)	1 = Yes 2 = No 99 = Don't know	1 = Yes 2 = No (==> 5.14) 99 = Don't know (==> 5.14)	Riels	1. Donations / Gifts 2. Life Insurance payment 3. Widow pension / Family pension 4. Employment for another family member	5. Trade Union Indemnity payment 6. Other (specify) _____ 7. None
	5.10.	**5.11.**	**5.12.**	**5.13.**	**5.14.**	
01						
02						
03						
04						
05						

6. EDUCATION AND LITERACY - TO BE ANSWERED BY HH

ID NUMBER	Has ..[NAME].. ever attended school?	What is the highest level .. [NAME].. successfully completed?	Is ..[NAME].. currently in the school system?	Is the school public or private?	Roughly how many days was..[NAME].. absent from school during the last academic year?
	1 = Yes 2 = No (=>> 6.9)	1 = No class completed 2 = Pre-school / Kindergarten 3 = Primary school 4 = Lower secondary school 5 = Upper secondary school 6 = Non-university level post-secondary studies 7 = Bachelor degree 8 = Masters degree (M.A., MSc, etc.) 9 = Doctorate degree (PhD) 10 = Other (Specify) 99 = Don't know	1 = Yes 2 = No (=>>6.9)	1 = Public 2 = Private (includes NGO schools)	If no absent days, write "0" and then proceed to (==> 6.7)
			If the student is on holidays, he/she is considered in the school system		Number of days
	6.1.	**6.2.**	**6.3.**	**6.4.**	**6.5.**
01					
02					
03					
04					
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6. EDUCATION AND LITERACY (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER	**Reasons for absence from school:** 1 = Child sick 2 = Did not pay school fees 3 = Had to work to contribute to household income 4 = Had to help with household chores (cleaning, caregiving, etc.) 5 = Other	**Has ..[NAME].. ever had to repeat a grade?** 1 = Yes 2 = No (==> 6.10)	**Which grade was repeated?** After answering proceed to (==>6.10)	**Why is ..[NAME].. not attending (has never attended) primary / secondary school?** 1 = Doesn't want to 2 = Did not do well in school 3 = No suitable school available / school is too far 4 = No teacher/Supplies 5 = High cost of schooling / No money 6 = Must contribute to household income 7 = Must help with household chores 8 = Due to disability / illness 9 = Do not think education improves prospects of employment 10 = Other (specify) 11 = Not applicable (over 18 YOA)	**What kind of non-formal class is / did ..[NAME].. currently attend(ing)?** 1 = Have not taken non-formal classes 2 = Literacy programmes (6 months) 3 = Vocational training (Tailoring, motor repairing, Khmer classical music training, hairdressing, pottery...etc.) 4 = Agricultural programmes (Agricultural training includes such as planting vegetable, mushrooms, raising fish, animals) 5 = Foreign Languages 6 = Business / commercial training 7 = Computer and IT-based training 8 = Others (Specify)
	Mark most important				
	6.6.	**6.7.**	**6.8.**	**6.9.**	**6.10.**
01					
02					
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7. ECONOMIC ACTIVITY: EMPLOYMENT (ASK ABOUT ALL HOUSEHOLD MEMBERS >5 YOA) - TO BE ANSWERED BY HH

ID NUMBER	**Has ..[NAME].. done any work at all, even one hour, during the past 7 days (worked on farm, private or public sector, own account or in a business belonging to someone else in your household etc.)?**	**When was ..[NAME].. last employed / earning money?**	**Last position occupied?**	**How much was ..[NAME].. earning in last employment? (per month)**	**Reason for not being currently employed:**	**Total days of work missed in past 3 months?**	**Working days lost due to HIV (or AIDS) related illnesses and treatments in past 3 months?**
	1 = Yes (=>> 7.6) 2 = No 99 = Don't know	1 = 1 – 7 days ago 2 = 8-30 days ago 3 = Within last 6 months 4 = Within last year 5 = Over a year ago 6 = Never employed (=>> 7.5)			1 = Believes no work is available 2 = Awaiting result of application 3 = Waiting to start new job 4 = Permanently disabled 5 = HIV (or AIDS) related illness 5 = Other illness / disease / injured 6 = Too young 7 = Too old, retired 8 = Student 9 = Housekeeping, caring for children, elderly or disabled 10 = Other reasons _____ Skip to question (=>> 7.14)	If the number of days is "0", write "0" and proceed to question (=>> 7.8)	If not applicable write -.
			OCCUPATIONAL CODE (ISCO)	Riels	Skip to question (=>> 7.14)	Number of days	
	7.1.	**7.2.**	**7.3.**	**7.4.**	**7.5.**	**7.6.**	**7.7.**
01							
02							
03							
04							
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06							
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12							
13							
14							
15							

7. ECONOMIC ACTIVITY: EMPLOYMENT (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER		What was ..[NAME].. 's primary occupation during the past 7 days? (Write specific occupation in col. 7.8a) What was ..[NAME]..'s secondary occupation during the past 7 days? (Write specific occupation in col. 7.8a)		In what kind of economic activity (agriculture, manufacturing, construction, trade or service) did ..[NAME].. work in the past 7 days?	
		Note: If more than two occupations, note the two most important			
		Note: Beggar and sex worker are occupations			
		Occupation description	ISCO CODE	Industry description	ISCO CODE
		7.8.a	7.8.b	7.9.a	7.9.b
01	1°				
	2°				
02	1°				
	2°				
03	1°				
	2°				
04	1°				
	2°				
05	1°				
	2°				
06	1°				
	2°				
07	1°				
	2°				
08	1°				
	2°				
09	1°				
	2°				
10	1°				
	2°				
11	1°				
	2°				
12	1°				
	2°				

7. ECONOMIC ACTIVITY: EMPLOYMENT (CONTD.) - TO BE ANSWERED BY HH

ID NUMBER		How many days did ..[NAME].. work in the past month?	What was ..[NAME]..'s employment status?	For what type of employer did ..[NAME].. work?		How much did ..[NAME].. earn in salary /wages from this activity last month?
		Days	1 = Paid employee 2 = Employer 3 = Own account worker/ self-employed 4 = Unpaid family worker 5 = Other (specify)	1 = Government 2 = State enterprise 3 = Private enterprise 4 = Joint venture 5 = Foreign govt, international organization or NGO	6 = Local NGO 7 = Self-employed farm 8 = Non-farm self-employed 9 = Domestic servant 10 = Other (specify)	Write "0" if nothing **Riels**
		7.10.	**7.11.**	**7.12.**		**7.13.**
01	1°					
	2°					
02	1°					
	2°					
03	1°					
	2°					
04	1°					
	2°					
05	1°					
	2°					
06	1°					
	2°					
07	1°					
	2°					
08	1°					
	2°					
09	1°					
	2°					
10	1°					
	2°					
11	1°					
	2°					
12	1°					
	2°					

7. ECONOMIC ACTIVITY: REVENUE ITEMS (CONTD.) - TO BE ANSWERED BY HH

SOURCE NUMBER		How much did your household receive from .. [SOURCE].. during the last 12 months?		
	Revenue Items:	From within Cambodia Write '0' if nothing Riels	From Abroad Write '0' if nothing Riels	Total **(Col 7.14 + Col 7.15)** Write '0' if nothing Riels
		1.1.	**1.2.**	**1.3.**
01	Net income from Agriculture and Related Activities (Income is derived by deducting the Expenses from Production)			
02	Net income from Trade/Business/ Petty Shops etc. (Income is derived by deducting the Expenses from Production)			
03	Sale of land or buildings			
04	Pensions			
05	Remittances from relatives or others			
06	Scholarships, stipends for any student member of the household (from Government, NGO, private institutions etc.)			
07	Government poverty reduction incentives or Transfers (assistance/support) from NGO, Wat, or other institutions (not credit)			
08	Bank interest or Dividends			
09	Interests on loans to others			
10	Other: not included in 1 to 9: (gambling, rental of equipment, etc.)			
11	**Total received: 01 - 10**			

7. ECONOMIC ACTIVITY: ASSETS - TO BE ANSWERED BY HH

ID NUMBER	How many of the following items does the household own?			Did you buy it, receive it as a gift, as pay for work or in other way?				How many of this (these) ..[ITEM].. were acquired or received...:		For items bought or received within the last 12 months:	For items bought or received before the last 12 months:
	(Write '0' if none and =>> Next item)			1 = Purchased 2= Payment for services 3 = Received as a gift 4 = Other (specify)				a. Within last 12 months?	b. Before last 12 months?	What was the purchase value (or the imputed value) of all these ..[ITEM]s..?	According to current prices, what do you think you could get if you sold ..[ITEM]s..?
	Item	Product Code	Total Number	#1	#2	#3	#4			Riels	Riels
			7.17.	**7.18.a**	**7.18.b**	**7.18.c**	**7.18.d**	**7.19.**	**7.20.**	**7.21.**	**7.22.**
Home Electronics & Equipment											
01	Radio or Stereo	801									
02	Television	802									
03	Cellular / Mobile phone	817									
04	Sewing machine	806									
05	Refrigerator and / or freezer	810									
06	Generator	816									
07	Wardrobe	201									
08	Computer (desktop or laptop) or Printer	825									

7. ECONOMIC ACTIVITY: ASSETS (CONTD.)

Personal transport											
09	Bicycle or cyclo	803									
10	Motorcycle, moped, or motor scooter	804									
11	Car or jeep or truck or van	829									
12	Boat with motor	832									
13	Boat without motor	831									
14	Oxcart or horsecart (cart pulled by animal)	805									
Livestock											
15	Water buffalo	101									
16	Cows or bulls	102									
17	Horses, Ponies	103									
18	Pigs	104									
19	Goats	106									
20	Chickens or ducks	107									
Other items											
21	Other (specify)	894									

7. ECONOMIC ACTIVITY : LAND OWNERSHIP - TO BE ANSWERED BY HH

7.23.	**Does anyone in your household own any land?**	1 = Yes 2 = No (=>> 7.30)	

7.24.	**How many plots of land does your household own?**	Number of plots:	

For each plot your household owns, please answer the following:

PLOT NUMBER	What is the area of the plot in square meters?	What is the status of this land?	How did you acquire it?	Do you have a paper to certify your owner-ship?	What purpose is the land used for?
	m^2	1 = Own 2 = Own, but rent out 3 = Other (specify)	1 = Given by the state or local authority 2 = By inheritance or gift from relatives 3 = Bought it 4 = Cleared land / occupied for free 5 = Donated by friend 6 = Other (specify)	1 = Yes 2 = Never had 3 = Lost it 99 = Don't know	1 = Agricultural - Rice 2 = Agricultural - Other crops (water melon, pumpkin, vegetables, maize, bean, potato, etc.) 3 = Agricultural - Rice and other crops 4 = Agricultural - Fruit and nut trees (specify) 5 = Rental (building) 6 = Not used 7 = Other
	7.25.	**7.26.**	**7.27.**	**7.28.**	**7.29.**
01	m^2				
02	m^2				
03	m^2				
04	m^2				
05	m^2				
06	m^2				
07	m^2				
08	m^2				
09	m^2				
10	m^2				

7. ECONOMIC ACTIVITY: SOCIAL SECURITY STATUS - TO BE ANSWERED BY HH

ID NUMBER	Does ..[NAME].. have medical insurance of some type?	How much does.. [NAME].. pay per month for medical insurance?	Does ..[NAME].. have a life insurance policy?	How much does ..[NAME].. pay per month for life insurance?	Does ..[NAME].. have a pension plan?	How much does ..[NAME].. contribute per month into the pension plan?
	1 = Yes 2 = No (=>> 7.32) 3 = Discontinued (=>> 7.32) 99 = Don't know (=>> 7.32)	Riels	1 = Yes 2 = No (=>> 7.34) 3 = Discontinued (=>> 7.34) 99 = Don't know (=>> 7.34)	Riels	1 = Yes 2 = No (=>> 7.36) 99 = Don't know (=>> 7.36)	Riels
	7.30.	**7.31.**	**7.32.**	**7.33.**	**7.34.**	**7.35.**
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7. ECONOMIC ACTIVITY: HOUSEHOLD LIABILITIES - TO BE ANSWERED BY HH

7.36.	Does the household have outstanding loans or debts to other households or institutions?	1 = Yes 2 = No (=>> 7.44)	

ID NUMBER	How old is the debt?	From whom did you obtain the loan?	What was the primary purpose for which you borrowed the money?	What was the total amount borrowed?	How much of the debt remains now (this month)?	If interest is charged, what is the percent of monthly rate of interest?	How much will be repaid including interest (Col 7.40 and calculated interest)?
	Months	1 = Relatives in Cambodia 2 = Relatives who live abroad 3 = Friends/ neighbours 4 = Moneylender 5 = Trader 6 = Landlord 7 = Employer 8 = Bank 9 = NGO 10 = Other (specify)	1 = Agricultural production and operation 2 = Non-agricultural activities 3 = Household consumption needs 4 = llness, injury (non-HIV related) 5 = HIV (or AIDS) related causes 6 = Other emergencies (fire, flood, theft) 7 = Marriage ceremony 8 = Funeral 9 = Other ceremonials (specify) 10 = Purchase/improvement of Purchase/improvement of dwelling 11 = Purchase of consumer durables 12 = Agricultural Implementation 13 = Servicing and existing debts 14 = Other (specify)	Riels	Riels	If no interest, write '0' If don't know, leave it blank Percentage (%)	Riels
	7.37.	7.38.	7.39.	7.40.	7.341.	7.42.	7.43.
01							
02							
03							
04							
05							
06			**Total 01 – 05:**				

7. ECONOMIC ACTIVITY: NON-FOOD EXPENDITURE - TO BE ANSWERED BY HH

ITEM NUMBER	What was your household's expenditure on the following items during the indicated time periods? NON-FOOD ITEMS	Time period	Value (in Riels), Write '0' if nothing		
			In-cash expenditure	In-kind expenditure or gifts given away	Total expenditure (Col 7.44 + Col 7.45)
		7.44.	**7.45.**	**7.46.**	
01	Medical care (doctors' fees, other medical services, drugs, hospital charges, other medical supplies, etc.)	Last 1 month			
02	Transportation (personal transport equipment, operation of transport equipment, maintenance and repair of equipment, gasoline and diesel for own transportation, fees for public transport, moving fee, driving lessons, etc.)	Last 1 month			
03	Communication (postage stamps, fax and telephone charges, cell phones, phone cards, Internet charges etc.)	Last 1 month			
04	Personal care (soap, toothpaste, razor, sanitary napkins, haircut, manicure, etc.)	Last 1 month			
05	Clothing and footwear (tailored clothes, ready-made clothes, rain clothes, underwear, baby clothes, diapers, hats, shoes, boots, etc.)	Last 6 months			
06	Furniture, furnishings and household equipment and operation (curtain, household appliances, cooking utensils, light bulbs, soap and detergents etc.)	Last 12 months			
07	Domestic salaries (servant's salary, hired labour for cleaning, laundry, cooking etc.)	Last 12 months			
08	Recreation (entertainment services, recreational goods and supplies, tourist travel, hotel accommodation)	Last 12 months			
09	Education (school fees, textbooks, private tutoring charges, etc.)	Last 12 months			
10	Personal effects (costume/gold jewellery, handbags, wallets, wristwatch, clocks, umbrella)	Last 12 months			
11	Gambling (lottery, sports betting, casino gambling, card games etc.)	Last 12 months			
12	Miscellaneous items (special occasions as funerals, weddings, parties, rituals, cash gifts, charity, etc.)	Last 12 months			
13	**Total 1- 12:**				

7. ECONOMIC ACTIVITY: NON-FOOD EXPENDITURE (CONTD.) - TO BE ANSWERED BY HH

ITEM NUMBER	For each item group try to estimate quantity of items consumed and then how much of the consumed quantity had been purchased in cash and how much was from own production or received as payment in kind for work, or as gift, or free collection.	Value of consumption during last 7 days		
		Purchased in cash	Own produce, gifts, free collections, wages in kind, (imputed value)	Total consumption (Col 7.47. + Col 7.48.)
	FOOD/BVERAGE/TOBACCO ITEMS	Riels	Riels	Riels
		7.47.	**7.48.**	**7.49**
01	Cereals (rice, bread, corn, wheat flour, rice flour, corn meal, rice cakes, noodles, biscuits, etc.)			
02	Fish (fresh fish, salted and dried fish, canned fish, shrimp, prawn, crab, etc.)			
03	Meat & poultry (beef, buffalo, mutton, lamb, pork, chicken, duck, innards, incl liver, spleen, dried beef)			
04	Eggs (chicken egg, duck egg, quail egg, fermented/salted egg, etc.)			
05	Dairy products (fresh milk, condensed or powdered milk, ice cream, cheese, other dairy products, etc.)			
06	Oil and fats (rice bran oil, vegetable oil, pork fat, butter, margarine, coconut/frying oil, etc.)			
07	Fresh vegetables (trakun, onion, shallot, cabbage, spinach, carrot, beans, chilli, tomato, etc.)			
08	Tuber (cassava, sweet potato, potato, traov, sugar beet, etc.)			
09	Pulses & legumes (green gram, dhall, cowpea, bean sprout, seeds, etc.)			
10	Prepared and preserved vegetables (cucumber pickles, other pickles, tomato paste, etc.)			
11	Fruit (banana, orange, mango, pineapple, lemon, papaya, durian, water melon, grape, apple, canned and dried fruits, etc.)			
12	Dried nuts and edible seeds (coconut, cashew nut, lotus nut, peanut, gourd seed, other nuts)			
13	Sugar, salt and spices (sugar, jaggery, salt, chocolate, candy, coriander, red pepper spice, garlic, ginger, soy sauce, fish sauce, MSG, etc.)			
14	Tea, coffee, cocoa			
15	Non-alcoholic beverages (canned or bottled soft drinks, mineral water, fruit juice, fruit syrup, etc.)			
16	Alcoholic beverages (beer, wine, whisky, scotch, other distilled spirits)			
17	Tobacco products (cigarettes, mild tobacco, strong tobacco, etc.)			
18	Other food products (fried insects, peanut preparation, flavoured ice, ice, other food products)			
19	Food taken away from home (meals at work, school, restaurants, snacks, coffee, softdrinks purchased outside home)			
20	Prepared meals bought outside and eaten at home			

7. ECONOMIC ACTIVITY: FOOD SECURITY - TO BE ANSWERED BY HH

ID NUMBER	How many meals per day has ..[NAME].. eaten on average in the last month?	How many meals per day did .. [NAME].. eat before the diagnosis of HIV (or AIDS) in the household?	If number of meals eaten per day is less after diagnosis, why?	In the past 12 months how often was..[NAME] .. hungry but didn't eat because there wasn't enough food?	What was the main reason for the lack of food? (Choose main reason)
	1 = <1 2 = 1 3 = 2 4 = 3 5 = More than 3 99 = Don't know	1 = <1 2 = 1 3 = 2 4 = 3 5 = More than 3 99 = Don't know	1 = Less total income in household now 2 = Less money available for food (i.e., spending more on medicine etc.) 3 = More people in household 4 = Less time / energy to grow own crops 5 = Sold land used to grow crops 6 = Moved to land where can't grow crops 7 = Feels less hungry / nauseous 8 = Other (specify) _____ 9 = Same or more than before diagnosis	1 = Every day 2 = Every week 3 = Every month 4 = Several times 5 = Not at all (=>> next household member / 7.55) 99 = Don't know (=>> next household member / 7.55)	1 = Insufficient money to buy food 2 = Not enough land to grow food 3 = Insufficient crop production 4 = Season with no crops 5 = Sold food for money 6 = Other (specify)
	7.50.	**7.51.**	**7.52.**	**7.53.**	**7.54.**
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7. ECONOMIC ACTIVITY: FOOD SECURITY (CONTD.) - TO BE ANSWERED BY HH

7.55.	**Did the household receive any food support in the last month?**		
	1 = Yes	2 = No (==>8.1)	99= Don't know (==>8.1)
7.56.	**What is the source of that support? Choose all relevant and indicate name of support.**		
	1 = NGO 2 = Government program 3 = Wat	4 = Friends 5 = Family 6 = Community	7 = Other (Specify)
7.57.	**What type of support does the household receive?**		
	1 = Additional food 2 = Cash to be used for food purchases	3 = Coupons valid for food purchases 4 = Livestock to be raised for food	5 = Seeds / crops to be grown for food 6 = Other (specify)
7.58.	**What was the value of the food support received in the last month?**		Riels
7.59.	**Did the household consume all the food received via the food support program?**		
	1 = Yes	2 = No	99 = Don't know
7.60.	**Did the household also receive educational / nutritional information along with food support?**		
	1 = Yes	2 = No	99 = Don't know
7.61.	**Did the food support start as a result of the diagnosis of HIV (or AIDS) in the household?**		
	1 = Yes	2 = No	99 = Don't know
7.62.	**How would you evaluate the food support you receive?**		
	1 = Fully meets household need 2 = Substantially meets household need	3 = Partially meets household need 4 = Barely meets household need	5 = Does not meet household need at all
7.63.	**Do you think there are problems with the food support?**		
	1 = Yes	2 = No (==>8.1)	99= Don't know (==>8.1)
7.64.	**What are the problems mainly related to:**		
	1 = Type of food 2 = Quantity of food 3 = Quality of food	4 = Timeliness 5 = Friendliness of staff 6 = Lack of understanding of program	7 = Request for additional payment in order to receive support 8 = Other (specify)

8. INFORMATION ON PLHIV – TO BE ANSWERED DIRECTLY BY PLHIV (OR GUARDIAN, IF CHILD)

			8.1.
ID number of person living with HIV (or AIDS)			
			8.2.
Is the interview being conducted in privacy?			
1 = Yes	2 = No		
			8.3.
How did you discover your HIV status:			
1 = Voluntary testing 2 = After prolonged illness 3 = Donating blood	4 = While pregnant 5 = Child of HIV+ mother 6 = Blood test for job	7 = Other	
			8.4.
What was the mode of your HIV infection:			
1 = Sexual contact: heterosexual 2 = Sexual contact: homosexual	3 = Blood transfusion / donation (=>> 8.6) 4 = Needle sharing (IUD) (=>> 8.6)	5 = MTCT (=>> 8.6) 6 = Other (=>> 8.6) Specify_____	
			8.5.
Was your sexual contact infection from your spouse / partner?			
1 = Yes	2 = No	99 = Don't know	
			8.6.
What was the date of your HIV positive diagnosis:		Write ' - ' if don't know, for month or year (MM/YY)	
			8.7.

8. INFORMATION ON PLHIV (CONTD.) – TO BE ANSWERED DIRECTLY BY PLHIV (OR GUARDIAN, IF CHILD)

Have symptoms appeared?			
1 = Yes	2 = No (==>8.9)		
			8.8.
If yes, what kind? (Choose all that apply)			
1 = Lack of energy 2 = Weight loss 3 = Frequent fevers and sweats 4 = Persistent or frequent yeast infections 5 = Persistent skin rashes or flaky skin 6 = Mouth, genital, or anal sores (herpes)	7 = Cough and shortness of breath 8 = Seizures and lack of coordination 9 = Difficult or painful swallowing 10 = Mental symptoms such as confusion and forgetfulness 11 = Severe and persistent diarrhea	12 = Fever 13 = Vision loss 14 = Nausea, abdominal cramps, & vomiting 15 = Weight loss and extreme fatigue 16 = Severe headaches with neck stiffness 17 = Coma	
			8.9.
Are you currently taking antiretroviral treatment?			
1 = Yes (=>> 8.11)	2 = No	99 = Don't know (=>> 8.11)	
			8.10.
If no, reasons for not:			
1 = Not available 2 = Too expensive 3 = Physician's advice	4 = Difficulty keeping up with doses 5 = Side effects 6 = Don't feel sick	7= Do not believe treatment will help 8 = Other (specify)	
			8.11.
Are you currently taking any medication to prevent or to treat opportunistic infections?			
1 = Yes (=>> 8.13)	2 = No	99 = Don't know (=>> 8.13)	
			8.12.
If no, reasons for not:			
1 = Not available 2 = Too expensive 3 = Physician's advice	4 = Difficulty keeping up with doses 5 = Side effects 6 = Don't have OI	7 = Don't feel sick 8 = Do not believe treatment will help 9 = Other (specify)	

8. INFORMATION ON PLHIV (CONTD.) – TO BE ANSWERED DIRECTLY BY PLHIV (OR GUARDIAN, IF CHILD)

			8.13.
Have you been diagnosed with Tuberculosis (TB)?			
1 = Yes	2 = No	99 = Don't know	
			8.14.
Since being diagnosed with HIV (or AIDS) have you made any changes to your lifestyle behaviours?			
1 = Yes	2 = No (=>> 8.16)		
			8.15.
Which changes have you made? (Choose all that apply)			
1 = Abstain from having sex 2 = Started using condom consistently 3 = Stopped sharing needles 4 = Stopped donating blood	5 = Decided not to have a child 6 = AZT / Nevropine during pregnancy 7 = C-section during delivery 8 = No breastfeeding	9 = AZT to the infant 10 = Do not share shaving blades with others 11 = Other	
			8.16.
Have you received a visit from a home-based HIV care team in the last 3 months?			
1 = Yes	2 = No (=>> 9.1)	99 = Don't know (=>> 9.1)	
			8.17.
Which organisation / government agency was the home-based care team associated with?		Specify_____	
			8.18.
How satisfied were you with the home-base care team's last visit?			
1 = Very dissatisfied 2 = Dissatisfied	3 = Neither satisfied nor dissatisfied 4 = Satisfied	5 = Very satisfied	

9. FINANCIAL BURDEN OF HIV AND AIDS: 9.1-9.7 TO BE ANSWERED BY PLHIV AND 9.8 – 9.14 BY HH

To be answered by PLHIV:			**9.1.**
ID number of person living with HIV (or AIDS)			
			9.2.
What was your gross monthly income prior to your diagnosis with HIV	(write "–" if not applicable)	Riels	
			9.3.
Do you receive any external support (financial, medical, educational, psychological) due to your HIV (or AIDS) status?			
1 = Yes	2 = No (=>> 9.5)	99 = Don't know (=>> 9.5)	
			9.4.
What is the nature of that support?		**(Choose all that apply)**	
1 = Food support 2 = Allowance 3 = Microfinance (loan)	4 = Peer support group (PLHIV) 5 = Training or lifestyle information 6 = School materials	7 = Housing support 8 = Other (Specify)	
			9.5.
Were you seriously ill (non-trauma related) before being diagnosed with HIV (or AIDS)?			
1 = Yes	2 = No (=>> 9.8)	99 = Don't know (=>> 9.8)	
			9.6.
Did you seek treatment for your pre-diagnosis illness?			
1 = Yes	2 = No (=>> 9.8)	99 = Don't know (=>> 9.8)	
			9.7.
What was the main way your household paid for those pre-diagnosis HIV-related health care costs?			
1 = Household earnings 2 = Used savings 3 = Sold stored food 4 = Sold livestock 5 = Sold land	6 = Sold assets 7 = Given money 8 = Borrowed money 9 = Exempt from charge 10 = CBHI	11 = Other health insurance 12= Health Equity Fund 13 = Other 14 = Do not remember	

9. FINANCIAL BURDEN OF HIV AND AIDS (CONTD.): 9.1-9.7 TO BE ANSWERED BY PLHIV AND 9.8 – 9.14 BY HH

TO BE ANSWERED BY HEAD OF HOUSEHOLD:			**9.8.**
Has the household reduced its savings in the last 12 months to finance the direct and indirect costs associated with ..[PLHIV]..'s HIV (or AIDS) treatment?			
1 = Yes	2 = No (=>> 9.11)	99 = Don't know (=>> 9.11)	
			9.9.
How much did the household reduce savings by in the last 12 months to finance HIV (or AIDS) related costs?		Riels	
			9.10.
How much did the household reduce savings by in the last 12 months to finance HIV (or AIDS) related costs?		%	
			9.11.
Did the household reduce consumption in the last 12 months to manage the cost of caring for ..[PLHIV]..?			
1 = Yes	2 = No (=>> 10.1)	99 = Don't know (=>> 10.1)	
			9.12.
Please state the 3 most important items where your household reduced consumption: food, healthcare, education, utilities, transportation, vacation, clothing, etc.		**#1**	
			9.13.
		#2	
			9.14.
		#3	

10. CAREGIVER INFORMATION – TO BE ANSWERED BY HH

			10.1.
ID number of person living with HIV (or AIDS)			
			10.2.
Does ..[PLHIV].. need anyone to take care of him / her?			
1 = Yes	2 = No (=>> 11.1)	99 = Don't know (=>> 11.1)	
			10.3.
Has someone been assisting in the care of ..[PLHIV].. within the last 3 months?			
1 = Yes	2 = No (=>> 11.1)		
			10.4.
How long has ..[PLHIV].. had a caregiver?		# of months	
			10.5.
Who is ..[PLHIV]..'s caregiver?			
1 = Unpaid caregiver: household member 2 = Unpaid caregiver: non-household (==>11.1)	3 = Paid caregiver: household member 4 = Paid caregiver: non-household (==>10.13)		
			10.6.
Household ID number of ..[PLHIV]..'s caregiver		ID #	
			10.7.
Did ..[PLHIV]..'s caregiver move into the household specifically to take care of ..[PLHIV]..?			
1 = Yes (=>> 10.9)	2 = No		
			10.8.
Did ..[PLHIV]..'s caregiver move into the household specifically to take care of ..[PLHIV]..?			
1 = Yes	2 = No		
			10.9.
If otherwise employed, has ..[PLHIV]..'s caregiver income changed since starting to provide care to ..[PLHIV]..?			
1 = Yes	2 = No	99 = Don't know	
			10.10.
What was ..[PLHIV]..'s caregiver's income the month before starting to provide caregiving? ("-" for don't know)		Riels	
			10.11.
If unemployed, did ..[PLHIV]..'s caregiver leave a previous job to provide care to ..[PLHIV]..?			
1 = Yes	2 = No (=>> 10.13)		
			10.12.
How much was ..[PLHIV]..'s caregiver earning per month when otherwise employed?		Riels	
			10.13.
How much do you pay ..[PLHIV]..'s caregiver per month? ("0" if unpaid)		Riels	

11. QUALITY OF LIFE – TO BE ANSWERED BY PLHIV

		Very poor	Poor	Neither poor nor good	Good	Very good
11.1.a	Thinking about the last 4 weeks, how would you rate your quality of life?	1	2	3	4	5
		Very dissatisfied	**Dissatisfied**	**Neither satisfied or dissatisfied**	**Satisfied**	**Very satisfied**
11.2.a	Thinking about the last 4 weeks, how satisfied are you with you health?	1	2	3	4	5

The following questions ask about how much you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
11.3.a	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
11.4.a	How much are you bothered by any physical problems related to your HIV (or AIDS) infection?	1	2	3	4	5
11.5.a	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
11.6.a	How much do you enjoy life?	1	2	3	4	5
11.7.a	To what extent do you feel your life to be meaningful?	1	2	3	4	5
11.8.a	To what extent are you bothered by people blaming you for your HIV (or AIDS) status?	1	2	3	4	5
11.9.a	How much do you fear the future?	1	2	3	4	5
11.10.a	How much do you worry about death?	1	2	3	4	5
11.11.a	How well are you able to concentrate?	1	2	3	4	5
11.12.a	How safe do you feel in your daily life?	1	2	3	4	5
11.13.a	How healthy is your physical environment?	1	2	3	4	5

11. QUALITY OF LIFE – TO BE ANSWERED BY PLHIV

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely
11.14.a	Do you have enough energy for everyday life?	1	2	3	4	5
11.15.a	Are you able to accept your bodily appearance?	1	2	3	4	5
11.16.a	Have you enough money to meet your needs?	1	2	3	4	5
11.17.a	To what extent do you feel accepted by the people you know?	1	2	3	4	5
11.18.a	How available to you is the information that need in your day-to-day life?	1	2	3	4	5
11.19.a	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5
		Very poor	**Poor**	**Neither poor nor good**	**Good**	**Very good**
11.20.a	How well are you able to get around?	1	2	3	4	5

The following questions ask you how good or satisfied you have felt about various aspects of your life over the last four weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied or dissatisfied	Satisfied	Very satisfied
11.21.a	How satisfied are you with your sleep?	1	2	3	4	5
11.22.a	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
11.23.a	How satisfied are you with your capacity for work?	1	2	3	4	5
11.24.a	How satisfied are you with yourself?	1	2	3	4	5
11.25.a	How satisfied are you with your personal relationships?	1	2	3	4	5
11.26.a	How satisfied are you with your sex life?	1	2	3	4	5
11.27.a	How satisfied are you with the support you get from your friends?	1	2	3	4	5
11.28.a	How satisfied are you with your access to health services?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always
11.29.a	How often do you have negative feelings such as blue mood, despair, anxiety, or depression?	1	2	3	4	5

12. STIGMA AND DISCRIMINATION – TO BE ANSWERED BY PLHIV

	12.1

When did you inform your spouse / partner of your diagnosis?

1= Immediately after diagnosis 2 = Within six months 3 = Within one year	4 = Within two years 5 = Within five years 6 = Not informed the spouse	7 = Not applicable (e.g. no partner)	

How would you describe the reactions of these people (in general) when they first knew about your HIV (or AIDS) status? (Choose one box only for each category of people.) Not applicable if they are not in your life.

		Very Discri-minatory	Discri-minatory	Not different	Supportive	Very supportive	Not applicable	Did not disclose status to
		1	2	3	4	5	6	7
12.2.	Spouse / partner							
12.3.	Other adult family members							
12.4.	Children in your family							
12.5.	Friends/neighbours							
12.6.	Religious leaders							
12.7.	Health care workers							

How would you describe the reactions of these people (in general) NOW, regarding your HIV (or AIDS) status? (Choose one box only for each category of people.) Not applicable if they do not know of your HIV (or AIDS) status / are not in your life.

		Very Discri-minatory	Discri-minatory	Not different	Supportive	Very supportive	Not applicable	Did not disclose status to
12.8.	Spouse / partner							
12.9.	Other adult family members							
12.10.	Children in your family							
12.11.	Friends/neighbours							
12.12.	Religious leaders							
12.13.	Health care workers							

12. INTERNAL STIGMA (THE WAY YOU FEEL ABOUT YOURSELF) AND YOUR FEARS

In the last 12 months, have you experienced any of the following feelings because of your HIV (or AIDS) status?			
1 = Yes 2 = No	I feel ashamed	**12.14.**	
	I feel guilty	**12.15.**	
	I blame myself	**12.16.**	
	I blame others	**12.17.**	
	I have low self-esteem	**12.18.**	
	I feel I should be punished	**12.19.**	
	I feel suicidal	**12.20.**	
In the last 12 months, have you done any of the following things because of your HIV (or AIDS) status?			
1= Yes 2 = No	I have chosen not to attend social gathering(s)	**12.21.**	
	I have isolated myself from my family and/or friends	**12.22.**	
	I took the decision to stop working	**12.23.**	
	I decided not to apply for a job/work or for a promotion	**12.24.**	
	I withdrew from education/training or did not take up an opportunity for education/training	**12.25.**	
	I decided not to get married	**12.26.**	
	I decided not to have sex	**12.27.**	
	I decided not to have (more) children	**12.28.**	
	I avoided going to a local clinic when I needed to	**12.29.**	
	I avoided going to a hospital when I needed to	**12.30.**	
In the last 12 months, have you been fearful of any of the following things happening to you – whether or not they have actually happened?			
1= Yes 2 = No	Being verbally insulted, harassed and/or threatened	**12.31.**	
	Being physically harassed and/or threatened and/or assaulted	**12.32.**	

12. STIGMA AND DISCRIMINATION: YOUR EXPERIENCE OF STIGMA AND DISCRIMINATION FROM OTHER PEOPLE

1 = Yes 2 = No 3 = Status not known 4 = Not applicable (lives alone)	Do you have a separate bowl / chopsticks for eating as a result of your HIV (or AIDS) status?	**12.33.**	
	In the last 12 months, have you been excluded from family activities as a result of your HIV (or AIDS) status (e.g. cooking, eating together, and sleeping in the same room?)	**12.34.**	
1 = Yes 2 = No 3 = Status not known	In the last 12 months, have you or any members of your household been excluded from social gatherings or activities (e.g. weddings, funerals, parties, and clubs) as a result of your HIV (or AIDS) status?	**12.35.**	
	In the last 12 months, have you or any members of your household been verbally insulted, harassed and/or threatened as a result of your HIV (or AIDS) status?	**12.36.**	
	In the last 12 months, have you or any members of your household been physically harassed and / or threatened, or assaulted as a result of your HIV (or AIDS) status?	**12.37.**	
1 = Yes 2 = No (==> 12.41) 3 = Status not known (==> 12.41)	In general, are you or members of your household treated differently by others in the community/neighbourhood because of your HIV (or AIDS) status?	**12.38.**	
1 = Neglected, isolated, avoided 2 = Verbally abused, teased 3 = Your children are not allowed to play with their children 4 = Socially boycotted/not invited for village activities 5 = Debarred from using public well/tap 6 = Children not allowed in village heath clinic 7 = Not allowed to participate in election activities 8 = Any other (specify)	If yes, how do they treat you or members of your household differently? (Multiple answers possible)	**12.39.**	
1 = People are afraid of getting infected with HIV from me 2 = People don't understand how HIV is transmitted and are afraid I will infect them with HIV through casual contact 3 = People think that having HIV is shameful and they should not be associated with me 4 = Religious beliefs or "moral" judgments 5 = People disapprove of my lifestyle or behaviour 6 = I look sick with symptoms associated with HIV 99 = I don't know/I am not sure of the reason(s)	If you have experienced some form of HIV (or AIDS) related stigma and/or discrimination in the last 12 months, why do you think this is? (More than one if appropriate.)	**12.40.**	

12. STIGMA AND DISCRIMINATION: YOUR ACCESS TO WORK, HEALTH AND EDUCATION SERVICES

1 = Yes 2 = No (==> 12.43)	3 = Status not known to others (==> 12.43) 4 = Not applicable (not employed in last 12 months) (==> 12.43)	**In the last 12 months, have you lost a job (if employed) or another source of income (if self-employed or an informal worker) or been refused employment or a work opportunity because of your HIV (or AIDS) status?**	**12.41.**	
1 = Discrimination by employer /co-workers 2 = Stopped working due to poor health	3 = Combination of discrimination and poor health 4 = Other reason	**Why?**	**12.42.**	
1 = Yes 2 = No	3 = Status not known to others 4 = Not applicable (not employed in last 12 months)	**In the past 12 months, has the nature of your work changed, or you have been refused a promotion as a result of your HIV (or AIDS) status?**	**12.43.**	
1 = Yes 2 = No	3 = Status not known to others 4 = Not applicable (no relevant family members)	**Has your HIV (or AIDS) status affected the job prospects of other family members?**	**12.44.**	
1 = Yes 2 = No	3 = Status not known to others 4 = Not applicable (not in educational institution last 12 months)	**In the past 12 months, have you, or a household member been dismissed, suspended or prevented from attending an educational institution because of your HIV (or AIDS) status?**	**12.45.**	
1 = Yes 2 = No (==> 13.1)	3 = Status not known to others (==> 13.1)	**In the last 12 months, have you been discriminated against in the health services, including dental care, because of your HIV (or AIDS) status?**	**12.46.**	
1 = Refused admission to facility 2 = Refused medical treatment 3 = Referred to another health facility 4 = Refused access to facilities like toilets and common eating and drinking utensils 5 = Neglected/isolated 6 = Verbally abused, teased 7 = Physically abused 8 = Unnecessary use of protective gear (gown, masks etc.) by healthcare staff 9 = Excuses given for non-admission 10 = Shunting between wards/doctors/hospitals 11 = Doctor did not touch 12 = Doctor/paramedical gave wrong information about HIV (or AIDS) 13 = Any other (specify)		**In what way were you discriminated against? (Multiple answers possible)**	**12.47.**	

13. GENDER-SPECIFIC STIGMA AND DISCRIMINATION – TO BE ANSWERED BY FEMALES LIVING WITH HIV (OR AIDS) ONLY.

1 = Yes 2 = No 3 = Status not known 4 = Not applicable (lives alone)	In the past 12 months, have you been subjected to psychological pressure or manipulation by your husband / wife or partner in which your HIV (or AIDS) status was used against you?	**13.1.**	
	In the last 12 months, have you experienced sexual rejection as a result of your HIV (or AIDS) status?	**13.2.**	
1 = Yes 2 = No 3 = Not applicable (no unwed, age appropriate family members)	In the last 12 months, has your husband ever used physical force to make you have sex when you did not want to?	**13.3.**	

ANNEX D: METHODOLOGY AND SAMPLE SIZE INFORMATION

DEFINITIONS AND METHODOLOGIES USED WITHIN MAIN REPORT

ISCO Occupational Definitions

The International Standard Classification of Occupations (ISCO) is a tool created by the International Labour Organisation (ILO) to organise jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. As stated by the ILO, its main aims are:

- a basis for the international reporting, comparison and exchange of statistical and administrative data about occupations;
- a model for the development of national and regional classifications of occupations; and
- a system that can be used directly in countries that have not developed their own national classifications." (www.ilo.org)

It has been utilised by the National Institute of Statistics (NIS) in Cambodia for their Socioeconomic Surveys (NIS, 2007), and therefore was the logical classification system to use for this survey. The detailed descriptions of each occupational classification, as according to ISCO-08 are provided in Annex Table 1.

Annex Table 1: ISCO Codes and Descriptions

ISCO Code and Description	Major Sub-Groups
0. Armed Force Occupations	
Armed forces occupations include all jobs held by members of the armed forces. Members of the armed forces are those personnel who are currently serving in the armed forces, including auxiliary services, whether on a voluntary or compulsory basis, and who are not free to accept civilian employment and are subject to military discipline. Included are regular members of the army, navy, air force and other military services, as well as conscripts enrolled for military training or other service for a specified period.	• Commissioned armed forces officers • Non-commissioned armed forces officers • Armed forces occupations, other ranks
*Excluded from this group are: (i) jobs held by persons in civilian employment of government establishments concerned with defence issues; (ii) police (other than military police); (iii) customs inspectors & members of border/other armed civilian services.	

1. Managers	
Managers plan, direct, coordinate and evaluate the overall activities of enterprises, governments and other organizations, or of organizational units within them, and formulate and review their policies, laws, rules and regulations. Tasks performed by managers usually include: formulating and advising on the policy, budgets, laws and regulations of enterprises, governments and other organizational units; establishing objectives and standards and formulating and evaluating programs and policies and procedures for their implementation; ensuring appropriate systems and procedures are developed and implemented to provide budgetary control; authorising material, human and financial resources to implement policies and programs; monitoring and evaluating performance of the organization or enterprise and of its staff; selecting, or approving the selection of staff; ensuring compliance with health and safety requirements; planning and directing daily operations; representing and negotiating on behalf of the government, enterprise or organizational unit managed in meetings and other forums.	• Chief executives, senior officials & legislators • Administrative & commercial managers • Production & specialized services managers • Hospitality, retail & other services managers
2. Professionals	
Professionals increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these activities. Competent performance in most occupations in this major group requires skills at the fourth ISCO skill level. Tasks performed by professionals usually include: conducting analysis and research, and developing concepts, theories and operational methods, and advising on or applying existing knowledge related to physical sciences including mathematics, engineering and technology, and to life sciences including the medical and health services, as well as to social sciences and humanities; teaching the theory and practice of one or more disciplines at different educational levels; teaching and educating handicapped persons; providing various business, legal and social services; creating and performing works of art; providing spiritual guidance; preparing scientific papers and reports. Supervision of other workers may be included.	• Science & engineering professionals • Health professionals • Teaching professionals • Business & administration professionals • Information & communications technology professionals • Legal, social & cultural professionals
3. Technicians and Associate Professionals	
Technicians and associate professionals perform mostly technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations. Most occupations in this major group require skills at the third ISCO skill level. Tasks performed by technicians and associate professionals usually include: undertaking and carrying out technical work connected with research and the application of concepts and operational methods in the fields of physical sciences including engineering and technology, life sciences including the medical profession, and social sciences and humanities; initiating and carrying out various technical services related to trade, finance, administration, including administration of government laws and regulations, and to social work; providing technical support for the arts and entertainment; participating in sporting activities; executing some religious tasks. Supervision of other workers may be included.	• Science & engineering associate professionals • Health associate professionals • Business & administration associate professionals • Legal, social, cultural & related associate professionals • Information & communications technician

ISCO Code and Description	Major Sub-Groups
4. Clerical Support Workers	
Clerical support workers record, organise, store, compute and retrieve information related, and perform a number of clerical duties in connection with money-handling operations, travel arrangements, requests for information, and appointments. Most occupations in this major group require skills at the second ISCO skill level. Tasks performed by clerical support workers usually include: stenography, typing, and operating word processors and other office machines; entering data into computers; carrying out secretarial duties; recording and computing numerical data; keeping records relating to stocks, production and transport; keeping records relating to passenger and freight transport; carrying out clerical duties in libraries; filing documents; carrying out duties in connection with mail services; preparing and checking material for printing; writing on behalf of illiterate persons; performing money-handling operations; dealing with travel arrangements; supplying information requested by clients and making appointments; operating a telephone switchboard. Supervision of other workers may be included.	• General & keyboard clerks • Customer services clerks • Numerical & material recording clerks • Other clerical support workers
5. Service and Sales Workers	
Service and sales workers provide personal and protective services related to travel, housekeeping, catering, personal care, or protection against fire and unlawful acts, or demonstrate and sell goods in wholesale or retail shops and similar establishments, as well as at stalls and on markets. Most occupations in this major group require skills at the second ISCO skill level. Tasks performed by service and sales workers usually include: organizing and providing services during travel; housekeeping; preparing and serving of food and beverages; caring for children; providing personal and basic health care at homes or in institutions, as well as hairdressing, beauty treatment and companionship; telling fortunes; embalming and arranging funerals; providing security services and protecting individuals and property against fire and unlawful acts; enforcing of law and order; posing as models for advertising, artistic creation and display of goods; selling goods in wholesale or retail establishments, as well as at stalls and on markets; demonstrating goods to potential customers. Supervision of other workers may be included.	• Personal service workers • Sales workers • Personal care workers • Protective services worker

6. Skilled Agricultural, Forestry and Fishery Workers	
Skilled agricultural, forestry and fishery workers grow and harvest field or tree and shrub crops, gather wild fruits and plants, breed, tend or hunt animals, produce a variety of animal husbandry products, cultivate, conserve and exploit forests, breed or catch fish and cultivate or gather other forms of aquatic life in order to provide food, shelter and income for themselves and their households. Most occupations in this major group require skills at the second ISCO skill level. Tasks performed by skilled agricultural, forestry and fishery workers usually include: preparing the soil; sowing, planting, spraying, fertilising and harvesting field crops; growing fruit and other tree and shrub crops; growing garden vegetables and horticultural products; gathering wild fruits and plants; breeding, raising, tending or hunting animals mainly to obtain meat, milk, hair, fur, skin, sericultural, apiarian or other products; cultivating, conserving and exploiting forests; breeding or catching fish; cultivating or gathering other forms of aquatic life; storing and carrying out some basic processing of their produce; selling their products to purchasers, marketing organisations or at markets. Supervision of other workers may be included.	• Market-oriented skilled agricultural workers • Market-oriented skilled forestry, fishery & hunting workers • Subsistence farmers, fishers, hunters & gatherers
7. Craft and Related Trades Workers	
Craft and related trades workers apply specific knowledge and skills in the fields to construct and maintain buildings, form metal, erect metal structures, set machine tools, or make, fit, maintain and repair machinery, equipment or tools, carry out printing work produce or process foodstuffs, textiles, or wooden, metal and other articles, including handicraft goods. The work is carried out by hand and by hand-powered and other tools which are used to reduce the amount of physical effort and time required for specific tasks, as well as to improve the quality of the products. The tasks call for an understanding of all stages of the production process, the materials and tools used, and the nature and purpose of the final product. Most occupations in this major group require skills at the second ISCO skill level. Tasks performed by craft and related trades workers usually include: constructing, maintaining and repairing buildings and other structures; casting, welding and shaping metal; installing and erecting heavy metal structures, tackle and related equipment; making machinery, tools, equipment, and other metal articles; setting for operators, or setting and operating various machine tools; fitting, maintaining and repairing industrial machinery, including engines and vehicles, as well as electrical and electronic instruments and other equipment; making precision instruments, jewellery, household and other precious-metal articles, pottery, glass and related products; producing handicrafts; executing printing work; producing and processing foodstuffs and various articles made of wood, textiles, leather and related materials. Supervision of other workers may be included.	• Building & related trades workers, excluding electricians • Metal, machinery & related trades workers • Handicraft & printing workers • Electrical & electronic trades workers • Food processing, wood working, garment & other craft & related trades worker

ISCO Code and Description	Major Sub-Groups
8. Plant and Machine Operators, and Assemblers	
Plant and machine operators, and assemblers operate and monitor industrial and agricultural machinery and equipment on the spot or by remote control, drive and operate trains, motor vehicles and mobile machinery and equipment, or assemble products from component parts according to strict specifications and procedures. The work mainly calls for experience with and an understanding of industrial and agricultural machinery and equipment as well as an ability to cope with machine-paced operations and to adapt to technological innovations. Most occupations in this major group require skills at the second ISCO skill level. Tasks performed by plant and machine operators and assemblers usually include: operating and monitoring mining or other industrial machinery and equipment for processing metal, minerals, glass, ceramics, wood, paper, or chemicals; operating and monitoring machinery and equipment used to produce articles made of metal, minerals, chemicals, rubber, plastics, wood, paper, textiles, fur, or leather, and which process foodstuffs and related products; driving and operating trains and motor vehicles; driving, operating and monitoring mobile industrial and agricultural machinery and equipment; assembling products from component parts according to strict specifications and procedures. Supervision of other workers may be included.	• Stationary plant & machine operators • Assemblers • Drivers & mobile plant operators
9. Elementary Occupations	
Elementary occupations involve the performance of simple and routine tasks which may require the use of hand-held tools and considerable physical effort. Most occupations in this major group require skills at the first ISCO skill level. Tasks performed by workers in elementary occupations usually include: cleaning, restocking supplies and performing basic maintenance in apartments, houses, kitchens, hotels, offices and other buildings; washing cars and windows; helping in kitchens and performing simple tasks in food preparation; delivering messages or goods; carrying luggage and handling baggage and freight; stocking vending machines or reading and emptying meters; collecting and sorting refuse; sweeping streets and similar places; performing various simple farming, fishing, hunting or trapping tasks performing simple tasks connected with mining, construction and manufacturing including product-sorting; packing and unpacking produce by hand and filling shelves; providing various street services; pedalling or hand-guiding vehicles to transport passengers and goods; driving animal-drawn vehicles or machinery. Supervision of other workers may be included.	• Cleaners & helpers • Agricultural, forestry & fishery labourers • Labourers in mining, construction, manufacturing & transport • Food preparation assistants • Street & related sales & service workers • Refuse workers & other elementary workers

Orphans and Vulnerable Children: Definition and Calculation

To estimate the number of orphans and vulnerable children (OVC) due to HIV within Cambodia the following definitions of vulnerability were included:

(1) Children <18 who lost one or both parents to HIV.

(2) Children <18 where either the Head of household or the spouse is HIV positive (in the majority of cases the child is the direct descendant of that identified PLHIV, however, in some cases they might be a grandchild, or a nephew / niece, etc.).

(3) Any child <18 who is HIV positive.

(4) Any child <18 living in a household with either a person identified as being a parent with HIV, or another child with HIV.

(5) It also includes the very small number of children (<0.2%) we were able to identify who are <18 and lost a parent in the previous year (who was formerly the head of household or spouse of the head of household).

Technically, to define the populations SPSS modelling was used as follows:

(1) Children who due to HIV were identified with an affirmative response to questions 5.1 / 5.2 of the survey, which asked "Are there any HIV orphans in the household" and then asked for the ID number of the children (used to ensure they were <18).

(2) All heads of household and their spouses who the survey respondent identified as having a child and being HIV positive (response 22 to question 4.5a, 4.5b or 4.5c) were grouped into a new category "parent_hivp". Any child <18 who had at least one parent listed in this category was included.

(3) All children <18 who were identified by the survey respondent as being HIV positive (response 22 to question 4.5a, 4.5b or 4.5c) were included.

(4) Additionally, any child who lived in a household where either a parent or another child was listed as HIV+ (using two definitions above) was included.

(5) Finally, a very small number of children were identified as orphans (regardless of HIV status) using the following methodology: children where a person in the household died in the previous 12 months who had previously been the head of household, or the spouse of the head of household.

Stage of Infection Methodology

The study utilised "WHO Case Definitions of HIV for Surveillance and Revised Clinical Staging and Immunological Classification of HIV-Related Disease in Adults and Children" as the basis for creating a stratification of stage of infection for the PLHIV (WHO, 2007).

The study used responses to four different questions to create the staging:

(i) *Question 4.6: "Did [NAME] have any illness, injury or other health problem in the past 4 weeks?"*

(ii) *Question 4.7: "What kind of illness, injury or other health problem related symptom?"*

(iii) *Question 8.7: "Have symptoms appeared?"*

(iv) *Question 8.8: "If yes, what kind? (Choose all that apply)"*

The basic outline of the clinical staging reference table is outlined in Annex Table 2. The symptoms highlighted in bold matched specific survey responses, and were used to create the staging. It can be seen that many of the more complex symptoms indicated for stage IV were not able to be used as they would have required additional input from a medical professional. As such, the final staging may have been weighted more towards stages I, II and III.

Annex Table 2: WHO Clinical Staging for Adults and Adolescents with confirmed HIV Infection

Clinical Stage 1
Asymptomatic
Persistent generalized lymphadenopathy
Clinical Stage 2
Moderate unexplained weight loss (<10% of presumed or measured body weight)
Recurrent respiratory infections (sinusitis, tonsillitis, otitis media, and pharyngitis)
Herpes zoster
Angular cheilitis
Recurrent oral ulceration
Papular pruritic eruptions
Seborrheic dermatitis
Fungal nail infections
Clinical Stage 3
Unexplained severe weight loss (>10% of presumed or measured body weight)
Unexplained chronic diarrhea for >1 month
Unexplained persistent fever for >1 month (>37.6°C, intermittent or constant)
Persistent oral candidiasis (thrush)
Oral hairy leukoplakia
Pulmonary tuberculosis (current)
Severe presumed bacterial infections (eg, pneumonia, empyema, pyomyositis, bone/joint infection, meningitis)
Acute necrotizing ulcerative stomatitis, gingivitis, or periodontitis
Unexplained anemia (hemoglobin <8 g/dL), neutropenia (neutrophils <500 cells/µL) or chronic thrombocytopenia (platelets <50,000 cells/µL)

Clinical Stage 4
HIV wasting syndrome
Pneumocystis pneumonia
Recurrent severe bacterial pneumonia
Chronic herpes simplex infection (orolabial, genital, or anorectal site for >1 month or visceral at any site)
Oesophageal candidiasis (or candidiasis of trachea, bronchi, or lungs)
Extrapulmonary tuberculosis
Kaposi sarcoma
Cytomegalovirus infection (retinitis or infection of other organs)
Central nervous system toxoplasmosis
HIV encephalopathy
Extrapulmonary cryptococcosis (including meningitis)
Disseminated nontuberculosis Mycobacteria infection
Progressive multifocal leukoencephalopathy
Chronic cryptosporidiosis (with diarrhea)
Chronic isosporiasis
Disseminated mycosis (eg, histoplasmosis, coccidioidomycosis, penicilliosis)
Recurrent nontyphoidal Salmonella bacteremia
Lymphoma (cerebral or B-cell non-Hodgkin)
Invasive cervical carcinoma
Atypical disseminated leishmaniasis
Symptomatic HIV-associated nephropathy or symptomatic HIV-associated cardiomyopathy
Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)

Source: WHO, 2007

All PLHIV who responded "No" to Question 4.6 and 8.7 were placed in Stage I. Annex Table 3 indicates the other responses for questions 4.7 and 8.8 that were used to complete the staging.

Annex Table 3: Responses Used to Create Stage of Infection Index

	Responses to Question 4.7	Responses to Question 8.8
Stage I		
Stage II	6,8,9,28	1,2,3,5,6,7,9,12
Stage III	6,7,8,9,10,11,12,25,26,28	1,2,3,4,5,6,7,9,11,12,15
Stage IV	6,7,8,9,10,11,12,21,22,23,25,26,28	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17

ANNEX E: ADDITIONAL DESCRIPTIVE DATA TABLES

PROFILE OF SURVEY RESPONDENTS

All efforts were made to survey the head of household when possible. However, after several failed attempts at rescheduling, other members of the household were sometimes interviewed instead. The profile of survey respondents is outlined below.

Annex Table 4: Profile of Survey Respondents, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Sex						
Male	27.7	23.7	28.2	22.0	27.9	22.8
Female	72.3	76.3	71.8	78.0	72.1	77.2
Age of Head of Household						
≤24	1.9	8.2	2.1	5.5	2.0	6.7
25-34	27.2	25.2	25.6	31.4	26.6	28.5
35-44	43.2	21.9	45.8	25.0	44.2	23.6
45-54	20.7	27.0	19.5	19.9	20.2	23.2
≥55	7.0	17.7	7.0	18.2	7.0	18.0
Marital Status						
Never married	51.7	74.1	53.8	71.4	52.4	72.7
Currently Married	12.2	7.7	8.2	8.2	10.7	7.9
Separated / Divorced / Abandoned	33.1	13.2	35.2	13.6	33.9	13.4
Widowed	2.6	4.8	2.2	6.6	2.5	5.8
Under 14 years old	0.4	0.2	0.6	0.2	0.5	0.2
Relationship to Head of Household						
Self (HoH)	70.5	50.4	65.7	47.9	68.8	49.0
Spouse	18.8	40.9	20.1	41.6	19.3	41.3
Son or daughter	6.9	5.6	9.6	7.5	7.9	6.6
Other	3.8	3.0	4.6	3.0	4.1	3.0

ECONOMIC STATUS OF SAMPLE HOUSEHOLDS

The table below displays the results regarding the assets owned of the sampled households.

Annex Table 5: Distribution of Assets, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Own their dwelling	43.2	74.3	68.7	84.7	52.7	79.9
Assets owned:						
Radio / Stereo	36.8	42.2	35.4	41.3	36.3	41.7
Television	66.0	76.6	44.2	60.2	57.8	67.8
Cellular / Mobile Phone	78.1	78.6	59.8	55.0	71.3	65.9
Refrigerator / Freezer	3.9	5.3	0.3	1.6	2.0	3.3
Wardrobe	30.7	44.5	17.8	28.0	25.8	35.6
Computer	3.9	8.4	0.9	1.2	2.8	4.5
Bicycle or Cyclo	50.8	62.3	73.4	74.0	59.3	68.6
Motorcycle / Moped / Motor Scooter	42.9	62.3	32.5	46.7	39.0	53.9
Car / Truck / Van	2.2	4.7	0.8	1.4	1.7	2.9
Livestock	21.3	33.3	63.5	63.2	36.9	49.3

IMPACT OF HIV ON INCOME AND EMPLOYMENT

The profile of the households and PLHIV clearly shows the significant impact that the diagnosis of HIV has on the socioeconomic status of families. The tables presented in the following sections provide more detailed information regarding the income and employment status, consumption levels and revenues of the surveyed households.

Annex Table 6: Average Per Capita Income, by Location and ISCO Category of HoH

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	$	$	$	$	$	$
Median Per Capita Household Income	534	705	359	478	454	548
Occupational ISCO Category:						
Managers	1,015	1,151	352	799	806	954
Professionals	672	931	596	812	672	902
Technicians / associate professionals	781	1269	523	1,384	780	1,269
Clerical support workers	522	720	487	1,382	522	1,123
Service and sales workers	619	923	398	768	560	841
Skilled agri., forestry, fishery workers	473	648	328	433	367	497
Craft and related trades workers	659	768	387	636	585	636
Plant / machine operators, assemblers	691	800	443	600	627	768
Elementary occupations	510	582	381	486	449	529
Armed forces occupations	719	811	792	450	787	635
Unemployed	403	441	238	322	315	360

Annex Table 7: Total Household Income, by Location and ISCO Category of HoH

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	$	$	$	$	$	$
Median Total Household Income	2,120	2,878	1,428	1,967	1,825	2,379
Occupational ISCO Category:						
Managers	4,375	4,769	2,816	3,197	4,375	4,769
Professionals	3,200	5,411	2,384	2,898	3,022	4,011
Technicians / associate professionals	3,121	4,605	1,813	3,454	2,188	4,586
Clerical support workers	2,087	4,102	1,948	3,293	2,087	3,293
Service and sales workers	2,424	3,600	1,741	3,104	2,101	3,454
Skilled agri., forestry, fishery workers	2,137	2,331	1,593	1,842	1,627	2,207
Craft and related trades workers	2,619	2,840	1,535	2,082	2,341	2,312
Plant / machine operators, assemblers	2,763	3,555	1,722	2,245	2,615	3,109
Elementary occupations	1,929	2,471	1,394	2,034	1,727	2,188
Armed forces occupations	3,224	4,318	3,218	2,322	3,218	2,898
Unemployed	1,607	2,116	881	1,511	1,217	1,636

CHILD LABOUR, UNEMPLOYMENT AND WORK DAYS MISSED

Annex Table 8: Impact of HIV on Productivity, by Location

	Urban	Rural	Total
	%	%	%
Could not do usual activities in last month:			
HIV-HH: PLHIV	17.5	12.3	15.5
HIV-HH: Members other than interviewed PLHIV	13.4	1110	12.5
HIV-HH: All Members	14.9	11.5	13.6
NA-HH: All Members	7.9	7.7	7.8

THE IMPACT OF CAREGIVING ON INCOME AND EMPLOYMENT

Annex Table 9: Profile of Caregiver to PLHIV, by Location

	Urban	Rural	Total
	%	%	%
Gender of Caregiver:			
Male	45.4	46.7	45.9
Female	54.6	53.3	54.1
Type of Caregiver:			
Unpaid household member	91.0	87.3	89.6
Unpaid external caregiver	8.1	12.7	9.9
Paid external caregiver	0.9	0.0	0.6

THE IMPACT OF HIV ON MORTALITY AND INCOME

Annex Table 10: Impact of HIV on Mortality and Income, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
HHs with death of member in last year	5.3%	4.5%	4.3%	5.2%	4.9%	4.9%
Average age of deceased	48	57	50	57	48	57
Average income of deceased	$70.6	$133.7	$71.1	$105.5	$70.7	$120.4

Annex Table 11: Impact of HIV on Mortality, by quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Death of member in last 12 months	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.9	0.9	1.0

IMPACT OF HIV ON LEVELS OF CONSUMPTION

Annex Table 12: Reduction in Consumption by HIV-affected households, by Location

	Urban	Rural	Total
	%	%	%
HHs reduced consumption in last 12 months, due to HIV	20.3	15.1	18.4
One of top three areas where consumption was reduced:			
Food	71.6	74.2	72.4
Health care	14.2	18.4	15.5
Education	11.1	15.9	12.6
Water	9.7	1.5	7.2
Electricity	19.3	1.9	14.0
Travelling and recreation	40.2	25.4	35.7
Clothes	38.7	40.3	39.2
Wedding, funeral, other celebration	2.2	3.0	2.4
Other expenses	9.9	11.7	10.4

Annex Table 13: Reduction in Consumption by HIV-affected Households, by Quintile

	Q1	Q2	Q3	Q4	Q5
	%	%	%	%	%
HHs reduced consumption in last 12 months, due to HIV	12.9	21.4	16.8	15.3	25.5
One of top three areas where consumption was reduced:					
Food	73.0	78.9	76.6	65.6	68.3
Health care	14.8	19.7	20.4	7.7	14.1
Education	15.1	10.8	15.0	9.8	12.8
Water	8.3	3.3	7.3	10.7	7.6
Electricity	8.9	7.1	19.0	21.3	14.7
Travelling and recreation	34.3	33.1	28.5	30.9	45.8
Clothes	43.8	37.3	35.8	41.7	39.0
Wedding, funeral, other celebration	4.2	0.5	1.8	2.0	3.8
Other expenses	8.9	5.6	12.2	22.2	7.0

COPING MECHANISMS: IMPACT OF HIV ON HOUSEHOLD DEBT

Annex Table 14: Impact of HIV on Household Debt, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Households with debt or loan	63.2	51.4	68.3	53.5	65.1	52.5
Primary reason for loan/debt:						
Agricultural production and operation	3.7	6.3	9.6	13.4	6.0	10.2
Non-agricultural activities	11.2	12.6	9.9	9.2	10.7	10.7
Household consumption needs	32.7	33.1	23.0	20.5	28.9	26.2
Illness, injury (non-HIV related)	10.0	14.9	9.3	14.7	9.7	14.8
HIV (or AIDS) related causes	10.6	1.0	13.1	0.4	11.6	0.6
Other emergencies (fire, flood, theft)	0.6	0.9	0.1	0.0	0.4	0.4
Funeral	1.1	0.9	0.9	0.6	1.0	0.7
Marriage/other ceremonies	1.0	0.4	0.4	1.8	0.8	1.2
Purchase/improvement dwelling	12.0	14.2	16.3	22.8	13.7	18.9
Purchase of consumer durables	6.4	6.4	6.7	5.3	6.5	5.8
Agricultural Implementation	0.3	0.1	1.1	2.4	0.6	1.4
Servicing and existing debts	2.8	2.2	4.3	5.3	3.4	3.9
Other	7.6	6.9	5.4	3.6	6.8	5.1
Total	**100**	**100**	**100**	**100**	**100**	**100**
Primary source of loan/debt:						
Relatives in Cambodia	12.4	16.2	17.8	17.0	14.5	16.6
Relatives abroad	1.3	1.7	0.9	0.9	1.2	1.2
Friends / neighbours	24.0	20.2	16.4	12.2	21.0	15.8
Moneylender	29.9	25.7	20.4	16.3	26.2	20.6
Trader	2.2	3.1	2.6	4.0	2.4	3.6
Landlord	1.4	0.3	0.3	0.2	1.0	0.2
Employer	1.3	0.6	0.7	1.7	1.1	1.2
Bank	8.4	13.9	10.7	18.4	9.3	16.3
NGO	16.8	16.0	23.6	26.1	19.5	21.5
Other	2.1	2.3	6.6	3.3	3.9	2.9
Total	**100**	**100**	**100**	**100**	**100**	**100**
Monthly interest (%)	**6.5**	**5.3**	**3.7**	**3.4**	**5.4**	**4.3**

Annex Table 15: Impact of HIV on Household Debt, by Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Households with debt or loan	66.3	60.1	62.5	60.2	69.9	49.9	67.1	48.6	59.8	43.2
Primary reason for loan/debt:										
Agricultural production and operation	8.0	12.9	5.0	17.5	7.0	7.1	5.3	4.8	4.2	5.4
Non-agricultural activities	10.6	5.5	10.5	10.9	11.1	14.9	10.2	14.5	11.1	8.1
Household consumption needs	29.7	26.7	25.2	24.9	32.8	25.2	29.2	28.7	27.3	26.1
Illness, injury (non-HIV related)	6.7	11.6	12.7	17.2	8.1	12.2	10.3	16.8	11.2	16.6
HIV (or AIDS) related causes	12.1	1.7	12.2	0.7	11.0	0.0	10.8	0.0	11.8	0.7
Other emergencies (fire, flood, theft)	0.4	0.0	0.4	1.1	0.1	0.6	0.0	0.0	1.1	0.0
Funeral	1.4	0.5	0.6	1.1	1.2	0.8	0.6	0.0	1.3	1.1
Marriage/other ceremonies	0.9	0.5	0.3	0.4	0.9	3.6	0.8	0.6	0.8	0.8
Purchase/improvement dwelling	11.4	20.0	16.1	13.0	12.3	17.2	14.7	19.2	14.2	28.5
Purchase of consumer durables	10.8	8.8	7.6	5.4	3.9	8.1	4.3	2.9	6.0	2.3
Agricultural Implementation	0.3	0.3	0.7	1.4	1.4	4.6	0.4	0.4	0.4	0.0
Servicing and existing debts	3.1	8.9	3.2	3.2	3.6	1.7	4.2	3.0	2.8	2.1
Other	4.6	2.6	5.4	3.2	6.5	4.1	9.2	9.1	7.8	8.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Primary source of loan/debt:										
Relatives in Cambodia	16.0	14.1	13.0	12.3	14.8	15.9	14.2	17.9	14.4	26.2
Relatives abroad	0.3	0.0	1.3	3.3	1.6	0.0	0.6	0.6	2.2	2.2
Friends / neighbours	19.7	13.8	21.1	16.2	20.7	15.0	21.4	18.5	22.2	15.8
Moneylender	24.5	17.6	25.9	22.1	23.4	23.7	28.6	21.2	28.5	17.5
Trader	2.6	5.4	2.8	3.0	1.9	2.5	2.7	0.9	1.9	6.5
Landlord	0.8	0.0	1.0	0.0	1.0	0.3	0.6	0.3	1.5	0.7
Employer	1.3	1.8	0.4	1.6	0.9	0.5	1.3	1.8	1.5	0.0
Bank	8.8	16.2	9.3	12.5	11.2	21.5	7.9	16.3	9.5	15.6
NGO	20.9	26.9	21.7	25.7	21.3	20.0	17.2	19.9	16.4	11.7
Other	5.2	4.2	3.4	3.3	3.3	0.7	5.5	2.5	1.8	3.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Monthly interest	5.3	3.7	5.8	4.1	5.3	5.8	5.7	4.3	5.1	3.4

SCHOOL ATTENDANCE

The tables in this section provide specific data on school attendance and other educational variables, disaggregated by age, sex, location and quintile.

Annex Table 16: Impact of HIV on School Attendance, by Sex and Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Boys (5-18 YOA)						
Never enrolled	7.6	9.8	11.3	12.5	8.9	11.2
Currently enrolled	80.6	75.0	74.9	73.5	78.5	74.2
Not currently enrolled	11.8	15.2	13.9	13.9	12.6	14.5
Girls (5-18 YOA)						
Never enrolled	8.4	8.4	8.2	9.8	8.4	9.2
Currently enrolled	77.9	76.9	78.1	77.2	78.0	77.1
Not currently enrolled	13.7	14.7	13.7	13.0	13.7	13.7
All (5-18 YOA)						
Never enrolled	8.0	9.2	9.7	11.1	8.7	10.2
Currently enrolled	79.3	75.8	76.5	75.4	78.2	75.6
Not currently enrolled	12.7	15	13.8	13.5	13.1	14.1

Annex Table 17: Impact of HIV on Reasons for Non-Attendance of School, by Sex and Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Boys (5-18 YOA)						
Doesn't want to	15.5	16.7	12.6	12.6	14.3	14.5
Didn't do well in school	6.7	18.6	7.4	7.9	7.0	12.7
No school / teacher / supplies	1.2	2.4	5.9	5.4	3.2	4.1
Financial reasons	20.0	19.2	16.4	8.9	18.4	13.6
Add to HH income	23.6	7.8	17.7	15.0	21.1	11.7
Must do chores	3.2	1.3	4.7	2.2	3.9	1.8
Due to illness	0.0	1.0	2.9	2.7	1.2	1.9
Other	29.8	33.1	32.5	45.2	30.9	39.7

Annex Table 17: Impact of HIV on Reasons for Non-Attendance of School, by Sex and Location (Contd.)

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Girls (5-18 YOA)						
Doesn't want to	7.6	5.6	5.3	8.3	6.7	7.2
Didn't do well in school	2.0	4.6	3.2	2.7	2.5	3.5
No school / teacher / supplies	3.0	2.3	3.1	6.4	3.0	4.7
Financial reasons	24.1	18.9	24.8	16.4	24.3	17.5
Must contribute to household income	24.0	25.9	22.7	23.4	23.5	24.4
Must do chores	10.3	5.4	5.4	5.4	8.4	5.4
Due to illness	1.0	0.5	1.2	1.3	1.1	1.0
Other	28.0	36.8	34.4	36.1	30.5	36.4
All (5-18 YOA)						
Doesn't want to	11.5	11.8	9.2	10.5	10.6	11.1
Didn't do well in school	4.3	12.4	5.4	5.4	4.8	8.5
No school / teacher / supplies	2.1	2.4	4.6	5.9	3.1	4.4
Financial reasons	22.0	19.1	20.3	12.5	21.3	15.4
Must contribute to household income	23.8	15.7	20.0	19.0	22.3	17.6
Must do chores	6.8	3.1	5.0	3.8	6.1	3.5
Due to illness	0.5	0.8	2.1	2.0	1.2	1.5
Other	28.9	34.7	33.4	40.8	30.7	38.2

Annex Table 18: Impact of HIV on Level of Schooling Attained, by Age, Sex and Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Males: Age 5-9						
Never attended school	21.9	26.2	24.7	27.2	23.1	26.6
No class completed yet	7.3	11.0	9.0	11.6	8.0	11.3
Pre-school / Kindergarten	22.1	20.3	22.2	19.7	22.2	20.1
Primary School	48.5	42.4	43.5	41.5	46.3	42.0
Lower Secondary School	0.3	0.0	0.3	0.0	0.3	0.0
Upper Secondary School	0.0	0.0	0.3	0.0	0.1	0.0
Males: Age 10-14						
Never attended school	2.3	0.6	3.8	4.1	2.9	2.2
No class completed yet	1.3	1.2	0.3	0.7	0.9	0.9
Pre-school / Kindergarten	4.2	2.4	4.8	2.1	4.5	2.2
Primary School	79.4	81.2	80.8	83.6	80.0	82.3
Lower Secondary School	11.6	14.1	9.9	8.9	10.9	11.7
Upper Secondary School	1.1	0.6	0.5	0.7	0.9	0.6
Males: Age 15-18						
Never attended school	1.9	3.0	5.0	2.0	3.2	2.6
No class completed yet	0.6	0.6	1.1	1.0	0.8	0.7
Pre-school / Kindergarten	1.1	0.6	0.8	2.0	1.0	1.1
Primary School	46.6	32.5	46.0	42.6	46.3	36.3
Lower Secondary School	35.5	39.1	39.1	44.6	37.0	41.1
Upper Secondary School	14.3	24.3	8.0	7.9	11.7	18.1

Annex Table 18: Impact of HIV on Level of Schooling Attained, by Age, Sex and Location (Contd.)

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Females: Age 5-9						
Never attended school	22.0	20.3	23.3	27.7	22.6	23.7
No class completed yet	5.8	8.9	8.1	10.2	6.8	9.5
Pre-school / Kindergarten	24.5	19.0	20.4	21.9	22.6	20.3
Primary School	47.5	51.9	48.2	40.1	47.8	46.4
Lower Secondary School	0.3	0.0	0.0	0.0	0.1	0.0
Upper Secondary School	0.0	0.0	0.0	0.0	0.0	0.0
Females: Age 10-14						
Never attended school	1.4	3.0	1.7	0.0	1.6	1.6
No class completed yet	1.4	0.0	1.7	1.3	1.6	0.6
Pre-school / Kindergarten	4.4	1.2	5.2	4.0	4.8	2.5
Primary School	77.1	78.0	78.7	75.3	77.9	76.7
Lower Secondary School	14.8	17.9	11.9	16.7	13.4	17.3
Upper Secondary School	0.9	0.0	0.7	2.7	0.8	1.3
Females: Age 15-18						
Never attended school	4.5	3.8	2.6	1.5	3.7	2.7
No class completed yet	0.3	0.0	0.0	0.0	0.2	0.0
Pre-school / Kindergarten	0.3	1.3	1.7	2.3	0.9	1.7
Primary School	43.1	35.0	40.4	38.6	42.0	36.6
Lower Secondary School	37.7	34.4	41.7	50.0	39.3	41.4
Upper Secondary School	14.2	25.6	13.6	7.6	13.9	17.5

Annex Table 19: Impact of HIV on Level of Schooling Attained, by Age, Sex and Quintile (Contd.)

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Males: Age 5-9										
Never attended school	27.6	34.9	22.6	33.3	15.2	26.9	22.4	13.1	15.9	8.5
No class completed yet	7.9	9.5	8.9	10.6	4.3	13.4	12.8	13.1	5.7	8.5
Pre-school / Kindergarten	21.7	14.3	26.7	18.2	23.9	16.4	21.6	32.8	15.9	23.4
Primary School	42.8	41.3	41.8	37.9	56.5	43.3	42.4	41.0	61.4	59.6
Lower Secondary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Upper Secondary School	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Males: Age 10-14										
Never attended school	4.7	4.3	2.6	4.6	1.8	0.0	1.8	0.0	0.7	0.0
No class completed yet	0.0	2.9	1.5	0.0	0.0	0.0	1.8	1.9	1.3	0.0
Pre-school / Kindergarten	2.9	0.0	4.1	6.2	6.1	3.1	4.7	1.9	5.3	0.0
Primary School	86.0	87.0	80.9	81.5	78.2	89.1	82.8	71.7	70.0	78.9
Lower Secondary School	6.4	4.3	10.3	7.7	11.5	7.8	7.7	22.6	22.0	21.1
Upper Secondary School	0.0	1.4	0.5	0.0	2.4	0.0	1.2	1.9	0.7	0.0
Males: Age 15-18										
Never attended school	4.7	1.7	6.3	4.3	2.2	4.9	0.0	2.0	0.0	1.4
No class completed yet	0.9	0.0	0.7	4.3	1.5	0.0	0.0	0.0	1.0	0.0
Pre-school / Kindergarten	1.9	3.4	0.0	2.2	0.0	0.0	0.0	0.0	3.9	0.0
Primary School	58.9	48.3	38.0	41.3	53.3	31.7	41.9	44.9	32.0	18.6
Lower Secondary School	29.0	39.7	44.4	39.1	32.8	46.3	42.9	44.9	41.7	37.1
Upper Secondary School	4.7	6.9	10.6	8.7	10.2	17.1	15.2	8.2	21.4	42.9

Annex Table 19: Impact of HIV on Level of Schooling Attained, by Age, Sex and Quintile (Contd.)

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Females: Age 5-9										
Never attended school	31.3	32.7	17.3	21.7	19.9	30.4	17.5	20.3	20.4	13.8
No class completed yet	10.4	11.5	7.9	7.2	1.4	8.7	7.9	10.2	6.8	8.6
Pre-school / Kindergarten	17.2	19.2	23.6	18.8	23.4	23.9	26.3	25.4	20.4	15.5
Primary School	41.0	36.5	51.2	52.2	55.3	37.0	48.2	44.1	51.5	62.1
Lower Secondary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Upper Secondary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Females: Age 10-14										
Never attended school	1.2	1.3	1.4	3.9	2.9	0.0	0.0	2.0	0.8	1.6
No class completed yet	1.8	0.0	1.4	2.0	1.7	1.4	1.2	0.0	0.0	0.0
Pre-school / Kindergarten	5.9	1.3	6.2	9.8	4.0	0.0	3.6	0.0	4.2	1.6
Primary School	78.7	89.3	81.4	68.6	77.1	74.3	81.2	78.4	66.4	67.2
Lower Secondary School	11.8	6.7	9.0	15.7	13.7	21.4	12.1	17.6	27.7	29.5
Upper Secondary School	0.6	1.3	0.7	0.0	0.6	2.9	1.8	2.0	0.8	0.0
Females: Age 15-18										
Never attended school	2.0	2.0	3.1	1.7	4.8	3.4	3.4	1.8	0.0	3.2
No class completed yet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Pre-school / Kindergarten	1.0	6.0	3.1	1.7	0.0	0.0	0.8	0.0	0.0	0.0
Primary School	54.5	54.0	46.9	35.0	34.7	31.0	43.7	39.3	27.5	24.2
Lower Secondary School	37.6	36.0	32.7	50.0	44.4	55.2	38.7	30.4	48.4	38.7
Upper Secondary School	5.0	2.0	14.3	11.7	16.1	10.3	13.4	28.6	23.1	33.9

IMPACT OF HIV ON SCHOOL ABSENCES AND GRADE REPETITION

Annex Table 20: Impact of HIV on Grade Repetition, by Age, Sex and Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Males:						
Age 5-9	22.3	13.5	13.7	7.6	19.1	10.3
Age 10-14	32.3	19.4	36.2	37.6	33.6	29.0
Age 15-18	24.9	37.4	26.5	45.2	25.4	41.0
All ages	27.8	21.9	26.9	28.3	27.5	25.2
Females:						
Age 5-9	14.6	9.7	16.8	14.3	15.5	12.3
Age 10-14	26.9	17.8	26.5	25.1	26.7	22.2
Age 15-18	22.1	17.6	20.6	1.6	21.6	7.9
All ages	22.0	15.0	22.4	16.2	22.2	15.7
Both:						
Age 5-9	18.5	11.7	15.3	10.8	17.3	11.2
Age 10-14	29.8	18.6	31.0	30.9	30.3	25.5
Age 15-18	23.6	28.8	23.8	19.5	23.7	23.8
All ages	25.1	18.7	24.6	21.9	24.9	20.5

Annex Table 21: Impact of HIV on Grade Repetition, by Sex and Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Males (5-18)	30.9	28.1	31.5	29.1	24.5	18.9	22.4	19.6	24.6	27.2
Females (5-18)	25.2	16.5	22.2	13.3	20.9	17.5	20.8	16.7	20.4	14.2
Both (5-18)	28.2	22.8	27	21.8	22.7	18.1	21.6	17.9	22.6	20.7

IMPACT OF HIV ON UTILISATION OF HEALTH SERVICES

Additional data is provided in the following sections on the utilisation of, and charges for health care services by the surveyed households.

Impact of HIV on Ambulatory Health Utilisation

Annex Table 22: Impact of HIV on Ambulatory Utilisation in Previous Four Weeks, by Age, Sex and Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Males:						
Age 0-14	37.3	36.8	39.4	41.5	38.1	39.4
Age 15-59	41.5	33.2	42.1	35.5	41.7	34.4
Age 60+	52.8	46.4	47.7	66.3	50.2	57.5
All ages	40.2	35.0	41.3	39.4	40.6	37.4
Females:						
Age 0-14	37.7	33.6	38.9	40.7	38.2	37.7
Age 15-59	55.9	46.6	52.7	44.7	54.7	45.6
Age 60+	63.4	67.5	63.1	58.6	63.3	62.6
All ages	50.9	44.5	49.0	44.5	50.2	44.5
Both:						
Age 0-14	37.5	35.3	39.1	41.1	38.1	38.6
Age 15-59	49.6	40.4	48.0	40.6	49.0	40.5
Age 60+	60.4	59.7	57.6	61.5	59.1	60.7
All ages	45.9	40.0	45.5	42.1	45.8	41.1

Annex Table 23: Impact of HIV on Ambulatory Utilisation in the Previous Four Weeks, by Age, Sex and Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Males (all ages)	31.9	34.2	38.5	36.5	44.8	36.9	43.9	42.6	48.3	38.4
Females (all ages)	42.8	35.4	47.3	50.7	50.2	41.2	53.6	43.8	60.9	53.1
Both:										
Age 0-14	31.2	32.2	37.4	39.9	40.1	40.3	43.8	44.2	44.3	41.4
Age 15-59	41.9	35	45.6	42.3	50.4	37.3	50.5	42.2	58.6	45.7
Age 60+	45.5	52.3	57.3	74.2	64.2	52.8	64.7	49.6	69.8	74.1
All ages	37.7	34.8	43.2	43.7	47.8	39.2	49.2	43.2	55.2	46.4

IMPACT OF HIV ON HEALTH CHARGES

Impact of HIV on Ambulatory Care Charges

Annex Table 24: Impact of HIV on Ambulatory Care Charges, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	$	$	$	$	$	$
Provider	0.29	0.22	0.27	1.50	0.28	0.92
Facility	0.06	0.01	0.09	0.37	0.07	0.21
Drugs	7.89	13.68	5.37	7.61	6.97	10.35
Transportation	1.33	1.94	1.51	0.76	1.40	1.29
Supplies	0.60	0.52	0.78	0.59	0.67	0.56
Average TOTAL Charges	**10.17**	**16.38**	**8.02**	**10.83**	**9.39**	**13.33**

SOCIOECONOMIC FACTORS AND THE HEALTH OF PLHIV

Annex Table 25: Mode of HIV Transmission and Diagnosis of Status, by Location

	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
Mode of determining HIV Status:						
Voluntary testing	66.0	73.6	59.9	67.5	63.7	69.1
After prolonged illness	28.5	20.2	36.6	27.4	31.5	25.4
Donating blood	0.3	0.2	0.0	0.0	0.2	0.1
While pregnant	0.7	3.4	0.5	2.7	0.6	2.4
Child of HIV+ mother	3.8	1.1	1.7	2.0	3.0	1.9
Blood test for job	0.7	0.8	1.0	0.4	0.8	0.7
Other	0.0	0.7	0.4	0.1	0.1	0.4
Mode of Transmission:						
Sexual Contact: Heterosexual	86.6	90.8	83.8	89.7	85.5	90.4
Sexual Contact: Homosexual	2.0	0.4	0.6	0.4	1.5	0.4
Blood transfusion / Donation	0.9	0.5	1.5	0.4	1.1	0.4
Needle sharing	0.6	0.5	0.3	0.1	0.5	0.4
MTCT	4.9	2.8	6.5	5.5	5.5	3.8
Other	5.0	5.0	7.4	3.9	5.9	4.6
Sexual contact with spouse	78.1	97.5	84.2	98.4	80.3	97.8

Annex Table 26: Health Characteristics and Utilisation of Medications by PLHIV, by Location

	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
Years since diagnosis						
<1 year	0.0	0.2	0.0	0.0	0.0	0.1
1-3 years	17.8	24.7	35.8	29.7	24.7	26.6
3-5 years	26.1	22.7	25.4	26.4	25.8	24.1
5 years or more	56.1	52.4	38.8	43.8	49.4	49.2
Stage of Infection						
Stage I	24.0	26.0	18.0	25.0	21.0	26.0
Stage II	32.0	34.0	35.0	34.0	33.0	34.0
Stage III	27.0	22.0	30.0	25.0	28.0	23.0
Stage IV	17.0	18.0	18.0	16.0	17.0	17.0
Receiving Home Based Care	56.0	66.0	71.0	76.0	61.0	69.0
Tested for TB	87.0	84.5	88.2	80.7	87.5	83.1
Taking ART	90.3	84.1	93.2	86.0	91.4	84.8
Taking medications for OI	71.7	70.4	52.9	57.2	64.6	65.5

Annex Table 27: Utilisation of Medications for OIs, by Stage of Infection

	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
Stage of Infection						
Stage I	71.0	65.7	45.8	63.2	63.2	64.8
Stage II	74.3	69.4	53.9	55.5	66.2	64.4
Stage III	70.4	74.5	57.1	51.8	65.1	65.4
Stage IV	70.0	74.1	50.9	59.4	62.5	69.1

Annex Table 28: Changes in Lifestyle since Diagnosis, by Location

	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
Made changes to life since diagnosis	66.4	67.4	74.5	64.6	69.5	66.4
Main changes made:						
Abstain from sex	26.9	27.4	26.1	24.8	26.6	26.5
Consistent condom usage	63.2	37.8	61.9	35.7	62.7	37.0
Stopped needle sharing	5.6	10.7	5.5	10.1	5.6	10.5
Stopped donating blood	6.8	5.4	4.1	2.8	5.7	4.5
Decided not to have child	27.5	31.5	27.2	26.6	27.4	29.8
AZT / Nevropine during pregnancy	0.6	3.2	1.0	1.8	0.8	2.7
C-Section during delivery	0.3	1.7	0.0	0.5	0.2	1.3
No breastfeeding	1.0	9.6	0.2	8.4	0.7	9.2
AZT to infant	0.0	0.5	0.5	0.8	0.2	0.6
Do not share shaving blades	8.0	12.0	7.9	14.5	7.9	12.9
Other	14.1	23.1	15.2	26.7	14.6	24.4

Annex Table 29: Health Profile, Utilisation of Medications, and Changes in Lifestyle Since Diagnosis, by Quintile

	Q1	Q2	Q3	Q4	Q5
	%	%	%	%	%
Years since diagnosis					
<1 year	0.1	0.0	0.0	0.0	0.4
1-3 years	30.8	27.1	22.5	25.7	24.1
3-5 years	26.9	27.4	23.6	22.4	22.7
5 years or more	42.2	45.5	54.0	51.9	52.9
Stage of Infection					
Stage I	19.7	21.3	26.0	27.7	28.6
Stage II	36.3	32.7	35.9	30.3	34.3
Stage III	28.2	26.1	21.2	24.3	22.3
Stage IV	15.8	19.9	16.9	17.7	14.7
Receiving Home Based Care	71.6	70.8	67.6	69.2	56.1
Tested for TB	81.0	85.6	85.5	85.8	84.0
Taking ART	83.7	86.3	89.1	86.5	88.2
Taking medications for OI	64.0	62.5	62.6	69.0	67.8

Annex Table 29: Health Profile, Utilisation of Medications, and Changes in Lifestyle Since Diagnosis, by Quintile (Contd.)

	Q1	Q2	Q3	Q4	Q5
	%	%	%	%	%
Main changes made:					
Abstain from sex	25.0	26.6	27.9	23.8	29.3
Consistent condom usage	41.2	41.8	44.6	48.1	48.0
Stopped needle sharing	8.1	10.1	9.5	9.2	8.1
Stopped donating blood	5.9	2.6	4.4	5.5	6.0
Decided not to have child	30.1	24.9	29.3	31.4	29.5
AZT / Nevropine during pregnancy	2.5	2.1	1.6	3.0	1.3
C-Section during delivery	0.4	1.1	1.9	0.9	0.4
No breastfeeding	6.8	7.4	7.7	8.0	3.2
AZT to infant	0.0	0.7	0.3	0.6	0.9
Do not share shaving blades	11.6	10.0	14.5	10.6	10.5
Other	19.9	24.9	19.1	22.2	20.8

THE IMPACT OF HIV ON HUNGER

This section provides additional data on the impact of HIV on hunger and food support.

Annex Table 30: Impact of HIV on Frequency of Meals, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Males:						
<1 meal	0.0	0.0	0.0	0.0	0.0	0.0
1	0.9	0.8	0.6	0.0	0.9	0.3
2	24.3	23.5	19.8	24.0	24.0	22.0
3	70.6	72.7	73.5	69.1	71.4	71.2
4+	3.9	3.0	5.7	6.6	3.6	6.2
Don't know	0.2	0.0	0.4	0.3	0.2	0.3
Females:						
<1 meal	0.0	0.1	0.0	0.0	0.1	0.0
1	1.1	0.9	0.5	0.6	1.0	0.6
2	24.5	26.1	22.0	26.2	25.1	24.3
3	70.8	70.5	72.5	68.8	70.7	70.5
4+	3.3	2.3	4.9	4.3	2.9	4.6
Don't know	0.2	0.1	0.1	0.1	0.2	0.1
Both:						
<1 meal	0.0	0.1	0.0	0.0	0.0	0.0
1	1.0	0.8	0.5	0.3	1.0	0.4
2	24.4	24.9	21.0	25.2	24.6	23.2
3	70.7	71.5	73.0	69.0	71.0	70.8
4+	3.6	2.6	5.3	5.4	3.2	5.3
Don't know	0.2	0.1	0.3	0.2	0.2	0.2

Annex Table 31: Impact of HIV on Frequency of Meals, by Sex and Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Males:										
<1 meal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1.0	0.1	1.4	0.2	0.3	0.4	1.0	0.5	0.5	0.2
2	30.8	33.0	27.4	27.0	24.8	18.0	19.2	15.1	13.5	11.4
3	64.8	59.5	68.0	66.7	72.3	73.7	75.8	79.9	79.9	82.7
4+	3.1	7.3	2.9	5.8	2.4	7.8	4.0	4.2	6.1	5.1
Don't know	0.2	0.2	0.4	0.3	0.2	0.2	0.0	0.3	0.0	0.7
Females:										
<1 meal	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1.3	0.1	0.7	0.2	0.4	0.2	1.7	2.2	0.9	0.3
2	32.9	44.2	30.7	26.4	25.1	19.6	19.6	16.7	12.5	11.6
3	62.9	50.0	66.4	69.1	72.1	74.0	75.1	77.9	81.3	84.6
4+	2.3	5.7	2.1	4.3	2.3	5.9	3.4	3.0	5.2	3.5
Don't know	0.3	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.0	0.1
Both:										
<1 meal	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1.2	0.1	1.0	0.2	0.4	0.3	1.3	1.4	0.7	0.2
2	31.9	38.6	29.2	26.7	24.9	18.9	19.4	16.0	13.0	11.5
3	63.8	54.7	67.1	67.9	72.2	73.9	75.4	78.8	80.6	83.7
4+	2.7	6.5	2.5	5.0	2.3	6.8	3.7	3.5	5.6	4.2
Don't know	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.0	0.4

THE IMPACT OF HIV ON HOUSEHOLDS RECEIVING FOOD SUPPORT

Annex Table 32: Impact of HIV on Food Support, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Receiving food support	54.7	5.5	62.3	1.9	57.5	3.6
Source of food support:						
None	0.0	0.0	0.0	0.0	0.0	0.0
NGO	93.5	40.3	95.6	50.8	94.3	43.3
Government program	2.1	12.7	2.2	21.4	2.2	15.2
Wat	2.0	2.7	0.1	0.0	1.2	1.9
Friends	1.0	2.8	0.3	3.7	0.7	3.1
Family	2.4	33.5	1.8	24.2	2.2	30.8
Community	0.0	2.7	0.9	0.0	0.4	1.9
Other	1.9	6.7	0.8	0.0	1.4	4.8
Consumed all food support	92.4	62.1	95.6	81.3	93.7	67.7
Received education information	85.6	19.1	87.7	41.3	86.4	25.5
Support started after HIV diagnosis	77.8	n/a	85.3	n/a	80.8	n/a
Food Support Evaluation:						
Fully meets household need	5.0	19.3	7.9	13.3	6.2	17.6
Substantially meets household need	39.3	19.2	47.2	28.6	42.4	21.9
Partially meets household need	42.5	28.1	36.5	25.1	40.1	27.2
Barely meets household need	11.4	28.1	8.1	33.1	10.1	29.5
Does not meet household need	1.8	5.4	0.3	0.0	1.2	3.8

Annex Table 33: Impact of HIV on Food Support, by Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Receive food support	62.5	4.9	65.3	4.3	60.3	2.5	56.0	2.5	43.9	4.0
Source of food support:										
None	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NGO	96.0	71.7	94.6	69.3	95.9	24.3	91.7	20.2	92.9	5.1
Govt program	1.1	6.5	3.7	7.0	0.5	37.6	3.5	20.2	1.9	17.0
Wat	0.5	0.0	1.2	3.9	2.0	0.0	1.7	0.0	0.7	4.5
Friends	0.3	8.1	0.0	0.0	1.8	0.0	1.0	7.3	0.7	0.0
Family	0.9	6.5	1.1	16.0	2.5	38.2	4.5	45.1	2.0	64.4
Community	0.3	3.6	0.3	0.0	0.4	0.0	0.4	0.0	0.5	4.5
Other	2.1	3.6	1.1	3.9	0.7	0.0	0.5	7.3	3.0	9.0
Consumed all food support	98.1	63.6	94.8	92.3	92.6	59.2	92.2	63.5	89.0	52.5
Received educational information	89.1	45.9	87.9	31.6	86.0	13.7	85.8	12.9	82.1	9.0
Support started after HIV diagnosis	84.8	0.0	79.7	0.0	79.2	0.0	80.6	0.0	78.7	0.0
Food Support Evaluation:										
Fully meets household need	4.6	3.6	5.6	4.3	6.6	31.7	6.8	21.9	7.9	37.8
Substantially meets household need	43.8	32.2	48.9	25.5	41.0	0.0	38.3	23.2	38.5	19.2
Partially meets household need	40.1	40.0	37.3	3.9	41.8	43.2	41.7	27.5	40.2	27.1
Barely meets household need	11.1	20.6	7.0	62.4	9.1	18.6	12.4	20.2	11.5	15.9
Does not meet household need	0.5	3.6	1.2	3.9	1.5	6.4	0.8	7.3	2.0	0.0

STIGMA, DISCRIMINATION AND QUALITY OF LIFE

The following sections provide more detailed data on the internal stigma and discrimination faced by PLHIV, as well as their views on their quality of life, and those of survey respondents from NA-HHs.

Internal Stigma

Annex Table 34: Internal Stigma Experienced by PLHIV, by Sex and Location

	Urban		Rural		Total		
	Male	Female	Male	Female	Male	Female	All
	%	%	%	%	%	%	
In the last 12 months, have you experienced any of the following feelings because of your HIV status?							
I feel ashamed	44.1	49.2	40.6	46.9	42.8	48.4	46.7
I feel guilty	66.5	42.7	61.3	42.4	64.5	42.6	49.0
I blame myself	59.2	41.6	54.9	39.7	57.6	40.9	45.8
I blame others	8.5	27.0	9.2	27.2	8.8	27.1	21.7
I have low self-esteem	64.4	66.7	59.0	64.4	62.4	65.8	64.8
I feel I should be punished	50.4	44.0	46.9	49.5	49.1	46.0	46.9
I feel suicidal	10.1	19.6	10.2	16.3	10.1	18.4	16.0
In the last 12 months, have you done any of the following things because of your HIV status?							
Chose not to attend social gathering(s)	11.2	15.0	7.3	8.9	9.7	12.8	11.9
Isolated myself from family or friends	9.6	12.5	7.1	9.5	8.7	11.4	10.6
Took the decision to stop working	6.0	13.3	7.2	7.8	6.4	11.3	9.9
Did not to apply for a job or a promotion	8.6	13.9	8.2	11.0	8.5	12.8	11.5
Withdrew from education	14.1	15.6	12.1	16.4	13.3	15.9	15.1
Decided not to get married	48.7	64.2	58.9	71.6	52.6	66.9	62.7
Decided not to have sex	74.1	83.9	79.4	85.0	76.1	84.3	81.9
Decided not to have (more) children	14.1	14.7	11.7	9.4	13.2	12.8	12.9
Avoided going to local clinic when needed	3.2	3.2	0.6	1.3	2.2	2.5	2.4
Avoided going to a hospital when needed	11.2	15.0	7.3	8.9	9.7	12.8	11.9
Physically harassed / threatened	3.4	7.7	4.7	6.5	3.9	7.3	6.3
Treated differently by community	10.7	13.5	10.9	12.7	10.8	13.2	12.5

Annex Table 34: Internal Stigma Experienced by PLHIV, by Sex and Location (Contd.)

	Urban		Rural		Total		
	Male	Female	Male	Female	Male	Female	All
	%	%	%	%	%	%	
In the last 12 months, have you been fearful of any of the following things happening to you – whether or not they have actually happened – due to your HIV status?							
Verbally insulted, harassed and/or threatened	22.5	31.2	21.6	26.8	22.2	29.6	27.4
Physically harassed or threatened or assaulted	8.8	12.9	7.5	11.6	8.3	12.5	11.2
Experience of stigma and discrimination from other people, due to HIV status:							
Has separate bowl / chopsticks	11.1	11.4	5.7	5.1	9.1	9.1	9.1
PLHIV been excluded from family activities	4.1	5.2	4.7	3.0	4.3	4.4	4.3
Excluded from social gatherings	6.8	7.1	4.5	4.9	5.9	6.3	6.2
Verbally harassed / threatened	16.1	23.3	16.4	21.1	16.2	22.5	20.6
Physically harassed / threatened	3.4	7.7	4.7	6.5	3.9	7.3	6.3
Treated differently by community	10.7	13.5	10.9	12.7	10.8	13.2	12.5

Discrimination

Annex Table 35: Discrimination Experienced by PLHIV, by Sex and Location

	Urban		Rural		Total		
	Male	Female	Male	Female	Male	Female	All
	%	%	%	%	%	%	
Married PLHIV informed spouse:							
Immediately after diagnosis	83.9	82.6	86.1	87.5	84.8	84.3	84.5
Did not inform	1.8	1.4	0.2	1.7	1.2	1.5	1.3
Initial reaction to HIV+ status was discriminatory/very discriminatory:							
Spouse	14.1	6.4	12.5	5.5	13.5	6.1	8.3
Other adult HH members	19.4	19.5	18.6	22.8	19.1	20.7	20.2
Friends / neighbours	32.1	33.7	36.8	46.8	33.8	38.5	37.1
Health care workers	0.7	1.2	1.2	1.7	0.9	1.4	1.3
Current reaction to HIV+ status is discriminatory/very discriminatory:							
Spouse	1.5	1.1	2.9	0.7	2.0	0.9	1.2
Other adult HH members	2.1	4.3	4.3	4.1	3.0	4.2	3.9
Friends / neighbours	6.9	10.8	8.5	9.1	7.5	10.1	9.4

Quality of Life

Annex Table 36: Impact of HIV on Quality of Life

	PLHIV	NA-HH
	%	%
Thinking about the last 4 weeks, how would you rate your quality of life?		
Very Poor / Poor	17.5	13.8
Neither	47.1	50.1
Good / Very Good	35.4	36.0
Thinking about the last 4 weeks, how satisfied are you with you health?		
Very Dissatisfied / Dissatisfied	18.6	21.5
Neither	29.1	24.6
Satisfied / Very Satisfied	52.4	53.9
To what extent do you feel your life to be meaningful?		
Not at all / A Little	21.6	15.1
A Moderate Amount	31.9	35.9
Very Much / An Extreme Amount	46.5	49.0
How safe do you feel in your daily life?		
Not at all / A Little	21.4	15.0
A Moderate Amount	45.1	42.0
Very Much / An Extreme Amount	33.6	43.1
Do you have enough energy for everyday life?		
Not At All / A Little	26.7	16.3
Moderately	44.7	44.5
Mostly / Completely	28.6	39.2
Have you enough money to meet your needs?		
Not At All / A Little	77.5	61.3
Moderately	19.7	34.9
Mostly / Completely	2.8	3.8
How well are you able to get around?		
Very Poor / Poor	33.8	25.9
Neither	25.0	27.9
Good / Very Good	41.2	46.2
How satisfied are you with your ability to perform your daily living activities?		
Very Dissatisfied / Dissatisfied	21.0	11.7
Neither	30.2	30.6
Satisfied / Very Satisfied	48.5	57.7
How satisfied are you with your capacity for work?		
Very Dissatisfied / Dissatisfied	20.5	12.3
Neither	29.5	30.3
Satisfied / Very Satisfied	49.7	57.4
How satisfied are you with yourself?		
Very Dissatisfied / Dissatisfied	14.3	8.3
Neither	29.5	24.8
Satisfied / Very Satisfied	56.2	66.9
How satisfied are you with your access to health services?		
Very Dissatisfied / Dissatisfied	2.1	11.8
Neither	10.1	28.2
Satisfied / Very Satisfied	87.8	60.1
How often do you have negative feelings such as blue mood, despair, anxiety, or depression?		
Very Often / Always	9.9	8.0
Quite Often	28.1	25.9
Never / Seldom	62.0	66.1

IMPACT OF HIV ON FAMILY STRUCTURES, ORPHANS AND VULNERABLE CHILDREN

The following sections provide the full data tables on the impact of HIV on certain areas of special consideration, including vulnerable children, gender issues and migration.

Annex Table 37: Impact of HIV on Family Structures, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
HH contains HIV orphan	31.0	1.9	35.6	1.3	32.7	1.6
Family Structure:						
Nuclear	55.5	61.7	55.4	63.6	55.5	62.7
Stem Family	32.7	29.2	35.6	30.2	33.7	29.8
Extended Family	10.2	7.9	7.4	4.6	9.2	6.1

IMPACT OF HIV ON WIDOWS

Impact of HIV on Property Transfer Rights of Widows

Annex Table 38: Impact of HIV on Property Transfer Rights of Widows

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
HHs with no assets to transfer	59.4	55.1	55.4	54.1	57.9	54.5
Received late husband's assets:						
Widow	84.7	84.0	86.1	95.7	85.1	90.5
Other wife	3.9	4.9	5.6	0.0	4.7	2.2
Spouse's children	6.4	2.9	2.9	1.7	5.0	2.2
Spouse's family	3.0	0.0	5.4	0.0	4.0	0.0

IMPACT OF HIV ON MIGRATION

Annex Table 39: Impact of HIV on Migration, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
HH migrated in last 5 years	32.1	21.9	20.5	9.6	27.8	15.3
Reason for Migration:						
Looking for work	19.9	43.9	15.6	25.2	18.7	37.5
Loss of property: fire, flood etc.	4.4	3.1	5.4	0.0	4.7	2.1
Sold property	8.6	6.6	12.3	5.6	9.6	6.2
Be closer to other family members	8.7	14.1	22.5	21.6	12.5	16.7
Seek medical treatment	9.1	0.0	10.4	0.0	9.4	0.0
Discrimination	5.6	0.3	5.7	2.9	5.6	1.2
Other	43.8	32.0	28.3	44.7	39.5	36.3

Annex Table 40: Impact of HIV on Migration, by Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Migrated in 5 years	26.5	16.5	24.7	11.9	25.1	11.2	27.2	17.1	35.3	20.8
Reason:										
Looking for work	14.2	37.4	13.7	34.9	19.5	29.4	12.6	33.3	29.8	47.8
Loss of property	7.5	0	2.8	2.5	2.4	7.5	7.9	1	2.8	0.9
Sold property	13.1	1.9	12.7	3.9	6.3	5.9	12.4	11.7	4.7	6.8
Be closer to family	16.2	30.1	14.2	13.9	13.5	15.8	11.4	13.7	8.6	10.5
Seek medical	11.2	0	9.4	0	8.9	0	7.4	0	10	0
Discrimination	4.9	0	6.7	1.4	12.5	6.1	3.7	0	2.4	0
Other	33	30.6	40.6	43.5	36.9	35.2	44.5	40.3	41.7	34

KNOWLEDGE AND AWARENESS OF HIV

The full data tables regarding the survey respondents' knowledge of HIV and preventative behaviours are outlined here.

Annex Table 41: Impact of HIV on Knowledge and Behaviours Regarding HIV, by Location

	Urban		Rural		Total	
	HIV-HH	NA-HH	HIV-HH	NA-HH	HIV-HH	NA-HH
	%	%	%	%	%	%
Heard of HIV	100	99.9	100	99.8	100	99.8
Tested for HIV	96.7	44.8	95.4	29.5	96.2	36.6
Location of Test:						
Public	88.4	71.3	95.9	82.7	91.1	76.2
Private	15.1	26.5	8.9	19.6	12.8	23.5
Other	8.5	7.3	5.6	3.1	7.4	5.5
If NOT tested, know location for test	84.8	67.0	84.3	56.7	84.5	60.9
Self-Reported HIV Positive	79.2	0.0	74.7	0.0	77.5	0.0
Know HIV can be prevented	99.2	94.4	98.8	93.0	99.0	93.7
If know HIC is preventable, main methods mentioned:						
Abstain from sex	10.8	8.3	11.3	10.3	11.0	9.3
Use condoms	93.7	86.6	90.1	83.6	92.4	85.0
Limit sex to one partner	18.4	24.7	12.1	21.6	16.1	23.1
Avoid sex with prostitutes	10.6	13.9	8.1	14.4	9.7	14.2
Avoid sex with those who have many partners	7.5	9.0	6.4	5.3	7.1	7.0
Avoid blood transfusions	18.4	9.1	15.3	9.7	17.3	9.4
Avoid injections with contaminated needles	38.3	24.4	37.5	28.9	38.0	26.8
Sexually Active in Last 12 months:						
N (#)	953	453	514	515	1467	968
%	57.7	72.4	53.0	71.2	55.9	71.6
If sexually active, used condom in last sexual encounter	**79.5**	**13.3**	**76.9**	**9.1**	**78.6**	**11.1**
Belong to following categories:						
Men who have sex with men	0.7	0.1	0.0	0.0	0.5	0.0
Transgender	0.1	0.0	0.0	1.0	0.1	0.5
Sex worker	6.5	0.6	1.2	0.0	4.6	0.3
Injecting drug user	1.4	0.2	0.2	0.0	0.9	0.1
Refugee or asylum seeker	2.4	0.6	1.8	1.2	2.2	0.9
Internally displaced person	18.2	13.7	14.6	8.7	16.8	11.0
Migrant worker	8.7	5.9	15.0	5.2	11.0	5.5
Prisoner	2.0	0.5	2.0	0.7	2.0	0.6
Never belonged to any of groups	69.3	81.3	71.2	85.2	70.0	83.4
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

Annex Table 42: Impact of HIV on Knowledge and Behaviours Regarding HIV, by Quintile

	Q1		Q2		Q2		Q4		Q5	
	HIV	NA	HIV	NA	HIV	NA	HIV	NA	HIV	NA
	%	%	%	%	%	%	%	%	%	%
Heard of HIV	100	99.4	100	100	100	99.8	100	99.8	100	100
Tested for HIV	94.8	27.7	95.9	36.8	95.5	31.7	96.8	40.9	98.2	46.6
Location of Test:										
Public	91.0	73.0	91.3	79.4	96.9	78.5	91.3	73.0	85.6	76.5
Private	14.7	29.5	11.6	20.4	10.4	17.5	11.8	22.0	15.3	28.5
Other	5.8	2.3	9.4	3.7	6.0	6.7	5.6	11.4	10.1	2.9
If NOT tested, know location for test		47.2		63.8		61.6		64.7		70.4
Self-Reported HIV Positive										
Know HIV can be prevented	99.3	89.9	98.6	94.7	98.2	94.5	99.3	95.2	99.8	93.9
If Know HIV is Preventable, Main Methods Mentioned:										
Abstain from sex	12.5	10.0	13.2	7.4	11.7	10.6	10.8	9.4	6.9	9.3
Use condoms	91.1	81.9	90.9	87.3	94.1	89.6	91.6	79.4	94.2	86.2
Limit sex to one partner	13.9	20.0	12.0	18.1	15.8	25.0	19.5	24.4	18.8	27.9
Avoid sex with prostitutes	8.8	7.0	7.7	14.7	9.5	16.4	10.6	17.8	11.6	14.4
Avoid sex with those with many partners	5.0	3.3	10.1	7.5	6.1	6.2	7.6	8.5	6.6	9.5
Avoid blood transfusions	14.3	9.7	13.3	7.9	20.4	7.0	19.8	11.6	18.6	11.4
Avoid injections with contaminated needles	35.1	16.9	33.4	28.1	44.3	27.0	38.0	33.2	39.6	28.1
Sexually Active in Last 12 months:										
N	283	177	289	205	267	225	322	180	307	181
%	53.2	67.6	56.0	73.6	53.1	77.1	59.9	69.7	57.3	70.0

ANNEX F: STATISTICAL ANALYSES: TESTS FOR SIGNIFICANCE

Statistical Details for Table 3.1: Basic Socioeconomic and Demographic Characteristics of Sample Households

	HIV-HHs (n=2,623)	NA-HHs (n=1,349)	*P*	CI
Mean # of household members / HH	4.4	4.6	.004	.060-.320
	%	**%**		
Location of HH				
Urban	63.0	46.3	<.001	.134-.200
Rural	37.0	53.7	<.001	-.199- -.135
Household migrated in last 5 years	27.8	15.3	<.001	
	HIV-HH members (n=11,594)	**NA-HH members (n=6,220)**	***P***	**CI**
Sex of HH members				
Male	46.1	47.3	*>.05*	-.044- .02
Female	53.9	52.7	*>.05*	-.022- .046
Age of HH members				
<5	11.0	7.2	*<.001*	.024- .052
5-14	21.9	27.3	*<.001*	-.077- -.031
15-24	19.9	19.1	*<.001*	-.012- .028
25-34	17.4	14.8	*<.001*	-.008- .044
35-44	10.6	16.4	*<.001*	-.076- -.040
45-54	9.9	8.1	*<.001*	.004-.032
≥55	9.3	7.1	*<.001*	.009- .035
Education level of HH members (≥5 YOA)				
No school	9.3	7.8	*<.001*	.002- .028
At least some primary school	60.1	55.0	*<.001*	.016- .086
At least some secondary school	29.6	35.6	*<.001*	-.087- -.033
More than secondary school	0.9	1.6	*<.001*	-.012- .002
Ethnicity of HH members				
Khmer	97.3	98.8	*<.001*	-0.61- .031
Non-Khmer	2.7	1.2	*<.001*	.009- .021

Statistical Details for Table 3.2: Basic Characteristics of Heads of Households, by Location

	Urban HoHs				Rural HoHs				Total HoHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Sex												
Male	45.7	64.5	*<.001*	-.007- .003	50.0	65.6	*<.001*	-.007- .004	47.3	65.1	*<.001*	-.005- .002
Female	54.3	35.5	*<.001*	-.002- .006	50.0	34.4	*<.001*	-.003- .006	52.7	34.9	*<.001*	-.001- .005
Age of Head of Household												
≤24	0.9	3.5	*<.001*	-.002- .002	0.4	2.3	*<.001*	-.002- .002	0.7	2.9	*<.001*	-.002- .002
25-34	20.0	20.3	*<.001*	-.001- .001	17.0	24.8	*<.001*	-.001- .001	18.9	22.7	*<.001*	-.001- .001
35-44	40.9	23.2	*<.001*	-.001- .002	42.9	26.2	*<.001*	-.001- .002	41.6	24.8	*<.001*	-.001- .002
45-54	23.9	29.0	*<.001*	-.001- .001	21.9	21.3	*<.001*	-.001- .001	23.1	24.8	*<.001*	-.001- .001
≥55	14.4	24.1	*<.001*	-.001- .001	17.7	25.4	*<.001*	-.001- .001	15.6	24.8	*<.001*	-.001- .001
Marital Status of HoH (≥15 YOA)												
Never married	1.5	1.8	*<.001*	-.002-.002	1.7	1.0	*<.001*	-.002-.002	1.5	1.4	*<.001*	-.002-.002
Currently Married	54.8	74.1	*<.001*	-.004- .002	56.6	74.4	*<.001*	-.004- .002	55.5	74.3	*<.001*	-.004- .002
Separated / Divorced / Abandoned	10.9	8.2	*<.001*	-.001- .001	6.8	6.8	*<.001*	-.001- .001	9.4	7.4	*<.001*	-.001- .001
Widowed	32.8	15.9	*<.001*	-0.003	34.9	17.8	*<.001*	-0.003	33.6	16.9	*<.001*	-0.003
Education Level of HoH (≥5 YOA)												
No school	5.3	3.1	*<.001*	-.001- .001	7.4	5.1	*>0.05*	-.001- .001	6.1	4.2	*<.001*	-.001- .001
At least some primary school	58.8	51.2	*<.001*	-.002- .003	63.0	62.4	*>0.05*	-.002- .003	60.4	57.3	*<.001*	-.002- .003
At least some secondary school	35.2	43.5	*<.001*	-.003- .001	29.3	31.7	*>0.05*	-.003- .001	32.9	37.1	*<.001*	-.003- .001
More than secondary school	0.7	2.2	*<.001*	-.001.- .001	0.3	0.8	*>0.05*	-.001.- .001	0.6	1.4	*<.001*	-.001.- .001

Statistical Details for Table 3.2: Basic Characteristics of Heads of Households, by Location (Contd.)

	Urban HoHs				Rural HoHs				Total HoHs			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
Occupation of HoH (≥5 YOA)												
Managers	1.9	1.9	*<.001*	-.001.- .001	0.6	1.2	*>0.05*	-.001.- .001	1.5	1.5	*<.001*	-.001.- .001
Professionals	2.2	4.2	*<.001*	-.001.- .001	1.6	3.2	*>0.05*	-.001.- .001	2.0	3.7	*<.001*	-.001.- .001
Technicians & associate professionals	2.1	1.5	*<.001*	-.001.- .001	1.9	1.0	*>0.05*	-.001.- .001	2.0	1.3	*<.001*	-.001.- .001
Clerical support workers	0.7	1.1	*<.001*	-.001.- .001	1.9	1.6	*>0.05*	-.001.- .001	1.1	1.4	*<.001*	-.001.- .001
Service and sales workers	26.9	27.6	*<.001*	-.003- .002	21.3	19.2	*>0.05*	-.003- .002	24.9	23.3	*<.001*	-.003- .002
Skilled ag., forestry, fishery workers	3.6	7.1	*<.001*	-.001- .001	19.9	22.0	*>0.05*	-.003- .002	9.4	14.7	*<.001*	-.002- .001
Craft and related trades workers	11.7	7.9	*<.001*	-.001- .002	6.4	11.3	*>0.05*	-.001- .002	9.8	9.6	*<.001*	-.001- .002
Plant / machine operators, assemblers	10.2	15.7	*<.001*	-.002- .001	6.6	7.4	*>0.05*	-.002- .001	8.9	11.5	*<.001*	-.002- .001
Elementary occupations	37.5	29.1	*<.001*	-.002- .004	34.8	28.9	*>0.05*	-.002- .004	36.5	29.0	*<.001*	-.002- .004
Armed forces occupations	3.1	3.9	*<.001*	-.001- .001	5.0	4.2	*>0.05*	-.001- .001	3.8	4.0	*<.001*	-.001- .001
PLHIV	79.2	0.0	*<.001*	.001- .003	74.7	0.0	*>0.05*	.001- .003	77.5	0.0	*<.001*	.001- .003

Statistical Details for Table 3.3: Distribution of Households by the Status of Basic Amenities

	Urban Households				Rural Households				Total Households			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
Number of rooms used for sleeping	1.28	1.34	*>.05*	-.080-.120	1.17	1.26	*.003*	.020-.140	1.24	1.30	*.006*	0110-.100
	%	**%**			**%**	**%**			**%**	**%**		
Type of Flooring												
Earth / Clay	10.6	9.8	*<.001*	-.002- .003	17.6	12.3	*.04*	-.002- .003	13.2	11.2	*<.001*	-.002- .003
Wooden Planks	37.9	44.1	*<.001*	-.005- .004	44.7	50.0	*.04*	-.005- .004	40.4	47.2	*<.001*	-.004- .002
Bamboo Strips	9.2	12.9	*<.001*	-.003- .002	23.6	22.0	*.04*	-.003- .002	14.6	17.8	*<.001*	-.003- .002
Cement / Brick / Stone	22.5	16.7	*<.001*	-.002- .003	9.9	10.0	*.04*	-.002- .003	17.8	13.1	*<.001*	-.002- .003
Ceramic Tiles	18.9	15.3	*<.001*	-.002- .003	3.2	4.2	*.04*	-.001- .001	13.1	9.3	*<.001*	-.001- .002
Other	0.9	1.2	*<.001*	.009- .011	1.0	0.9	*.04*	.009- .017	0.9	1.4	*<.001*	.009- .014
Primary fuel for cooking:												
Firewood	35.9	51.1	*<.001*	-.006- .003	88.4	85.4	*>.05*	-.006- .007	55.3	69.5	*<.001*	-.005- .002
Charcoal	25.1	20.6	*<.001*	-.003- .003	8.2	9.1	*>.05*	-.002- .002	18.8	14.4	*<.001*	-.001- .002
Liquefied Petroleum Gas	36.6	26.9	*<.001*	-.003- .005	2.6	4.9	*>.05*	-.002- .001	24.0	15.1	*<.001*	-.001- .003
Other	2.4	1.4	*<.001*	-.001- .001	0.8	60.0	*>.05*	-.001- .001	1.9	1.0	*<.001*	-.001- .001
Have Electricity	86.3	85.5	*>.05*	-.006- .006	36.3	38.7	*>.05*	-.004- .004	67.8	60.4	*<.001*	-.003- .004
Sanitation: Flush toilet in house	69.6	63.8	*.009*	-.005- .006	34.0	43.4	*<.001*	-.005- .003	56.5	52.9	*.031*	-.003- .004

Statistical Details for Table 3.4: Characteristics of Interviewed PLHIV, by Location

	Urban PLHIV (n=1,653)				Rural PLHIV (n=970)				Total PLHIV (n=970)			
	Male*	Female	*P*	CI	Male*	Female	*P*	CI	Male*	Female	*P*	CI
	%	%			%	%			%	%		
Age												
0-14	5.7	2.6	*.001*	-.001- .002	6.6	5.9	*.017*	-.002- .003	6.0	3.8	*<.001*	-.001- .002
15-24	1.3	1.8	*.001*	-.001- .001	1.0	1.2	*.017*	-.001- .001	1.2	1.5	*<.001*	-.001- .001
25-54	89.3	91.9	*.001*	-.007- .007	88.7	88.8	*.017*	-.009- .009	89.1	90.8	*<.001*	-.006- .005
≥55	3.7	3.7	*.001*	-.001- .001	3.6	4.1	*.017*	-.002- .002	3.7	3.9	*<.001*	-.001- .001
Marital Status (≥14 YOA)												
Currently Married	74.8	42.2	*<.001*	-.003- .009	80.2	41.4	*<.001*	-.004- .011	76.8	41.9	*<.001*	-.002- .008
Separated /Divorced / Abandoned	8.3	14.1	*<.001*	-.003- .002	7.7	9.5	*<.001*	-.003- .003	8.1	12.4	*<.001*	-.002- .001
Widowed	8.6	42.6	*<.001*	-.007-.001	7.5	48.1	*<.001*	-.008-.001	8.2	44.6	*<.001*	-.006- -.001
Never married	8.2	1.2	*<.001*	-.001- .002	4.6	0.9	*<.001*	-.001- .002	6.8	1.1	*<.001*	-.001- .002
Educational status												
No school	5.2	7.4	*<.001*	-.002- .002	7.9	7.6	*<.001*	-.003- .003	6.2	7.5	*<.001*	-.002- .002
Some primary school	48.2	70.6	*<.001*	-.008- .004	56.8	76.5	*<.001*	-.010- .006	51.5	72.8	*<.001*	-.007- .003
Some secondary school or more	46.6	22.0	*<.001*	-.003- .007	35.3	15.9	*<.001*	-.004- .007	42.2	19.7	*<.001*	-.002- .006
Employment Status (15-64 YOA)												
Unemployed	26.2	34.2	*<.001*	-.006- .007	31.0	41.5	*.018*	-.007- .009	28.0	36.8	*<.001*	-.004- .006
Working more than one job	12.8	10.7	*>.05*	-.003- .003	15.8	15.9	*>.05*	-.005- .005	13.9	12.4	*>.05*	-.003- .003

Statistical Details for Table 3.5: Characteristics of Interviewed PLHIV, by Quintile of Consumption

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
Sex						
Male	16.7	16.9	*21.8*	21.2	23.4	*<.001*
Female	21.8	20.8	*18.0*	20.2	19.2	*<.001*
Age						
0-14	6.8	4.5	*3.9*	3.9	3.2	*.004*
15-24	1.2	1.2	*2.0*	1.2	1.6	*.004*
25-54	88.9	89.1	*89.8*	91.1	92.3	*.004*
≥55	3.0	5.2	*4.3*	3.8	2.9	*.004*
Marital Status (≥15YOA)						
Currently Married	51.3	53.7	*50.9*	53.1	50.8	*.005*
Separated / Divorced / Abandoned	9.8	8.2	*11.4*	9.4	17.0	*.005*
Widowed	36.2	35.9	*34.5*	35.2	28.9	*.005*
Never married	2.7	2.1	*3.2*	2.3	3.3	*.005*
Educational status						
No school	8.0	7.0	*5.9*	5.7	8.5	*<.001*
Some primary school	73.6	73.0	*62.3*	65.9	54.5	*<.001*
Some secondary school or more	18.4	20.0	*31.8*	28.4	37.1	*<.001*
Employment Status (15-64 YOA)						
Unemployed	40.8	34.7	*36.0*	33.0	27.4	*<.001*
Working more than one job	10.1	10.3	*13.6*	16.2	13.7	*>.05*

Statistical Details for Table 4.1: Number of Earners per Household and Household Dependency Ratios

	0 Earners			1 Earner			2 Earner			3 Earner			4 Earner			Any #		
	HIV	NA		HIV	NA		HIV	NA		HIV	NA		HIV	NA		HIV	NA	
	%	%	*P*	%	%	*P*	%	%	*P*	%	%	*P*	%	%	*P*	%	%	*P*
Consumption Level																		
Quintile 1	13.4	9.7	*>.05*	35.3	45.8	*.022*	*27.3*	28.8	*>.05*	13.6	*10.5*	*.002*	10.3	5.3	*>.05*	100	100	
Quintile 2	10.8	9.4	*>.05*	39.7	41.3	*.022*	*27.9*	28.2	*>.05*	13.5	*12.9*	*.002*	8.2	8.2	*>.05*	100	100	
Quintile 3	12.7	5.9	*>.05*	38.2	40.5	*.022*	*31.9*	38.3	*>.05*	10	*11.6*	*.002*	7.2	3.7	*>.05*	100	100	
Quintile 4	10.8	6	*>.05*	37.2	37.1	*.022*	*34.6*	38.9	*>.05*	8.8	*13.4*	*.002*	8.6	4.6	*>.05*	100	100	
Quintile 5	9.1	6	*>.05*	46.7	37.5	*.022*	*31.5*	37.6	*>.05*	9.4	*13.3*	*.002*	3.4	5.6	*>.05*	100	100	
TOTAL	**11.3**	**7.4**	**>.05**	**39.5**	**40.5**	**.022**	**30.6**	**34.3**	**>.05**	**11**	**12.3**	**.002**	**7.5**	**5.5**	**>.05**	**100**	**100**	
	$	$		$	$		$	$		$	$		$	$		$	$	
Annual HH Income	421	564	*>.05*	1,391	1,727	*<.001*	*2,461*	2,888	*<.001*	3,260	*3,761*	*<.001*	5,008	5,479	*>.05*	1,825	2,389	*<.001*
Per Capita Income	140	144	*>.05*	410	448	*.028*	*578*	691	*<.001*	547	*737*	*<.001*	705	893	*.005*	454	548	*<.001*
	#	#		#	#		#	#		#	#		#	#		#	#	
Avg. HH Size	3.3	4	*<.001*	3.7	4.3	*<.001*	*4.5*	4.4	*>.05*	5.8	*5.6*	*>.05*	7.5	7	*>.05*	4.4	4.6	*>.05*
Dependency Ratio	10.8	9.5	*>.05*	7.7	9.5	*>.05*	*8.1*	7.1	*>.05*	4.3	*4.7*	*>.05*	6.5	2.7	*>.05*	7.7	7.7	*>.05*

Statistical Details for Table 4.2: Impact of HIV on Household Savings, by Location

	Urban	Rural	*P*	CI
	%	%	%	%
Households reduced savings in last year, due to HIV (%)	14.10%	7.40%	*<.001*	-.001- .002
Average reduction in savings over last year ($)	103	70	*>.05*	-15.13-81.64
Average percentage reduction in savings over last year (%)	29.80%	27.20%	*>.05*	-4.08-9.24

Statistical Details for Table 4.3: Impact of HIV on Household Savings, by Quintile

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
Households reduced savings in last year, due to HIV (%)	7.8	10.7	11	11.2	17.4	*<.001*
Average reduction in savings over last year ($)	25.7	117.3	83.47	119	105.5	*>.05*
Average percentage reduction in savings over last year (%)	27.3	31.8	32.3	24.9	29.1	*>.05*

Statistical Details for Figure 3.2: Distribution of Households by Asset Ownership

	HIV-HH	NA-HH	*P*	CI
% HHs own:	%	%		
Dwelling	52.7	79.9	*<.001*	-.31- -.23
Radio/stereo	36.3	41.7	*.001*	-.08- -.02
TV	57.8	67.8	*<.001*	-.15- -.08
Mobile phone	71.3	65.9	*>.05*	-.01- .05
Wardrobe	25.8	35.6	*<.001*	-.002- .004
Computer	2.8	4.5	*.007*	-.001- .001
Bicycle/cyclo	59.3	68.6	*<.001*	-.003- .005
Motor vehicle	40.7	56.8	*<.001*	-.004- .003
Livestock	36.9	49.3	*<.001*	-.002- .004

Statistical Details for Figure 3.3: Impact of HIV on Home Ownership, by Province

	HIV-HH	NA-HH	*P*	CI
% own home	**%**	**%**		
Banteay Meanchey	66.3	83.1	.004	-.014- .017
Battambang	70.5	81.4	.019	-.012- .014
Kampong Cham	58.1	76.6	<.001	-.008- .012
Kampong Thom	73.6	90.9	.007	-.017- .020
Kampot	79.0	93.5	<.001	-.010- .014
Kandal	58.2	81.2	>.05	-.026- .029
Kratie	55.3	68.2	<.001	-0.017
Phnom Penh	35.4	63.1	.011	-.020- .024
Pursat	63.9	85.3	<.001	-.012- .016
Siemreap	67.0	86.7	>.05	-0.041
Sihanoukville	43.0	48.0	.004	-.014- .017
Svay Rieng	73.8	93.6	.019	-.012- .014

Statistical Details for Figure 4.1: Per-Capita Household Income, by Occupational Category of Head of Household

	HIV-HH	NA-HH	*P*	CI
	$	**$**		
Median annual pc income	$454	$548	<.001	
Managers	$806	$954	>.05	-332- 1074
Professionals	$672	$902	>.05	-93- 442
Technicians and associate professionals	$780	$1,269	<.001	314- 1078
Clerical support workers	$522	$1,123	<.003	239- 1069
Service and sales workers	$560	$841	<.001	189-450
Skilled ag., forestry, fishery workers	$367	$497	<.015	26-237
Craft and related trades workers	$585	$636	>.05	-81-203
Plant / machine operators, assemblers	$627	$768	<.001	132- 461
Elementary occupations	$449	$529	>.05	-40- 140
Armed forces occupations	$787	$635	>.05	-337- 157

Statistical Details for Figure 4.2: Change in Income for PLHIV, by Location

What was your gross monthly income prior to your diagnosis with HIV IN DOLLARS					
Group Statistics	**Sector**	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
	Urban	1326	129.1322	401.18560	11.01550
	Rural	751	98.5304	305.20342	11.13492
What is your current gross monthly income IN DOLLARS					
Group Statistics	**Sector**	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
	Urban	898	65.4668	77.95943	2.60108
	Rural	462	49.3198	63.30429	2.94556

Statistical Details for Figure 4.3: Impact of HIV on PLHIV Employment, by Location and gender

	Urban HHs				**Rural HHs**				**Total HHs**			
	Male	**Female**	***P***	**CI**	**Male**	**Female**	***P***	**CI**	**Male**	**Female**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
%PLHIV reporting lost job	27.3	29.8	*>.05*	-.004- .004	36.5	33.0	*>.05*	-.005- .006	30.8	31.0	*>.05*	-.003- .003

Statistical Details for Figure 4.4: Employment of Children Aged 10-14, by Location and Gender

	Urban HHs				**Rural HHs**				**Total HHs**			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
% employed 10-14 YOA	8.6	6.3	*>.05*	-.001- .046	10.3	8.1	*>.05*	-.004- .048	9.2	7.3	*>.05*	.002- .037

	Boys				**Girls**			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	%	**%**			**%**	**%**		
% employed 10-14 YOA	8.5	9.0	*>.05*	-.031- .020	10.0	5.5	*.011*	.022- .068

Statistical Details for Figure 4.5: Impact of HIV on Productivity

	HIV-HH	**NA-HH**	***P***	**CI**
	%	**%**		
Missed a day of work in last 3 months	56.9	48.6	*<.001*	.058- .108
Couldn't do daily activities in last 4 weeks	13.6	7.8	*<.001*	.052- .068

Statistical Details for Figure 4.9: Impact of Mortality on Income Potential

	HIV-HH (n=2,623)	**NA-HH (n=1,349)**	***P***	**CI**
	%	**%**		
% HHs with death in last year	4.9%	4.9%	*>.05*	-.010- .010
Average age of deceased	48	57	*<.001*	5.155- 11.980
Average income of deceased ($)	$71	$120	*.005*	15.60- 83.68

Statistical Details for Figure 4.10: Source of Total Household Revenues, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	$	$			$	$			$	$		
Agricultural activities	$594	$980	*< .001*	276-495	$476	$881	*<.001*	307- 503	$550	$927	*<.001*	303-450
Trade/Business/Petty Shops	$439	$621	*< .001*	79-282	$246	$336	*.014*	18-161	$368	$468	*.001*	36-163
Sale of land / buildings	$29	$43	*> .05*	-27-55	$55	$27	*>.05*	-76- 20	$39	$34	*>.05*	-35-26
Remittances from relatives / others	$59	$93	*> .05*	-1-68	$62	$54	*>.05*	-53- 36	$60	$72	*>.05*	-16-39
Student scholarships or Gov't/NGO support	$100	$16	*< .001*	-39- -12	$126	$3	*>.05*	-70- 5	$110	$9	*.002*	-47- -10
Other revenue sources*	$245	$300	*> .05*	-24-127	$125	$120	*>.05*	-49-28	$201	$204	*>.05*	-46-42
TOTAL	**$1,467**	**$2,053**	**< .001**	**424-746**	**$1,089**	**$1,421**	**<.001**	**178-484**	**$1,327**	**$1,714**	**<.001**	**274-497**

Statistical Details for Figure 4.11: Source of Total Household Revenues, by Quintile

	Q1 HHs				Q2				Q3				Q4				Q5			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	$	$			$	$			$	$			$	$			$	$		
Agricultural activities	460	625	*.006*	45-266	449	789	*<.001*	251-508	587	898	*<.001*	161-421	630	980	.002	113-506	625	1,364	<.001	547-994
Trade/Business/ Petty Shops	149	181	*>.05*	-15-89	303	366	*>.05*	-15-223	318	444	*>.05*	-63- 190	535	598	>.05	-125-243	526	766	.005	80-437
Sale of land / buildings	30	26	*>.05*	-74-56	33	31	*>.05*	-40-65	40	24	*>.05*	-91-45	59	3	>.05	-134-21	30	90	>.05	-21-137
Remittances from relatives	34	49	*>.05*	-8-35	32	56	*>.05*	-14-22	72	62	*>.05*	-40-52	82	79	>.05	-98-132	82	117	>.05	-36-71
Student cholarships or Government / NGO support	123	9	*<.001*	-27- -9	116	9	*>.05*	-126-43	130	8	*<.001*	-52- -20	103	4	.014	-68- -7	80	16	.020	-23- -1
Other*	100	100	*>.05*	-36- 59	149	133	*>.05*	-117-30	146	181	*>.05*	-50-68	196	223	>.05	-21-126	403	393	>.05	-202- 160
TOTAL	**895**	**990**	***>.05***	**-24-262**	**1,082**	**1,382**	***.002***	**116-535**	**1,293**	**1,616**	***.015***	**43-409**	**1,604**	**1,887**	***>.05***	**-7-596**	**1,747**	**2,745**	***<.001***	**709-1352**

Statistical Details for Figure 4.12: Impact of HIV on Household Per Capita Consumption, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	$	**$**			**$**	**$**			**$**	**$**		
Food	465	459	*>.05*	-54-42	346	436	*>.05*	-27-207	421	447	*>.05*	-32-84
Rent & Utilities	111	95	*.002*	-24- -5	68	64	*>.05*	-13-4	95	78	*<.001*	-23- -9
Medical Care	63	54	*>.05*	-23-5	51	83	*.006*	8-54	59	69	*>.05*	-2- 23
Transportation	49	58	*.022*	1-15	39	40	*>.05*	-7-8	46	48	*>.05*	-2- 8
Personal Care & Clothing	34	37	*>.05*	-.6- 8	26	33	*.002*	2-12	31	35	*.006*	1-7
Education	32	38	*.041*	.23-11	23	26	*>.05*	-2-8	29	32	*>.05*	-8-6
Other	41	58	<.001	9-22	29	43	<.001	8-18	37	50	<.001	8-17
TOTAL	**794**	**799**	**>.05**	**-57-66**	**583**	**725**	**.026**	**17-266**	**716**	**759**	**>.05**	**-21-108**

Statistical Details for Figure 4.13: Impact of HIV on Consumption Patterns, by Quintile

	Q1 HHs				Q2				Q3				Q4				Q5			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	$	**$**			**$**	**$**			**$**	**$**			**$**	**$**			**$**	**$**		
Food	175	187	*.003*	3-19	261	259	*>.05*	-10-7	340	330	*>.05*	-22-2	442	443	*>.05*	-17-18	874	1045	*>.05*	-11-453
Rent & Utilities	38	33	*.001*	-9- -2	58	52	*.037*	-11- -.34	75	66	*.031*	-16- -.78	114	92	*.001*	-34- -8	187	153	*.005*	-58- -10
Medical Care	15	19	*.018*	.72-7	28	32	*>.05*	-2-10	41	54	*.006*	3-23	62	58	*>.05*	-16- 9	146	189	*>.05*	-16-103
Transportation	12	11	*>.05*	-3- .99	24	25	*>.05*	-3-4	36	40	*>.05*	-1-9	55	56	*>.05*	-7-10	100	114	*>.05*	-8-35
Personal Care, Clothing & Effects	11	12	*>.05*	-.06-2	18	20	*>.05*	-.26-4	25	26	*>.05*	-2-3	32	35	*>.05*	-.61-7	67	86	*.004*	6-32
Education	11	9	*>.05*	-4- .20	19	19	*>.05*	-3-3	28	24	*>.05*	-9-1	36	36	*>.05*	-8-7	50	73	*.002*	8-38
Other	9	12	*.001*	1-4	17	23	*<.001*	3-8	28	34	*.007*	1-8	38	56	*<.001*	11-25	90	128	*<.001*	21-54
TOTAL	**271**	**282**	***.020***	**1-19**	**424**	**429**	***>.05***	**-.96-10**	**573**	**574**	***>.05***	**-6-7**	**778**	**776**	***>.05***	**-13-9**	**1513**	**1788**	***>.05***	**-14-564**

Statistical Details for Figure 4.15: Impact of HIV on Food Consumption, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Cereals	19.1	19.7	*>.05*	-2-.24	23.9	17.2	*>.05*	-2-.24	20.6	18.4	*.002*	-2- -.48
Fish, meat, poultry, eggs & dairy	37.4	39.5	*<.001*	2-4	36.8	50.2	*<.001*	2-4	37.3	45.1	*<.001*	2-4
Oil and fats	2.3	2.1	*>.05*	-0.4-0.07	3.7	2.2	*>.05*	-0.4-0.07	2.7	2.1	*>.05*	-.30- .11
Fresh vegetables & fruit	13.7	13.0	*>.05*	-1-.03	14.2	10.5	*>.05*	-1-.36	13.9	11.6	*.001*	-1- -.40
Non-alcoholic beverages	3.8	3.1	*.043*	-.96- -.01	2.4	2.8	*.043*	-.96- -.01	3.3	3.0	*.022*	-.70- -.05
Alcohol & tobacco	3.7	5.8	*<.001*	.76-2	3.7	4.2	*<.001*	.76-2	3.7	4.9	*<.001*	.99-1.95
Food from outside sources	10.4	7.5	*.009*	-1- -.27	4.6	4.1	*.009*	-1- -.27	8.6	5.8	*<.001*	-1.66- -.65
Other	9.4	9.4	*>.05*	-1-.15	10.6	9.0	*>.05*	-1- .15	9.8	9.0	*>.05*	-0.65- 0.25

Statistical Details for Figure 4.16: Impact of HIV on Reasons for Household Debt, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
%Households with loan	63.2	51.4	*<.001*	-.006- .004	68.3	53.5	*<.001*	-.007- .004	65.1	52.5	*<.001*	-.005- .002
Reason for Loan:												
Agricultural related	4	6	*.004*	-.002- .002	11	16	*.012*	-.004- .003	7	12	*<.001*	-.002-.001
Non-agricultural activities	11	13	*>.05*	-.003- .003	10	9	*>.05*	-.003- .003	11	11	*>.05*	-.002-.002
HH consumption needs	33	33	*>.05*	-.005-.005	23	21	*>.05*	-.004-.004	29	26	*>.05*	-.003-.003
Health	21	16	*.044*	-.003-.004	22	15	*.002*	-.003-.004	21	15	*<.001*	-.002-.003
Purchase/improve dwelling	12	14	*>.05*	-.003- .003	16	23	*.006*	-.004- .003	14	19	*<.001*	-.003-.002
Other	20	18	*>.05*	-.003-.004	18	17	*>.05*	-.003-.004	19	17	*>.05*	-.002-.003

Statistical Details for Figure 4.17: Impact of HIV on Source of Debt and Interest Rates, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Source of Loan:												
Relatives	13.7	17.9	*>.05*	-.004-.003	18.7	17.9	*>.05*	-.004-.004	15.7	17.8	*>.05*	-.003-.002
Friends / neighbours	24	20.2	*>.05*	-.003-.004	16.4	12.2	*>.05*	-.003-.004	21	15.8	*.002*	-.002-.003
Moneylender	29.9	25.7	*>.05*	-.004-.005	20.4	16.3	*>.05*	-.003-.004	26.2	20.6	*.002*	-.002-.003
Bank	8.4	13.9	*.003*	-.004-.002	10.7	18.4	*<.001*	-.004-.003	9.3	16.3	*<.001*	-.003-.002
NGO	16.8	16	*>.05*	-.003-.003	23.6	26.1	*>.05*	-.004-.004	19.5	21.5	*>.05*	-.003-.002
Other	7.2	6.3	*>.05*	-.002-.002	10.2	9.1	*>.05*	-.002-.003	8.4	8	*>.05*	-.002-.002
Interest Rate	6.5	5.3	.026	2.29- -.14	3.7	3.4	>.05	-.90- .39	5.4	4.3	.001	-1.78- -.48

Statistical Details for Figure 4.18: Impact of HIV on Source of Agricultural / Dwelling Related Debt and Interest Rates, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Source of Loan:												
Relatives	15	23	*>.05*	-.009-.008	16	17	*>.05*	-.006-.005	16	19	*>.05*	-.005-.004
Friends / neighbours	21	8	*.011*	-.005-.007	10	7	*>.05*	-.004-.004	15	7	*.002*	-.003-.004
Moneylender	18	17	*>.05*	-.007-.008	20	13	*>.05*	-.005-.006	19	14	*>.05*	-.004-.005
Bank	15	15	*>.05*	-.007-.007	13	23	*.011*	-.007-.005	14	21	*.022*	-.005-.004
NGO	26	28	*>.05*	-.010-.009	28	26	*>.05*	-.007-.007	27	26	*>.05*	-.005-.006
Other	5	10	*>.05*	-.006-.005	13	15	*>.05*	-.005-.005	9	13	*>.05*	-.004-.003
Interest Rate	4.1	2.6	*.036*	-5.01- -.17	3.1	6.7	>.05	-1.55- .07	3.4	4.9	*.001*	-2.89- -.79

Statistical Details for Figure 4.19: Impact of HIV on Household Debt, by Quintile

	Q1 HHs				Q2				Q3				Q4				Q5			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%			%	%			%	%		
HHs in debt	66.3	60.1	*>.05*	-.021- .143	62.5	60.2	*>.05*	-.016- .146	69.9	49.9	*<.001*	.064- .219	67.1	48.6	*<.001*	.120- .277	59.8	43.2	*.011*	.098- .241
Interest Rate	5.27	3.73	*.022*	-2.941- '2.332	5.77	4.1	*.005*	-3.601- -.663	5.31	5.79	*>.05*	-1.412- 1.272	5.66	4.26	*>.05*	-1.850- 1.364	5.12	3.4	*.048*	-3.162- -.011

Statistical Details for Figure 4.20: Impact of HIV on Household Debt, by Province

	HIV-HH	NA-HH	*P*	CI
Banteay Meanchey	56	48	>.05	-.045- .201
Battambang	63	52	.038	-.002- .213
Kampong Cham	73	49	<.001	.142- .341
Kampong Thom	78	64	>.05	-.057- .350
Kampot	64	44	>.05	.046- .336
Kandal	67	52	.004	.041- .265
Kratie	53	55	>.05	-.278- .240
Phnom Penh	65	50	<.001	.068- .231
Pursat	61	61	>.05	-.191- .207
Siemreap	66	56	>.05	-.015- .221
Sihanoukville	61	60	>.05	-.222- .242
Svay Rieng	70	58	>.05	-.054- .303

Statistical Details for Figure 5.2 and Statistical Details for Figure 5.3: Impact of HIV on Males' and Females' Current School Attendance, by Age

	Urban HHs				Rural HHs			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
% Currently attending school	**%**	**%**			**%**	**%**		
6	67.4%	68.4%	*>.05*	-.231- .231	73.4%	73.0%	*>.05*	-.244- .244
7	87.9%	84.7%	*>.05*	-.230- .205	84.9%	94.8%	*>.05*	-.228- .214
8	91.5%	90.0%	*>.05*	-.225- .218	89.6%	100.0%	*>.05*	-.239- .211
9	93.9%	96.3%	*>.05*	-.216- .216	94.3%	99.0%	*>.05*	-243- .223
10	95.8%	99.0%	*>.05*	-.188- .151	96.5%	95.7%	*>.05*	-.179- .174
11	98.2%	95.8%	*>.05*	-.231- .254	95.8%	98.3%	*>.05*	-.265 -.211
12	88.7%	81.2%	*.001*	-.045- .317	97.3%	98.1%	*>.05*	-.195- .186
13	89.7%	94.5%	*>.05*	-.200- .153	92.5%	96.9%	*>.05*	-.220- .164
14	87.0%	79.7%	*>.05*	-.109- .272	91.7%	90.6%	*>.05*	-.168- .216
15	79.4%	82.1%	*>.05*	-.237- .117	77.2%	69.7%	*>.05*	-.103- .216
16	72.0%	64.9%	*>.05*	-.093-.266	65.4%	83.0%	*.005*	-.347- -.021
17	60.0%	43.9%	*.017*	.052-.333	51.1%	53.3%	*>.05*	-.121- .157
18	43.3%	58.9%	*>.05*	-.251- .002	44.4%	36.2%	*>.05*	-.085- .166
19	44.7%	62.5%	*>.05*	-.156- .138	35.5%	44.2%	*>.05*	-.192- .079
20	34.3%	26.5%	*>.05*	-.084- .137	33.8%	39.9%	*>.05*	-.164- .063
21	16.6%	45.6%	*.009*	-.306- -.069	35.8%	31.7%	*>.05*	-.112- .094
22	19.9%	44.8%	*>.05*	-.110- .090	28.7%	35.8%	*>.05*	-.134- .059
23	25.7%	35.6%	*>.05*	-.079- .071	14.8%	24.4%	*>.05*	-.019- .110

Statistical Details for Figure 5.4: Impact of HIV on Children who have Never Attended School

	Urban Boys				Urban Girls			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
Children never attended school	7.6%	9.8%	*>.05*	-.48- .092	8.4%	8.4%	*>.05*	-.077- .076

	Rural Boys				Rural Girls			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
Children never attended school	11.3%	12.5%	*>.05*	-.060- .086	8.2%	9.8%	*>.05*	-0.145

	Urban – All Children				Rural – All Children			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
Children never attended school	8.0	9.2	*>.05*	-.889- .004	9.7	11.1	*>.05*	-.897- .004

Statistical Details for Figure 4.19: Impact of HIV on Household Debt, by Quintile

	Total Boys				Total Girls				All Children			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Children never attended school	8.9%	11.2%	*.044*	-.027- .073	8.4%	9.2%	*>.05*	-.044- .060	8.7	10.2	*.044*	-.858- .004

Statistical Details for Figure 5.5: Impact of HIV on Net Attendance Rates, by Educational Level and Sex

	Boys				Girls			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
Attend Primary School (6-11YOA)	65.2%	63.1%	>.05	-.046- .089	66.0%	69.3%	>.05	-.106- .038
Attend Lower Secondary School (12-14 YOA)	16.8%	17.1%	>.05	-.049- .044	21.0%	24.7%	>.05	-.094- .020
Attend Upper Secondary School (15-17 YOA)	8.5%	13.2%	>.05	-.089- -.006	9.3%	15.5%	.020	-.104- -.020
Attend Any Secondary School (12-17 YOA)	27.3%	32.0%	>.05	-.092- -.001	31.2%	38.6%	.008	-.124- -.025

Statistical Details for Figure 5.6: Impact of HIV on Net Attendance Rates, by Educational Level and Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Attend Primary School (6-11YOA)	66.5%	68.3%	*>.05*	-.086- .050	64.5%	63.6%	*>.05*	-.063- .080	65.6%	66.2%	*>.05*	-.055- .044
Attend Lower Secondary School (12-14 YOA)	20.3%	24.5%	*>.05*	-.096- .011	17.0%	16.6%	*>.05*	-.045- .053	18.8%	20.8%	*>.05*	-.056- .017
Attend Upper Secondary School (15-17 YOA)	11.0%	20.9%	*<.001*	-.145- -.052	5.9%	6.1%	*>.05*	-.033- .029	8.9%	14.4%	*.003*	-.085- -.026
Attend Any Secondary School (12-17 YOA)	30.7%	38.7%	*.003*	-.127- -.033	27.1%	31.4%	*>.05*	-.091- .005	29.2%	35.4%	*.001*	-.096- -.029
NGO	26	28	*>.05*	-.010-.009	28	26	*>.05*	-.007-.007	27	26	*>.05*	-.005-.006
Other	5	10	*>.05*	-.006-.005	13	15	*>.05*	-.005-.005	9	13	*>.05*	-.004-.003

Statistical Details for Figure 5.7: Impact of HIV on Reasons for non-Attendance, by Sex

	Boys				Girls			
	HIV-HH	**NA-HH**	***P***	**CI**	**HIV-HH**	**NA-HH**	***P***	**CI**
	%	**%**			**%**	**%**		
Financial reasons	18%	14%	*>.05*	-.004-.005	24%	17%	*>.05*	-.005-.006
Must contribute to HH income	21%	12%	*.009*	-.004-.006	24%	24%	*>.05*	-.006-.006
Must do chores	4%	2%	*>.05*	-.002-.002	8%	5%	*>.05*	-.003-.003
Other	57%	73%	*<.001*	-.012-.009	44%	53%	*.038*	-.009-.008

Statistical Details for Figure 5.8: Impact of HIV on Reasons for Non-Attendance, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
Financial reasons	22.0%	19.1%	*>.05*	-.005-.006	20.3%	12.5%	*.029*	-.004-.006	21.3%	15.4%	*.016*	-.003-.004
Must contribute to household income	23.8%	15.7%	*.021*	-.004-.006	20.0%	19.0%	*>.05*	-.006-.006	22.3%	17.6%	*>.05*	-.003-.004
Must do chores	6.8%	3.1%	*>.05*	-.002-.003	5.0%	3.8%	*>.05*	-.003-.003	6.1%	3.5%	*>.05*	-.002-.002
Other	47.3%	62.1%	*<.001*	-.010-.008	54.7%	64.7%	*.033*	-.011-.009	50.3%	63.6%	*<.001*	-.008-.005

Statistical Details for Figure 5.9: Impact of HIV on School Absences, by Age and Sex

	Missed 10 or more days of school			
	HIV-HH	NA-HH	*P*	CI
	%	%		
Ages 5-9	15.1%	8.2%	*<.001*	.044- .093
Ages 10-14	16.4%	13.8%	*>.05*	.001- .050
Ages 15-18	12.7%	13.4%	*>.05*	-.040- .027
All ages	15.2%	11.9%	*.002*	.018- .049
Boys	16.0%	14.5%	*>.05*	-.009- .038
Girls	14.4%	9.2%	*<.001*	.032- .072
Urban	14.2%	14.8%	*>.05*	-.029- .018
Rural	17.1%	9.5%	*<.001*	.053- .097

Statistical Details for Figure 5.10: Impact of HIV on Grade Repetition

	Has Ever Repeated a Grade					
	HIV-HH		NA-HH		*P*	CI
	N	%	N	%	%	
Ages 5-9	185 (of 1067)	17.3%	54 (of 480)	11.2%	*<.001*	.033- .088
Ages 10-14	504 (of 1667)	30.3%	169 (of 660)	25.5%	*.026*	.014- .080
Ages 15-18	159 (of 672)	23.7%	79 (of 331)	23.8%	*>.05*	-.047- .044
All ages	848 (of 3406)	24.9%	301 (of 1471)	20.5%	*.001*	.024- .064
Boys	483 (of 1760)	27.5%	186 (of 736)	25.2%	*>.05*	-.009- .053
Girls	365 (of 1647)	22.2%	116 (of 735)	15.7%	*<.001*	.038- .090
Urban	541 (of 2157)	25.1%	123 (of 659)	18.7%	*.001*	.035- .091
Rural	307 (of 1250)	24.6%	178 (of 812)	21.9%	*>.05*	-.003- .057

Statistical Details for Figure 5.11: School Attendance by Orphans and Vulnerable Children, by Location and Sex

	Urban HHs				Rural HHs				Total HHs			
	OVC	Not-OVC	*P*	CI	OVC	Not-OVC	*P*	CI	OVC	Not-OVC	*P*	CI
	%	%			%	%			%	%		
Boys	95.0%	93.0%	*>.05*	-.093- .121	88.9%	85.8%	*>.05*	-.082- .145	92.6%	89.4%	*.049*	-.045- .109
Girls	95.6%	94.0%	*>.05*	-.099-.132	93.1%	97.3%	*.035*	-.157- .075	91.1%	91.6%	*>.05*	-.093- .069
All	95.1%	93.6%	*>.05*	-.064- .093	94.6%	95.8%	*>.05*	-.086- .076	93.6%	92.5%	*>.05*	-.046- .066

Statistical Details for Figure 6.1: Reported Health Status of Household Members, by Location

	Males				Females			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
Very Good / Good	44%	45%	*<.001*	.026- .043	35%	38%	*.001*	.015-.033
Average	47%	49%	*<.001*	-.106- -.034	50%	52%	*.034*	-.077- -.004
Bad / Very Bad	10%	6%	*<.001*	-.002-.073	15%	10%	*>.05*	-.022- .056

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Very Good / Good	43%	46%	*<.001*	.023-.040	32%	37%	*<.001*	.017- .035	39%	41%	*<.001*	.023- .036
Average	44%	46%	*.004*	-.089- -.-020	56%	54%	*>.05*	-.052-.026	49%	50%	*<.001*	-.081- -.030
Bad / Very Bad	13%	7%	*>.05*	-.018- .063	12%	9%	*>.05*	-.050- .024	12%	8%	*>.05*	-.001- .053

Statistical Details for Figure 6.2: Reported Health Status of Household Members, by Quintile

	Q1 HHs				Q2 HHs				Q3 HHs				Q4 HHs				Q5 HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%			%	%			%	%		
Very Good / Good	35	43	*<.001*	-.004-.002	39	33	*<.001*	-.002-.003	39	42	.036	-.003-.003	40	41	*>.05*	-.003-.003	45	50	*.006*	-.004-.003
Average	54	47	*<.001*	-.003-.004	49	58	*<.001*	-.004-.002	49	52	>.05	-.004-.003	47	50	*>.05*	-.004-.003	42	41	*>.05*	-.003-.004
Bad / Very Bad	12	10	*>.05*	-.001-.002	12	8	*<.001*	-.001-.002	12	6	<.001	-.001-.002	13	9	*.002*	-.001-.002	13	8	*<.001*	-.001-.002

Statistical Details for Figure 6.3: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by Age and Sex

	Males				Females				All			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Age 0-14 YOA	38.1%	39.4%	*>.05*	-.046- .019	38.2%	37.7%	*>.05*	-.029- .038	38.1%	38.6%	*>.05*	-.028- .019
15-59 YOA	41.7%	34.4%	*<.001*	.048- .099	54.7%	45.6%	*<.001*	.065- .118	49.0%	40.5%	*<.001*	.067- .104
60+ YOA	50.2%	57.5%	*>.05*	-.186- .040	63.3%	62.6%	*>.05*	-.084- .095	59.1%	60.7%	*>.05*	-.087- .054
All ages	40.6%	37.4%	*.004*	.012- .052	50.2%	44.5%	*<.001*	.036- .077	45.8%	41.1%	*<.001*	.032- .061

Statistical Details for Figure 6.4: Utilisation of Ambulatory Health Care Services in the Previous 4 Weeks, by Quintile

	Q1 HHs				Q2 HHs				Q3 HHs				Q4 HHs				Q5 HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%			%	%			%	%		
15-59 YOA	41.9	35.0	*.002*	.029- .107	45.6	42.3	*>.05*	.001- .079	50.4	37.3	<.001	.080- .161	50.5	42.2	*<.001*	.060- .144	58.6	45.7	*<.001*	.071- .164

Statistical Details for Figure 6.5: Reasons for Not Seeking Care when Sick, by location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Too expensive	4.20%	3.40%	*>.05*	-.021-.023	2.50%	6.80%	*<.001*	-0.079- -0.024	3.50%	5.30%	*.030*	-.042- -.005
Facility / provider too far away	2.30%	1.50%	*>.05*	-.011-.019	1.80%	2.30%	*>.05*	-.027- .007	2.10%	2.00%	*>.05*	-.013- .010
Had medicine at home / self-medicated	45.60%	27.10%	*<.001*	.104- .232	60.30%	36.20%	*<.001*	.152- .296	51.70%	32.00%	*<.001*	.137- .233
Did not have time	1.30%	1.20%	*>.05*	-.016- .011	1.10%	0.50%	*>.05*	-.005- .013	1.20%	0.80%	*>.05*	-.006- .010
Did not think serious enough	43.10%	65.00%	*<.001*	-.340- -.154	32.20%	52.60%	*<.001*	-.305- -.148	38.60%	58.30%	*<.001*	-.275- -.155
Other	3.50%	1.70%	*>.05*	-.003- .030	2.20%	1.60%	*>.05*	-.012- .017	2.90%	1.60%	*>.05*	-.001- .021
TOTAL	**100**	**100**			**100**	**100**			**100**	**100**		

Statistical Details for Figure 6.6: Impact of HIV on Location of Ambulatory Care Health Services, by Location

	Urban HHs				Rural HHs				Total HHs			
	PLHIV	**HIV: Other**	***NA: All***	**P**	**PLHIV**	**HIV: Other**	***NA: All***	**P**	**PLHIV**	**HIV: Other**	***NA: All***	**P**
	%	**%**	**%**		**%**	**%**	**%**		**%**	**%**	**%**	
Public Sector	75%	37%	*14%*	<.001	68%	37%	*16%*	<.001	73%	37%	*15%*	<.001
Private Sector	20%	54%	*75%*	<.001	21%	44%	*63%*	<.001	20%	51%	*68%*	<.001
Non-Medical Sector	5%	9%	*11%*	<.001	10%	18%	*21%*	<.001	7%	13%	*17%*	<.001

Statistical Details for Figure 6.7: Impact of HIV on Hospitalisations, by Sex

	Males				Females				All			
	PLHIV	**HIV: Other**	***NA: All***	**P**	**PLHIV**	**HIV: Other**	***NA: All***	**P**	**PLHIV**	**HIV: Other**	***NA: All***	**P**
	%	**%**	**%**		**%**	**%**	**%**		**%**	**%**	**%**	
% hospitalised	16.7	6.4	5.5	<.001	18.4	7.5	6.9	<.001	17.9	6.9	6.3	<.001

Statistical Details for Figure 6.8: Impact of HIV on Satisfaction with Access to Health Services

	HIV-HH (n=2,623)	**NA-HH (n=1,349)**	**P**	**CI**
	%	**%**		
Very Dissatisfied / Dissatisfied	2.10%	11.80%	*<.001*	-.125- -.086
Neither	10.10%	28.20%	*<.001*	-.217- -.155
Satisfied / Very Satisfied	87.80%	60.10%	*<.001*	.211- .314

Statistical Details for Figure 6.9: Impact of HIV on Ambulatory Charges, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	$	$			$	$			$	$		
Total OP Charges in last 4 weeks	10.17	16.38	*.003*	.904- 4.273	8.02	10.83	*.003*	.385- 1.951	9.39	13.33	*.001*	.677- 2.610

Statistical Details for Figure 6.10: Impact of HIV on Inpatient Health Care Costs, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	$	$			$	$			$	$		
Total IP Charges in last 4 weeks	$78.58	$115.19	*.027*	1.388-23.161	$87.37	$130.46	*<.001*	10.616- 31.833	$82.00	$123.42	*<.001*	9.662- 24.745

Statistical Details for Figure 6.14: Mode of Determining HIV Status, by Sex and Location

	Male				Female			
	Urban	Rural	*P*	CI	Urban	Rural	*P*	CI
	%	%			%	%		
Voluntary testing	66.00%	59.90%	*.002*	-.162- -.014	73.60%	67.50%	*.026*	-.183- .001
After prolonged illness	28.50%	36.60%	*<.001*	.033- .121	20.20%	27.40%	*.004*	.018- .148
Other	5.50%	3.60%	*>.05*	-.032- .011	6.20%	5.20%	*>.05*	.045- .003

	Urban				Rural			
	Male	Female	*P*	CI	Male	Female	*P*	CI
	%	%			%	%		
Voluntary testing	66.00%	73.60%	*.002*	-.162- -.014	59.90%	67.50%	*.026*	-.183- .001
After prolonged illness	28.50%	20.20%	*<.001*	.033- .121	36.60%	27.40%	*.004*	.018- .148
Other	5.50%	6.20%	*>.05*	-.032- .011	3.60%	5.20%	*>.05*	.045- .003

Statistical Details for Figure 6.15: Mode of Determining HIV Status, by Quintile

	Lowest	Q2	Q3	Q4	Highest	P
	%	%	%	%	%	
Voluntary testing	69.2%	65.0%	*67.7%*	71.0%	72.4%	>.05
After prolonged illness	23.2%	29.5%	*27.2%*	24.3%	22.8%	>.05
Other	7.6%	5.5%	*5.1%*	4.7%	4.8%	>.05

Statistical Details for Figure 6.16: HIV Testing among Key Affected Populations, by Sex and Location

Urban HIV-Affected Households:

	Male PLHIV				Female PLHIV				All PLHIV			
	KAP	Not-KAP	*P*	CI	KAP	Not-KAP	*P*	CI	KAP	Not-KAP	*P*	CI
	%	%			%	%			%	%		
Voluntary testing	69.9%	68.4%	>.05	*-.164- .159*	72.7%	74.9%	*>.05*	-.141- .076	71.8%	73.2%	*>.05*	-.113- .068
After prolonged illness	29.4%	28.7%	>.05	*-.109- .100*	20.4%	19.9%	*>.05*	-.057- .057	23.3%	22.2%	*>.05*	-.045- .056
Other	0.6%	2.9%	>.05	*-.052- -.005*	6.9%	5.2%	*>.05*	-.018- .046	4.9%	4.6%	*>.05*	-.023- .024

Rural HIV-Affected Households:

	Male PLHIV				Female PLHIV				All PLHIV			
	KAP	**Not-KAP**	***P***	**CI**	**KAP**	**Not-KAP**	***P***	**CI**	**KAP**	**Not-KAP**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
Voluntary testing	53.5%	64.0%	*>.05*	-.311- .043	61.7%	71.7%	*>.05*	-.255- .028	58.2%	69.7%	*.007*	-.237- -.020
After prolonged illness	42.1%	35.2%	*>.05*	-.096- .194	34.1%	25.1%	*>.05*	-.015- .183	37.6%	27.7%	*.013*	.011- .173
Other	4.4%	0.7%	*.028*	.003- .074	4.1%	3.3%	*>.05*	-.029- .041	4.3%	2.6%	*>.05*	-.012- .041

Total HIV-Affected Households:

	Total HIV-Affected Households:			
	KAP	**Not-KAP**	***P***	**CI**
	%	%		
Voluntary testing	67%	72%	*.036*	-.129- .010
After prolonged illness	29%	24%	*>.05*	-.003- .085
Other	5%	4%	*>.05*	-.012- .023

Statistical Details for Figure 6.17: Mode of Determining HIV Status, by Province

	VCCT*			Illness*			Other*		
	%	P	*CI*	%	P	*CI*	%	P	*CI*
Banteay Meanchey	60.5%	.010	-.260- .025	30.5%	>.05	*-.056- .127*	9.0%	.031	*-.017- .074*
Battambang	73.4%	>.05	-.128- .150	22.2%	>.05	*-.131- .033*	4.4%	>.05	*-.058- .018*
Kampong Cham	58.1%	<.001	-.281- -.006	34.4%	.002	*-.017- .162*	7.5%	>.05	*-.031- .053*
Kampong Thom	65.1%	>.05	-.259- .129	28.3%	>.05	*-.110- .137*	6.6%	>.05	*-.048- .075*
Kampot	51.9%	<.001	-.359- -.052	43.9%	<.001	*.059- .289*	4.2%	>.05	*-.068- .017*
Kandal	61.2%	.019	-.252- .033	30.6%	>.05	*-.052- .0131*	8.2%	>.05	*-.023- .067*
Kratie	57.9%	>.05	-.391- .106	36.8%	>.05	*-.064- .327*	5.3%	>.05	*-.086-.053*
Phnom Penh	76.3%	<.001	005- .252	19.0%	<.001	*-.157- -.011*	4.7%	>.05	*-.052- .016*
Pursat	77.1%	>.05	-.135- .258	19.7%	>.05	*-.179- .033*	3.3%	>.05	*-.077- .016*
Siemreap	68.0%	>.05	-.180- .098	25.3%	>.05	*-.101- .067*	6.7%	<.001	*-.036- .046*
Sihanoukville	56.0%	.004	-.313-.001	42.0%	<.001	*.040-.267*	2.0%	>.05	*-.083- -.007*
Svay Rieng	72.1%	>.05	-.168- .193	24.6%	>.05	*-.127- .087*	3.3%	>.05	*-.070- .022*
AVERAGE	**69.1%**			**25.4%**			**5.5%**		

**Test for significance indicates whether the provincial level is significantly different from the overall average.*

Statistical Details for Figure 6.18: Mode of HIV Transmission, by Sex and Location

	Male				Female			
	Urban	**Rural**	***P***	**CI**	**Urban**	**Rural**	***P***	**CI**
	%	**%**			**%**	**%**		
Sexual Contact: Heterosexual	86.60%	83.80%	*>.05*	*-.133- .123*	90.80%	89.70%	*>.05*	-.097- .074
MTCT	4.90%	6.50%	*>.05*	*-.059- .009*	2.80%	5.50%	*.003*	-.053- -.013
Other	8.50%	9.80%	*>.05*	*-.066- .020*	6.40%	4.80%	*>.05*	-.009- .032

	Urban				Rural			
	Male	**Female**	***P***	**CI**	**Male**	**Female**	***P***	**CI**
	%	**%**			**%**	**%**		
Sexual Contact: Heterosexual	86.60%	90.80%	*.011*	-.139- .028	83.80%	89.70%	*.008*	-.185-.031
MTCT	4.90%	2.80%	*.040*	.001- .036	6.50%	5.50%	*>.05*	-.023- .034
Other	8.50%	6.40%	*>.05*	-.006- .043	9.80%	4.80%	*.003*	.016- .078

Statistical Details for Figure 6.19: Mode of HIV Transmission, by Quintile

	Lowest	**Q2**	**Q3**	**Q4**	**Highest**	***P***
	%	**%**	**%**	**%**	**%**	
Sexual Contact: Heterosexual	87%	90%	*90%*	90%	88%	*>.05*
MTCT	7%	4%	*4%*	4%	3%	*.008*
Other	6%	6%	*6%*	7%	9%	*>.05*
Sexual Contact: Spousal Transmission	96%	92%	*94%*	92%	91%	*>.05*

Statistical Details for Figure 6.20: Years Since Diagnosis, by Sex and Location

	Urban HIV-HHs (n=1,653)				Rural HIV-HHs (n=970)			
	Males (477)	Females (1,176)	*P*	CI	Male (290)	Female (679)	*P*	CI
	%	%			%	%		
<1 year	0.00%	0.20%	*>.05*	*-.006- .001*	0.00%	0.00%	-	-
1-3 years	17.80%	24.70%	*.003*	*-.118- -.035*	35.80%	29.70%	*>.05*	-.016- .0117
3-5 years	26.10%	22.70%	*>.05*	*-.017- .072*	25.40%	26.40%	*>.05*	-.079- .039
5 years or more	56.10%	52.40%	*>.05*	*-.039- .094*	38.80%	43.80%	*>.05*	-.137- .012

Statistical Details for Figure 6.21: Years Since Diagnosis, by Quintile

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
<1 year	0.10%	0.00%	*0.00%*	0.00%	0.40%	>.05
1-3 years	30.80%	27.10%	*22.50%*	25.70%	24.10%	.016
3-5 years	26.90%	27.40%	*23.60%*	22.40%	22.70%	>.05
5 years or more	42.20%	45.50%	*54.00%*	51.90%	52.90%	<.001

Statistical Details for Figure 6.22: Stage of Infection, by Sex and Location

	Urban HHs				Rural HHs				Total HHs			
	Male	Female	*P*	CI	Male	*Female*	*P*	CI	*Male*	Female	*P*	CI
	%	%			%	%			%	%		
Stage I	24%	26%	*>.05*	-.075- .014	18%	*25%*	*.008*	-.0143- -.036	21%	26%	*.015*	-.085- -.016
Stage II	32%	34%	*>.05*	-.081- .021	35%	*34%*	*>.05*	-.063- .073	33%	34%	*>.05*	-.055- .027
Stage III	27%	22%	*.017*	.005- .094	30%	*25%*	*>.05*	-.023- .097	28%	23%	*.005*	.012-.083
Stage IV	17%	18%	*>.05*	-.053- .021	18%	*16%*	*>.05*	-.036- .059	17%	17%	*>.05*	-.033-.025

Statistical Details for Figure 6.23: Stage of Infection, by Quintile

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
Stage I	19.70%	21.30%	*26.00%*	27.70%	28.60%	*.001*
Stage II	36.30%	32.70%	*35.90%*	30.30%	34.30%	*>.05*
Stage III	28.20%	26.10%	*21.20%*	24.30%	22.30%	*.049*
Stage IV	15.80%	19.90%	*16.90%*	17.70%	14.70%	*>.05*
Sexual Contact: Spousal Transmission	96%	92%	*94%*	92%	91%	*>.05*

Statistical Details for Figure 6.24: Utilisation of ART and Medications for OI, by Sex and Location

	Urban HHs				Rural HHs			
	Male	Female	*P*	CI	Male	Female	*P*	CI
	%	%			%	%		
Taking ART	90%	84%	*.001*	-.034- .132	93%	86%	*.001*	-.054- .164
Taking medications for OIs	72%	70%	*>.05*	.719- .705	53%	57%	*>.05*	-.143- .028

	Male PLHIV				Female PLHIV			
	Urban	Rural	*P*	CI	Urban	Rural	*P*	CI
	%	%			%	%		
Taking ART	90%	93%	*>.05*	-.199- .068	84%	86%	*>.05*	-.126- .041
Taking medications for OIs	72%	53%	*<.001*	.057- .268	70%	57%	*<.001*	.045- .185

Statistical Details for Figure 6.25: Utilisation of Medications, by Quintile

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
ART	84	86	89	87	88	*>.05*
OI Medications	64	63	63	69	68	*>.05*

Statistical Details for Figure 6.26: Utilisation of Medications for OI, by Stage of Infection

	Male PLHIV				Female PLHIV			
	Urban	Rural	*P*	CI	Urban	Rural	*P*	CI
	%	%			%	%		
Stage I	71.0%	45.8%	*.001*	.081- .423	65.7%	63.2%	*>.05*	-.080- .130
Stage II	74.3%	53.9%	*.001*	.068- .348	69.4%	55.5%	*<.001*	.053- .231
Stage III	70.4%	57.1%	*.037*	-.019- .285	74.5%	51.8%	*<.001*	.116- .331
Stage IV	70.0%	50.9%	*.022*	.001- .380	74.1%	59.4%	*.010*	.015- .279

Statistical Details for Figure 7.1: Impact of HIV on Quantity of Daily Meals, by Sex and Location

	Males				Females			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
% HH Members Ate ≥ 3 meals	75	77	*.009*	-.054- .002	74	75	>.05	-.040- .012

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
% HH Members Ate ≥ 3 meals	74	78	*<.001*	-.067- -.013	74	74	*>.05*	-.038- .048	74	76	*.004*	.006- .063

Statistical Details for Figure 7.2: Impact of HIV on Daily Meals, by Quintile

	Q1 HHs				Q2 HHs				Q3 HHs				Q4 HHs				Q5 HHs			
	HIV	NA	P	CI	HIV	NA	P	CI	HIV	NA	P	CI	HIV	NA	P	CI	HIV	NA	P	CI
	%	%			%	%			%	%			%	%			%	%		
% ≥ 3 meals	61.2	66.5	.001	.016- .089	72.9	69.6	.026	-.073- .006	80.7	74.5	<.001	-.1000- -.014	82.3	79.1	.013	-.082- .010	87.9	86.2	>.05	-.073- .029

Statistical Details for Figure 7.3: Impact of HIV on Frequency of Hunger, by Sex and Location

	Males				Females			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	%			%	%		
% Members Hungry but did not eat within last year	50	34	*<.001*	*.140- .180*	51	35	*<.001*	.142- .180

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
% Members Hungry but did not eat within last year	50	34	*<.001*	.146- .183	52	35	*<.001*	.140- .182	51	35	*<.001*	.147- .175

Statistical Details for Figure 7.4: Impact of HIV on Frequency of Hunger, by Quintile

	Q1 HHs				Q2 HHs				Q3 HHs				Q4 HHs				Q5 HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%			%	%			%	%		
% Hungry	65	57	*<.001*	.051- .122	52	41	*<.001*	.084- .145	46	21	*<.001*	.216- .270	46	29	*<.001*	.144- .204	38	20	*<.001*	.144- .201

Statistical Details for Figure 7.5: Impact of HIV on Households Receiving Food Support, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
Receiving food support	**55%**	**6%**	***<.001***	**.456- .520**	**62%**	**2%**	***<.001***	**.566- .639**	**58%**	**4%**	***<.001***	**.514- .561**
Food Support Value	$174	$196	*>.05*	-1.96-5.64	$173	$176	*>.05*	-4.10- 4.59	$174	$190	*>.05*	-1.33- 4.47

Statistical Details for Figure 7.6: Impact of HIV on Food Support

	HIV-HH (n=2,623)	NA-HH (n=1,349)	*P*	CI
	%	%		
Source of food support:				
NGO	92.1%	42.9%	*<.001*	.230- .626
Government program	2.1%	15.0%	*<.001*	-.283- -.052
Family / Friends	3.2%	35.4%	*<.001*	-.537- -.192
Other	2.5%	6.6%	*.036*	-.171- .003
Received education information	86%	26%	*<.001*	.413- .726
Food Support Evaluation:				
Fully / substantially meets household need	48.6%	39.5%	*0.05*	-.159- .219
Partially meets household need	40.1%	27.2%	*0.05*	-.080- .272
Barely meets / does not meet household need	11.3%	33.3%	*<.001*	-.451- -.105

Statistical Details for Figure 7.7: Impact of HIV on Households Receiving Food Support, by Quintile

	Q1 HHs				Q2 HHs				Q3 HHs				Q4 HHs				Q5 HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%			%	%			%	%		
%w/ Food Support	63	5	***<.001***	.524- .626	65	4	***<.001***	.553- .656	60	3	***<.001***	.562- .665	56	3	***<.001***	.453- .544	44	4	***<.001***	.365- .453

Statistical Details for Figure 7.8: Food Support for HIV-Affected Households, by Province*

	HIV-HH	*P*	CI
Banteay Meanchey	58.9%	*>.05*	-1.129- .119
Battambang	69.9%	*.004*	-1.315- .224
Kampong Cham	63.4%	*>.05*	-1.205- .161
Kampong Thom	39.6%	*.014*	-.828- -.040
Kampot	8.9%	*<.001*	-.236- -.405
Kandal	68.8%	*.016*	-1.307- .223
Kratie	44.7%	*>.05*	-.983- .077
Phnom Penh	51.3%	*>.05*	-.969- .015
Pursat	91.0%	*<.001*	-1.765- .517
Siemreap	72.0%	*.001*	-1.355- .248
Sihanoukville	49.0%	*>.05*	-.971- .033
Svay Rieng	73.8%	*.010*	-1.436- .316
AVERAGE	**57.5%**		

** The t-test for significance was done in comparison to the national average.*

Statistical Details for Figure 7.9: Food Support for HIV-Affected Households, by Ethnicity

	Khmer	Non-Khmer	*P*	CI
	%	%		
Received Food Support within Last 3 months	58	41	*.008*	.045- .237

Statistical Details for Figure 8.2: Internal Stigma Faced by PLHIV, by Sex

	Males	Females	*P*
% PLHIV who felt:	%	%	
Ashamed	42.8	48.4	*.008*
Guilty	64.5	42.6	*<.001*
Blamed self	57.6	40.9	*<.001*
Blamed others	8.8	27.1	*<.001*
Low self-esteem	62.4	65.8	*>.05*
They should be punished	49.1	46	*>.05*
Suicidal	10.1	18.4	*<.001*

Statistical Details for Figure 8.4: Verbal and Physical Abuse Against PLHIV, by Sex and Location

	Male PLHIV				Female PLHIV			
	Urban	Rural	*P*	CI	Urban	Rural	*P*	CI
% of PLHIV who:	%	%			%	%		
Feared: Being verbally threatened	22.5%	21.6%	*>.05*	-.039- .058	31.2%	26.8%	*.045*	.009- .080
Feared: Being Physically threatened	8.8%	7.5%	*>.05*	-.017- .042	12.9%	11.6%	*>.05*	-.011- .036
Experienced: Being verbally threatened	16.1%	16.4%	*>.05*	-.045- .040	23.3%	21.1%	*>.05*	-.006- .058
Experienced: Being physically threatened	3.4%	4.7%	*>.05*	-.035- .008	7.7%	6.5%	*>.05*	-.005- .032

Statistical Details for Figure 8.5: Reactions (Initial and Current) to Disclosure of Status by PLHIV

	Initial Reaction	Current Reaction	*P*	CI
% with (very) discriminatory reactions	**%**	**%**		
Spouse	13.3	2.3	*<.001*	.096- .124
Other HH adults	25.0	4.5	*<.001*	.189- .222
Friends / neighbours	46.7	10.2	*<.001*	.342- .387
Healthcare workers	1.3	0.4	*<.001*	.006- .013

Statistical Details for Figure 8.6 and 8.7: Impact of HIV on Quality of Life and Perception of Self and Safety

	PLHIV	NA-HH Respondent	*P*	CI
% rank their:	**%**	**%**		
QOL as poor / very poor	18	14	*<.001*	.039- .074
Life as having a little or no meaning	22	15	*<.001*	.064- .102
Feeling of safety as only a little or not at all	21	15	*<.001*	.061- .098

Statistical Details for Figure 8.8: Impact of HIV on Satisfaction Levels

	PLHIV	NA-HH Respondent	*P*	CI
% dissatisfied or very dissatisfied with:	**%**	**%**		
Ability to perform daily living activities	21.0%	11.7%	*<.001*	.081- .117
Capacity for work	20.5%	12.3%	*<.001*	.086- .122
Self	14.3%	8.3%	*<.001*	.148- .077
Health	18.6%	21.5%	<.001	-.113- -.086

Statistical Details for Figure 8.9: Impact of HIV on Sense of Financial Security and Mobility

	PLHIV	NA-HH Respondent	*P*	CI
	%	%		
% felt "had not enough / little money to meet needs"	77.5	61.3	*<.001*	.146- .221

Statistical Details for Figure 9.1: Impact of HIV on Caring for an HIV Orphan

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
% HHs with Child orphaned by HIV	31	2	*<.001*	.271- .312	36	1	*<.001*	.315- .370	33	2	*<.001*	.295- .328

Statistical Details for Figure 9.2: Impact of HIV on Family Structure

	HIV-HH	NA-HH Respondent	*P*	CI
	%	%		
Nuclear	56%	63%	*<.001*	-.102- -.044
Stem	34%	30%	*<.001*	.019- .052
Extended	9%	6%	*<.001*	.021- .037
Other	2%	1%	*>.05*	-.003- .005

Statistical Details for Figure 9.3: Impact of Widowhood on Economic Indicators in HIV-affected Households

	HIV-HH	NA-HH Respondent	*P*	CI
	%	%		
Own their own dwelling	55	51	*>.05*	-.002- .084
Have ≥2 PLHIV within HH	17	50	*<.001*	-.357- -.296
HoH is unemployed	31	24	*<.001*	-.127- -.025
Is in debt	62	67	*.015*	-.094- -.002
	$	$		
Per capita income	539	632	*<.001*	46.481- 139.569

Statistical Details for Figure 9.4: Impact of Widowhood on Children

	HIV-HH with Female Widow HoH	HIV-HH with other HoH	*P*	CI
	%	%		
Children missed ≥10 days of school	10	10	*>.05*	-1.028- .015
Children repeated a grade	20	15	*.010*	-1.159- .055
Caring for HIV orphan	64	18	*<.001*	-5.466- .191

Statistical Details for Figure 9.5: Impact of Widowhood on Health

	HIV-HH with Female Widow HoH	HIV-HH with other HoH	*P*	CI
	%	%		
Members hospitalised	7	10	*<.001*	-.717- -.022
Members had OP visit	45	46	*>.05*	-.038- .001
PLHIV on ART	87	87	*>.05*	-1.056- .056
PLHIV on OI medications	66	65	*>.05*	-1.070- .062

Statistical Details for Figure 9.6: Impact of Widowhood on Support Services and Food Security

	HIV-HH with Female Widow HoH	HIV-HH with other HoH	*P*	CI
	%	%		
Received HBC Team Visit	69	66	*>.05*	-1.103- .084
Received Food support	60	56	*<.001*	-1.089- .060
Members ≥3 meals	74	74	*>.05*	-1.020- .021
Members did not eat when hungry	48	50	*>.05*	-.993- .006

Statistical Details for Figure 9.7: Impact of HIV on Widow Property Transfer Rights

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Widows received husbands' assets	84.7	84.0	*>.05*	-.065- .135	86.1	95.7	*>.05*	-.108- .081	85.1	90.5	*<.001*	-.050- .085

Statistical Details for Figure 9.8: Impact of HIV on Pregnancy and Breastfeeding

	Females			
	PLHIV	HIV: Other	*NA: All*	P
	%	%	%	
Gave birth in last 12 months	6.4	5.1	*11.8*	<.001
% women who gave birth who breastfed baby first 6 months	21	81	93	<.001
% women who gave birth who gave baby other liquids in first 6 months	88	58	46	<.001

Statistical Details for Figure 9.10: Impact of HIV on Household Migration

	Urban HHs				Rural HHs				Total HHs			
	HIV	NA	*P*	CI	HIV	NA	*P*	CI	HIV	NA	*P*	CI
	%	%			%	%			%	%		
Migrated in Previous 5 years	32.1	21.9	*<.001*	.046- .134	20.5	9.6	*<.001*	.071-.134	27.8	15.3	*<.001*	.092-.145
Reason for Migration:												
Looking for work	19.9	43.9	*<.001*	-.399- -.157	15.6	25.2	*>.05*	-.266- -.005	18.7	37.5	*<.001*	-.308- -.125
Closer to family members	9.1	14.1	*>.05*	-.145- -.006	22.5	21.6	*>.05*	-.151- .099	12.5	16.7	*>.05*	-.123- .001
Sold / lost property	13.0	9.7	*>.05*	-.044- .076	17.7	5.6	*.013*	.032- .177	14.3	8.3	*.021*	.001- .093
Seek medical treatment	9.1	0.0	*<.001*	.073- .109	10.4	0.0	*.004*	.072- .135	9.4	0.0	*<.001*	078-.110
Discrimination	5.6	0.3	*.004*	.033- .068	5.7	2.9	*>.05*	-.034- .064	5.6	1.2	*.012*	.020- .060
Other	43.8	32.0	*.014*	-.022- .196	28.3	44.7	*.010*	-.391- -.042	39.5	36.3	*>.05*	-.088- .099

Statistical Details for Figure 9.11: Impact of HIV on Migration, by Province

	HIV-HH	NA-HH	*P*	CI
% HHs Migrated	**%**	**%**		
Banteay Meanchey	21	15	*>.05*	-1.420- .125
Battambang	12	9	*>.05*	-1.368- .075
Kampong Cham	24	11	*<.001*	-2.277- .183
Kampong Thom	22	9	*.023*	-2.485- .224
Kampot	17	18	*>.05*	-1.066- .080
Kandal	21	12	*.018*	-1.859- .153
Kratie	16	18	*>.05*	-1.013- .121
Phnom Penh	37	34	*>.05*	-1.137- .091
Pursat	14	3	*.038*	-4.324- .180
Siemreap	32	21	*.022*	-1.624- .189
Sihanoukville	33	48	*>.05*	-.888- .050
Svay Rieng	18	0	*<.001*	0-.247

Statistical Details for Figure 9.12: Key Affected Populations, by Location and Sex

	Males				Females			
	HIV-HH	NA-HH	*P*	CI	HIV-HH	NA-HH	*P*	CI
	%	**%**			**%**	**%**		
% belong to KAP	21.2	10.9	*<.001*	.063- .136	14.6	5.3	*<.001*	.077- .109

Statistical Details for Figure 9.13: PLHIV Who Received a HBC Visit in Previous 3 Months, by Sex, Location and Quintile

	Urban HHs				Rural HHs				Total HHs			
	Males	Females	*P*	CI	Males	Females	*P*	CI	Males	Females	*P*	CI
	%	%			%	%			%	%		
Received HBC visit in previous 3 months	56	66	*<.001*	-.906- -.042	71	76	*>.05*	-1.021- .036	61	69	*<.001*	-.935- -.031

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
Received HBC visit in previous 3 months	72	71	68	69	56	*<.001*

Statistical Details for Figure 9.15: Distribution of HBC Visits, by Ethnicity

	Khmer	Non-Khmer	*P*	CI
	%	%		
Received HBC visit in previous 3 months	67	55	*.019*	-1.347- .241

Statistical Details for Figure 10.1: HIV Testing Knowledge and Behaviours, by Location

	Urban HHs				Rural HHs				Total HHs			
	HIV	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**	**HIV**	**NA**	***P***	**CI**
	%	**%**			**%**	**%**			**%**	**%**		
Tested for HIV	97%	45%	*<.001*	.436- .568	95%	30%	*<.001*	.587- .710	96%	37%	*<.001*	.543- .631
Location of Test:												
Public	79%	68%	*<.001*	.790- .678	87%	78%	*.001*	.869- .784	82%	72%	*<.001*	.819- .724
Private	13%	25%	*<.001*	.135- .252	8%	19%	*<.001*	.081- .186	12%	22%	*<.001*	.115- .224
Other	8%	7%	*>.05*	.076- .069	5%	3%	*>.05*	.050- .030	7%	5%	*>.05*	.066- .052

NA-HHs ONLY	**Urban**	**Rural**	***P***	**CI**
	%	**%**		
If not tested, know location of where could go to get tested	67%	57%	*<.001*	-.692- -.437

Statistical Details for Figure 10.2: HIV Testing levels in Non-Affected Households, by Sex

	Males	**Females**	***P***	**CI**
	%	**%**		
Survey respondents tested for HIV	38	36	*>.05*	-1.119- .078

Statistical Details for Figure 10.3: HIV Testing Levels in Non-Affected Households, by Quintile

	Lowest	Q2	Q3	Q4	Highest	*P*
	%	%	%	%	%	
Tested for HIV	27.7	36.8	31.7	40.9	46.6	*<.001*
If not tested, know a location where could be tested	47.2	63.8	61.6	64.7	70.4	*<.001*

Statistical Details for Figure 10.4: HIV Testing Levels in Non-Affected Households, by Key Affected Population Status

	KAP	Non-KAP	*P*	CI
	%	%		
Survey respondents tested for HIV	41	36	>.05	-.068- .126

Statistical Details for Figure 10.6: Impact of HIV on Condom Usage, by Marital Status

	HIV-HH: Males				NA-HH Males			
	Married	Single	*P*	CI	Married	Single	*P*	CI
Of sexually active adult members:	%	%			%	%		
% Used condom in last sexual encounter	85	81	>.05	-1.275- .273	11	13	<.001	-.659- -.012

	HIV-HH: Females				NA-HH Females			
	Married	Single	*P*	CI	Married	Single	*P*	CI
Of sexually active adult members:	%	%			%	%		
% Used condom in last sexual encounter	79	55	>.05	-1.499- .460	11	8	>.05	-.894- .175

ANNEX G: MULTIVARIATE REGRESSION ANALYSES

POVERTY

To better understand the complex dynamics of poverty at the household level, multiple logistic regression analyses were used to determine the independent influences of certain explanatory variables related to poverty. In the logistical regression model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the household as poor and (0) if the household is not poor. Poor was defined as whether the household is below the poverty level of $1.25 per day, as defined by the World Bank (World Bank, 2010). Using Stata version 11 statistical software, variables were retained in each model if they significantly improved the respective model. The functional form is expressed as:

$$Poverty = \beta_1\, 3 + members + \beta_2 MiembHiv\_Earners + \beta_3 No\_educ + \beta_4 Primary + \beta_5 1\_Hungry + \beta_6 HoH\_unemployed + \beta_7 HH\_Size + \beta_8 Urban\, Food\, support + \beta_9 PNH + \beta_{10} HoH\_hiv + \beta_{11} Unskilled + \beta_{12} Widowed\_HoHhiv$$

Variable	*Mensurement*
I. Dependent variables	
Poverty	Poverty line (household above poverty line = 0, household is below poverty line = 1
I. Independent variables	
a. Head of household characteristics	
Unskilled	Occupation of head of the household (employed in elementary occupations b = 1, others occupations = 0)
No_educ	Education level of the head household (No class completed = 1, others education level = 0)
Primary	Education level of the head household (Primary school = 1, others education level = 0)
HoH_unemployed	Head household employed (employed = 1, unemployed = 0)
HoH_hiv	Household head is hiv+ (yes = 1, no = 0)
b. Household characteristics	
3+members	Household size (with more 3 members = 1,with 3 or less members = 0)
Urban	Secto (rural = 1, urban = 0)
1_Hungry	Reporting hungry (yes = 1, no = 0)
Food support	Household received food support (yes = 1, no = 0)
HH_Size	Household size: Members by household
PNH	Living in Phnom Pehnh province (yes = 1, other province = 0)
MiembHiv_Earners	Interaction variable: Number of hiv members * Household size
d. Others	
Widowed_HoHhiv	Interaction variable: Widowed * Head of household HIV +

Logistic regression	Number of obs	2623
	LR chi2(13)	433.18
	Prob > chi2	0
Log likelihood = -1503.9579	Pseudo R2	0.1259

poverty_int	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
3+members	1.787062	0.241339	4.3	0	1.371471	2.328588
MiembHiv_Earners	0.9114538	0.022482	-3.76	0	0.8684377	0.9566007
No_educ	1.535531	0.178105	3.7	0	1.223288	1.927474
Primary	1.987828	0.251311	5.43	0	1.551549	2.546784
1_Hungry	1.946192	0.179355	7.23	0	1.624581	2.331471
HoH_unemployed	1.352837	0.154495	2.65	0.008	1.081527	1.692207
HH_Size	1.324962	0.045785	8.14	0	1.238196	1.417807
Urban	1.548742	0.157577	4.3	0	1.268743	1.890535
Food support	1.266731	0.114599	2.61	0.009	1.060907	1.512485
PNH	0.5577961	0.068016	-4.79	0	0.4392204	0.7083836
HoH_hiv	1.237364	0.144722	1.82	0.069	0.9838781	1.556159
Unskilled	1.533476	0.166214	3.94	0	1.239982	1.896439
Widowed_HoHhiv	1.228309	0.136789	1.85	0.065	0.9874489	1.52792

EDUCATION

To better understand the determinants of school attendance, multiple logistic regression analyses were used to determine the independent influences of certain explanatory variables related to school attendance. In this multivariate model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of attending school and (0) if the child is not attending school. Using Stata, variables were retained in each model if they significantly improved the respective model.

The functional form is expressed as:

$$Attendace = \beta_1 LN\ Exp\ Educ\ Pc + \beta_2 Age + \beta_3 Urban + \beta_4 Scholaships + \beta_5 HH\_Size + \beta_6 1\_Gender + \beta_7 3 + members + \beta_8 Gender\_rate + \beta_9 Child\_Emp$$

Variable	*Mensurement*
I. Dependent variables	
Attendace	Attends school (yes = 1, no = 0)
I. Independent variables	
b. Household characteristics	
3+members	Household size (with more 3 members = 1,with 3 or less members = 0)
Urban	Secto (rural = 1, urban = 0)
HH_Size	Household size: Members by household
Child_Emp	Children employed (not employed = 1, employed = 0)
Age	Age
LN Exp Educ Pc	LN of the expenditure in education per capita
dummy_genderR	Gender rate (greater than 1 = 1, equal to 1 or less = 0)
Scholaships	Received scholarships (yes =1, no = 0)

Logistic regression	Number of obs	4410
	LR chi2(9)	780
	Prob > chi2	0
Log likelihood = -589.89672	Pseudo R2	0.398

Attendance	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
log_expeducpc	1.546878	0.084903	7.95	0	1.389109	1.722566
q1_3	0.5762014	0.025396	-12.51	0	0.5285164	0.6281886
sector	0.7623343	0.120426	-1.72	0.086	0.5593465	1.038987
scholarships	1.481237	0.288135	2.02	0.043	1.011687	2.168719
total_members	0.9252333	0.038311	-1.88	0.061	0.8531116	1.003452
dummy_genderR	0.6199637	0.146724	-2.02	0.043	0.3898669	0.9858621
dummy_size	0.1799418	0.075606	-4.08	0	0.0789735	0.4099989
gender_rate	1.315914	0.146753	2.46	0.014	1.057548	1.637401
dummy_empChild	12.74989	2.168227	14.97	0	9.135921	17.79346

HEALTH: CATASTROPHIC HEALTH EXPENDITURES

To analyze catastrophic health expenditures in more detail, a regression analysis, based on a dichotomous choice (logistical regression) model, was developed to predict the probability of catastrophic health expenditures in households. It was assumed that households having catastrophic health expenditures were affected by patterns of illness and treatment, household characteristics and their economic status. The share of health care expenditure in non-food expenditure (Rj) was derived as follows:

$$Rj = \frac{H\exp}{NF\exp} \times 100$$

where, Rj is the share of health expenditure in non-food expenditure, Hexp is the average household monthly expenditure and NFexp is the average household monthly non-food expenditure.

There is no consensus on the catastrophic threshold and cut-off values thus this analysis presents four separate cut-offs of 20%, 30%, 40% and 60% of non-food expenditure in the household.

The functional forms is expressed as:

$$\begin{aligned} Catastrofic\_1 = {} & \beta_1 Dependency + \beta_2 EducHoH\_HHSize + \beta_3 Machine + \beta_4 Agricul \\ & + \beta_5 VisitHH\_2 + \beta_6 HospHH\_2 + \beta_7 1\_Hungry + \beta_8 MiembHiv\_Earners \\ & + \beta_9 HH\_Size + \beta_{10} 1 - earners + \beta_{11} HoH\_hiv + \beta_1 Cornic \\ & + \beta_{12} MembHiv\_HHSize + \beta_{13} Q1\,Exp + \beta_{14} Q2\,Exp + \beta_{15} Q3\,Exp + \beta_{16} Q4\,Exp \\ & + \beta_{14}\, Ext\_support \end{aligned}$$

$$\begin{aligned} Catastrofic\_2 = {} & \beta_1 Dependency + \beta_2 EducHoH\_HHSize + \beta_3 Machine + \beta_4 Agricul \\ & + \beta_5 VisitHH\_2 + \beta_6 HospHH\_2 + \beta_7 1\_Hungry + \beta_8 MiembHiv\_Earners \\ & + \beta_9 HH\_Size + \beta_{10} 1 - earners + \beta_{11} HoH\_hiv + \beta_1 Cornic \\ & + \beta_{12} MembHiv\_HHSize + \beta_{13} Q1\,Exp + \beta_{14} Q2\,Exp + \beta_{15} Q3\,Exp + \beta_{16} Q4\,Exp \\ & + \beta_{14}\, Ext\_support \end{aligned}$$

$$\begin{aligned} Catastrofic\_3 = {} & \beta_1 Dependency + \beta_2 EducHoH\_HHSize + \beta_3 Machine + \beta_4 Agricul \\ & + \beta_5 VisitHH\_2 + \beta_6 HospHH\_2 + \beta_7 1\_Hungry + \beta_8 MiembHiv\_Earners \\ & + \beta_9 HH\_Size + \beta_{10} 1 - earners + \beta_{11} HoH\_hiv + \beta_1 Cornic \\ & + \beta_{12} MembHiv\_HHSize + \beta_{13} Q1\,Exp + \beta_{14} Q2\,Exp + \beta_{15} Q3\,Exp + \beta_{16} Q4\,Exp \\ & + \beta_{14}\, Ext\_support \end{aligned}$$

$$\begin{aligned} Catastrofic\_4 = {} & \beta_1 Dependency + \beta_2 EducHoH\_HHSize + \beta_3 Machine + \beta_4 Agricul \\ & + \beta_5 VisitHH\_2 + \beta_6 HospHH\_2 + \beta_7 1\_Hungry + \beta_8 MiembHiv\_Earners \\ & + \beta_9 HH\_Size + \beta_{10} 1 - earners + \beta_{11} HoH\_hiv + \beta_1 Cornic \\ & + \beta_{12} MembHiv\_HHSize + \beta_{13} Q1\,Exp + \beta_{14} Q2\,Exp + \beta_{15} Q3\,Exp + \beta_{16} Q4\,Exp \\ & + \beta_{14}\, Ext\_support \end{aligned}$$

catastrofic_1	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dependency	1.004847	0.001471	3.3	0.001	1.001967	1.007735
EducHoH_HHSize	0.9740917	0.009988	-2.56	0.01	0.9547114	0.9938653
Machine	0.5253038	0.089432	-3.78	0	0.3762666	0.733374
Agricul	0.7195765	0.098565	-2.4	0.016	0.5501524	0.9411764
VisitHH_2	2.292608	0.443306	4.29	0	1.569418	3.349044
HospHH_2	2.07579	0.172948	8.77	0	1.763049	2.444007
1_Hungry	1.806222	0.14574	7.33	0	1.542019	2.115693
MiembHiv_Earners	1.104728	0.037974	2.9	0.004	1.032753	1.181719
HH_Size	1.065994	0.030575	2.23	0.026	1.007721	1.127636
1-earners	1.254346	0.121545	2.34	0.019	1.037378	1.516694
HoH_hiv	0.7479376	0.079198	-2.74	0.006	0.6077606	0.9204458
Cornic	1.610152	0.205468	3.73	0	1.253853	2.067697
MembHiv_HHSize	0.9692427	0.01542	-1.96	0.05	0.9394857	0.9999421
Q1 Exp	0.8891754	0.118687	-0.88	0.379	0.684493	1.155063
Q2 Exp	0.7134391	0.091795	-2.62	0.009	0.5544165	0.918074
Q3 Exp	0.8888107	0.108415	-0.97	0.334	0.6998122	1.128852
Q4 Exp	0.8832085	0.107037	-1.02	0.305	0.696474	1.120009
Ext_support	0.7000208	0.088311	-2.83	0.005	0.5466729	0.8963845

Logistic regression	Number of obs	3178
	LR chi2(18)	197.46
	Prob > chi2	0
Log likelihood = -1730.4733	Pseudo R2	0.054

catastrofic_2	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dependency	1.004221	0.001485	2.85	0.004	1.001314	1.007136
EducHoH_HHSize	0.9651571	0.010888	-3.14	0.002	0.9440511	0.986735
Machine	0.6377963	0.121997	-2.35	0.019	0.4383939	0.9278965
Agricul	0.6451062	0.102745	-2.75	0.006	0.4721309	0.8814547
VisitHH_2	1.771282	0.3714	2.73	0.006	1.174381	2.671569
HospHH_2	1.862743	0.166894	6.94	0	1.562747	2.220329
1_Hungry	1.877188	0.167482	7.06	0	1.576028	2.235895
MiembHiv_Earners	1.055253	0.03956	1.43	0.151	0.9804968	1.135708
HH_Size	1.094924	0.033752	2.94	0.003	1.03073	1.163117
1-earners	1.269459	0.135617	2.23	0.026	1.029638	1.565138
HoH_hiv	0.8451626	0.096552	-1.47	0.141	0.6756129	1.057262
Cornic	1.624995	0.228798	3.45	0.001	1.233115	2.141413
MembHiv_HHSize	0.9703173	0.016829	-1.74	0.082	0.9378877	1.003868
Q1 Exp	0.7237777	0.106092	-2.21	0.027	0.5430444	0.9646618
Q2 Exp	0.6735185	0.095348	-2.79	0.005	0.5103255	0.8888976
Q3 Exp	0.811032	0.10871	-1.56	0.118	0.6236542	1.054708
Q4 Exp	0.9170348	0.120572	-0.66	0.51	0.7087111	1.186595
Ext_support	0.8113708	0.109366	-1.55	0.121	0.6229945	1.056707

Logistic regression		Number of obs	3178
		LR chi2(18)	113.6
		Prob > chi2	0
Log likelihood = -996.38362		Pseudo R2	0.0539

catastrofic_3	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dependency	1.001842	0.002021	0.91	0.362	0.9978876	1.005811
EducHoH_HHSize	0.9829197	0.015353	-1.1	0.27	0.9532836	1.013477
Machine	0.4330305	0.144763	-2.5	0.012	0.2248853	0.8338269
Agricul	0.5340339	0.136444	-2.46	0.014	0.3236609	0.881145
VisitHH_2	1.948468	0.647051	2.01	0.045	1.016307	3.735612
HospHH_2	1.483154	0.187903	3.11	0.002	1.157035	1.901193
1_Hungry	2.420908	0.322305	6.64	0	1.864894	3.142694
MiembHiv_Earners	1.02685	0.054816	0.5	0.62	0.9248412	1.14011
HH_Size	1.095166	0.046139	2.16	0.031	1.008369	1.189434
1-earners	1.212025	0.184497	1.26	0.207	0.8993724	1.633366
HoH_hiv	0.821121	0.131546	-1.23	0.219	0.5998493	1.124015
Cornic	1.574463	0.311085	2.3	0.022	1.068934	2.319071
MembHiv_HHSize	0.9818845	0.023661	-0.76	0.448	0.9365883	1.029371
Q1 Exp	0.4895103	0.100085	-3.49	0	0.3278877	0.7307999
Q2 Exp	0.5701026	0.109907	-2.91	0.004	0.3907102	0.831862
Q3 Exp	0.4786696	0.093336	-3.78	0	0.3266331	0.701474
Q4 Exp	0.6801761	0.122696	-2.14	0.033	0.4776107	0.968654
Ext_support	0.7660558	0.141509	-1.44	0.149	0.5333635	1.100265

Logistic regression		Number of obs	3175
		LR chi2(15)	186.49
		Prob > chi2	0
Log likelihood = -1434.0712		Pseudo R2	0.0611

catastrofic_4	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dependency	1.004666	0.001585	2.95	0.003	1.001565	1.007778
Machine	0.4913001	0.118133	-2.96	0.003	0.3066736	0.7870771
Agricul	0.764122	0.136435	-1.51	0.132	0.5384927	1.08429
VisitHH_2	1.968339	0.50656	2.63	0.009	1.188611	3.259569
HospHH_2	1.572921	0.157648	4.52	0	1.292391	1.914344
1_Hungry	1.662841	0.172051	4.91	0	1.357621	2.036682
HH_Size	1.044275	0.0258	1.75	0.08	0.9949137	1.096086
HIV	0.5689531	0.077895	-4.12	0	0.4350495	0.7440707
Chronic	1.577646	0.259493	2.77	0.006	1.142886	2.17779
Q2 Exp	1.046596	0.160443	0.3	0.766	0.7749783	1.41341
Q3 Exp	1.143859	0.179405	0.86	0.391	0.8411406	1.555524
Q4 Exp	1.40505	0.223773	2.14	0.033	1.028315	1.919805
Q5 Exp	1.735695	0.306883	3.12	0.002	1.227368	2.45455
Log Inc Pc	0.6784059	0.03983	-6.61	0	0.6046647	0.7611402
PNH	1.560515	0.171962	4.04	0	1.257388	1.936718

FOOD SECURITY

HUNGER

To better understand the factors that contribute to hunger in the household, a multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to having experienced hunger, as reflected by being hungry and not being able to eat. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having experienced hunger and (0) if the household did not experience hunger. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

The functional form is expressed as:

$$1\_Hungry = \beta_1 Gender\_rate + \beta_2 1 - earners + \beta_3 Ext\_support + \beta_4 Females + \beta_5 LN\ Inc\ Pc + \beta_6 Government + \beta_7 Food\ support + \beta_8 Q1\ Exp + \beta_9 Q2\ Exp + \beta_{10} Q3\ Exp + \beta_{11} Q4\ Exp + \beta_{12} Manger + \beta_{13} Unskilled + \beta_{14} PNH + \beta_{15} Ethnic + \beta_{16} VCT + \beta_{17} MiembHiv\_Earners + \beta_{18} Own\_house + \beta_{19} EducHoH\_HHSize$$

Variable	*Mensurement*
I. Dependent variables	
1_Hungry	Reporting hungry (yes = 1, no = 0)
I. Independent variables	
a. Head of household characteristics	
Manger	Occupation of head of the household (employed in managers = 1, others occupations = 0)
Unskilled	Occupation of head of the household (employed in elementary occupations b = 1, others occupations = 0)
b. Household characteristics	
Food support	Household received food support (yes = 1, no = 0)
PNH	Living in Phnom Pehnh province (yes = 1, other province = 0)
Gender_rate	Ratio of female/male
1-earners	Number of earners in the housedhold (One or zero = 1, More that one earners = 0)
EducHoH_HHSize	Interaction variable: Education level of the household head*Household size
Own_house	If legal status of the dwelling is owned by the family (yes = 1, others = 0)
Females	Numbers of females in the household
Government	Received goverment poverty reduction incentives (yes =1, no = 0)
Ext_support	Receided external support (yes = 1, no =0)
MiembHiv_Earners	Interaction variable: Number of hiv members * Household size
c. Economic status	
Q1 Exp	Quintil of the household (quintil 1 = 1, other quintil =0)
Q2 Exp	Quintil of the household (quintil 2 = 1, other quintil =0)
Q3 Exp	Quintil of the household (quintil 3 = 1, other quintil =0)
Q4 Exp	Quintil of the household (quintil 4 = 1, other quintil =0)
LN Inc Pc	LN of the household income per capita
d. Others	
VCT	Discover your HIV status from voluntary testing
Ethnic	Ethnic (Khmer = 1, others = 0)

Logistic regression	Number of obs	2620
	LR chi2(19)	389.93
	Prob > chi2	0
Log likelihood = -1606.3017	Pseudo R2	0.1082

1_Hungry	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
MiembHiv_Earners	1.082301	0.028769	2.98	0.003	1.027359	1.140181
Gender_rate	1.112539	0.054353	2.18	0.029	1.01095	1.224335
1-earners	1.301052	0.147605	2.32	0.02	1.041658	1.62504
Unskilled	1.342567	0.133193	2.97	0.003	1.105326	1.630728
Q3 Exp	1.867512	0.270584	4.31	0	1.405831	2.480812
Manger	0.3031977	0.160026	-2.26	0.024	0.1077624	0.85307
Government	1.362207	0.121378	3.47	0.001	1.143926	1.622139
Ext_support	0.6886463	0.115927	-2.22	0.027	0.4951138	0.9578278
Q4 Exp	1.669192	0.235952	3.62	0	1.26527	2.202062
EducHoH_HHSize	0.9596781	0.010671	-3.7	0	0.9389892	0.9808229
Q2 Exp	1.857756	0.278739	4.13	0	1.384439	2.492893
Ethnic	2.209402	0.554343	3.16	0.002	1.351159	3.61279
Food support	1.198051	0.105006	2.06	0.039	1.00895	1.422595
Q1 Exp	3.141441	0.510442	7.04	0	2.284652	4.319544
Females	0.8677345	0.038832	-3.17	0.002	0.794867	0.947282
LN Inc Pc	0.5904671	0.037002	-8.41	0	0.5222217	0.667631
Own_house	0.714277	0.066261	-3.63	0	0.5955293	0.8567028
PNH	2.152682	0.233291	7.07	0	1.740737	2.662113
VCT	1.298378	0.118394	2.86	0.004	1.085884	1.552455

FOOD SUPPORT

To better understand the factors that affect access to food support programs, a multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to having food support. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having received food support and (0) if the household did not receive support. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

The functional form is expressed as:

$$Food\ Support = \beta_1 1\_Hungry + \beta_2 HBC + \beta_3 Government + \beta_4 Widowed + \beta_5 PNH + \beta_6 Dependency + \beta_7 LN\ Age\_HoH + \beta_8 EducHoH\_HHSize + \beta_9 Agricul + \beta_{10} Migrated + \beta_{11} Memb\ hiv + \beta_{12} Q2\ Exp$$

Variable	*Mensurement*
I. Dependent variables	
Food support	Household received food support (yes = 1, no = 0)
I. Independent variables	
a. Head of household characteristics	
Agricul	Occupation of head of the household (employed in skilled agricultural, forestry and fish = 1, others occupations = 0)
LN Age_HoH	LN age of the household head
b. Household characteristics	
1_Hungry	Reporting hungry (yes = 1, no = 0)
Food support	Household received food support (yes = 1, no = 0)
HBC	Received home-basic-care (yes = 1, no = 0)
PNH	Living in Phnom Pehnh province (yes = 1, other province = 0)
Dependency	Dependancy rate
EducHoH_HHSize	Interaction variable: Education level of the household head*Household size
Government	Received goverment poverty reduction incentives (yes =1, no = 0)
Memb hiv+	Number HIV persons by household
c. Economic status	
Q1 Exp	Quintil of the household (quintil 1 = 1, other quintil =0)
Q2 Exp	Quintil of the household (quintil 2 = 1, other quintil =0)
Q3 Exp	Quintil of the household (quintil 3 = 1, other quintil =0)
d. Others	
Migrated	Migration (Migrated = 1, not migrated = 0)
Widowed	Widowed (Female widoded head = 1, others = 0)

Logistic regression		Number of obs	2623
		LR chi2(13)	252.19
		Prob > chi2	0
Log likelihood = -1666.2688		Pseudo R2	0.0704

Food support	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
1_Hungry	1.294469	0.109744	3.04	0.002	1.096295	1.528466
HBC	2.398457	0.213825	9.81	0	2.01394	2.856389
Government	2.013771	0.171212	8.23	0	1.704671	2.378919
Widowed	1.222905	0.119206	2.06	0.039	1.010229	1.480354
PNH	0.8091849	0.07913	-2.17	0.03	0.6680499	0.9801368
Dependency	0.9968242	0.001582	-2	0.045	0.9937283	0.9999298
LN Age_HoH	1.474627	0.268143	2.14	0.033	1.032527	2.106021
Q2 Exp	1.350728	0.145225	2.8	0.005	1.094082	1.667577
EducHoH_HHSize	1.021769	0.010352	2.13	0.034	1.001681	1.04226
Agricul	0.5741396	0.084871	-3.75	0	0.4297246	0.7670874
Migrated	1.130271	0.111692	1.24	0.215	0.9312538	1.371821
Memb hiv+	1.085021	0.072653	1.22	0.223	0.9515717	1.237184
Q3 Exp	1.211102	0.130345	1.78	0.075	0.9807766	1.495517

HOME-BASED CARE

To better understand the factors that contribute to a HIV-affected household having received home-based care, a multiple logistic regression analysis was used to determine the independent influences of certain explanatory variables related to enrolment in the HBC program. In the logit model, the endogenous variable is a dichotomous or dummy variable, with (1) representing the condition of having received a home-based care visit in the previous three months and (0) if the household had not received a HBC-visit visit. Using Stata statistical software, variables were retained in each model if they significantly improved the respective model.

The functional form is expressed as:

$$HBC = \beta_1 Gender\_rate + \beta_2 HoH\_hiv + \beta_3 Urban + \beta_4 Scholaships + \beta_5 Government + \beta_6 Food\ support + \beta_7 Q1\ Exp + \beta_8 Q2\ Exp + \beta_9 Q3\ Exp + \beta_{10} Q4\ Exp + \beta_{11} VCT$$

HBC	Received home-basic-care (yes = 1, no = 0)
I. Independent variables	
a. Head of household characteristics	
HoH_hiv	Household head is hiv+ (yes = 1, no = 0)
b. Household characteristics	
3+members	Household size (with more 3 members = 1,with 3 or less members = 0)
Urban	Secto (rural = 1, urban = 0)
Food support	Household received food support (yes = 1, no = 0)
gender_rate	Gender rate: females/males
Scholaships	Received scholarships (yes =1, no = 0)
Government	Received goverment poverty reduction incentives (yes =1, no = 0)
c. Economic status	
Q1 Exp	Quintil of the household (quintil 1 = 1, other quintil =0)
Q2 Exp	Quintil of the household (quintil 2 = 1, other quintil =0)
Q3 Exp	Quintil of the household (quintil 3 = 1, other quintil =0)
Q4 Exp	Quintil of the household (quintil 4 = 1, other quintil =0)
d. Others	
VCT	Discover your HIV status from voluntary testing

Logistic regression		Number of obs	2620
		LR chi2(11)	215.45
		Prob > chi2	0
Log likelihood = -1523.6375		Pseudo R2	0.066

HBC	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Q2 Exp	1.504	0.209983	2.92	0.003	1.143948	1.977378
Gender_rate	0.8889226	0.036558	-2.86	0.004	0.820082	0.9635419
Government	1.395659	0.125773	3.7	0	1.16969	1.665281
HoH_hiv	1.268747	0.130682	2.31	0.021	1.036813	1.552565
Q4 Exp	1.591445	0.219761	3.36	0.001	1.214088	2.086091
VCT	1.24881	0.116991	2.37	0.018	1.039332	1.500509
Q3 Exp	1.634025	0.230773	3.48	0.001	1.238922	2.155131
Food support	2.42862	0.218065	9.88	0	2.036715	2.895934
Scholaships	1.481882	0.15423	3.78	0	1.208434	1.817206
Urban	1.418251	0.131078	3.78	0	1.183267	1.699898
Q1 Exp	1.731816	0.246084	3.86	0	1.310839	2.28799

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