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The Socio-Economic Impact of HIV at the Household Level in Asia:

A REGIONAL ANALYSIS

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A Regional Analysis

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Foreword

Despite impressive gains in the response to the HIV epidemic in Asia and the Pacific, a notable weakness of the national responses in the region has been the inadequate efforts to mitigate the social and economic impact of the epidemic on people living with HIV, and their households.

One of the reasons for this gap has been the deficiency of evidence that could guide impact mitigation policies and programmes at the national and provincial levels. To address this issue, since 2005 UNDP has undertaken national studies to assess the socio-economic impact of HIV on people living with HIV and their households. The first such case-controlled study was conducted in India in partnership with the National Council for Applied Economic Research (NCAER) and the National AIDS Control Organisation (NACO).

Based on the lessons learned from this study, as well as experiences from the rest of the region and elsewhere, the HIV, Health and Development Team of the UNDP Asia Pacific Regional Centre (APRC) supported similar studies in Cambodia, China, Viet Nam and Indonesia. The studies employed case-controlled, large-scale sample surveys across several provinces in each country and provided scientific evidence on the nature and extent of the social and economic impact of HIV on people living with HIV and their households.

A new dimension of impact mitigation in the region has been the emerging importance of social protection. Although there is increasing attention to social protection for vulnerable and marginalised populations in the region, the need for HIV-sensitive social protection has not gained commensurate currency, probably because of the relatively poor understanding of the issue.

Given this context, the UNDP HIV, Health and Development team undertook a regional analysis of the data and findings of the national studies that covered about 17,000 households and 72,000 household members in five countries with a view to strengthening evidence-informed policy advocacy for impact mitigation and HIV-sensitive social protection. This report presents the findings and recommendations of the analysis. A highlight of the report is that for the first time in the region, it provides irrefutable, quantitative evidence on the nature and depth of the socio-economic impact of HIV at the household levels.

The data has also been disaggregated by sex and analysed separately to measure the impact of HIV on women and girls. The findings and recommendations of this analysis are presented in a separate stand-alone report.

I sincerely hope that this analysis will help national and provincial governments, as well as other HIV-stakeholders, strengthen efforts towards impact mitigation and HIV-sensitive social protection in the region.

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Deputy Regional Director
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Contents

List of Figures

List of Tables

Acronyms and Abbreviations

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
EMS	Extramarital sex
FSW	Female sex worker
HBC	Home-Based Care
HIV	Human immunodeficiency virus
HH	Household
HIV-HH	HIV-affected household
HoH	Head of household
IDU	Injecting drug use
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NACO	National AIDS Control Organisation
NA-HH	Non-affected household
NCAER	National Council of Applied Economic Research
NCAIDS	National Centre for AIDS/STD Control and Prevention
OI	Opportunistic Infection
OVC	Orphans and vulnerable children
PLHIV	People Living with HIV
PMTCT	Prevention of mother-to-child transmission
PWID	Person who injects drugs
SACS	State AIDS Control Societies
UNDP	United Nations Development Programme
VCCT	Voluntary Confidential Counselling and Testing
VCTC	Voluntary Counselling and Testing Centre
YOA	Years of age

Executive Summary

1. Background

It is widely acknowledged that HIV severely impacts the economic and social spheres of all societies. Over the past several years, governments in Asia have made important advances in the introduction of new policies and programmes aimed at mitigating the socio-economic impact of HIV on individuals living with HIV and their households. Examples include China's 'Four Free and One Care" policy[1] and India's free provision of second-line ARV medicines and a number of HIV-sensitive social protection schemes. Despite these advances, there have only been limited attempts to measure the specific impact of HIV at the household level and use this information for evidence-based policy interventions. To address this vital gap, the United Nations Development Programme (UNDP) undertook nationwide socio-economic impact studies in Cambodia, China, India, Indonesia and Viet Nam between 2005 and 2010. This analysis is based on the data and findings from the country level studies and is meant to support the development of targeted, evidence-informed impact mitigation policies and programs in the region, with particular emphasis on HIV-sensitive social protection.

All the countries studied face concentrated epidemics, and many of them have HIV prevalence that has either remained steady or decreased in recent years. Indonesia, however, has seen an increase in prevalence in recent years, and in certain regions of the country is facing a generalized epidemic. Despite the general similarities of most of their epidemics, policies regarding the mitigation of HIV's socio-economic impacts vary widely over the region. This report, therefore, also aims to identify critical entry points for strategic, policy and programmatic interventions to minimise the negative consequences of HIV on people living with HIV (PLHIV) and their households.

This report has 14 chapters, beginning with an introduction and overview of HIV in the region in Chapter 1, followed by:

- Chapter 2: the survey design, sampling methodology and data analysis used within this regional analysis.
- Chapter 3: an overview of household characteristics, including heads of households (HoHs) and PLHIV.
- Chapter 4: the impact of HIV on economic indicators, including living conditions, employment and income.
- Chapter 5: coping mechanisms, including migration, asset liquidation, changes in consumption patterns, and loss of savings.
- Chapter 6: issues regarding education for children in HIV-affected households.
- Chapter 7: Impact of HIV on health, including utilisation of services, health expenditures, antiretroviral treatment (ART) utilisation by PLHIV, and transmission and diagnosis.
- Chapter 8: the impact of HIV on food security, including food expenditures, hunger and food support.
- Chapter 9: stigma, discrimination and quality of life.
- Chapter 10: family structures and the specific impact of HIV on women, girls and intimate partner transmission.
- Chapter 11: the availability of safety nets and social protection.
- Chapter 12: knowledge and awareness of HIV.
- Chapter 13: conclusions and policy recommendations based on this report's results.
- Chapter 14: a list of references used throughout the report.

The annex describes the methodologies used in each country study.

2. Methodology and Data

The studies all involved surveys of HIV-affected households (HIV-HHs) and non-affected households (NA-HHs) and examined critical socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, impact on women and girls, and stigma and discrimination. While the survey instruments used in the various studies were adapted to meet the specific needs and circumstances of each country, they followed a broad common methodology developed by UNDP that allowed for inter-country comparisons.

The surveys were conducted over a period of six years, starting with India in 2004 and ending with Cambodia in 2010. In total, over 17,000 households were included in the surveys, compiling data on over 72,000 household members. The details of the number of households covered and year each survey was conducted are shown in Table 1.

TABLE 1 **Summary of Surveys in Asia**

Country	Year of Survey	Total # HIV-HHs	Total # NA-HHs	Total # HIV-HH Members	Total # NA-HH Members
Cambodia	2009-2010	2,623	1,349	11,566	6,129
China	2008	931	995	3,724*	4,378*
India	2004-2005	2,068	6,224	8,252	27,506
Indonesia	2009	996	996	3,653	3,481
Viet Nam	2008	452	452	1,889	1,741
Total		**7,070**	**10,016**	**29,084**	**43,235**

*Estimate based on HIV-HH and NA-HH average size

2.1 Limitations

While significant efforts were made to ensure the comparability of results, the specific design and context of each study raised a number of limitations that should be highlighted. The main limitations include:

(i) The studies occurred within different years and under different policy environments, so they are not directly comparable.

(ii) Non-probability sampling in Viet Nam, India, Indonesia, and China does not allow for statistical inferences on population parameters or other estimates at the national level.

(iii) Primary databases from China and India were not accessible for confidentiality reasons, limiting the possibility to include dimensions of analysis that were possible in the other three countries.

1 It includes free ARV drugs, free prevention of parent-to-child transmission, free voluntary counselling and testing, free education for children orphaned by AIDS, and provision of care to people living with HIV.

(iv) Because of the local adaptation of the methodology and questionnaire, there are some limitations on the availability of comparable indicators across all countries.

3. Profile of Sample Households and PLHIV

In general, the studies had fairly similar characteristics for the overall populations sampled, although there were minor differences. Throughout the studies, the household size varied by country and HIV status from the smallest with an average size of 3.4 members in NA-HHs of Indonesia to the largest of 4.6 members in Cambodia. Households also varied by their urban and rural locations. There were similar ratios of the sexes found throughout the household members, but varied for PLHIV.

HIV-HH members in Cambodia and Viet Nam were less educated than those in NA-HHs, and PLHIV in Cambodia and Indonesia were less educated than other members of their households. HIV-HH members in Cambodia, Indonesia and Viet Nam were more likely to be widowed than NA-HH members, and PLHIV were the most likely to be widowed.

Key Findings

4. Living Conditions, Income and Employment

Overall, members of HIV-HHs lived in lower living conditions, were more likely to be unemployed, and had lower household incomes than members of NA-HHs. At the most basic level, respondents from NA-HHs in Cambodia, China, India and Viet Nam were more likely to live in stable structures than those in HIV-HHs.

With regard to employment, male members of HIV-HHs in Cambodia, China and Indonesia had lower employment levels than those in NA-HHs, and PLHIV in Cambodia and Indonesia were almost twice as likely to be unemployed as NA-HH members. Specifically for PLHIV, their employment levels in Cambodia, China, India and Viet Nam dropped substantially after their diagnosis.

A common thread throughout the countries was the additional impact of care-giving on income and employment. A quarter of PLHIV in Cambodia, India and Indonesia had a caregiver, many of whom had either left their job or experienced reduced income as a result of their care-giving duties.

In terms of productivity, in all countries, HIV-positive status or care-giving resulted in greater numbers of lost work days than was experienced by members of NA-HHs. As a result of the above-mentioned factors, the reduction in income attributable to HIV in Cambodia, China, India and Viet Nam ranged from $1,119 in Viet Nam to $52 in India. Notably HIV-HHs in Indonesia had higher income levels than NA-HHs, largely because of the social transfers they received. However, in China, India and also in Indonesia, a greater percentage of HIV-HHs were below the poverty line than NA-HHs (68%, 29% and 38% more, respectively).

Additionally, in Cambodia, China, India and Viet Nam, child labour levels were higher in HIV-HHs than NA-HHs, especially for girls (almost double in Cambodia, and over ten times greater in China), providing insight to some of the coping mechanisms taken on by HIV-HHs to deal with lower total annual household incomes than NA-HHs.

5. Coping Mechanisms: Asset Liquidation, Migration, Debt, Consumption, and Loss of Savings

In addition to the effects of reduced employment and income, the potential medium to long-term effects of HIV are manifest in the reduction of assets, migration, debt, consumption and overall loss of savings. It is well documented that HIV affects individuals through the continual need to spend more on medical expenses, often resulting in the need for coping mechanisms such as asset liquidation or assumption of debt.

In all countries, HIV-HHs were less likely to own their house than NA-HHs and were less likely to own most assets included in the surveys. The greatest impact was evident in Cambodia, China and India where, on average, NA-HHs were 24% more likely to have reported owning their house than HIV-HHs. The least impact was found in Viet Nam. This finding points to a reduction in asset accumulation that has deleterious effects on the financial stability of the HIV-affected households. Additionally, HIV-HHs and PLHIV in Cambodia and Viet Nam were more likely to have migrated than NA-HHs, and there were high levels of HIV-HH migration in India and Indonesia. The reasons for migration varied, but discrimination and seeking medical care were important issues in many countries.

The deleterious effect of HIV on asset accumulation is also evident in the forced reduction in savings. The most serious impact was seen in Indonesia, where almost 50% of HIV-HHs reported they had lost savings due to HIV. In addition, HIV-HHs in Cambodia, India, and Viet Nam were more likely to be in debt than NA-HHs, mostly attributable to the need to supplement their lost incomes or the high costs of medical care. In China, for example, HIV-HHs found it difficult to borrow compared to the NA-HHs and liquidated assets twice as much as NA-HHs to cope with the rising economic burden on the households. Liquidation of assets was also widely prevalent among the HIV-HHs in Indonesia. Indeed, HIV-HHs in India, Indonesia and Viet Nam spent three to four times as much on health care as NA-HHs, although it should be noted that in Cambodia, with its universal ART coverage policy, HIV-HHs spent less on health care than NA-HHs. Notably, access to credit is much more limited for many PLHIV, encouraging them to turn to usurious lenders who often charge high interest rates and they propagate a downward spiral in the economic condition of the household.

6. Impact on Children's Education

The studies showed that HIV has a destructive toll on the human capital accumulation of HIV-HHs through reduced educational opportunities and outcomes. Children in HIV-HHs in China, India, Indonesia and Viet Nam were less likely to attend school than those in NA-HHs, and the most vulnerable, poor children living in HIV-HHs in China and India were much less likely to attend school than those in NA-HHs (71% in the poorest Chinese HIV-HHs compared to 100% in the wealthiest NA-HHs).

Additionally, the negative impact of HIV on female household members, as discussed earlier, is much higher than that of males. Girls in HIV-HHs in China, India and Indonesia were substantially less likely to attend school than those in NA-HHs or boys in any household. In China, the difference ranged from 86% attendance for girls in HIV-HHs to 99% for girls in NA-HHs. In addition, children in HIV-HHs in China, India and Indonesia were more likely to have dropped out of school, and again, girls were more likely than boys to have dropped out.

However, HIV-HHs in Cambodia, Indonesia and Viet Nam were more likely to have received education assistance than NA-HHs, pointing to the positive steps that government policies have taken to mitigate the effects of HIV on households. In contrast, children in HIV-HHs faced significant stigma and discrimination, a possible contributor to the negative education results observed, and one that cannot be overcome by financial assistance alone.

7. Impact on Health

The increased demand for healthcare that results from a diagnosis of HIV has a dual effect. First, the absence from the workplace has an important effect on the household's financial standing. Secondly, the increased cost of medical care which the household faces forces households to adjust consumption and savings levels, further exacerbating the impact on income and living conditions. Access to free ART and healthcare services clearly mitigates the high health care cost traditionally associated with HIV and can even lead to decreasing levels of expenditure, reductions in dis-saving, thereby constituting a basic pillar of any financial protection strategy targeted to PLHIV. Overall the percentage of health expenditures allocated to HIV-related costs varied. Data were available for China (35% of health expenditures) and Viet Nam (26%).

The effect of HIV on increased utilization of health services is clear. The studies showed that substantially more PLHIV in Cambodia, China and Indonesia reported an outpatient visit than NA-HH members, and PLHIV in Cambodia and Indonesia were also more likely to have incurred an inpatient hospital visit.

The lack of free medical care is an important barrier that leads households to forego necessary medical care. In all countries, members of all households were likely to have not sought medical care when they reported being sick, but PLHIV in China and Indonesia were more likely to have not sought medical care than NA-HH members when sick due to financial reasons.

With regard to spending patterns, HIV-HHs in China, India, Indonesia and Viet Nam allocated substantially more of household consumption to health care than NA-HHs. Additionally, the poorest HIV-HHs in China, India and Viet Nam allocated the greatest share of household expenditures to health. However, in Cambodia, the reverse was true, and NA-HHs actually reported spending more on health than HIV-HHs, possibly due to the free and nearly universal coverage of ART coverage in Cambodia, a striking pointer to the benefits of universal access to treatment. Analysis of the specific aspects of health for PLHIV showed that ART coverage levels ranged from 94% in Cambodia to 21% in Indonesia[2]. In addition, the percentage of PLHIV who had been diagnosed through voluntary confidential counselling and testing (VCCT) varied by country, but males were always less likely to have been diagnosed through VCCT than females. This has implications for costs and health outcomes, as PLHIV who are diagnosed through VCCT are generally diagnosed earlier in the progression of their disease and thus can minimise the costs and physical deterioration caused by opportunistic infections. Men have a clear disadvantage in this context.

The modes of transmission varied by country, but in all countries female PLHIV were more likely to report heterosexual contact than male PLHIV. In the countries that asked about intimate partner transmission (Cambodia and Indonesia), female PLHIV were more likely to report heterosexual transmission through their intimate partner than male PLHIV.

2 Based on WHO 2010 guidelines. WHO (2010). *Towards universal access: scaling up priority HIV/AIDS interventions in the health sector: Progress Report 2010*. Geneva.

8. Impact on Food Security

In light of increasing world-wide food prices over the time of the surveys, the relationship between HIV and food expenditures has gained increasing importance. The results show that HIV substantially affected food expenditures in Viet Nam and the poorest households in India. Members of HIV-HHs in Cambodia and Viet Nam were more likely to have experienced hunger than members of NA-HHs. Additionally, in all countries there were differences in how food budgets were spent, as HIV-HHs spent less on protein-rich foods than NA-HHs, indicating that even when quantities were considered sufficient, achieving adequate nutrition was potentially still an issue. Finally, food support for HIV-HHs varied across the region, but HIV-HHs in Cambodia and Viet Nam were more likely to have received food support than NA-HHs, again indicating well-targeted government policies.

9. Stigma, Discrimination and Quality of Life

HIV can have a traumatic impact on an individual's sense of self-worth, personal security and social standing within the household and community. 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.

The studies reported high levels of internal stigma (shame, low self-esteem, and suicidal thoughts) by PLHIV. In addition, regional differences were seen in PLHIV who immediately reported their diagnosis to their spouse; however, in most countries males were less likely to have done so than female PLHIV (the opposite was true in Indonesia). There were also differences in spousal reactions to the disclosure, but all countries showed improved support over time.

NA-HHs in India and China reported very high levels of bias against PLHIV and their families. In conjunction, PLHIV reported very high levels of stigma and discrimination. Over 50% of PLHIV in China and India reported social isolation and neglect - an average of 20% of PLHIV in all the countries reported being verbally abused because of their status. Perhaps most concerning was the high level of discrimination in health facilities in Indonesia (30%), Viet Nam (17%) and China (13%). This reduces the likelihood of PLHIV disclosing their status and receiving the care they need, as evidenced by the high percentage (over 40%) of pregnant HIV-positive women in Indonesia who had not disclosed their status to their health care provider.

10. Impact on Family Structures, Women and Girls, and Intimate Partner Transmission

In the three analysed countries where data was available, Cambodia, China and Indonesia, HIV-HHs were less likely to have a nuclear family structure than NA-HHs. While this may reflect the high percentage of widowers in the survey population, it clearly points to the impact on the economic earning potential of the households in the studies.

Pregnant HIV-positive women are a particularly vulnerable group. In Viet Nam, 9% of women in HIV-HHs indicated they had been forced or persuaded to have an abortion, compared to 6% of

women in NA-HHs. In Indonesia only 42% reported being on ART at some point during their pregnancy or delivery. There is an urgent need for greater information, education and empowerment activities regarding the sexual and reproductive health rights of HIV positive women. Another particularly vulnerable group, widows, was analysed with regard to their property inheritance rights. In Cambodia, it was found that widows in HIV-HHs were less likely to have inherited their deceased husband's property or assets than widows in NA-HHs. In Indonesia and Viet Nam, high levels of loss of inheritance rights were reported (71% in Indonesia and 62% in Viet Nam). These results point to the need to ensure the portability of assets and other rights, irrespective of HIV status.

11. Social Safety Nets and HIV

Insurance and pensions offer HIV-affected households potentially important mechanisms to mitigate the effects of income loss through elevated morbidity and mortality. However, in most countries, HIV-HHs were less likely to have access to such protective measures, and other than in China, coverage levels were all below 15%.

However, in Cambodia, China and Viet Nam, HIV-HHs were more likely to have received financial support from government programs or NGOs than NA-HHs. In addition, the poorest HIV-HHs were most likely to have received such support, again indicating good targeting by support providers. The data in Cambodia, China and Viet Nam also allowed for analysis of the financial support as a percentage of total household income. In Cambodia and Viet Nam, the support had a moderate impact (8% of total income), but it was critical in China, accounting for 18% of household income.

12. Knowledge and Awareness of HIV

Increasing individuals' knowledge and awareness of HIV is critical in both reducing transmission and eliminating stigma and discrimination against those it affects. However, NA-HH respondents in China and Indonesia reported worryingly low knowledge levels of HIV (only 70% of those in China had heard of HIV and 72% in Indonesia). In addition, of those who had heard of HIV, knowledge of where they could go for a test was limited (62% in Cambodia, 40% in China and 44% in India).

With regard to HIV prevention methods, there was fairly widespread knowledge of condoms as a form of prevention (above 80% in Cambodia and Indonesia, though only 58% in India). However, females in all countries were less likely than males to cite condom usage as a form of protection against HIV.

13. Conclusions and Policy Recommendations

The findings of these multi-country studies point to the need for urgent policy action. They demonstrate that as the HIV epidemic matures, it has significant and lasting impact on the ability of households to cope with the loss of family members; the loss of income and assets; HIV-related morbidity and mortality; and the loss of educational opportunities, particularly for girls who are pulled out of school to care for sick and dying family members and social exclusion that prevents them from taking part in the socio-economic growth of the country. Moreover, the study points to the fact that even concentrated epidemics have wide ranging impacts on PLHIV and their households, effectively multiplying the socioeconomic effect as it erodes the fabric of HIV households.

An important part of the negative effects on income and assets can be mitigated by ensuring access to free ART and medical services for HIV affected households. This is underscored by the clear impact of the expansion of ART in Cambodia and the resulting reduction in health spending and dis-saving compared to the other countries of the study. Equally, this study points to the positive impact that targeted interventions, such as food support, government medical insurance and welfare programs can have on the health, nutrition, well-being and quality of life of HIV-affected households. Most importantly, they provide further empirical evidence of the effects of HIV on the household that can be used to better prioritize interventions in the region.

The studies in all five countries were taken at different times of economic growth and prosperity, spanning from the economic growth of 2004 to the downturn at the end of the decade. Nonetheless, they show that HIV-affected households are disproportionately affected, even in good times, and their extremely vulnerable state underscores the need for concerted action to mitigate HIV's impact. As the effects of the global economic crisis continue to unfold, HIV-affected households have little cushion on which to rely and, in many cases, limited social security or protection. The studies show that in a large number of cases, the affected families resort to irreversible coping mechanisms. They are thus among the most vulnerable and need to be prioritized for social protection.

While there is some attention to social protection programmes for PLHIV since these studies were completed, continued evolution of those programmes is required to support the people, households and communities that are hardest hit. The studies also point to the deleterious effect of HIV on the reduction of human capital not only due to death and morbidity of PLHIV but also due to reduced investment in the education of children.

The policy conclusions of the report may be contextualized within three key policy dimensions. The dimensions reflect: (1) the scope or range of services provided; (2) the depth or level 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 population coverage, of various interventions. The study demonstrates the significance of the household as an institution and hence the impact mitigation interventions should be targeted at them.

Scope of Services:

The need to explore changes in the scope of services provided to PLHIV and their families is highlighted in this section. Despite mounting challenges posed by the epidemic at the household level, the analysis points to a consistent set of interventions that could ameliorate the short and medium-term effects of the epidemic on PLHIV and HIV-affected households. Key policy recommendations include:

1. Strategically integrate HIV into appropriate social protection schemes, making them "HIV-sensitive", to protect affected households from irreversible coping mechanisms – of particular relevance are cash transfers, access to credit and health and micro-insurance.

2. Ensure PLHIV and their households have access to an increased continuum of care and related services - beyond ART - to further reduce the catastrophic financial burden of HIV-related medical expenditure.

3. Increase the range of services provided by PLHIV-staffed (volunteers and paid) services, which can have greater

acceptance and effectiveness than non-PLHIV provided services.

4. Increase efforts to target interventions to improve areas with low coverage or effectiveness, such as breast feeding for HIV positive women.
5. Increase the use of health technologies and social media to better increase knowledge and awareness of HIV and HIV prevention measures, as well as reduce stigma and discrimination in the general population.
6. Strengthen legal environment for an enabling environment that is rights and gender sensitive so that vulnerable and marginalised populations have access to services.
7. Designate HIV-HHs as a priority group in public employment and housing support.

Quality and Depth of Services:

While it is clear that HIV-affected households are receiving beneficial support from government and NGO programs in the region, the study results may be used to look at levels and quality of support and whether they should be increased to cover households' broader needs. For example, despite the increased provision of food support to HIV-HHs in Cambodia and Viet Nam, their members were still more likely to have been hungry than members of NA-HH. Furthermore, because of HIV's impact on family structure (HIV-HHs were significantly more likely to be headed by a widow), the "depth" of service should be carefully estimated to reflect specific household needs.

The main recommendations in this area include:

1. Improve food support to the poorest HIV-affected households and ensure that the level of support is sufficient to offset the potential reductions in consumption and changes in the caloric intake of the household.
2. Strengthen mental health and psychosocial support services for PLHIV and their family members.
3. Develop targeted interventions to address the negative self-esteem experienced by PLHIV and their family members.
4. Implement targeted interventions in institutions, mainly in health facilities and work places, to reduce stigma and discrimination against PLHIV.
5. Strengthen legal empowerment measures for women living with, and affected by, HIV.
6. Prioritize efforts to keep children from HIV-affected households in school, especially girls, by targeting them in programmes such as conditional cash transfer and food for school.
7. Develop an HIV vulnerability index to improve targeting, particularly for key populations[3] at higher risk of HIV exposure, and unify benefits available to HIV-affected households.

Breadth (Coverage) of Services:

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

1. Build flexibility and quality into VCCT services and create demand for early testing as a cornerstone of efforts to reduce the incidence of HIV, especially among key populations, hard-to-reach and vulnerable populations.
2. Continue efforts to expand universal access to quality ART coverage and support services so that PLHIV can remain productive members of the household economy and to offset the potential catastrophic impact of increased health spending.
3. Carry out further in-depth studies that track the conditions of PLHIV and their households over time, to improve targeting and enhance measurement of results over time.

3 Key populations = "key populations at higher risk of HIV exposure" (UNAIDS, 2011)

1 Introduction

Chapter Summary

- The report is an analysis of five socio-economic impact studies in Asia: Cambodia, China, India, Indonesia and Viet Nam;
- The report systematically addresses information gaps regarding the socio-economic impacts of HIV at household and individual levels in the region;
- While all countries have made progress in addressing the epidemic, in Cambodia, China, India and Viet Nam, the HIV epidemic is concentrated and prevalances have either remained steady or decreased in recent years; however, in Indonesia, prevalence has increased, and certain parts of the country are experiencing a generalized epidemic.
- The report examines the impacts of HIV on living conditions, employment and income; coping mechanisms such as debt, asset liquidation and migration; educational impacts; health utilisation and expenditures; knowledge and awareness regarding HIV; food security; stigma and discrimination; women and girls; safety nets and policy recommendations.

1.1 Background

It is widely acknowledged that HIV severely impacts the economic and social spheres of all societies. Over the past several years, governments in Asia have made important advances in the introduction of new policies and programmes aimed at mitigating the socio-economic impact of HIV on individuals living with HIV and their households. Examples include China's "Four Free and One Care" policy[4] and India's free provision of second-line ARV medicines. Despite these advances, there have only been limited attempts to measure the specific impact of HIV at the household level and use this information for evidence-based policy interventions.

This meta-analysis of the socio-economic impact of HIV in selected countries in Asia was prompted by the need to address this information gap and to determine the potential impact of the region's HIV epidemic through better understanding of the dynamics of the epidemic at the individual and household levels. Improved understanding of the epidemic – specifically regarding the dynamic and magnitude of how HIV affects individuals and households – will support the development of targeted, evidence-informed impact mitigation policies and programs.

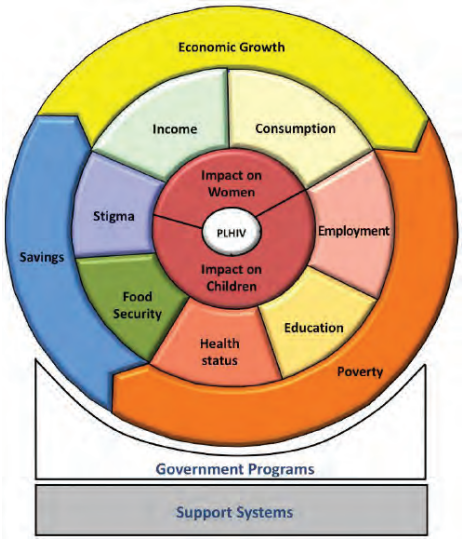
Over the last six years, independent studies, commissioned by the United Nations Development Programme (UNDP) in partnership with national institutions, were conducted in five countries within the region: Cambodia (2010), China (2009), India (2006), Indonesia (2010) and Viet Nam (2009). The studies all involved surveys of HIV-affected households (HIV-HHs) and non-affected households (NA-HHs) that examined a variety of socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, impact on women and girls, and stigma and discrimination. While the survey instruments used in the various studies were adapted to meet the specific needs and circumstances of each country, they followed a broad common methodology that allowed for inter-country comparisons. Using the data provided by those studies, this report seeks to analyse the socio-economic impact of HIV at the household level in Asia and offers policy recommendations for impact mitigation.

Globally, the impact of HIV on poverty – at the individual, household and national levels – is clear. Findings from various studies in the region (UNDP, 2006; UNDP, 2009; UNDP, 2009b; UNDP, 2009c; United Nations 2010) suggest that HIV is a financial drain on households and that 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, take on debt, deprive children of educational opportunities to supplement household income and caregiving burden, and reduce household expenditures on food and other critical areas.

Additionally, WHO estimates of antiretroviral treatment (ART) coverage varies widely between countries (Cambodia has a coverage rate of 94%, China between 19% and 38%, India between 23% and 28%, Indonesia 21%, and Viet Nam 34%[5]), which offers valuable lessons to be shared regarding the evolution of policy priorities as the disease profile shifts to more closely resemble a chronic disease with a different pattern of costs at the country level.

The figure below highlights the various impacts analysed in the socio-economic impact studies commissioned by UNDP. This report aims to clarify how each of these dimensions impacts both people living with HIV (PLHIV) and HIV-affected households in Asia. This will in turn provide national and international policy-makers with better information to formulate programmes that will effectively and efficiently support those affected by HIV.

FIGURE 1 **Dynamics of the Impact of HIV**



Source: Sanigest Internacional from UNDP, 2009c

4 It includes free ARV drugs, free prevention of parent-to-child transmission, free voluntary counselling and testing, free education for children orphaned by AIDS, and provision of care to people living with HIV.

5 Based on WHO 2010 guidelines. WHO (2010). *Towards universal access: scaling up priority HIV/AIDS interventions in the health sector: Progress Report 2010*. Geneva.

The policies to mitigate the impact of HIV on households in Asia should be developed within the context of the improving economic situation of many countries in the region, while taking into account social and economic inequalities. Despite economic improvement, 30.1% of people in Cambodia (2007), 2.8% in China (2004), 28.6% in India (2000), 16.7% in Indonesia (2004), and 28.9% in Viet Nam (2002), still live below their national poverty lines (World Bank, 2011). 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 the extent and scope of such impact.

This report has 14 chapters, beginning with an introduction and overview of HIV in the region in Chapter 1, followed by:

- Chapter 2: the survey design, sampling methodology and data analysis used within this regional analysis.
- Chapter 3: an overview of household characteristics, including heads of households (HoHs) and PLHIV.
- Chapter 4: the impact of HIV on economic indicators, including living conditions, employment and income.
- Chapter 5: coping mechanisms, including migration, asset liquidation, changes in consumption patterns, and loss of savings.
- Chapter 6: issues regarding education for children in HIV-affected households.
- Chapter 7: HIV's impact on health, including utilisation of services, health expenditures, antiretroviral treatment (ART) utilisation by PLHIV, and transmission and diagnosis.
- Chapter 8: the impact of HIV on food security, including food expenditures, hunger and food support.
- Chapter 9: stigma, discrimination and quality of life
- Chapter 10: family structures and the specific impact of HIV on women, girls and intimate partner transmission.
- Chapter 11: the availability of safety nets and social protection.
- Chapter 12: knowledge and awareness of HIV.
- Chapter 13: conclusions and policy recommendations based on this report's results.
- Chapter 14: a list of references used throughout the report.

There are also two annexes that outline the HIV situation in each country studied in this report, and a detailed description of the methodologies used in each country study.

1.2 Overview of HIV in Asia

Globally, 33.3 million people were estimated to be living with HIV in 2009. In the same year, 1.8 million people died from the disease - almost 260,000 of them were children, and HIV was identified as the leading cause of death and disease among women 15-49 years of age (UNAIDS, 2010)[6]. Regionally, Asia accounted for the second highest number of world-wide AIDS-related deaths (300,000), the second highest number of new infections (360,000) and the second highest number of PLHIV (4.9 million) (UNAIDS, 2010b). In Asia alone, HIV will cause an estimated total loss of 180 million years of healthy and productive life between 2002 and 2020, more than any other disease (Commission on AIDS in Asia, 2008).

For the most part, the countries featured in this report have concentrated HIV epidemics, with adult prevalence below 1% in the general population, but significantly higher HIV prevalence among key populations such as people who inject drugs (PHID), female sex workers (FSWs), and men who have sex with men (MSM) and transgender people (TG). In four of the five countries featured in this report, HIV prevalence has declined or remained steady over the last five years. However, Indonesia has seen a rapid increase in prevalence. Additionally, there are often large inter-regional differences in HIV prevalence within countries – for example, in China, over half the country's PLHIV reside within just five of the 22 provinces (UNAIDS, 2010b), and in India, 60% of PLHIV live in six of its 28 states (NACO, 2010).

Early diagnosis, assisted by voluntary confidential counselling and testing (VCCT) centres, is important for preventing transmission and reducing morbidity and mortality for PLHIV. Throughout the region, the number of HIV-testing facilities has increased in recent years, (the number of facilities per 100,000 adults in East, South and South East Asia increased from 0.9 in 2008 to 1.2 in 2009) but is still well below the global average of 5.5 for low and middle-income countries (WHO, 2010). At the same time, the median number of HIV tests per 1,000 adults increased from 9.2 to 13, but this is again below the global median for low and middle-income countries of 50 per 1,000 adults. Additionally, the percentage of pregnant women who received an HIV test in East, South and South East Asia increased from 2% in 2005 to 17% in 2009, but is still much lower than the 26% 2009 global average for low and middle-income countries, and substantially lower than the 80% target for 2010, adopted by the Heads of State and Representatives of Governments in the Declaration of Commitment on HIV/AIDS at the UNGASS on HIV/AIDS in 2001 (WHO, 2010; UNGASS 2001).

The impact of ART on reducing HIV-related morbidity and mortality is well known. Reduced morbidity and mortality, in turn, leads to more economically productive PLHIV and HIV-affected household members. For example, in China, ART was estimated to have led to the gain of 84,000 life years for PLHIV receiving treatment and 27,000 life years for those on ART in Viet Nam (WHO, 2010). As such, universal coverage of ART is a cornerstone of any robust effort to reduce the negative socio-economic impacts of HIV. However, in 2009, of the almost two million adult PLHIV (over age 15) in East, South and South-East Asia estimated to be in need of ART, fewer than 500,000 (24%) were receiving treatment, compared to 37% of those in need on treatment in Sub-Saharan Africa (WHO, 2010). Additionally, the percentage of women receiving ART to prevent mother-to-child transmission of HIV increased from 9% in 2005 to 32% in 2009 but still significantly lower than the global average of 53% for low and middle-income countries.

ART coverage, VCCT centres, and support services for PLHIV all require substantial financial and political commitment from governments. UNAIDS has attempted to measure the degree of investment priority that governments have given to support their national AIDS responses through the "Domestic Investment Priority Index" (DIPI) (UNAIDS, 2010). The index is calculated by dividing the percentage of government revenue directed to the AIDS response by the country's HIV prevalence:

$$\text{DIPI} = \frac{\text{Public expenditure on AIDS response}}{\text{Government revenue}} \times \frac{\text{National population}}{\text{PLHIV}}$$

6 Sub-Saharan Africa is the highest in all three counts.

A higher DIPI figure usually means a higher assigned priority, with the global mean value of 0.35. A comparison of their DIPI and other basic indicators for the included countries is shown below in Table 2. The size of the countries varies from the two largest in the world - China and India - with over a billion people each, to Cambodia with fewer than 15 million people. The least populated of the countries is also the poorest - Cambodia is considered a low-income country by the World Bank - while the others are considered lower middle-income countries. The HIV prevalances, low overall, range from a high of 0.5% in Cambodia to a low of 0.1% in China. However, due to China and India's large populations, the estimated number of PLHIV is still very high in those countries – almost 2.5 million in India and 750,000 in China. As discussed earlier, the ART coverage rates in the countries, also varies significantly, from the high of 94% in Cambodia to a low of 21% in Indonesia, using the WHO 2010 guidelines. Finally, the level of VCCT centres throughout the countries ranges from a high of 2.9 per 100,000 population in Cambodia to a low of 0.2 in Viet Nam. Summaries of the HIV epidemics in each of the studied countries are included in Annex I.

The challenge of increasing the priority for HIV programs in these countries is clear. Moreover, the need to improve the effectiveness of the interventions and ensure that impact mitigation strategies are evidence-informed and integrated with other social protection measures is paramount to ensure that the impact of the epidemic is reduced for current and future generations in the region.

The remainder of this report provides a detailed review of exactly how HIV affects individuals and households and provides estimates of the magnitude of the epidemic in the countries of the study. Using this information will provide policymakers with an effective tool to design impact mitigation strategies that are more cost-effective and HIV sensitive.

TABLE 2 Comparison of Selected Indicators for the Countries in the Study

	Cambodia	China	India	Indonesia	Viet Nam
Population (millions)[1]	14,562 (2008)	1,344,920 (2008)	1,181,412 2008)	227,345 (2008)	87,096 (2008)
% population living on<$1/day(PPP int $)[1]	40.2% (2000-2007)	15.9% 2000-2007)	41.6% (2000-2007)	n/a (2000-2007)	21.5% (2000-2007)
% population below national poverty line[2]	30.1% (2007)	2.8% (2004)	28.6% (2000)	16.7% (2004)	28.9% 2002)
HIV prevalence (adults 15-49)[3]	0.5% (2009)	0.1% (2006)	0.3% (2009)	0.2% (2009)	0.4% (2009)
Approximate number of PLHIV[3]	63,000 (2009)	740,000 (2009)	2,400,000 (2009)	310,000 (2009)	280,000 (2009)
ART coverage rate of adults in need[3*]	94% (2009)	19-38% (2009)	23-28% (2009)	21% (2009)	34% (2009)
VCCT centres / 100,000 population[3]	2.9	1.0	0.8	0.4	0.2
DIPI[3]	1.35	0.69	0.07	0.29	0.05

[1]United Nations (2011), [2]World Bank (2010), [3]WHO (2010), [*]Based on 2010 WHO Guidelines

2 Methodology and Data

Chapter Summary

- This report utilises data from five country socio-economic impact studies (Cambodia, China, India, Indonesia and Viet Nam) covering more than 72,000 household members in over 17,000 households;
- The studies examined household conditions for key socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, impact on women and girls and stigma and discrimination;
- This study included the following main dimensions of analysis: Country; HIV-affected versus non-affected households; PLHIV versus non-PLHIV; men (and boys) versus women (and girls); urban versus rural household location; and quintile of consumption (poorest versus richest);
- New data analyses were conducted on the survey databases from Cambodia, Indonesia and Viet Nam;
- Secondary data analyses were conducted for China and India, using previously published reports;

This analysis is based on studies undertaken by UNDP to assess the socio-economic impact of HIV at the household level in five Asian countries, Cambodia, China, India, Indonesia and Vietnam[7], and additional sources of information[8]. In addition to using existing data from the published reports on China and India, new analyses were conducted using the data collected for Cambodia, Indonesia, and Viet Nam, as described below in Section 2.2.

The country level studies were conducted over a period of six years, starting with India in 2004 and ending with Cambodia in 2010. In total, over 17,000 households were included in the surveys, compiling data on over 72,000 household members. The studies surveyed households with people living with HIV (sample households) as well as households from the same socio-economic background without people living with HIV (control households) in each country.

The regional analysis focused on how key socio-economic issues impacted HIV-HHs (including issues such as income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, impact on women and girls, and stigma and discrimination).

The dimensions of socio-economic impact analysed are similar across the five country studies analysed and this study focuses on comparisons with the following main dimensions of analysis:

- Country
- HIV-affected versus non-affected households
- PLHIV versus non-PLHIV
- Men (and boys) versus women (and girls)
- Urban location for household versus rural location
- Quintile of consumption (poorest versus richest)

This section outlines the key data and methodology of this study and highlights some of its limitations.

2.1 Sample Population

The surveys ranged in size, from the smallest in Viet Nam (904 households, 3,630 household members), to the largest in India (8,292 households and 35,758 members). In general, demographically the studies had fairly similar overall populations, although there were some differences. Household size varied by country and HIV status from the smallest with an average size of 3.4 members in NA-HHs of Indonesia to the largest of 4.6 members in Cambodia. Households also varied by their urban and rural locations. There were similar ratios of the sexes found throughout the household members, but varied for PLHIV.

Table 3 summarizes the number of households and household members included in each study, as well as the year the study was conducted. Detailed tables of sample profiles by country are available in Annex II.

2.2 Data Analysis

The analyses presented in this report followed two main methodologies:

(1) Utilisation of data from published reports on China and India;

(2) New analysis of databases from Cambodia, Indonesia and Viet Nam.

New analyses were not conducted for the China and India studies due to confidentiality considerations restricting access to the databases. Instead, regionally comparable statistics were gathered from the published country reports.

For the three countries where new analyses were conducted, the original databases were recoded, cleaned and new categorical variables created to increase comparability between the countries. All analyses were conducted in STATA and SPSS.

Specific analyses were restricted to certain populations (for example, based on age, marital status, HIV-status) as outlined in the detailed results sections.

For Indonesia and Viet Nam, which included data on household members who had passed away in the previous year, deceased members were removed from the databases.

7 UNDP (2006). Socio-Economic Impact of HIV and AIDS in India; UNDP (2006b). Gender Impact of HIV and AIDS in India; UNDP (2009a). The Socio-Economic Impact of HIV/AIDS at Individual and Household Levels in China; UNDP (2009b). Impact of HIV/AIDS on Household Vulnerability and Poverty in Viet Nam; United Nations (2010). The Socio-Economic Impact of HIV at the Household Level in Cambodia; UNDP (2011). Socio-economic impact of HIV at the individual and household levels in Indonesia.

8 Additional data sources included the country-specific UNGASS reports, UNAIDS Annual Global Reports, the Commission on AIDS' reports and various IBBS and other national surveys.

TABLE 3 Number of Households and Household Members

Country	Year of Survey	Total # HIV-HHs	Total # NA-HHs	Total # HIV-HH Members	Total # NA-HH Members
Cambodia	2009-2010	2,623	1,349	11,566	6,129
China	2008	931	995	3,724*	4,378*
India	2004-2005	2,068	6,224	8,252	27,506
Indonesia	2009	996	996	3,653	3,481
Viet Nam	2008	452	452	1,889	1,741
Total		**7,070**	**10,016**	**29,084**	**43,235**

*Estimate based on HIV-HH and NA-HH average size

2.3 Relative and Absolute Differences

The results in this report are discussed using two methodologies:

(1) Absolute differences between comparison groups[9]:

For these analyses, simple subtractions were conducted to provide the results:

AbsoluteDifference = RateGroup1-RateGroup2

For example, if 58% of HIV-HHs owned their homes and 77% of NA-HHs owned their homes, the absolute difference was reported as 77%-58% = 19%.

"HIV-HHs were less likely to own their home than NA-HHs (absolute difference of 19%)."

(2) Relative difference between comparison groups:

For these analyses, the relative difference between the two groups rates was calculated:

$$RelativeDifference = \frac{RateGroup1-RateGroup2}{RateGroup1}$$

For example, again, if 58% of HIV-HHs owned their homes and 77% of NA-HHs owned their homes, the relative difference was reported as:

$$\frac{77-58}{77} = 25\%$$

"HIV-HHs were 25% less likely to own their home than NA-HHs".

2.4 Limitations

The key limitations are as follows:

(i) Primary databases from China and India were not accessible for confidentiality reasons, limiting the possibility to include dimensions of analysis that were possible in the other three countries.

(ii) Because of the local adaptation of the methodology and questionnaire, there are some limitations on the availability of comparable indicators across all countries.

(iii) Non-probability sampling in Viet Nam, India, Indonesia, and China data collection does not allow for statistical inferences on population parameters or other estimates.

In addition, since this Asia Regional Analysis depends on the individual country studies and data, the limitations of the individuals studies, outlined in Annex II, contribute to the limitations of the study.

9 Comparison groups include HIV-HHs and NA-HHs; boys and girls; males and females; PLHIV before diagnosis and after diagnosis.

3 Profile of Sample Households and PLHIV

Chapter Summary

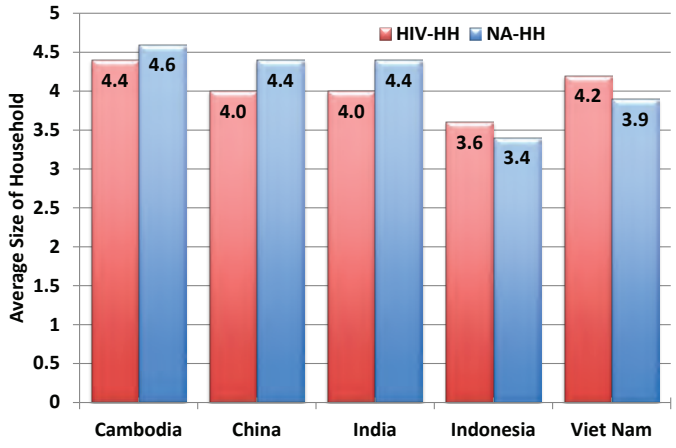
- Household size and location (urban or rural) varied by country and HIV status ranging from a high of 4.6 for NA-HHs in Cambodia to a low of 3.4 for NA-HHs in Indonesia, and 100% urban (all households) in Indonesia to 36.5% urban for NA-HHs in Viet Nam;
- Household compositions for the sexes were found to be between 46.1% male in HIV-HHs in Cambodia to 53.3% in HIV-HHs in Indonesia. Levels varied more for PLHIV (29.3% males in Cambodia to 69.7% males in Indonesia);
- HIV-HH members in Cambodia and Viet Nam were less educated than those in NA-HHs; PLHIV in Cambodia and Indonesia were less educated than other members of household;
- HIV-HH members in Cambodia, Indonesia and Viet Nam were more likely to be widowed than NA-HH members, and PLHIV were most likely to be widowed.

3.1 Profile of Sample Households

This section of the report provides a profile of the surveyed households in the various countries, highlighting both the similarities and principal socio-economic and demographic differences between the case and control households in each country. This provides a guideline for the comparability and interpretation of results with regard to HIV-affected and non-affected households throughout the region. Unfortunately, basic demographic information on households, head of households (HoH) and PLHIV was not available for all the countries. However, available data highlight some differences and similarities between countries, and, regionally, between HIV-HHs and NA-HHs.

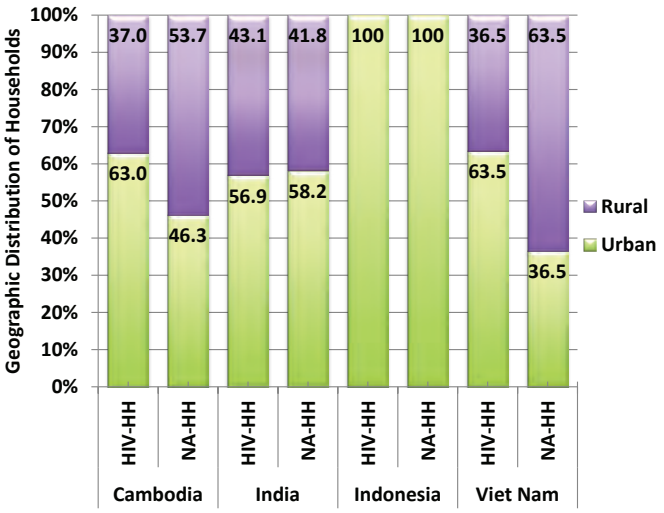
Figure 2 shows that, in the four countries for which data could be analysed, there were only small differences in the average household size (no data was available for China). Overall Cambodia had larger households than the other countries while Indonesia had the smallest reported household sizes.

FIGURE 2 Average Size of Household



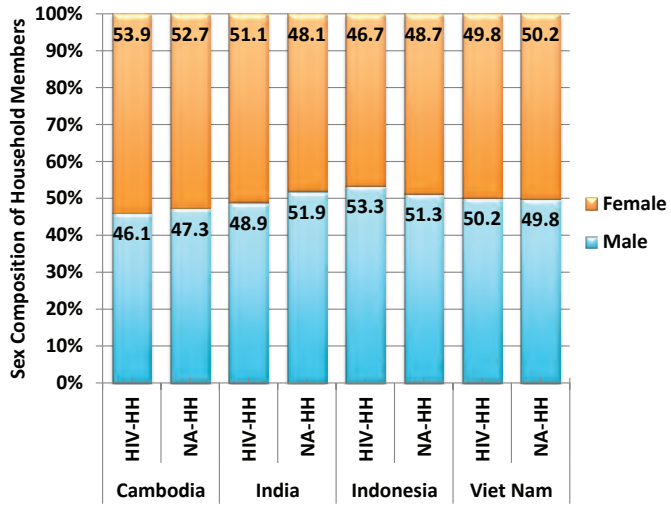
Large differences can be seen in relation to the share of urban households in the various studies. Cambodia and Viet Nam both had a higher percentage of HIV-affected households located in urban areas (63% and 64%, respectively), when compared with non-affected households (46% and 37%, respectively) The Indonesia study, however, focused almost exclusively on urban households. In India, the majority of households were in urban locations, with little difference seen between HIV-HHs and NA-HHs. According to the methodology of the China report, the majority of the households surveyed (HIV-HHs and NA-HHs) were in rural areas.

FIGURE 3 Geographic Distribution of Households



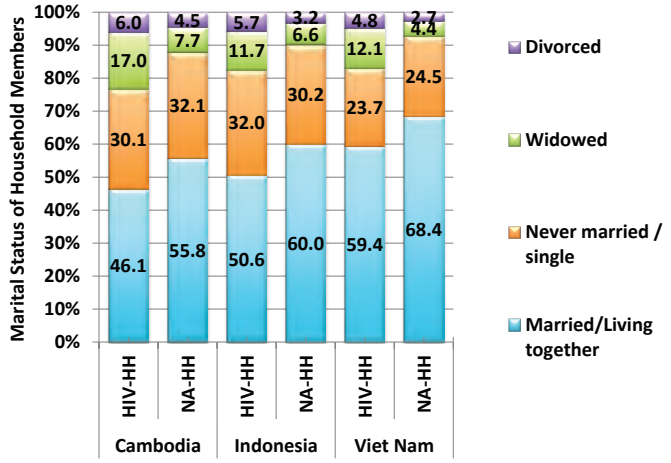
Regarding the sex composition of the households, there was fairly equal distribution of household members in the studies, and only small differences across countries (males represented 47% of the members in Cambodia compared to 52% in Indonesia). However, with regards to educational attainment of household members, large differences are seen between Cambodia, Indonesia and Viet Nam, with HH members in Indonesia and Viet Nam more likely to have achieved an education above the primary level than those in Cambodia. Also, there are only small differences seen between HIV-HHs and NA-HHs in Indonesia, while in Cambodia and Viet Nam, members of HIV-affected households were less likely to have reached as high a level of education as those in NA-HHs.

FIGURE 4 **Sex Composition of Household Members**



There were also differences in the marital status of household members in Cambodia, Indonesia and Viet Nam, particularly with regard to the percentage of those who reported being widowed. In Cambodia, over 17% of HIV-HH members over the age of 15 reported being widowed (more than twice the percentage of NA-HH members) while in Indonesia and Viet Nam 12% were widowed. However, in Indonesia that was still almost twice the number for NA-HH members (7%) and more than three times the number in Viet Nam (4%).

FIGURE 5 **Marital Status of Household Members**



Marital status limited to members ≥15 years of age (YOA)

3.2 Heads of Household Profile

Figure 6 displays the data on the sex of the head of household in Cambodia, Indonesia and Viet Nam. The figure shows there were large differences in the sex composition of heads of households across the region and between types of household, from a high of 53% female HoHs in HIV-HHs in Cambodia to a low of 15% in NA-HHs in Indonesia.

FIGURE 6 **Sex Composition of the Heads of Households**

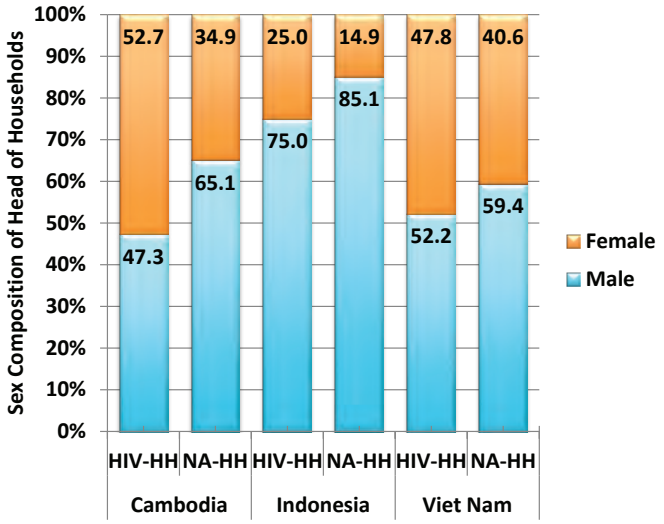
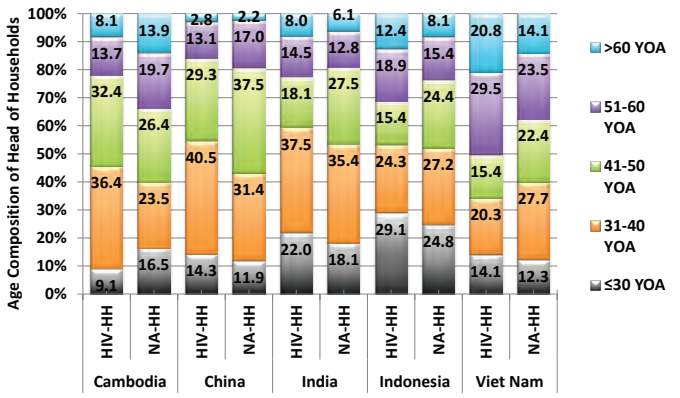


Figure 7 shows that HoHs in Viet Nam and Cambodia were older than those in China, India and Indonesia, regardless of the HIV status of the household. Less than 10% of HoHs in Cambodian HIV-HHs were under the age of 30, compared to 14% in China, 22% in India, and 29% in Indonesia. Comparatively, 21% of HoHs in Vietnamese HIV-HHs were over 60 years of age, compared to less than 10% in all other countries.

FIGURE 7 **Age Composition of the Heads of Households**

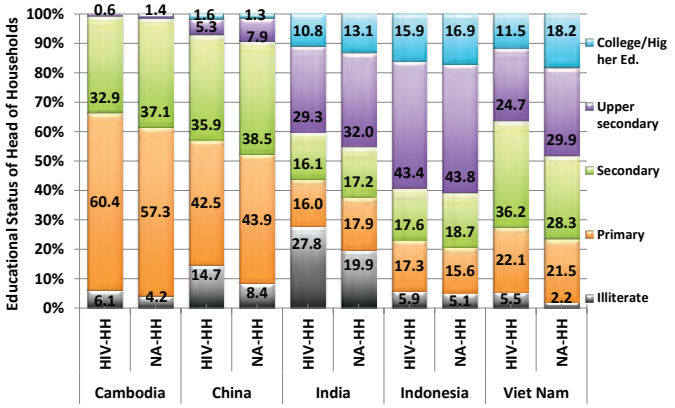


China: includes HIV positive spouses for the HIV-HHs; **Viet Nam:** 212 households have no sex or age information on HoH (only 390 HIV-HH HoHs; 375 NA-HH HoHs).

In addition, Figure 8 shows that HoHs in Cambodia and China were less likely to have attained a high level of education, with 67% of Cambodian and 57% of Chinese HIV-HH heads having attained no more than a primary school education, versus 46% of household heads in India, 23% in Indonesia and 26% in Viet Nam. In India, HIV-HH HoHs were more likely to be illiterate than those in NA-HHs (28% versus 20%). In Cambodia, China and Viet Nam, HoHs in HIV-HHs were less likely to have completed secondary or tertiary education than HoHs in the NA-HHs (which may be partially explained by the differences in sex and age of the HoHs). However, in Indonesia, there was little difference between the educational levels of the different households, despite differences in age between the NA-HH HoHs and HIV-HH HoHs.

FIGURE 8

Educational Levels of the Heads of Households



Cambodia: ≥10YOA. No school (Illiterate), At least some primary school (Primary), At least some secondary school (Secondary), More than secondary school (Upper secondary). **China:** includes HIV positive spouses for the HIV-HHs; **Indonesia:** ≥10YOA. Not attended school / not finished primary school (Illiterate), SD (Primary), SLTP (Secondary), SLTA (Upper Secondary), DI/DII/Academy/DIII/DIV/ S1/S2/S3 (College / Higher ed.). **Viet Nam:** ≥10YOA. Education data is from 381 HIV-HH HoHs and 368 NA-HH HoHs.

3.3 Profile of People Living with HIV

Figure 9 shows that differences exist in the percentages of male and female PLHIV surveyed. Indonesia had substantially more males than females (70% versus 30%), compared to Cambodia, which had only 29% male PLHIV and 71% female PLHIV. While this may be mostly attributable to the differences in sample populations and survey methods, the differences are an important consideration when considering the results and the design of impact mitigation strategies. For example the higher proportion of IDU in Indonesia might point to the differences in the specific MARP sampled rather than the overall perspective of the epidemic nationally.

FIGURE 9

Sex Composition of PLHIV

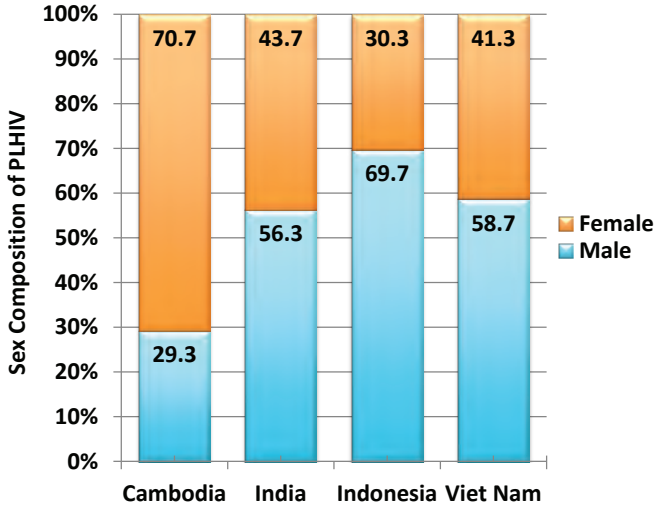
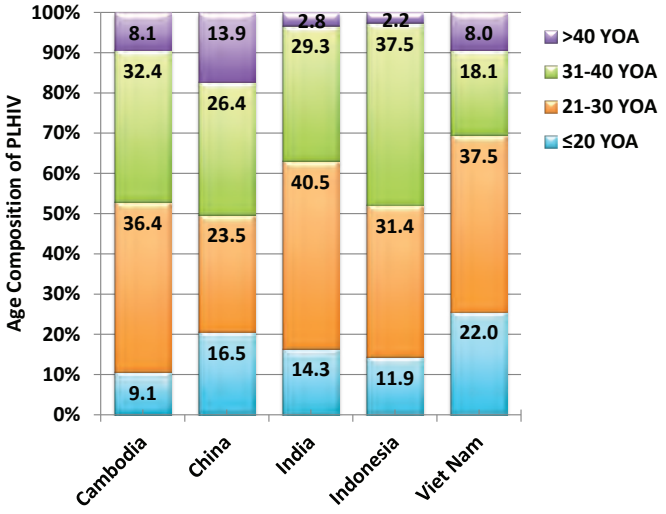


Figure 10 shows that the age structure of PLHIV was different throughout the five countries, with PLHIV in Indonesia, India and Viet Nam considerably younger than the PLHIV in China and Cambodia.

FIGURE 10

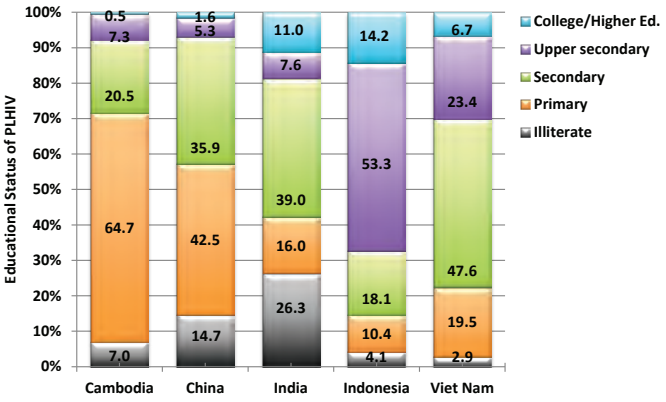
Age Composition of PLHIV



Finally, differences in educational attainment and marital status were evident in PLHIV across the region, though this is likely partially due to differences in age and sex (shown in Figure 11 and Figure 12) and, once again, may be a sign of differences in the sample populations. However, it should be noted that in Cambodia (with its largely female cohort of PLHIV), 34% of respondents indicated they were widowed, compared to 18% in India, 14% in Viet Nam, 10% in China and 9% in Indonesia.

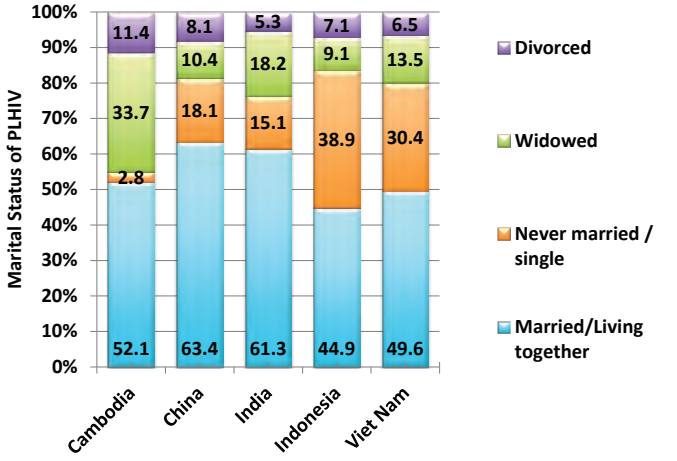
FIGURE 11

Educational Status of PLHIV



Cambodia: Restricted to 1,986 PLHIV ≥10YOA. No school (Illiterate), At least some primary school (Primary), At least some secondary school (Secondary), More than secondary school (Upper secondary). **China:** ≥1oYOA. **Indonesia:** Restricted to 1,081 PLHIV ≥10YOA still alive at time of the survey. Not attended school / not finished primary school (Illiterate), SD (Primary), SLTP (Secondary), SLTA (Upper Secondary), DI/ DII/ Academy/ DIII/ DIV/ S1/ S2/ S3 (College / Higher ed.). **Viet Nam:** Restricted to 525 PLHIV ≥10YOA still alive at time of the survey.

FIGURE 12 Marital Status of PLHIV



Cambodia: Restricted to 2,502 PLHIV ≥15YOA. **Indonesia:** Restricted to 1,077 PLHIV ≥15YOA still alive at time of the survey. **Viet Nam:** Restricted to 510 PLHIV ≥15YOA still alive at time of the survey.

4 Living Conditions, Income and Employment

Chapter Summary

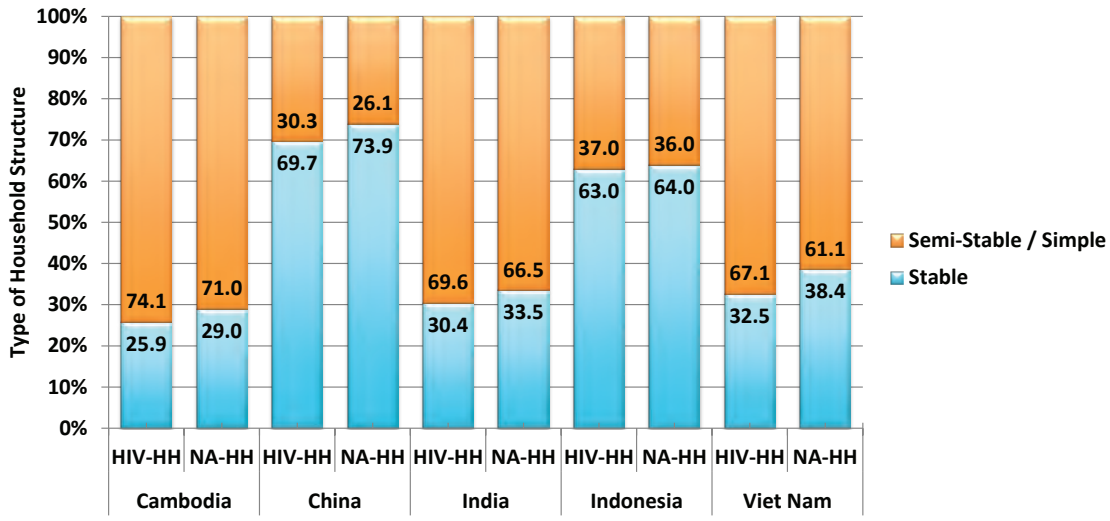
- NA-HHs in Cambodia, China, India and Viet Nam were more likely to live in physically stable household structures than HIV-HHs;
- Male members of HIV-HHs in Cambodia, China, Indonesia and Viet Nam were 8%, 12%, 9% and 10% less likely to be employed than those in NA-HHs;
- PLHIV in Cambodia and Indonesia were almost twice as likely to be unemployed as NA-HH members;
- Employment levels of PLHIV in Cambodia, China, India and Viet Nam dropped by an average absolute difference of 9% after their diagnosis;
- A quarter (25%) of PLHIV in Cambodia, India and Indonesia had a care-giver, and many of them either left their job or experienced reduced income as a result of their care-giving duties;
- In all countries with data, HIV-positive status resulted in more lost work days than for NA-HH members, ranging from 54 more (Indonesia) to 16 more (Cambodia);
- In all countries with data, caregivers for PLHIV also lost more work days than NA-HH members, ranging from a high of 18 more (Viet Nam) to a low of 7 more (Cambodia);
- In all countries, child labour levels were higher in HIV-HHs than NA-HHs, especially for girls;
- On average, in Cambodia, China, India and Viet Nam, HIV-HHs had lower total annual household incomes than NA-HHs: the loss of household income varied between $1,119 in Viet Nam to $52 in India;
- In China, India and Indonesia, HIV-HHs were 68%, 29% and 38% more likely to be below the poverty line than NA-HHs.

One of the primary impacts of HIV at the household level is through changes in employment, the frequent shifting of spouses and children to caregiver roles and the reduction in income. Understanding the effects of HIV and assessing the magnitude of the impact will provide important information to design policies that address the financial protection issues facing HIV-affected households. This section provides country comparisons of the impact of HIV on various economic factors including income, revenues, employment, caregiving, child labour and productivity.

4.1 Household Living Conditions

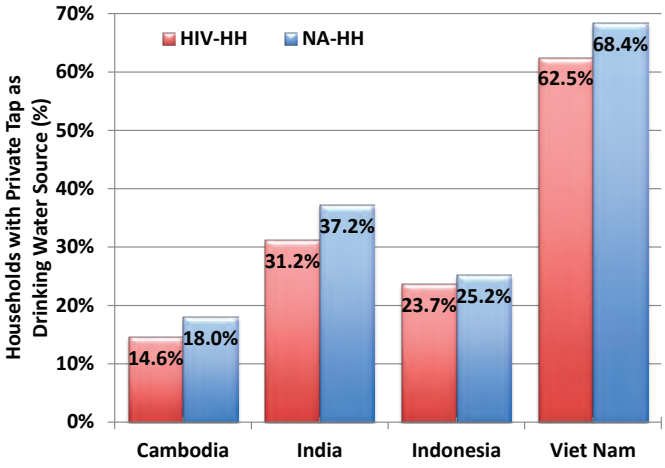
The basic amenities of a household are often used as indicators of economic status. Figure 13 and Figure 14 display data on the basic amenities of the households across the surveyed countries. In all countries, HIV-HHs are more likely to live in a less structurally stable house than the NA-HHs, though the difference is only minimal in Indonesia, possibly due to the predominantly urban population surveyed. Only small differences are seen in households having a toilet, but in Cambodia, HIV-HHs were more likely to report having a toilet, while in Indonesia, NA-HHs were more likely to report having a toilet. With regards to the source of the household's drinking water, HIV-HHs in all countries were less likely than NA-HHs to have access to a private tap.

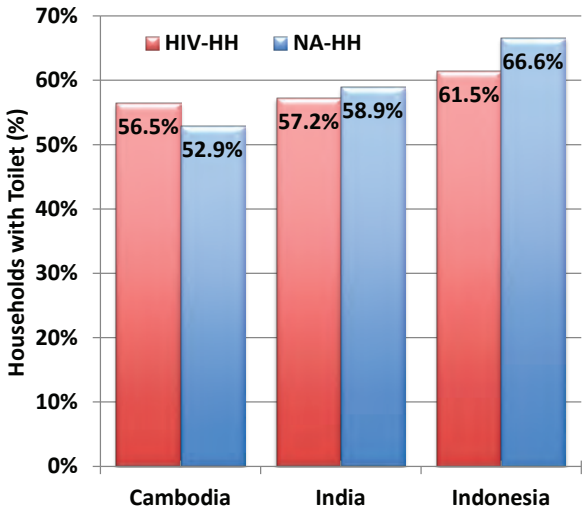
FIGURE 13 **Type of Household Structure**



Cambodia: stable = floor is cement, parquet, polished stone, vinyl or ceramic tiles. Semi-stable / simple = floor is bamboo strips, wooden planks, earth or clay. **China:** Stable = "building" or "brick house", semi-stable or simple = "mud house" "grass house" or "others". **India:** Stable = "pucca", semi-stable or simple = "semi-pucca" and "kuchha" **Indonesia:** stable = roof is concrete, rooftile, or shingle. semi-stable or simple if roof is zinc, asbestos, palm fibre or other. **Viet Nam:** Stable, semi-stable or simple.

FIGURE 14 **Percentage of Households with Private Tap as Drinking Water Source and Private Toilet**





4.2 Employment

4.2.1 Employment for Adults

HIV has a dramatic effect on the dynamic for employment in households across all countries. The impact on the labour market is channelled through an increase in the overall level of unemployment for HIV-affected households as well as increased absenteeism and decreased productivity. Figure 15 and Figure 16 show the differences in employment levels for males and females in the different countries, stratified by the HIV status of both the household and the household members[10]. In China, Indonesia, and Viet Nam, male PLHIV and non-PLHIV in HIV-HHs both had lower participation in the workforce than those in NA-HHs. In Cambodia, male PLHIV and males in NA-HHs had the same employment levels, but male non-PLHIV in HIV-HHs had lower employment levels. Interestingly, the non-PLHIV males in Indonesia also had the lowest employment levels, and those in India had significantly lower levels than the male PLHIV, possibly due to the general older age of the non-PLHIV than the PLHIV.

Other than for Chinese PLHIV, females had lower employment levels than males. Many HIV-HHs in China pointed to the need for their spouses to join the workforce as a coping mechanism in response to HIV (see Section 5.6), possibly explaining that result. Additionally, in Cambodia, and Indonesia, female PLHIV and non-PLHIV in HIV-HHs had higher employment levels than females in NA-HHs, again likely due to the increased need for additional financing caused by HIV. The different results seen across the countries in the region may also be partly due to differences in urban / rural strata within the studies, as well as differences in the male to female ratios of PLHIV, HoHs and household members. For example, in Cambodia, there were many widowed female heads of HIV-HHs. These women were therefore more likely to be responsible for procuring the household finances than females in NA-HHs. Clearly, HIV has a large impact on the roles and employment opportunities of different household members across the region.

FIGURE 15 **Employment Levels: Males, 15-60 YOA**

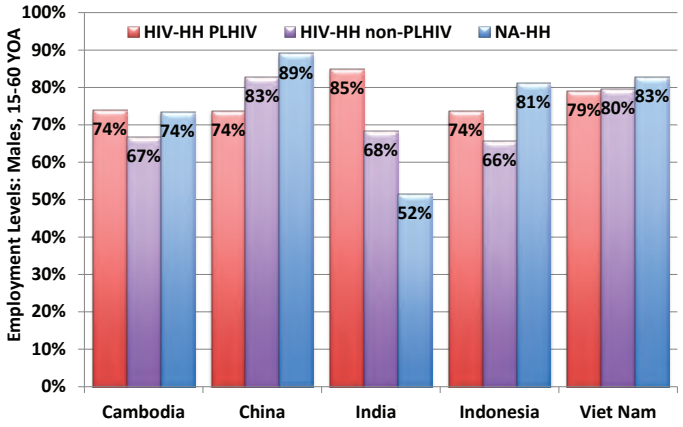
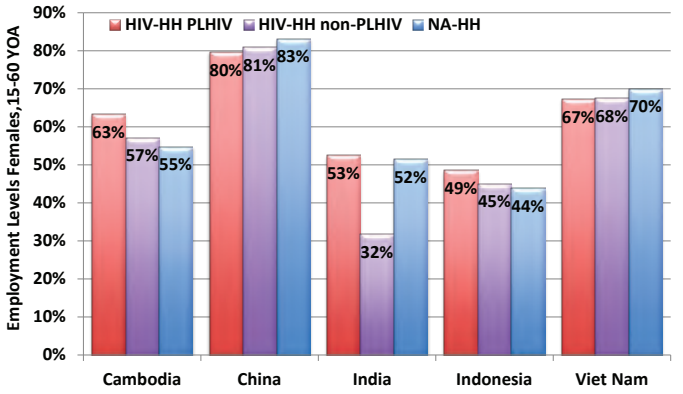


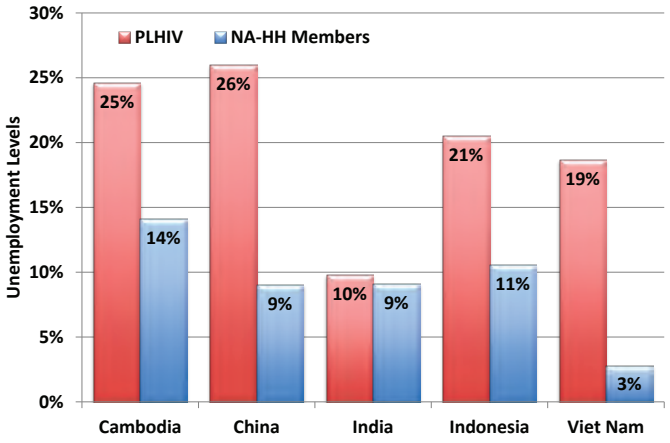
FIGURE 16 **Employment Levels: Females, 15-60 YOA**



Some of the reports indicated they were displaying Workforce Participation Rates, but due to lack of detailed methodology descriptions, it was unclear that strict WFPRs had been created. As such, the term employment is used throughout this section. **China:** WFPR for members 15-59. **India:** WFPR for members 15-60. Data was not available for NA-HHs by sex. **Indonesia:** Alive HH-members between the ages of 15-60. **Viet Nam:** Alive HH-members between the ages of 15-60 in an income-earning position (housewives and peer educators excluded).

10 India's data for NA-HHs is not disaggregated by gender, so the overall employment level is used for both figures.

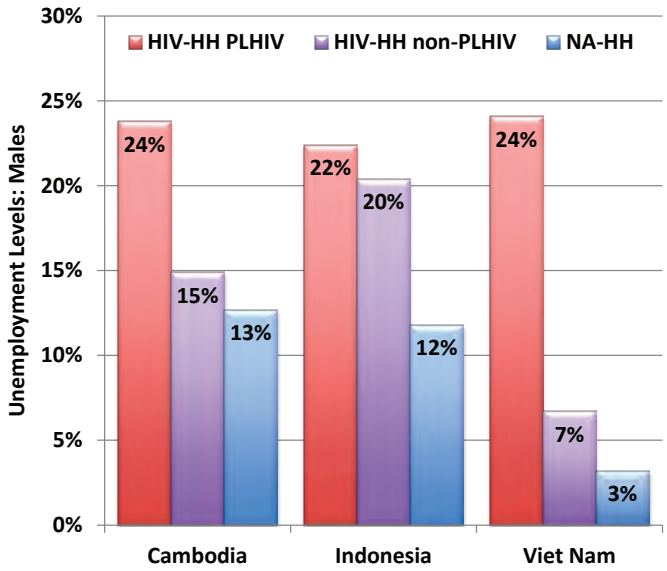
FIGURE 17 Unemployment Levels

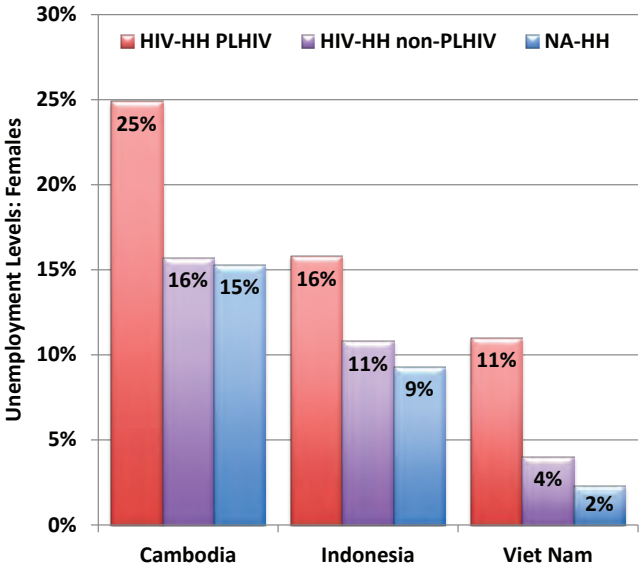


Cambodia: percentage of members 15-60 YOA not working, not performing housework, nor attending school. **China:** Percentage of members 18+ unemployed (not working or students – not clear if excludes housework). **India:** Percentage of member 18-60 YOA not working, not performing housework, nor attending school. **Indonesia:** Percentage of members 15-60 YOA not working, not performing housework, nor attending school. **Viet Nam:** Percentage of members 15-60 YOA "unemployed".

Figure 17 shows unemployment rates for PLHIV and non-affected household members across all countries (the percentage of members not working, performing housework or attending school). Across all countries other than India, unemployment levels are substantially higher for PLHIV than non-PLHIV. The most extreme differences are seen in Viet Nam, where over six times as many PLHIV were unemployed than members of NA-HHs. Figure 18 shows the unemployment levels, by sex, for PLHIV, non-PLHIV members of HIV-HHs and members of NA-HHs. It highlights the additional impacts of HIV on employment as non-PLHIV members of HIV-HHs, especially males, had higher unemployment rates than members of NA-HHs. While in Cambodia male and female PLHIV have similar unemployment levels, females in Indonesia and Viet Nam were less likely to be unemployed, pointing to their need to continue to work regardless of their health status. Female non-PLHIV members of HIV-HHs in Indonesia and Viet Nam also have much lower unemployment levels, possibly partially due to the need for caregiving by household members, as discussed in the following section.

FIGURE 18 Unemployment Levels, by Sex

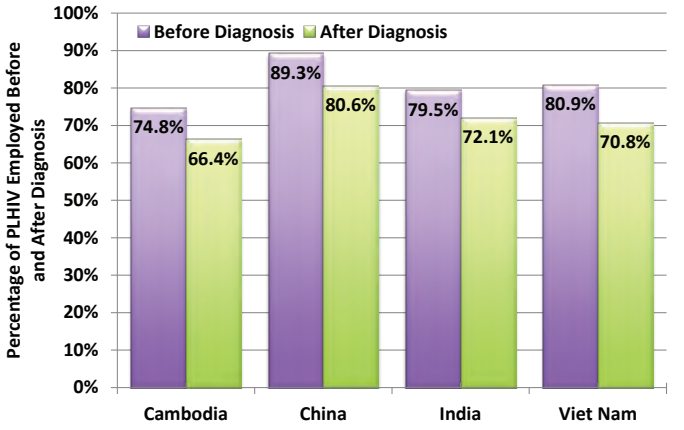




Cambodia: percentage of members 15-60 YOA not working, not performing housework, nor attending school. **China:** Percentage of members 18+ unemployed (not working or students – not clear if excludes housework). **India:**: Percentage of member 18-60 YOA not working, not performing housework, nor attending school. **Indonesia:** Percentage of members 15-60 YOA not working, not performing housework, nor attending school. **Viet Nam:** Percentage of members 15-60 YOA "unemployed".

Figure 19 shows the clear impact of an HIV diagnosis on an individual's employment status. All countries for which data were available showed a decrease in employment after HIV diagnosis. The biggest difference was seen in Viet Nam, where approximately 10% of PLHIV reported they had become unemployed after they were diagnosed with HIV.

FIGURE 19 Employment Status of PLHIV, Before and After Diagnosis



Cambodia: percentage of PLHIV 15-60 YOA. **China:** percentage of PLHIV 18+ YOA. **India:** Employed PLHIV between 18-60 YOA[11]. **Viet Nam:** Alive PLHIV between the ages of 15-60 in an income-earning position (housewives and peer educators excluded).

Figure 20 shows the change in employment status by sex. In both Cambodia and India, there was a bigger drop in employment for males than females (Cambodia: 12% absolute difference decrease for males and 7% absolute difference decrease drop for females; India: 10% absolute difference decrease for males and 4% absolute difference decrease for females), while in Viet Nam the reverse was true (9% absolute difference decrease for females, 5% absolute difference decrease for males).

Figure 21 shows the main reasons given by unemployed PLHIV to explain their lack of employment. For both Viet Nam and Cambodia, the number one response was health-related, indicating the strong impact that HIV can have on an individual's ability to perform work functions. The data in Section 9.2 describe the stigma and discrimination that PLHIV face in the workplace, and provides more information on what may constitute the "other" reasons cited here.

FIGURE 21 Main Reasons for PLHIV Unemployment

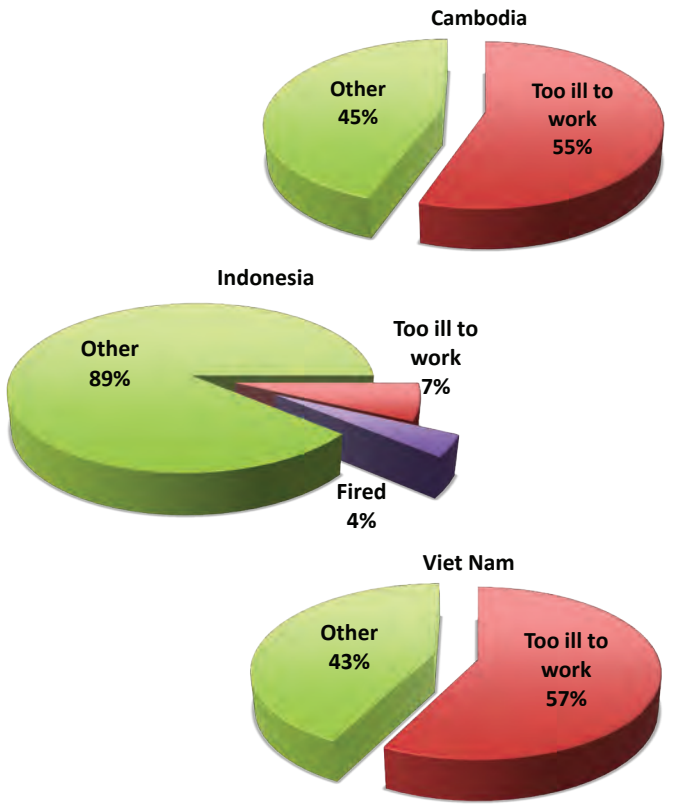
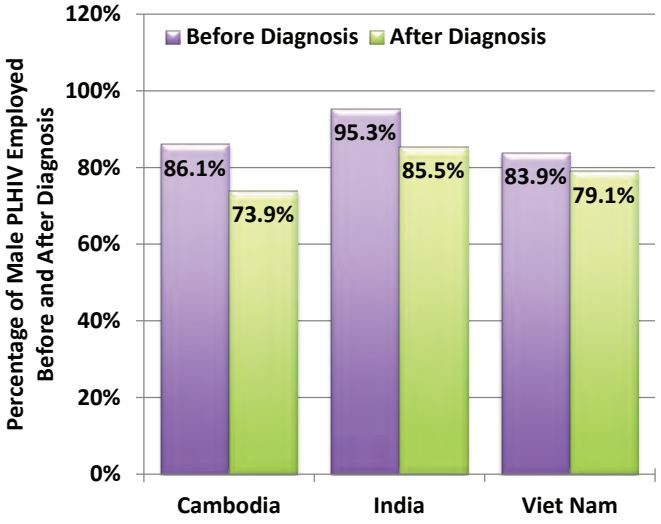
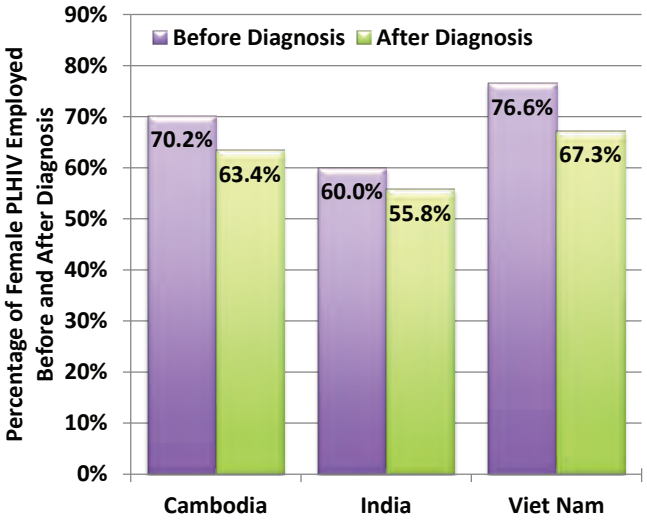


FIGURE 20 Employment Status of PLHIV Before and After Diagnosis, by Sex





11 India: Different age range than for WFPR.

Figure 15 and Figure 16, above, showed that employment / work force participation rates for non-PLHIV in HIV-HHs were also lower than those for members of NA-HHs. This may be partially explained by the data in Figure 22 that shows the impact of caregiving on HIV-HHs. For Cambodia, India and Indonesia, almost a quarter of all PLHIV had a caregiver providing them with assistance. In both Cambodia and India, the impact of that assistance can be seen in the percentage of household members who had to leave their job (18% in Cambodia), or take a reduction in hours and/or pay in order to perform their caregiving activities (39% in Cambodia, 28% in India).

FIGURE 22 Impact of Caregiving on Employment and Income

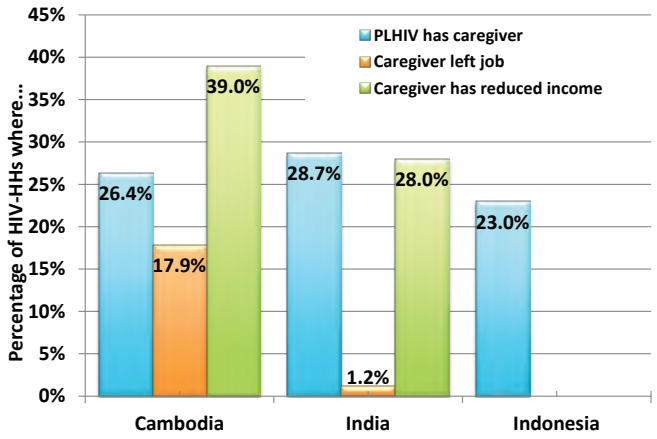
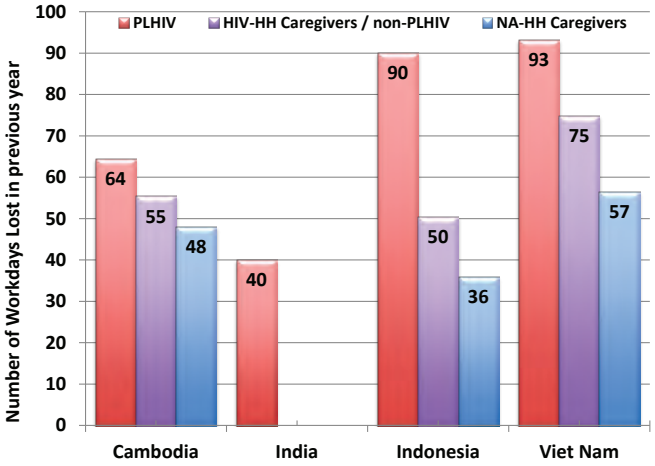


Figure 23 further shows the impact of HIV on loss of household income through loss of workdays. In Cambodia, Indonesia and Viet Nam, a greater number of days were reported lost in HIV-HHs than in NA-HHs. The greatest differences are seen in Indonesia and Viet Nam, while in Cambodia, smaller differences were seen between the average numbers of days lost in HIV-HHs and NA-HHs, perhaps due to the mitigating impacts of ART for PLHIV. China did not report days lost due to HIV, but the study did analyse the amount of time that HIV-HH members were able to spend working, in comparison to NA-HH members. It was shown that PLHIV worked substantially less hours per day than non-PLHIV living within HIV-HHs, and that they, in turn, worked less hours per day than members of NA-HHs. Both the reduction in hours worked per day, and the reduction in days worked per year, will contribute to a substantial reduction in income for HIV-HHs.

FIGURE 23 Number of Workdays Lost in Previous Year

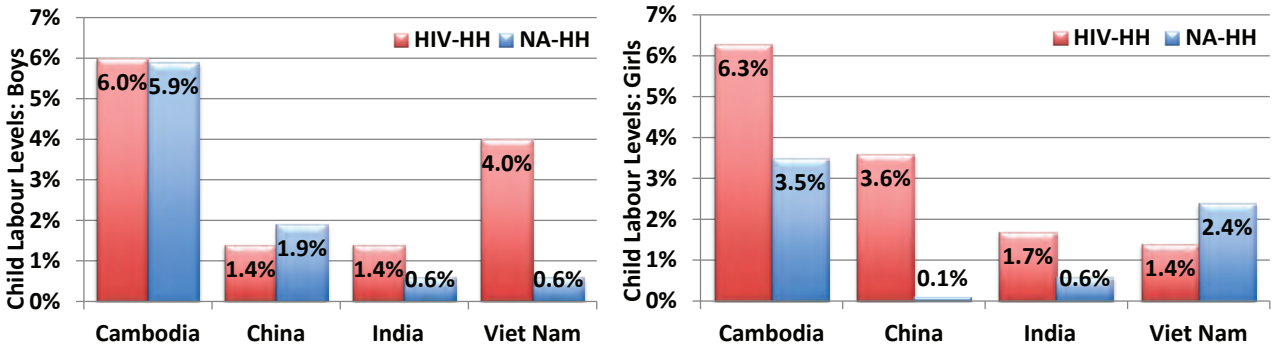


Data were extrapolated to one year's losses from: Indonesia – in last month; Cambodia – last 3 months; Viet Nam – last year; India – last year

4.2.2 *Child Labour*

In addition to the effects on adult employment, HIV also has an important impact on child labour force participation. The effect appears particularly acute for girls in HIV-affected households. In Cambodia, girls are nearly twice as likely to be working in an HIV-affected household, pointing to the negative effects on human capital accumulation, as girls are withdrawn from school to support the household. Nonetheless, the impact is not limited to girls; in Vietnam and India the effect on boys is more than double, when comparing HIV-HHs and NA-HHs. Figure 24 shows the impacts of HIV on child labour. It should be noted that the data for Cambodia was restricted to the age range of 10-14 only, while for other countries a larger age range (including younger children) was included, likely explaining the higher rates in Cambodia. For all countries where quantifiable data was available, children in HIV-HHs were more likely to have entered the workforce than children in non-affected households. In both Cambodia and China, the impact on girls was substantially greater than that for boys (for whom the impact was either small or non-existent). In Viet Nam, while little difference was seen for girls, a much larger percentage of boys in HIV-HHs had entered the workforce than boys in NA-HHs. India did not have data on children in NA-HHs by sex, but clearly, the employment rates for both boys and girls was between two to three times higher in HIV-HHs.

FIGURE 24 Child Labour, by Sex



Cambodia: data includes children 10-14 only. **India:** The 0.6% represents total percentage of NA-HH children in the workforce as data by sex were not available for NA-HHs. **Indonesia:** Only three child workers were found during the Indonesia survey. All three children were in DKI Jakarta. Two of the three children (one boy and one girl) were living in a HIV-HH. The other child was in a NA-HH.

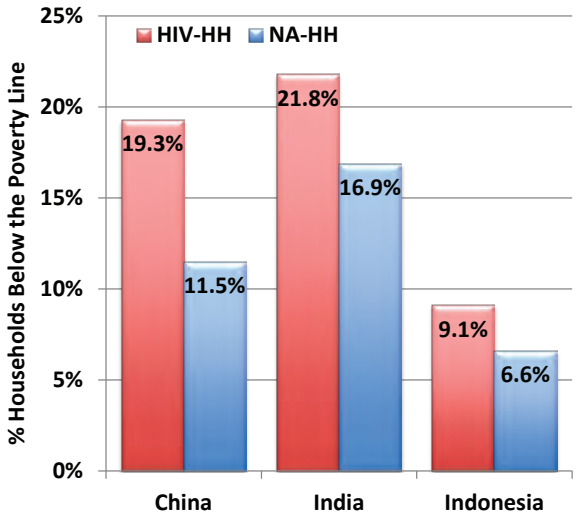
4.3 Income: Overall

HIV has a clear effect on household income, and lowered the average annual household income by an average of 22% across the five countries. The greatest absolute dollar value reduction was in Viet Nam ($1,119) and the least impact in Indonesia, where HIV-HHs actually had higher average household incomes than NA-HHs ($445 on average). While the previous section highlighted how the economic security of HIV-HHs differs from than that of NA-HHs across the region, this section's analysis of average household income highlights some of the mechanisms through which those differences occur.

Figure 25 shows the differences in average household incomes for HIV-HHs and NA-HHs across the countries. Some of these differences may be partially due to differences in household size (i.e., in Indonesia, HIV-HHs were larger, on average, than NA-HHs, while in Cambodia, the reverse was true), but due to data availability, overall average household incomes are the only figures available for comparison.

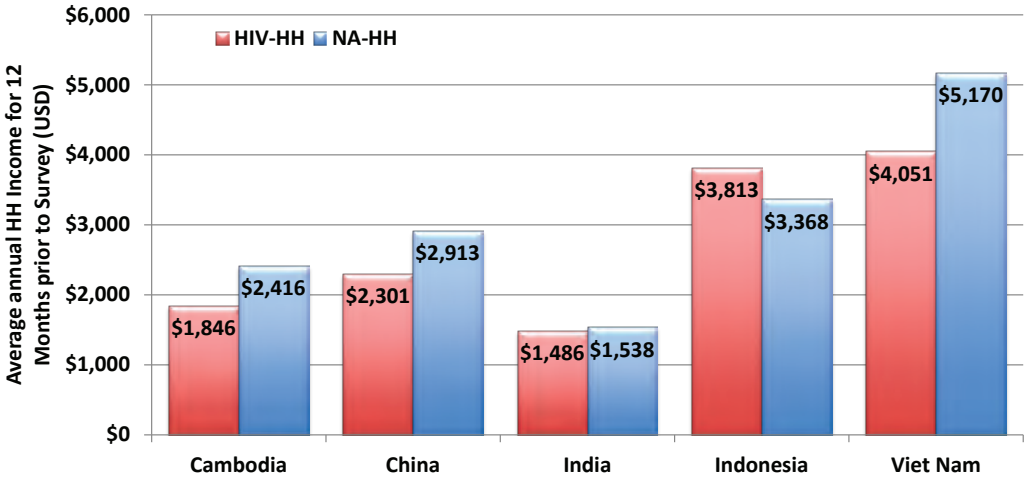
HIV is positively associated with an increase in poverty levels. In all of the countries for which data were available, HIV-HHs were, on average, 45% more likely to be below the poverty line than NA-HHs, as shown in Figure 26, ranging from a low of 29% more likely in India to a high of 68% more likely in China. The largest absolute difference was seen in China, where 19% of HIV-HHs were reported to be below the poverty line, compared to 12% of NA-HHs. In India, 22% of HIV-HHs were below the poverty line, compared to 17% of NA-HHs. In Indonesia, a smaller impact was seen, with 9% of HIV-HHs and 7% of NA-HHs indicating they were below the poverty line.

FIGURE 26 Households Living Below the Poverty Line



China: The national poverty line (1,067 Yuan per capita in 2007) was multiplied by the appropriate household size to obtain the poverty line as 4,193 Yuan per year, according to the final report. **India:** The poverty line is based on household income, according to the final report. **Indonesia:** The urban poverty line was monthly per capita income of Rp 222,123 (March 2009), according to the final report.

FIGURE 25 Average Annual Household Income (USD)



5 Coping Mechanisms: Asset Liquidation, Migration, Debt, Consumption, and Loss of Savings

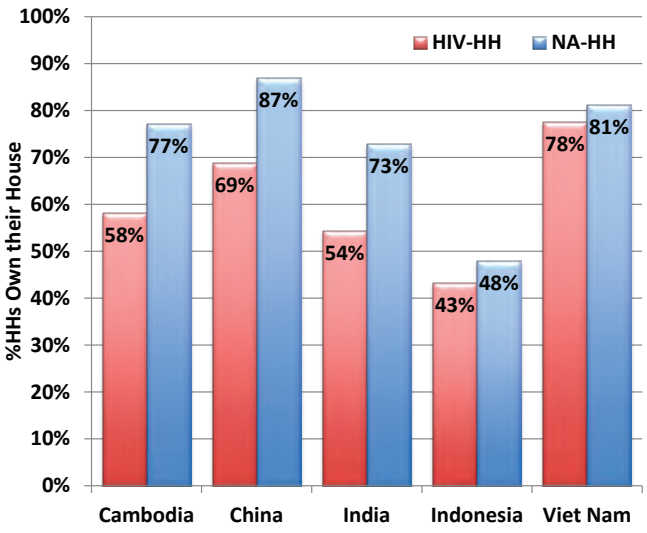
Chapter Summary

- HIV-HHs have a significantly lower level of assets than NA-HHs and demonstrate evidence of changes in consumption related to HIV;
- In China, India and Indonesia 11%, 43% and 25%, respectively of HIV-HHs reported being forced to liquidate assets as a coping mechanism. HIV-HHs in all countries were less likely to own their house than NA-HHs;
- HIV-HHs were less likely to own assets than NA-HHs;
- HIV-HHs and PLHIV in Cambodia and Viet Nam were more likely to have migrated than NA-HHs and there were high levels of HIV-HH migration in Indonesia;
- Discrimination and the pursuit of medical care services were important issues related to migration in many countries;
- An average of 12% of HIV-HHs reported a loss of savings due to HIV, with the highest levels reported in Indonesia;
- HIV-HHs in Cambodia, India, and Viet Nam were 1.5 times more likely to be in debt than NA-HHs;
- HIV-HHs in India, Indonesia and Viet Nam spent three to four times as much on health care as NA-HHs;
- HIV-HHs in Cambodia spent less on health care than NA-HHs underlining the importance of free, universal ART and access to support services including free healthcare.

5.1 Household Ownership and Asset Accumulation

The basic amenities of a household, as well as asset accumulation, are often used as indicators of economic status. One of the critical components of economic security is ownership of the household's dwelling. Figure 27 shows that, across all five countries, differences were reported between HIV-affected and non-affected households with regards to home-ownership. In every country, HIV-HHs were less likely to own their house, an indicator of the underlying impacts of HIV on reduced asset accumulation and forced sale of assets. The most extreme differences were seen in Cambodia (77% of non-affected households owned their homes versus 58% of affected households), China (87% versus 69%) and India (73% versus 54%).

FIGURE 27 Household Ownership



HIV-affected households also suffered from reduced asset accumulation, as displayed in Figure 28. HIV-affected households (across the region) owned less of almost every item than non-affected households. This has important implications for mobility, food security, employment and educational opportunities, reducing the ability of HIV-affected households to escape the poverty cycle.

FIGURE 28 Household Asset Ownership

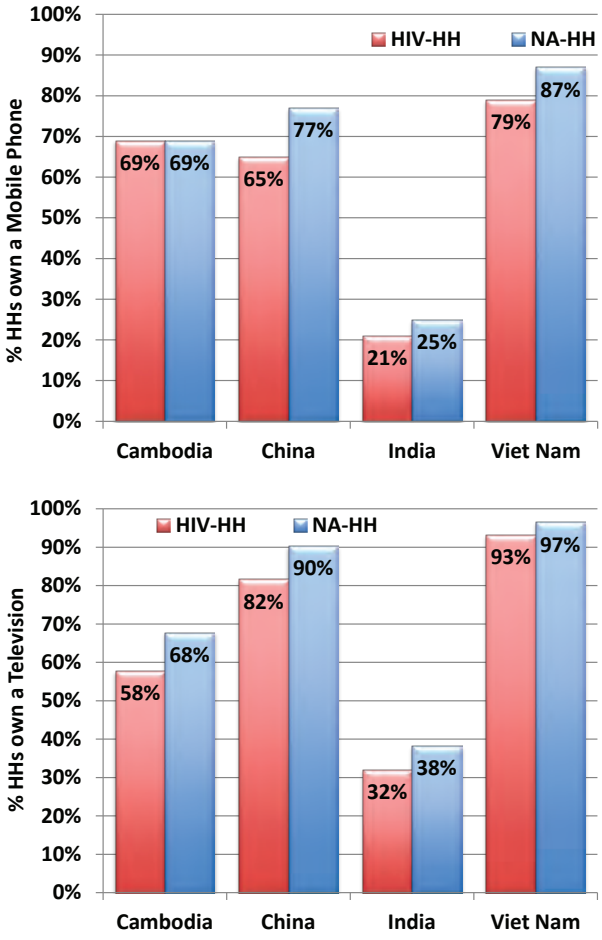
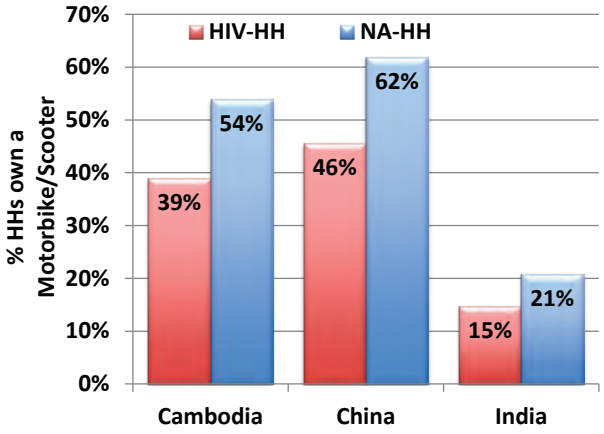
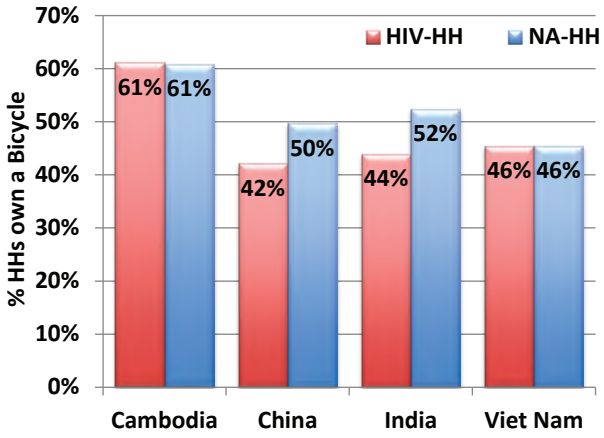


FIGURE 28 Household Asset Ownership (cont'd)



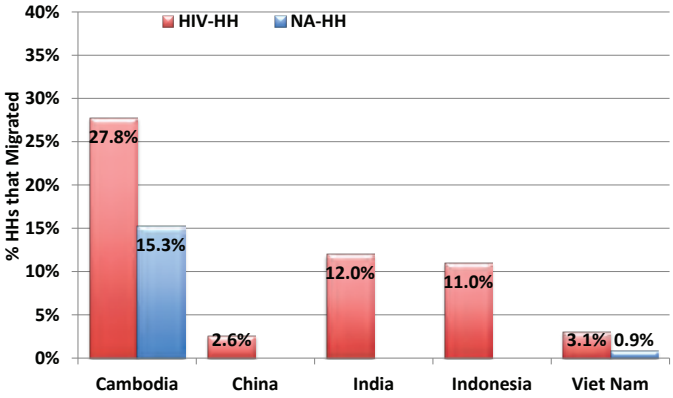


Cambodia: Differences between HIV-HHs and NA-HHs remained across rural and urban stratifications. **India:** Differences between HIV-HHs and NA-HHs remained across rural and urban stratifications. **Viet Nam:** Differences between HIV-HHs and NA-HHs remained across rural and urban stratifications. Phone in Viet Nam referred to both mobile phones and other phones.

5.2 Migration

In addition to selling property or assets to pay for health expenses or make up for lost income, asset loss can also occur through migration. Figure 29 shows how HIV can affect household and individual migration. In Cambodia, where all households were asked if they had migrated in the previous five years, HIV-HHs were almost twice as likely to have reported a move than NA-HHs (28% versus 15%). The reasons for these migrations were different as well, with HIV-HHs more likely to have reported a move due to stigma or discrimination, loss of residence or to seek medical treatment. In China, PLHIV were asked specifically if they had migrated due to HIV, and lower numbers (3%) responded they had, but all because of either discrimination or seeking medical care. In Viet Nam, all households were asked specifically if they had migrated because of their disease status, and three times more HIV-HHs (3%) than NA-HHs (1%) responded affirmatively, though still low numbers. In Indonesia, 11% of PLHIV indicated they had migrated since their diagnosis, compared to 12% in India. The reasons again varied, but seeking medical care were important in both countries, and stigma the main reasons cited in India.

FIGURE 29 Household Migration



Cambodia: In last 5 years. **China:** Only PLHIV, not the whole household, and only "due to HIV". **India:** PLHIV only. **Indonesia:** PLHIV migrated since diagnosis. **Viet Nam:** PLHIV only for HIV-HH, and HoH for NA-HHs asked if forced to change place of residence due to "disease status"

FIGURE 30 Reasons for Migration in Cambodia Households

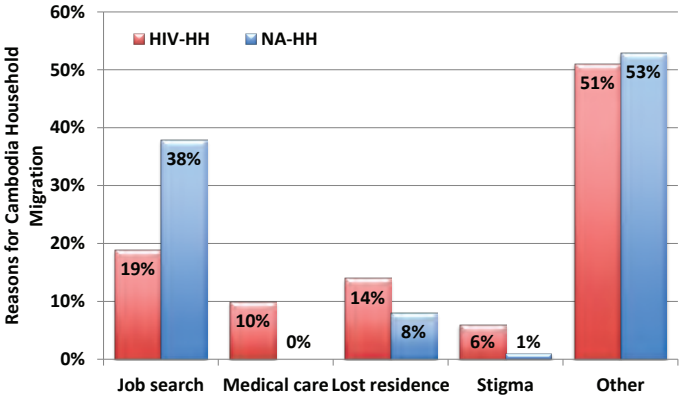
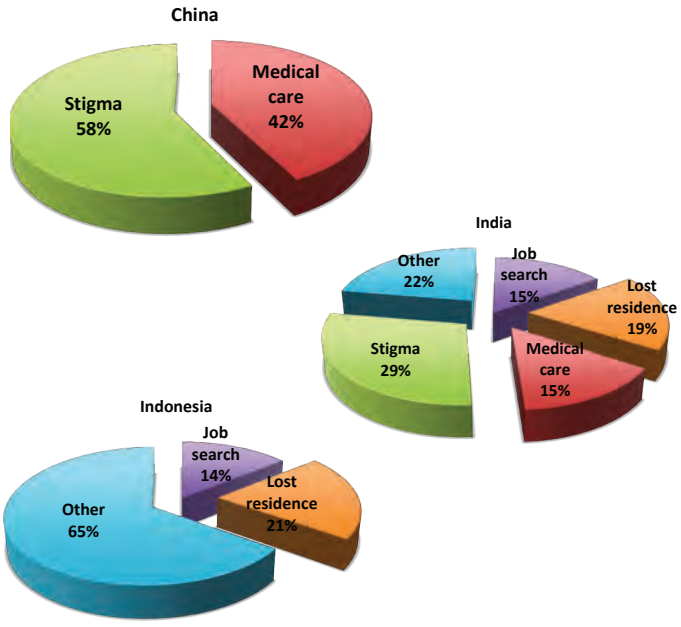


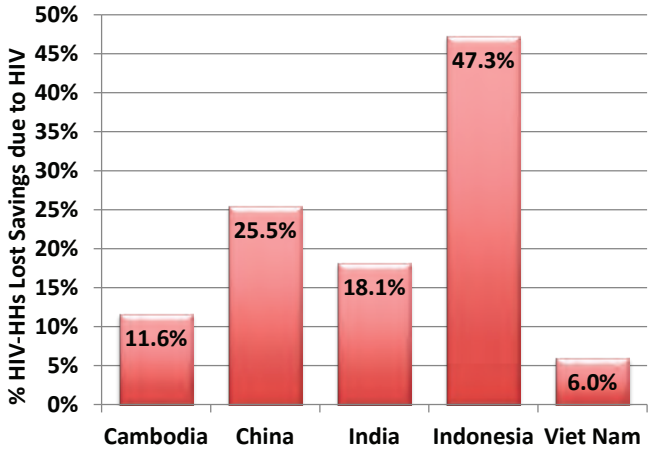
FIGURE 31 Reasons for Migration in HIV-affected Households in China, India and Indonesia



5.3 Loss of Savings

HIV leads to significant increases in the loss of savings. In Indonesia, nearly 50% of all HIV households report a loss of savings, compared to a low of 6% in Vietnam. When combined with the loss of tangible assets, the further reduction of income due to reduced earnings, and additional expenditures due to HIV, HIV clearly erodes the financial protection of the household. Figure 32 shows the percentage of HIV-HHs that indicated they lost savings or investments due to the impact of HIV. Additionally, in Cambodia, China and Viet Nam, the percentage of households reducing their savings as a coping mechanisms increased with the overall income of the household, as the higher income households were more likely to have savings to draw upon (data not shown).

FIGURE 32 HIV-Households Lost Savings due to HIV



5.4 Debt

HIV households were between 23% and 67% more likely to be indebted than non-affected households. Figure 33 shows the impact of HIV on household debt across the countries. In Cambodia, India and Viet Nam, HIV-HHs were, on average, 52% more likely to have reported being in debt than NA-HHs. However, in China, where the vast majority of loans come from friends or family, NA-HHs were 10% more likely to have a loan than HIV-HHs, which may be due to HIV-HHs being unable to obtain necessary financing from financial institutions. The highest level of debt associated with HIV is found in India where HIV-HHs were 67% more likely to report being in debt than NA-HHs. This may be linked to the reduced income-earning potential of HIV-HHs and, correspondingly, to their reduced capacity to repay loans and others' reluctance to provide them (UNDP, 2009a).

FIGURE 33 Household Debt

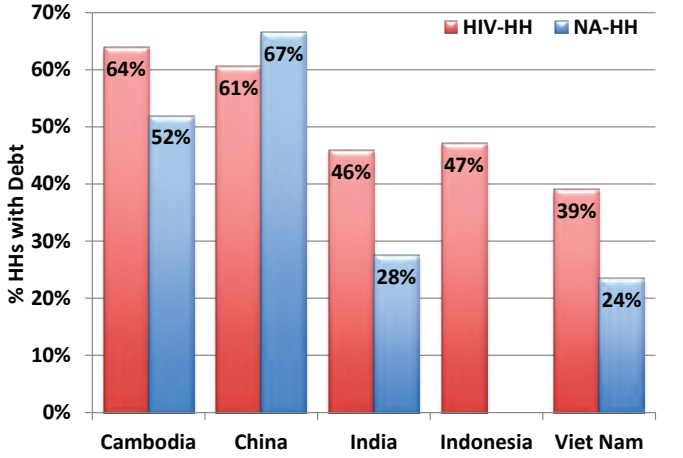
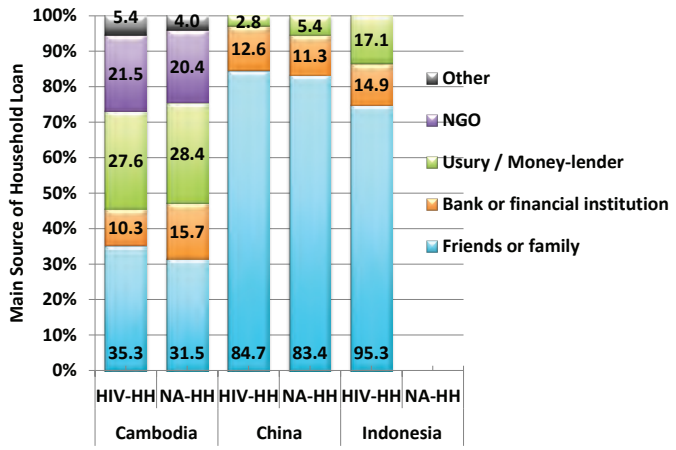


Figure 34 displays the sources of the household loans, and in Cambodia, the negative impact of HIV can be seen in the lower percentage of HIV-HHs that were able to receive a loan from a bank or financial institution.

FIGURE 34 Source of Household Loan

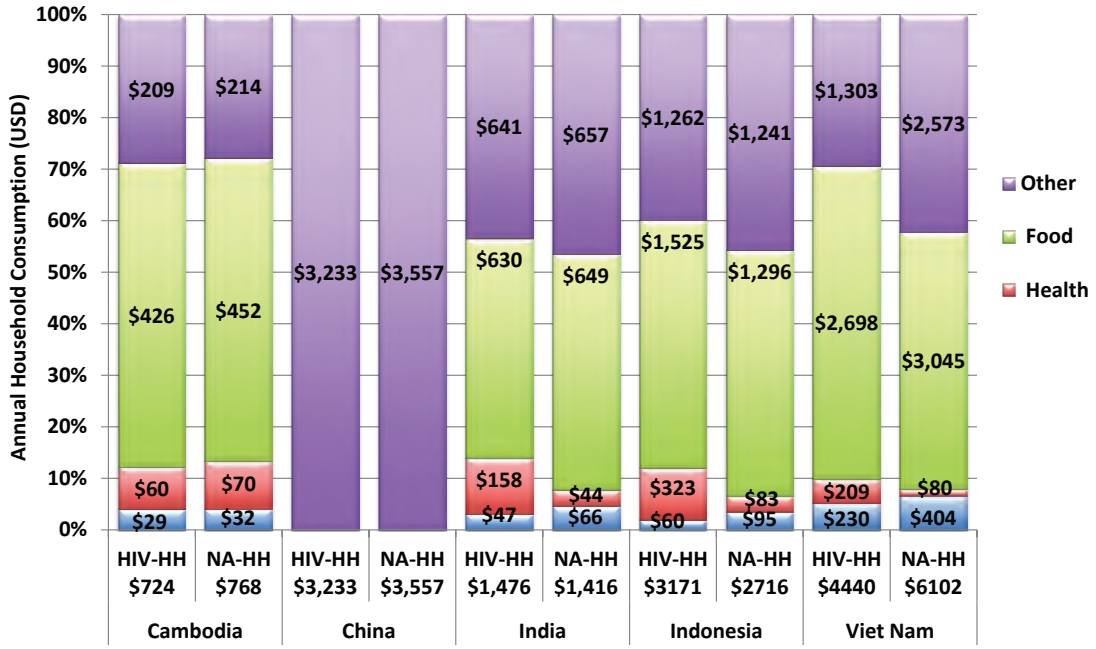


Cambodia: Only the primary source of the loan was reported. **China:** Extrapolated data from report. **Indonesia:** Because multiple options were possible, shown as a percentage of all possible loans (95% of all households with a loan received part of it from friends or family, 17% from usury and 15% from a financial institution).

5.5 Changes in Consumption Patterns

Figure 35 shows average annual household expenditures across the surveyed countries. In Cambodia, China and Viet Nam, HIV-HHs spent less than NA-HHs, though in Viet Nam, health expenditures were over twice as high. In India, household expenditure was higher among HIV-affected than non-affected households, due to increased health expenditures (over three times higher in HIV-HHs). In Indonesia, HIV-HHs reported higher expenditure figures, and again had higher health expenditures (over three times higher). Interestingly, in Cambodia, perhaps due to its near-universal ART coverage, health expenditures were actually reported to be less for HIV-HHs than for NA-HHs.

FIGURE 35 Impact of HIV on Consumption and Expenditure (2010 USD)

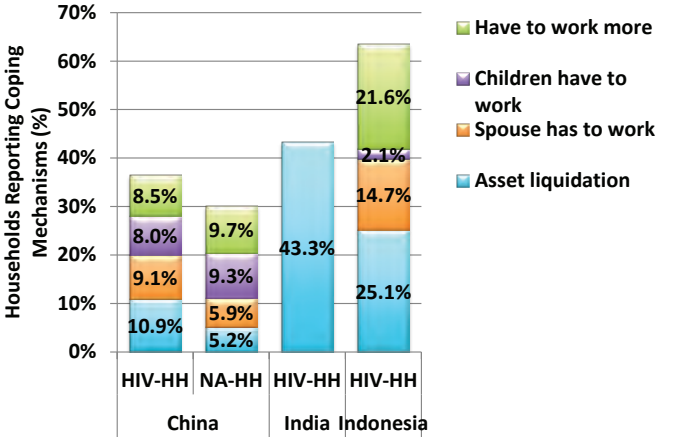


In those countries where an increase in health spending is evident, there is a clear 'crowding-out' effect, as higher healthcare spending leads to reductions in food or educational spending. This result points to the importance that food support and educational support programs can have on HIV households. Specifically with regards to food support, it highlights the magnitude of the problem to assist in the definition of the level of food support that is necessary to offset potential increases in health spending.

5.6 Other Coping Mechanisms

In China and Indonesia, households were asked what other coping mechanisms they had used to deal with financial hardship. The responses to those questions are shown below in Figure 36. In China, overall more households reported being forced to use a coping mechanism (37% versus 30%), and more noted they had to sell assets or the spouse had been forced to take on work. In Indonesia, only HIV-HHs were asked this question, and more than a quarter (25%) of those households indicated they had been forced to liquidate assets. In India, over 43% of HIV-affected households responded affirmatively when specifically asked if they had been forced to liquidate assets or increase debt. Additional analysis of specific coping mechanisms used by households to cope with health expenses is outlined in the section on healthcare.

FIGURE 36 Households Use of Coping Mechanisms



6 Impact on Education

Chapter Summary

- Human capital accumulation is reduced in HIV affected households as evidenced by lower rates of schooling;
- Children in HIV-HHs in China, India, Indonesia and Viet Nam were less likely to attend school than those in NA-HHs;
- The poorest children in HIV-HHs in China were 28% less likely to attend school than those in NA-HHs;
- Girls in HIV-HHs in China, India and Indonesia were 8% less likely to attend school than girls in NA-HHs (and less likely to attend than boys in any household);
- Children in HIV-HHs in China, India and Indonesia were, on average, almost three times more likely to have dropped out of school, with girls most negatively impacted;
- HIV-HHs in Cambodia, Indonesia and Viet Nam were more likely to have received education assistance than NA-HHs highlighting effective targeting;
- Children in HIV-HHs faced significant stigma and discrimination, a possible contributor to the negative education results observed.

There are presently over 160,000 children living with HIV in Asia (UNAIDS, 2010). Additionally, while there are no definitive data on the total number of children affected by HIV[12] in Asia, studies from India estimated that over eight million children (approximately two percent of children in India) are affected by HIV, and numbers from Cambodia estimated over 85,000 vulnerable children (again, approximately two percent of the under 18 population) (UNICEF, 2007; United Nations, 2010). Given that Asia is estimated to contain over 1.2 billion children, the potential impact of HIV on children in the region is staggering (ADB, 2011). Ensuring that these children's education rights, including the right to stay in school, to obtain the same quality of education as other children and the right to receive higher education, are not undermined by their illness or that of their family members is a vitally important policy goal.

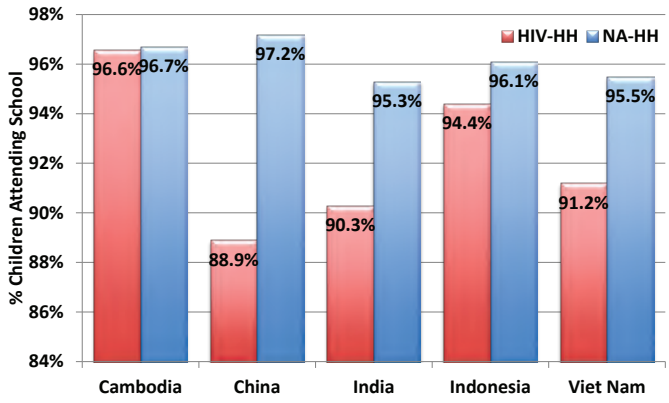
6.1 Attendance

Figure 37 highlights the impact of HIV on school attendance levels among children across the region. In all countries, with the exception of Cambodia, attendance levels were reported to be lower for children in HIV-HHs than for children in NA-HHs, with the largest differences in China. In Cambodia, however, the reported attendance levels were equal for children in HIV-affected and non-affected households. In China, where education is not mandatory after the age of 14, attendance rates were even more disparate where, only 48.9% of children 14-18 years old in HIV-HHs were reported to be attending school, compared with 69.7% of children in NA-HHs. Similarly, in Indonesia, attendance rates for children aged 13-15 in HIV-HHs was only 87.1%, compared with 95.9% for those in NA-HHs. These differences between HIV-affected and non-affected households underscore the importance of developing policies to keep children in school. Differential conditional cash transfer payments, for example, for HIV households might offset some of these differences in the future.

In all the countries where analyses were done on attendance by wealth quintile, the differences between household attendance rates were worse for poor HIV-HHs (Figure 38). In Cambodia, differences ranged from 95% attendance in the poorest HIV-HHs to 100% in the wealthiest NA-HHs. In China, the disparities were most evident, ranging from school attendance of only 71% in the poorest HIV-HHs to 99% in the poorest NA-HHs and 100% in the wealthiest HIV-HHs and NA-HHs. In India, the poorest HIV-HHs had only attendance levels of 86%, compared to 94% of the poorest NA-HHs, 97% of the wealthiest HIV-HHs, and 98% for the wealthiest NA-HHs.

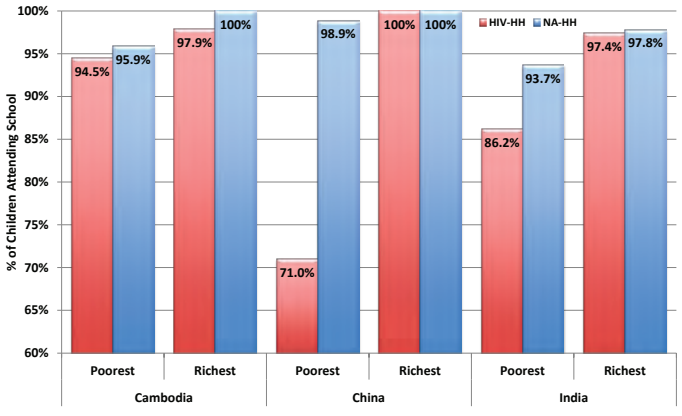
12 Children affected by HIV are described as children who have either one or two parents who are living with HIV, children themselves living with HIV or children who have lost one or both parents to AIDS.

FIGURE 37 **Child School Attendance**



Cambodia: The information belongs to children's between 6-14 YOA. School attendance, currently enrolled. **China:** Enrolment ratio of children aged 10-14. The school enrolment rate among 10-14 year old children (still eligible for free education). **India:** The information in the table belongs to current enrolment of children's between 6-14. **Indonesia:** Number of School age children by school status of children between 7-15 YOA. **Viet Nam:** Children who attend school.

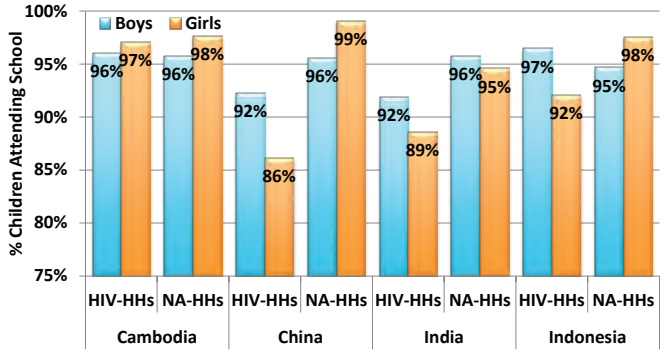
FIGURE 38 **Child School Attendance, by Wealth**



Cambodia: The information belongs to children's between 6-14 YOA. School attendance, currently enrolled. **China:** Enrolment ratio of children aged 10-14. The school enrolment rate among 10-14 year old children (still eligible for free education). **India:** The information in the table belongs to current enrolment of children's between 6-14.

Figure 39 shows how, across almost all countries, the impact of HIV on girls' attendance rates was more severe than for boys' rates. Other than in Cambodia, which showed only minor differences in the attendance rates between girls in HIV-affected and non-affected households, girls in HIV-HHs generally saw almost three times the drop in attendance rates as did boys in HIV-HHs. Additionally, while in NA-HHs in China and Indonesia girls actually had higher attendance rates than boys, the opposite was true in HIV-HHs.

FIGURE 39 Child School Attendance, by Sex



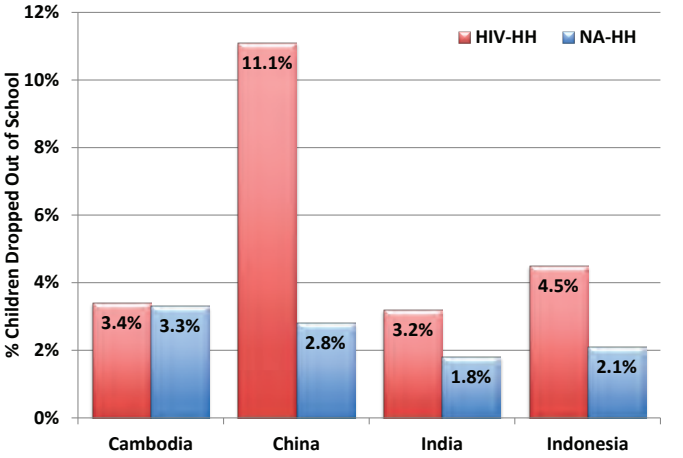
Cambodia: The information belongs to children between 6-14 YOA. School attendance, currently enrolled. **China:** Enrolment ratio of children aged 10-14. The school enrolment rate among 10-14 year old children (still eligible for free education). **India:** The information in the table belongs to current enrolment of children's between 6-14. **Indonesia:** Number of school age children by school status of children's between 7-15 YOA.

6.2 Drop-out Rates

While the negative effect on attendance will contribute to lower human capital accumulation, potentially the greatest effect of HIV will be on the tendency for children of HIV affected households to drop-out of school. Figure 40 shows the differences in drop-out rates for children in HIV-HHs and NA-HHs where small in Cambodia and India (0.1% and 1.4% absolute difference respectively) but much larger in China (8.3% absolute difference) and Indonesia (3.4% absolute difference). The general trend of increased drop-out rates in HIV-HHs is likely due to the need for those children to either take on income-earning positions, or to take over for household chores that the PLHIV were no longer able to perform, as discussed in Section 4.2.2 and Section 5.6. Additionally, the Cambodia study investigated the average numbers of school days missed, and found that children in HIV-HHs were more likely to have missed 10 or more days of school in the previous school year than children in NA-HHs (15% compared to 12%). Similarly, in Indonesia, the percentage of children who "often do not attend school" was 13.9% for HIV-HHs versus only 6.5% for NA-HHs.

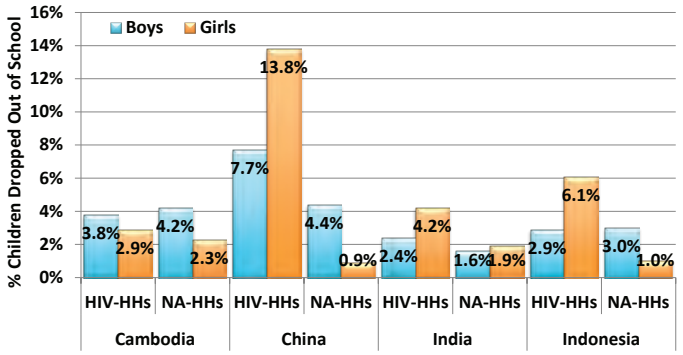
Figure 41 highlights the specific vulnerabilities of girls in relation to school drop-out rates. Specifically, drop-out rates for boys were either equal or only slightly higher in HIV-HHs than NA-HHs across the region, while girls saw a much larger increase in drop-out rates. The largest disparities were in China and Indonesia, where drop-out rates for girls in HIV-affected and non-affected households were 13.8% to 0.9% and 6.1% to 1.0%, respectively.

FIGURE 40 Children who Dropped Out of School



Cambodia: % of children 6-14 YOA not currently in school who ever attended school. **China:** % of children 10-14 YOA reported to have dropped out of school. India: % of children 6-14 YOA who dropped out from school. **Indonesia:** Children do not attend school anymore 7-15 YOA.

FIGURE 41 Children who Dropped Out of School, by Sex

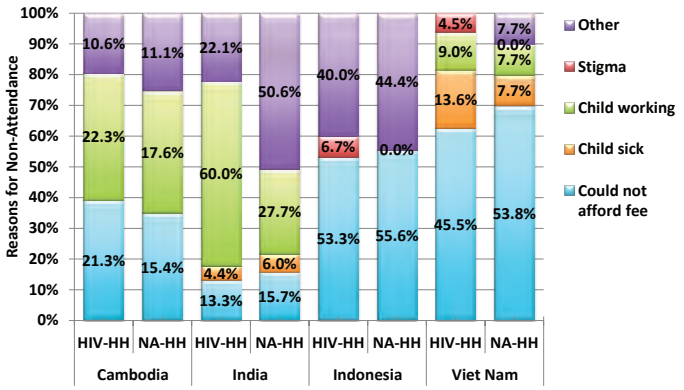


Cambodia: % of children 6-14 YOA not currently in school who ever attended school. **China:** % of children 10-14 YOA reported to have dropped out of school. **India:** % of children 6-14 YOA who dropped out from school. **Indonesia:** Children do not attend school anymore 7-15 YOA.

6.3 Reasons for Non-attendance

The reasons households gave for why their children were not in school also varied between households and across countries, as shows in Figure 42. However, in all countries, the percentage of children who were not attending school because they needed to earn an income or assist in household chores was higher in HIV-HHs than in NA-HHs. The largest difference was seen in India, where more than twice as many HIV-HHs (60%) than NA-HHs (28%) reported that their children were absent for work purposes. Additionally, in Indonesia and Viet Nam, where shame / stigma was an survey response option, none of the NA-HHs responded that was the reason, versus 7% in Indonesia and 5% in Viet Nam for HIV-HHs.

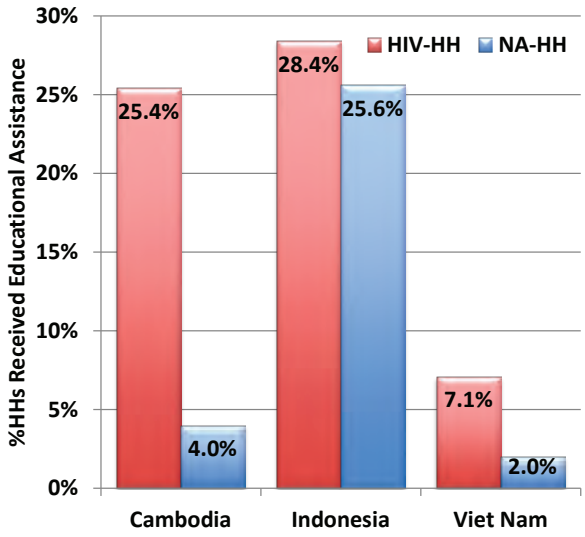
FIGURE 42 Reasons for Child School Non-Attendance



6.4 Educational Assistance

The data in Figure 43 highlight differences in educational assistance received by households in Cambodia, Indonesia and Viet Nam. In all countries, a higher percentage of HIV-HHs reported receiving educational assistance, although differences between households, and overall levels of assistance across countries, differed. In Cambodia, over five times as many HIV-HHs (25%) as NA-HHs (4%) reported they had received educational assistance in the form of scholarships or stipends. However, these results may be subject to observational bias, as the large numbers of HIV-HHs receiving home-based care were more likely to have been informed of potential assistance than other HIV-HHs. In Indonesia, over 25% of all households with a student reported receiving some form of assistance, and slightly more HIV-HHs (28%) than NA-HHs (26%) reported receiving such assistance. In Viet Nam, lower numbers of households reported receiving educational assistance in comparison to the other countries, but again, more HIV-HHs received (7%) than NA-HHs (2%). In general, the results point to encouraging evidence that governments and NGOs are assisting HIV-HHs in mitigating the negative impacts of HIV on the education of their children.

FIGURE 43 Households that Received Educational Assistance



6.5 Stigma and Discrimination against HIV-vulnerable Children

In recent studies in India, the main issue cited with regards to educational opportunities for children affected by HIV was stigma and discrimination within the educational system (UNICEF, 2007). Factors such as humiliation by their peers and ostracism within the school led to the demotivation of vulnerable children, resulting in them falling behind in their studies and dropping out of the school system.

The data in Figure 44 show how the various countries reported different types of stigma and discrimination against their children. In all studies, some level of discrimination against children in HIV-HHs was reported, from a low of 2% in Cambodia to a high of 79% in China. In China, only a very small percentage of households reported that their status was actually known in the school system (10%), which is understandable as nearly four fifths of the households reported that their child had faced discrimination in the school system due to the HIV status of the household. Given the earlier reported China results on lower levels of attendance by children in HIV-HHs and higher levels of drop-out, this is an area where additional sensitization activities need to be implemented. Additionally, in China, almost one third (33%) of NA-HHs reported that they would NOT allow their child to play with a child from a HIV-HH and similar numbers said they would not allow their child to attend school with a HIV-positive child (Figure 45).

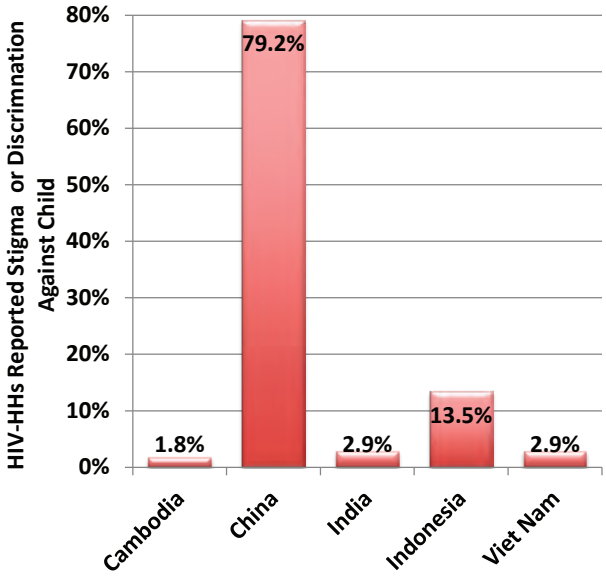
In India, 3% of HIV-HHs reported their child had been ostracised in the community, but almost 50% of NA-HHs indicated they would not allow their child to play with a HIV-vulnerable child, or allow their child to attend school with a HIV-positive child.

In Indonesia, only 5 of the 316 PLHIV who were in school actually revealed their status to the school. As such, it is not possible to analyse the data on the responses of the school and schoolmates. However, their lack of disclosure speaks loudly towards their fear of what the potential for stigma and discrimination would be should their status be revealed. Additional data from the survey revealed that approximately 14% of the 163 HIV-households whose status was disclosed to their community reported that their children had been socially ostracized in the community, indicating a need for greater educational awareness activities.

Finally, in Viet Nam, 3% of HIV-HHs reported their child had been socially ostracised.

FIGURE 44

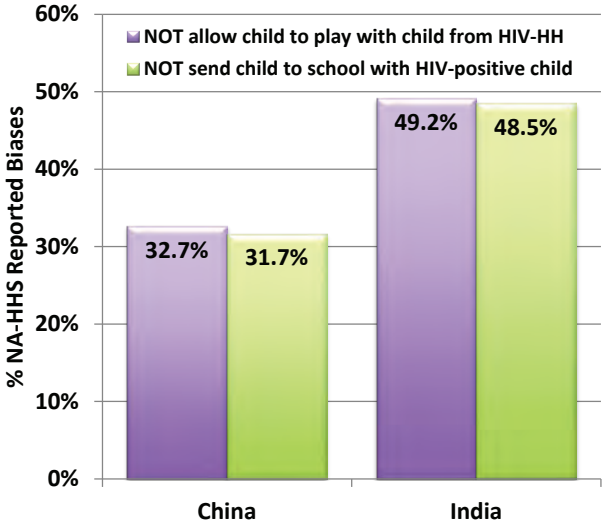
HIV-Affected Households with Children who were Discriminated Against



Cambodia: Of the HHs that reported their status was disclosed- Percentage reporting their child faced educational stigma. **China:** Of the HHs that reported their status was disclosed- Percentage reporting their child faced educational stigma. **India:** Of the HHs that reported their status was disclosed- Percentage reporting their child was ostracised. **Indonesia:** Of the HHs that reported their status was disclosed - Percentage reporting their child was ostracised. **Viet Nam:** Percentage reporting their child was ostracised.

FIGURE 45

Discriminatory Attitudes of NA-HHs against HIV-HH Children



7 Impact on Health

Chapter Summary

- Results showed all HIV-HHs had increased utilisation and (in China, India, Indonesia and Viet Nam) allocated more than twice their household expenditures to health services than NA-HHs. However, ART and support programs increased financial protection for PLHIV and HIV-HHs, especially in Cambodia where, on average, HIV-HHs allocated less to health than NA-HHs;
- Substantially more PLHIV in Cambodia, China and Indonesia reported outpatient utilisation than NA-HH members;
- Substantially more PLHIV in Cambodia and Indonesia reported an inpatient visit than NA-HH members;
- HIV is a barrier to access as PLHIV in China and Indonesia were more likely not to seek care when sick due to financial reasons, than NA-HH members;
- The poorest HIV-HHs in China, India and Viet Nam allocated the greatest share of household expenditures to health;
- The percentage of health expenditures spent on HIV-related costs varied by country;
- The studies reported ART coverage levels that ranged from 87% (Cambodia) to 15% (India);
- Diagnosis by VCCT varied by country and sex (males generally less likely) but averaged at 68%;
- Modes of transmission varied by country, but in all countries female PLHIV were more likely to report heterosexual contact;
- In Cambodia and Indonesia, female PLHIV were more likely to report heterosexual transmission through their intimate partner than male PLHIV.

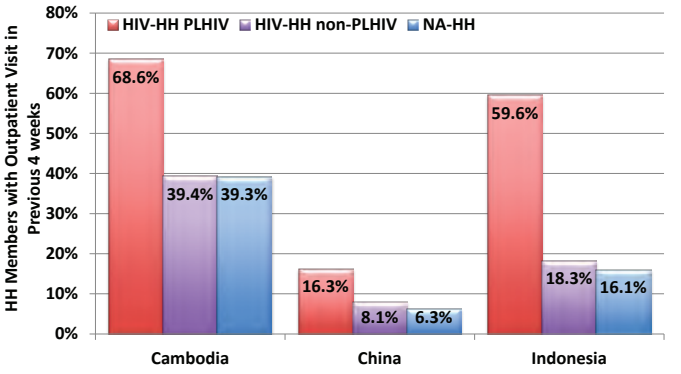
The increased demand for healthcare that results from a diagnosis of HIV has a dual effect. First, the absence from the workplace has an important effect on the household's financial standing. Secondly, the increased cost of medical care that the household assumes forces households to adjust consumption and savings levels, further exacerbating the effects on income and living conditions. Access to ART clearly mitigates the high healthcare costs traditionally associated with HIV, and, apparently, can even lead to decreasing levels of expenditure thus constituting a basic pillar of any financial protection strategy targeted to PLHIV. This section reviews the cross-country evidence from HIV-affected and non-affected households in terms of utilisation, care seeking behaviour, health expenditure and access to treatment and diagnosis.

7.1 Health Utilisation

The data displayed in Figure 46 and Figure 47 show the impact of HIV on health care utilisation rates. As expected, the members of HIV-HHs (and PLHIV in particular) had higher utilisation rates than both non-PLHIV members of HIV-HHs and NA-HHs. In Cambodia, 69% of PLHIV reported an outpatient visit within the last month, compared to 39% of non-PLHIV and NA-HH members. In China, substantially lower overall utilisation rates were reported, but the differences remained – 16% of PLHIV compared to 6% of NA-HH members. In Indonesia, large differences were also seen between PLHIV and non-PLHIV. Sixty percent of PLHIV reported an outpatient visit, compared to only 18% of non-PLHIV in HIV-HHs and 16% in NA-HHs.

Regarding inpatient care, again, higher rates are seen for HIV-HHs than for NA-HHs, though data were only available for Cambodia and Indonesia. In Cambodia, data were available for all individuals, with 18% of PLHIV indicating they had been hospitalised within the previous 12 months, compared to only 7% of the other individuals in their households and 7% of members in NA-HHs. In Indonesia, 12% of PLHIV reported being hospitalised in the previous 12 months, compared to 5% of non-PLHIV HIV-HH members and 4% of NA-HH members.

FIGURE 46 **Outpatient Utilisation in Previous Four Weeks**



Cambodia: Outpatient includes visits to any medical professionals / facilities, including traditional healers, pharmacies and diagnostic facilities. **Indonesia:** Only members alive at the time of the survey. Outpatient includes visits to any medical professionals / facilities, including traditional healers, pharmacies and diagnostic facilities.

FIGURE 47 **Inpatient Utilisation in the Previous Year**

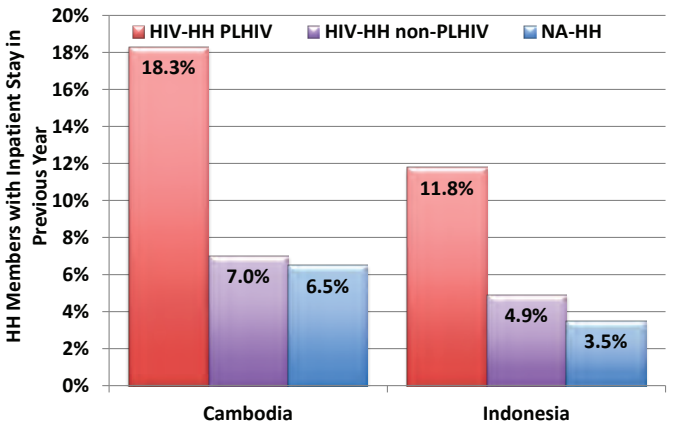
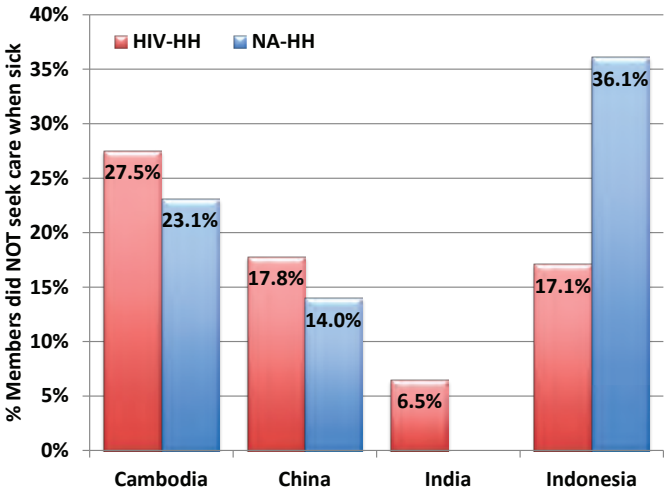


Figure 48 outlines how often members of households reported being sick, but did not seek care, and the reasons for not seeking care. Countries varied in the overall percentage of members indicating they did not seek care when ill (highest in Indonesia, lowest in India), and between households (largest differences seen in Indonesia, with only 17% of PLHIV indicating they did not seek care when sick compared to 36% of members of NA-HHs[13]). However, the reasons given for not seeking care varied widely by both country and by household.

In Cambodia, most members of HIV-HHs indicated they did not seek care because they already had the medication at home, while the majority of NA-HH respondents indicated it was because the illness was not serious enough to require going to a medical facility. In China, almost 91% of NA-HH respondents indicated they had not sought care because they had the medicine available at home, compared to only 42% of HIV-HH members. In Indonesia, the majority of both PLHIV and NA-HH respondents indicated they had not sought care because they had the medicine at home. Additionally, a worrying 9% of PLHIV in Indonesia reported they did not seek care when sick because they were afraid of some form of stigma or discrimination at the health facility.

FIGURE 48 **Household Members who did NOT seek care when sick**

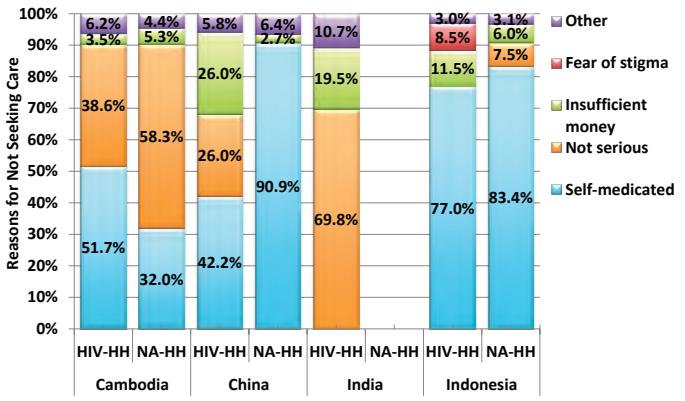


India: PLHIV only. **Indonesia:** PLHIV who were sick within last year and did not receive care. NA-HH members who were sick in previous 4 weeks and did not seek care.

In both China and Indonesia, HIV-HHs were more likely than NA-HHs to indicate they had not sought care for financial reasons (26% versus 3% in China; 12% versus 6% in Indonesia). The reverse was true in Cambodia, where only 3.5% of HIV-HH members stated they didn't seek care for financial reasons compared to 5.3% of NA-HH members. All three countries have policies that indicate that treatment of some sort is available for free for PLHIV, but it appears that the overall impact of those policies in Cambodia is currently more effective at reducing financial barriers to accessing care.

13 The timeframe was different for PLHIV and NA-HHs, with PLHIV indicating they had been sick and not sought care within the previous year, while in NA-HHs it was within the last month.

FIGURE 49 **Reasons for Not Seeking Care When Sick**



7.2 Health Expenditures

The pattern of household spending in HIV-HHs and NA-HHs and across income groups underscores the importance of providing free access to care for PLHIV and to reducing barriers to access. Figure 50 highlights the impact of HIV on health expenditures as a percentage of total household expenditures. As indicated in Section 5.5, in countries other than Cambodia, HIV-HHs allocated a larger percentage of their household expenditures to health care than NA-HHs. In China, the largest allocation towards health spending was seen, with health consuming 17% of HIV-HHs total expenditures (compared to 8% in NA-HHs). In India, HIV-HHs allocated more than three times their budgets (11%) towards health care than NA-HHs (3%). An equally large difference was seen between households in Indonesia, where the share of expenditures spent on health care in HIV-HHs was over three times greater than in NA-HHs (10.2% versus 3.1%). Viet Nam had the lowest allocations towards health care, but HIV-HHs still spent almost four times the share of HH spending as NA-HHs (5% compared to 1%).

FIGURE 50 **Health Expenditure as a Percentage of Total Household Consumption**

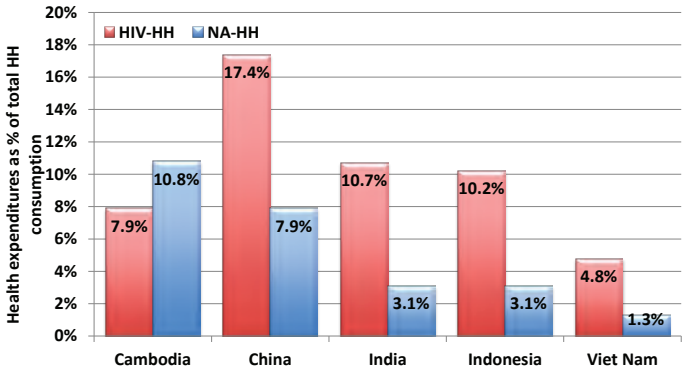


Figure 51 shows the additional burden which most of the poorest HIV-HHs faced with regards to health care expenditures. Again, other than in Cambodia, where the insulating effect of ART appears to protect the poorest equally to the richest, the poorest households in the other countries allocated a greater percentage of their household expenditures towards healthcare than the wealthiest households. In China, the poorest HIV-HHs spent 18% on health care, as opposed to 6% for the wealthiest NA-HHs. In

India the difference ranged from 11% for poor HIV-HHs to 1% for wealthy NA-HHs, and in Viet Nam from 7% to less than 1%.

FIGURE 51 **Health Expenditure as a Percentage of Total Household Expenditure, by Wealth**

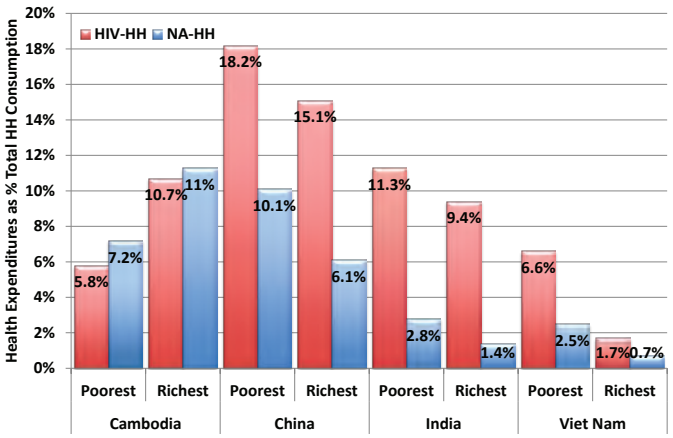


Figure 52 shows that the differences in HIV-HH and NA-HH expenditures allocated to health were not due to differences in household location. In Cambodia, HIV-HHs spent less than NA-HHs, and allocated considerably less in rural areas. In India, as in the previously shown data, HIV-HHs allocated considerably more towards health than NA-HHs, particularly in rural areas. In contrast, in Viet Nam, urban areas saw the largest differences between household spending patterns (5% for HIV-HHs compared to 1% for NA-HHs).

FIGURE 52 **Health Expenditure as a Percentage of Total Household Consumption, by Location**

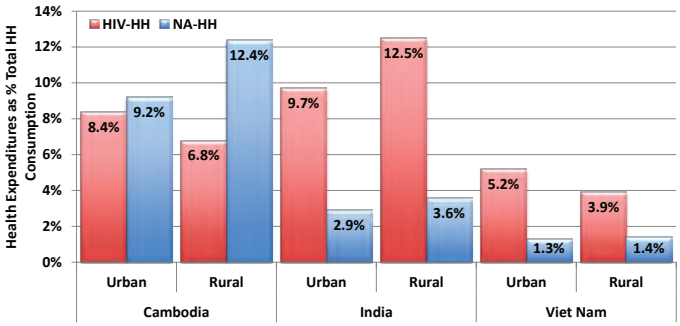
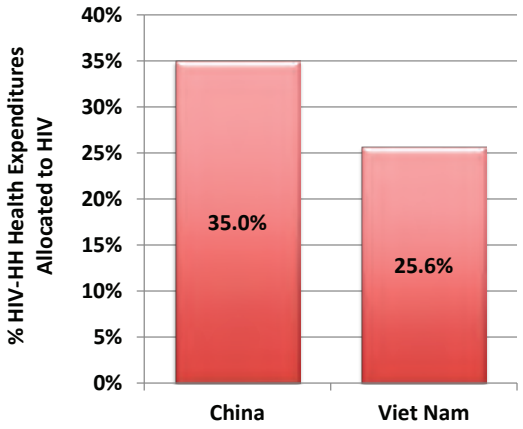


Figure 53 shows how the percentage of total household health expenditures allocated towards HIV varied between the two countries reporting results. In China, 35% of HIV-HH health expenditures were allocated towards care for PLHIV while in Viet Nam it dropped down to 26%. This may partially reflect differences in ART coverage throughout the region (see Figure 56) but may also reflect government policies on access to free treatments for HIV – not just ART, but also medications for opportunistic infections (OIs) and other necessary medical care.

FIGURE 53 **HIV-HH Health Expenditure Allocated to HIV Expenses**



China: Calculated as average HH Total Health Expenditures divided by average HH total HIV expenditures. **Viet Nam:** Calculated as average HH Total Health Expenditures divided by average HH total HIV expenditures.

Figure 54 and Figure 55 highlight the main sources of financing for health charges incurred by household members when receiving either inpatient or outpatient services. The data cannot be directly correlated, as the questions were asked differently in Cambodia, China, India and Indonesia, and of different respondents. However, they do provide a general understanding of how individuals in the various countries pay for their health care, and how those mechanisms are different in the houses affected by HIV.

In China, data were reported for all health services together (inpatient and ambulatory / outpatient) and compared PLHIV with non-HIV members. It showed that while PLHIV were more likely to be covered by insurance (5% versus 1% for non-HIV members), the vast majority of members in both households relied on their household earnings to pay for services. It should be noted that these expenditures for China do not include ART medications, which are largely covered by the government.

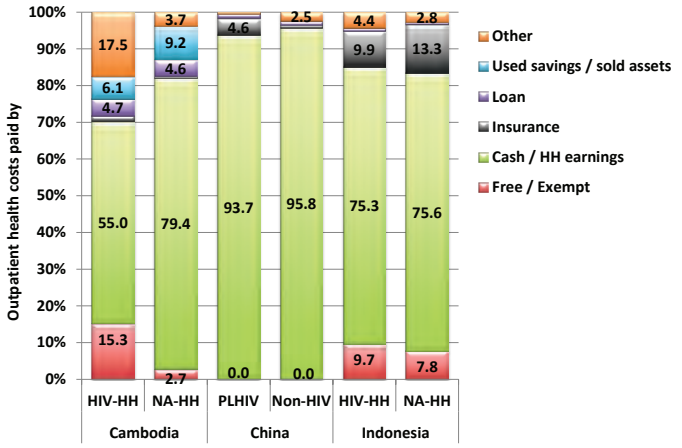
At the household level in Cambodia, there were large differences between HIV-HHs and NA-HHs for both inpatient and outpatient care. For both types of care, HIV-HHs were more likely to report their care was free of charge. They equally reported having obtained a loan to pay for the care, but in both cases the NA-HHs were more likely to report having sold assets or used savings to pay for the care. While that may seem counterintuitive at first, the study on the *Socio-economic impact of HIV at the household level in Cambodia* (UN, 2010) found that many PLHIV indicated that they had depleted their savings for the care required when they were first diagnosed with HIV, so they no longer had assets or savings available to finance more recent care, which correlates with the overall fewer number of assets that HIV-HHs reported having in comparison to the NA-HHs (see Section 5.1).

For India, data was only reported on the financing of hospitalisation cases, and only for HIV-HHs, but the large negative impact of health on household asset retention and savings accumulation can be seen, as 46% of HIV-HHs with a hospitalisation reported they had either used savings or sold assets to pay for care, while a further 42% reported they had gone into debt to cover the care.

In Indonesia (where data is for non-PLHIV members of HIV-HHs and members of NA-HHs), for outpatient care, personal cash holdings were the main source of payment, but HIV-HHs did indicate the

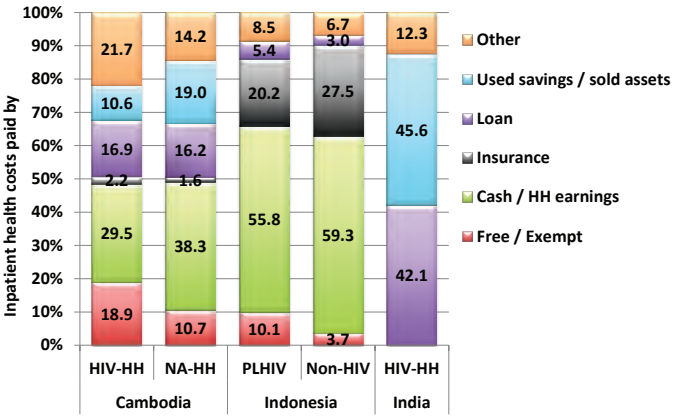
care was free of charge slightly more frequently than the NA-HHs (10% versus 8%). Additionally, NA-HHs indicated that insurance covered their care more frequently (13%) than HIV-HHs did (10%). As in Cambodia, households in Indonesia were less likely to report using cash or household earnings to pay for inpatient care than they were for outpatient care, likely due to higher costs associated with hospitalisations. In Indonesia, differences between the percentage of non-PLHIV HIV-HH members and NA-HH members reporting that their care was at least partially exempt from charges was greater for inpatient care (10% for HIV-HHs, 4% for NA-HHs), as was the percentage who reported that insurance had covered some of the charges (20% HIV-HHs; 28% NA-HHs).

FIGURE 54 **Source of Financing for Outpatient Care Charges**



China: For China, all medical expenditures (IP and OP) were combined. Differentiation here is actually between PLHIV and non-affected HH members, not between households. China only listed four payment options: Cash; Insurance or other assistance (Insurance); Balance unpaid (loan); Others. **Indonesia:** Options were free, cash / personal, loan / debt, health insurance, social insurance, other. HIV-HH responses are for non-PLHIV only.

FIGURE 55 **Source of Financing for Inpatient Care Charges**



Indonesia: Options were free, cash / personal, loan / debt, health insurance, social insurance, other. HIV-HH responses are for non-PLHIV only.

7.3 ART Utilisation by PLHIV

Continued access to ART is a core goal of all programs reviewed in the study. Increasing evidence points to the life-changing effect that HIV has on PLHIV in transition countries and the results in all countries highlight important differences in socio-economic status in accordance with varying levels of access. Figure 56 indicates the percentage of PLHIV who reported they were taking ART at the time of the interview. Overall, the percentages vary widely by country, from a high of 87% in Cambodia to a low of less than 15% in India. Additional data on usage by sex and stage of infection are also shown for certain countries in Figure 57 and Figure 58. There are only minor differences in usage by sex. In Cambodia, most of the differences in ART usage were due to differences in stage of infection between males and females, and that may be the case for Viet Nam as well (United Nations, 2010). However, it should be noted that the Viet Nam study reported that, in their qualitative interviews, female PLHIV indicated that female PLHIV would often share their ART with their HIV-positive male spouses,

> *"It's not easy to get the medicine; both my husband and I got them from the project. Sometimes, when medicine for my husband ran out, I let him use mine. There's no problem if I miss one time."*

In China, usage rates were ahead of the targets in China's Action Plan for Reducing and Preventing the Spread of HIV/AIDS (2006-2010), which indicated that 80% of eligible patients (stage IV) should be receiving free ART at the end of 2010 and the survey reported 83% (State Council of People's Republic of China, 2006). However, in China, Indonesia and Viet Nam, the percentage of PLHIV reporting they are on ART was substantially higher than that reported by WHO and UNAIDS, as outlined in the Introduction. In China, ART coverage among survey respondents is almost double even the highest estimated national coverage (38%), perhaps due to the specific population covered in this survey - largely rural PLHIV. In Indonesia, the survey reported more than double the national coverage level of 21% and Viet Nam again almost double the national coverage figure of 34%. However, it should be noted that in Viet Nam the number of PLHIV receiving ART in 2009 (approximately 36,000 adults and 2,000 children) had more than doubled since 2007, and seen a 14-fold increase since 2005 (Ministry of Health, 2009a). In India, the national figure is currently higher (26%) than the survey reported, but that is likely due to the difference in timeframes, as the India survey was conducted in 2004 and 2005.

Overall, as seen with some of the other data on the impact of health expenditures and financial barriers to care, it appears that while Cambodia, China, Indonesia and Viet Nam all have some form of government policy providing access to free ART treatment for PLHIV, it appears to have been most effective in Cambodia, at the time of the surveys.

FIGURE 56 PLHIV Taking ART

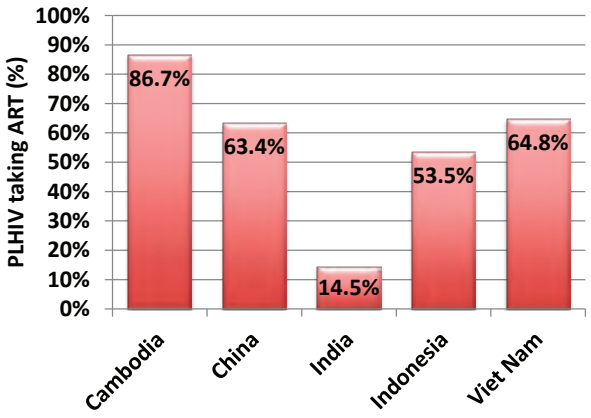


FIGURE 57 PLHIV Taking ART, by Sex

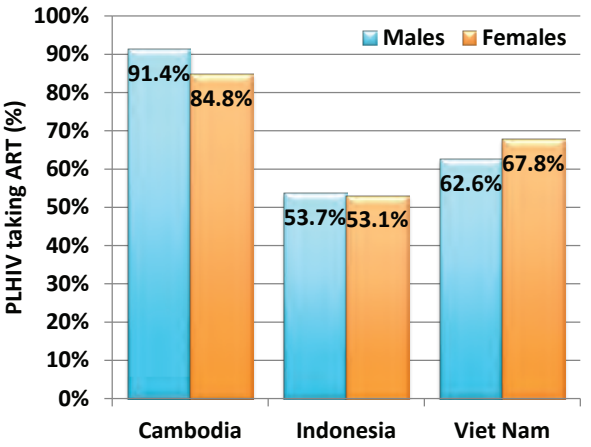
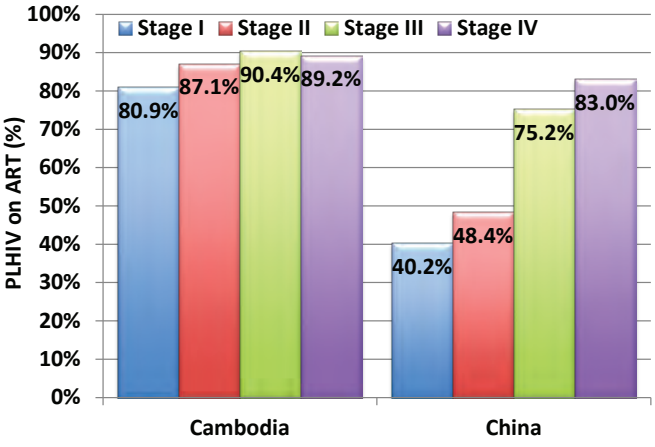


FIGURE 58 PLHIV Taking ART, by Stage of Infection

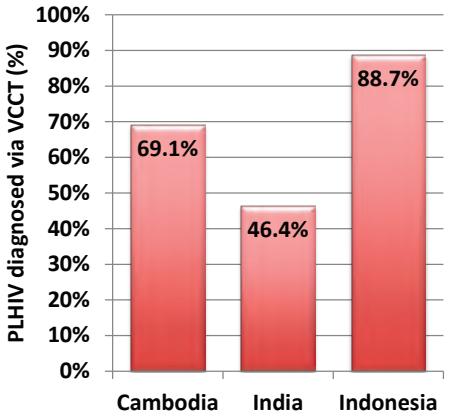


Stage in China by CD4 count, in Cambodia by WHO clinical staging classification.

7.4 Transmission and Diagnosis

The percentage of PLHIV who discovered their status through VCCT (rather than after a prolonged illness, pregnancy test, or other form of diagnosis) is reported in Figure 59. There were varying levels reported across the countries – from a low of 46% in India to a high of 89% in Indonesia. This may be partially due to overall access to VCCT centres in the different countries, which could be explained by different policies, as well as differences in the demographics of the surveyed populations (i.e., almost all of Indonesia's surveyed PLHIV were located in urban areas, where it may be assumed access to VCCT facilities is easier).

FIGURE 59 PLHIV Diagnosed through VCCT



Indonesia: This number is high given that 55.6% of PLHIV reported they had been diagnosed with an OI before diagnosis. It is possible that a different definition of VCCT was used in the survey that is not described.

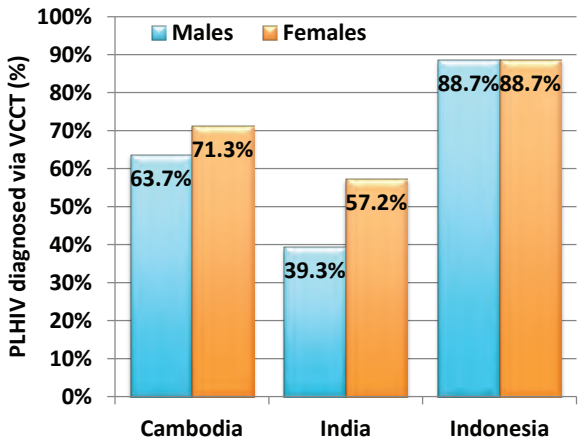
Figure 60 displays data on the percentage of PLHIV diagnosed via VCCT, by sex. In both Cambodia and India lower levels of men were diagnosed through VCCT than females. This has important consequences for transmission, especially for those undiagnosed PLHIV with intimate partners, as the longer a PLHIV continues without knowledge of their status, the greater the chances of them unknowingly passing their infection onto their partner. Increasing the accessibility of VCCT for specific key populations[14] for early diagnosis and treatment could contribute to reducing transmission. In Indonesia, there were identical levels of reported VCCT diagnosis in both males and females, with only 85 of 771 male PLHIV stating they were not diagnosed via VCCT (2 did not know) and only 34 of 335 female PLHIV (4 did not know).

Only Cambodia reported details about whether respondents were associated with a key population at higher risk of HIV exposure, so it was not possible to draw any regional conclusions about similarities or differences regarding HIV and key populations. However, data was available on the mode of transmission reported by the surveyed PLHIV, as shown in Figure 61. It should be noted that differences in survey methodology, and gender distribution of PLHIV may partially explain differences seen in the various countries. For example, in China, the survey focused on poor rural areas, and specifically on PLHIV who were infected through injecting drug use, commercial blood donation and heterosexual sex between spouses, so other significant groups of PLHIV, such as commercial sex workers, men who have sex with men, and

14 Key populations= key populations at higher risk of HIV exposure. (UNAIDS, 2011)

people who inject drugs (PWID) in large cities were not included. However, these differences (and similarities) are important for drawing conclusions from the other findings in this report.

FIGURE 60 PLHIV Diagnosed through VCCT, by Sex



Cambodia and India reported that sexual contact was the primary mode of transmission, in contrast to China and Indonesia where injecting drug use was the main mode of transmission. When broken down by sex, it is clear that, for females across the studied countries, heterosexual contact is the main mode of transmission: 90% of female PLHIV in Cambodia, 88% in India, 65% in China and 63% in Indonesia (see Figure 62).

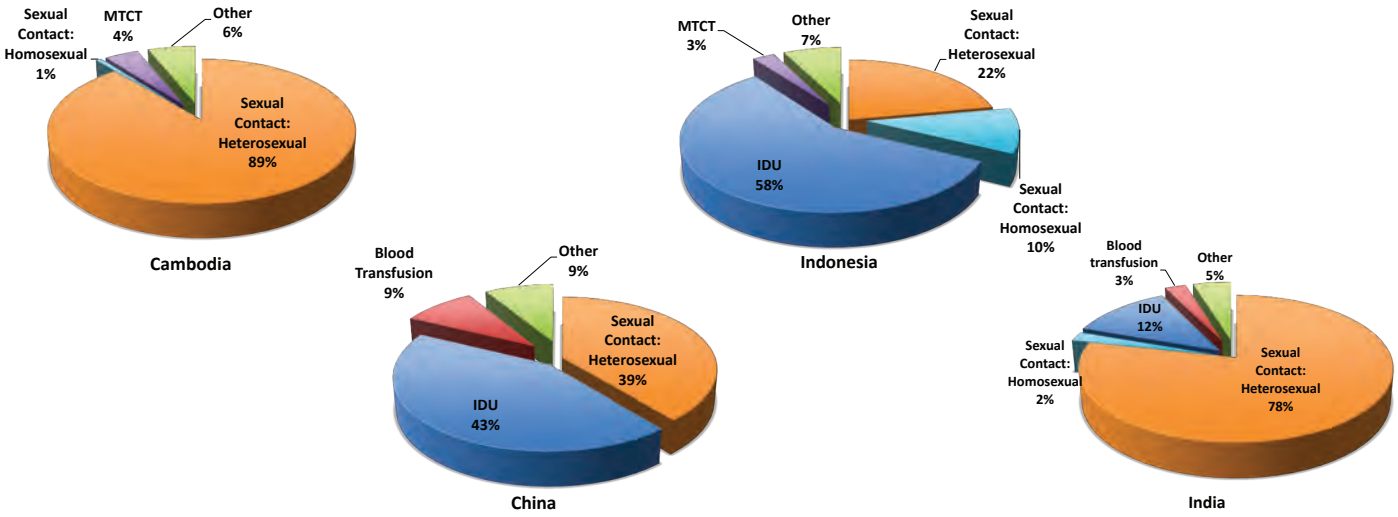
This contrasts with males, for whom heterosexual contact was reported as the mode of transmission at a lower rate, in every country: 85% in Cambodia, 71% in India, 24% in China and only 4% in Indonesia. In Cambodia and Indonesia, PLHIV were specifically asked about spousal transmission, and again, differences by sex are seen in the responses (see Figure 63). Significantly more females indicated they had contracted HIV from their husbands in contrast with male PLHIV who indicated they had contracted HIV from their wives (in Indonesia, 77% of women indicated they contracted HIV from their spouses, while 23% of men indicated the same).

This has strong implications for the unequal impact of HIV on females, as discussed further in Chapter 10. However, the high levels of PLHIV who contracted HIV through heterosexual contact with their intimate partner points to the potential benefit of introducing pre-exposure prophylaxis (PrEP) drugs such as tenofovir or tenofovir/emtricitabine, which, when taken daily as preventive medicine by an unaffected partner, have been shown to reduce HIV transmission by 63-73% (UNAIDS, 2011b).

While the China study focused on particular modes of HIV transmission, the results were very similar to that found in the 2007 Joint Assessment of HIV/AIDS Prevention, Treatment and Care in China (SCAWCO et al, 2007). The largest difference seen between China and other countries in the region was the higher rate of transmission through blood donation (9% overall). The survey also showed that, in specific provinces (Hubei and Shanxi), over 70% of PLHIV indicated that commercial blood donation was the main mode of transmission (and over 80% for males). Importantly, those results reflect the pattern of transmission from several years before the survey occurred, and it is believed that the issues with commercial donation and HIV have been largely solved.

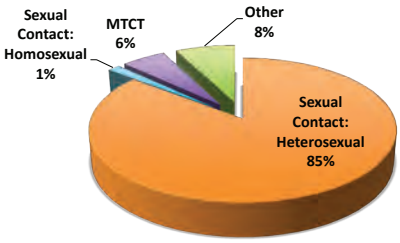
Risk factors associated with injecting drug use are noted in several country studies, especially in males in China (62% of transmission) and Indonesia (73%). In Indonesia, the survey data were different from overall national averages, where heterosexual contact was reported as the main source of transmission (Ditjen PP dan PL, Kementerian Kesehatan RI, 2010), possibly due to the specific regions that the report's survey targeted. However, all data from Indonesia do suggest that HIV transmission through unsafe injecting practices is increasing, and points to the need for additional education and awareness among people who inject drugs (Ministry of Health et al, 2007).

FIGURE 61 Modes of HIV Transmission

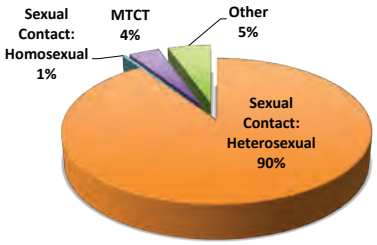


China: no data to differentiate between heterosexual and homosexual contact. ALL sexual contact was indicated as being with the spouse.

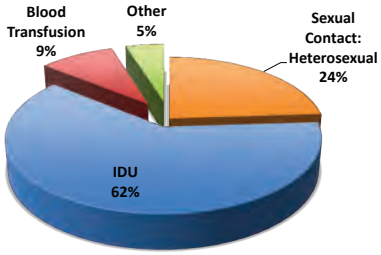
FIGURE 62 Modes of Transmission, by Sex



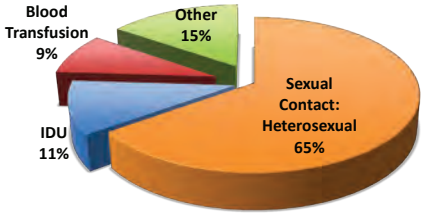
Cambodia: Males



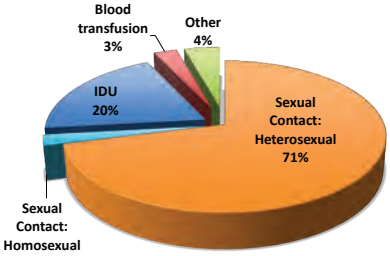
Cambodia: Females



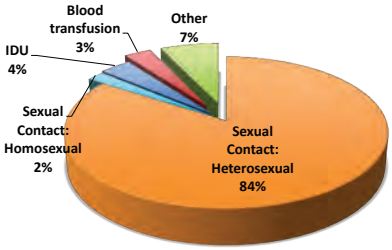
China: Males



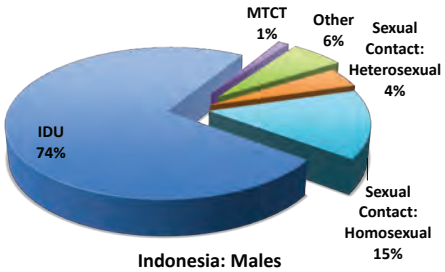
China: Females



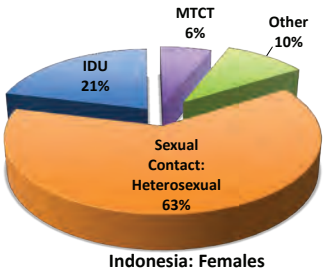
India: Males



India: Females

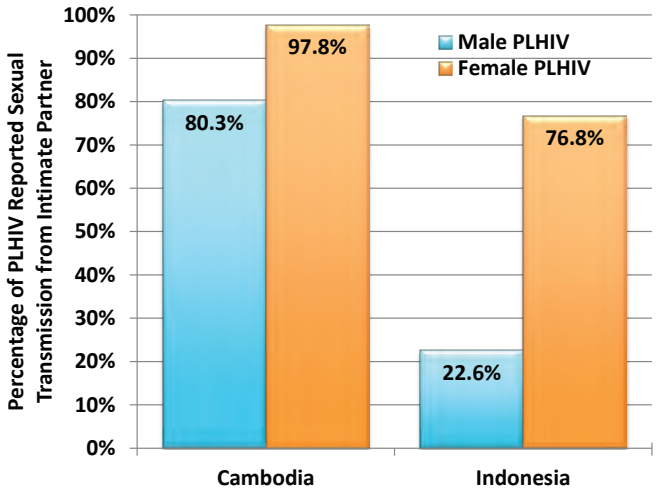


Indonesia: Males



Indonesia: Females

FIGURE 63 Intimate Partner Transmission, by Sex



8 Impact on Food Security

Chapter Summary

- HIV-HHs in Viet Nam increased their allocation to food expenditures by more than 20% than NA-HHs;
- HIV-HHs spent less on protein-rich foods than NA-HHs;
- Members of HIV-HHs in Cambodia and Viet Nam were more likely to have experienced hunger than members of NA-HHs;
- Food support for HIV-HHs varied across the region, but HIV-HHs in Cambodia and Viet Nam were more likely to have received food support than NA-HHs.

8.1 Household Food Expenditures

In light of the increasing world-wide food prices, the relationship between HIV and food expenditures will gain increasing importance. This is especially true as the unique nature of HIV and its treatment increases the importance of improving the nutritional status of PLHIV. It is estimated that the impact of HIV increases an asymptomatic adult PLHIV's energy requirements by 10% and a person living with symptomatic HIV or AIDS is likely to require 20-30% more energy to maintain bodyweight (WHO, 2004). As such, the food expenditures associated with HIV-HHs would be expected to increase, yet at a time when even less income is available, as previously discussed.

The data displayed in Figure 64 indicate that, for most countries, HIV had a relatively small overall impact on food expenditures as a percentage of total household expenditures. Viet Nam is the only country where HIV-HHs did spend substantially greater portions of their household budget on food than NA-HHs. In contrast, in India, HIV-HHs spent less than NA-HHs, likely due to the larger proportion of their budget allocated towards healthcare. Additionally, HIV-HHs in Indonesia were specifically asked if they reduced their food expenditures as a coping mechanism and over 26% answered affirmatively.

FIGURE 64 **Household Food Expenditure as a % of Total Household Consumption**

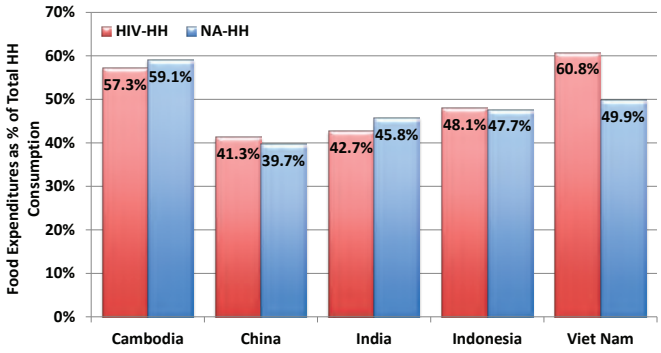
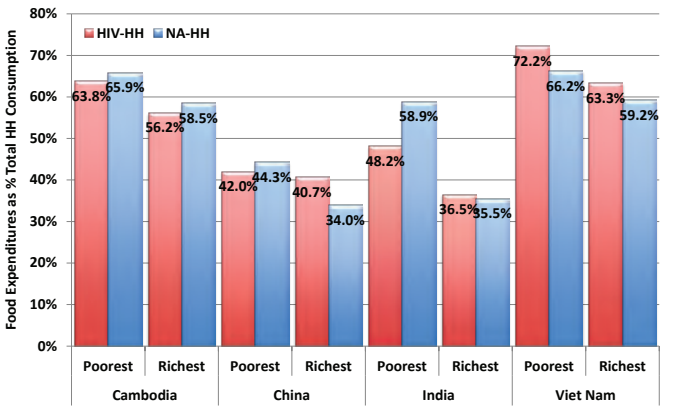


Figure 65 shows that in China and India, greater differences in food allocations between HIV-HHs and NA-HHs can be seen when segregated by the wealth of the household. In China, the richest HIV-HHs spent substantially more (41%) of the their total household expenditures on food than the richest NA-HHs (34%), while the reverse was true for the poorest households. In India, again, the poorest HIV-HHs allocated less towards their food budgets (48%) than the poorest NA-HHs (59%), possibly due to the high health expenditures for HIV-HHs. Interestingly, in Viet Nam, again HIV-HHs allocated more towards food than NA-HHs, even in the poorest households (72% in poorest HIV-HHs versus 66% in poorest NA-HHs).

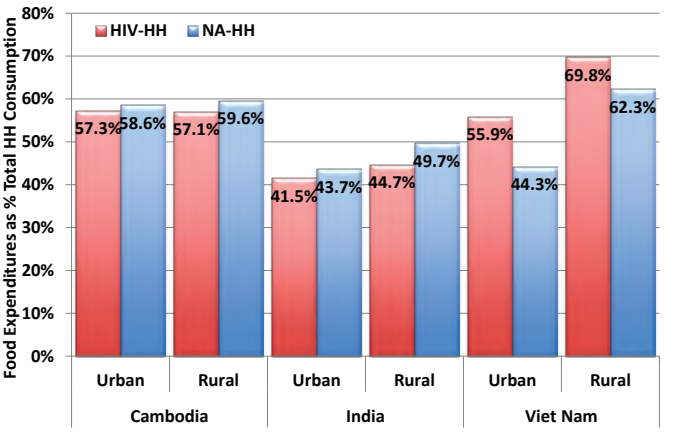
FIGURE 65 **Household Food Expenditures as a % of Total Household Consumption, by Wealth**



Viet Nam: the numbers for wealth were not linear across increasing quintiles of wealth.

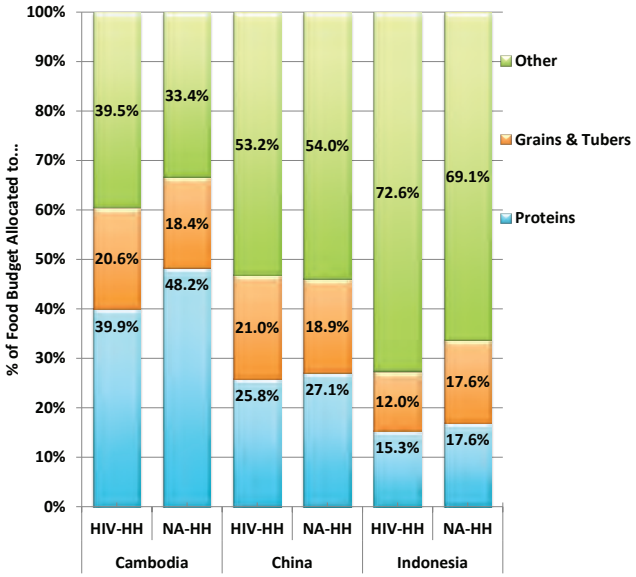
Figure 66 shows that, for India, there was little difference between HIV-HHs and NA-HHs in urban areas, while differences were more evident in rural areas (in both, HIV-HHs spent less than NA-HHs). There was little difference seen in Cambodia, regardless of household location. In Viet Nam, there was a greater difference in urban households' spending patterns on food, than for rural households, but in both locations HIV-HHs allocated more than NA-HHs.

FIGURE 66 **Household Food Expenditures as a % of Total Household Consumption, by Location**



In addition to analysing total food expenditures, many countries also examined the types of food the households were purchasing. The results of that analysis are shown in Figure 67. It can be seen that there was wide variation in the composition of household food expenditures, but in all three countries with data (Cambodia, China, and Indonesia), HIV-HHs spent less on proteins (meat and eggs) than NA-HHs. This may be partially due to the fact that those items are often more expensive, not easily produced by those in lower income rural households, or because the food support to HIV-HHs often does not include protein-rich items. Additionally, while Viet Nam did not report specifically about expenditures of households on different food items, they did report on daily use of protein rich food. Again, HIV-HHs had reduced daily use of proteins in comparison to NA-HHs, in both urban and rural areas (7% fewer households reported daily protein consumption in urban areas and 15% less in rural). When asked why they did not eat certain foods frequently, HIV-HHs were more likely than NA-HHs to respond that the foods were too expensive, especially in urban areas (20% for respondents from HIV-HHs versus 14% for respondents from NA-HHs).

FIGURE 67 Composition of Household Food Expenditures



Proteins include fish, meat, poultry and eggs

FIGURE 68 Impact on Hunger

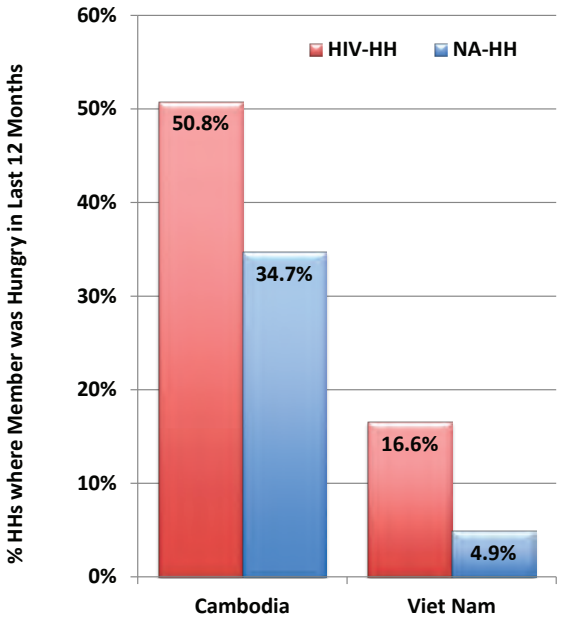
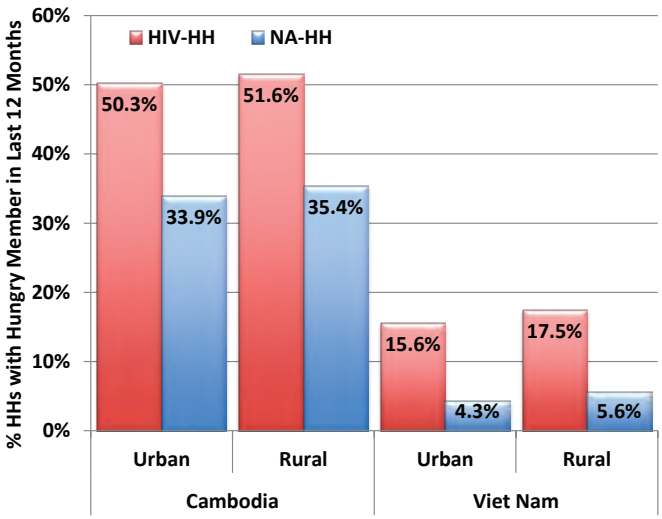


FIGURE 69 Impact on Hunger, by Location



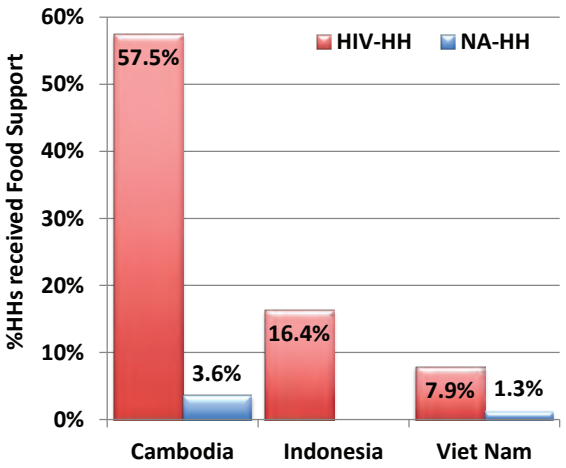
8.2 Household Hunger / Insufficient food

An additional factor regarding food security is the level of hunger, or perception of insufficient food in the last year. As shown in Figure 68, only Viet Nam and Cambodia specifically asked about household hunger. However, for both countries, HIV-HH households were more likely to have reported members being hungry than NA-HHs (1.4 times more likely, on average). The results remained when analysed by the rural or urban location of the households (Figure 69). The results highlight the importance of ensuring adequate food supply for HIV-affected households, in the overall context of social protection packages.

8.3 Food Support

Targeting food support programs to HIV-affected households is an important policy that can ameliorate the devastating effects of the disease as well as facilitate the efficacy of HIV treatment. Due to the vulnerability of HIV-HHs to food insecurity, a number of countries asked households whether or not they were specifically receiving food support at the time of the survey. Only Cambodia and Viet Nam asked both sets of households about such support, and in both cases, HIV-HHs were more likely to have received food support, though the percentages varied widely between the two countries, as shown in Figure 70. Over 57% of HIV-HHs in the Cambodia survey had received food support in the previous three months, compared to only 4% of non-affected households. In Viet Nam, 8% of HIV-HHs had received support, compared to only 1% of NA-HHs. In Indonesia, 16% of HIV-HHs reported they had received food support since a member had been diagnosed with HIV, but NA-HHs were not asked whether they had received support.

FIGURE 70 Household Received Food Support



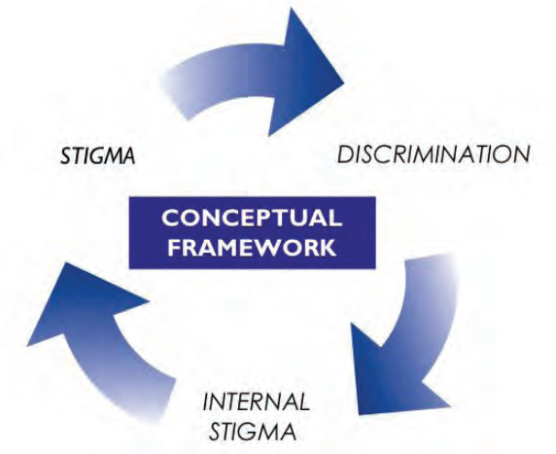
9 Stigma, Discrimination and Quality of Life

Chapter Summary

- High levels of internal stigma (shame, low self-esteem, suicidal thoughts) were reported by PLHIV;
- Regional differences were seen in PLHIV who immediately reported their HIV status to their spouse, but males were generally less likely than females to have informed their partner;
- There were differences in spousal reactions to disclosure, but all countries showed improved support over time;
- High levels of bias against PLHIV and their families were reported by NA-HHs;
- High levels of stigma and discrimination were reported by PLHIV – important areas for concern include social isolation, verbal abuse and discrimination within the workplace and health care facilities.

HIV can have a traumatic impact on an individual's sense of self-worth, personal security and social standing within the household and community (USAID, 2006). Emotional, mental and sometimes physical manifestations of stigma and discrimination 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 71 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 lead 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 71 **Conceptual Framework for Stigma, Discrimination and Internal Stigma**

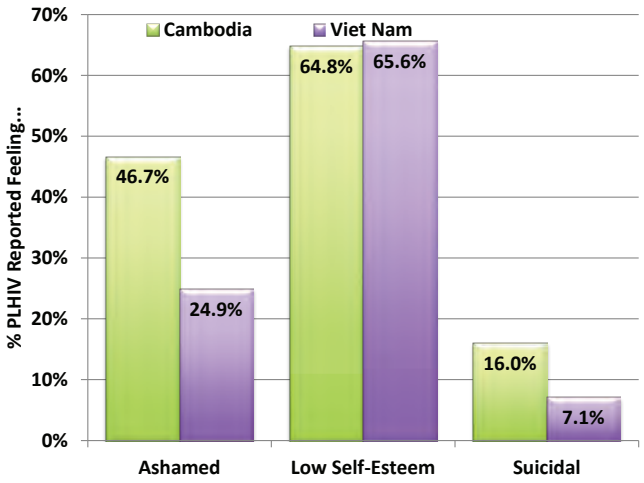


Source: USAID, Breaking the Cycle: Stigma, Discrimination, Internal Stigma and HIV, 2006.

9.1 Internal Stigma

The data in Figure 72 demonstrate some of the internal stigma experienced by the PLHIV in Cambodia and in Viet Nam. In Cambodia, high levels of PLHIV reported having experienced shame (47%), guilt (49%), self-blame (46%), low self-esteem (65%) and feeling they should be punished because of their HIV status (65%). Similar numbers of PLHIV in Viet Nam reported low self-esteem (66%), though there were lower levels of shame reported (25%). Of great concern were the high levels of PLHIV in Cambodia reporting suicidal thoughts in the previous year, due to their status (16% versus 7% in Viet Nam). Chapter 10 shows that differences in internal stigma were reported for males and females, with females being significantly more likely to experience suicidal thoughts (18% versus 10% for males in Cambodia and 6% of males in Viet Nam compares to 9% of females).

FIGURE 72 **HIV and Internal Stigma**



Viet Nam: Low self-esteem = "negative self-perception".

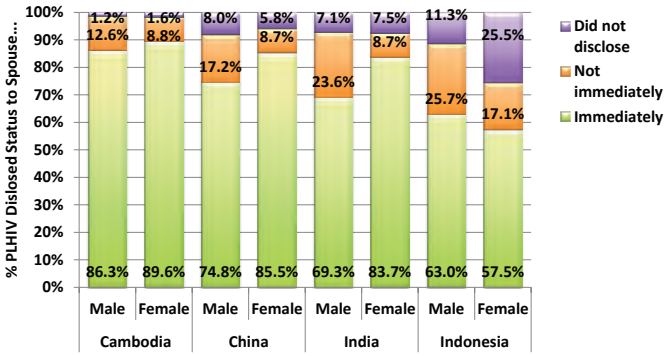
9.2 External Stigma and Discrimination

Many countries asked PLHIV when they disclosed their status to their sexual partner and/or spouse, and their responses are summarised in Figure 73. There are clear regional differences with regard to status disclosure, although potential observational bias exists in some of these results - for example, in Cambodia, bias due to the methodology used to locate PLHIV in the survey, as PLHIV known to home-based care teams are more likely to have disclosed their status than those not receiving home-based care.

Overall, the highest levels of non-disclosure were reported in Indonesia (13% overall), followed by India (7%), China (7%) and Cambodia (1%). The rate of disclosure in Indonesia is important as it points to the need for greater education of PLHIV, and the general population, on the importance of sharing their status with their sexual partner. The data show that in China, India and Indonesia there were strong differences (and minor differences in Cambodia) in the percentage of men who immediately reported their status to their wife and the percentage of women who immediately reported their status to their husband (more female PLHIV reported immediately in both China and India, the reverse in Indonesia). The

situation in India and China may be partially a reflection of culture, but also a reflection of patterns of intimate partner transmission (i.e., if the husband transmitted to the wife, he was already aware of her status, and vice versa), and may indicate higher levels of male to female transmission. In Indonesia, responses by sex were only available for PLHIV who were also responding as the heads of their household, so present a small, particular segment of men and women. However, for those particular PLHIV, women were considerably less likely to have disclosed their status to their intimate partner (26% had not revealed their status, compared to 11% of men). Based on other data in the Indonesia analysis, it is likely this is due to fear of discrimination and / or abuse (16% of female PLHIV who were once married reported their husband left them and no longer supported them and 10% of female PLHIV reported they had been physically abused for trying to refuse sex with their husband).

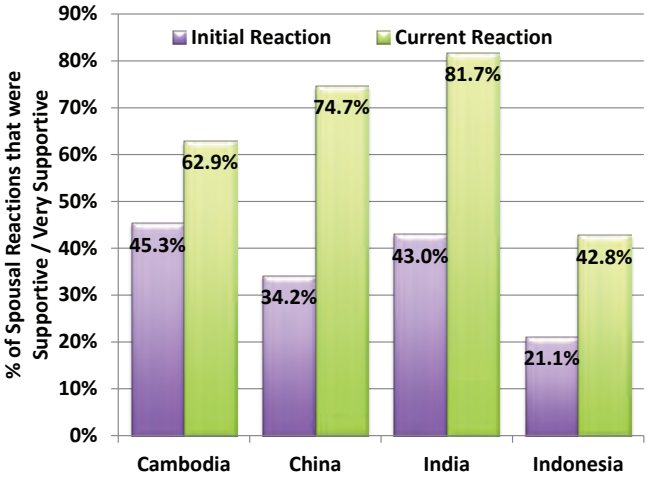
FIGURE **73** Timeframe for Disclosure of Status to Spouse, by Sex



The data shown in Figure 74 indicate both the initial and current attitudes of the PLHIV's spouse towards their HIV status, as reported by the PLHIV. Both Cambodia and India had similar percentages of PLHIV indicating that their spouse was supportive from the beginning (45% and 43% respectively), while China reported a lower figure of 34%, and Indonesia even lower with only 21%. It should be noted that the questions asked and possible responses were not the same for all countries: in Cambodia a response of either "supportive" or "very supportive" was included and referred only to the spouse, in China and India only "supportive" was included but responded to both family members and spouses, and in Indonesia, responses of "more attentive" or "showed empathy" were included, and referred to either spouses or heads of household.

The data also show how spouses' attitudes changed overtime, as PLHIV also described their spouse's attitude towards them at the time of the survey. The largest change was noted in China, where more than twice as many PLHIV indicated spouses were supportive at the time of the interview (75%) in comparison to when they initially disclosed their status (34%). In India and Indonesia almost twice as many PLHIV reported a supportive spouse at the time of the interview (from 21% to 43% in Indonesia and from 43% to 82% in India) than initially. In Cambodia, the current reaction of the spouse of the PLHIV was less likely to be supportive (only 63%) as those in China and India, but it should be noted that discriminatory attitudes towards the PLHIV were reported less frequently. Due to the differences in reporting, exact correlations are not possible, but in Cambodia, only 2% of PLHIV indicated that their spouse (and 4% their family members) were currently discriminatory or very discriminatory against them, while in India 12% reported they were neglected, isolated or verbally / physically abused, 6% indicated they had been asked to leave the home, and 8% indicated they had been discriminated against in some other way. Similarly, in China, over 10% of PLHIV reported they had been discriminated against in some way. In Indonesia, the great majority of PLHIV indicated their spouse was indifferent ("accepted the reality" or "didn't care") 66% initially and 53% currently, while 11% were discriminatory initially, down to 3% having a current discriminatory reaction.

FIGURE **74** Spousal Reactions to Status Disclosure

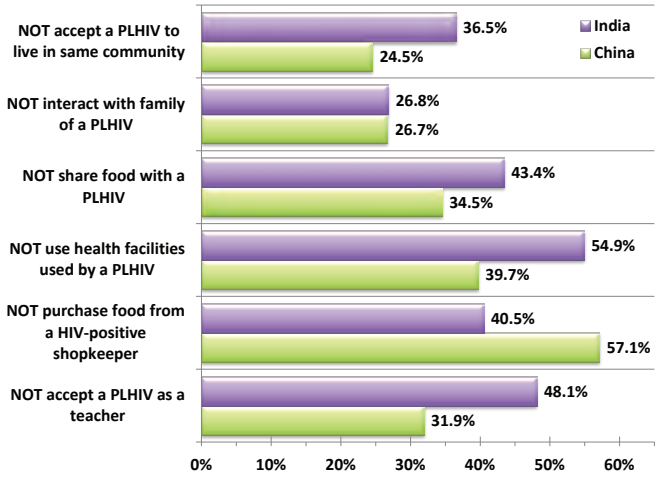


Cambodia: Refers only to spouse. Percentages only include responses of supportive or very supportive. **China:** Includes spouse and family members; multiple responses received. Includes whether the whole family or just the spouse was supportive. **India:** Includes spouse and family members; multiple responses received. Includes whether the whole family or just the spouse was supportive. **Indonesia:** Supportive here includes "more attentive" and "showed empathy".

Figure 75 displays information on the attitudes of respondents in NA-HHs in China and India towards PLHIV. Overall, high levels of bias can be seen in both countries, in a variety of situations. India's responses were more biased overall, but that is possibly due to the older survey timeframe. In China, 25% of respondents indicated their community would not accept a PLHIV living within their community, and in India, that number rose to 37%. Over 25% of both countries' respondents indicated they would not interact with the family of a PLHIV, showing the knock-on effect which HIV can have on those close to a PLHIV. Some of the economic repercussions of negative community attitudes towards PLHIV can be seen as 41% of respondents in India, and over 57% in China indicated they would not buy food (specifically steamed breads) from a HIV-positive shopkeeper. Additionally, over 48% of those in India said they would not accept a HIV-positive teacher in their child's school, and 32% in China. In India, people in urban areas were more open and tolerant than those in rural areas (data not shown).

Only one question was asked of those in Indonesia (data not shown), *"How is your attitude when interacting or one day interacting with a PLHIV?"*. In Indonesia, 15% of NA-HH respondents indicated they would either avoid a PLHIV or keep their distance, and the percentage was higher for female respondents (19%) than for male respondents (14%).

FIGURE 75 **Attitudes of Non-Affected Household Respondents Towards PLHIV**



China: Asked of HoHs in NA-HHs. **India:** Asked of all adult members of NA-HHs.

The data in Figure 76 and Figure 77 highlight the percentage of PLHIV who disclosed their status to their community, and the main forms of stigma and discrimination those PLHIV faced because of their HIV status. The same methodology was not used across the five countries, so the results are not directly comparable, but still give a good estimate of how various countries in the region are similar (and different) with regards to stigma and discrimination experienced by PLHIV.

In Cambodia, which used the "People Living with HIV Stigma Index" questionnaire (International Planned Parenthood Federation, 2008), approximately 80% of PLHIV indicated they had disclosed their status to their friends and neighbours, compared to 75% in India, 49% in China and only 17% in Indonesia. Again, it must be noted that the PLHIV interviewed in Cambodia were receiving visits from home-based care teams who, as part of their activities, conduct HIV awareness-raising community activities. Perhaps partially due to those activities, only 6% reported having been socially neglected or isolated by their community, compared to the high levels of social ostracism by the community in China and India, with 56% of PLHIV in China and 66% in India reporting that they were either socially isolated or neglected.

Levels were lower in Indonesia and Viet Nam (25% and 21%). Additionally, high levels of verbal abuse were reported by PLHIV in both India and Viet Nam (37% had experiences such abuse), and while levels were lower, they still raise concern in Cambodia (21%), Indonesia (19%) and China (18%).

Additionally, an alarming 6% of PLHIV in Cambodia and 4% in Indonesia reported they had suffered from physical abuse due to their HIV status. Viet Nam was the only country that surveyed whether the PLHIV felt their rights had been diminished due to their positive status (property and asset rights, fertility rights, childcare rights, confidentiality rights), and 19% reported that they had faced such discrimination. Additionally, PLHIV were asked if they were required to use separate chopsticks or eating utensils within the household, and 12% of those in Indonesia reported in the affirmative, while 9% of those in Viet Nam and 7% of those in Cambodia and China did so.

In Cambodia, a very high percentage of respondents reported they had revealed their status to their health professionals (99%), which is possibly due to observational bias through the use of home-based care teams to identify the PLHIV to be included in the survey. That compares to only 70% of PLHIV in China reporting that they revealed their status to their health facility. Additionally, while Indonesia did not ask all PLHIV if they had disclosed their status to their health professionals, only 59% of pregnant HIV positive women reported revealing their status (see Chapter 11).

The lower rate of disclosure in China and Indonesia might be partially attributable to the higher rate of discrimination within the health sector reported by PLHIV as only 1% of PLHIV in Cambodia reported discrimination in their health facilities, compared to 13% in China and 30% in Indonesia. A high level of discrimination was also reported in Viet Nam, where 17% of PLHIV reported they had been discriminated against in the health setting. These high levels of reported discrimination point to an immediate need to increase sensitization and awareness of HIV in the health facility setting, as many PLHIV are currently not receiving the care they require, and are also likely not to be receiving adequate education about transmission prevention, and other key support modalities.

In Cambodia, a very low level of PLHIV (2%) indicated they had not disclosed their status within their workplace, compared to 74% of PLHIV in India. However, a very high percentage of PLHIV in Cambodia also indicated they had been discriminated against as a result (30%), which is a substantially higher level than reported elsewhere in the region (10% in India and Viet Nam, 4% in China). In China, levels of workplace-based discrimination are low due to the largely rural agriculturally-based sector of the population who were interviewed, and for whom their household is the productive unit, so work-based contact with individuals outside the home is limited, and therefore labour-based discrimination is less likely.

FIGURE 76 **PLHIV who Disclosed their Status to the Community**

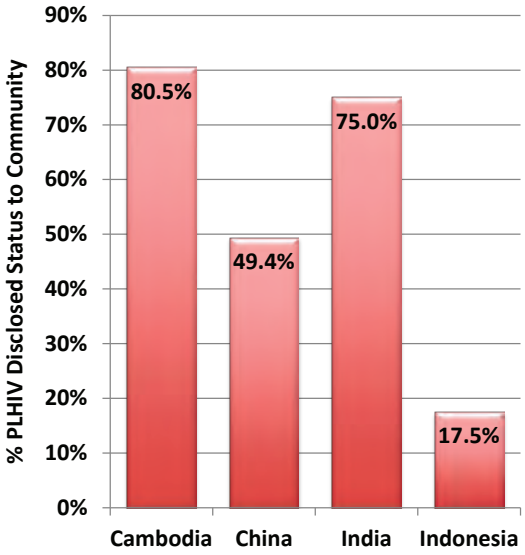
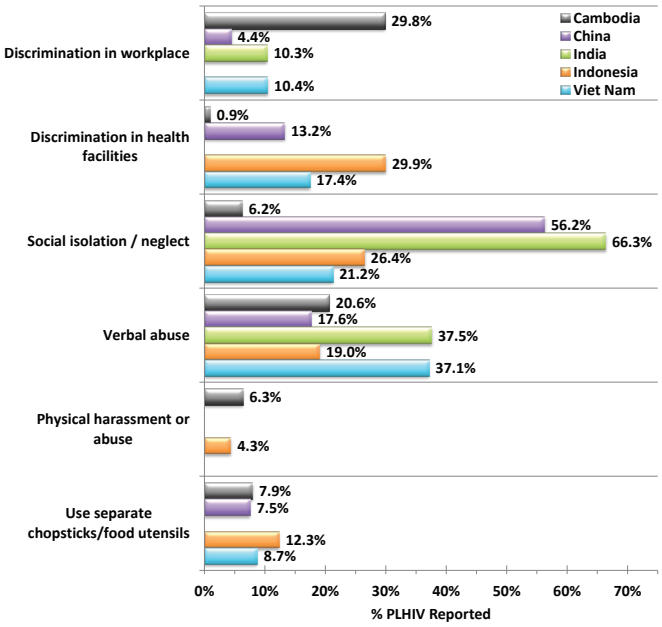


Figure 78 displays data on differences by sex in the stigma and discrimination faced by PLHIV. In Cambodia, while differences are not noted in the percentage of PLHIV reporting either discrimination in the health facilities or social isolation, more females reported having been verbally and physically abused than males. In China, however, no large differences are seen with regard to discrimination. In India, fairly similar levels of stigma and discrimination were reported by both male and female PLHIV.

However, in Indonesia[15], significantly more females than males reported social isolation (47% versus 17%) and verbal abuse (12% versus 29%). In Viet Nam equal levels of male and female PLHIV reported being discriminated against within the workplace, and having been verbally abused, but substantially greater levels of female PLHIV than male PLHIV reported they had been socially isolated (28% versus 17%), suffered rights neglect (26% versus 14%), or been discriminated against within health facilities (21% versus 15%).

FIGURE 77

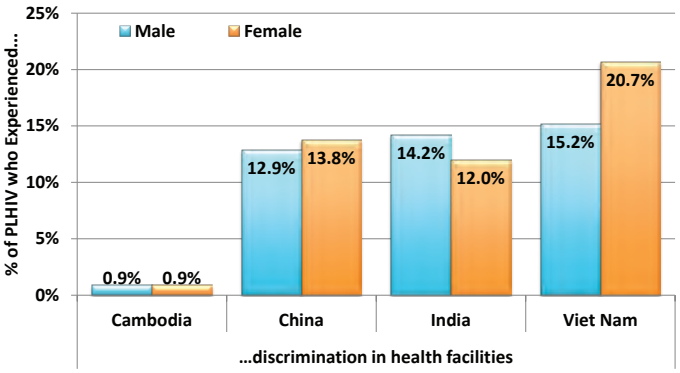
Percentage of PLHIV who Faced Stigma and Discrimination

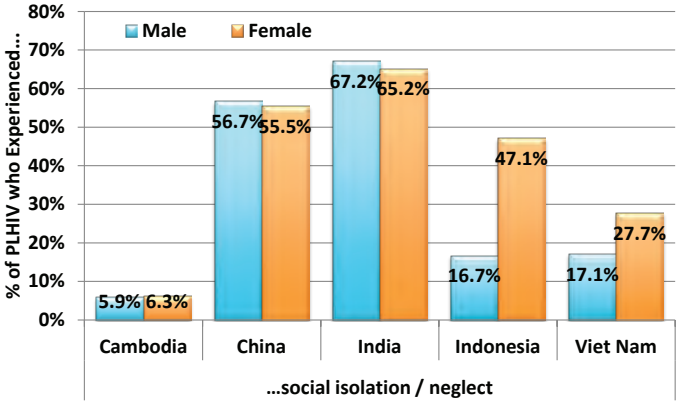


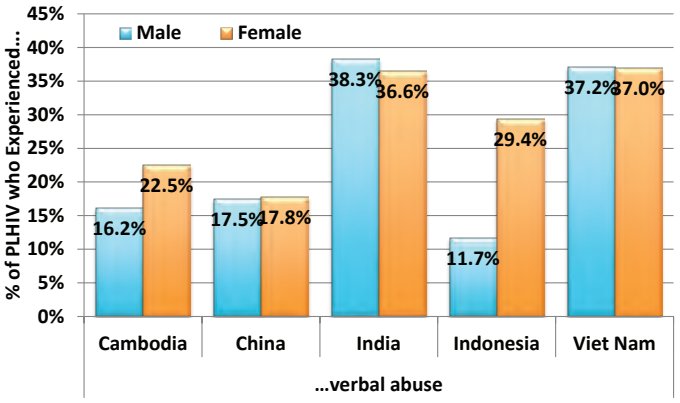
Cambodia: Discrimination in workplace = Lost a job (if employed) or another source of income (if self-employed or an informal worker) or been refused employment or a work opportunity or has the nature of your work changed, or you have been refused a promotion because of your HIV (or AIDS) status?

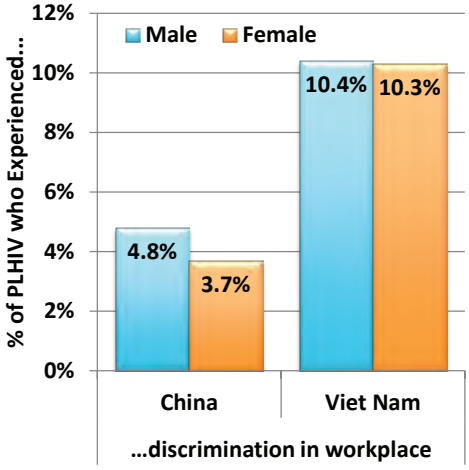
FIGURE 78

Percentage of PLHIV who Faced Stigma and Discrimination, by Sex



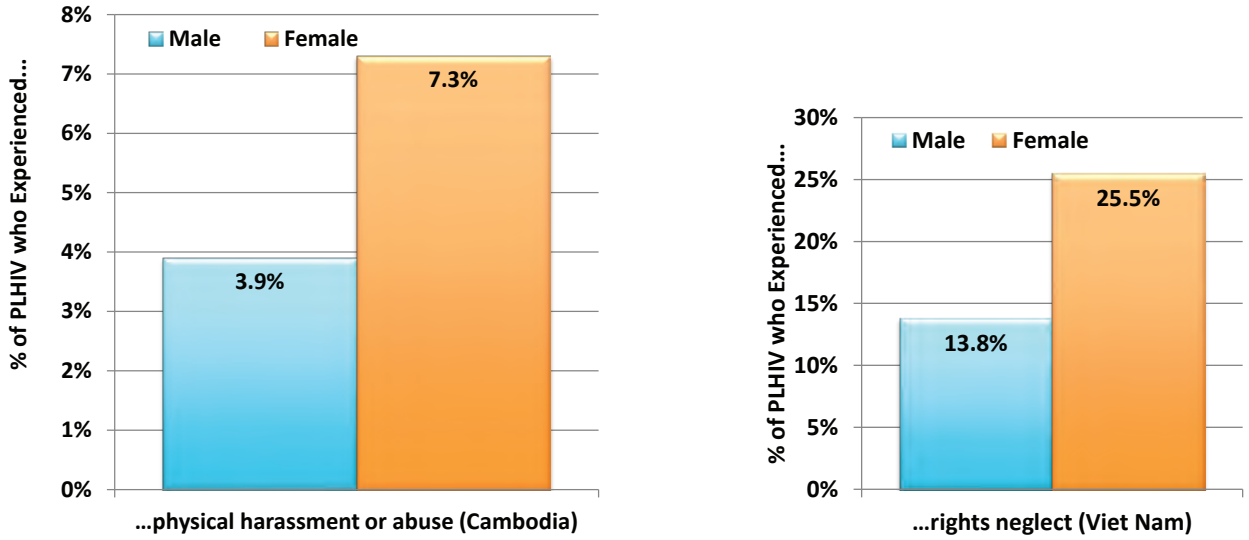






15 Analysis was restricted to the subset of PLHIV who were also the HoH and status was known to the community.

FIGURE **78** Percentage of PLHIV who Faced Stigma and Discrimination, by Sex (cont'd)



Cambodia: "Socially isolated / neglected" = excluded from social gatherings. **China:** Socially / neglected "community members do not go to their house". 69.5% of males and 71.7% females disclosed status in health care facilities. **Indonesia:** These are restricted to just an analysis of PLHIV who were HoH. For verbal abuse and social isolation, only 15% of PLHIV HoHs reported that their neighbours know they were HIV positive (18% of females, 15% of males), and the percentages shown are for the percentage of those PLHIV reporting discrimination.

10 Impact on Family Structures, Women and Girls and Intimate Partner Transmission

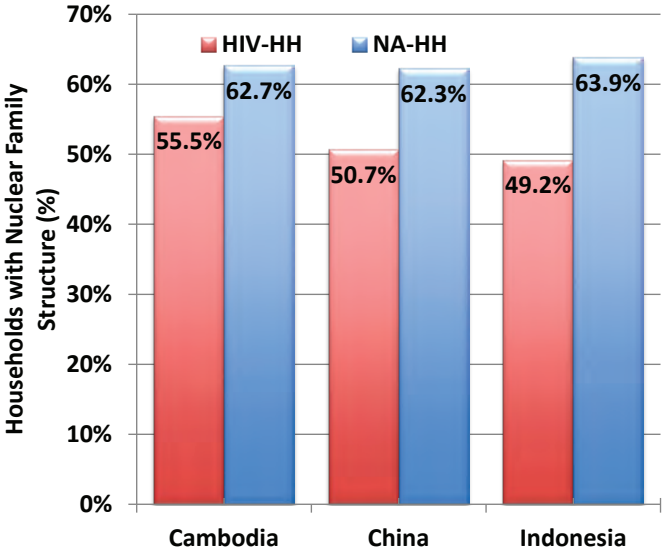
Chapter Summary

- HIV erodes the nuclear structure of families: HIV-HHs were 18% less likely than NA-HHs to have a nuclear family structure;
- Low levels in some countries still existed with regards to pregnant women disclosing their HIV status to their health provider, and as a result there were lower than desired levels of enrolment in PMTCT programmes;
- Less than 46% of pregnant women in Indonesia had heard of PMTCT pointing to the need for expanded information and targeting of HIV awareness;
- In Cambodia and Indonesia, only 21% and 45%, respectively, of HIV positive pregnant women were breastfeeding perhaps because previous WHO guidelines for ART and breastfeeding did not establish a target of 100% as presently advocated;
- HIV disproportionately affects girls in the accumulation of human capital as evidenced by differential results for drop-out in HIV-HHs: In Cambodia and Indonesia, boys in HIV-HHs were equally or less likely to boys in NA-HHs to drop out while girls were over 2.5 times more likely to drop out, on average. In China and India, boys in HIV-HHs were 0.6 times more likely to have dropped out than boys in NA-HHs while girls were almost eight times more likely.
- Widows in HIV-HHs face additional hardships through the loss of property inheritance rights.

10.1 Family Structures

One of the major social impacts of HIV is a change to the family structure, both through mortality and social stigmatization. In the three countries (Cambodia, China and Indonesia) that reported on family structures, all showed that HIV-HHs were less likely to maintain a "nuclear" family structure (parents and children) than NA-HHs, as shown in Figure 79 (55% compared to 63% in Cambodia, 51% compared to 62% in China, and 50% compared to 64% in Indonesia). In some of these instances, the households maintained extended family structures that included a more distant family member (aunt, uncle, brother, sister, grandparent) who joined the household to assist with caregiving functions, or with household income. In other instances, PLHIV may have been forced to leave their home, or their partner died, leaving them in a single household. In both cases, the household is in a more economically vulnerable position.

FIGURE 79 **Households with Nuclear Family Structure**



It should also be noted that, while only Cambodia specifically reported on the presence of orphans within households, these results show the additional significant impact that HIV has on family structures - 33% of HIV-HHs reported caring for an orphan, compared to only 2% of NA-HHs. Further research in other Asian countries on the socio-economic impacts of HIV on households with orphans would be of value.

10.2 Women and Girls

Gender inequality remains an issue in the countries featured in this report. In Cambodia, the adult literacy rate for women is 64% compared to 85% for men (United Nations, 2011). In India, the difference is even greater (48% versus 74%). In China, the under-five mortality rate for girls (2000-2005) is 38 deaths per 1000 live births, compared to 27 for boys. In Viet Nam, the percentage of underweight girls is 35%, compared to 31% for boys. It is not surprising, then, that the studies featured in this report often found women to be often disproportionately affected by HIV. Due to the increasing proportion of female PLHIV in the region (35% in 2011, up from 21% in 1990), it is important to better understand the specific issues affecting women and girls in HIV-affected households (UNAIDS, 2011c). For a more detailed analysis of the issues affecting women and girls affected by HIV across all socio-economic indicators please refer to the partner report, *The Socio-Economic Impact of HIV at the Household Level in Asia: A Regional Analysis of the Impact on Women and Girls* (UNDP, 2011b).

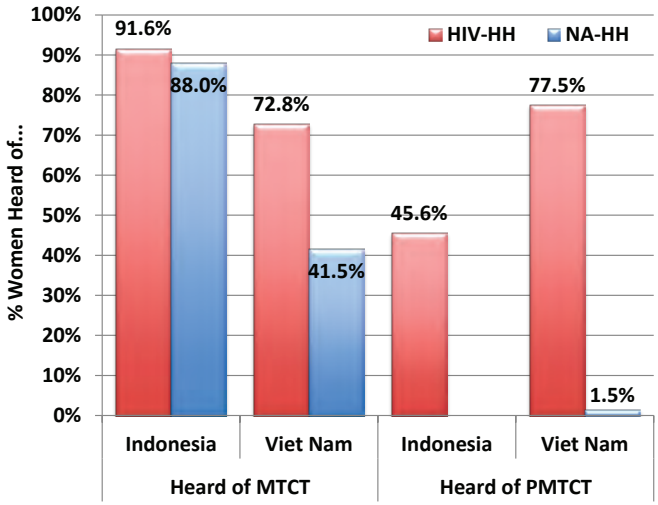
10.2.1 Pregnancy

Three of the five studies featured in this report explored the experiences of women living with HIV with respect to pregnancy and, in particular, the prevention of mother-to-child transmission. Figure 80 provides data on how women in the various countries demonstrated knowledge of mother-to-child transmission (MTCT) and prevention of mother-to-child transmission (PMTCT). Overall, less than 50% of all pregnant women were informed of PMTCT, underlining the importance of increasing provider-based programmes for preventing mother-to-child transmission. Responses varied greatly, with nearly all women in NA-HHs (92%) in Indonesia reporting they had heard of MTCT, while less than half that percentage (42%) reporting the same in Viet Nam. The differences were not as great for women in HIV-HHs, but Indonesia still reported higher levels of awareness (88% versus 73% in Viet Nam). In Indonesia, female PLHIV who reported having been pregnant at some point, were asked if they had been made aware of PMTCT measures while pregnant. Of the 59% of females who informed their health care provider of their status, 90% were informed of PMTCT measures, so overall 46% of pregnant PLHIV had been informed of PMTCT. In Viet Nam, overall 78% of females in HIV-HHs noted that they were aware of PMTCT medications,

but only 2% of those in NA-HHs were aware. That data raises two sets of concerns, the first of which is the high percentage of HIV positive pregnant women in Indonesia who did not inform their health professional of their HIV status (over 40%).

As was discussed earlier, high levels of discrimination in health facilities were reported in the Indonesia study (over 30% of PLHIV reported being discriminated against in a health facility), so it is understandable that women are hesitant to disclose their status to health professionals. While levels of PMTCT awareness in NA-HHs in Viet Nam cannot be extrapolated to those in Indonesia, it can be safely assumed that women who do not indicate they are HIV positive are considerably less likely to be informed of PMTCT medicines. As such, the data point to the need for increased sensitization training within the health profession, as the fear of discrimination, and hence reluctance to disclose status, is placing the lives of many unborn babies at risk.

FIGURE 80 Female Knowledge of MTCT and PMTCT



Indonesia: Of HIV+ women only 59.2% told their health care provider of their HIV status. 94.8% of those whose health provider knew of their status were informed of the risk of MTCT, and 89.7% were informed about PMTCT techniques.

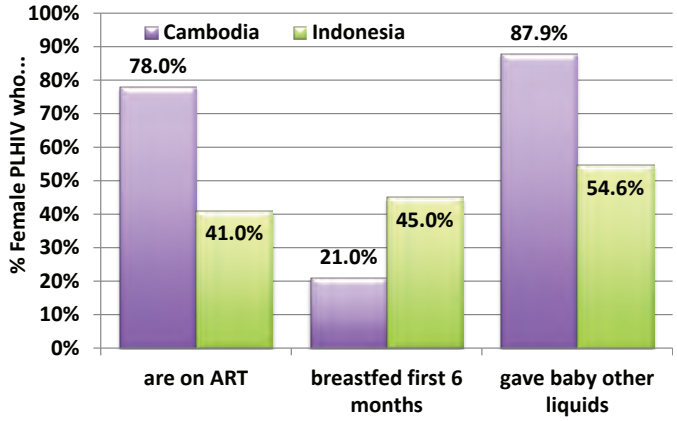
With regards to actual pregnancies, in Cambodia, the survey asked if women (aged 15-45) had given birth within the last year, while in Indonesia, the survey asked whether women (who had ever been married) had ever been pregnant, so numbers cannot be compared. In Cambodia, twice as many women in NA-HHs (12%) had given birth in the previous year than in HIV-HHs (6%). In Indonesia, 40% of HIV-positive married, divorced or widowed women indicated they had been pregnant or given birth since being diagnosed with HIV.

In Viet Nam, 9% of women in HIV-HHs indicated they had been forced or persuaded to have an abortion, compared to 6% of women in NA-HHs. While data is not available for other countries, the result points to a need for more information on this issue, and for increased education and empowerment activities regarding the sexual and reproductive health rights of HIV positive women.

With regard to PMTCT during pregnancy, it is important to note that all the surveys took place, either concurrently with, or before new WHO recommendations were published in November 2009, that 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 populations with advanced clinical staging or low CD4 cell counts should be treated. Since more HIV-positive women who are in Stage I are likely to be pregnant, it would therefore be normal to assume lower ART rates for those women. However, the data provided here should be considered as an important baseline for following how the targets are met in the future. In Cambodia, 78% of pregnant HIV-positive women were on ART, while in Indonesia only 42% reported being on ART at some point during their pregnancy or delivery, as shown in Figure 81.

The figure also shows data from Cambodia and Indonesia regarding breastfeeding practices, which similarly saw a recent change in guidelines at the time the surveys were being conducted. The 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."* However, the data clearly indicates that HIV-positive women in Cambodia and Indonesia will need additional education to change their current practices - in Cambodia only 21% of women in HIV-HHs reported they breastfed their baby in the first six months, while 93% of women in NA-HHs reported breastfeeding. In Indonesia, 45% of HIV-positive women reported breastfeeding their baby, which is surprisingly high, and perhaps due to the low percentage who informed their health provider of their status, and were therefore not informed of the previous recommendations not to breastfeed. Regardless, in both countries, additional education is required to inform HIV-positive women of the new recommendations to exclusively breastfeed for the first six months.

FIGURE 81 HIV, Pregnancy and Breastfeeding



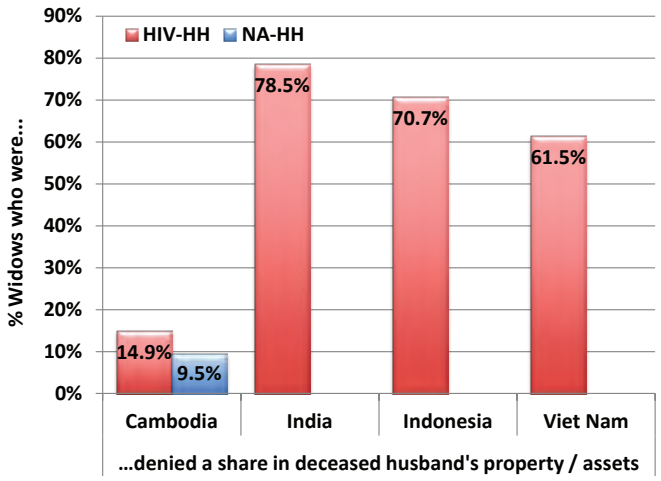
10.2.2 Widows

Of the 245 million widows worldwide, almost 50% live in devastating poverty, and China, India and Indonesia alone account for over one third of these vulnerable women (Loomba Foundation, 2010). That vulnerability is even more pronounced for those who are HIV positive, whose deceased spouse was HIV positive, and elderly widows caring for grandchildren orphaned by HIV (Loomba Foundation 2010). The studies in Cambodia, India, Indonesia and Viet Nam looked at how HIV-positive status impacted the inheritance rights of widows. In Cambodia, widows in both HIV-HHs (regardless of the widow's HIV status) and NA-HHs were asked if they inherited their deceased husband's assets after he passed away, and significant differences were seen between

households - widows in HIV-HHs were more likely (15%) to have been denied their rightful inheritance than those in NA-HHs (10%).

Figure 82 shows that in India, Indonesia and Viet Nam, widows in NA-HHs were not asked that question, but the percentages of HIV-affected widows being denied access to their husband's property was substantially higher than in Cambodia (79% of widows in India, 71% in Indonesia and 62% in Viet Nam). Additionally, in Viet Nam, 33% of HIV positive widows were asked to leave the household after their husband's death. In both Cambodia and Viet Nam, the negative impact of HIV was much more pronounced in rural areas than in urban areas (data not shown).

FIGURE 82 **Widow Inheritance Rights**



Cambodia: % of widows, regardless of their HIV status whose husbands had assets to be inherited. **India:** % of HIV-positive widows. **Indonesia:** % of HIV-positive widows. **Viet Nam:** % of widows or separated HIV-positive women.

Studies of widows have also pointed to the extra vulnerability of children in widow-headed households, as their reduced economic status often forces them to turn to the household's children for extra income, restricting them from educational opportunities. The Cambodia study provided data on the percentage of children who had to repeat a grade based on the status of the head-of-household. In HIV-HHs where the head-of-household was a widow, 20.2% of the children had repeated a grade, as opposed to only 14.6% of those headed by a non-widow.

Additionally, HIV-affected households headed by a widow in Cambodia were significantly more likely to contain a child orphaned by HIV, (64%) than those without a widow (18%), further increasing the exposure of children in such circumstances to reduced educational outcomes. In India, the percentage of children (14-17 years of age) in widow-headed HIV-HHs who had dropped out of school was higher than that of non-widow headed households (30% versus 26%). Strikingly, the difference for girls was even more pronounced, with 37% of girls in widow-headed households having dropped out of school, compared to 27% in non-widow headed households. These findings not only point to the increased vulnerability of children in widow-headed households, but to the need for increased research on how the dual negative impacts of both HIV and widowhood can be mitigated throughout the region.

10.2.3 Intimate Partner Transmission

Concerns in relation to the transmission of HIV by intimate partners have been raised throughout Asia in recent years (UNAIDS, 2009). This is due to the fact that men who buy sex constitute one of the largest groups of PLHIV, and they are often married, or will become married. Their wives, often believing they are at low risk due to their sexual interaction with only partner, are in fact vulnerable to infection. In India, a recent report on HIV and intimate partners showed that, while 22% of surveyed men reported having extramarital sex (EMS), only 40% reported using a condom in the EMS encounter (UNAIDS, 2009b). In contrast, only 6% of surveyed wives reported they thought their husband might be engaged in EMS. It has been estimated that 90% of HIV positive women acquired the virus through heterosexual contact with their spouse or intimate partner (Silverman et al, 2008) but there is still fairly limited data on the subject. The data provided by these surveys, especially in Cambodia and Indonesia, which specifically asked about intimate partner transmission, provide new and significant insight into the situation.

The data in Figure 62 showed that the percentage of female PLHIV reporting that they acquired their infection through heterosexual contact was higher than that for males, in all countries providing data. The largest difference was seen in Indonesia, where only 4% of men but 63% of women indicated heterosexual sex as the mode of transmission. Additionally, Figure 63 showed that in Cambodia 80% of men who stated they had contracted HIV through heterosexual sex reported that the source of their infection was their spouse or intimate partner, while 98% of women indicated the same. In Indonesia, only 23% of men who reported heterosexual sex as the mode of transmission stated that they had contracted HIV from their intimate partner, compared to 77% of women. Additionally, while it cannot be assumed what percentage of the transmissions were from their intimate partners, the large percentage of women in India (88%) and China (65%) indicated that their transmission had been via heterosexual contact, and given the nature of the household-based surveys used, it is likely that the majority of those infections, as in Cambodia and Indonesia, were also through sexual contact with intimate partners.

The data therefore validates previous studies concerned with this issue (UNAIDS, 2009; Saggurti et al, 2009) which have highlighted the need for increased empowerment of wives, increased education to men on the risks of EMS, and the importance of condom usage, and increased awareness of the impact of STIs and their connection with HIV. In order to be effective, such interventions will need to challenge traditional gender norms that intensify HIV vulnerability among women and girls (as well as men who have sex with men and transgender people).

Additionally, further studies should be conducted to determine the potential benefits of introducing pre-exposure prophylaxis (PrEP) drugs such as tenofovir or tenofovir/emtricitabine, which, when taken daily as preventive medicine by an unaffected partner, have been shown to reduce HIV transmission by 63-73% (UNAIDS, 2011b).

10.2.4 Impact on Education

In addition to the burden borne by HIV-positive women, all women and girls in HIV-HHs (regardless of their HIV status) are likely to be disproportionately affected by HIV. For example, in Cambodia, the majority of caregivers in HIV-HHs (who assumed additional duties) were women. Additionally, in China, a comparison of the total productive time for women in NA-HHs was 0.7 hours per day more than for men, while females in HIV-HHs worked 2.2 hours more per day than males, providing insight into the additional

burdens HIV places on women in HIV-HHs. In Viet Nam, the work force participation rate among female PLHIV (83%) was higher than among males (68%), even though HIV positive women were sick more frequently (5.2 episodes of illness compared to 2.9 in men) and for longer (140 days compared to 115 days for men).

Across the region, data indicates that girls in HIV-HHs also experience reduced educational opportunities. Figure 39 showed how, across almost all countries, HIV impacted girls' educations more significantly than boys. Other than in Cambodia, which showed only minor differences in the attendance rates between girls in HIV-affected and non-affected households, girls in HIV-HHs saw almost twice the drop in attendance rates than boys in HIV-HHs did. Additionally, as shown in Figure 41, HIV impacted the drop-out rates of girls more than those of boys. China and Indonesia saw the most significant differences, with girls in Chinese HIV-HHs 13 times more likely to have dropped out than those in NA-HHs, compared to a two-fold increase for boys. In Indonesia, girls saw a six-time increase in drop-outs, compared to equal numbers of drop-outs for boys in HIV-affected and non-affected households. These educational disparities have negative consequences, for both the total human capital accumulation of the household, and for future economic opportunities for the females in the household.

10.2.5 Stigma and Discrimination

This section examines the specific issue of stigma and discrimination experienced by women and girls living with HIV. Figure 78 showed shows that, in Cambodia, while differences are not noted between the percentages of men and women who reported experiencing either social isolation or discrimination in the health sector, more females reported having been verbally and physically abused than males. In China, however, no large differences are seen with regard to discrimination, except for the percentage reporting they use separate chopsticks - males were significantly more likely not to share their food utensils than females (10% versus 3%). In India, fairly similar levels of stigma and discrimination were reported by both male and female PLHIV. However, in Indonesia, while similar levels of PLHIV reported discrimination within health facilities, and verbal and physical abuse, significantly more females than males reported experiencing social isolation (28% versus 18%). Similarly, in Viet Nam, equal levels of male and female PLHIV reported being discriminated against within the workplace, and having been verbally abused, but substantially greater levels of female PLHIV reported they had been socially isolated (28% versus 17%), suffered rights neglect (26% versus 14%), and been discriminated against within health facilities (21% versus 15%).

The data in Figure 83 show how internal stigma was experienced differently for males and females in Cambodia and Viet Nam. Worryingly, in both countries, a much greater percentage of females had considered suicide in the past year, because of their HIV status, than males. Additionally, in Viet Nam women were more likely to report low self-esteem than males (70% versus 62%). In Cambodia, possibly due to the high levels of intimate partner transmission from men to women, women were more likely to blame others for their status (27% versus 9%), and less likely to feel guilty (43% versus 65%). However, the guilt levels are very high, considering that 90% of female PLHIV surveyed were infected through sexual contact with their intimate partner. Paired with the data from the previous table, the results below indicate a need for targeted psychosocial support for women and girls living with HIV.

FIGURE 83 **PLHIV in Cambodia who Experienced Internal Stigma, by Sex**

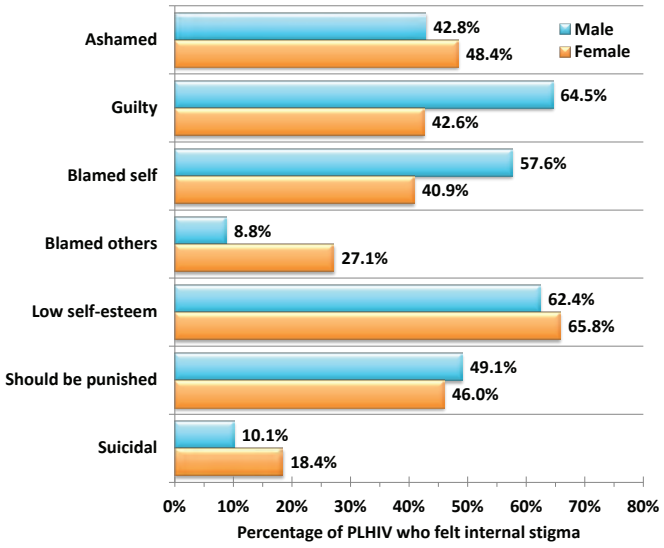
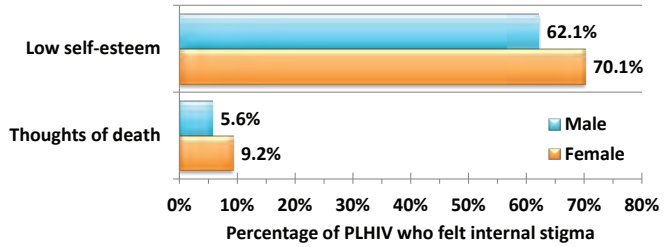


FIGURE 84 **PLHIV in Viet Nam who Experienced Internal Stigma, by Sex**



11 Social Safety Nets and HIV

Chapter Summary

- Levels of life insurance and pension coverage were low throughout the region averaging only 1.6% of HIV-HHs and 3.1% of NA-HHs for life insurance and 1.4% of HIV-HHs and 1.9% of NA-HHs for pensions;
- In most countries, HIV-HHs were less likely to have insurance than NA-HHs;
- Financial support was well targeted to HIV-HHs and to the poorest households, and was an important source of income for HIV-HHs in China;
- In Cambodia and Viet Nam, participation in Home-Based Care Network or self-help group helped PLHIV gain access to financial support.

11.1 Health Insurance, Life Insurance and Pensions

Insurance offers HIV-affected households an important potential mechanism to mitigate the effects of morbidity and mortality. However, the data in Figure 85 show the varying levels of insurance and pension coverage throughout the reporting countries, and across both HIV-affected and non-affected households.

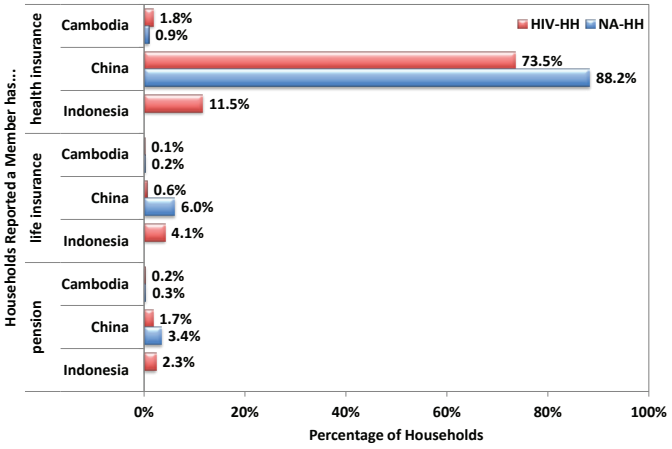
In China, high levels of health insurance were reported, largely due to the implementation of the new rural cooperative medical system by the government, and the largely rural base of the household surveys. However, despite the inclusion of PLHIV, 15% fewer HIV-HHs reported having health insurance than NA-HHs. This varied by region, as households in Yunnan had equal rates of coverage, while HIV-HHs in Sichuan had only 27% coverage, compared to 65% of NA-HHs. The PLHIV in Sichuan were more likely to be urban than in the other provinces, and therefore not eligible for inclusion in the rural health plan. Regardless, the health insurance offers only low levels of reimbursement so PLHIV often have to assume most of the costs of OI treatment themselves (UNDP, 2009a).

In Cambodia, only very few households reported having health insurance. However, HIV-HHs were twice as likely to report access to health insurance (2% versus 1%), largely due to community-based health insurance programs. In Indonesia, only HIV-HHs were surveyed about their health insurance, and 12% of them indicated they had access. The results, in combination with the previous results shown in Figure 54 and Figure 55 regarding how health care charges are paid for, indicate that there are wide variations in health insurance access, both across the region, within countries, and between HIV-affected and non-affected households.

In Cambodia, no significant numbers of households indicated they had access to life insurance, but in China, 6% of NA-HHs had life insurance, compared to less than 1% of HIV-HHs. In China, life insurance policies do not extend coverage to those who die from HIV, so it is unlikely that HIV-HHs would purchase a policy. In Indonesia, 4% of HIV-HHs indicated they had life insurance policies. The data point to the lack of financial security that most of the households (HIV-affected and non-affected) face after the death of their primary bread-winner. However, given the known mortality impact of HIV, it is clear that there is a need for expanded safety net support for the households of PLHIV.

The figure also shows that there is both little variation, and almost no participation, by households in pension funds, regardless of country or HIV status of the household, although in China members of NA-HHs (3.4%) were twice as likely as HIV-HHs (1.7%) to report inclusion in a pension scheme.

FIGURE 85 **Health Insurance, Life Insurance and Pension Coverage**



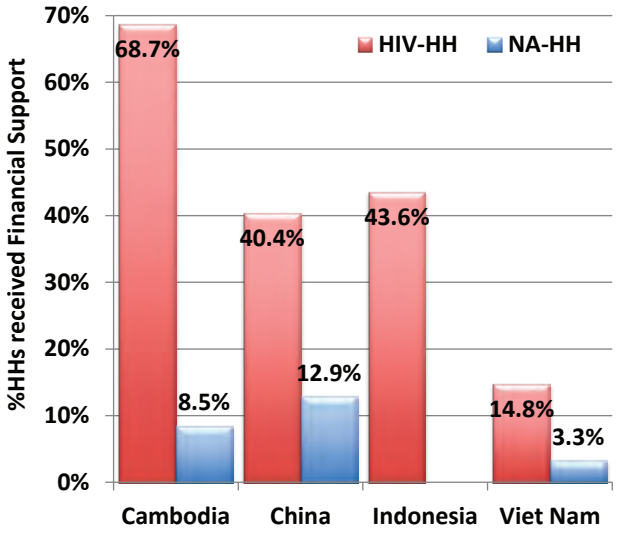
As well established in the preceding sections, HIV-affected households across the region suffer economically through reduced income from diminished employment opportunities due to illness, discrimination, and caregiving duties, and, in most countries, through increased health-related expenditures. To mitigate those direct impacts, and the other impacts such as increased child labour, reduced educational opportunities, and reduced nutritional status, many countries have implemented other forms of financial support to assist HIV-HHs in dealing with their increased hardships. The data in Figure 86 highlights how effectively those programs are targeting HIV-HHs, and how the assistance varies across the region.

In Cambodia, targeting appears to be effective, with 69% of HIV-HHs reporting they received financial support (not including assistance with health expenditures), compared to only 9% of NA-HHs. Additionally, when examined by wealth quintile as shown in Figure 87, not only do the differences between HIV-affected and non-affected households remain, but targeting appears to be reaching those most in need - 71% of the poorest HIV-HHs reported receiving support, compared to 62% of the highest income HIV-HHs. In China, targeting also appears effective, with 40% of HIV-HHs reporting they received aid in comparison to only 13% of NA-HHs. Additionally, greater numbers of low income HIV-HHs (43%) than higher income households (34%) received assistance. Assistance in China includes the minimum living standard assistance (MLSA) and other programs, and support from projects or NGOs, but again does not include assistance for health-related expenditures. In Viet Nam, 15% of HIV-HHs received financial support, compared to only 3% of NA-HHs.

The financial influence of the support on household income is displayed in Figure 88, which shows the value of the received

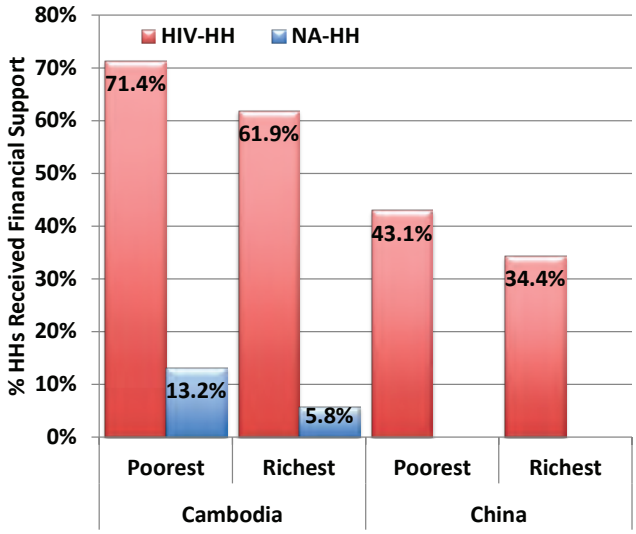
support as a percentage of total household income. In Cambodia, external support represents over 8% of the average total household income, compared to less than 1% for NA-HHs. In China, the impact is even more substantial, with external support representing over 18% of average income in HIV-affected households, compared to 8% in non-affected households. In Viet Nam, even though substantially more HIV-HHs receive support, the impact is similar for both households, with assistance representing about 8% of average household income. While it is clear that assistance is both well targeted and supportive, the remaining differences in household income shown in Section 4.3 indicate that there is still increased need for other forms of support.

FIGURE 86 Financial Support to Households



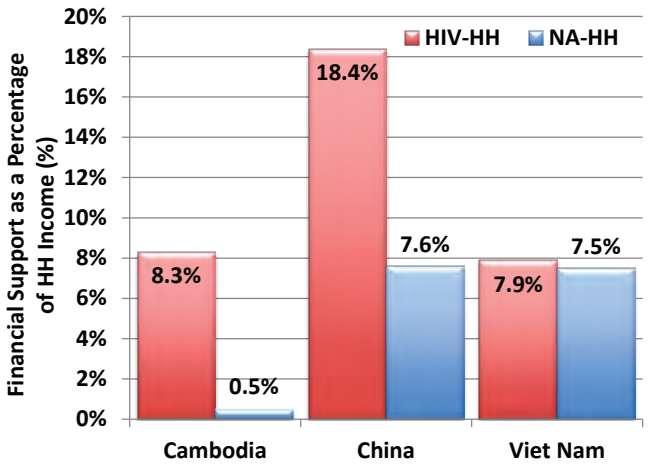
Does not include assistance for health care. **Cambodia:** Includes scholarships, stipends and Government poverty reduction incentives or support from NGO, Wat, or other institutions (not credit). **Indonesia:** Excludes assistance for drugs. **Viet Nam:** Excludes loans, and assistance for health care or medications; 6.9% of HIV-HHs had a poor card compared with 4.7% of NA-HHs.

FIGURE 87 Financial Support to Households, by Wealth



Does not include assistance for health care. **Cambodia:** Includes scholarships, stipends and Government poverty reduction incentives or support from NGO, Wat, or other institutions (not credit).

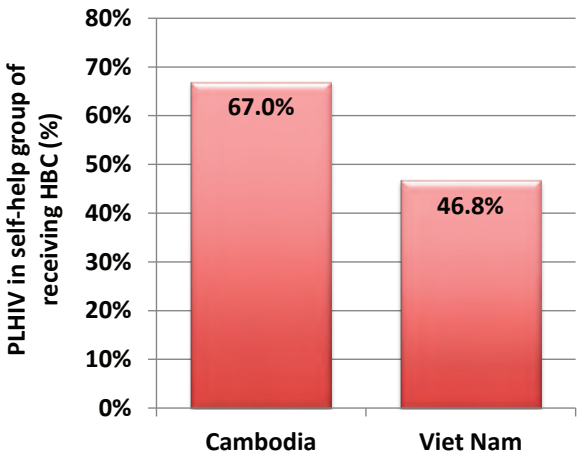
FIGURE 88 Financial Support as a Percentage of Household Income



Does not include assistance for health care. **Cambodia:** Includes scholarships, stipends and Government poverty reduction incentives or support from NGO, Wat, or other institutions (not credit). **Indonesia:** Excludes assistance for drugs. **Viet Nam:** Excludes loans, and assistance for health care or medications; The % share of income is from "stipends, scholarships and pensions" but unknown how large a percentage pensions are.

In Viet Nam, PLHIV in a self-help group who sought financial support of some type were more generally likely to have received it than those not in a self-help group, including twice as likely to have received access to a loan (22% versus 11%), financial support for education (22% versus 1%), and food support (14% versus 11%). No major difference was seen, however, between the percentage who had received assistance with medications (100% versus 99%) or health care financing (24% versus 25%). Similarly, in Cambodia, those HIV-HHs that received home-based care team visits, were correlated with HIV-HHs who reported receiving government educational scholarships and stipends, and other forms of financial support. These data indicate the importance of PLHIV being part of care and support service networks.

FIGURE 89 PLHIV Participation in Self-Help Group or Home-Based Care Network



In addition to government and NGO financial support, there are other forms of support that help mitigate the socio-economic and psychosocial impacts of HIV. In Cambodia, community home-based care teams were developed in 1998 to address the multitude of issues facing people living with HIV at the time, including limited access to ART, 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 home-based care (HBC) teams throughout the country, providing assistance to more than 13,757 PLHIV (KHANA, 2008). They provide a variety of services from financial aid, food support, access to education, income generation aid, community-based sessions on HIV awareness, prevention education and reduction of stigma and discrimination. In Viet Nam, self-help groups provide four main areas of support: (i) counselling; (ii) care and treatment; (iii) social support (community mobilization for a more supportive environment); and (iv) economic support through income generation opportunities. Participation by PLHIV in a self-help group has been identified as an important mechanism in reducing stigma against women (Paxton, 2002), and improving household economic status (Nguyen et al, 2009; Oosterhoff, 2008). The data in Figure 89 show the percentage of PLHIV identifying with either having received a visit from a HBC team in the previous three months (Cambodia) or participating in a self-help group (Viet Nam). It should be noted that neither study is representative of participation levels within the country, as both relied upon those networks to identify PLHIV for the survey.

12 Knowledge and Awareness of HIV

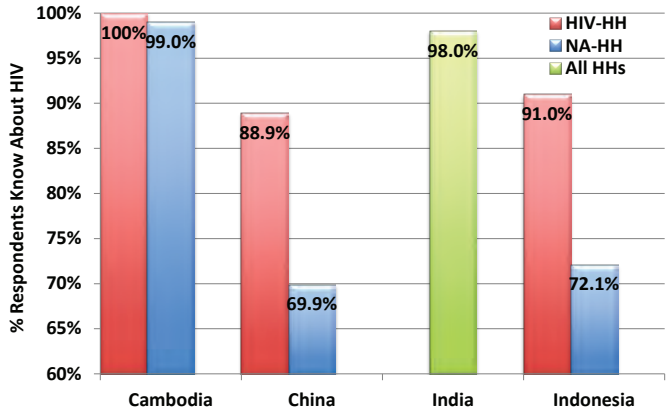
Chapter Summary

- The responses in all countries were low regarding where to obtain an HIV test, with only of 62% respondents in Cambodia and 44% and 40% in Indonesia and China, respectively.
- Low levels of basic knowledge were shown regarding HIV in NA-HHs throughout the region;
- Low levels of knowledge were found in NA-HHs regarding where to go for a HIV test;
- Levels of knowledge regarding condoms for HIV prevention varied, but females were less likely to be aware.

Increasing individuals' knowledge and awareness regarding HIV are critical in both reducing transmission and eliminating stigma and discrimination towards those affected by HIV. This section examines the different regional levels of knowledge regarding HIV.

Knowledge and awareness of HIV varies significantly across the countries, from a low of 70% of NA-HH respondents in China that have heard of the disease to 100% of respondents in HIV-HHs in Cambodia (see Figure 90). The low levels of knowledge in NA-HHs in China and Indonesia (72%) indicate the need for increased awareness and education activities.

FIGURE 90 Respondents' Knowledge of HIV

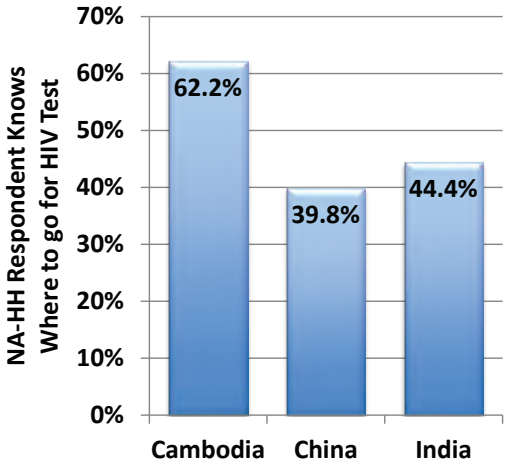


China: % heard of HIV = "awareness of HIV" **India:** All respondents 20-60 YOA asked.

As discussed earlier, VCCT is important component of preventing HIV transmission, improving the health outcomes of PLHIV, and reducing the high costs associated with advanced OIs in undiagnosed patients. Figure 91 shows how the respondents in NA-HHs in Cambodia, China and India reported they knew where to go for an HIV test. The responses in all countries were low, with 62% of respondents in Cambodia who had not previously had an HIV test indicating they knew where to go for a test, 44% in Indonesia and 40% in China.

While the majority of respondents in Cambodia, India and Indonesia reported they knew that condoms could be a form of prevention against HIV, results ranged from 58% in India to 92% in Cambodia, as shown in Figure 92. Additionally, as shown in Figure 93, females in all countries were less likely to cite condom usage as a possible mechanism for HIV prevention, from a low of 53% in India to 74% in NA-HHs in Indonesia and 77% in NA-HHs in Cambodia. In Indonesia, the percentage reflects the percentage of respondents who heard of HIV (only 72% in NA-HHs) and knew condoms could be used as a prevention measure, so actual numbers are lower.

FIGURE 91 NA-HH Respondents Know Where to go for HIV Test



Cambodia: % of respondents who had NOT had an HIV test. **China:** % "Know where they can receive free VCT"

FIGURE 92 Respondents' Knowledge of Condoms for HIV Prevention

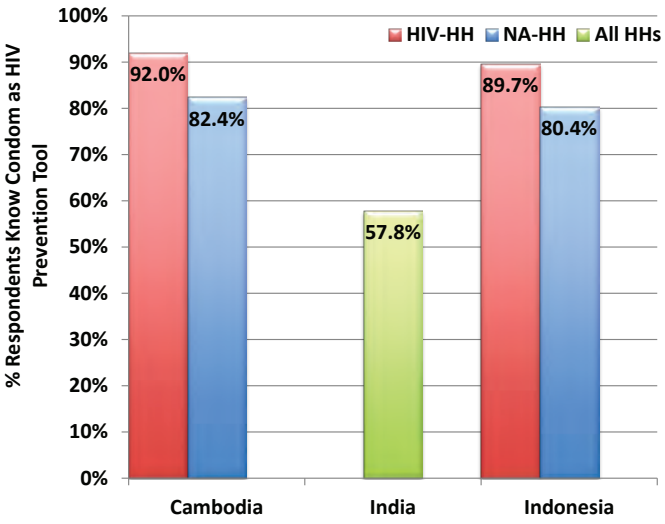


FIGURE 93

Respondents' Knowledge of Condom as HIV Prevention, by Sex

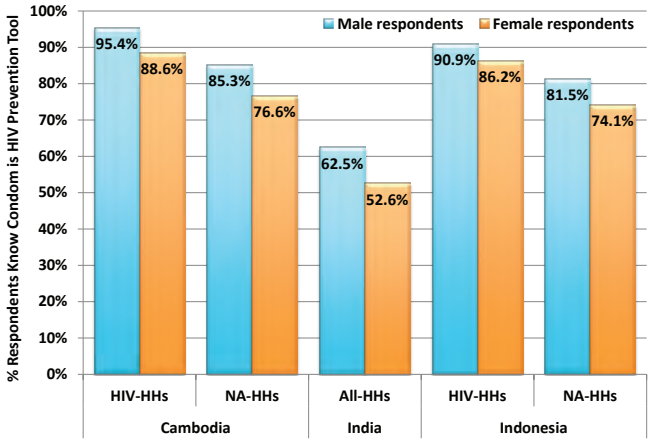
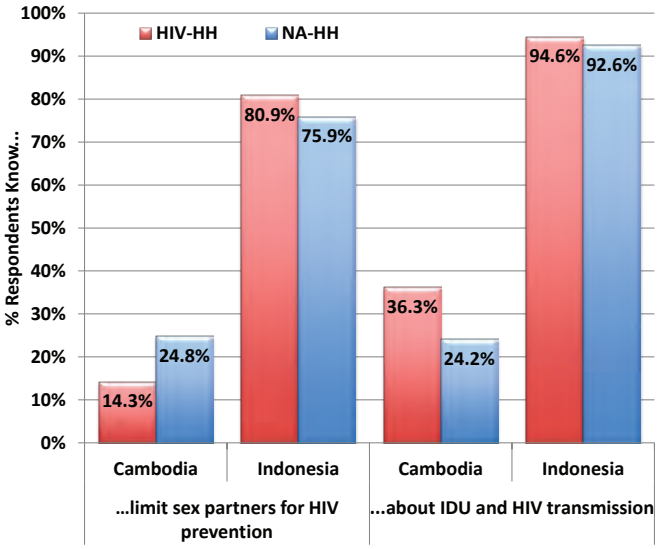


FIGURE 94

Respondents' Knowledge of Other Forms of HIV Prevention and Transmission



Only approximately 20% of respondents in Cambodia reported that limiting the number of sexual partners was a form of HIV prevention, compared to over 90% in Indonesia, as shown in Figure 94. Similarly, considerably more people in Indonesia reported they knew about injecting drug use and HIV transmission than in Cambodia. Some of these differences may be due to how survey questions were asked – in Cambodia, respondents were not specifically asked if something was a form of prevention, but the respondents had to name as many options a possible, while in Indonesia, it is unclear how the question was asked. Additionally, as the majority of PLHIV interviewed in Indonesia were people who injected drugs, the knowledge of that form of transmission in HIV-HHs was expected to be very high.

13 Conclusions and Policy Recommendations

The findings of these multi-country studies point to the need for urgent policy action. They demonstrate that as the epidemic matures it has significant and lasting impact on the ability of households to cope with the loss of family members, the loss of income, and the loss of educational opportunities, particularly for girls who are pulled out of school to care for sick and dying family members. Moreover, the study points to the fact that even concentrated epidemics have wide ranging impacts on PLHIV and their households, effectively multiplying the socioeconomic effect as it erodes the fabric of HIV-affected households.

An important part of the negative effects on income and assets can be mitigated by ensuring access to free ART and medical services for HIV-affected households. This is underscored by the clear impact of the expansion of ART in Cambodia and the resulting reduction in health spending and dis-saving compared to the other countries of the study.

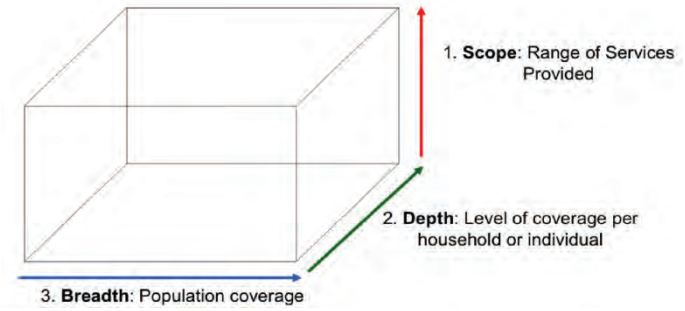
Equally they point to the positive impact that targeted interventions, such as food support, government medical insurance and welfare programs can have on the health, nutrition, well-being and quality of life of HIV-affected households. Most importantly, they provide further empirical evidence of the effects of HIV on the household that can be used to better prioritize interventions in the region.

The studies in all five countries were taken at different times of economic growth and prosperity, spanning from the growth of 2004 to the downturn at the end of the decade. Nonetheless, the studies show that HIV-affected households are disproportionately impacted, even in good times, and their extremely vulnerable state 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 utilized options for borrowing to cope with the loss of income due to illness. As the impacts of the global economic crisis continue to unfold, HIV-affected households have little cushion on which to rely and, in many cases, limited social security or protection. They are thus among the most vulnerable and need to be prioritized for social protection.

While several countries have already scaled up social protection programmes for PLHIV since their studies were completed, continued evolution of those programmes is required to support the people, households and communities that are hardest hit by the economic crisis and the epidemic. The studies also point to the deleterious effect of HIV on the reduction of human capital not only due to death and morbidity of PLHIV but also due to reduced investment in the education of children.

The policy conclusions of the report may be contextualised within three key policy dimensions. The dimensions reflect (1) the **scope** or range of services provided (2) the **depth** or level 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 population coverage, of various interventions. The three dimensions can be visualized in the following cube (Figure 95), and recommendations are oriented toward each of these dimensions.

FIGURE **95** **Dimensions of HIV Mitigation Strategies**



Source: Sanigest Internacional

Recommended Changes in the Scope of Services:

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

1. **Strategically integrate HIV into relevant social protection schemes, making them "HIV-sensitive".** The study findings clearly articulate the importance of social protection for HIV-impacted households. However, HIV-related concerns are often not reflected in social protection schemes and therefore they may not reach those most needed. For example, pension schemes for widows have minimum age eligibilities, which can be above 40 or 50. Many women widowed by AIDS may not be able to access such schemes as they tend to be young. Under such circumstances, the age restriction can be relaxed to extend coverage to them. In the Indian state of Rajestan, a special provision was made for HIV widows where the minimum age eligibility for widow pension was lowered from 40 to 16, resulting in the additional coverage of 1000 HIV widows. HIV-sensitive social protection should be prioritised over HIV-exclusive social protection from equity and sustainability viewpoints. Maximize women's and widows' access to credit and income-generating opportunities and legal counselling 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, as well as providing free legal counselling opportunities, among other initiatives. It is particularly important, in the context of targeted poverty reduction efforts, to focus on the most vulnerable groups.

2. **Ensure PLHIV and their households have access to an increased continuum of care and related services - beyond just ART- to further reduce the catastrophic financial burden of HIV-related medical expenditure.** The large impact of HIV-related expenses on the majority of the countries covered by this report points to the need for policies to continue increasing mechanisms that cover a full range of medicines, laboratory services, transport, nutrition and mental health services to ensure maximum results. This should include exploring policies to ban exclusion of PLHIV from health insurance as well as ways to link medical support for PLHIV to existing health insurance systems, or developing vouchers or other reimbursement schemes.

3. **Increase the role of PLHIV-supported services.** The results from Viet Nam and Cambodia point to the important role self-help groups and home-based care teams can have on reducing the deleterious effects HIV has on PLHIV and their families' socio-economic conditions. Policies that provide increased support for such programs within all countries, and are integrated into the scaling up of national poverty reduction strategies are 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.

4. **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 ART and breastfeeding protocols are effectively implemented. Innovative solutions such as mobile health (m-health) technologies could be employed, as the studies showed that mobile phone penetration rates in Cambodia, China and Viet Nam were all over 70%, and recent studies show levels in India to be 68% in India for 2011 (Telecom Regulatory Authority of India, 2011) and 69% in 2009 Indonesia (ITU, 2011). The use of m-health initiatives for increasing ART adherence in Kenya, for example, could be used with HIV-positive mothers in Asia (Lester et al, 2010).

5. **Increase the use of m-health technologies and social media to better increase knowledge and awareness of HIV and HIV prevention measures, as well as reduce stigma and discrimination in the general population.** The studies showed that knowledge of HIV was low in China (30% had not heard of HIV) and Indonesia (28%), knowledge of condom usage for HIV prevention low (20% of those in Indonesia who had heard of HIV did not know about condom use for HIV-prevention, and over 40% did not know in India) and knowledge of VCCT sites even lower (in China only 40% of those who had heard of HIV knew where to go for a test). Stigma and discriminatory practices against PLHIV and their families, and the negative socio-economic consequences, from poor school performance to reduced employment, were high in all countries. Policies should explore the use of social media and SMS texting to key populations, their clients and partners for cost-effective ways to increase knowledge of HIV, VCCT testing locations, and as a method for providing facts that will dispel commonly held misconceptions regarding and HIV and PLHIV.

Recommended Changes in the Quality and Depth of Services:

While it is clear that HIV-affected households are receiving beneficial support from government support programs in the region, study results should be used to look at levels and quality of support, and whether they should be increased, to cover households' broader needs. For example, despite the increased provision of food support to HIV-HHs in Cambodia and Viet Nam, their members were still more likely to have been hungry. Furthermore, because of HIV's impact on family structure (HIV-HHs were significantly more likely to be headed by a widow) the "depth" of service should be carefully estimated to reflect specific household needs.

The main recommendations in this area include:

1. **Improve food support to the poorest HIV-affected households.** The findings from Cambodia and Viet Nam demonstrate that despite receiving food support, HIV-HHs still face a hunger problem. Additionally, in Cambodia, China and Indonesia, HIV-HHs had significantly lower levels of protein within the household, indicating a food security issue beyond mere supply. Given the impact of food security on both education and health outcomes, increased food support that includes proteins to the poorest, HIV-affected households should be considered.

2. **Strengthen mental health and psychosocial support services for PLHIV and their family members.** PLHIV should be explicitly integrated into National Mental Health Strategic Plans. 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. Inclusion of their family members is also important as they can also be subjected to psychologically and emotionally harmful experiences that require professional care.

3. **Targeted interventions in health facilities to reduce stigma and discrimination against PLHIV.** A key finding of the study was the high levels of PLHIV reporting stigma and discrimination within health facilities, and high levels of PLHIV who did not disclose their status within the health facilities. Policies should seek to change the attitudes of health workers, in order to avoid the dangerous consequences that result from the discriminatory practices (such as the low percentage of HIV-positive pregnant women in Indonesia who were aware of PMTCT mechanisms).

4. **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.

5. **Prioritize efforts to keep children from HIV-affected households in school, especially girls by targeting them in programmes such as conditional cash transfer and food for school.** Additional 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 and food for school programmes 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.

6. **Develop an HIV vulnerability index to improve targeting, and unify benefits available to HIV-affected households.** Integrated specific parameters that emerge from the socio-economic study of PLHIV into the development of 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 to reinforce the pursuit of significant reductions in HIV incidence and ensuring basic rights of all men, women and children, including the poorest and most vulnerable populations.

1. **Build flexibility and quality into VCCT services and create demand for early testing as a cornerstone of efforts to reduce the incidence of HIV, especially among key populations, hard-to-reach and vulnerable populations.** The study found low VCCT usage, especially among males, possibly due to the cost of testing and increased levels of stigma and discrimination. The results show that late testing and delayed diagnosis may be a contributing factor 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.

2. **Continue efforts to expand universal access to quality ART coverage and support services so that PLHIV can remain productive members of the household economy.** The results from Cambodia clearly show the positive economic impacts of expanding and successfully implementing universal access to ART coverage. Development of strategies that ensure implementation of such policies should be encouraged.

3. **Carry out further in-depth studies that track the conditions of PLHIV and their households over time 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 socio-economic indicators, how household behaviour changes as the disease evolves, and the effect of existing and future policy and programmes on household outcomes.

Finally, there were several issues that the study covered superficially due to either lack of data or lack of comparability between country studies. These areas should be considered for further research in the region. In this regard, two main issues appear to require additional research. First, the particular socio-economic situation of widows and orphans in HIV-affected households requires additional study. Second, the potential socio-economic and other benefits of introducing pre-exposure prophylaxis (PrEP) drugs such as tenofovir or tenofovir/emtricitabine, which, when taken daily as preventive medicine by an unaffected partner, have been shown to reduce HIV transmission by 63-73% (UNAIDS, 2011b). Third, additional follow up should carefully monitor the shift from previous WHO policies on breastfeeding and ART to the new protocols to ensure minimum transition time.

The capacity to respond to the challenges of HIV relies on our ability to describe and understand the implications of the epidemic at household and national levels and to develop support strategies that mitigate the effects on families and society. The five country studies analysed in the present report provide innovative insight into the lives of PLHIV and their family members and the effects of the epidemic on their socio-economic conditions. By quantifying the effects on income, assets/savings and human capital accumulation, the report should provide policymakers in the region with data that will allow for more precision in the targeting of interventions and the measurement of the impact of specific programs designed to mitigate the effects of the epidemic.

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Annex: Overviews of the Data and Methodology of the Studies

Cambodia

The study on the *Socio-economic Impact of HIV at the Household Level in Cambodia* (UN, 2010) aimed to detail the socio-economic impact of HIV at the household level in order to provide a basis from which to design mitigation strategies. The survey was administered between December 2009 and February 2010 by Sanigest Internacional and the Centre for Advanced Study (CAS), and included a total of 3,972 households.

Methodology Details

The study surveyed 2,623 households containing a person living with HIV and 1,349 control households, with more than 17,000 total individuals (11,566 within HIV-affected households and 6,129 in non-affected households). 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.

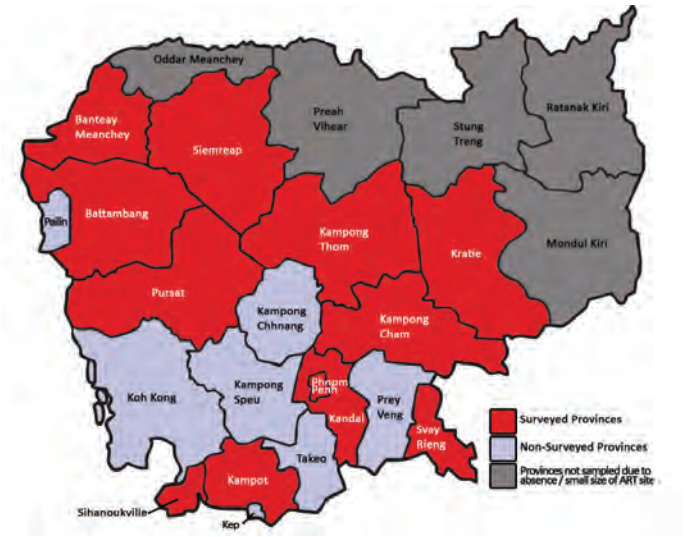
This study used a two stage sampling methodology and the sampling consisted of three primary sampling units:

- Provinces (first level cluster)
- HIV-HH (second level cluster)
- NA-HH (second level cluster)

Within this context, HIV-HH refers to households with at least one member currently living with HIV. NA-HH refers to households where no family members have HIV.

A list of 51 health facilities providing ART and OI services in 20 provinces[16] 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 PLHIV attended each health facility. Figure 97 identifies which provinces were sampled and randomized as locations for the study.

FIGURE **96** **Map of Surveyed and Non-Surveyed Cambodian Provinces**



Source: Sanigest Internacional

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

Selection of HIV-affected Households

A simple random sample of PLHIV was drawn from the previously selected sites using lists of PLHIV from home-based care networks as the frame. In each household, only the member of the household selected from the sample was interviewed. Additional HIV positive household members were not interviewed.

TABLE **4** **Distribution of Surveyed Households in Cambodia, by Province and Rural / Urban Status**

	# of Surveyed Households								
	HIV-HH			NA-HH			Total		
Province	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Phnom Penh	680	20	**700**	364	15	**379**	1044	35	**1,079**
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	**1,478**	**1,145**	**2,623**	**781**	**568**	**1,349**	**2,259**	**1,713**	**3,972**

16 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.

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. 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 socio-economic context within the community.

Survey Design

Sanigest Internacional, CAS and UNDP designed the household survey. The survey instrument was designed to focus on key socio-economic indicators and to ensure it would provide comparable data with other socio-economic surveys within the regional context (from India, China, Viet Nam and Indonesia). 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.

Limitations

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 for 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 home-based care 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 selection 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 population at higher risk of HIV exposure. These include men who have sex with men, transgender individuals, sex-workers, PWID, 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 population groups.

China

The Study on the *Socio-Economic Impact of HIV/AIDS at the Individual and Household Level in China* (UNDP, 2009a) aimed to quantify the impact of and response to HIV at the household and individual levels. The study was conducted from February through April 2008 by the Chinese Centre for Disease Control and Prevention, the National Centre for AIDS/STD Control and Prevention (NCAIDS), and the Beijing Institute for Information and Control, and included a total of 1,926 households.

Methodology Details

Data were collected on both the household and individual levels in five high prevalence counties (Yunnan, Guangxi, Sichuan, Hubei and Shanxi). All selected households were in poor rural areas.

In Guangxi, Sichuan, Hubei, and Shanxi, where most of the PLHIV had not disclosed their HIV status, interviews were not carried out in the household. Enumerators and interviewees generally held the interview sessions at the CDC offices or at VCCT clinics. In Yunnan, the survey was conducted in the households, as most PLHIV had disclosed their HIV status. During household-based surveys, the interviewers could directly observe the impact of HIV on living conditions, household facilities, hygiene and other factors.

TABLE 5 Distribution of Surveyed Households in China, by Province

	HIV-HH		People Interviewed		
Counties	HIV-HH	Both spouses HIV+ and interviewed	Total	PLHIV	Non-HIV
Yunnan	230	30	510	260	250
Guangxi	201	9	424	210	214
Sichuan	191	7	377	198	179
Hubei	151	21	341	172	169
Shanxi	158	29	370	187	183
Total	**931**	**96**	**2,022**	**1,027**	**995**

Only PLHIV infected through injecting drug use, commercial blood donation, and heterosexual spousal transmission were the focus in the study. Other high-risk groups, such as commercial sex workers and men who have sex with men, as well as people living in urban areas were therefore under-represented.

Of the 9,083 reported cases of PLHIV who were reachable in the selected counties in 2007, 11.3% (1,027 in 931 households) were selected for the survey. In total, 96 of the HIV-HHs were households in which both spouses were living with HIV. A total of 2,022 people were interviewed.

The study employed a multistage, random sampling, in which five high prevalence provinces were identified in the first stage (Yunnan, Guangxi, Sichuan, Hubei and Shanxi) from which three high prevalence counties were selected in the second stage. In the third stage, in each county, villages were arranged according to their distance from the county headquarters and were selected randomly. In the fourth stage, in each selected village, all the HIV/AIDS households and control households were interviewed. The list of PLHIV maintained by the CDC served as the sampling frame.

Selection of HIV-affected Households

Sample households were selected by using a combination of multi-stage and systematic sampling methods. In cooperation with local health departments and organizations, the field survey was conducted in the five high prevalence provinces of China as mentioned above. The survey included 931 HIV-

affected households (1027 PLHIV; 654 males and 373 females) and 995 non-affected households (472 males and 523 females). The research methods included quantitative and qualitative analyses, questionnaire surveys, focus group discussions, in-depth interviews and case studies.

Selection of Non-affected Households

Two methods were used to select the non-affected households. In Yunnan, where PLHIV were interviewed in their homes, investigators moved clockwise (i.e. east) and selected non-affected neighbours whose sex and age were similar (less than five years' difference) to the HIV-HH. In counties where PLHIV were interviewed outside the home, investigators identified NA-HHs from the PLHIV's community whose sex and age were similar (less than 5 years' difference) to the HIV-HH.

Selection of PLHIV for Case Studies

As part of the survey, researchers conducted in-depth interviews with some respondents to further investigate the impact of HIV. Some typical cases were identified and summarized.

Survey Design

Quantitative data were collected through household survey questionnaires. UNDP and the Beijing Institute of Information Control jointly developed the questionnaire. Qualitative data were collected through in-depth interviews with select PLHIV as well as focus groups with local leaders and staff associated with HIV prevention programs.

Limitations

(i) The survey was conducted only in high prevalence, rural, poor provinces. Only PLHIV infected through injecting drug use, commercial blood donation, and heterosexual spousal transmission were included in the study, and as a result, other key populations such as sex workers and MSM were not surveyed.

(ii) Government and NGO support to PLHIV and their households has increased in the three years since the survey was conducted, and it should be noted that the impacts indicated here reflect the situation at that point in time, as opposed to the current situation.

India

The study on the *Socio-Economic Impact of HIV and AIDS in India* (UNDP, 2006) aimed to determine the impact of HIV at the household level with a focus on the relationship between, and distribution of, income and wealth, and changes in the structure of employment and social security. The study on the *Socio-Economic Impact of HIV and AIDS in India* was conducted by the National Council of Applied Economic Research (NCAER) with the sponsorship of UNDP and National AIDS Control Organisation (NACO) from October 2004 through May 2005, and included 8,292 households in total.

Methodology Details

Data were collected at both the household and individual levels in six high prevalence states (Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Manipur, and Nagaland). Provinces with the highest HIV prevalence were selected based on the Sentinel Surveillance of the respective State AIDS Control Societies (SACS). Five to seven districts in each state were identified from which to sample the households. The capital of each state was selected, and other districts were chosen based on their prevalence and distribution of PLHIV. Higher prevalence districts were chosen to save time and money. The table below shows the selected states and districts.

TABLE 6 Surveyed states and districts in India

State	Districts
Andhra Pradesh	Hyderabad, Warangal, East Godavari, Guntur, Krishna, Chittoor, Cuddapah
Karnataka	Bangalore, Belgaum, Dharwad, Bellary, Dakshina Kannada, Mysore
Maharashtra	Mumbai, Nagpur, Nashik, Aurangabad, Pune, Satara, Sangli
Manipur	Imphal East and West, Chandel, Thoubal, Bishnupur, Churachandpur
Nagaland	Dimapur, Kohima, Tuensang
Tamil Nadu	Chennai, Namakkal, Tiruchirappali, Theni, Erode, Tirunelveli

The India study is unique due to its large sample size – over 8,000 households were interviewed. For a state-level analysis, 400 HIV-HHs were required. Households were selected from both rural and urban areas. However, urban HIV-HHs were overrepresented in the sample.

Sampling consisted of two primary sampling units:

- HIV-HH
- NA-HH

Due to confidentiality, a list of PLHIV was not available from which to draw a sample of HIV-HHs. Some HIV-HHs were interviewed in their homes while others were interviewed at alternative locations, such as Voluntary Counselling and Testing Centres (VCTCs). A total of 2,068 HIV-HH and 6,224 NA-HH were surveyed, including 2,386 PLHIV.

TABLE 7 Distribution of Surveyed Households in India, by Province

	No. of HIV-HH Sampled			No. of NA-HH Sampled		
State	**Rural**	**Urban**	**Total**	**Rural**	**Urban**	**Total**
Andhra Pradesh	189	211	400	528	718	1,246
Karnataka	199	202	401	580	622	1,202
Maharashtra	147	256	403	439	769	1,208
Tamil Nadu	223	187	410	650	553	1,203
Manipur	81	173	254	232	529	761
Nagaland	51	149	200	174	430	604
Total no. HH	**890**	**1,178**	**2,068**	**2,603**	**3,621**	**6,224**
No. of PLHIV interviewed	**1,045**	**1,341**	**2,386**	-	-	-

Selection of HIV-affected Households

As a list of PLHIV was not available from which to make a sampling frame, other methods were used to identify HIV-HHs. Investigators enlisted the help of VCTC staff who identified PLHIV through various NGO and government lists for home-based care and

support homes, including general hospitals, tuberculosis hospitals, support home care, drop in VCTCs, and networks of people living with HIV. Since the majority of these facilities are located in urban areas, urban HIV-HHs are overrepresented in this study. Rural HIV-HHs were also much less likely to give consent for the study, thus increasing the urban bias. A maximum of two PLHIV were interviewed from each HIV-HH.

Selection of Non-affected Households

For every HIV-HH interviewed, three NA-HHs were interviewed. This ratio was used in an effort to reduce variation among NA-HHs as well as to conserve resources. In rural areas, a simple random sample of NA-HH was drawn from a village household list. In urban areas, a simple random sample was drawn from blocks of 100 homes. Matching of NA-HHs to HIV-HHs was done through (1) overall household income and (2) income of the head of household. Respondents were restricted to adults aged 20 to 60.

Selection of PLHIV for Case Studies

For the purpose of the case studies, PLHIV with 'unique/typical' cases were selected for the in-depth interviews. Two or three case studies were conducted in each district and respondents were selected with the help of the investigators, local NGOs, and key informants.

Survey Design

Quantitative data were collected through household surveys using structured interviews. The survey instruments were developed by NCAER, UNDP and the National AIDS Control Organisation. Qualitative data were collected through case studies and focus group discussions. Enumerators interviewed PLHIV with semi-structured in-depth interviews designed to allow respondents to speak openly about issues. A total of six focus group discussions were conducted as part of this study – one in each state. Participants were selected through the networks of people living with HIV, and discussion encompassed the social and economic problems faced by network members, as well as the legal and other issues. All qualitative data is meant to support the household survey.

Limitations

Difficulty in obtaining a list of PLHIV from which to create a sampling frame was the fundamental weakness of this study. Other limitations are as follows:

(i) Non-probability sampling of HIV-HHs does not allow for statistical inferences on population parameters or other estimates.

(ii) HIV-HHs were oversampled in urban areas to achieve cost-effectiveness, which can be a possible source of selection bias.

(iii) Since PLHIV were recruited through public health facilities, investigators were not able to sample many middle and upper class HIV-HHs since these facilities typically cater to low-income people.

(iv) The study was conducted six months after the government began to provide ART services. The data should therefore be interpreted as a baseline for that point in time, and not representative of the current situation in India.

Indonesia

The study on the *Socio-Economic Impact of HIV at the Individual and Household Levels in Indonesia* (UNDP, 2011) aimed to describe the impact of HIV on the socio-economic condition of PLHIV and their households in Indonesia. The study was conducted from April through May 2009 by the Central Bureau of Statistics (BPS) and UNDP in collaboration with the Indonesian Network of People Living with HIV (JOTHI) and included a total of 2,038 households.

Methodology Details

Data were collected at both the household and the individual level in two low prevalence provinces (West Nusa Tenggara and East Nusa Tenggara) and five high prevalence provinces (DKI Jakarta, East Java, Bali, and Papua). With the exception of DKI Jakarta, East Java and Papua, data were collected only in the provincial capitals. The table below shows the selected research location for both the survey and the in-depth interviews and focus groups.

TABLE 8 Survey Locations in Indonesia

Provinces	Selected Locations for the Household Questionnaires	Selected Locations for Activities of In-depth Study and FGD
DKI Jakarta	South Jakarta City East Jakarta City Central Jakarta City West Jakarta City North Jakarta City	Central Jakarta
West Java	Bandung City	Bandung City
East Java	Surabaya City Malang City	Surabaya City
Bali	Denpasar City	Denpasar City
West Nusa Tenggara	Mataram City	Mataram City
East Nusa Tenggara	Kupang City	Kupang City
Papua	Jayapura City Merauke City	Jayapura City

The sample size was determined using the quote method based on the number of estimated HIV cases in each province.

TABLE 9 Distribution of Surveyed Households in Indonesia, by Province

		Number of Sample Households		
Provinces	Number of AIDS Cases	Target Households	Control Households	Total
DKI Jakarta	2,781	280	280	560
West Java	2,888	197	197	394
East Java	2,591	211	211	422
Bali	1,177	56	56	112
NTB	80	25	25	50
NTT	110	25	25	50
Papua	2,382	225	225	450
Total		**1,019**	**1,019**	**2,038**

Sampling consisted of three primary sampling units:

- HIV-HH
- NA-HH
- PLHIV

Within this context, HIV-HH refers to households with at least one member living with HIV. NA-HH refers to households where no family members have been diagnosed with HIV. As HIV-HHs were the primary target of the investigation, NA-HHs served as controls. Core questionnaires were administered to all selected households. In addition to the core questionnaire, HIV-HHs also answered the HIV module questionnaire. To gain further insight into socio-economic behaviours associated with HIV, PLHIV provided additional information missing from the core and HIV-affected household questionnaires. Some of the PLHIV from the HIV-HHs were selected to participate in the in-depth interviews.

Selection of HIV-affected Households

A non-probability convenience sample was used to select HIV-HHs. Since a comprehensive list of PLHIV was unavailable, study leaders recruited UN volunteers through JOTHI's networks to identify PLHIV. The PLHIV were then approached to determine if they were willing and able to complete the HIV module questionnaire. If their households were also available and willing to be interviewed with the core questionnaire then the households were selected as samples.

Selection of Non-affected Households

Study leaders aimed to find control households with similar socio-economic characteristics to HIV-HHs. The research team searched for NA-HHs immediately following visits to selected HIV-HHs by observing neighbouring households. Households deemed most similar to the HIV-HH in terms of comparative indicators, including the condition of the homes, were selected as control households.

Selection of PLHIV for in-depth interviews

Each enumerator was required to conduct at least four in-depth interviews. PLHIV were selected from interviewed HIV-HHs. Interviewers chose their own respondents. However, workers were asked to choose participants based on (1) complexity of their problems; and (2) composition of respondents by sex and high risk groups. An enumerator assessed a respondent's suitability for an in-depth interview immediately after administration of the HIV module questionnaire. Selected PLHIV then continued with the in-depth interview.

Survey Design

Quantitative data were collected through household surveys. The survey consisted of the two parts, and additional qualitative data were collected through in-depth interviews and focus groups. The focus group discussions involved informal discussions with community leaders, members of NGOs, PLHIV groups, officials of government agencies associated with HIV prevention, and other stakeholders. Discussions focused on factors relating to the socio-economic impact of HIV at the household level, including access to health services, stigma and discrimination. BPS and JOTHI jointly designed the survey instruments. The questionnaires were then field tested in Bandung City and West Java Province. Collaboration between BPS and JOTHI continued through the finalization of the questionnaires.

Limitations

The primary limitation of this study revolved around the difficulties in obtaining a list of PLHIV from which to create a sampling frame. Other limitations included:

(i) Non-probability sampling does not allow for statistical inferences on population parameters or other estimates.

(ii) The identification of HIV-HHs through the JOTHI network created a study population that consisted of a greater percentage of HIV-HHs involved in HIV activism than would normally be reflected in the Indonesian population. This is a possible source of selection bias.

(ii) By selecting PLHIV with "complex problems" and association with high risk groups, the data collected through the in-depth interviews may not be representative of the challenges faced by the typical PLHIV in Indonesia.

Viet Nam

The study on the *Socio-economic Impact of HIV and AIDS on Household Vulnerability and Poverty in Viet Nam* aimed to assess the socio-economic impact of HIV and AIDS on households. The study also provides recommendations on how the country should mitigate the impact of HIV at the household level through lessons learned, international best practices, and identifying areas for further research. The study was conducted from November through December 2008 by Strategic Consulting Company in consortium with Medical Committee Netherlands - Viet Nam, and included a total of 904 households.

Methodology Details

Data were collected at both the household and individual levels in six high prevalence provinces (Ho Chi Minh City (HCMC), Hanoi, Quangninh, Langson, Caobang and Angiang).

TABLE 10 Survey Locations in Viet Nam

Province/city	Urban	Sub-urban/rural
Hanoi	Dong Da	Tu Liem
Quangninh	Ha Long	Yen Hung
Langson	TP Lang Son	Cao Loc
HCMC	District 1,8, Binh Thanh and Go Vap	Binh Tan and Thu Duc
Cao Bang	Cao Bang	Hoa An
Angiang	Long Xuyen	Chau Thanh, Chau Phu

This study used a three-stage sampling methodology. First, the provinces were selected. Three of the sites were included in the 2005 HIV study, and additional sites with relatively newer HIV epidemics were added (Langson and Cao Bang) to the 2008 study. In addition to having sites at various stages of the epidemic, the sites represent a mix of rural and urban populations. The second stage involved the selection of urban and rural or sub-urban districts from each province based on high prevalence and diversity of the districts. The third stage involved sampling the households.

TABLE 11 Distribution of Surveyed Households in Viet Nam by Province

Province/city	Reported HIV infections	Sampled HIV-HHs	Sampled NA-HHs
Hanoi	12,628	77	77
Quangninh	6,217	38	38
Langson	2,575	30	30
HCMC	38,245	234	234
Cao Bang	1,928	30	30
Angiang	6,938	43	43
Total	**68,531**	**452**	**452**

The total sample size was calculated using the formula developed for case-control studies by the WHO (SSize software) allowing for sufficient power to detect differences in poverty rate among HIV-HHs and NA-HHs.

Sampling consisted of two primary sampling units:

- HIV-HH
- NA-HH

Here, an HIV-HH was defined as a dwelling in which at least one member was known to have HIV or to have died of AIDS less than a year prior to the start of the study. A NA-HH was defined as a household where, as far as could be determined, no member was known to have HIV, tuberculosis or pneumonia.

Selection of HIV-affected Households

While a list of PLHIV was available at health facilities, the research team did not use the list as a sampling frame due to confidentiality issues. As a result, the study is based on a non-probability sample. The field investigators working with the Viet Nam PLHIV Network and volunteers worked with self-help groups to identify PLHIV. Peer groups referred subjects known to be HIV positive. Willing participants were asked to take part in the study. Field investigators attempted to include PLHIV at differing stages of infection, as well as match the nationwide 2:1 male to female ratio among PLHIV. Each HIV-HH was limited to two adult PLHIV informants.

Selection of Non-affected Households

For every HIV-affected household selected, one non-affected household was selected as a control - usually the closest neighbour of the HIV-affected household. This method attempted to pair houses with similar characteristics, other than the HIV status of household members. Staff at the commune health station or at the Women's Union at commune level helped to identify households that had similar economic and social status (type/quality of accommodation and number of family members) to the HIV-HH. Heads of non-affected households were restricted to adults aged 20-60 years.

Selection of PLHIV for In-depth Interviews

A total of 36 in-depth interviews were completed nationwide – a total of six per province (one male, one female, and one head of household interview in both rural and urban areas in each province). Semi-structured interviews covered all major themes within the household questionnaire, while allowing for new themes to emerge, based on researcher and/or interviewee input.

Survey Design

Quantitative data were collected through household surveys. Focus group discussions were conducted at national and provincial level. These involved stakeholders in HIV prevention, treatment, care and support, including service providers, program managers, communities and mass organizations, PLHIV, (I)NGO, activists, researchers, and members of the HIV Technical Working Group. The research tools included structured questionnaires for HIV-affected and non-affected households, and guidelines for in-depth interviews and focus group discussions. The household survey instrument was adapted from the survey used in the 2005 study with additional inputs from the questionnaires used in the China and India UNDP HIV studies. The questionnaire was drafted in English, translated into Vietnamese, and piloted for cultural appropriateness.

Limitations

As in other countries, difficulties in obtaining a list of PLHIV from which to create a sampling frame was the primary weakness of this study. Other limitations are as follows:

(i) Non-probability sampling does not allow for statistical inferences on population parameters or other estimates.

(ii) Households containing family members who had pneumonia or TB were excluded from NA-HH eligibility. This is a potential source of selection bias.

(iii) By selecting PLHIV with "complex problems" and association with high risk groups, the data collected through the in-depth interviews is not likely to be representative of the challenges faced by the typical PLHIV in Indonesia.

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