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ASSOCIATION BETWEEN STARTING METHADONE MAINTENANCE THERAPY AND CHANGES IN INCOME AND EXPENDITURES: RESULTS OF A FACILITY EXIT INTERVIEW

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ACRONYMS

AEM	HIV/AIDS Epidemic Model
ART	Antiretroviral Therapy
CI	Confidence Interval
DEFF	Design Effect
FMI	Fraction of missing information
GoV	Government of Vietnam
HSPH	Hanoi School of Public Health
LSMS	Living Standard Measurement Survey
MMT	Methadone Maintenance Therapy
MoH	Ministry of Health
PLWHA	People Living with HIV/AIDS
PWID	People Who Inject Drugs
SHI	Social Health Insurance
VAAC	Vietnam Authority of HIV/AIDS Control
VND	Vietnamese Dong
USAID	United States Agency for International Aid

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EXECUTIVE SUMMARY

Rationale

Vietnam relied on external support for about 70 to 75% of its HIV/AIDS expenditures for the period 2008-2010, and, while updated figures are pending, external support has been critical in supporting HIV/AIDS programs. Evidence is needed to show that continued support for HIV/AIDS services after the withdrawal of external support is a critical public health and development need. An analysis of past HIV/AIDS interventions, the amounts of their financing, and the modeling of the impact of those interventions can help to illuminate the effect of past activities in limiting the spread of HIV, preventing AIDS-related deaths, and preventing people from falling into poverty. By providing a 'counter-factual' picture of what would have happened in the past without HIV/AIDS prevention and treatment activities, these analyses can help to supplement existing analyses that project the HIV/AIDS epidemic into the future.

Methadone maintenance therapy (MMT) was piloted in Vietnam in 2009, and expanded to other provinces thereafter. MMT has long been known to have influence not just on reduced use of heroin, but to lower criminal behavior, risky injection behavior (including overdosing and emergency room visits), and HIV infection. One assessment of MMT clients at a civil-society run MMT facility in Hai Phong reported up to 67% of patients were able to find a job after starting MMT, with an average income from 2.5 to 5 million Vietnam Dong (VND) per month. The findings from this one site suggest that, in addition to reduced harmful behaviors, the effects of MMT may include positive economic outcomes for MMT clients.

Objectives of this report

The primary objective of this survey is to estimate the change in average income and general expenditures of MMT clients associated with starting MMT care. The null hypothesis is that income among MMT clients is the same before and after they started MMT.

Additionally, this survey will provide data to help to inform estimates of changes in job status associated with enrollment in MMT. This survey also serves to supplement a second survey assessing the income of people living with HIV/AIDS (PLWHA).

Thus, the secondary objectives of the survey include:

1. Estimating the change in employment associated with enrollment in MMT.
2. Estimating the amount of payments made for MMT and heroin and estimate the catastrophic payments associated with each type of expenditure.
3. Estimate the income of MMT clients also seeking HIV/AIDS treatment, their inpatient admission rates over the year prior to data collection, their health insurance status, and their perception of the social health insurance scheme. This third secondary objective is a supplement to a second survey assessing the income of PLWHA, and the results for this objective are included as an annex to the report summarizing the results of the second survey assessing the income of PLWHA (and are not included here).

Methodology

The survey was conducted at facilities offering MMT in seven provinces: Binh Thuan, Dien Bien, Ho Chi Minh City, Ha Noi, Lai Chau, Long An, and Thanh Hoa.

Sample design and size: We used a two-stage stratified cluster design to build the sample. In the first stage, the 63 provinces of Vietnam were stratified into six regions: Mekong River Delta, South East, Northern Midlands and Mountain Areas, Red River Delta, Central Coastal Area & Central Highlands, and North Central Area). Note that the Central Coastal Area and the Central Highlands were combined because in August 2014, no facilities in the Central Highlands offered MMT. In these six regions, 25 provinces did not have an MMT facility in August 2014, and were excluded from the selection process.

Seven provinces were selected at random with probability of selection proportional to the size of the population for data collection from the remaining 38 provinces. The sample is representative of all provinces with at least one MMT facility as of August 2014 because all these provinces could have been selected for the sample. A total of 35 facilities, representing all facilities offering MMT services in the seven provinces selected, were included in the survey. At each facility, the field staff had a target of interviewing 30 MMT clients, and a total of 1,027 MMT clients were interviewed. Within facilities, clients were selected on an opportunistic basis – the first thirty clients to agree to the interview and meet the inclusion criteria were included in the sample.

Questionnaires: The instrument used in the 2012 Living Standards Measurement Survey (LSMS) formed the basis for the income and expenditure proportions of the survey used in this analysis. The LSMS survey was modified because our survey was conducted at health facilities, not in households, and not all of the data available at the household would be available to individuals at health facilities. Thus, we shortened and simplified the LSMS instrument. During this process, we maintained the overall categories of income and expenditures as used in the LSMS survey in our questionnaire as prompts for the respondents.

For expenditures, we asked respondents to report average expenditures for different categories “currently” and “before [they] started MMT”. Heroin and methadone expenditures were added to the questionnaire. Additional questions were added to our survey related to expenditures for methadone and HIV prevention.

Field work: The questionnaires were piloted at one site in Hanoi, and modifications made based on that experience. MMT clients at sites included in the study were first informed of the study by physicians/nurses/facility staff at the end of their regular interactions at the health care facility. After being informed of the study by facility staff, survey staff read their recruitment script which included screening questions to identify whether the MMT client was eligible to participate in the survey. If the respondent was eligible, the interviewer discussed and explained the study in detail and administered a verbal informed consent process. The survey was administered electronically. The first 30 clients that gave consent and met eligibility requirements were interviewed at each facility.

All surveys were conducted by trained staff from the Hanoi School of Public Health. Teams of field staff visited each facility, together with a supervisor to identify and solve any problems, answer questions, and coordinate the data collection effort. In 25 of the 35 facilities (71.4%), the target of 30 respondents was achieved. At five facilities (14.3%), 31 respondents were included in the sample because multiple MMT clients started recruitment and informed consent before the final sample was established. In the remaining five facilities, fewer than 30 respondents were available on the day of the survey, ranging from 13 to 29 respondents. In these facilities, the lower than target number of respondents was due to a lack of clients attending the MMT facility on the day of the data collection.

Data analysis: Because we used two-stage sampling, all results presented reflect the survey design and survey weights, and Taylor-linearized standard errors are used to estimate all the confidence intervals presented in this report. In order to account for the missing data when reporting results, we employ multiple imputation using chained equations to impute missing data for income and expenditures.

Income: We report the 'income including respondents' share of household income'. We calculate the individual's 'share' of household income by dividing items reported as 'household income' by the total number of adults of working age in the household. Income is reported as annual income.

Expenditures: Similar to income, we assess the annual 'expenditure including respondents' share of household expenditures'. Again, we calculate the 'share' of expenditures attributed to the respondent by dividing any 'household expenditures' by the total number of adults of working age in the household. We asked respondents to assess their expenditures both 'currently' and for the year before they started MMT.

Poverty: We use official Government of Vietnam (GoV) definitions of poverty to define poverty. In 2013, the GoV defined poverty as an income less than 570,000 VND for rural areas and 710,000 VND for urban areas per person per month. We inflation-adjust the poverty line to the end of 2014 using the consumer price index. For Ho Chi Minh City, we use 16,000,000 VND as the annual individual poverty line, and for Hanoi, we use 750,000 VND per month as the individual poverty line. For other provinces, we use the urban poverty line to define poverty.

In order to compare the income of respondents to the national average, we use data representing the productivity of the employed population in Vietnam. The 2013 estimate of average income among those employed was 68.7 million VND per year. We again inflation-adjust using the consumer price index.

Catastrophic payments: We use the WHO definition of catastrophic payments, with some modification, for these analyses. This definition assess the percentage of 'capacity to pay' expenditures devoted to health care – in this case either methadone (for current expenditures) or heroin (for expenditures for the year before starting MMT) – with more than 40% of 'capacity to pay' expenditures defined as a 'catastrophic payment'. We use the average food expenditures from the 45th to 55th percentile from the 2012 LSMS survey as our measure of subsistence expenditures, and inflation-adjust it to 2014 using the consumer price index. Expenditures above this subsistence level are considered 'capacity to pay'.

Results

Expenditures: The average annual expenditures (including the respondents' share of household expenditures) at the time of the survey were 38,263 thousand VND (95% CI: 31,422 to 45,105 thousand VND), compared with 150,997 thousand VND (95% CI: 135,700 to 166,295 thousand VND) before starting MMT (see Table ES 1). The difference between expenditures before starting MMT and the time of the survey is statistically significant ($p < 0.001$), but is primarily due to expenditures on heroin before starting MMT, which constituted 76% of expenditures (115,072 thousand VND), on average, before starting MMT and was, by itself, greater than all expenditures at the time of the survey.

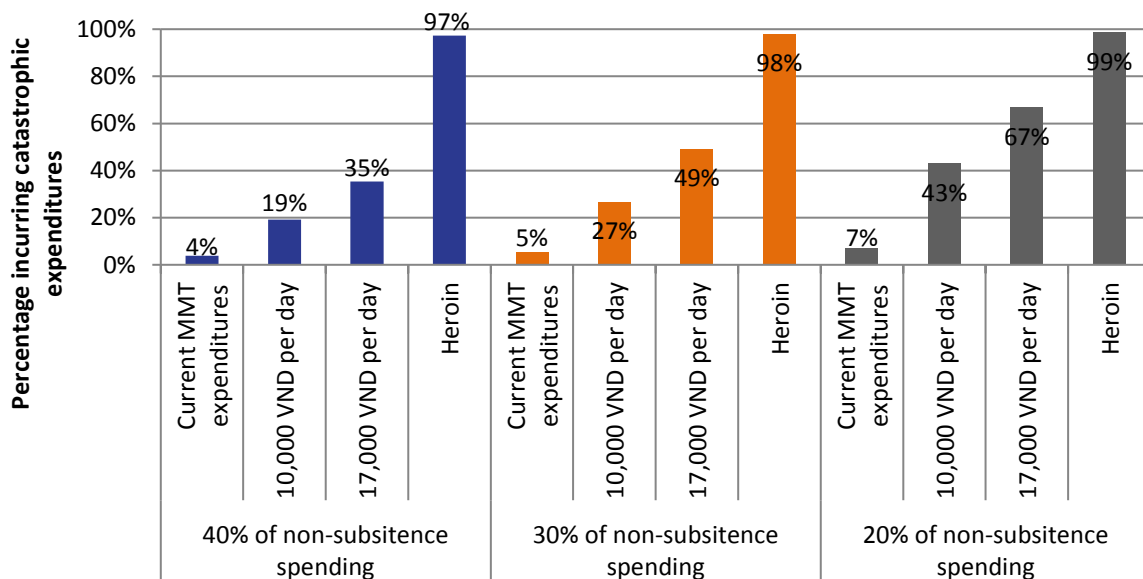
Aside from heroin and methadone, the largest change in expenditures reported between before starting MMT and the time of the survey was for food, which increased 2,885 thousand VND, on average; however, this difference is not statistically significant ($p = 0.06$).

Table ES 1: Reported annual expenditures of respondents at time of the survey, on average (VND thousands)

Variable	n	VND thousands	
		Mean	95% Confidence Interval
At time of the survey			
Average individual expenditures	1,027	21,706	15,083 to 28,330
Average individual expenditures including respondents' share of household expenditures	1,027	38,263	31,422 to 45,105
In the year before starting MMT			
Average individual expenditures	1,027	112,023	97,163 to 126,883
Average individual expenditures including respondents' share of household expenditures	1,027	150,997	135,700 to 166,295

Catastrophic expenditures: Payments for MMT care represented 4% of total individual plus respondents' share of household expenditures at the time of the survey. This translated into 4% (95% CI: 2% to 6%) of respondents having catastrophic expenditures associated with MMT (see Figure ES 1). However, about 8% of MMT clients incurred catastrophic payments associated with travelling to the MMT facility on a daily basis. Heroin expenditures were associated with 96% (95% CI: 95% to 98%) of respondents incurring catastrophic expenditures. When compared to expenditures at the time of survey, heroin would represent a catastrophic expenditure for 97% of respondents (see the right-hand side of Figure ES 1). For MMT expenditures, a user fee of 10,000 VND per day would result in about 19% of respondents incurring catastrophic expenditures, and 17,000 VND per day would result in about 35% of respondents incurring catastrophic expenditures. The percentage of MMT clients incurring catastrophic expenditures is higher when thresholds lower than 40% of non-subsistence expenditures are used, reaching as high as about 67% of MMT clients if 20% of non-subsistence expenditures is the threshold and the user fee was set at 17,000 VND per day.

Figure ES 1: Percentage of patients incurring catastrophic payments under different user fee scenarios and for heroin



Income: About 56% (95% CI: 52% to 60%) of respondents reported earning income as an individual (Table ES 2). The average income, including respondents' share of household income, was 46,879 (95% CI: 39,187 to 54,570) thousand VND, of which 36,405 (95% CI: 29,655 to 43,156) thousand VND, or 77.7%, of income was directly attributable to the respondent, with the remainder comprised of the respondents' share of household income. The average income, including respondents' share of household income, was less than the national average income of working people of 69,870 thousand VND ($p < 0.001$). Among respondent reporting that they were currently employed, the average income, including respondents' share of household income, was 71,720 (95% CI: 58,534 to 84,306) thousand VND, which was not statistically significantly different than the national average ($p = 0.39$).

Table ES 2: Reported annual income of respondents, on average (VND thousands)

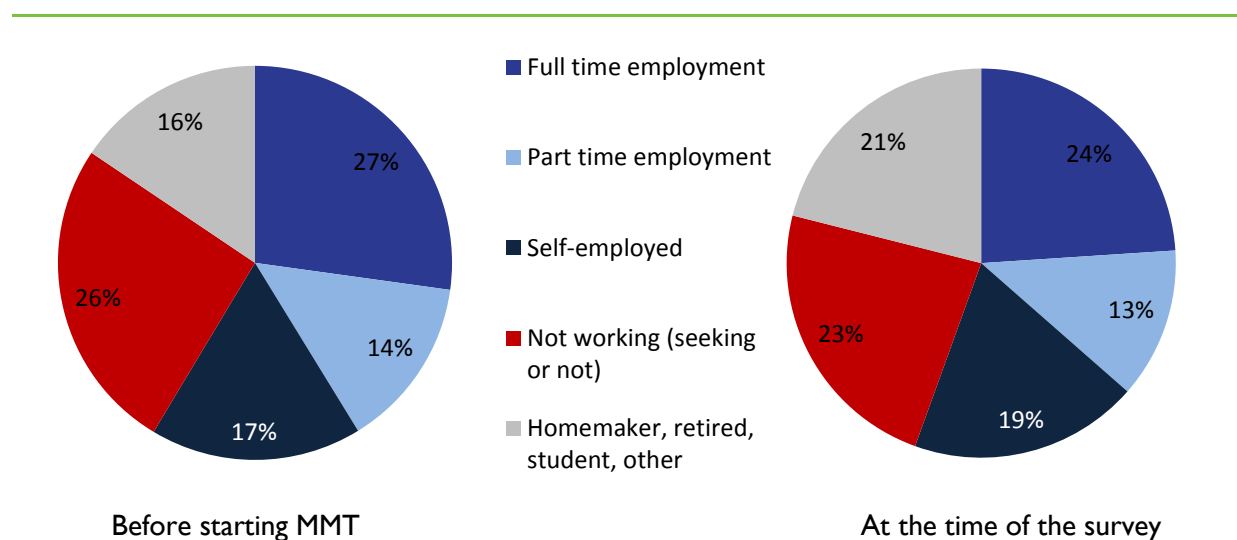
Variable	n	Mean / Percentage	95% Confidence Interval	
Proportion with any individual income in last year	1,027	56%	52% to 60%	
		VND thousands		p-value compared to national average
Average individual income (all respondents)	1,027	36,405	29,655 to 43,156	<0.001
Average individual income (including respondents' share of household income)	1027	46,879	39,187 to 54,570	<0.001

About 50% (95% CI: 46% to 54%) had individual incomes below the official GoV urban or provincial poverty line; when the respondents' share of household income is added to the individual income, then 37% (95% CI: 33% to 41%) of respondents had incomes below the official GoV urban poverty line. These figures likely over-estimate the poverty rate because (i) poverty calculations should be based on household income, which was not available for this survey, and (ii) some of the respondents live in rural areas, data for which again are unavailable for this survey but has a lower poverty line than urban areas. The poverty rate among respondents who had a job at the time of the survey was 13% (95% CI: 9% to 17%), substantially lower than the 68% (95% CI: 62% to 73%) poverty rate among those without a job.

Job Status: In net, the job status of respondents did not change dramatically after starting MMT (see Figure ES 2). For example, before starting MMT, 26% of respondents reported they were not working, while after starting MMT 23% of respondents reported they were not working. Further, while 16% of respondents indicated they were homemakers, retirees, students, or other categories outside the workforce, this increased to 21% at the time of the survey.

Overall, about 34% (95% CI: 30% to 37%) of respondents changed jobs since starting MMT. Among those on MMT for more than 1 year, 36% (95% CI: 28% to 43%) had changed jobs since starting MMT, while 33% (95% CI: 29% to 37%) of respondents on MMT for 12 months or less had changed jobs since starting MMT.

Figure ES 2: Job status of respondents before starting MMT and at the time of the survey



Among all respondents, 9% (95% CI: 7% to 11%) were paid for work at the time of the survey but were not paid for work before starting MMT. However, 14% of respondents did not receive pay for work at the time of the survey, but had received pay for work before starting MMT. Thirty-one percent of respondents reported that their income had increased since starting MMT (95% CI: 27% to 35%). Conversely, 22% (95% CI: 19% to 25%) of respondents reported that their income had decreased since starting.

Conclusions

The results of these analyses do suggest that MMT has a positive impact on the overall financial situation of households. Based on survey results, it is estimated that enrolling in MMT reduces annual expenditures on heroin by about 113 million VND (about US\$5,000) for each person enrolling in MMT. In May 2015, there were about 35,000 people enrolled in MMT. If these people had not had access to MMT, they likely would have spent up to almost 3,967 billion VND on heroin (US\$180 million) per year. The amount spent only for heroin before MMT is almost 3 times total expenditures after starting MMT. Based on respondents' answers, they did not have income or job changes that reflect this level of financial change. While we did not ask respondents how they financed their heroin addiction, up to 97% had catastrophic expenditures related to heroin. Thus, many MMT clients could not afford heroin based on their legitimate income alone, and reductions in expenditures on heroin also likely reflect reductions in financial harm (though begging, borrowing, and/or stealing) to MMT clients' families and communities.

While 31% of respondents reported an increase in income since starting MMT, 22% of MMT clients reported a decrease in income since starting MMT. This indicates that for some MMT clients, starting MMT may help enable them to gain income, but that for others it either does not, or it may, in part, be associated with a decrease in income. Thus, more work is needed to understand how to best enable MMT clients to retain legitimate employment or to engage in productive work.

Results for employment are similar to the results for income: overall, employment status changed very little, on average, from before starting MMT to the time of the survey, although the averages do conceal some changes at the individual level (which largely offset each other).

Limitations: This survey was a cross-sectional survey which was administered in health facilities. Not administering the survey at home and/or with all working adults in a household may bias the results, and we shortened the LSMS questionnaire. Asking fewer questions is generally associated with lower levels of total expenditures than asking more detailed questions. Further, some degree of recall bias is expected.

While we cannot know the direction or the degree of bias incurred due to these factors, we suspect that our results may under-estimate expenditures and income, especially if compared to the results from other surveys like the LSMS. The degree to which the recall bias differentially affects the results is also unclear. For example, the potential for underestimation may not be the same for all categories of expenditures; respondents may, for example, underestimate expenditures for heroin more than they underestimate expenditures for food (if they underestimate at all). Further, about 98% of respondents were male, which may affect the results in comparison with other studies.

While this is cause for caution when interpreting the results, it seems that potential biases would have little impact on the main conclusions related to expenditures. For example, even if respondents grossly underestimate the amount they spent on heroin before starting MMT, heroin already is shown to pose a substantial financial burden to the vast majority of MMT clients. On the other hand, they would have had to have greatly overestimated spending on heroin for this conclusion not to be true.

Discussion: Almost a third of MMT clients reported an increase in income since starting MMT. While this survey does not establish that MMT is the cause of this increase in income, it does show an association between MMT and increased employment for some people. On the other hand, almost a quarter of respondents reported a decrease in income since starting MMT. We did not ask respondents to list the reasons or causes for a decrease in income. Some reasons may be legitimate – for example, ceasing to engage in illegal activity. Another hypothesis may be that people quit their jobs in order to attend the MMT facility on a daily basis. Finally, some of the people reporting lower income may be undergoing an adjustment period; this survey did not assess outcomes for clients who have been on MMT for more than two years. These findings are somewhat contradictory to evidence from China and Malaysia, where employment among MMT clients increased substantially after starting MMT. More understanding of this issue is needed; it may be that linking MMT clients with social or job programs could help to ameliorate the loss of income for some of this population.

This survey was administered at the start of the implementation of user fees for MMT. The effects of user fees on MMT clients' financial situation is not widely assessed in this report, although we present a scenario analysis. Further, the effect of user fees on clients' retention in MMT care is not known, and outside the scope of this study. We recommend continued assessment of these issues in the future.

I. INTRODUCTION

There were an estimated 256,000 people living with HIV in Vietnam in 2014 (EPP Technical Working Group and Ministry of Health 2013), while the number of new infections is about 14,000 per year (Viet Nam Administration of AIDS Control (VAAC) 2014). The number of reported cases of HIV declined rapidly from 2007 to 2009, before which it was over 20,000 cases per year (Viet Nam Administration of AIDS Control (VAAC) 2014). The decline in the yearly rate of new infections coincided with efforts to expand both HIV prevention and treatment services, including efforts to reach female sex workers, men who have sex with men, people who inject drugs (PWID) with preventative messages and materials, prevention of mother to child transmission of HIV, testing for HIV, antiretroviral therapy (ART), and other prevention efforts (Viet Nam Administration of AIDS Control (VAAC) 2014).

Vietnam relied on external support for about 70 to 75% of its HIV/AIDS expenditures for the period 2008-2010 (UNAIDS 2012), and, while updated figures are pending, external support has been critical in supporting Vietnam's HIV/AIDS control and treatment efforts. The Ministry of Health's (MoH) Vietnam Administration of HIV/AIDS Control (VAAC) and other Government of Vietnam (GoV) stakeholders have critical gaps in their knowledge of the future financial burden to be expected after transitioning HIV/AIDS services currently financed by external sources to domestic sources. In addition, evidence is needed to show that continued support for HIV/AIDS services after the withdrawal of external sources is a critical public health and development need. An analysis of past HIV/AIDS interventions, the amounts of their financing, and the modeling of the impact of those interventions can help to illuminate the function of past activities in limiting the spread of HIV, preventing AIDS-related deaths, and preventing people from falling into poverty. By providing a 'counter-factual' picture of what would have happened in the past without HIV/AIDS prevention and treatment interventions, this analysis can help to supplement existing analyses that project the HIV/AIDS epidemic into the future (Viet Nam Administration of AIDS Control (VAAC) 2014).

I.1 Literature Review

Studying the health and socioeconomic impact of HIV and AIDS is well acknowledged in the literature as both critical to understanding the total effect the HIV/AIDS epidemic has on a society and designing appropriate interventions to ameliorate the negative effects of HIV/AIDS (The Commission on Macroeconomics and Health 2001; Haacker; 2004). Evidence on the effectiveness of various prevention and treatment interventions are regularly compiled and updated in existing software used to model the epidemic (Eaton, Johnson et al. 2012; Stover, Brown et al. 2012; Eaton, Menzies et al. 2013; Nalyn Siripong, Wiwat Peerapatanapokin et al. 2013; Futures Institute 2014). These models have been widely accepted as reasonable approximations for determining the population-level health effects of HIV/AIDS interventions.

Less well established are methods to measure the socioeconomic outcomes resulting from HIV/AIDS prevention, care, and treatment. Some proponents argue for the 'full-income method' – the amount of income lost (sometimes including the potential future growth in income) due to a death (Jamison, Summers et al. 2013). Other analysts have used 'the statistical value of life' to measure the economic consequences of ill-health and death (Ozawa, Mirelman et al. 2012). The statistical value of life can be measured based on the differences in pay between 'risky' and 'safe' jobs, and the differences in the probability of death between the jobs (among other possible methods). While compelling, it is not clear if the metric is generalizable to broader populations (which, for example, do not work in sectors where



jobs have a measurable risk of death), nor is data from developing countries widely available for estimating the statistical value of life. Both the full-income and statistical value of life methods, in broad strokes, estimate the net present value of the stream of future benefits of a life; these tend to be valued at or above the current income level of the person.

These approaches overcome (or overlook) the contradictory findings of previous macroeconomic models assessing health and economic outcomes using macroeconomic data (Dixon, McDonald et al. 2002; Gaffeo 2003; Haacker; 2004), and it is not clear if population average data, as used in the full income method and the value of a statistical life, can apply to clients of methadone maintenance clinics or people living with HIV/AIDS (PLWHA). Criticisms of the full-income and statistical value of life methods include that they ignore the role of unemployment; for example, in situations of high unemployment the death of one individual may mean a job opportunity for another person (although perhaps some 'friction costs' associated with recruiting, hiring, and training new workers would be incurred in the transition) (Koopmanschap, Burdorf et al. 2005). In a review of studies assessing the economic impact of HIV/AIDS, Beegle and DeWeert (2008) argue that macroeconomic models necessarily make assumptions that "describe the microsocioeconomic behaviors of agents in the economy" (p. S90), and the differences in these assumptions between models have a large impact on the results. Beegle and DeWeert (2008) conclude, "Compared with empirical studies of national income, and despite facing challenges in practice, micro-impact studies have appeal because in theory they offer more direct evidence of the impact of AIDS" (p. S90) (Beegle and De Weerd 2008). Thus, in situations where little is known about PLWHA, gathering empirical data on the income, expenditures, and poverty status of PLWHA and population subgroups most at risk of HIV infection is a necessary first step in building a better understanding of the socioeconomic implications of the epidemic. For example, the full income method may not be convincing to policy makers in settings where up to 50% of PLWHA also inject drugs because the assumption that the productivity of PLWHA is the same as that of other citizens is not verifiable without further data. Further, some of the effects of interventions, especially methadone maintenance therapy (MMT) but also potentially ART, may have positive effects on people's productivity, income, and other socioeconomic outcomes (rather than just averting negative outcomes).

Several studies have documented that spending on health among HIV positive people can constitute 'catastrophic' expenditure (driving people or families into poverty or causing financial hardship) or form a prohibitive barrier to accessing HIV/AIDS and related treatment (Pradhan and Prescott 2002; Kouanda, Bocoum et al. 2010; Riyarto, Hidayat et al. 2010; Tran, Duong et al. 2013; Tran and Nguyen 2013). Specific to Vietnam, studies assessing out-of-pocket payments and catastrophic payments for health care among PLWHA include:

1. Case studies in 2005 with 125 households with PLWHA found that they pay 13 times more than the average household for medical care, with about one out of three PLWHA having a job and contributing income to the household. The study also concluded that HIV/AIDS will cause 'most' of the households to fall into poverty, or fall deeper into poverty (UNDP and AUSAID 2005).
2. A survey in 2008 comparing 452 households with PLWHA to 452 households without a PLWHA in six provinces (Ha Noi, Lang Son, Quang Ninh, Cao Bang, Ho Chi Minh City, and An Giang) found PLWHA households in urban areas had about 30% lower income than households without PLWHA; in rural areas there was little difference. It is not clear what caused the difference in urban areas – it could have been a result of the HIV infections themselves, higher average incomes in urban areas, or due to other confounding factors. Households with PLWHA had over 5 million VND in direct health care expenditures per year, compared to just under 3 million for other households; the authors estimate that between 49,000 and 90,000 people fell into poverty because of HIV/AIDS at the time of the study (Strategic Consultancy Company Limited and Medical Committee Netherlands-Vietnam 2009).

3. A national survey of 1,206 PLWHA in 2009 estimated that, on average, PLWHA spend over 4 million VND per year for health care and health care related services (such as transportation to health facilities) (Hammett TM, Nguyen TP et al. 2010).
4. A survey of 1,016 PLWHA in hospitals in three provinces (Ha Noi, Hai Phong and Ho Chi Minh City) in 2012 found patients spend on average \$188 per year (about 3.9 million VND) on health care, and about 35% had catastrophic health expenditures (and over 73% would be affected if ART were not provided at subsidized prices to patients) (Tran, Duong et al. 2013).

While the above studies paint a picture of some of the socio-economic effects and the burden of paying for health care associated with HIV/AIDS, more, and more up-to-date, evidence is still needed in Vietnam.

Less is known about how starting MMT potentially influence people's socioeconomic status than is known about PLWHA in general. MMT was piloted in Vietnam in 2009, and expanded to other provinces thereafter (Zhang, Maher et al. 2013). MMT has long been known to have influence not just on reduced use of heroin, but to lower criminal behavior, risky injection behavior (including overdosing and emergency room visits), and HIV infection (Farrell, Ward et al. 1994; Mattick, Breen et al. 2009; Sun, Li et al. 2015). One assessment of MMT clients at a civil-society run MMT clinic in Hai Phong reported up to 67% of patients were able to find a job after starting MMT, with an average income from 2.5 to 5 million dong per month (Hai Phong Provincial Health Department 2015). The findings from this one site suggest that, in addition to reduced harmful behaviors, MMT may include positive economic outcomes for MMT clients.

1.2 Objectives of the survey

Given the paucity of data on the income of MMT clients, the association between starting MMT and changes in employment, poverty status, and type of employment, these data are needed to inform estimates of the economic impact of HIV/AIDS prevention and treatment efforts. Thus, the **primary objective** of this survey is to estimate the change in average income and general expenditures of MMT clients associated with starting MMT care. The null hypothesis is that the income of MMT clients is the same before and after they started MMT.

Additionally, this survey provides data to help to inform estimates of changes in job status associated with enrollment in MMT. This survey also serves to supplement a second survey assessing the income of PLWHA.

Thus, the secondary objectives of the survey include:

1. Estimating the change in employment associated with enrollment in MMT.
2. Estimating the amount of payments made for MMT and heroin and estimate the catastrophic payments associated with each type of expenditure.
3. While only 4% of PLWHA registered at health facilities outside of Ho Chi Minh City are also on MMT, over 15% of MMT clients also access HIV/AIDS treatment (based on VAAC data from August 2014). Thus, a secondary objective of this survey is to estimate the income of MMT clients also seeking HIV/AIDS treatment, their inpatient admission rates over the year prior to data collection, their health insurance status, and their perception of the social health insurance scheme. This final secondary objective is a complement to a contiguous survey assessing the income of PLWHA, and the results for this objective are included as an annex to the report summarizing the results of the survey assessing the income of PLWHA (Vietnam Authority of HIV/AIDS Control and Health Financing and Governance Project, December 2015).

I.3 Organization of the report

Section 2 of this report details the methodology used, including sampling, questionnaire construction and testing, survey implementation, and data analysis methods. The third section reports the results of the survey, separated into seven sections: 1. Characteristics of respondents; 2. Annual income and poverty status of respondents; 3. Job status of respondents and changes in job status associated with starting MMT; 4. Annual expenditures of respondents both before starting MMT and at the time of the survey; 5. Access to and spending for MMT services; 6. Catastrophic payments for MMT as observed for the respondents, catastrophic expenditures for heroin before starting MMT, and catastrophic expenditures under different MMT client copayment scenarios; and, 7. HIV status of respondents. The fourth section of the report discusses the implications of the results and discusses the limitations of the findings. The annexes provide more detailed technical discussions of the methods and results.

2. METHODS

2.1 Overview

The survey was conducted at facilities offering MMT in seven provinces: Binh Thuan, Dien Bien, Ha Noi, Ho Chi Minh City, Lai Chau, Long An, and Thanh Hoa. In each province, all facilities that were offering MMT services as of August 2014 were visited, with a target of interviewing 30 MMT clients at each facility. Field staff from the Hanoi School of Public Health (HSPH), who were trained on the questionnaire and interviewing techniques, interviewed a total of 1,027 MMT clients using a pre-tested questionnaire. Data were collected from 04 May 2015 through 10 June 2015.

The remainder of this section provides further details on the methods used for this survey, starting with the sample design, questionnaire construction, ethical review, organization, and pilot and training of field staff before the start of data collection, then the procedures used during the field work, and ending with a discussion of the data analysis approach used.

2.2 Sample design

As of August 2014 (the date when the sample was established), there were a total of 22,736 clients registered at 122 MMT centers in 38 provinces nationwide. The sample was designed to provide estimates at the national level. We used a two-stage stratified cluster design to build the sample.

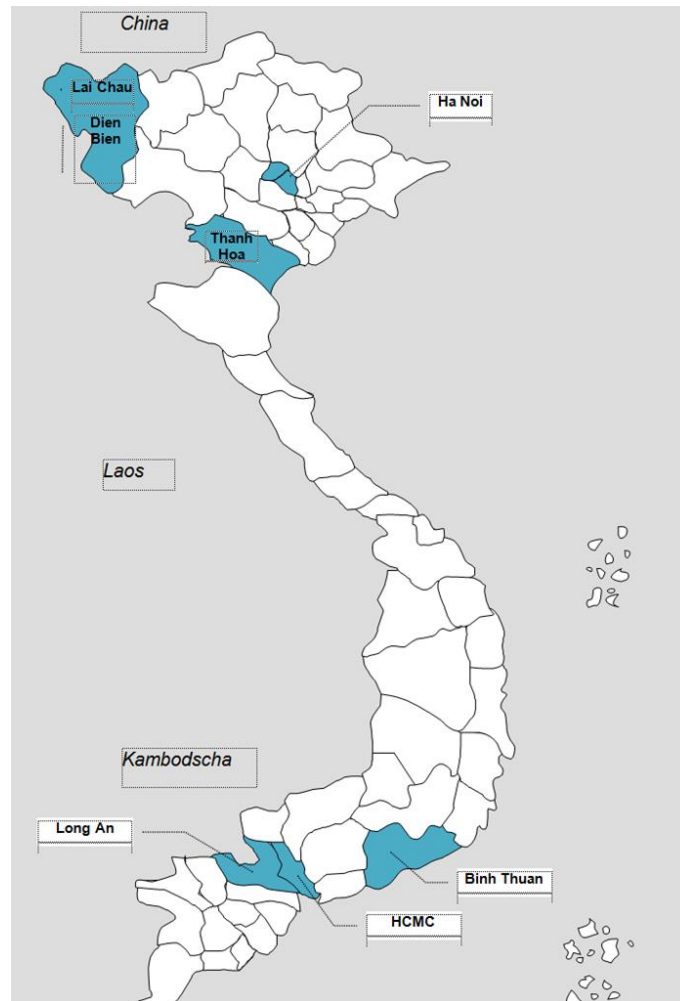
In the first stage, the 63 provinces of Vietnam were stratified into six regions: Mekong River Delta, South East, Northern Midlands and Mountain Areas, Red River Delta, Central Coastal Area & Central Highlands, and North Central Area). Note that the Central Coastal Area and the Central Highlands were combined because in August 2014, no facilities in the Central Highlands offered MMT. In these six regions, 25 provinces did not have an MMT facility in August 2014, and were excluded from the selection process.

Due to limited funds available for data collection, seven provinces were selected for data collection from the remaining 38 provinces. First, six provinces were selected, one from each region. Selection was done at random with the probability of selection proportional to the size of the HIV and methadone maintenance patient population in each region.¹ One additional province was drawn at random with the probability of selection proportional to the population (of HIV and methadone maintenance patients) from the remaining provinces (irrespective of region). The final sample included seven provinces: Binh Thuan, Dien Bien, Ha Noi, Ho Chi Minh City, Lai Chau, Long An, and Thanh Hoa (see Figure 1).

The sample is representative of all provinces with at least one MMT facility as of August 2014 because all these provinces could have been selected for the sample. The results of this survey are not applicable to the 25 provinces not included in the original sampling frame. Stratification by region was done to ensure national representativeness. Note, however, that five of the six regions have only one province included in the sample. Thus, results should not be considered representative at the regional level.

¹ In order to save costs, the survey was done in conjunction with another survey of PLWHA.

Figure 1: Provinces included in the sample



All facilities offering MMT services in the seven provinces selected for inclusion in the study were included in the survey, indicating a total of 35 facilities are included in the sample. Thus, facilities do not represent a stage in the sampling process. At each facility, the field staff had a target of interviewing 30 MMT clients, which was deemed the maximum number likely to be possible for the data collection team in one day. Within facilities, clients were selected on an opportunistic basis – the first thirty clients to agree to the interview and meet the inclusion criteria (discussed below in the ‘Field work’ section) were included in the sample. Since many MMT facilities only offer services for limited hours in the morning, this method was chosen to ensure that the target of 30 clients would be met. This makes the total target sample size 1,050 MMT clients.

2.2.1 Sample Size

Our null hypothesis is that household expenditures before the start of MMT is the same as household expenditures after the start of MMT:

$$H_0: Y_{\text{before}} - Y_{\text{after}} = 0$$

$$H_A: Y_{\text{before}} - Y_{\text{after}} \neq 0$$

Where Y represents the average household expenditures.

Utilizing the following formula, we estimated the minimal detectable difference (d) for our sample will be about 0.26 standardized units, with standard type I and type II error rates. (Note that we do not have good prior information on the anticipated variance of the difference in average expenditures specifically for before and after the start of MMT, and thus could not convert standardized units into monetary metrics).

$$d = \sqrt{\frac{2 * (z_{\alpha/2} + z_{\beta})^2 \sigma^2}{nm} [1 + (m-1)\rho]}$$

Where:

d = minimal detectable difference

$\alpha = 0.05$

$\beta = 0.80$

$\sigma^2 = 1$ (based on standardized outcome)

n = number of facilities visited (35)

m = number of patients per facility (30)

ρ = correlation within facilities (assumed to be 0.40)

Based on the variance of income of the general population in Vietnam from recent surveys, this sample size would detect a difference of household expenditures of under 5,880,000 VND (US\$280).

2.2.2 Final sample

A final sample of 1,027 MMT clients from 35 clinics in seven provinces completed the survey (see Table 1).

Table 1: Final sample

Province	Facilities offering MMT in August 2014	Facilities offering MMT in May 2015	Adults enrolled in MMT care, May 2015	Patients sampled (/target number)
Binh Thuan	2	4	643	60 (/60)
Dien Bien	5	7	1,872	146 (/150)
Ha Noi	6	17	2,985	178 (/180)
Lai Chau	2	8	1,832	60 (/60)
Long An	3	4	537	91 (/90)
HCM city	8	13	2,571	240 (/240)
Thanh Hoa	9	15	2,056	252 (/270)
<i>Subtotal: provinces included in sample</i>	35	68	12,496	1,027 (/1,050)
National	122	187	34,961	N/A
<i>Sample as a percentage of national total</i>	29%	36%	36%	2.9%

The sample included 29% of all facilities offering MMT in August 2014 (when the sample was established). Between August 2014 and May 2015 (when data collection was initiated), 65 additional facilities started offering MMT services. Thus the final sample represents clients from 19% of facilities offering MMT services nationwide at the time the survey was conducted in May/June 2015.

MMT clients in the seven provinces included in the sample represent 36% of nationwide MMT clients as of May 2015. The 1,027 respondents in the final sample represent 2.9% of all MMT clients in Vietnam, and over 8% of MMT clients in the seven provinces included in the sample.

2.3 Questionnaires

The instrument used in the 2012 Living Standards Measurement Survey (LSMS) formed the basis for the income and expenditure proportions of this survey (personal correspondence: Hoang Van Minh 12 December 2014). The LSMS is a household survey that has been used in multiple countries, with questions validated for Vietnam. However, our survey differed from the LSMS because our survey was conducted at health facilities, not in households. This affects data collection procedures because not all of the data available in the household would be available to individuals at health facilities. Second, the LSMS is a lengthy survey, and we did not think that clients at health facilities would have the time to complete the entire survey at a health facility. Thus, we shortened and simplified the LSMS instrument for this survey. During this process, we ensured that no domains of the LSMS were eliminated. That is, we maintained the overall categories of income and expenditures as used in the LSMS survey in our questionnaire as prompts for the respondents. Thus, for example, rather than asking for income based on specific crops, we prompted respondents for income based on crop types (staple crops, vegetable, industrial crops, fruit, aquaculture, forestry, and livestock/poultry). We retained examples of different crop types to help guide respondents.

For expenditures, we asked respondents to report average expenditures for different categories “currently” and “before [they] started MMT”. Heroin and methadone expenditures were added to the questionnaire.

The LSMS questionnaire was written and administered in Vietnamese and question wording in Vietnamese was retained in this survey. Questions were translated into English for purposes of data analysis.

Additional questions were added to our survey related to expenditures for methadone and HIV prevention. Finally, additional modules related to outpatient utilization and expenditures, inpatient utilization and expenditures, health insurance coverage, and perception of health insurance were included. These latter modules were only answered by respondents who self-identified as HIV positive, and, as noted in the introduction, the results are presented in a separate report. The questions for these portions of the survey instrument were based on Abt Associates’ database of surveys used for National Health Accounts and insurance enrollment. These questions were translated into Vietnamese by research staff, and orally back translated into English to ensure accuracy.

The entire research team reviewed the questionnaires and discussed the wording and order of the questions. The survey was finalized after being field tested at a pilot (discussed below in the ‘Pilot and training of field staff’ section). See Annex 4 for the final survey instrument.

2.4 Ethical review

This study received approval from the Abt Associates, Inc. Institutional Review Board in March 2015 and the Hanoi School of Public Health Ethical Review Board for Biomedical Research in April 2015. All

respondents gave oral informed consent to participate in the survey, and were offered the opportunity to ask questions before the start of the interview. Respondents were also given contact information should they have any questions about the study after they completed the survey. Due to the sensitive information collected (including questions designed to assess income, wealth, their status as a methadone recipient and thus prior use of heroin, and HIV status), we used oral informed consent and did not collect names during the consent process. During the survey, we did not collect names, addresses, phone numbers, dates of birth, or other direct identifiers. Some indirect identifiers, such as age (in years) and sex, were collected. Measures taken to protect the security of the data are provided in the 'Field work' section below.

2.5 Organization of the survey

The survey data collection was implemented by the HSPH under contract with VAAC. The HFG project provided technical support in drafting study protocols and questionnaires and performing data analysis. The study objectives and proposed methodology were presented at VAAC in January 2015 for discussion with national and international partners and stakeholders. Initial results were presented at VAAC in August 2015 for feedback and discussion.

2.6 Pilot and training of field staff

Field staff were trained on the data collection instruments, recruitment and sampling procedures, providing respondents with informed consent to participate in the survey, ethical considerations, and best practice approaches to dealing with vulnerable populations. Training took place in Hanoi the week 10 April 2015 through 17 April 2015, including pilot tests. Twelve data collectors were trained, along with five supervisors. Representatives from HSPH, VAAC, and HFG all assisted with the training.

The questionnaire and the recruitment and sampling procedures were pilot tested at the Đồng Đa MMT clinic in Hanoi. Each data collector completed at least one survey during the pilot testing. MMT clients that participated in the pilot were not eligible for participation in the main survey; Đồng Đa had over 400 people registered in the MMT clinic in May 2015, so their exclusion is unlikely to affect results. After testing, the research team and data collectors met to discuss modifications to the questionnaire and lessons learned. The team finalized the questionnaire based on feedback from the pilot testing experience.

2.7 Field Work

2.7.1 Respondent recruitment and consent

The MMT client survey questionnaire was addressed to MMT clients 18 years of age or older. Clients that had been using methadone for more than 2 years were excluded from the study in order to limit recall bias. Clients that had been on methadone less than one month were also not eligible for inclusion in the study.

Survey staff visited the sampled facilities and first identified the clinic where MMT is offered in the facility. MMT clients were first informed of the study by physicians/nurses/facility staff at the end of their regular interactions at the health care facility; staff only recruited patients attending the facility for MMT. Staff were told that patient participation is voluntary and given a script with a brief description of the study for them to use to inform patients about the survey.

After being informed of the study by facility staff, survey staff read their recruitment script which included screening questions to identify whether the MMT client was eligible to participate in the survey.

If the respondent was eligible, the interviewer discussed and explained the study in detail and administered a verbal informed consent process. If a potential respondent agreed to participate in the survey, the interviewers met with them individually at a private spot in the facility.

The survey was administered electronically, and the interviewer indicated whether the respondent agreed to participate after informed consent by entering their personal code on the tablet computer. A paper copy containing contact information for the study's principal investigators and the local IRB was provided to the respondent. The first 30 clients that gave consent and met eligibility requirements were interviewed at each facility. On average, an interview took 42 minutes to complete.

Due to the length of the survey, an incentive was offered to respondents to participate in the study. This incentive, paid by the data collection team, was VND 42,000 (\$2.00) which is in line with GoV guidelines for in-depth interviews.

2.7.2 Data collection

All surveys were conducted by trained field staff from the HSPH. Teams of field staff visited each facility, together with a supervisor, to identify and solve any problems, answer questions, and coordinate the data collection effort. Field staff collected information on password protected and encrypted tablet computers. They double entered numeric data, especially related to monetary values for income and expenditure, on-site. They first entered the numeric response on the tablet computer, and then were prompted to re-enter the value without being able to see the first entry. If the two entries were different, the field staff had to correct one of the entries to ensure agreement between the two entries.

Completed forms were submitted via internet to HSPH. Ona web services (<https://ona.io/ttct/>) were used to upload data from the tablets. The files were converted into Stata readable electronic files and were provided to Abt Associates Inc. through Abt's secure File Transfer Protocol (FTP) site. After downloading the data, Abt staff removed them from the web portal.

In 25 of the 35 facilities (71.4%), the target of 30 respondents was achieved. At five facilities (14.3%), 31 respondents were included in the sample because multiple MMT clients started recruitment and informed consent before the final sample was established. In those cases, the additional respondents were retained for data analysis, with the sampling weights adjusted to reflect the actual number of respondents. In the remaining five facilities, fewer than 30 respondents were available on the day of the survey, ranging from 13 to 29 respondents. In these facilities, the lower than target number of respondents was due to a lack of clients attending the MMT facility on the day of the data collection.

2.8 Data analysis

Data were analyzed in Stata/MP 12.1 (StataCorp LP 2013).

2.8.1 Survey weights

MMT facilities all serve different numbers of clients. Because we sampled a set number of patients at each facility, regardless of the number of clients at a particular facility, the final sample does not proportionately reflect the number of MMT clients in each facility, province, or region. Thus, sampling weights are needed to ensure the representativeness of the results. Because we used two-stage sampling, the sampling probability is calculated separately for each region and facility. Annex I provides details on the calculations used to determine survey weights. All results presented reflect the survey design and survey weights.

2.8.2 Standard errors and confidence intervals

Errors in surveys result from both non-sampling and sampling errors. Non-sampling errors result from faulty questionnaire construction, failure to follow the sampling procedures, data entry errors, poor understanding of the questions on the part of respondents, failure of respondents to answer questions accurately, and other implementation errors. There are limited statistical options for assessing non-sampling error. These types of errors are best addressed by careful construction of the questionnaire, training of field staff, etc. It should be noted, however, that non-sampling errors inevitably occur in surveys of this nature.

Sampling error results from the fact that the actual sample achieved in this survey is just one of many possible samples that could have been drawn from the same population using the same sampling design. Each of these samples would yield different results from the results presented in this report. In order to account for this variability, or sampling error, Taylor-linearized standard errors are used to estimate all the confidence intervals presented in this report. The Taylor-linearized standard errors can be calculated in Stata using the “svy:” prefix before the estimation command (StataCorp LP 2013). The reported 95% confidence intervals can be interpreted as the range in which 95% of mean or proportions for a given variable would fall among all the possible samples drawn from the same population using the same design.

In addition to reporting the means or proportions for a given variable, we calculated the design effect (DEFF) for each of the primary and secondary variables in the report. The DEFF is the ratio of the variance observed in the survey and what variance that would have been if the sample had been selected entirely at random (rather than using a multi-stage design with respondents clustered in facilities). The DEFF is a function of the correlation of answers given by respondents at in one cluster (in this case facility) and the size of the clusters. The DEFF for selected variables are reported in Annex 2.

2.8.3 Missing data

Some respondents reported not knowing the amount of income or expenditures for certain categories. These data often, but not exclusively, related to income or expenditures earned by others in their household, and are considered ‘missing information’. For income, the amount of missing information amounted to about 1 percent of all data, for current expenditures about 8.5 percent of data were missing, and for expenditures incurred in the year before starting methadone, about 14 percent of data were missing (see Appendix 3, Tables 1 through 3). In the case of income, data were more likely to be missing for sources of income that made up a greater percentage of income among those with complete data (notably income related to pay for work and business activities). For expenditures, data were more likely to be missing for categories with relatively lower contributions to total expenditures (with the exception of heroin expenditures before starting MMT).

In order to account for the missing data when reporting results, we impute missing data for the primary outcome variables, namely income and expenditures. In order to impute missing data, we use multiple imputation using chained equations (StataCorp LP 2013). The method of imputations generates regression equations predicting the missing data based on data that are present. We use predictive mean matching to impute the missing data. This method estimates a regression model for the missing data, predicts the values, and finds the person or people with the closest value(s) to the prediction, and uses the value of that near/nearest person to fill in the missing data. The advantage of this method is that it does not fill in missing values with numbers that are outside the observed range – in this case, it will not predict negative numbers for missing values. We randomly select the missing value from the nearest 10 people, and generate 10 datasets. Imputing data allows, to the extent possible, to control for patterns in the missing data. For example, if people with lower income or expenditures (or who do not currently have a job, etc.) are more likely to have missing data, the imputed data will reflect this. Thus, in this



example, the mean income or expenditures among people reporting data is likely to be higher than those that do not report data, and imputing missing data allows us to correct for this potential bias.

This approach allows us to calculate the fraction of missing information (FMI), which is defined as the proportion of variance across the 10 datasets due to the random selection of 'nearest neighbor' values compared to the total variance, including the variance across the 10 datasets and the variance amongst the respondents (see Annex 3 Table 4).

We use all of the demographic variables, current job type, and all of the income variables to predict data missing for income. We use and all of the demographic variables, current job type, current income, and all of the expenditure variables (both current and before starting MMT) to predict missing expenditure variables. We predict individual missing variables first, and then add the results to generate estimates of total income and expenditures. While this 'passive' imputation is not recommended for running regressions or other analyses of the data (White, Royston et al. 2011), we use this method for presentation purposes only. Using the approach of calculating totals first and then imputing missing values for that total variable, for example, will result in the sub-categories of income or expenditure not adding up to the total. We also report the mean value for respondents who did give values, and the mean value with the imputed data (see Annex 3 Table 4).

2.8.4 Definitions used for income, expenditures, poverty, and catastrophic payments

Income and expenditures in this report are assessed for the individual respondent, which differs from many surveys. For example, the LSMS assesses household income and expenditures rather than individual income and expenditures. Given the extent to which households function as units, sharing food, housing, etc., the household is the logical unit for measuring income and expenditures. However, our survey took place at MMT facilities, and we did not have access to all members or working age members of the respondents' households. Thus, we did not have a valid means of ascertaining household income and expenditures. We have, therefore, modified some of the definitions and metrics used to assess poverty and catastrophic expenditures to suit the data we had available. The following describes how we define the main metrics used in this report to accomplish the primary and secondary objectives of the survey.

Income: The basic metric is the income of the individual respondent. In certain cases, the individual respondent may not be able to accurately report the income from certain activities. For example, the entire family may share the revenue from a family business or agricultural endeavor, and the respondent may not know their individual income from that activity or endeavor. In these cases, the respondent was asked to specify the total income from the activity, endeavor, or category of income, and specify that this was 'household income'. In these cases, we calculate the 'share' of income attributed to the respondent by dividing the 'household income' by the total number of adults of working age in the household. We present income earned solely as an individual, but the main outcome is measured by the latter metric, labelled "income including respondents' share of household income".

Income is reported as annual income. For routine income, such as payment for work, we asked the respondent to specify the amount of payment received over the last 30 days, and we estimate the annual income by multiplying the response by 12. Income is based on their current status and employment only; we did not ask respondents to report their income from before starting MMT. In part, this decision was made for ethical reasons because we did not want to put respondents in a position of reporting illegal activities, and in part due to the empirical difficulties of separating out legitimate income from revenues from illegal activities.

Expenditures: Similar to income, we assess the annual expenditures of the individual respondents. Again, for some categories of responses, respondents were not able to differentiate between individual and household expenditures, and we calculate the ‘share’ of expenditures attributed to the respondent by dividing the ‘household expenditure’ by the total number of adults of working age in the household. We present expenditures incurred solely as an individual, but the main outcome is measured by the latter metric, labelled “expenditure including respondents’ share of household expenditures”. Note that we asked respondents to assess their expenditures both ‘currently’ and for the year before they started MMT.

Poverty: We use official GoV definitions of poverty to define poverty in this report. In 2013, the GoV defined poverty as an income less than 570,000 VND for rural areas and 710,000 VND for urban areas per person per month (General Statistics Office of Viet Nam 2014). We update the poverty line to the end of 2014 using the consumer price index (General Statistics Office of Viet Nam 2015). For Ho Chi Minh City, we use 16,000,000 VND as the annual individual poverty line (Decision No 03/2014/QĐ – UBND 2014), and for Hanoi, we use 750,000 VND per month as the individual poverty line (Decision No 01/2011/QĐ-UBND of Ha Noi People’s Committee). For other provinces, we use the urban poverty line to define poverty. All of the MMT facilities were located in urban areas, and in our survey it is not possible to know if a respondent lived in an area officially classified as urban or rural. However, it is likely that some respondents (especially those outside of Ha Noi and Ho Chi Minh City) live in rural areas, and we present results for these areas separately for both income and expenditures. In these areas, the poverty rate may be over-estimated because the poverty line in rural areas is less than that used in the results presented.

The poverty line is treated as an individual, income-based metric. That is, to be considered non-poor, a respondent should report “income including respondents’ share of household income” of equal to or more than the poverty line. Note that since some respondents do not have any individual income, this may over-estimate the poverty rates compared to assessing poverty using total household income.

We also compare annual expenditures to the poverty line. This is done for informational purposes only; the official measure is based on income. However, expenditures for some households (especially households with some reliance on agriculture for income) may be more constant over time than income, and thus may better represent the economic situation of the respondents (Xu, Evans et al. 2003).

In order to compare the income of respondents to the national average, we use data representing the productivity of the employed population in Vietnam. The 2013 estimate of average annual income among those employed was 68.7 million VND (General Statistics Office of Viet Nam 2015); we again update this using the consumer price index (General Statistics Office of Viet Nam 2015). Because not all of our respondents are employed, we compare the average income of all respondents to this value, and then compare again only for those respondents reporting having a job.

Catastrophic payments: We use the WHO definition of catastrophic payments, with some modification, for these analyses (Xu, Evans et al. 2003). This definition assess the percentage of ‘capacity to pay’ devoted to health care – in this case either methadone (for current expenditures) or heroin (for expenditures for the year before starting MMT) – with more than 40% of ‘capacity to pay’ defined as a ‘catastrophic payment’. Following previous analyses from Vietnam, we include as sensitivity analyses catastrophic payments defined as 30% and 20% of capacity to pay (Tran, Duong et al. 2013).

To estimate capacity to pay, WHO recommends taking the average food expenditure per household across the 45th to 55th total expenditure percentiles in a nationally representative survey (Xu, Evans et al. 2003; Tran, Duong et al. 2013). This measure is deemed the ‘subsistence’ level of expenditures needed to live; any expenditures above this subsistence level is deemed ‘capacity to pay’. The data in our survey do not reflect results for the general population, but for the subpopulation of clients of MMT

facilities, and it is not certain that the results from our survey will reflect subsistence level spending for the general population. For that reason, we use the average from the 2012 LSMS survey as our measure of subsistence expenditures (personal correspondence: Hoang Van Minh 03 September 2015), and adjust it to 2014 using the consumer price index (General Statistics Office of Viet Nam 2015).

3. RESULTS

3.1 Demographic and socioeconomic characteristics of the respondents

This section provides an overview of the demographic and socioeconomic status of the respondents to the survey. This includes age, length of time on MMT, sex, education, marital status, whether respondents live alone, and size of their households. For the sake of presentation, respondents have been grouped into categories for education and marital status.

Table 2: Demographic and socioeconomic characteristics of the respondents

Variable	n	Mean / Percentage	Standard Error
Age (in years)	1,027	36.8	0.33
Months since starting methadone maintenance therapy	1,027	9.0	0.19
Sex	1,027		
Male		98%	0.5%
Highest education level attained	1,027		
No qualification		8%	1.0%
Primary school		25%	1.6%
Secondary / High school		60%	1.9%
Above High school		8%	1.2%
Marital Status	1,027		
Single		28%	1.7%
Married / Long-term partner		58%	1.9%
Widowed		1%	0.3%
Divorced / separated		12%	1.3%
Live Alone	1,027	2%	0.6%
Size of household	1,027		
People of working age		3.3	0.04
People not of working age		1.7	0.05
Total number of people in household (including respondent)		5.0	0.06

Respondents were, on average, almost 37 years old, started MMT about 9 months ago, and almost all (98%) of respondents were male. For education, the results report the highest level attained; for example, a person who had attended high school but not graduated would be considered to have

attained secondary school education. About 8% of respondents had not finished primary school, with 25% completing primary school but not secondary school. The majority of respondents had completed either secondary school (36%) or high school (24%), with 8% having completed a higher degree. The majority of respondents (58%) were currently married, with 28% reporting they were single, 12% reporting they were divorced or separated, and 1% reporting they were widowed.

A household is defined as the group of people sharing a common living structure and eating and sleeping arrangements. A person is considered to live in a household if they eat the majority of their meals in a week in the household. The average household size is 5.0 people, composed of 3.3 people of working age (including the respondent) and 1.7 people not of working age.

3.2 Expenditures

The primary objective of this survey was to assess whether there were changes in annual expenditure before and after starting MMT. The average annual expenditures (including the respondents' share of household expenditures) at the time of the survey were 38,263 thousand VND (95% CI: 31,422 to 45,105 thousand VND), compared with 150,997 thousand VND (95% CI: 135,700 to 166,295 thousand VND) before starting MMT (see Table 3 and Table 4). The difference between expenditures before starting MMT and the time of the survey is statistically significant ($p < 0.001$), but is primarily due to expenditures on heroin before starting MMT, which constituted 76% of expenditures, on average, before starting MMT and was, by itself, greater than all expenditures at the time of the survey (see Figure 2).

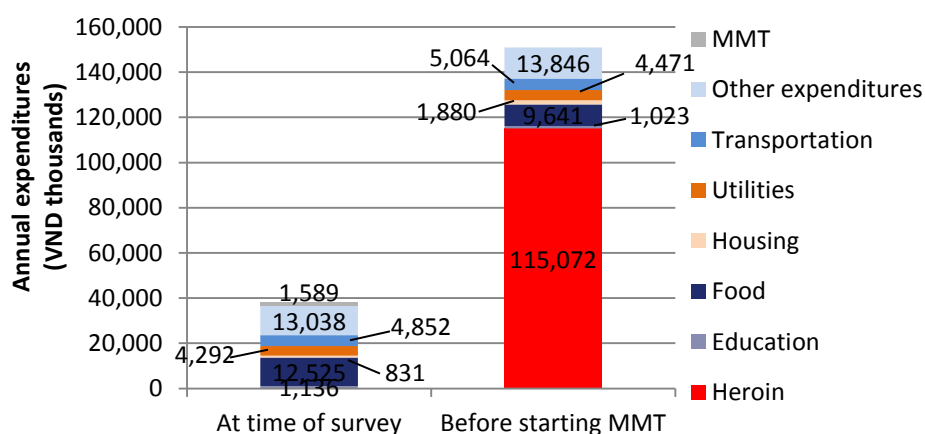
Table 3: Reported annual expenditures of respondents at time of the survey, on average (VND thousands)

Variable	n	VND thousands	
		Mean	95% Confidence Interval
Average individual expenditures	1,027	21,706	15,083 to 28,330
Average individual expenditures including respondents' share of household expenditures	1,027	38,263	31,422 to 45,105
Average individual plus share of household income by category			
MMT	1,027	1,589 (4%)	950 to 2,228
Food	1,027	12,525 (33%)	8,938 to 16,113
Housing	1,027	831 (2%)	372 to 1,290
Utilities	1,027	4,292 (11%)	3,931 to 4,653
Transportation	1,027	4,852 (13%)	4,353 to 5,351
Education	1,027	1,136 (3%)	912 to 1,360
Other expenditures	1,027	13,038 (34%)	9,985 to 16,090

Table 4: Reported annual expenditures of respondents before starting MMT, on average (VND thousands)

Variable	n	VND thousands	
		Mean	95% Confidence Interval
Average individual expenditures	1,027	112,023	97,163 to 126,883
Average individual expenditures including respondents' share of household expenditures	1,027	150,997	135,700 to 166,295
Average individual plus share of household income by category			
Heroin	1,027	115,072 (76%)	100,747 to 129,397
Food	1,027	9,641 (6%)	8,661 to 10,621
Housing	1,027	1,880 (1%)	557 to 3,203
Utilities	1,027	4,471 (3%)	4,038 to 4,905
Transportation	1,027	5,064 (3%)	4,476 to 5,653
Education	1,027	1,023 (1%)	0 to 1,243
Other expenditures	1,027	13,846 (9%)	11,090 to 16,603

Figure 2: Total individual expenditures before starting MMT and at the time of survey*



*including respondents' share of household expenditures

The average amount spent on heroin before starting MMT was 115,072 thousand VND (95% CI: 100,747 to 129,397 thousand VND), which is about 315,000 VND per day. Expenditures for methadone were incurred in Ho Chi Minh City, where patients were charged a user fee. However, some patients in Ho Chi Minh City reported zero expenditure for MMT on a daily basis or on a monthly basis, or for both time periods. We thus present 'imputed' expenditures for MMT for Ho Chi Minh City, with the respondents that reported zero expenditure are treated as missing data.

Aside from heroin and methadone, the largest change in expenditures reported between before starting MMT and the time of the survey was for food, which increased 2,885 thousand VND, on average; however, this difference is not statistically significant ($p = 0.06$).

Table 5 reports expenditures for different socioeconomic categories of respondents. People who have been on MMT longer than 12 months had lower expenditures at the time of the survey than people who had been on MMT 12 months or less, but higher expenditures before starting MMT. Further, respondents who self-report to be HIV positive and respondents from provinces outside of Ha Noi and Ho Chi Minh City have lower expenditures in both periods than respondents who did not report they

were HIV positive or live in Ha Noi or Ho Chi Minh City. Respondents who currently have a job have higher expenditures than those without.

Table 5: Reported annual expenditures of respondents, plus respondents' share of household expenditures, by category of respondent (VND thousands)

Category	N	Before starting MMT	At time of the survey
		Mean (95% Confidence Interval)	Mean (95% Confidence Interval)
Time on MMT	1,027		
One year or less		148,381 (134,426 to 162,335)	39,067 (30,086 to 48,048)
More than one year		158,657 (120,817 to 196,496)	35,912 (29,425 to 42,399)
HIV status	1,027		
Negative, or reported did not have HIV test		155,019 (135,841 to 174,196)	41,519 (32,557 to 50,482)
Tested positive		138,562 (117,980 to 159,144)	28,195 (24,422 to 31,968)
Location	1,027		
Ho Chi Minh City		131,876 (119,102 to 144,651)	38,352 (33,116 to 43,588)
Hanoi		191,524 (156,086 to 226,961)	50,834 (33,401 to 68,267)
Other provinces		124,738 (111,548 to 137,929)	28,724 (25,644 to 31,804)
Age Category	1,027		
25 and under		151,317 (117,968 to 184,666)	42,766 (29,400 to 56,132)
26 to 30		146,909 (114,101 to 179,717)	50,489 (15,708 to 85,270)
31 to 35		143,200 (110,910 to 175,489)	35,562 (30,853 to 40,271)
36 to 40		163,238 (127,466 to 199,010)	36,136 (29,152 to 43,121)
41 to 45		139,039 (115,148 to 162,931)	29,819 (24,445 to 35,194)
Over 45		164,039 (110,824 to 217,254)	37,379 (26,124 to 48,634)
Marital status	1,027		
Single		155,181 (127,474 to 182,889)	36,718 (31,710 to 41,726)
Married / long-term partner		152,294 (132,589 to 171,998)	34,427 (30,226 to 38,629)
Widowed		117,431 (59,525 to 175,337)	27,205 (14,176 to 40,234)
Divorced / Separated		137,871 (102,256 to 173,487)	60,606 (10,024 to 111,188)
Education	1,027		
No qualification		87,334 (64,306 to 110,363)	20,765 (12,803 to 28,727)
Primary school		148,868 (112,778 to 184,959)	30,018 (24,859 to 35,177)
Secondary / High school		155,630 (137,786 to 173,473)	41,605 (30,526 to 52,683)
Higher than high school		186,236 (117,364 to 255,108)	56,465 (42,717 to 70,214)
Job Status	1,027		
Homemaker, not currently employed		128,814 (111,245 to 146,383)	26,362 (21,877 to 30,848)
Currently have full- or part-time job, or self-employed		168,770 (148,190 to 189,350)	47,798 (36,070 to 59,526)

3.3 Catastrophic payments

A secondary objective of this survey is to estimate the catastrophic payments associated with MMT care and heroin. We use the World Health Organization's definition of catastrophic payments, which counts payments for a good in excess of 40% of capacity to pay as incurring financial hardship. In addition, we assess the catastrophic payment rates at 30% and 20% of non-subsistence expenditures as sensitivity

analyses. We assess three different types of expenditures for catastrophic payments. First, we compare MMT expenditures to current expenditures and heroin expenditures to expenditures made before MMT to estimate the actual levels of catastrophic payments as observed during these time periods. Second, we assess hypothetical situations where MMT clients would incur 10,000 VND daily user fees for MMT, 17,000 VND daily user fees for MMT, and compare heroin to current expenditures. These hypothetical scenarios provide a basis for assessing the impact of different user fee levels on MMT clients' financial situation. Finally, we re-assess the catastrophic payments for MMT by using expenditures for transportation to the MMT facility and expenditures for transportation to the MMT facility plus expenditures for MMT to give a more complete picture of the financial burden of MMT on MMT clients.

Table 6: Percentage of respondents incurring catastrophic payments

Variable	n	Percentage	95% Confidence Interval
Proportion with catastrophic payments for MMT	1,027		
>40% capacity to pay		4%	2% to 6%
>30% capacity to pay		5%	3% to 8%
>20% capacity to pay		7%	5% to 10%
Proportion with catastrophic payments for heroin (based on expenditures before starting MMT)	1,027		
>40% capacity to pay		96%	95% to 98%
>30% capacity to pay		97%	96% to 99%
>20% capacity to pay		98%	97% to 100%

Payments for MMT care represented 4% of total individual plus respondents' share of household expenditures at the time of the survey (see Table 3). This translated into 4% (95% CI: 2% to 6%) of respondents having catastrophic expenditures associated with MMT care (see Table 6). Heroin, as noted earlier, constituted 76% of expenditures before starting MMT (see Table 4), leading to 96% (95% CI: 95% to 98%) of respondents incurring catastrophic expenditures related to heroin. When compared to current expenditures, heroin would represent a catastrophic expenditure for 97% of respondents (see the left-hand side of Figure 3). When assessing hypothetical levels of user fees for MMT, a user fee of 10,000 VND per day would result in about 19% of respondents incurring catastrophic expenditures, and 17,000 VND per day would result in about 35% of respondents incurring catastrophic expenditures. The percentage of MMT clients incurring catastrophic expenditures is higher if thresholds lower than 40% of capacity to pay are used, reaching as high as about 67% of MMT clients if 20% of capacity to pay is the threshold and the user fee was set at 17,000 VND per day. Note that these scenarios do not consider anybody exempt from paying the user fees.

Figure 3: Percentage of patients incurring catastrophic payments under different user fee scenarios and for heroin

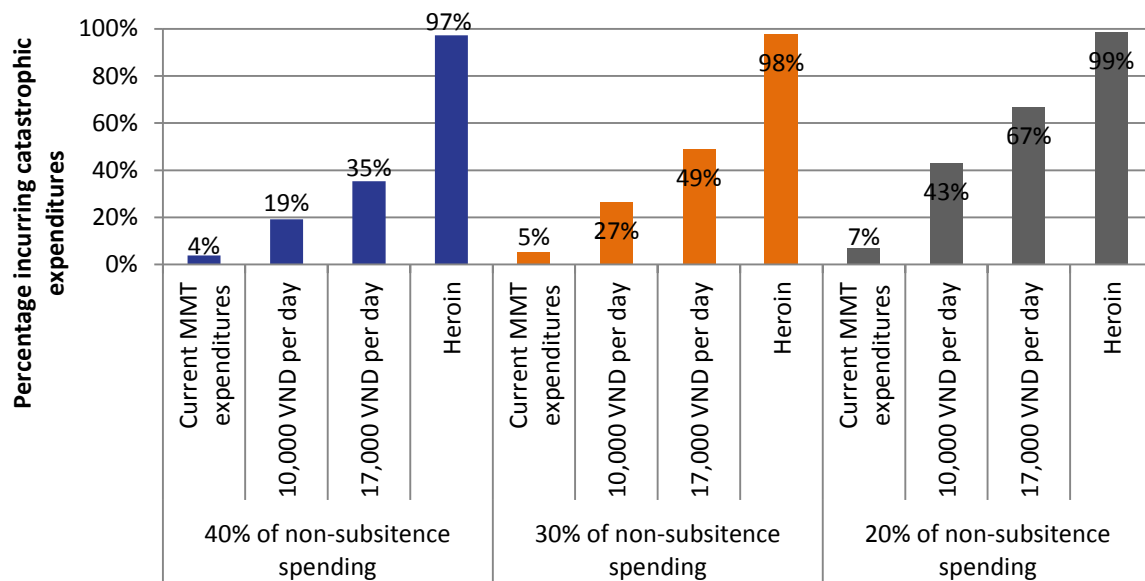


Table 7: Descriptive statistics of respondents' method of transportation to MMT clinics

Variable	n	Mean	95% Confidence Interval
Mode of transportation to facility (today)	1027		
On foot		3%	2% to 4%
Bicycle		5%	3% to 6%
Bus		2%	1% to 3%
Motorbike taxi		1%	0.2% to 1%
Taxi (car)		0.1%	0% to 0.4%
Own motorbike		86%	84% to 89%
Own car		0%	0.1% to 0.7%
With family / friend		3%	2% to 4%
Proportion traveling more than 30 minutes to reach facility*	1027	15%	12% to 18%
by location:			
Hanoi / HCM city		17%	13% to 21%
Other provinces		13%	10% to 16%
Proportion that paid for transportation to the facility	1027	88%	86% to 90%

*Excludes respondents that traveled less than 15 minutes to reach their next destination

Using their own motorcycle was the most common means for MMT clients to travel to the MMT clinic, with 86% (95% CI: 84% to 89%) of respondents using their own motorcycle to travel to the MMT clinic on the day of the interview (see Table 7). The second most common means of travel to the MMT clinic was bicycle, with 5% of MMT clients using bicycles (95% CI: 3% to 6%). When calculating the amount of time spent traveling to the MMT clinic, we excluded MMT clients that (i) did not return home after

attending the MMT clinic and (ii) traveled less than 15 minutes to their next destination, since these MMT clients likely would have traveled most of the distance to the MMT clinic anyway for other reasons. After excluding these MMT clients, 15% of MMT clients travelled more than 30 minutes (one way) to reach the MMT clinic (95% CI: 12% to 18%), with a slightly higher percentage MMT clients travelling more than 30 minutes in Hanoi and Ho Chi Minh City than in other provinces. Also excluding MMT clients that likely would have traveled most of the distance to the MMT clinic anyway for other reasons, 88% (95% CI: 86% to 90%) of MMT clients incurred expenditures to pay for transportation to the MMT clinic.

Extrapolating from the reported amount paid for transportation to the clinic on the day of the survey (including MMT clients that paid nothing) to yearly costs for transportation to the MMT facility results in MMT clients paying an estimated 7,370 thousand VND (95% CI: 1,281 to 13,458 thousand VND) on average for transport to the MMT clinic (see Table 8). This is more than the individual plus the respondents' share of household expenditures for transport, which was 4,852 thousand VND (see Table 3). While differences between daily and monthly reporting of expenditures are expected due to issues of recall and estimation, we further checked these numbers by imputing the total household expenditures (based on respondents that reported total household expenditures for transportation). Yearly expenditures for transportation to the MMT facility based on payments made the day of the survey constituted 93% of household expenditures for transportation. In order to calculate the catastrophic payments associated with transportation to the MMT facility, we assume that payments for transport are either 93% of household expenditures for transportation (for respondents who did not report individual transportation costs) or 93% of individual transportation costs (for respondents who did report individual transportation costs). If the estimated annual costs of transport to MMT facility, based on reported expenditure for the day of the survey are lower than either of these metrics, we use those expenditures, and for MMT clients who reported no transportation expense on the day of the survey, we consider no expenditure to have occurred for transport to the MMT clinic.

Under these assumptions, expenditures for transportation constituted a catastrophic expenditure for 8% (95% CI: 6% to 10%) of MMT clients (see Table 8), while the combined expenditures for transportation to the MMT clinic and payments for MMT care constituted a catastrophic expenditure for 13% (95% CI: 10% to 16%) of MMT clients.

Table 8: Expenditures for transportation to and from the MMT facility

Variable	n	Mean	95% Confidence Interval
	991		
Yearly expenditure for transport to MMT facility, based on reported expenditure for day of survey		7,370	1,281 to 13,458
Estimated yearly <u>household</u> expenditure for transportation		8,145	6,668 to 9,623
		Percentage	
Proportion with catastrophic payments for transportation*	991		
>40% capacity to pay		8%	6% to 10%
>30% capacity to pay		12%	10% to 15%
>20% capacity to pay		21%	18% to 25%
Proportion with catastrophic payments for transportation plus expenses for MMT*	991		
>40% capacity to pay		13%	10% to 16%
>30% capacity to pay		18%	15% to 22%
>20% capacity to pay		29%	25% to 33%

*based on 93% of transportation costs dedicated to going to/from MMT clinic

3.4 Income

While the primary and secondary objectives of this survey were to assess respondents' expenditures, we also assess respondents' current income in order to determine if clients of MMT facilities make more, about the same, or less than the average person in Viet Nam.

Table 9: Reported annual income of respondents, on average (VND thousands)

Variable	n	Mean / Percentage	95% Confidence Interval	
Proportion with any individual income in last year	1,027	56%	52% to 60%	
		VND thousands		p-value compared to national average
Average individual income (all respondents)	1,027	36,405	29,655 to 43,156	<0.001
Average individual income (including respondents' share of household income)	1,027	46,879	39,187 to 54,570	<0.001
Average individual plus share of household income by category				
Pay received as compensation for work	1,027	33,848 (72%)	27,187 to 40,510	
Benefits	1,027	457 (1%)	291 to 622	
Rent of land, equipment, etc.	1,027	1,712 (4%)	885 to 2,538	
Agricultural activities	1,027	1,361 (3%)	734 to 1,988	
Business	1,027	2,651 (6%)	416 to 4,886	
Other	1,027	6,850 (15%)	4,189 to 9,512	

Table 9 shows that 56% (95% CI: 52% to 60%) of respondents reported earning income as an individual. The average income, including respondents' share of household income, was 46,879 (95% CI: 39,187 to 54,570) thousand VND, of which 36,405 (95% CI: 29,655 to 43,156) thousand VND, or 77.7%, of income was directly attributable to the respondent, with the remainder comprised of the respondents' share of household income. The average income, including respondents' share of household income, was less than the national average income of working people, which was estimated at 69,870 thousand VND ($p < 0.001$). Among respondent reporting that they were currently employed, the average income, including respondents' share of household income, was 71,720 (95% CI: 58,534 to 84,306) thousand VND, which was not statistically significantly different than the national average ($p = 0.39$).

The majority of income came from pay received as compensation for work, with 33,848 thousand VND received as income from this source, representing 72% of all income. Benefits include allowances, severance pay, unemployment benefits, standard pension, premature pension, allowances for loss of working capacity, and other benefits/allowances and comprised less than 1% of income. Rent of land, equipment, buildings, etc. comprised 4% of income on average. Agricultural activities, including crops, aquaculture, livestock or other animal products, and forestry, comprised 3% of income, net of agricultural expenditures. Income from own- or household-business activities comprised 6% of income, net of expenses. Finally, other income, including gifts and remittances, weddings, funerals, social benefits,

assistance for disasters and fires, insurance, interest, donations, and any other income, comprised 15% of income.

Table 10: Reported annual income of respondents by category of respondent, on average (VND thousands)

Category	N	Income (thousands VND)	
		Mean	95% Confidence Interval
Time on MMT	1,027		
One year or less		50,018	40,041 to 59,995
More than one year		37,690	28,533 to 46,848
HIV status	1,027		
Negative, or reported did not have HIV test		52,268	42,471 to 62,065
Tested positive		30,212	21,380 to 39,043
Location	1,027		
Ho Chi Minh City		41,080	36,793 to 45,366
Hanoi		71,139	51,666 to 90,612
Other provinces		29,851	25,944 to 33,759
Age Category	1,027		
25 and under		33,662	25,576 to 41,747
26 to 30		48,947	26,393 to 71,502
31 to 35		45,372	26,860 to 63,883
36 to 40		53,432	32,423 to 74,442
41 to 45		47,897	33,772 to 62,022
Over 45		44,034	28,830 to 59,238
Marital status	1,027		
Single		49,741	35,798 to 63,685
Married / long-term partner		44,412	35,170 to 53,654
Widowed		38,560	13,140 to 63,981
Divorced / Separated		52,493	19,922 to 85,065
Education	1,027		
No qualification		13,227	8,883 to 17,571
Primary school		36,739	28,440 to 45,037
Secondary / High school		47,923	38,676 to 57,170
Higher than high school		105,797	42,905 to 168,689
Job Status	1,027		
Homemaker, not currently employed		16,246	11,443 to 21,050
Currently have full- or part-time job, or self-employed		71,420	58,534 to 84,306

People who have been on MMT longer than 12 months have lower incomes than people who have been on MMT 12 months or less (Table 10). Further, respondents who self-report to be HIV positive and respondents from provinces outside of Ha Noi and Ho Chi Minh City also have lower incomes than respondents who did not report they were HIV positive or live in Ha Noi or Ho Chi Minh City. As expected, respondents who currently have a job have a higher income than those without. Those with higher levels of education tend to have higher incomes.

Table 11: Percentage of respondents with income below the poverty line

Variable	n	Percentage	95% Confidence Interval
Average individual income below poverty line	1,027	50%	46% to 54%
Average individual income plus share of household income below poverty line	1,027	37%	33% to 41%
Poverty status by category*			
<i>Time on MMT</i>	1,027		
One year or less		36%	31% to 40%
More than one year		41%	34% to 49%
<i>HIV status</i>	1,027		
Negative, or reported did not have HIV test		35%	31% to 40%
Tested positive		43%	35% to 51%
<i>Location</i>	1,027		
HCM City and Hanoi		28%	23% to 34%
Other provinces		46%	41% to 51%
<i>Job Status</i>	1,027		
Homemaker, no currently employed, other		68%	62% to 73%
Currently have full- or part-time job or self-employed		13%	9% to 17%

* Measured as individual income plus individual share of household income.

About 50% (95% CI: 46% to 54%) had individual incomes below the official GoV urban poverty line; when the respondents' share of household income is added to the individual income, then 37% (95% CI: 33% to 41%) of respondents had incomes below the official GoV urban poverty line (Table 11). As noted in the methods section, these figures likely over-estimate the poverty rate because (i) poverty calculations should be based on household income, which was not available for this survey, and (ii) some of the respondents live in rural areas, data for which again are unavailable for this survey but has a lower poverty line than urban areas. When looking at the poverty rates in Ho Chi Minh City and Ha Noi, 28% (95% CI: 23% to 34%) of respondents had individual income plus individual share of household income below the poverty line, while 46% (95% CI: 41% to 51%) of respondents in other provinces had income below the poverty line. The higher poverty rate in other provinces likely reflects both higher poverty rates in these provinces in general and some respondents in these provinces living in rural areas.

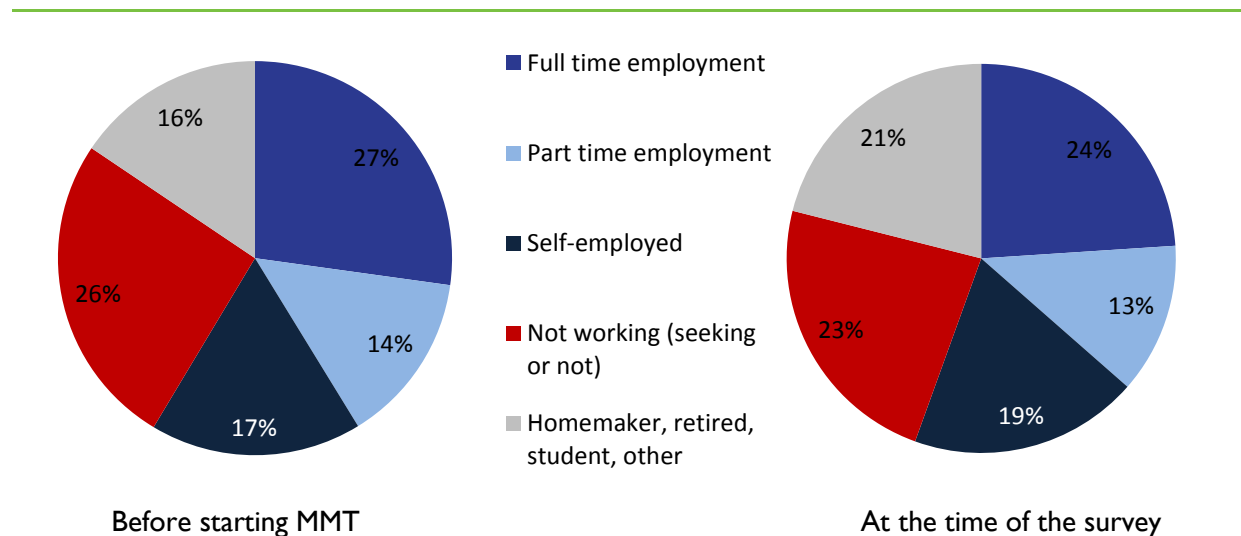
The poverty rate among respondents who had a job at the time of the survey was 13% (95% CI: 9% to 17%), substantially lower than the 68% (95% CI: 62% to 73%) poverty rate among those without a job. The relatively high poverty rate among those without a job may, again, reflect the failure of the survey to fully capture the income of the entire household, while the relatively low poverty rate among those with a job does indicate that employment is closely linked with non-poverty status.

While the poverty rate is higher for people who have been on MMT more than one year than for those on MMT 12 months or less and higher for respondents who reported they were HIV positive than those that did not report they were HIV positive, the confidence intervals between each of these indicators overlap.

3.5 Job status

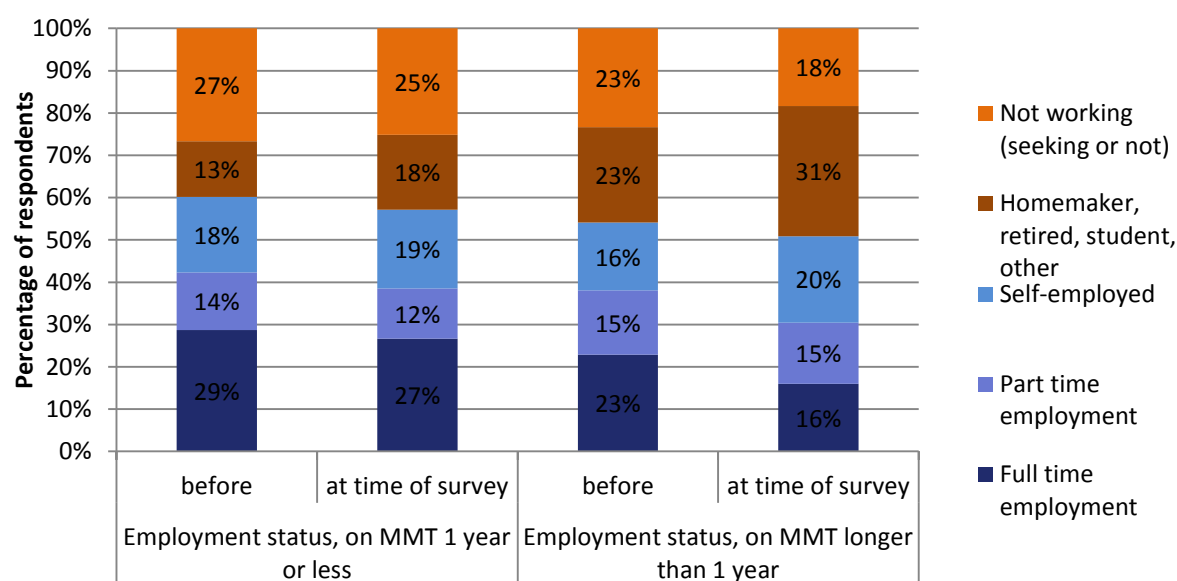
A secondary objective of the survey was to estimate the change in employment associated with enrollment in MMT. The questionnaire asked people to identify their type of employment at the time of the interview (including full time employment, part time employment, self-employed, on leave/sick leave, seeking work, retired, homemaker, student, and not working, not looking for work). Respondents were then asked if their income had changed since starting MMT, and, if so, their type of employment before starting MMT.

Figure 4: Job status of respondents before starting MMT and at the time of the survey



In net, the job status of respondents did not change dramatically after starting MMT (see Figure 4). For example, before starting MMT 26% of respondents reported they were not working, while after starting MMT 23% of respondents reported they were not working. Further, while 16% of respondents indicated they were homemakers, retirees, students, or other categories outside the workforce, this increased to 21% at the time of the survey.

Figure 5: Job status of respondents before starting MMT and at the time of the survey, categorized by length of time on MMT



A lower percentage of respondents who had been on MMT longer than one year at the time of the interview reported having a job before starting MMT (46% did not have a job) than respondents who were on MMT 12 months or less (40% did not have a job) ($p = 0.19$ based on F-test), but a higher percentage of those who had been on MMT longer than one year reported not having a job at the time of the interview (49%) than those who were on MMT 12 months or less (43%) (see Figure 5) ($p = 0.18$ based on F-test). In both cases, 6% more respondents who had been on MMT longer than one year did not have a job compared to respondents who were on MMT 12 months or less.

When categorized by place of residence, respondents in Ha Noi and Ho Chi Minh City showed an overall decrease in the percentage of respondents who had full or part time employment when comparing before starting MMT to the time of the interview, resulting in an overall increase in the percentage of respondents who classified themselves as homemakers, retirees, or students (see Figure 6). In other provinces, there was an increase in the percentage of respondents with full time employment and who were self-employed, and a decrease in the percentage of respondents who were not working comparing before starting MMT to the time of the survey, although the changes are small and suggest no substantive changes in their employment situation.

Figure 6: Job status of respondents before starting MMT and at the time of the survey, categorized by place of residence

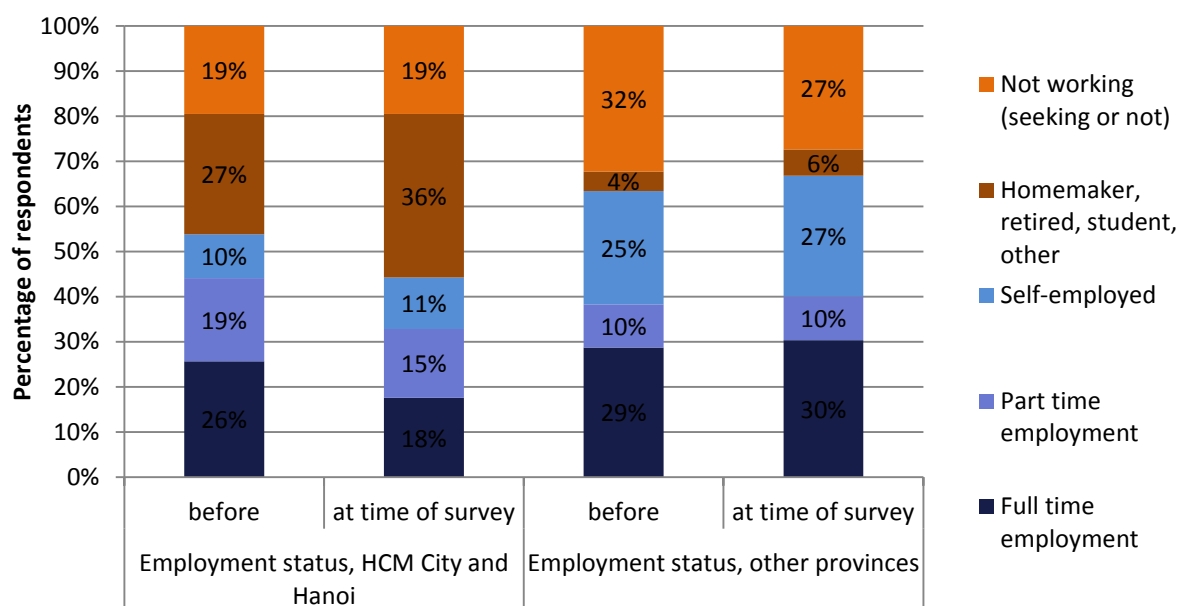
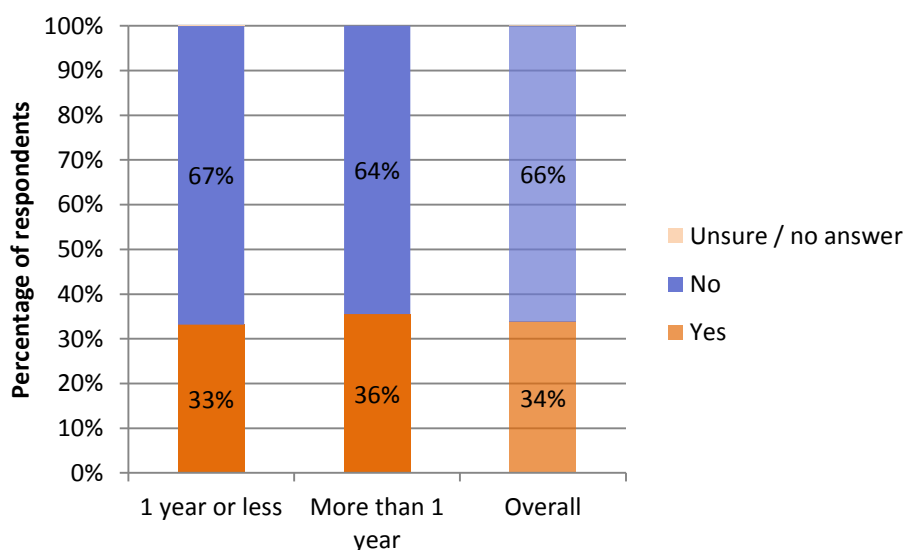
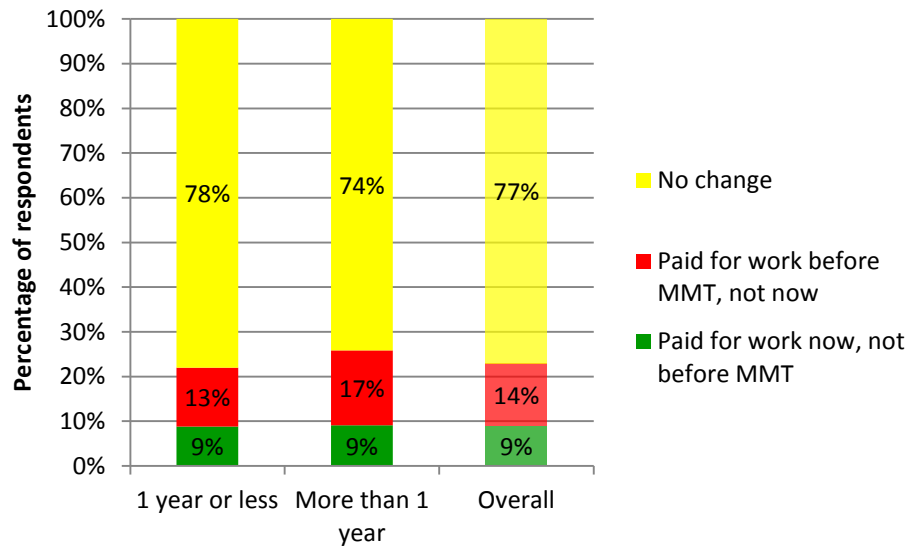


Figure 7: Proportion of respondents that changed jobs since starting MMT



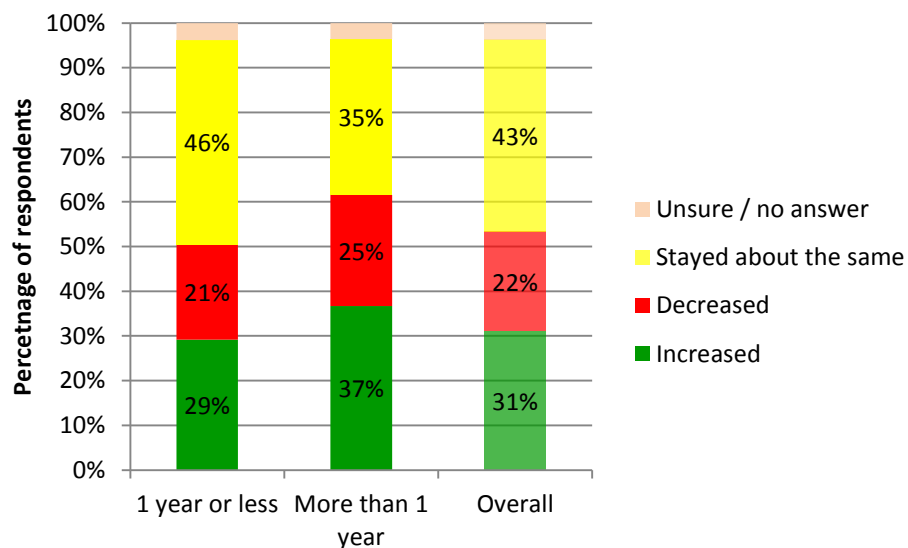
Overall, about 34% (95% CI: 30% to 37%) of respondents changed jobs since starting MMT (see Figure 7). Among those on MMT for more than 1 year, 36% (95% CI: 28% to 43%) had changed jobs since starting MMT, while 33% (95% CI: 29% to 37%) of respondents on MMT for 12 months or less had changed jobs since starting MMT, indicating little difference between the two groups.

Figure 8: Proportion of respondents changing ‘paid for work’ status before and after starting MMT



Among all respondents, 9% (95% CI: 7% to 11%) were paid for work at the time of the survey but were not paid for work before starting MMT (see Figure 8). However, 14% of respondents did not receive pay for work at the time of the survey, but had received pay for work before starting MMT. Together, these account for 23% of the population, while 34% of respondents changed jobs. The remaining 11% either received pay for work both before and after starting MMT (but from different types of work) or did not receive any pay for work in both time periods (but changed their job status outside of the categories that receive pay for work).

Figure 9: Total individual income now as compared to before starting MMT



Thirty-one percent of respondents reported that their income had increased since starting MMT (95% CI: 27% to 35%); 37% (95% CI: 29% to 44%) of respondents who had been on MMT from more than 1 year at the time of survey reported an increase in income, compared to 29% (95% CI: 25% to 33%) among respondents who had been on MMT for 12 months or less (see Figure 9). Conversely, 22% (95% CI: 19% to 25%) of respondents reported that their income had decreased since starting MMT (25% and 21% among respondents who had been on MMT from more than 1 year and who had been on MMT for 12 months or less, respectively).

3.6 HIV prevention and HIV status

In addition to the results presented above, all respondents were asked questions about condom procurement and payments for condoms as well as their HIV testing history and their HIV status.

Table 12: Summary statistics for condom purchasing

Variable	N	Mean	95% Confidence Interval
Procured condoms in last 30 days	1,027		
Proportion		11%	9% to 14%
Among those procuring condoms	97		
Average amount spend on condoms in last 30 days			
VND '000s		14.8	8.9 to 20.7
Where condoms were obtained (among those obtaining condoms)*	117		
Obtained condoms from government health facility		41%	28.9% to 52.2%
Obtained condoms from private health facility		6%	0.5% to 10.5%
Obtained condoms from pharmacy/shop		48%	35.8% to 60.1%
Obtained condoms from outreach / peer educator		8%	0.5% to 14.8%
Obtained condoms from unknown/unspecified source		0.6%	0.5% to 1.7%
Obtained condoms from other source		0.3%	0.2% to 0.8%

Eleven percent (95% CI: 9% to 14%) of MMT clients reported having procured condoms in the 30 days before the survey (see Table 12). Among those who procured condoms, they paid, on average, 14.8 thousand VND. The most common place for procuring condoms was at pharmacies or other shops (48%), followed by government health facilities (41%).

Despite HIV testing being mandatory for enrollment in MMT, 5% (95% CI: 3% to 6%) of respondents reported never being tested for HIV (see Table 13). Among the 95% of MMT clients that reported having been tested for HIV, 26% (95% CI: 22% to 29%) reported testing positive for HIV, and among those reporting to be HIV positive, 89% (95% CI: 85% to 93%) reported that they had enrolled in HIV care.

Table 13: Summary statistics for HIV testing and HIV status

Variable	n	Mean	95% Confidence Interval
Ever received an HIV test	1,027		
Yes		95%	94% to 97%
No		5%	3% to 6%
Don't know / no answer		0.1%	0% to 0.3%
<i>Tested positive for HIV, if tested</i>	980		
Yes		26%	22% to 29%
No		74%	71% to 78%
<i>Enrolled in HIV care, if HIV positive</i>	282		
Yes		89%	85% to 93%
No		11%	7% to 15%

4. DISCUSSION

4.1 Summary of main results

The primary objective of these analyses is to estimate the change in average income and general expenditures of MMT clients associated with starting MMT care. We find that starting MMT care is associated with substantially lower general expenditures because MMT clients no longer incur expenditures for heroin. However, for other categories of expenditures, we did not detect a statistically significant difference. Similarly, we found that 31% of respondents reported an increase in income since starting MMT, but that 22% of MMT clients reported a decrease in income since starting MMT. This indicates that for some MMT clients, starting MMT may help enable them to gain income, but that for others it either does not, or it may, in part, be associated with a decrease in income. Thus, more work is needed to understand how to best enable MMT clients to retain legitimate employment or to engage in productive work.

In terms of employment, the results do not indicate a strong association between starting MMT and change of employment status. Similar to the results for income, some MMT clients (about 9% of respondents) did start earning pay for work after starting MMT, while they had not before starting MMT, but other MMT clients (about 14% of respondents) stopped receiving pay for work, but had received pay for work before starting MMT. Overall, employment status changed very little, on average, from before starting MMT to the time of the survey, although the averages do conceal some changes at the individual level (which largely offset each other). Finally, the shift towards becoming a homemaker, student, or retired is larger in Ha Noi and Ho Chi Minh City (where this job status included about 9% more respondents at the time of the survey than before starting MMT) compared with other provinces (where this job status included about 2% more respondents at the time of the survey than before starting MMT).

The results of these analyses do suggest that MMT has a positive impact on the overall financial situation of households. Based on survey results, it is estimated that enrolling in MMT reduces annual expenditures on heroin by about 113 million VND (about US\$5,000) for each person enrolling in MMT. In May 2015, there were about 35,000 people enrolled in MMT. If these people had not had access to MMT, they likely would have spent up to almost 3,967 billion VND on heroin (US\$180 million) per year. The amount spent only for heroin before MMT is almost 3 times total expenditures after starting MMT. Based on respondents' answers, they did not have income or job changes that reflect this level of financial change. While we did not ask respondents how they financed their heroin addiction, up to 97% had catastrophic expenditures related to heroin. Thus, many MMT clients could not afford heroin based on their legitimate income alone, and reductions in expenditures on heroin also likely reflect reductions in financial harm (though begging, borrowing, and/or stealing) to MMT clients' families and communities.

Costs for MMT represent 4% of expenditures, and 4% of MMT clients incurred catastrophic payments associated with MMT therapy. However, about 8% of MMT clients incurred catastrophic payments associated with travelling to the MMT facility on a daily basis. Further, charging user fees may raise the financial difficulty of accessing MMT for its clients, with potentially about 19% of MMT clients incurring catastrophic payments if charged 10,000 VND per day.

4.2 Limitations

This study is based on a cross-sectional survey which was administered in health facilities. Not administering the survey at home and/or with all working adults in a household may bias the results, especially in comparison to studies that did survey respondents in their houses. Previous research has shown that estimates of expenditures are subject to error (Lu, Chin et al. 2009). In general, we shortened the LSMS questionnaire to include fewer questions in order to accommodate respondents' willingness to be interviewed at the health facility. Asking fewer questions is generally associated with lower levels of total expenditures than asking more detailed questions (Lu, Chin, et al. 2009). There is also the possibility of recall bias, where respondents do not recall well the period before they started MMT. We limited the time frame for which people were on MMT to two years or less; however, for some respondents this may represent a substantial period of time and some degree of recall bias is expected. This is confirmed, to some extent by the higher level of missing data for expenditures for the period before starting MMT. However, missing data for that period may also be the result of reluctance of people to speak about the time when they were using heroin, and expenditures for heroin had one of the highest rates of missing data.

While we cannot know the direction or the degree of bias incurred due to these factors, we suspect that our results may under-estimate expenditures and income, especially if compared to the results from other surveys like the LSMS which have more detailed questions and occur in the household. The degree to which the recall bias differentially affects the results is also unclear. For example, the potential for underestimation may not be the same for all categories of expenditures; respondents may, for example, underestimate expenditures for heroin more than they underestimate expenditures for food (if they underestimate at all). Further, about 98% of respondents were male, which may affect the results in comparison with other studies.

While this is cause for caution when interpreting the results presented here, it is unlikely that it would have little impact on the main conclusions related to expenditures. For example, even if respondents grossly underestimate the amount they spent on heroin before starting MMT, heroin already is shown to pose a substantial financial burden to the vast majority of MMT clients. On the other hand, they would have had to have greatly overestimated spending on heroin for this conclusion not to be true. Officials at VAAC report that the average cost of heroin addiction is roughly 500,000 VND per day, while the results here suggest that it is 315,000 VND per day. Thus, we suspect that we have underestimated heroin expenditures, and the extent of financial hardship caused by heroin addiction is underestimated in this report.

Patients may have misreported the amount spent on MMT. In the initial part of the survey, we asked patients how much they had spent on MMT 'at this visit' (the day of the survey). However, patients often pay monthly fees. This may have affected results in Ho Chi Minh City, where user fees ranging from 7,000 to 10,000 VND for mineral water and paper cups were in place at the time of the survey. The field staff also reported that there were user fees in other provinces (including Hanoi, Long An, and some sites in Thanh Hoa). Over 80% of respondents indicated no payment for methadone in these provinces, and we were unable to adjust expenditures in these provinces to reflect user fees. Thus, the reported catastrophic payment rates for methadone should be considered low-end estimates. However, the various scenarios shown in Figure 9 serve to highlight potential ranges for catastrophic payments.

Further, previous research has shown that asking for expenditures over a shorter time period tends to produce higher estimates of expenditures than asking for expenditures over a longer time period (Lu, Chin, et al. 2009). Thus, we find that asking people about the expenses for travel to the MMT clinic on the day of the survey produce higher estimated annual expenditures on average than when we ask about total transport expenditures over the last month. It is not clear from the data we have on hand which time period is more accurate in terms of estimating actual expenditure. We have taken a conservative

approach to estimating the cost of transportation to the MMT facility, taking the lower value of the two methods, and assuming that not all of total transportation expenditure is used for travel to the MMT facility. Thus, the catastrophic payments estimated in Table 11 should be considered to be at the lower end of the plausible range of the financial burden imposed by traveling to and from the MMT facility on a daily basis.

Cross-sectional surveys should be interpreted as descriptive of a situation at a point in time, and should not be used for causal inferences. For example, our survey shows that about 24% of MMT clients self-identified as HIV positive. This should not be interpreted as an indication of the success or failure of MMT or other harm reduction interventions on the incidence of HIV because we do not know when the respondents were infected with HIV. Some of them may have been infected, for example, before these interventions were introduced in the area where they live. Finally, the survey is representative only of provinces which had at least one facility offering MMT in August 2014; results do not apply to provinces where facilities have started offering MMT since that time.

4.3 Discussion

The results of these analyses do not indicate that MMT clients on average show a substantial gain in income or employment after starting MMT as compared to before starting MMT. However, the average conceals individual differences. Almost a third of MMT clients reported an increase in income since starting MMT. While this survey does not establish that MMT is the cause of this increase in income, it does show an association between MMT and increased employment for some people, which should not be disregarded. On the other hand, almost a quarter of respondents reported a decrease in income since starting MMT. We did not ask respondents to list the reasons or causes for a decrease in income. Some reasons may be legitimate – for example, ceasing to engage in illegal activity. Another hypothesis may be that people quit their jobs in order to attend the MMT facility on a daily basis. Finally, some of the people reporting lower income may be undergoing an adjustment period; this survey did not assess outcomes for clients who have been on MMT for more than two years. However, the results assessing change in income for MMT clients who have been on MMT for a longer period of time shed some doubt on the hypothesis that clients are undergoing an adjustment period. These findings are somewhat contradictory to evidence from China and Malaysia, where employment among MMT clients increased substantially after starting MMT (Sun, Li, et al. 2015, Manan, Ali, et al. 2013). More understanding of this issue is needed; it may be that linking MMT clients with social or job programs could help to ameliorate the loss of income for some of this population.

On the other hand, the results of these analyses do show a very large reduction in financial harm associated with starting MMT due to the reduction in expenditures for heroin. Heroin expenditures are not only more than total expenditures at the time of the survey, but they are substantially more than the total reported income of respondents, even among respondents who reported an increase in income after starting MMT. Heroin expenditures are greater than the individual income of 82% of respondents (79% of those reporting an increase in income). This indicates that a very large percentage (over 80%) of MMT clients had to rely on other sources of money than their individual income in order to pay for heroin. This situation largely disappears after starting MMT.

This survey was administered at the start of the implementation of user fees for MMT. The effects of user fees on MMT clients' financial situation is not widely assessed in this report, although we present a scenario analysis. Further, the effect of user fees on clients' retention in MMT care is not known, and outside the scope of this study. We recommend continued assessment of these issues in the future.

ANNEX I: DETAILED DESCRIPTION OF THE CALCULATION OF SURVEY WEIGHTS

To reflect the probability of each respondent being included in the survey, we use the following notation:

P_{1rp} : The first stage probability of province p being selected in region r (for one province r = the entire nation).

P_{2rpf} : The second stage probability of individual i being selected at facility f in each province.

The probability of province p being selected is defined as:

$$P_{1rp} = \frac{M_p}{\sum M_{rp}}$$

Where M_p is the number of MMT clients in a province and $\sum M_{rp}$ is the total number of MMT clients in region r . In order to reflect the population of MMT clients in May 2015, numbers from 2015 were used for this calculation.

The formula for the second stage of sampling also had to be modified to reflect new clinics opening between the time that the sample was drawn and the time that the surveys took place, such that the probability of an individual being selected is defined as:

$$P_{2rpf} = \frac{\sum M_{pf}}{\sum M_p} \times \frac{G_{pfi}}{M_f}$$

Where $\sum M_{pf}$ is the sum of MMT clients at sampled facilities in the province, $\sum M_p$ is the sum of all MMT clients in the province (both as of May 2015), G_{pfi} is the number of clients interviewed at a facility, and M_f is the total number of MMT clients at a particular facility (as of May 2015). Note that this calculation assumes that the results for the clients at facilities included in the sample are applicable to clients at facilities starting to offer MMT after August 2014, which, because facilities starting to offer MMT after August 2014 could not have been included in the sample, is technically not true. However, the results as presented account for the differential growth in the overall number of MMT clients between provinces during the period August 2014 through May 2015. For example, provinces with higher growth in the number of MMT clients will have a lower calculated probability of being included in the survey, provinces with higher growth rates will receive a higher weight to reflect the fact that they have (as of May 2015) more clients (than they did in August 2014).

The final probability of selection is therefore defined as:

$$P_{rpf} = P_{1rp} \times P_{2rpf}$$

The sampling weight for an individual i in facility f in province p and region r is then defined as:

$$W_{rpf} = 1 / P_{rpf}$$

These weights are used for all results presented in this report.

ANNEX 2: DESIGN EFFECTS FOR SELECTED VARIABLES

Variable	Estimate	SE	N	DEFF	SE / Estimate
<i>Job Status (proportion)</i>					
Full time employment	0.24	0.016	1,027	1.465	0.07
Part time employment	0.13	0.013	1,027	1.617	0.10
Self-employed	0.19	0.015	1,027	1.632	0.08
Not working (seeking or not)	0.23	0.016	1,027	1.515	0.07
Homemaker, retired, student, other	0.21	0.013	1,027	1.129	0.06
<i>Annual income at time of the survey (VND thousands)</i>					
Average individual income (all respondents)	36,405	3,290	1,027	2.115	0.09
Average individual income (including respondents' share of household income)	46,879	3,745	1,027	2.095	0.08
<i>Annual expenditures (VND thousands)</i>					
Average individual expenditures (at time of survey)	21,706	3,228	1,027	2.562	0.15
Average individual expenditures, including respondents' individual share of household expenditures (at time of the survey)	38,263	3,334	1,027	2.438	0.09
Average individual expenditures (before starting MMT)	112,023	6,795	1,027	1.506	0.06
Average individual expenditures, including respondents' individual share of household expenditures (before starting MMT)	150,997	7,071	1,027	1.502	0.05

Variables represent the measures used for the primary and secondary objectives of the survey. Estimates present the mean values across all respondents. The SE reports the Taylor-linearized standard errors. N is the number of respondents, and the DEFF is the design effect.

ANNEX 3: MISSING DATA AND FRACTION OF MISSING INFORMATION

App 3 Table 1: Missing data for income

Variable	Number of answers completed	Number of answers not completed
Payment for work	1019	8
<i>Benefits</i>		
Allowances	1021	6
Severance pay	1026	1
Unemployment benefits	1027	0
Standard pension	1027	0
Premature pension	1027	0
Allowances for loss of working capacity	1027	0
Other benefits/allowances	1027	0
<i>Rent</i>		
Rent of house or land	1020	7
Rent for equipment, other	1018	9
<i>Agricultural activities</i>		
Staple crops	1022	5
Vegetables	1019	8
Industrial crops	1023	4
Fruit	1022	5
Agricultural byproducts	1027	0
Livestock / animals	1010	17
Aquaculture	1027	0
Forestry	1025	2
Expenditures for crops	975	52
Expenditures for livestock / animals	992	35
Expenditures for aquaculture	1023	4
Expenditures for forestry	1026	1
<i>Business activities</i>		
Income from business	1006	21
Value of products from business for own use	1015	12
Value of business byproducts	1026	1
Expenditures for business	998	29
<i>Other sources of income</i>		
Gifts / remittances	1015	12
Weddings	1005	22
Funerals	1005	22
Social benefits	1008	19
Assistance for disasters / fires	1020	7
Insurance	1022	5
Interest	1002	25
Donations	1023	4
Other	1008	19
Percentage of missing data:		1.0%

App 3 Table 2: Missing data for current expenditures

Variable	Number of answers completed	Number of answers not completed
Methadone	826	201
<i>Food</i>		
Regular food expenditures	872	155
Food for special occasions	738	289
<i>Housing</i>		
Rent or mortgage payments	1025	2
Maintenance	936	91
<i>Utilities</i>		
Electricity	984	43
Water	970	57
Cooking fuel	952	75
Telecommunications	1017	10
Transportation	997	30
Education	955	72
<i>Other expenditures</i>		
Remittances	1018	9
Personal items, toiletries, etc.	999	28
Entertainment	998	29
Cigarettes and alcohol	1013	14
Travel	982	45
Clothing	859	168
Weddings	829	198
Gifts	873	154
Other major purchases	1003	24
Other yearly expenditures	906	121
Percentage of missing data:		8.4%

App 3 Table 3: Missing data for expenditures before starting MMT

Variable	Number of answers completed	Number of answers not completed
Heroin	519	508
<i>Food</i>		
Regular food expenditures	848	179
Food for special occasions	725	302
<i>Housing</i>		
Rent or mortgage payments	1026	1
Maintenance	925	102
<i>Utilities</i>		
Electricity	977	50
Water	964	63
Cooking fuel	947	80
Telecommunications	1007	20
Transportation	964	63
Education	952	75
<i>Other expenditures</i>		
Remittances	1019	8
Personal items, toiletries, etc.	993	34
Entertainment	988	39
Cigarettes and alcohol	1007	20
Travel	978	49
Clothing	848	179
Weddings	593	434
Gifts	870	157
Other major purchases	997	30
Other yearly expenditures	334	693
Percentage of missing data:		14.1%

App 3 Table 4: Fraction of missing information for selected variables

Variable	FMI*	Mean value using only observed data	Mean value including imputed data
Full time employment	No missing data	No missing data	No missing data
Average individual income (all respondents)	0.009	36,328	36,405
Average individual income (including respondents' share of household income)	0.030	46,350	46,879
Average individual expenditures (at time of survey)	0.008	21,583	21,706
Average individual expenditures, including respondents' individual share of household expenditures (at time of the survey)	0.012	43,294	38,263
Average individual expenditures (before starting MMT)	0.480	89,484	112,023
Average individual expenditures, including respondents' individual share of household expenditures (before starting MMT)	0.436	119,451	150,997

*The fraction of missing information (FMI) is the proportion of all variance (or all uncertainty) that is due to the missing data. For example, if the FMI is 0.03, it indicates that 3% of total variance is due to missing data. The FMI is a more accurate indicator of the impact of missing data than the percentage of individual observations that are missing because it accounts for the degree to which missing data can be predicted based on available data. Thus, while 14.1% of data points are missing for expenditures before starting MMT, the FMI is 43.6%. The reason the FMI is larger is because heroin constitutes a very large percentage of expenditures (almost 60% of all expenditures before starting MMT, among people that reported data) and is not well predicted by other variables in the dataset, indicating that missing information proportionately accounts for a large degree of the uncertainty in the measurement of annual expenditures before starting MMT.

SURVEY INSTRUMENT

Recruitment Script

Good morning/afternoon/evening. My name is _____. We are conducting a survey on health care and income today for the Vietnam Administration of HIV/AIDS Control and the Health Financing and Governance project funded by the United States Agency for International Development. Would you be willing to speak with me and answer a few questions?

(if no-> “Thank you for your time” and end interview.)

Did you start methadone maintenance therapy within the past two years?

- ☐ Yes (continue with the script)
- ☐ No (thank them, stop interview and indicate result in the form)

Did you start methadone maintenance therapy within the past month?

- ☐ Yes (thank them, stop interview and indicate result in the form)
- ☐ No (continue with the script)

Are you over the age of 18?

- ☐ Yes (continue with the script)
- ☐ No (thank them, stop interview and indicate result in the form)

Informed Consent

We are doing a survey today funded by the Vietnam Administration of HIV/AIDS Control in collaboration with the Health Financing and Governance project funded by the United States Agency for International Development (USAID) to learn about the experiences of people accessing methadone maintenance therapy with respect to employment, income, and use of health services. The results of this study will be used to inform Vietnam's policies about for people accessing methadone maintenance therapy. Your participation will help the Government of Vietnam to understand how to improve methadone maintenance therapy in Vietnam.

We would like to invite you to participate in an interview. We are asking about 30 clients at this clinic to participate, and another 1,020 clients at other similar clinics around Vietnam. The survey should take about 20 to 30 minutes. To thank you for your time, you will receive VND 42,000 for participating.

Your participation in the survey is voluntary. Refusing to participate in the study will not affect the care that you would normally receive at this facility. If you wish to skip certain questions or sections, just tell me, and I will go on to the next question. Also, if you wish to stop the interview at any time just let me know.

In order to ask the facility staff for your patient medical record number, we will ask your name and date of birth. We will use your name and date of birth only to access this data and will destroy the sheet with your name and date of birth before we leave the facility today. We will keep your patient record number at this clinic in electronic format at the Vietnamese Administration for HIV/AIDS Control in order to be able assess how you are doing in about 6 months; this information will be kept separate from any information you provide us today.

The information you provide will be kept confidential to the best of our ability. The paper copies of this survey will be stored in a secure location in the Vietnamese Administration for HIV/AIDS Control.

The electronic data may also be shared with USAID at the end of the study; however, all personally identifiable information will be removed from the dataset before we share it. Your answers will be combined with other the participants' answers.

If you have any questions or concerns pertaining to your participation in this study, you may contact Ms. Le Bao Chau at lbc@hsph.edu.vn or 090 415 3250 OR the Hanoi School of Public Health's Institutional Review Board, 136 Giang Vo, Ba Dinh, Hanoi at dmh@hsph.edu.vn or 84 4 62 662 299.

At this time, do you want to ask me anything about the survey?

Do you agree to participate?

- ☐ Yes (proceed to the survey questions)
- ☐ No (thank them for their time, indicate result in the form)

NOTE TO THE INTERVIEWER: You must sign below before proceeding. Your signature certifies that the objectives and procedures for this study have been read to the participant, all questions were answered and the participant has agreed to take part in the research.

Signature of Interviewer

Date

Give a copy of the client information sheet located at the end of this interview to the client.

SECTION 1: QUESTIONNAIRE IDENTIFICATION INFORMATION

Name of Interviewer: _____

Interviewer Code: ___ ___ ___

Date of Interview (DD MM): ___ ___ ___ ___ ___ ___
 MM DD YY

Province Code: ___ ___

Facility Code: ___ ___

Survey number: ___ ___

Time at start of interview: ___ ___ ___ ___
 HH MM

SECTION 2: Characteristics of the respondent

#	Questions and filters	Coding categories (circle)	GO TO
201.	In what year were you born?	_____	
202.	Have you already had a birthday in this year?	1 – Yes 2 – No 98 – No answer / unsure (End the interview if respondent is less than 18 years)	
203.	How many months have you been receiving methadone maintenance therapy? (including at another site)	_____ Months (End the interview if respondent has been in MMT for more than 24 months or less than 1 month)	
204.	Sex of the respondent	1 – Male 2 – Female	
205.	What is your marital status?	1 – Single 2 – Married / Long-term partner 3 – Widowed 4 – Divorced 5 – Separated	
206.	Do you live with your family / long-term partner? <i>Probing question: Do you share income and/or expenses with the people you live with? If yes, then you are considered to live with family/long-term partner</i>	1 – Yes 2 – No 98 – No answer	If 2 or 98 → Q Error! Reference source not found.
207.	How many people do you live with (over last 6 months)? <i>Probing questions:</i> -Do not include people that live/work in another area and send money to your household. - Include only people that spend the majority (over half) of their time in the household (eat/sleep in household) in last 6 months	a. _____ people (now) IF they changed their household situation, fill in: b. _____ months ago they changed household situation (should be <6) c. _____ people (before) (=0 if lived alone before)	
208.	How many people that you live with are of working age?	_____ people	
209.	What is the highest level of qualification you have obtained? <i>Respondent must have completed the level of education in order to have obtained the qualification.</i> <i>For example, they must have graduated from high school in order to have obtained high school qualification. If they attended high school but did not finish, then they have obtained secondary school qualification.</i>	1 – No qualification 2 – Primary school 3 – Secondary school 4 – High school 5 – Vocational/training school 6 – College 7 – University 8 – Post-graduate 99 – Others (specify _____)	
210.	Are you currently in school, college or university?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q Error! Reference source not

			found.
211.	At which level of education are you attending?	_____ (write code from Q209)	

SECTION 3: Employment and income

#	Questions and filters	Coding categories (circle)	GO TO
→	First, I am going to ask about your current situation...		
301.	<p>What is your current primary employment status? (select one answer)</p> <p><i>Probing questions:</i> -What do you do with the majority of your time? -Primary employment status is what they consider their most important role. For example, a full-time student who has a part-time job should be considered a student.</p>	<p>1 – Full time employment 2 – Part time employment 3 – Self-employed 4 – On Leave/Sick leave 5 – Seeking work 6 – Retired 7 – Homemaker 8 – Student 9 – Not working, not looking for work 10 – Other (specify) _____ 98 – Don't know 99 – Not stated</p>	
302.	<p>Over the past 30 days have you received any salary or wages?</p> <p><i>Probing question: Include only money paid to them for a job; do not include profit from self-employment, but include salary paid from their own business</i></p>	<p>1 – Yes 2 – No 98 – No answer / unsure</p>	<p>If 2 or 98 → Q 304</p>
303.	<p>How much in cash and kind have you received from this job over the past 30 days?</p>	<p>_____ VND (thousands) if no answer write 9998</p>	
→	I will now ask you to compare your current situation to that before you started methadone maintenance therapy		
304.	<p>Have you changed jobs since you started methadone maintenance therapy?</p>	<p>1 – Yes 2 – No 98 – No answer / unsure</p>	
305.	<p>Compared to before you started methadone maintenance therapy, would you say that your current total income has increased, decreased, or stayed about the same?</p>	<p>1 – Increased 2 – Decreased 3 – Stayed about the same 98 – No answer / unsure</p>	<p>If 3 or 98 → Q Error! Reference source not found.</p>
→	Now, I want you to think back to before you started Methadone Maintenance Therapy...		
306.	<p>Before you started methadone maintenance therapy, what was your primary employment status? (Select one answer only)</p> <p><i>Probing questions:</i> -What do you do with the majority of your time? -Primary employment status is what they consider their most important role. For example, a full-time student who has a part-time job should be considered a student.</p>	<p>1 – Full time employment 2 – Part time employment 3 – Self-employed 4 – On Leave/Sick leave 5 – Seeking work 6 – Retired 7 – Homemaker 8 – Student 9 – Not working, not looking for work 10 – Other (specify) _____ 98 – Don't know 99 – Not stated</p>	
307.	<p>In the month before you started methadone,</p>	<p>1 – Yes</p>	<p>If 2 or 98 →</p>

	did you received any salary or wages?	2 – No 98 – No answer / unsure	Q 309
308.	How much in cash and kind did you receive from this job(s) over 30 days (approximately)?	_____ VND (thousands) if no answer write 9998	

→	Apart from salaries/wages, over the past 12 months how much in cash and kind have you received from the following... if no answer write 9998 If they did not receive, write 0		
309.	(Prompt: ...festive occasions? ...other benefits? ...bonuses? ...uniforms? ...lunch? ...allowances for business trips? ...sickness? ...labor accidents? ...pregnancy? ...Other allowances? ...Other benefits?)	_____ VND (thousands) if no answer write 9998 The number above is for: _____ Household income _____ Individual income	
310.	Have you received any unemployment benefits, one-off severance pay, pensions, or allowance for loss of working capacity over the past 12 months?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q Error! Reference source not found.
→	Apart from payments just mention (bonuses, allowances, salary/wage), over the past 12 months how much in cash and kind have you received from the following... (if no, write 0; if no answer write 9998)		
311.	... Unemployment benefits?	_____ VND (thousands)	
312.	... One-off severance pay?	_____ VND (thousands)	
313.	... Standard pension at stipulated age?	_____ VND (thousands)	
314.	... Premature pension?	_____ VND (thousands)	
315.	... Allowance for loss of working capacity?	_____ VND (thousands)	
316.	... Others?	_____ VND (thousands)	
317.	The revenue have you had in cash or in kind from renting out land over the last 12 months? (if none, write 0)	_____ VND (thousands) if no answer write 9998 The number above is for: _____ Household income _____ Individual income	
318.	Has your family used or managed farm land over the last 12 months?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 324
319.	Have you harvested any products from cultivation over the last 12 months?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 321
320.	What are the proceeds from sales or barter of any harvested products over the last 12 months? (Check:		

	<p>a. Did you sell any staple crops?</p> <p>b. Did you sell any vegetables?</p> <p>c. Did you sell any annual or perennial or industrial crops (examples: coffee, tea, cocoa, nuts, flowers, etc. - not including wood / forestry)?</p> <p>d. Did you sell any fruit?</p> <p><i>if no answer write 9998</i></p>	<p>a. _____ VND (thousands)</p> <p>b. _____ VND (thousands)</p> <p>c. _____ VND (thousands)</p> <p>d. _____ VND (thousands)</p> <p><i>The numbers above are for:</i> _____ Household income _____ Individual income</p>	
321.	Have you sold any agricultural by-products (straw, leaves, stems, firewood) over the last 12 months?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 323
322.	What were the revenues from the sale of agricultural by-products over the last 12 months?	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household income _____ Individual income	
323.	What were your total expenditures associated with planting and harvesting crops? <i>Probing question: Expenditures for staple crops, vegetables, annual or perennial industrial crops, fruit?</i> <i>Sum all expenditures.</i>	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household expenditure _____ Individual expenditure	
324.	Have you raised or possessed animals, poultry and livestock; or harvested from hunting, trapping and domestication	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 327
325.	How much of which have you sold, bartered, paid as wages or given away over the last 12 months?	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household income _____ Individual income	
326.	What were your total expenditures associated with animal husbandry, hunting, and trapping?	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household expenditure _____ Individual expenditure	
327.	Over the past 12 months, have you earned revenues from forestry or related activities? <i>Probing questions:</i> <i>Activities should focus on wood production and may include:</i> - Planting/management/protection/ attending of forests breeding forest trees - Collecting products from forests; - Harvesting forest trees (bamboos, wood, firewood,...including those in home gardens); - Forestry services.	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 330

328.	What is the value of outputs/revenues from these activities over the past 12 months?	VND (thousands) if no answer write 9998 The number above is for: _____ Household income _____ Individual income	
329.	What were your total expenditures associated with forestry / forest activities? <i>Probing question – Should only be expenses related to activities listed in Q325. Does not include planting trees for personal aesthetic purposes or for fruit</i>	VND (thousands) if no answer write 9998 The number above is for: _____ Household expenditure _____ Individual expenditure	
330.	Over the past 12 months, has any one from your household: -kept, bred fish, shrimps or other aquatic products; -caught aquatic products from lakes, ponds, rivers, springs and seas (for example, fishing); or -earned revenues from aquaculture services?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 333
331.	What is the value of outputs/revenues from these activities over the past 12 months?	VND (thousands) if no answer write 9998 The number above is for: _____ Household income _____ Individual income	
332.	What were your total expenditures associated with aquaculture?	VND (thousands) if no answer write 9998 The number above is for: _____ Household expenditure _____ Individual expenditure	
333.	Have you had any activities of your own production and business over the past 12 months? <i>Probing questions: Exclude activities listed above, that is, should not include agricultural activities animal husbandry forestry aquaculture/ fishing services -This does include self-employment activities and home businesses.</i>	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 341
334.	Are products of this activity for sale, exchange, or service supply?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 336
335.	Among activities related to your own production and business over the past 12 months, what is the total revenue of these activities?	VND (thousands) if no answer write 9998 The number above is for: _____ Household income _____ Individual income	
336.	Have any products of this activity been used	1 – Yes	If 2 or 98 →

	or consumed by the household over the past 12 months? <i>-related own production and business</i>	2 – No 98 – No answer / unsure	Q 338
337.	Value of products used or consumed by the household over the past 12 months? <i>-related own production and business</i>	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household income _____ Individual income	
338.	Have any by-products of this activity been used or sold by the household over the past 12 months? <i>-related own production and business</i>	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 340
339.	Value of by-products used or sold by the household over the past 12 months? <i>-related own production and business</i>	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household income _____ Individual income	
340.	What were your total expenditures associated with own production / business? <i>Probing questions:</i> <i>-Should INCLUDE salary you pay to yourself</i> <i>-Includes expenses related to operating the self-employment / business.</i> <i>-Includes fees that must be paid for the business.</i> <i>-Excludes expenditures made for agriculture, animal husbandry, forestry, and aquaculture/fishing</i>	_____ VND (thousands) <i>if no answer write 9998</i> <i>The number above is for:</i> _____ Household expenditure _____ Individual expenditure	
	Have you, over the past 12 months, received in cash or kind from the following sources? (Write 0 if no, if no answer write 9998)		
341.	Cash and kind sent as a gift or aid for domestic use by non-members of the household from overseas and within the country?	_____ VND (thousands) <i>The number above is for:</i> _____ Household income _____ Individual income	
342.	Wedding / anniversary cash gifts after deducting expenses of guests' food and drinks	_____ VND (thousands) <i>The number above is for:</i> _____ Household income _____ Individual income	
343.	Funeral / death anniversary cash tributes after deducting expenses of guests' food and drinks	_____ VND (thousands) <i>The number above is for:</i> _____ Household income _____ Individual income	
344.	Social benefits for beneficiary households of social policies <i>-Including social benefits for war invalids, families of fallen combatants, and individuals/families with revolutionary merits</i>	_____ VND (thousands) <i>The number above is for:</i> _____ Household income _____ Individual income	
345.	Assistance to overcome natural disasters and fire	_____ VND (thousands) <i>The number above is for:</i> _____ Household income _____ Individual income	
346.	From types of insurance (excluding social, health	_____ VND (thousands)	

	and life insurance)	<i>The number above is for:</i> ____ Household income ____ Individual income	
347.	Interests of savings deposits, stocks, shares, lending, contributed capital	____ VND (thousands) <i>The number above is for:</i> ____ Household income ____ Individual income	
348.	Revenues from renting out workshop floors, machines, assets and facilities not included in sections of sectoral production and business (except housing, farming and forest land, and water surface for aquaculture production)	____ VND (thousands) <i>The number above is for:</i> ____ Household income ____ Individual income	
349.	Revenues as donations from organizations, humanitarian aid, associations and units of production and business ...	____ VND (thousands) <i>The number above is for:</i> ____ Household income ____ Individual income	
350.	Others (Specify _____)	____ VND (thousands) <i>The number above is for:</i> ____ Household income ____ Individual income	

SECTION 4: HIV Status and Use and expenditures on HIV prevention products

#	Questions and filters	Coding categories (circle)	GO TO
401.	In the last 30 days, did you obtain condoms?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 404
402.	Where did you obtain these condoms? (MULTIPLE RESPONSES ALLOWED)	1 – Government health facility 2 – Private health facility 3 – Pharmacy / shop 4 – Outreach worker / peer educator 5 – Other (Specify: _____) 98 – No answer / unsure	
403.	How much have you spent on condoms in the past 30 days?	_____ VND if no answer write 9998	
404.	How many visits did you make to a methadone clinic in the past 30 days (including today)?	_____ if no answer write 99	
→	I would now like to ask you about your visit to this health facility today		
405.	What is the mode of transportation you used to come to this health facility today? (Circle all that apply)	1 – On foot 2 – Bicycle 3 – Bus 4 – Motorbike taxi 5 – Taxi (car) 6 – Own motorbike 7 – Own car 8 – Other (Specify: _____) 98 – No answer / unsure	
406.	Did you pay for any of this transportation?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 408
407.	How much did you pay for transportation to the health facility today? -Cost are for one way only. Probing question: -Help respondent to estimate the costs for petrol if they came by motorcycle or their own car (assume 50km per liter for motorcycle, 12.5 km per liter for car if respondent does not have more precise estimates). -Include costs for parking and tolls if paid. -Do not include any other costs for motorcycle or own car (maintenance, etc.)	_____ VND if no answer write 9998	
408.	How long did it take you to travel to this clinic today (from your home)?	1 – Under 15 minutes 2 – 15 minutes to 30 minutes 3 – Over 30 minutes to 45 minutes 4 – Over 45 minutes to 1 hour 5 – More than 1 hour 98 – No answer / unsure	
409.	Where do you usually go after your visit?	1 – Home 2 – Work / job	If 1 or 98 → 414

		3 – Other destination 98 – No answer / unsure	
410.	Approximately how long will it take you to travel to your next destination after this visit?	1 – Under 15 minutes 2 – 15 minutes to 30 minutes 3 – Over 30 minutes to 45 minutes 4 – Over 45 minutes to 1 hour 5 – More than 1 hour 98 – No answer / unsure	
411.	<p>How much do you pay for transportation to your next destination?</p> <p><i>-Cost are for one way only.</i></p> <p><i>Probing question:</i> <i>-Help respondent to estimate the costs for petrol if they came by motorcycle or their own car (assume 50km per liter for motorcycle, 12.5 km per liter for car if respondent does not have more precise estimates).</i></p> <p><i>-Include costs for parking and tolls if paid.</i></p> <p><i>-Do not include any other costs for motorcycle or own car (maintenance, etc.)</i></p>	 VND if no answer write 9998	
412.	Approximately how long does it take you to travel from your next destination to your home?	1 – Under 15 minutes 2 – 15 minutes to 30 minutes 3 – Over 30 minutes to 45 minutes 4 – Over 45 minutes to 1 hour 5 – More than 1 hour 98 – No answer / unsure	
413.	<p>How much do you pay for transportation from your next destination to your home?</p> <p><i>-Cost are for one way only.</i></p> <p><i>Probing question:</i> <i>-Help respondent to estimate the costs for petrol if they came by motorcycle or their own car (assume 50km per liter for motorcycle, 12.5 km per liter for car if respondent does not have more precise estimates).</i></p> <p><i>-Include costs for parking and tolls if paid.</i></p> <p><i>-Do not include any other costs for motorcycle or own car (maintenance, etc.)</i></p>	 VND if no answer write 9998	
414.	For your visit today, what kind of services did you receive? (Circle all that apply)	1 – Methadone maintenance 2 – Consultation 3 – Lab test 4 – Other drugs 5 – Psychological Counseling or treatment 6 – Information and education about HIV/AIDS 7 – Others (specify) 98 – Don't know / unsure / no answer	

415.	Did you pay any money for these services today?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 423
→	Can you tell me how much you paid for these services? (Write 0 for no payment or not received) == Fill out each row OR the total row in Q 420 if no answer write 9998		
416.	Methadone	_____ VND	
417.	Consultation	_____ VND	
418.	Lab Tests	_____ VND	
419.	Other drugs	_____ VND	
420.	Information and education about HIV/AIDS	_____ VND	
421.	Other expenses (specify): _____	_____ VND	
422.	In total	_____ VND	
423.	Have you ever been tested for HIV?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 901
424.	What was the result of your LAST HIV test?	1 – HIV positive 2 – HIV negative 98 – No answer / unsure	If 2 or 98 → Q 901
425.	Have you enrolled in HIV treatment (pre-antiretroviral therapy or anti-retroviral therapy)?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 901 If 1 → Q 500

SECTION 5: Outpatient health care use during the last 30 days

We would now like to ask you some questions related to your expenditures for health care, outpatient and inpatient, as well as questions about health insurance. These questions are only being asked to people who are HIV positive. The results will be compared to another survey being done of HIV positive people and provide a more clear understanding of the differences HIV positive MMT clients and other HIV positive people have in their use of and payments for health care. The questions will take an additional 10 minutes, approximately, to complete. I remind you that your participation is voluntary and you may refuse to answer any question at any time. Do you:

Q500:

Agree to complete this section?

1 – Yes

2 – No (go to Q901)

#	Questions and filters	Coding categories (circle)	GO TO
501.	<p>How many outpatient visits did you make in the past 30 days, EXCLUDING those for methadone maintenance?</p> <p><i>Probing question:</i> <i>Outpatient care includes care when the patient did not stay in the health facility for the night (i.e., without admission to a ward)</i> <i>-Should include any outpatient visit for reasons other than methadone. It could be at this clinic or any other health facility.</i></p>	<p>_____</p> <p><i>if no answer write 99</i></p>	<p>If 0 or 99 → Q 601</p>
<p><i>Check the answer to Q 501. If the respondent has made another outpatient visit besides the one today, continue with Q 502, otherwise continue to Q 601. The following questions refer to outpatient care EXCLUDING Methadone.</i></p>			
502.	<p>Which medical establishments have you visited in the last 30 days OTHER THAN FOR METHADONE? (including inviting physicians home)</p> <p><i>Circle all that apply</i></p>	<p>1 – Commune Health Station 2 – Urban/rural district hospitals 3 – Provincial/city hospitals 4 – Central hospitals 5 – Private hospitals 6 – Private clinic 7 – Home visit by doctor/health practitioner 8 – Others (specify)</p> <p>_____</p> <p>9 – None; all visits in last 30 days were for methadone</p>	<p>If 9 → Q 601</p>
503.	<p>At your last outpatient visit before today (for something other than methadone), what kind of services did you receive?</p> <p><i>Circle all that apply</i></p> <p><i>Probing question:</i> <i>-The answer should apply to only 1 [most recent] outpatient visit, not to all visits in the last thirty days.</i></p>	<p>1 – Vaccination 2 – Pregnancy checks, insertion of intrauterine devices, abortion, birth delivery 3 – Health checks and consultancy 4 – Medical treatment 5 – Others (specify)</p> <p>_____</p> <p>98 – Don't know / unsure / no answer</p>	

	-Could be this clinic or any other health facility.		
504.	What was the MAIN reason for you to seek care during this visit (before today)?	1 – HIV/AIDS 2 – OI 3 – Other (specify) _____ 98 – Don't know / unsure / no answer	
505.	Did you make any payments for services during this visit (before today)?	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 510
506.	Amount of payment for services during this visit at the health facility (before today) <i>(payments include fees for check-ups, treatment, medicines, allowances for physicians, travel, purchases at the facility,... relating to visit)</i>	_____ VND if no answer write 9998	
507.	Amount of payment for services during this visit outside of the health facility (before today) <i>(payments include fees for medicines, travel, purchase of equipment,... relating to visit)</i>	_____ VND if no answer write 9998	
508.	How did you pay for the services you received? <i>Probing questions:</i> <i>-This refers only to patient payments. For reimbursement, patient pays first to the health facility and later collects from health insurance.</i> <i>-This should not include payments directly from the health insurance to the facility.</i>	1 – Out-of pocket 2 – Reimbursed by public insurance 3 – Reimbursed by private insurance 4 – Other (specify) _____ 98 – Don't know	If 1, 4 or 98 → Q 510
509.	How much were you reimbursed from the insurance agency? <i>Probing question:</i> <i>-Includes both private and public health insurance</i>	_____ VND 9997 – Not yet received 9998 – Don't know / unsure / no answer	
510.	In the last 30 days, how much money did you spend on purchasing medicine, medical devices without consulting a health provider? <i>Probing questions:</i> <i>-Should include all expenditures in the last 30 days. If more than one purchase was made, should include all purchases, not just most recent purchase.</i> <i>-Includes only purchases made for you; does not include purchases for family, friends, etc.</i>	_____ VND if no answer write 9998	

		VND thousands	VND thousands	VND thousands
		Total	Total	Total
		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
		VND thousands	VND thousands	VND thousands
		1 – No Payment 98 – Not stated	1 – No Payment 98 – Not stated	1 – No Payment 98 – Not stated
608.	<p>How did you pay for the services you received?</p> <p><i>Probing questions:</i> -This refers only to patient payments. For reimbursement, patient pays first to the health facility and later collects from health insurance. -This should not include payments directly from the health insurance to the facility.</p>	<p>1 – Out-of pocket 2 – Reimbursed by public insurance 3 – Reimbursed by private insurance 4 – Other (specify) _____ 98 – Don't know</p>	<p>1 – Out-of pocket 2 – Reimbursed by public insurance 3 – Reimbursed by private insurance 4 – Other (specify) _____ 98 – Don't know</p>	<p>1 – Out-of pocket 2 – Reimbursed by public insurance 3 – Reimbursed by private insurance 4 – Other (specify) _____ 98 – Don't know</p>
609.	<p>How much were you reimbursed from insurance agency? if no answer write 9998</p> <p><i>Probing question:</i> -Includes both private and public health insurance</p>	<p>_____ VND</p>	<p>_____ VND</p>	<p>_____ VND</p>

SECTION 7: Health insurance status

#	Questions and filters	Coding categories (circle)	GO TO
701.	<p>Are you any of the following? (read answers and circle all that apply)</p> <p><i>Probing question:</i> -This refers to the person's identity, which should be the same whether or not they have a health insurance card.</p>	<p>1 – Member of an ethnic minority 2 – Possess a poor card 3 – Possess a card classifying you as near poor 4 – Enrolled in military or police 5 – Person or relative who performed meritorious services in war 6 – Live in an island commune / district 7 – Other class exempt from having to make copayments for National Social Health Insurance (Specify: _____) 98 – None of the above 99 – No answer / unsure</p>	
702.	<p>Over the past 12 months, have you had a health insurance card?</p> <p><i>Probing questions:</i> -See Q703 for list of possible types of health insurance cards</p>	<p>1 – Yes 2 – No 98 – No answer / unsure</p>	<p>If 2 or 98 → Q 714</p>
703.	<p>Which kind of insurance do you have? (circle all that apply)</p>	<p>1 – Health insurance card for the poor 2 – Health insurance card for the near-poor 3 – Health insurance card for policy beneficiaries (police, military, etc.) 4 – Health insurance card for minority population 5 – Health insurance card for student / pupils 6 – Employer health insurance 7 – Other state-run health insurance card 8 – Private health insurance card 9 – Health insurance card (not type listed above) 10 – Others (specify): _____ 98 – No answer / unsure</p>	<p>If 1, 4, or 98 → Q 705</p>
704.	<p>How much have you spent on health insurance over the last 12 months?</p>	<p>_____ VND if no answer write 9998 _____ Household expenditure _____ Individual expenditure</p>	
705.	<p>Over the past 12 months, has your health insurance paid for any treatment?</p>	<p>1 – Yes 2 – No 98 – No answer / unsure</p>	<p>If 2, or 98 → Q 710</p>
706.	<p>Over the last 12 months, has your health insurance paid for any HIV/AIDS treatment?</p>	<p>1 – Yes 2 – No 98 – No answer / unsure</p>	<p>If 2, or 98 → Q 708</p>
707.	<p>What kind of HIV/AIDS services did the health insurance company pay for?</p>	<p>1 – Consultation 2 – Laboratory 3 – Imaging / functional diagnosis</p>	<p>All answers→</p>

	(Multiple responses allowed) <i>Probing question:</i> -HIV/AIDS services only, but including opportunistic infections	4 – Drugs / medicines 5 – Inpatient care 6 – Other (specify): _____ 98 – No answer / unsure	Q 711
708.	Have you tried to use your health insurance card for HIV/AIDS treatment in the last 12 months?	1 – Yes 2 – No 98 – No answer / unsure	If 1 → Q709 If 2 → Q710 If 98 → Q711
709.	Why has your health insurance not paid for any HIV/AIDS treatment? (Multiple responses allowed)	1 – HIV/AIDS treatment is free of charge 2 – Health insurance does not reimburse me for these services / HIV/AIDS not covered by health insurance 3 – Reimbursement processes is too complicated 4 – Other (specify): _____ 98 – No answer / unsure	All answers → Q 711
710.	Why have you not used your health insurance card for HIV/AIDS treatment (in last 12 months)? (Multiple responses allowed)	1 – HIV/AIDS treatment is free of charge 2 – Health insurance does not reimburse me for these services / HIV/AIDS not covered by health insurance 3 – Reimbursement processes is too complicated 4 – To get benefit, I have to reveal my name / other stigma related issue 5 – Other (specify): _____ 98 – No answer / unsure	
711.	How would you rate your experience with your current health insurance?	1 – Satisfied 2 – Not satisfied 98 – No answer / unsure	If 1, or 98 → Q 713
712.	What is the primary reason you are not satisfied with your current health insurance? (one answer only) <i>Probing question:</i> -Only one response allowed. Ask the respondent to choose what they think is the most important reason if they give more than one answer. For example if the respondent says low quality care and long waiting time, ask if they would accept low quality care if they didn't have to wait, or if they would prefer to wait for good quality care.	1 – If I use health insurance, I get low quality care 2 – Health insurance processes are too complicated / too much paperwork 3 – People with my health insurance have to wait too long to receive care at the health facility 4 – To get benefit, I have to reveal my name / other stigma related issue 5 – Other (specify): _____ 98 – No answer / unsure	
713.	How did you learn about your current health insurance? (Multiple responses allowed)	1 – Spouse / partner 2 – Other relatives 3 – Friend 4 – My employer and / or my spouse's employer 5 – Health care provider	All answers → Q 801

		6 – Media (TV, radio and print) 7 – Other (Specify): <hr/> 98 – No answer / unsure	
714.	What are your the reasons for not having your health insurance? (Multiple responses allowed)	1 – I did not claim in the year and did not find it necessary to have insurance 2 – I do not need health insurance 3 – I could not afford to pay the year's premium 4 – I do not know where to get health insurance 5 – I had insurance before, but the process for renewal was not convenient for me 6 – I can not buy health insurance in where I live because I don't have household registration 7 - Other (Specify): <hr/> 98 – No answer / unsure	

SECTION 8: insurance perceptions

#	Questions and filters	Coding categories (circle)	GO TO				
801.	Have you ever held any type of insurance? <i>Probing questions: Not just health insurance; any type of insurance including auto or motorcycle insurance</i>	1 – Yes 2 – No 98 – No answer / unsure	If 2 or 98 → Q 0				
802.	What type of insurance have you held? (multiple responses allowed)	1 – Private Health Insurance 2 – National/Government Health Insurance 3 – Life Insurance 4 – Property / Home insurance including auto or motorcycle insurance 5 – Crop or drought insurance 6 – Other (specify): _____ 98 – Don't know / not sure					
I am going to read you several statements regarding HEALTH INSURANCE using a scale of 1-5 to indicate your level of agreement where: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5). Please only select one response per question.							
		SD	D	N	A	SA	
803.	There is no need to put aside money for health emergencies.	1	2	3	4	5	
804.	I worry about serious illnesses and injuries that I could face.	1	2	3	4	5	
805.	There is no need to purchase health insurance to cover serious illnesses and injuries, because the likelihood of them occurring is so low.	1	2	3	4	5	
806.	I worry that I may not have the money to pay for health care services when sick.	1	2	3	4	5	
807.	In general, I would pay more for health insurance than I would spend on health care services if I did not have health insurance.	1	2	3	4	5	
808.	I struggle to pay for health care services when the need arises.	1	2	3	4	5	
809.	I forgo health care services when I get sick because I do not have enough cash to pay for health care services.	1	2	3	4	5	
810.	If I need health insurance I know where to get it.	1	2	3	4	5	
I will read you a series of statements. These statements related to the National Social Health Insurance Scheme (NSHI). Please tell me if you believe that the statement is True, False, or if you do not know.							
		True	False	Don't Know			
811.	Having NSHI can reduce the likelihood of missing work because of a health emergency.	1	2	98			
812.	NSHI will encourage me to seek healthcare faster, rather than waiting to get extremely sick.	1	2	98			

813.	NHSI can prevent financial hardship to me and my family.	1	2	98	
814.	NHSI will allow me to think more about the cost of getting to and from the health facility and less about the amount I will pay at the facility for health services.	1	2	98	
815.	Having NHSI means that I will get lower quality care than if I pay for healthcare by another means.	1	2	98	
816.	NHSI will allow me to think more about the quality of care I will receive and less about the amount I will pay at the facility for health services.	1	2	98	
817.	NHSI will protect you from incurring significant costs in times of health emergencies.	1	2	98	
818.	Having NHSI reduces the likelihood of using my savings, borrowing or selling an asset for medical bills when illness occurs.	1	2	98	
819.	Having NHSI gives / would give me peace of mind and reduces my likelihood of worrying about illness that can arise when I don't have money.	1	2	98	
820.	<p>Where does money come from to pay for medical services that you or your family receives?</p> <p>(Multiple responses allowed)</p>	1 – Health insurance 2 – Cutting down expenses for meals 3 – Missing the payment of school fees 4 – Cutting down from other household expenses 5 – Savings 6 – Borrowing from non-family members 7 – Selling assets 8 – Borrowing from relative or family members 9 – Others (Specify) _____ 98 – Don't know / not sure			

SECTION 9: Expenditures

#	Questions and filters	Coding categories (circle)	GO TO
	How much do / did you spend (in cash and in kind) each MONTH on.... <i>if no answer write 9998</i>		
		Currently	Before you started methadone maintenance therapy
901.	Rent or mortgage	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
902.	Electricity	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
903.	Water	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
904.	Cooking fuels	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
905.	Food and drink	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
906.	Telecom services, including telephone, mobile phones, internet, cable, and related services	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
907.	Transport (car and petrol, bus, taxi, parking fees, tolls, etc.)	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
908.	Remittances (in cash and kind)	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
909.	Personal care items, like cosmetics, hairdressing	_____ VND (thousands)	_____ VND (thousands)

		The number above is for: _____ Household expenditures _____ Individual expenditures	The number above is for: _____ Household expenditures _____ Individual expenditures
910.	Entertainment purchased on regular basis (for example: movies, DVD rental or purchase, go to park, go out to eat)	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
911.	Cigarettes and alcohol	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
912.	Methadone / Heroin	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
913.	Other items included in monthly budget (specify) _____	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
How much do / did you spend (in cash and in kind) each YEAR on.... <i>if no answer write 9998</i>			
		Currently	Before you started methadone maintenance therapy
914.	Education (registration, uniforms, books, tuition, exam fees)	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
915.	Maintenance and repairs of buildings and vehicles	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
916.	Extra expenditures on food and drinks on festive occasions (not included above)	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
917.	Leisure travel, including holidays	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures
918.	Clothing and footwear	_____ VND (thousands) The number above is for: _____ Household expenditures	_____ VND (thousands) The number above is for: _____ Household expenditures _____ Individual expenditures

		____ <i>Individual expenditures</i>	
919.	Weddings and funerals	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>
920.	Gift, donation, assistance, tributes, contributions to death anniversaries... to other households?	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>
921.	Major purchases/constructions (vehicles, land, house, furniture etc.)	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>
922.	Other periodic / yearly expenditures not yet included (specify) : (Probing questions: -Income taxes, annual insurance fees, etc.)	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>	____ VND (thousands) <i>The number above is for:</i> ____ <i>Household expenditures</i> ____ <i>Individual expenditures</i>

<<End of Interview>>

Thank the participant for their time.

Fill out the next sheet and give information sheet to interviewee.

SECTION 10: END OF INTERVIEW INFORMATION

Status of interview:	1 – Interview completed, all questions answered 2 – Interview completed, participant skipped some questions 3 – Interview partially completed 4 – Participant refused informed consent
Notes:	(Note if participant seemed rushed, did not seem take the interview seriously, etc.)
Time at end of interview:	<div>_____</div> <div>HHMM</div>

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