

Baseline Health Surveys

Kampong Cham Province

Cambodia, 2005

REPORT

Household Survey

Public Health Facilities Survey

by Domrei Research and Consulting
for Kampong Cham Provincial Health Department

Survey design, implementation and report by Domrei Research and Consulting
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funded by the Belgium-Cambodia Consultancy Fund
Belgian Technical Co-operation



Baseline indicators - Summary

The Provision of Basic Health Services Kampong Cham (PBHS KC) is part of the Cambodian-Belgian bilateral co-operation health project supporting the delivery of health services in three Operational Health Districts (OD): Chamkar Leu, Cheung Prey and Prey Chhor with a total population of about 530,000 inhabitants. In addition, PBHS KC supports service delivery in the Kampong Cham Provincial Hospital. The project timeframe is 4 years, starting November 1, 2004. The general objective is to improve the health of the population, especially mothers and children, thereby contributing to poverty alleviation and socio-economic development in Kampong Cham. The framework of the project is to strengthen the Provincial Health Department in complying with the National Health Strategic Plan 2003-2007.

As part of monitoring and evaluation, the Belgian-Cambodian Consultancy Fund contracted Domrei Research and Consulting to design and conduct (1) **a baseline population-based household survey** and (2) **a baseline health facilities survey** to collect data and compute project indicators so that the impact of the project by the mid-term and final evaluation can be measured.

Baseline objectives:

To collect baseline data and to produce baseline indicators on health related topics on:

- 1) a random sample representative of the target populations
- 2) a random sample of health facility clients

in the three Operational Districts covered by the Belgian Technical Co-operation project.

Domrei did not encounter any major difficulties in conducting the surveys. Therefore, we recommend that the same instruments be administered in the same locations at endline. PBHS KC was given the list of clusters and soft copies of the survey instruments to facilitate this replication.

The following tables present the baseline indicators per OD and the weighted totals for the three ODs combined.

Because the baseline surveys were conducted in only three of the ten ODs in Kampong Cham, none of the baseline indicators are representative of Kampong Cham province or of Cambodia as a whole. Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

Table 1: Population-based baseline indicators

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total 3 ODs |
|--|--------------------|--------------------|-------------------|--------------------|
| Infant Mortality Rate (per 1000 live births) | NA | NA | NA | 89.0 |
| Total Fertility Rate (children per woman) | NA | NA | NA | 3.1 |
| % of married women who are using modern contraceptive method | 25.6 | 21.4 | 16.7 | 21.0 |
| % of pregnant women who received at least 2 ANC | 61.5 | 64.0 | 74.7 | 67.0 |
| % of pregnant women who received at least 2 TT | 66.3 | 61.1 | 71.8 | 66.4 |
| % of respondents advised to deliver at PHF | 46.4 | 54.4 | 54.0 | 51.8 |
| % of deliveries attended by trained health staff | 45.4 | 31.0 | 57.3 | 44.5 |
| % of deliveries by Caesarean section | 1.3 | 1.9 | 0 | 1.1 |
| Women who know symptoms of: | | | | |
| – malaria | 66.1 | 60.3 | 53.2 | 59.6 |
| – dengue | 82.4 | 75.0 | 77.2 | 78.1 |
| – ARI | 58.0 | 76.1 | 77.8 | 71.3 |
| – diarrhoea | 60.5 | 68.1 | 71.8 | 67.1 |
| % Women knowing rules for case management of: | | | | |
| – malaria | 51.5 | 48.9 | 36.9 | 45.5 |
| – dengue | 57.8 | 60.3 | 39.7 | 52.4 |
| – ARI | 55.1 | 46.7 | 51.1 | 50.7 |
| – diarrhoea | 83.8 | 94.0 | 82.1 | 86.8 |
| % Women knowing rules for prevention of: | | | | |
| – malaria | 67.5 | 69.2 | 55.4 | 63.9 |
| – dengue | 22.8 | 19.2 | 38.2 | 26.9 |
| – ARI | NA | NA | NA | NA |
| – diarrhoea | 14.7 | 30.6 | 26.9 | 24.6 |
| % Children 12-35 months old fully vaccinated | | | | |
| – excluding hepatitis B | 61.5 | 27.8 | 51.6 | 47.7 |
| – including hepatitis B | 14.8 | 8.3 | 0.8 | 7.6 |

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total 3 ODs |
|---|-------------|-------------|------------|-------------|
| % Underweight children < 5 years | 30.0 | 35.3 | 35.6 | 33.8 |
| % Wasting among children < 2 years | 11.4 | 5.0 | 9.8 | 8.5 |
| % Wasting among children 2-4 years | 2.1 | 3.8 | 4.7 | 3.6 |
| % Stunting among children 2-4 years | 49.0 | 55.4 | 36.5 | 47.2 |
| Household expenditure on health care per year | \$71 | \$98 | \$50 | \$73 |
| # of hospital admissions per 1,000 inhabitants/year | 7.8 | 11.7 | 1.8 | 7.2 |
| % PHF clients satisfied with services | 94.2 | 97.7 | 90.2 | 94.2 |
| % PHF clients satisfied with staff attitude | 48.1 | 50.9 | 52.4 | 50.6 |
| % morbidity episodes where PHF was first choice | 9.0 | 14.1 | 9.5 | 11.1 |

These indicators are NOT representative of the whole Kampong Cham province or of Cambodia as a whole. Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

IMR computed on all live births between 1995 and June 2004 (i.e. 12 months before the survey)

TFR for ages 15-49 expressed per woman, computed for the period 1-48 months preceding the survey.

Malaria symptoms: fever

Malaria case management: go to health practitioner or give antimalarials.

Malaria prevention: sleep under mosquito net.

Dengue symptom: high fever.

Dengue case management: go to health practitioner.

Dengue prevention: clean water containers or put abate in water containers.

ARI symptoms: coughing or rapid breathing or difficult breathing or wheezing

ARI case management: seek treatment

Diarrhoea symptoms: soft watery stools or frequent watery motions.

Diarrhoea case management: rehydrate or go to health practitioner.

Diarrhoea prevention: wash hands.

Proportion of deliveries by Caesarean section computed for period 0-23 months preceding the survey

Malnutrition prevalence rates: -2 standard deviations (Z scores) from WHO norm.

Table 2: Public Health Facilities Indicators

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total 3 ODs |
|---|--------------------|--------------------|-------------------|--------------------|
| Average amount paid to reach Public Health Centre (riels) | 306 | 232 | 353 | 294 |
| Average amount paid in fees at Public Health Centre (riels) | 27 | 5 | 17 | 15 |
| Average amount paid in gifts at Public Health Centre (riels) | 112 | 7 | 85 | 62 |
| Average amount paid in drugs at Public Health Centre (riels) | 828 | 417 | 473 | 543 |
| Average Total amount paid per visit Public Health Centre (riels) | 1288 | 667 | 935 | 923 |
| % Public Health Centre clients who said facility was clean | 48.3 | 64.9 | 57.1 | 57.8 |
| % Public Health Centre clients who said health staff spoke well | 55.4 | 67.8 | 61.8 | 62.5 |
| % Public Health Centre clients who said cost was free or cheap | 42.0 | 27.5 | 49.8 | 39.2 |
| % Public Health Centre clients who said they did not wait too long | 37.6 | 44.1 | 19.8 | 33.7 |
| % Public Health Centre clients who said patient was cured or that health improved | 49.3 | 56.8 | 31.2 | 45.7 |
| % Public Health Centre patients who report receiving a diagnosis | 37.6 | 38.5 | 40.6 | 38.7 |
| % Public Health Centre patients who report receiving health information / advice | 29.4 | 68.2 | 66.7 | 56.3 |
| % Public Health Centre patients who report being told to come back for follow-up visit | 78.2 | 88.1 | 69.6 | 78.9 |
| % Public Health Centre patients who say they understand how to take the drug(s) they were prescribed. | 97.6 | 99.3 | 99.2 | 98.8 |
| % Public Health Centre clients who say costs were the same as they expected or cheaper. | 78.2 | 88.1 | 69.6 | 78.9 |
| % Public Health Centre clients who say they saw price lists posted in the PHF | 12.4 | 40.1 | 26.1 | 27.9 |

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Abbreviations

| | |
|------|-------------------------------------|
| ANC | Antenatal care |
| BTC | Belgian Technical Co-operation |
| CDHS | Cambodian Demographic Health Survey |
| CEB | Children ever born |
| CI | Confidence Interval |
| CPR | Contraceptive prevalence rate |
| GFR | General Fertility Rate |
| HIV | Human Immuno-deficiency Virus |
| IMR | Infant Mortality Rate |
| IUD | Intra-uterine device |
| KC | Kampong Cham Province |
| MoH | Ministry of Health |
| OD | Operational District |
| PBHS | Provision of Basic Health Services |
| PHD | Provincial Health Department |
| sd | Standard deviation (Z-score) |
| TBA | Total Fertility Rate |
| TFR | Traditional Birth Attendant |
| TT | Tetanus Toxoid |

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INTRODUCTION

The Provision of Basic Health Services Kampong Cham (PBHS KC) is part of the Cambodian-Belgian bilateral co-operation health project supporting the delivery of health services in three Operational Health Districts. Chamkar Leu, Cheung Prey and Prey Chhor with a total population of about 530,000 inhabitants, and in the Kampong Cham Provincial Referral Hospital. The project timeframe is 4 years, starting November 1, 2004. The general objective is to improve the health of the population, especially mothers and children, thereby contributing to poverty alleviation and socio-economic development in Kampong Cham. The framework of the project is to help and strengthen the Provincial Health Departments in complying with the National Health Strategic Plan 2003-2007.

As part of monitoring and evaluation, the Belgian-Cambodian Consultancy Fund contracted Domrei Research and Consulting to design and conduct (1) a baseline population-based household survey and (2) a baseline health facilities survey to collect data and compute the project indicators so that the impact of the project by the mid-term and final evaluation can be measured.

The report is divided into two parts. Part I presents the methods and results of the household survey, part II presents the methods and results of the Public Health Facilities Survey.

PART I: HOUSEHOLD SURVEY

1. Household survey objective

To collect baseline data and to produce baseline indicators on health related topics on a random sample representative of the target populations of the three Operational Districts covered by the Belgian Technical Co-operation project.

2. Household survey methods and data

2.1. Sample methodology

The survey was designed to collect population level indicators by interviewing a representative sample of ever-married women (15-49 years old) who are deemed to be the likeliest health service users.

As most indicators are computed at OD level and then compared at end line, a cluster design was implemented where 20 clusters in each OD were randomly selected proportionally to population size¹. In each cluster, 20 households were randomly selected using a variation of the EPI random-walk sampling method. All ever-married women were eligible for interview; all children under five were invited to the weighing station and all children 12 to 35 months had their vaccination status recorded from their yellow cards.

$$n = 3 \text{ ODs} \times 20 \text{ clusters} \times 20 \text{ households} = 1200 \text{ households}$$

Only households with at least one eligible respondent were included in the sample. It was estimated that we would find on average between 1.1 and 1.2 eligible respondents per household, i.e. between 1,320 and 1,440 ever-married women 15-49 years.

This sample size was assessed to be sufficient to measure an amplitude of change of 15 percentage points at OD level and 5 percentage points at programme level using the following formula:

$$n = D [(Z_{\alpha} + Z_{\beta})^2 (P_1 (1 - P_1) + P_2 (1 - P_2)) / (P_2 - P_1)^2]$$

where:

n = required minimum sample size per survey round (baseline and end line)

D = design effect (set at 2 to take into account cluster effect)

P₁ = the estimated level of an indicator measured as a proportion at the time of the first survey

P₂ = the expected level of the indicator either at end line such that the quantity (P₂ - P₁) is the size of the magnitude of change it is desired to be able to detect

¹ PPS sampling provides a self-weighting sample in each OD. For provincial or programme level indicators, weighting is required to compensate the different sample probabilities of each OD.

Z_{α} = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size ($P_2 - P_1$) would not have occurred by chance (α — the level of statistical significance, is set at 90% to avoid the risk of not detecting a change when one actually occurred), and

Z_{β} = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size ($P_2 - P_1$) if one actually occurred (β — statistical power, set at 80%).

2.2. Questionnaire design

The questionnaire (see annex) was designed to collect a great variety of data: household data, population data, data on recent illness, and health expenses, vaccination (children 12-35), reproductive health (ever-married women ages 15-49), infant mortality (birth histories), etc. It thus was structured into 10 sections. The questionnaire was field tested three times², the third time during interview training. In all, over one hundred test interviews were conducted. BTC, PHD and OD staff provided their input and validated the final instrument.

2.3. Training and fieldwork

Interviewers and Field Editors received extensive training covering ethical issues, anthropometrics, vaccination, health costs, data collection, interview techniques and pre-testing of the instrument. Training took place over five days in May 2005.

PBHS selected and seconded to the survey team six OD health staff to implement the anthropometrics component under the supervision of Domrei field supervisors. All six health staff seconded by the PHD participated in the training workshop and the field trial. They were trained in setting up and managing the weighing station, weighing and measuring according to MCH/WHO guidelines. A special emphasis was placed on the ethics of anthropometric surveys. Health staffs were trained to plot the weights on the yellow card growth chart, to refer all severely underweight children to the closest hospital or health centre (red zone on card) and to counsel them when they were mildly underweight (orange zone). As a courtesy to the community and in compliance with the ethical principle of beneficence, health staffs were instructed to weigh all children that were brought to the weighing station even if they were not part of the sample.

Data collection was carried out between June 7 and June 25. Three teams composed of a supervisor, four interviewers, one field editor/assistant supervisor and one seconded health staff collected data in the randomly selected clusters. Supervisors and field editors used simple field reporting forms to manage data collection. In the field, supervisors conducted spot checks, re-interviews or observed twenty percent of all interviews to ensure data quality. The field editors in each team checked all questionnaires and anthropometric data before leaving the village.

Each supervisor also checked and collated all data in clusters while in the field. On the teams return to Phnom Penh, data was delivered to the Research Director with a summary sheet for each cluster, the completed questionnaires, the records of field checks and any refusals or incomplete questionnaires. The Research Director checked

² Domrei tested and fielded a similar instrument for the BTC/PBHS baseline Health Survey in Siem Reap and Oddar Meanchey.

and collated this information, and reported the data collection results to BTC/PBHS. The data was entered on a Microsoft Access database. Consistency checks were built into the design of the database entry programme to ensure accuracy and internal consistency. Inconsistencies identified by the data validation programmes and queries were investigated by the research director, first checked on the paper questionnaire then corrected, if necessary, on the database. Data was thus cleaned and analysed using Microsoft Access, EPI Info and Stata software.

2.4. Data analysis methods

OD results are computed separately, except when the number of observations is too small to allow for a reliable estimate (e.g. fertility and infant mortality rates). OD level statistics are self-weighting (cf. sample methods). Combined totals are weighted to take into account the slight differences in population sizes and thus the different sample probabilities for each OD. Level of significance is set at 95% unless specified otherwise. We caution the reader in the interpretation of differences between ODs. Some differences may not be statistically significant at the usual 95% confidence level, but may be significant at 85 or 90%. When this is the case, the reader can assume that differences probably do exist (sample sizes were computed for baseline-endline comparisons) The software package Stata version 8 was used for descriptive statistics and graphs, with the exception of the age-specific fertility rates for which MS Excel was used.

HOUSEHOLD SURVEY RESULTS

For easy reference, results are presented in the order the questions appear in the questionnaire. We first describe the sample using data from the cover sheet, sections 1 and 2.

We present the indicators that concern all household members: health seeking behaviour and health expenses (questionnaire section 3).

We then present the indicators that concern only the respondents: satisfaction with public health services (questionnaire section 4), knowledge on common childhood diseases (questionnaire section 5), contraception (questionnaire section 6), birth attendance, place of delivery, ANC and tetanus statistics (questionnaire section 7), caesarean sections, fertility and infant mortality (questionnaire section 8).

Vaccination coverage indicators concerning only children aged 12 to 35 months (questionnaire section 9) and anthropometric indicators for children under five years of age (questionnaire section 10) are presented last.

3. Description of sample and data

3.1. Response rates

The household response rate was very satisfactory, ranging from 92% in Prey Chor to 98% in Chamkar Leu.

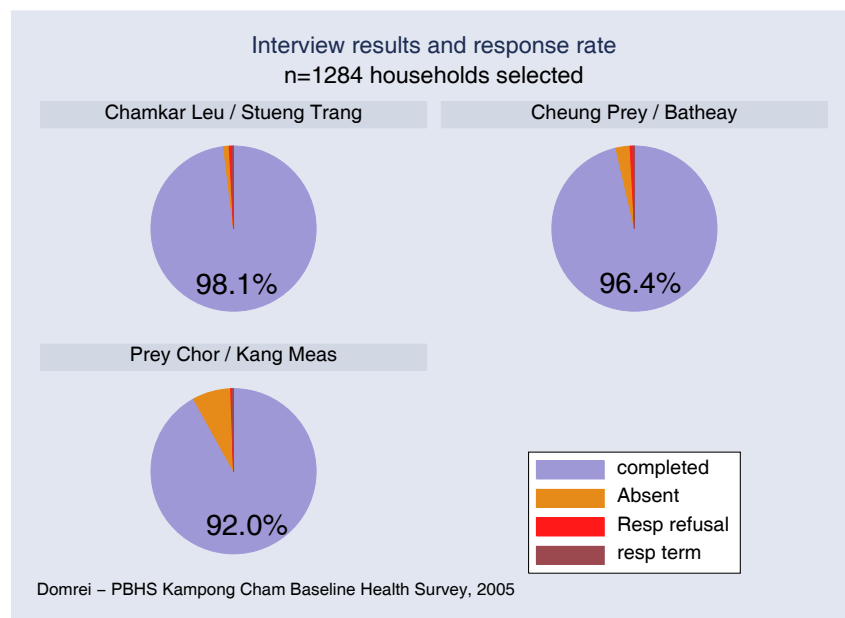


Figure 1: Interview results by OD.

The final sample includes 1,225 households (objective: 1,200) and 1409 eligible respondents of which 1,355 (96.2%) were successfully interviewed. The sample household population was 6,610, with an average household size ranging between 5.4 and 5.5. Household size is slightly higher than the CDHS-2000 national rural average of 5.3 because the sample only includes households with ever-married women of

reproductive age. The household sample also included 949 children under five eligible for weighing and measuring (Table 3).

Table 3: Survey sample and response rates - number and average number of members, ever-married women of reproductive age and children under five.

| OD | Chamkar Leu | Cheung Prey | Prey Chor | Total |
|---|-------------|-------------|-----------|-------|
| Selected households | 413 | 420 | 451 | 1,284 |
| households with one completed interview | 405 | 405 | 415 | 1,225 |
| Household response rate | 98.1% | 96.4% | 92.0% | 95.4% |
| number of household members | 2180 | 2214 | 2216 | 6610 |
| mean household size | 5.4 | 5.5 | 5.4 | 5.4 |
| Number of ever-married women 15-49 | 465 | 460 | 484 | 1409 |
| Completed interviews | 443 | 448 | 464 | 1,355 |
| Respondent response rate | 95.3% | 97.4% | 95.9% | 96.2% |
| Number of children < 5 years | 312 | 327 | 310 | 949 |
| Children < 5 measured | 290 | 300 | 270 | 860 |
| Anthropometric coverage rate | 92.9% | 91.7% | 87.1% | 90.6% |

3.2. Household characteristics

Figure 3 shows that households in all three ODs are similar in terms of housing and living arrangements. Only a small minority (less than 10%) live in concrete houses or have more than one room to sleep in. Less than a third have a private toilet.

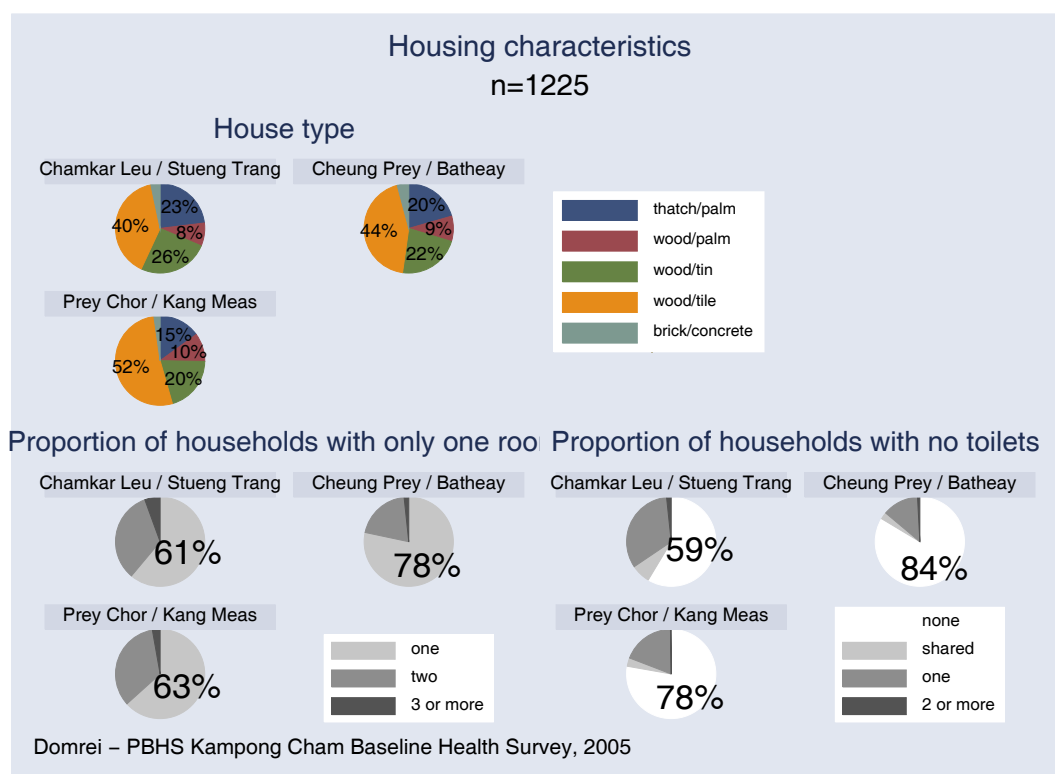


Figure 2: Household characteristics - housing, by OD.

Less than 10% of the households in all three ODs have no assets. Ownership of poultry and livestock is slightly more variable between ODs: less than a third have neither poultry nor livestock in Chamkar Leu, and only 13% in Prey Chor (Figure 3)

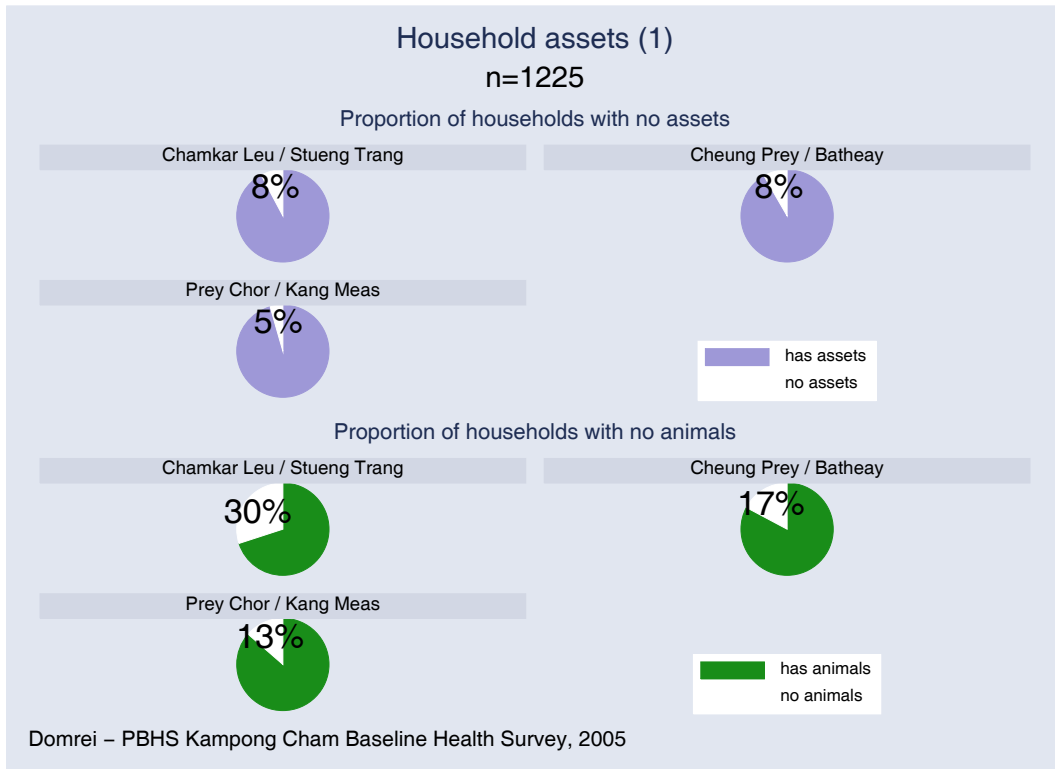


Figure 3: Proportion (%) of households that own no assets, no livestock, by OD.

More than half of the households own a radio or a television set. Other indications of the three ODs “rural” lifestyle include about a third households with ox carts and practically none with refrigerators. About four fifths of the households own a bicycle, a third own a motorcycle and more than one in twenty owns a car (Figure 4).

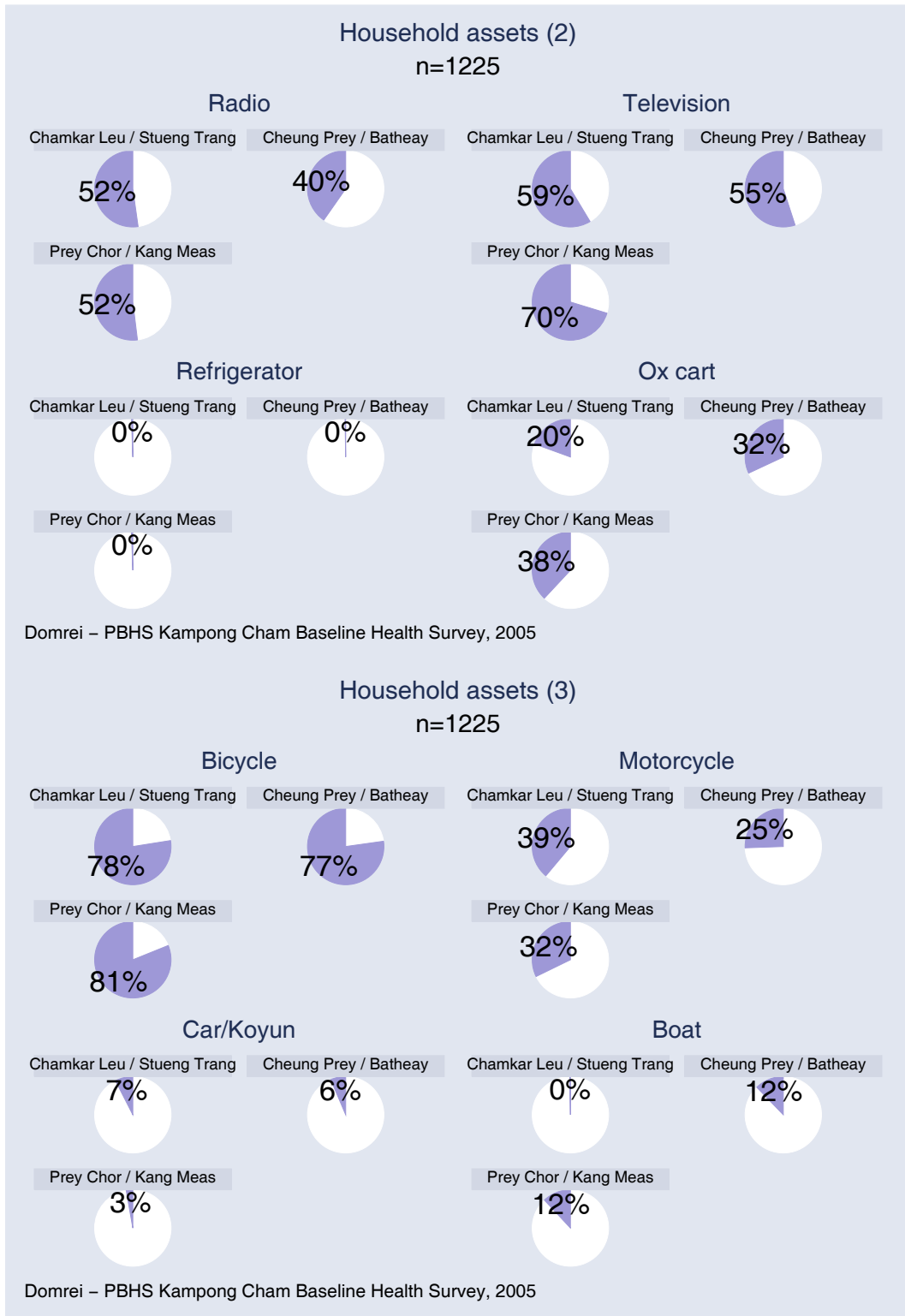


Figure 4: Proportion (%) of households that own a selected asset, by OD.

Figure 5 also suggests that the socio economic differences between the three ODs are not substantial: there are few notable differences in the ownership of various livestock.

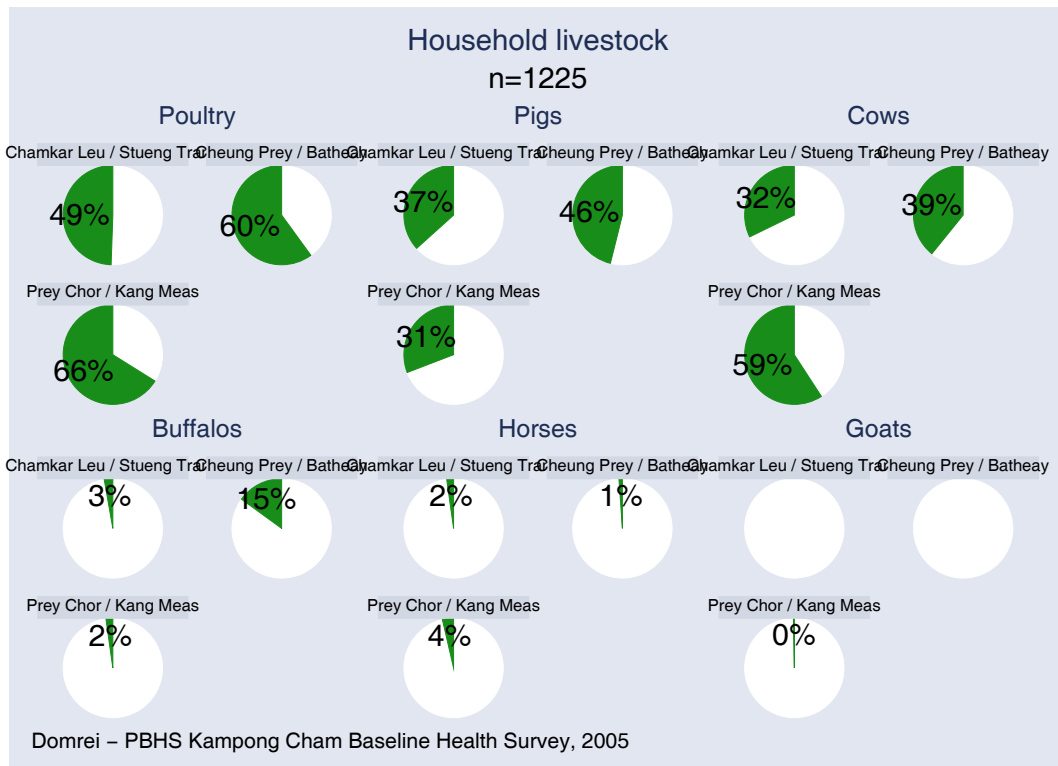


Figure 5: Proportion (%) of households that own poultry, pigs, cows and other livestock, by OD.

We categorised respondents into three groups to assess possible inequities in health.

Wealth categories (poorest, poor and better off) were defined using the following indicators: housing type, assets, animals, and number of rooms used for sleeping. Interviewers were also asked to observe and rank each household in three categories, from poorest to richest. Points are attributed for each answer and a wealth score is computed for each respondent by adding these points. Scores ranged from 1 to a maximum of 16 points. The two cut-off points were then selected so that the poorest category corresponded as closely as possible to the poorest tenth percentile and the “better-off” corresponded to the “richest” tenth percentile³. This method was used to contrast as much as possible the poorest and the “richest” households as the population in the three ODs are economically homogeneous and poor.

The wealth indicator is thus a composite indicator of six different wealth proxy variables. Figure 6 shows that it is consistent with the household data presented above: There are no substantial differences between ODs. The three ODs have the same proportions of better-off and “poorest” households: the socio-economic

³ The poorest category is defined as having a wealth score of 0-4 points and the better off as having a score of 12-16, which corresponds respectively to 8.2% and 10.6% of the households. The algorithm to attribute a score to a household is the following : an asset indicator is generated where no assets = 0, ownership of a radio is worth 1, ownership of a TV, a bicycle, or a refrigerator is worth 2, ownership of a boat or oxcart is worth 3 and ownership of a car is worth 4. A livestock indicator is generated where animal=0 if the household does not own any animals. In any other case, animal=round((poultry/2+pig+goat)/2+(cow+buffalo+horse)/2). The wealth score is computed by adding the assets and animals indicators with house type, number of rooms and interviewers subjective wealth assessment: wscore=housetype+assets+animals+toilets+rooms+wealth.

differences between ODs are not statistically significant in this respect, though Cheung Prey has a higher proportion of households in the medium “poor” category.

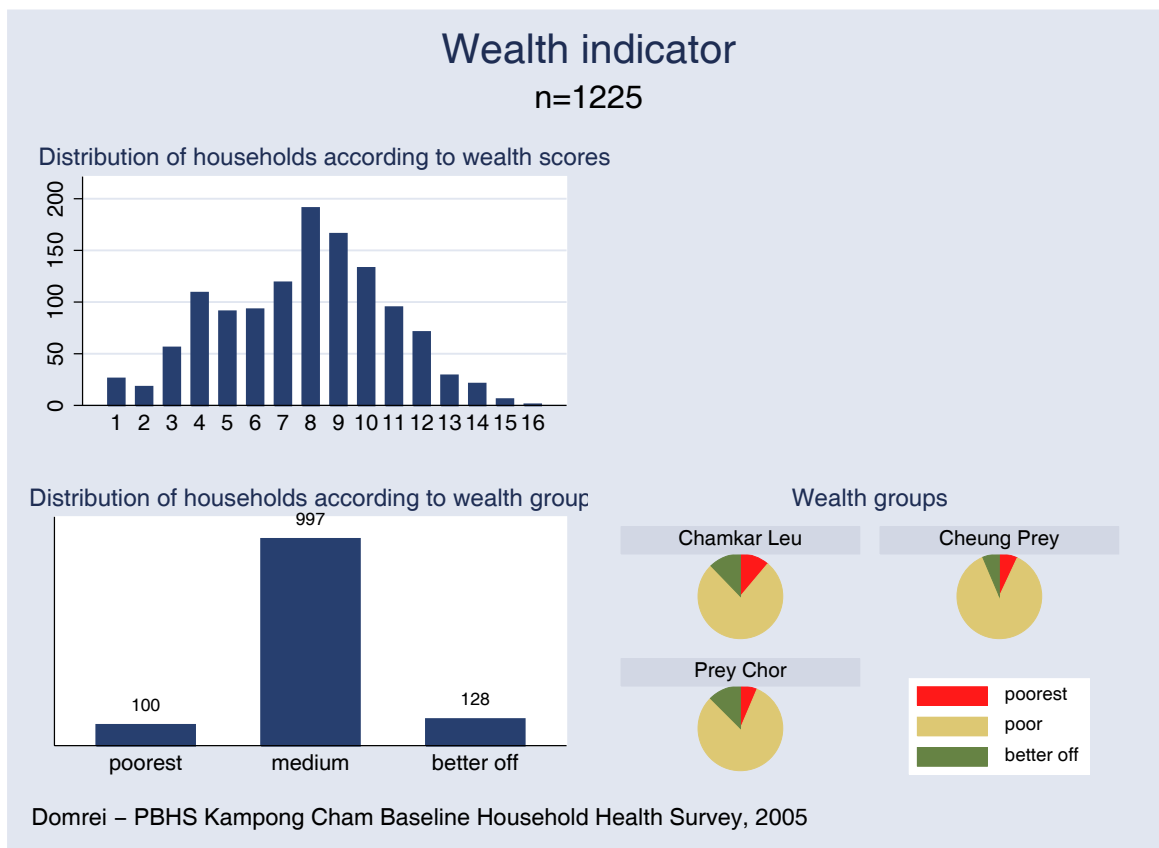


Figure 6: Distribution of households according to wealth group, by OD.

3.3. Household population

Age and birth dates are particularly difficult to collect in rural Cambodia as (1) many adults do not know their exact age and (2) respondents use the Khmer calendar. Interviewers had a Khmer-to-Gregorian calendar age converter and were instructed to prompt if the answer seemed inconsistent with other data (e.g. birth histories or relation to household head).

The age pyramid below (Figure 7) shows that the household sample’s age structure is consistent with what one would expect in rural Cambodia. At first glance, on the female side of the pyramid, a drop between the 45-49 age group and the 50-54 age group suggests that some older women may have had their ages reported to be in the 45-49 age group to allow them to be eligible for the interview. While this may be possible to a limited extent, we do not think this is a survey bias for the following three reasons:

- 1) A similar drop exists among men, where 45-49 year olds are twice as numerous as the 50-54 year olds
- 2) There is no indication of age heaping in the respondent sample, where 49 year olds are in fact less numerous than 48 year olds, 47 year olds, 46 year olds and 45 year olds (Figure 8).
- 3) The drop in population between 45-49 and 50-54 age groups can be explained by the demographic history of Cambodia and by random fluctuations due to sample size, neither of which biases the sample.

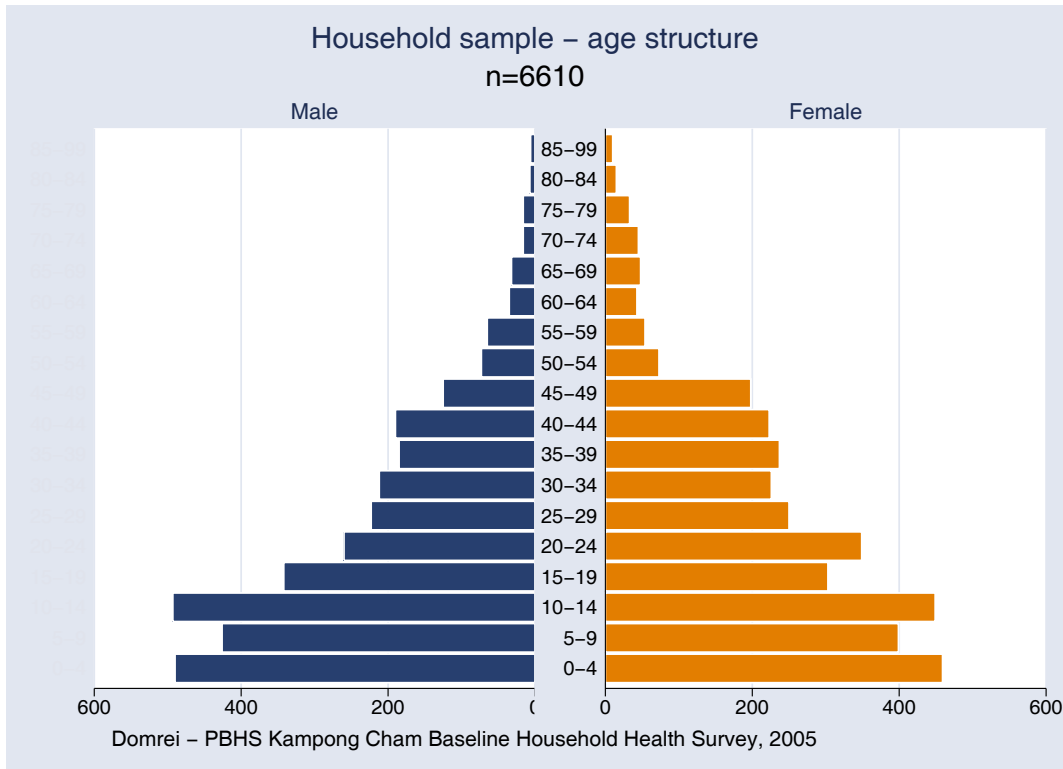


Figure 7: Sample population age pyramid

3.4. Respondent characteristics

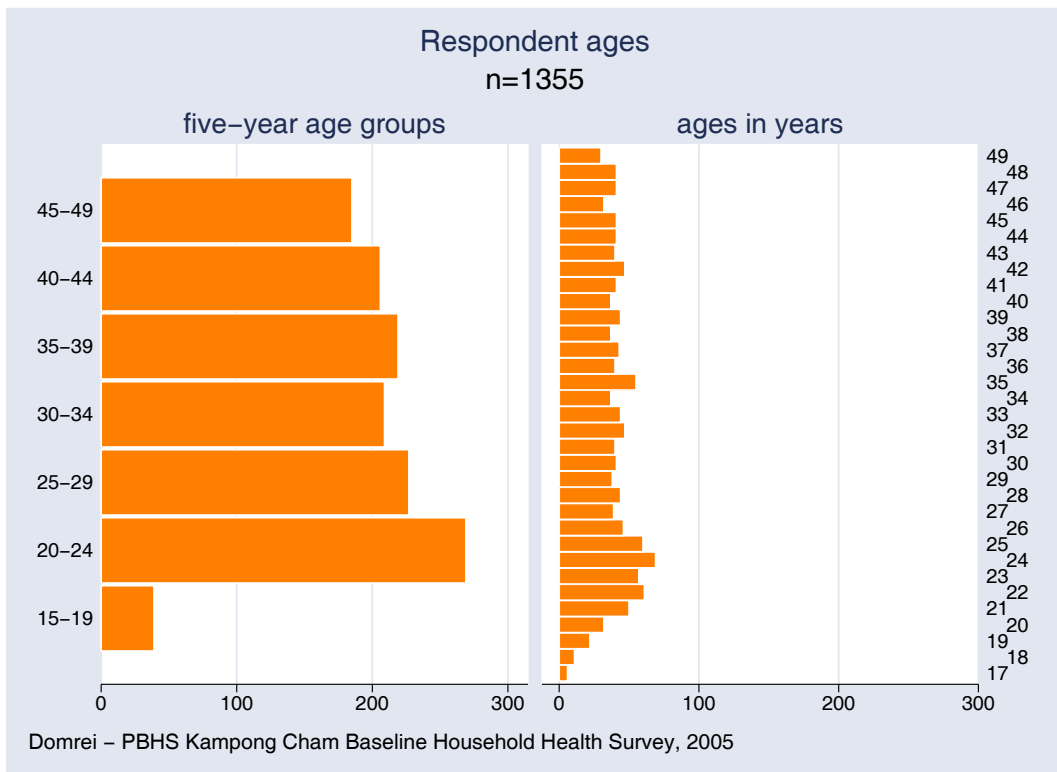


Figure 8: Age structure of respondent sample.

Figure 8 presents the ages of the interviewed women. Not surprisingly, the proportion of respondents' aged 15-19 is small: most girls in this age group were never married, and therefore are not eligible respondents. Indeed, the youngest respondent is 17 years old.

The right panel does not show any age heaping, and the differences in age frequencies discussed above can be safely attributed to random effects due to the small number of women of each age.

The sample contains few respondents who are divorced, separated or widowed. However, we suspect that some single, separated or divorced women may have been reported as married. There are no substantial differences between ODs in the proportion of married women: 88% in Chamkar Leu, 90% in Prey Chor (Figure 9).

The respondents are most frequently the wives of the household head (between 41% in Chamkar Leu and 56% in Prey Chor). The second most frequent situation is when the respondent herself is the household head (Figure 10).

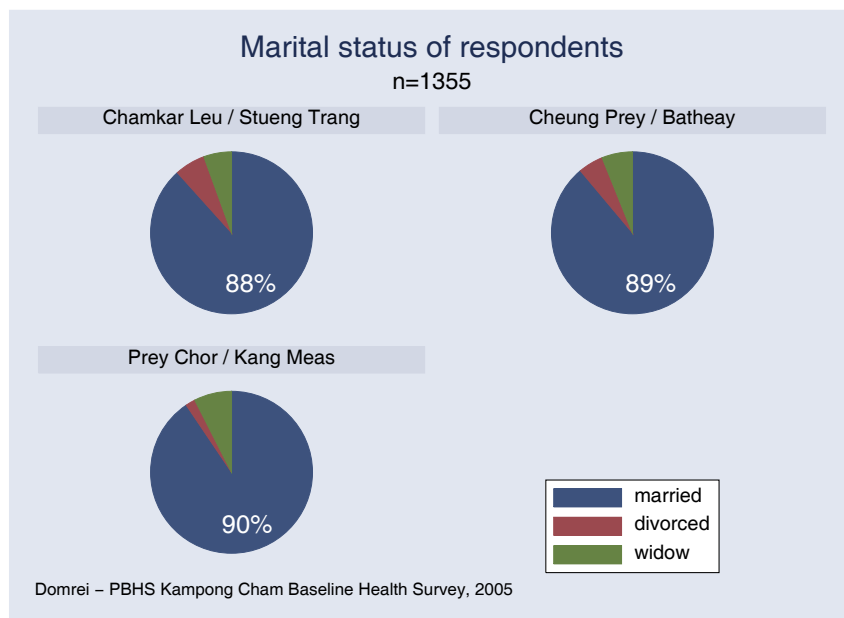


Figure 9: Marital status of respondents, ever-married women ages 15 to 49.

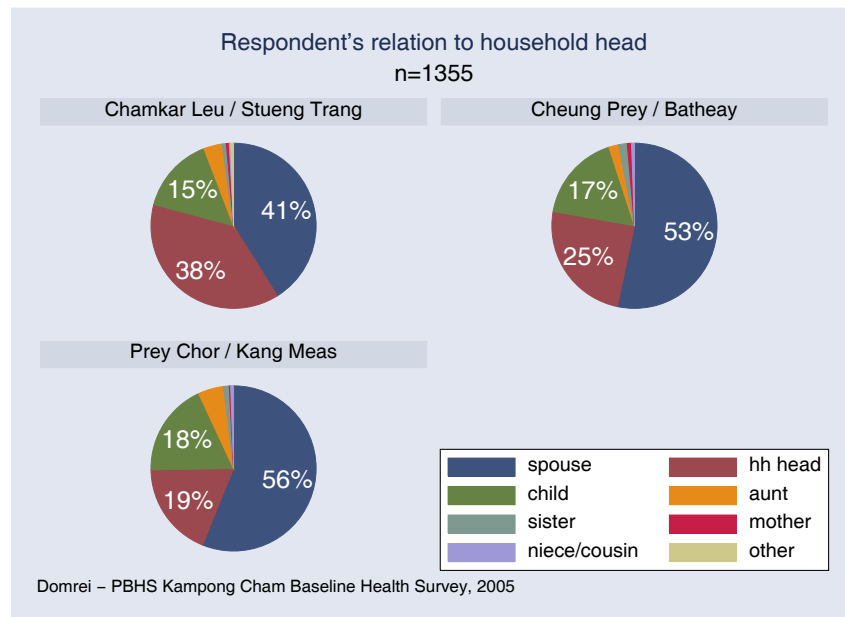


Figure 10: Respondent's relation to household head.

4. Health seeking behaviour among household members

The survey identified 2,339 episodes of illness or injury in the two weeks preceding the survey (section 3 of the questionnaire). For every reported case of illness or injury, the interviewer asked the respondent "where was the very first place [name of person with the health problem] went to treat the illness?" The possible answers were: (1) nowhere -- which includes self-treatment, doing nothing, or planning to go later if things get worse, (2) a government "doctor" (e.g. at a public health centre or referral hospital), (3) a private "doctor", which includes NGO clinics and government health providers practicing outside of a public health facility, (4) traditional healers and (5) non professionals such as neighbours, family or friends. The respondent also had the possibility of answering "don't know."

Figure 11 shows that between 9% (in Chamkar Leu) and 14% (in Cheung Prey) of the health problems were first treated at a public health facility. In all three ODs, people overwhelmingly prefer to first seek treatment with a private provider.

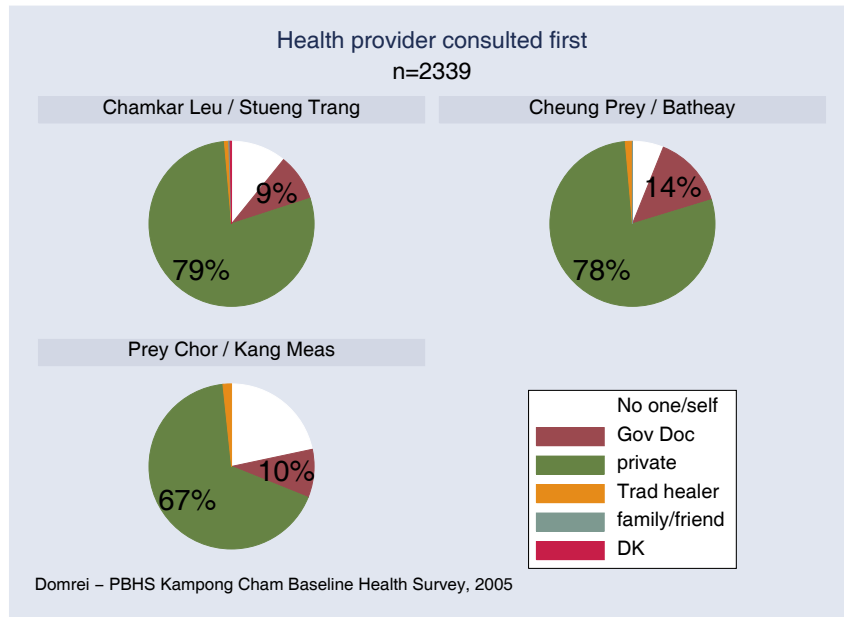


Figure 11: Proportion (%) of household members who sought care in public health facilities as first choice when ill.

In all ODs less than a third of illness episodes led to the consultation of more than one health provider. There are no statistically significant differences between wealth groups in the type or number of health providers consulted.

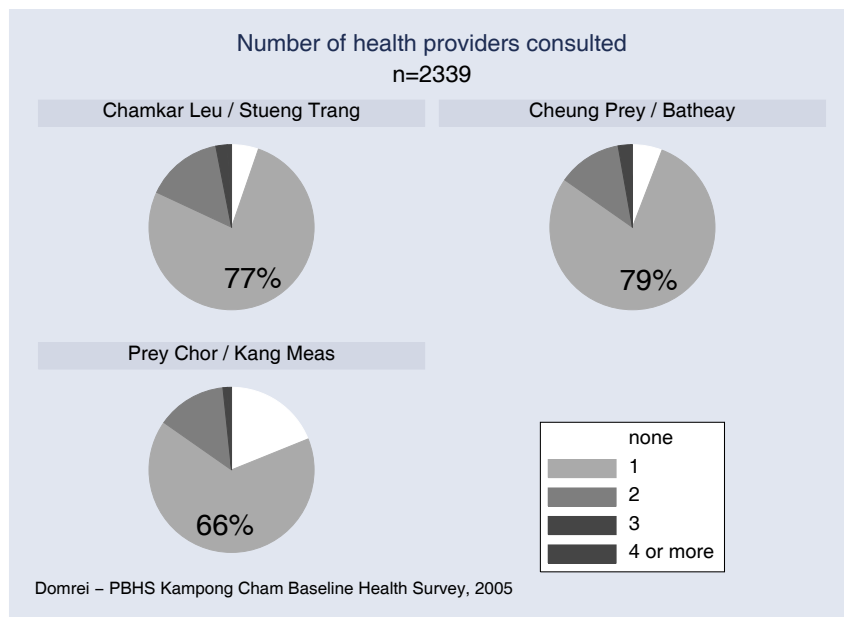


Figure 12: Percent distribution of episodes by the number of health providers consulted, by OD.

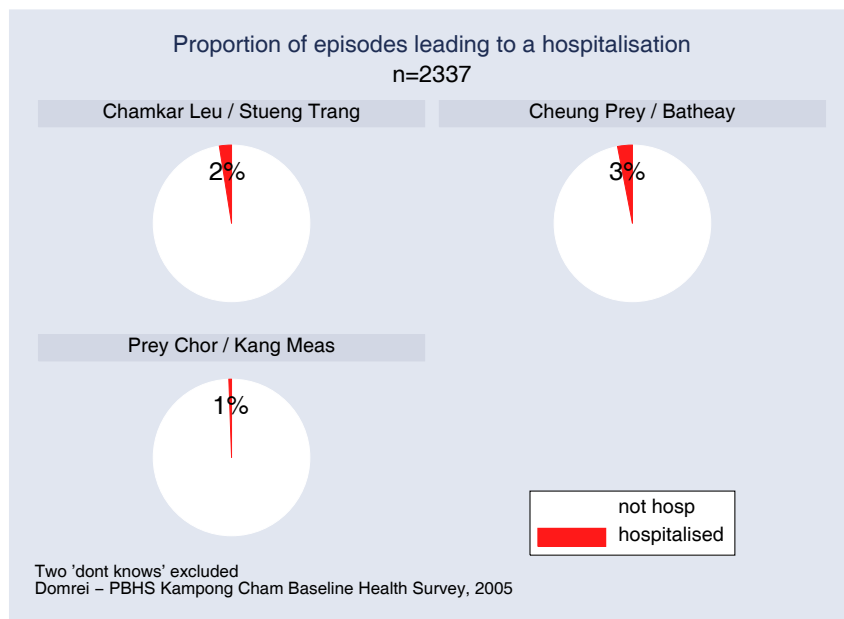


Figure 13: Proportion of episodes leading to a hospitalisation, by OD.

5. Health Expenditures

5.1. Method limitations and caveats

Health expenditures are highly correlated with wealth, even in a culture where the extended family is functional and where it may be possible to borrow money at short notice to cover health costs. In absolute terms, the rich spend more on health than the poor do, even if the poor are less healthy than the rich are. The equity issue lies in the fact that poorer families spend proportionally more of their income on health than wealthy families or can be excluded from proper health care – in which case they may spend less money on health care.

Average household health expenditures are an important yet elusive indicator. Analysis of health inequities requires collecting comprehensive household budget and health expense data. The most accurate way to collect expenditure data is to follow households over time and record all expenses, or to work with each respondent in detailing her household budget for the previous month. In both cases, these are time consuming and intrusive methods, which were far beyond the scope of the baseline survey.

It was agreed that the interviewer would ask the respondent to report the amount her household spent on transportation, on drugs, on official consultation fees and “thank you gifts” (a euphemism for unofficial “under-the-table fees” or bribes) for each health episode (i.e. disease or injury) that had occurred among any one of the current household members in the last two weeks.

The interviewer then asked the respondent how much the household had spent altogether on this health problem. If the total amount reported by the respondent was inconsistent with the sum of the four items, the interviewer probed, whenever possible

in respect to the respondent's sensitivity, to establish a more plausible estimate and adjusted the answers accordingly.

This method was tested three times in the field and in a previous survey (Siem Reap and Oddar Meanchey baseline, 2005) and was deemed acceptable. Nevertheless, before interpreting the results, the reader needs to be aware of the biases of this method to avoid misinterpreting the results.

- 1) The information is indirect for all episodes that concern a household member other than the respondent and her children. Even then, the respondent may not be aware of some costs paid directly by another person (her father, husband, etc.). In that case, what is reported is the respondents' perceptions, or best guesses, of other people's health expenses.
- 2) Respondents may be tempted to "round-up" or exaggerate the amount they spend, especially if they think their answers might influence pricing policy in the public sector or result in a gift.
- 3) The topic only concerns "health problems" and is designed to evaluate the amount of money spent on curative services, not other non-curative health expenses such as check-ups, contraception, etc.
- 4) The interviewer and respondent discussed the direct medical cost of each episode that occurred in the last 15 days. In some cases (e.g. HIV/AIDS, diabetes, tuberculosis, etc), the illness lasts for much longer and some respondents may have included expenses that cover more than 15 days of treatment. This means that when extrapolating medical expenses per episode to an average outlay per household and per year, assumptions need to be made about the average number of episodes that occur in one year in an average household. The result, therefore, depends as much on these assumptions as on the data collected.
- 5) The health expense indicator is an average. Averages are heavily influenced by extreme values, a very small number of "tragic" episodes can explain differences between ODs and counter-intuitively high averages (see Figure 14 page 28).
- 6) Respondents do not always know the breakdown by health item. In some instances consultation fees are included in the price paid for drugs. Private practitioners sometimes do not charge fees but cover their costs by making a profit on the drugs they sell to patients. Some patients think they pay for drugs when in fact they are paying a lump sum user fee.

We first present health expenses per episode. This will allow us to assess the quality of the data, the distribution and variance of costs among the sample cases and identify extreme values that affect the mean. We will then present the percent distribution of these episodes according to each expenditure item, the breakdown of total cost by item and finally the average direct health costs per household and per year.

5.2. Household expenditure on health care per episode, by OD

The table below presents statistics, in Riel, for all four types of expenses and the reported total. In Chamkar Leu, for example, one episode costs on average 2,330 Riel in transportation, 24,229 Riel in drugs, 4,817 Riel in consultation fees and 60 Riel in "gifts." It is important to note, however, that an average can hide a great variety of situations. In Chamkar Leu, at least 25% (see row p25, the 25th percentile) of the illnesses or injuries cost no more than 2,000 Riel, half cost no more than 8,000 and 10% of the episodes more than 75,000 Riel to treat (p90). The average values are therefore heavily influenced by a small number of severe cases where costs were

much higher. Maximum values (max) range from 1,030,000 Riel (\$258) for one episode in Prey Chor to 2,200,000 Riel (\$550) for another episode in Cheung Prey. Consequently, standard deviations (sd) in all three ODs are high.

| OD | Transport | Drugs | Fees | Gifts | Total* |
|--------------------|-----------|---------|--------|--------|---------|
| Chamkar Leu | | | | | |
| n | 688 | 681 | 688 | 689 | 687 |
| mean | 2330 | 24229 | 4817 | 60 | 34395 |
| sd | 8045 | 75621 | 38413 | 597 | 106579 |
| min | 0 | 0 | 0 | 0 | 0 |
| p10 | 0 | 0 | 0 | 0 | 0 |
| p25 | 0 | 1300 | 0 | 0 | 2000 |
| median | 0 | 5000 | 0 | 0 | 8000 |
| p75 | 1000 | 20000 | 0 | 0 | 26000 |
| p90 | 6000 | 50000 | 10000 | 0 | 75000 |
| max | 130000 | 1200000 | 955000 | 10000 | 1400000 |
| Cheung Prey | | | | | |
| n | 849 | 841 | 847 | 850 | 842 |
| mean | 4172 | 32808 | 3346 | 222 | 41077 |
| sd | 19193 | 92225 | 14081 | 1930 | 105999 |
| min | 0 | 0 | 0 | 0 | 0 |
| p10 | 0 | 100 | 0 | 0 | 600 |
| p25 | 0 | 3000 | 0 | 0 | 4000 |
| median | 0 | 10000 | 0 | 0 | 15100 |
| p75 | 2000 | 35000 | 0 | 0 | 42000 |
| p90 | 10000 | 74000 | 7500 | 0 | 100000 |
| max | 400000 | 2000000 | 200000 | 30000 | 2200000 |
| Prey Chor | | | | | |
| n | 798 | 793 | 797 | 796 | 793 |
| mean | 2047 | 18312 | 1081 | 304 | 21550 |
| sd | 8684 | 41842 | 12135 | 5492 | 56920 |
| minimum | 0 | 0 | 0 | 0 | 0 |
| p10 | 0 | 0 | 0 | 0 | 0 |
| p25 | 0 | 0 | 0 | 0 | 500 |
| median | 0 | 5000 | 0 | 0 | 5000 |
| p75 | 0 | 20000 | 0 | 0 | 21000 |
| p90 | 4000 | 50000 | 0 | 0 | 54000 |
| maximum | 120000 | 600000 | 315000 | 150000 | 1030000 |

* Total represents respondents' evaluation of the total amount that the household spent to cover direct medical costs for each episode. It is slightly different from the sum of all items (transportation, drugs, fees and gifts) because the amount for some items was sometimes unknown to the respondent. Likewise, some items may be unknown to the respondent (e.g. drugs) while she still provided an estimate of the total. This explains why the number of episodes for which drug expenses are reported (n=681 in Chamkar Leu) is smaller than the number of episodes for which a total is reported (n=687 in Chamkar Leu).

Source: Domrei PBHS Kampong Cham 2005 Household Baseline Health Survey.

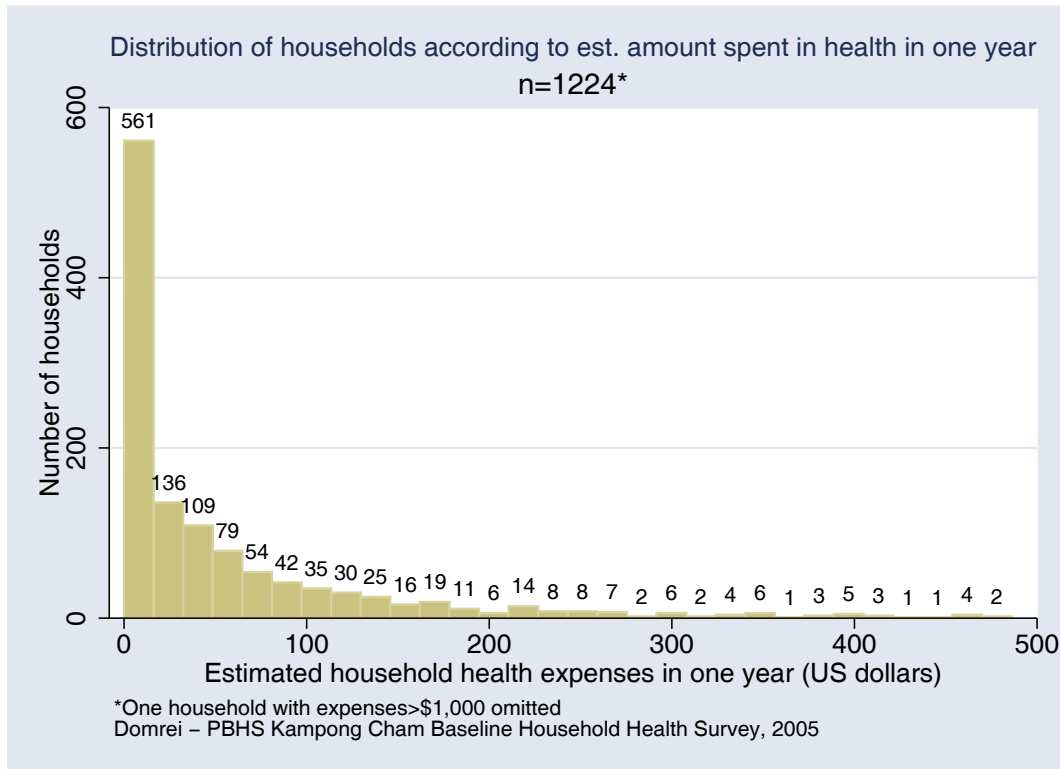


Figure 14: Distribution of households according to the estimated amount spent on health in one year (USD)

The following figures show the percentage distribution of episodes for different types of costs. For example, Figure 15 shows that for two thirds of the reported episodes in Chamkar Leu and Cheung Prey no money was spent on transportation.

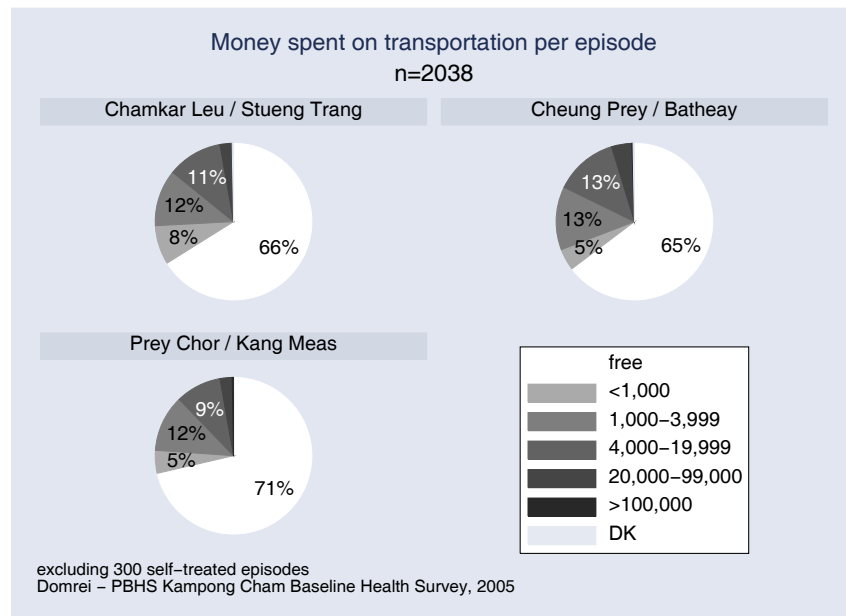


Figure 15: Percent distribution of episodes according to amount (in Riel) paid for transportation expenses, by OD.

As we saw above, drugs are what people with health problems spend the most money on. At best, a quarter of health episodes were treated without any money spent on drugs and exams (Figure 16). Expenses on drugs and exams are more spread out than the other expenditures.

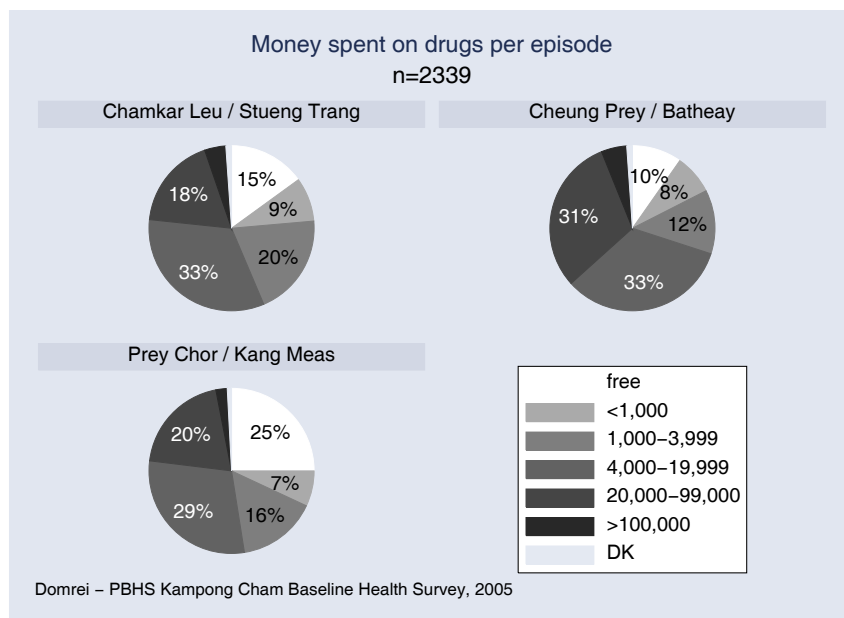


Figure 16: Percent distribution of episodes according to amount (in Riel) paid for drugs, by OD.

The money spent on official consultation fees is not high. The proportion of patients who do not pay consultation fees is greater among those that go to private practitioner than among those who go to a government doctor. In Prey Chor, 94% of episodes treated by private doctors incurred no consultation fee against half of the cases treated by government doctors. Over three quarters of the reported health problems cost less than \$1.00 in fees (Figure 17). Between 31% in Chamkar Leu and 13% in Prey Chor paid “unofficial” fees to a government doctor (Figure 18).

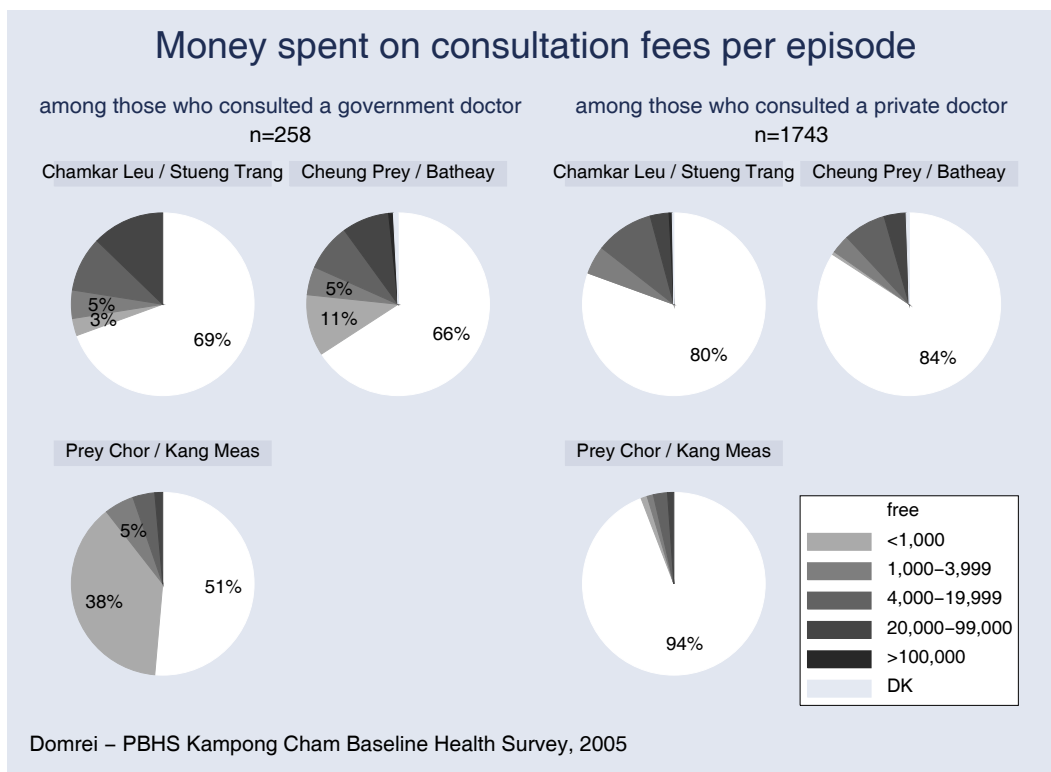


Figure 17: Percent distribution of episodes according to amount (in Riel) paid for consultation fees, by OD.

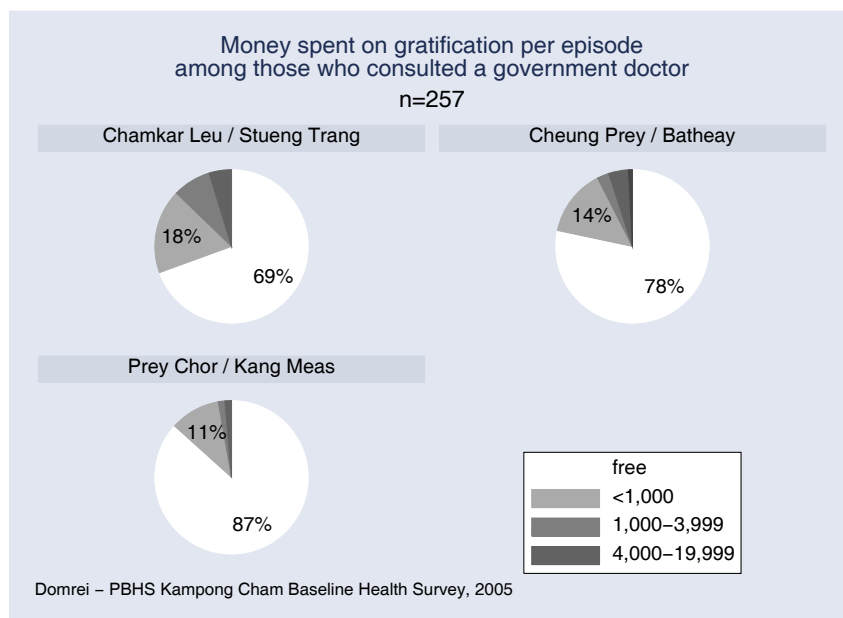


Figure 18: Percent distribution of episodes according to amount (in Riel) paid for gifts and "unofficial" fees, by OD.

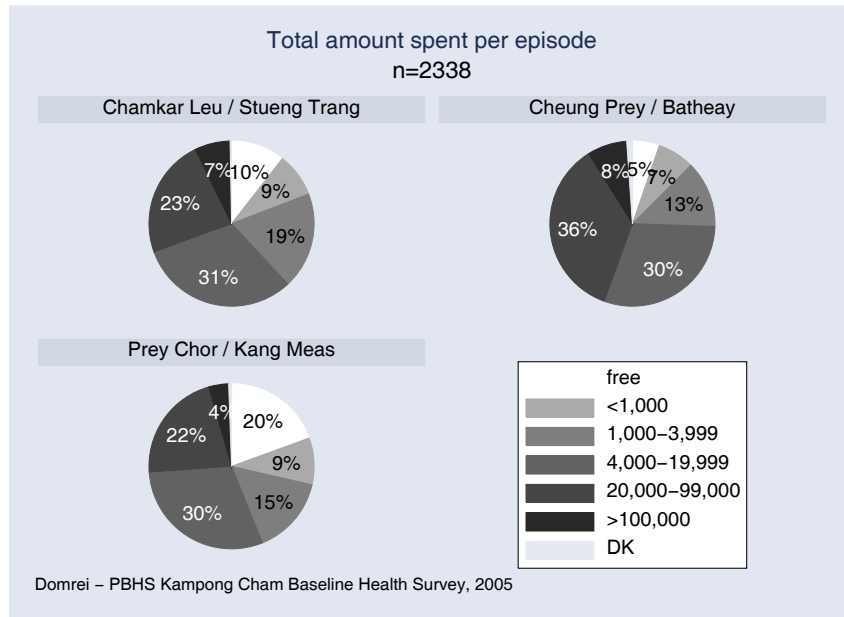


Figure 19: Percent distribution of episodes according to total amount (in Riel) paid by OD.

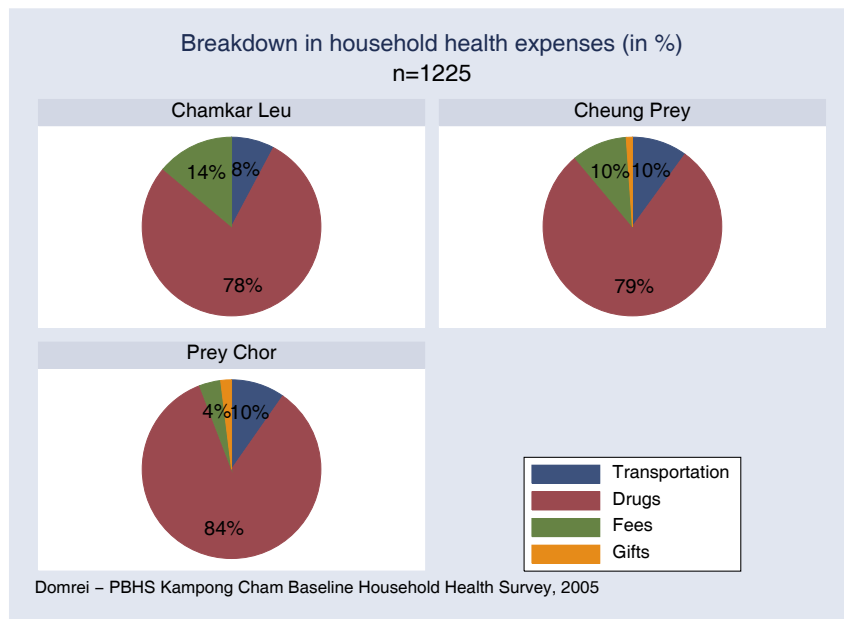


Figure 20: Breakdown of total household health expenses into transportation, drugs and exams, official and unofficial fees, by OD.

By far the most costly health expense is drugs, representing between 78% and 84% of total health expenditures. The second most expensive are either fees (in Chamkar Leu) or transportation (Prey Chor). In some instances, consultation “fees” may be included in the cost of drugs (see above)

In one year, how much does an average household spend on health? To answer this question, we make the assumption that the last two weeks are representative of what happens in one year. This is a strong assumption, as health problems are often seasonal. We add the costs of all episodes for each household, multiply the total by 25 and divide the product by the number of household members to obtain per capita

household averages. Then, for each OD, we add the per capita household averages and divide the total by the number of households.

Figure 21 presents, in US dollars, the estimates of how much “an average household” spends on healthcare in one year. We should be cautious in interpreting the results (see caveats above) and bear in mind the assumptions used to compute the estimates. However, we can note that an average household in Cheung Prey spends almost twice more (\$98) on health in one year than an average household in Prey Chor (\$50).

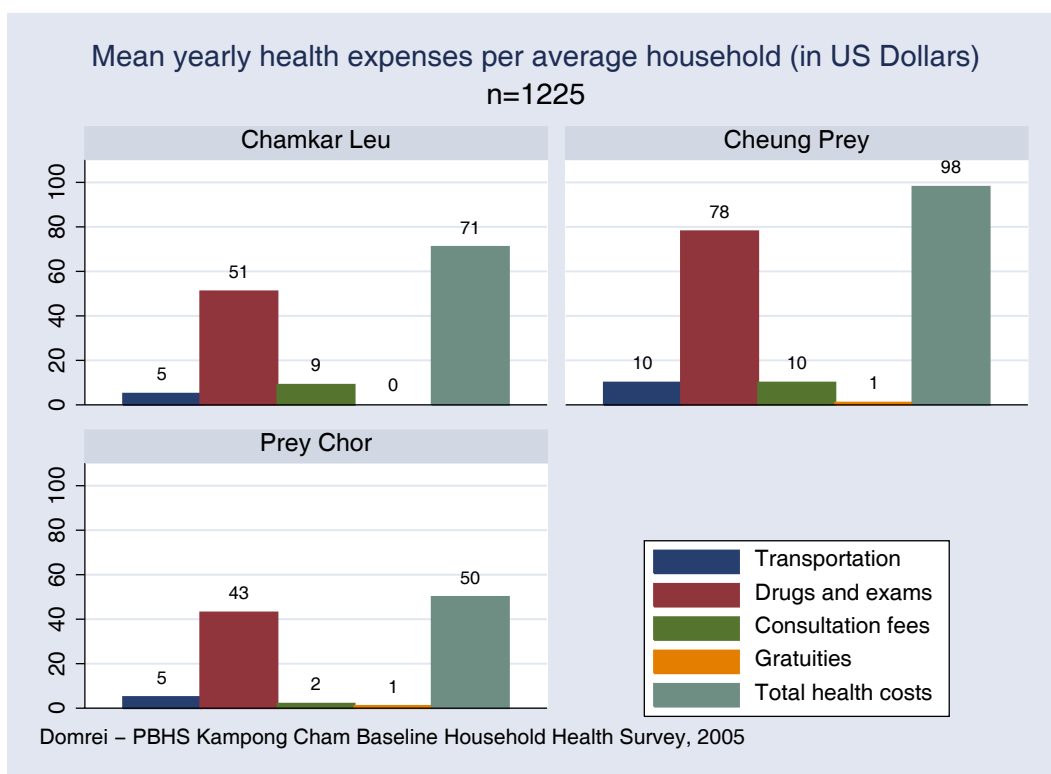


Figure 21: Mean yearly household health expenses, per item and total, by OD.

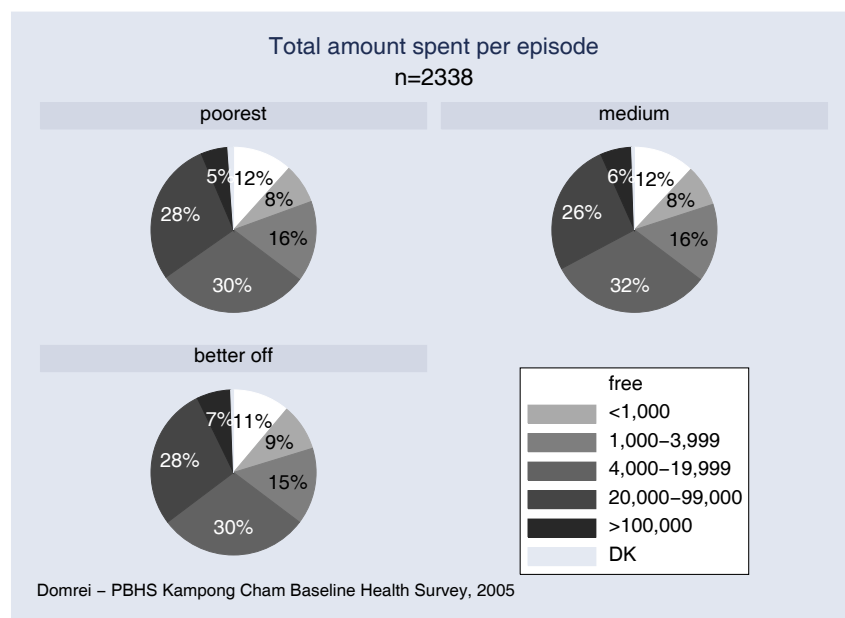
5.3. Household expenditure on health care per wealth group

In this paragraph, we compare the health expenses of the poorest and the better off households. We expect the “richer” households to spend more on health, because they have more money to spend. Moreover, in an equitable system, the poorer households would spend less on healthcare than the rich would because they can access free or low cost services.

There are no significant differences in household health expenses between wealth groups (Figure 22). This reflects the fact that most of the “better off” households in Kampong Cham are not much wealthier than the poor households and do not have much more to spend on health. In no way does it mean that the health system is equitable.

Table 4: Baseline indicators - household health expenses (n=1225)

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|---|----------------|----------------|---------------|-------|
| Household expenditure on health care per year | | | | |
| - average | \$71 | \$98 | \$50 | \$73 |
| - median | \$16 | \$39 | \$13 | \$21 |
| % morbidity episodes where PHF was first choice | 9.0 | 14.1 | 9.5 | 11.1 |
| Hospital admissions per 1,000 inhabitants/year | 7.8 | 11.7 | 1.8 | 7.2 |

**Figure 22: Percent distribution of episodes of illness by total amount (in Riel) spent among wealth groups.**

6. Knowledge on childhood disease

6.1. Knowledge on symptoms, prevention and case management

All respondents were asked questions about four major childhood illnesses: malaria, dengue, acute respiratory infection (ARI) and diarrhoea. These diseases are a major cause of infant and child mortality and increasing knowledge of their signs, symptoms, prevention and management are a crucial aspect of public health policy. We present the most frequent answers (i.e. those given by 10% or more of respondents). Answers were not prompted. Multiple answers were possible.

Malaria and ARI are the diseases that most frequently elicited the answer “I don’t know” (DK). Dengue is better known than malaria. Much needs to be done on the prevention of malaria: a third of the respondents did not mention bed nets while three quarters of them mentioned bed nets to prevent dengue. Less than half do not seek medical treatment if a child has malaria. Barely half seek treatment in case of dengue.

Signs of diarrhoea are easy to recognise, yet barely half the respondents mentioned re-hydration as the proper course of action. More respondents answered “seek treatment”.

Table 5: Knowledge on Malaria and Dengue.

| | Chamkar Leu | Cheung Prey | Prey Chor |
|--|--------------|--------------|--------------|
| Signs of malaria | | | |
| – Fever | 66.1% | 60.3% | 53.2% |
| – Head ache | 16.3% | 8.5% | 6.9% |
| – Tremor | 61.4% | 50.7% | 45.0% |
| – DK | 22.1% | 32.8% | 36.2% |
| What to do when a child has malaria | | | |
| – Wipe body | 17.6% | 27.2% | 21.6% |
| – Continue feeding | 10.4% | 12.7% | 13.4% |
| – Seek treatment | 51.5% | 48.9% | 36.9% |
| – Drink water | 16.0% | 7.8% | 7.3% |
| – DK | 16.3% | 25.9% | 26.7% |
| Danger signs of malaria | | | |
| – Convulsions | 1.6% | 4.0% | 1.3% |
| – Unconscious | 13.8% | 4.5% | 5.0% |
| – Tremors | 33.2% | 41.5% | 29.7% |
| – DK | 31.6% | 35.7% | 38.4% |
| How to prevent malaria | | | |
| – Mosquito net | 67.5% | 69.2% | 55.4% |
| – Kill mosquito | 9.3% | 21.2% | 15.1% |
| – DK | 18.1% | 24.3% | 28.7% |
| Signs of Dengue | | | |
| – Fever | 82.8% | 75.0% | 77.2% |
| – Lethargic | 40.9% | 43.5% | 36.0% |
| – Red skin | 28.2% | 25.7% | 34.7% |
| – Other | 31.2% | 10.7% | 25.4% |
| – DK | 7.9% | 15.8% | 13.8% |
| What to do when a child has Dengue | | | |
| – Give antipyretic | 22.8% | 29.9% | 38.4% |
| – Wipe body | 27.3% | 32.1% | 32.1% |
| – Seek treatment | 57.8% | 60.3% | 39.7% |
| – Sleep in net | 22.8% | 18.8% | 19.6% |
| – DK | 6.1% | 11.6% | 12.1% |
| Danger signs of dengue | | | |
| – Lethargic | 40.6% | 40.2% | 34.1% |
| – High fever | 42.7% | 57.6% | 37.7% |
| – Blue skin rash | 9.7% | 18.3% | 22.6% |
| – Red skin rash | 17.8% | 17.2% | 3.9% |
| – DK | 12.6% | 15.2% | 14.0% |
| How to prevent Dengue | | | |
| – Sleep in net | 79.9% | 81.0% | 78.9% |
| – kill mosquito | 14.7% | 31.0% | 24.8% |
| – Clean house | 15.3% | 21.0% | 22.2% |
| – Clean containers | 11.1% | 14.7% | 15.7% |
| – Bury trash | 14.9% | 10.9% | 28.9% |
| – DK | 9.5% | 10.3% | 8.2% |

NB: Unprompted, multiple answers possible

Table 6: Knowledge on ARI and Diarrhoea.

| | Chamkar Leu | Cheung Prey | Prey Chor |
|------------------------------------|--------------|--------------|--------------|
| Signs of ARI | | | |
| – Fever | 32.5% | 38.6% | 39.4% |
| – Coughing | 26.0% | 39.1% | 31.3% |
| – Rapid breathing | 41.8% | 61.4% | 64.7% |
| – Difficult breathing | 7.9% | 23.4% | 10.1% |
| – Wheezing | 15.6% | 30.6% | 18.1% |
| – Sunken chest | 5.6% | 10.9% | 12.7% |
| – DK | 33.4% | 21.4% | 19.8% |
| What to do | | | |
| – Antipyretic | 13.3% | 31.3% | 30.2% |
| – Seek treatment | 55.1% | 46.7% | 51.1% |
| – Other | 15.1% | 10.5% | 22.2% |
| – DK | 24.8% | 22.8% | 21.1% |
| Danger signs of ARI | | | |
| – Fever/cold | 17.6% | 24.1% | 11.6% |
| – Difficult breathing | 13.3% | 42.0% | 21.8% |
| – Sunken chest | 15.3% | 32.4% | 25.6% |
| – Cough / rapid breathing | 27.1% | 42.6% | 36.9% |
| – DK | 38.8% | 22.3% | 21.6% |
| Signs of diarrhoea | | | |
| – Soft/watery stools | 37.2% | 26.3% | 33.2% |
| – Very thirsty | 14.2% | 13.4% | 17.7% |
| – Fever | 34.1% | 59.8% | 31.3% |
| – Frequent watery motions | 26.4% | 42.2% | 44.2% |
| – Swollen abdomen | 39.5% | 53.6% | 34.1% |
| What to do | | | |
| – Re-hydrate | 40.4% | 52.0% | 56.7% |
| – Increase feeding | 11.7% | 24.6% | 17.5% |
| – Seek treatment | 60.5% | 72.3% | 42.9% |
| – Restrict eating to breastfeeding | 3.2% | 4.2% | 0.4% |
| Danger signs of diarrhoea | | | |
| – Diarrhoea > 3 days | 11.1% | 5.6% | 3.9% |
| – Can't drink/eat | 9.3% | 10.9% | 9.7% |
| – Fever | 10.8% | 41.7% | 15.1% |
| – Frequent watery motions | 30.5% | 54.7% | 36.9% |
| – Weakness | 30.5% | 33.3% | 26.5% |
| – Lethargic | 24.8% | 20.8% | 16.8% |
| – Weight loss | 7.7% | 26.1% | 14.4% |
| How to prevent Diarrhoea | | | |
| – wash hands | 14.7% | 30.6% | 26.9% |
| – drink boiled water | 58.0% | 78.6% | 77.8% |

NB: Unprompted, multiple answers possible

Table 7: Baseline indicators - Childhood illnesses (n=1355).

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|---|-------------|-------------|------------|-------|
| Women who know symptoms | | | | |
| – malaria | 66.1 | 60.3 | 53.2 | 59.6 |
| – dengue | 82.4 | 75.0 | 77.2 | 78.1 |
| – ARI | 58.0 | 76.1 | 77.8 | 71.3 |
| – diarrhoea | 60.5 | 68.1 | 71.8 | 67.1 |
| % Women knowing rules for case management | | | | |
| – malaria | 51.5 | 48.9 | 36.9 | 45.5 |
| – dengue | 57.8 | 60.3 | 39.7 | 52.4 |
| – ARI | 55.1 | 46.7 | 51.1 | 50.7 |
| – diarrhoea | 83.8 | 94.0 | 82.1 | 86.8 |
| % Women knowing rules for prevention | | | | |
| – malaria | 67.5 | 69.2 | 55.4 | 63.9 |
| – dengue | 22.8 | 19.2 | 38.2 | 26.9 |
| – ARI | NA | NA | NA | NA |
| – diarrhoea | 14.7 | 30.6 | 26.9 | 24.6 |

Malaria symptoms: fever

Malaria case management: go to health practitioner or give antimalarials

Malaria prevention: sleep under mosquito net.

Dengue symptom: high fever.

Dengue case management: go to health practitioner.

Dengue prevention: clean water containers or put Abate in water containers.

ARI symptoms: coughing or rapid breathing or difficult breathing or wheezing

ARI case management: seek treatment

Diarrhoea symptoms: soft watery stools or frequent watery motions.

Diarrhoea case management: rehydrate or go to health practitioner.

Diarrhoea prevention: wash hands.

6.2. *Reported cases of childhood disease in household (last 12 months)*

Figure 23 shows the proportion of respondents who reported a case of malaria, dengue, ARI or diarrhoea in her household in the last 12 months. These are NOT prevalence rates, as prevalence rates are computed over much shorter periods of time (e.g. 2 weeks) and the denominator are the number of children exposed to the disease. The figures we present are indicators of the respondents' *awareness* of these diseases. For example, practically no respondents reported cases of malaria, but over 5% reported cases of dengue. This suggests that women are more aware of dengue than of malaria. Diarrhoea is mentioned by a third of the respondents, because its symptoms are more easily recognisable than malaria and because it is, the most common childhood disease.

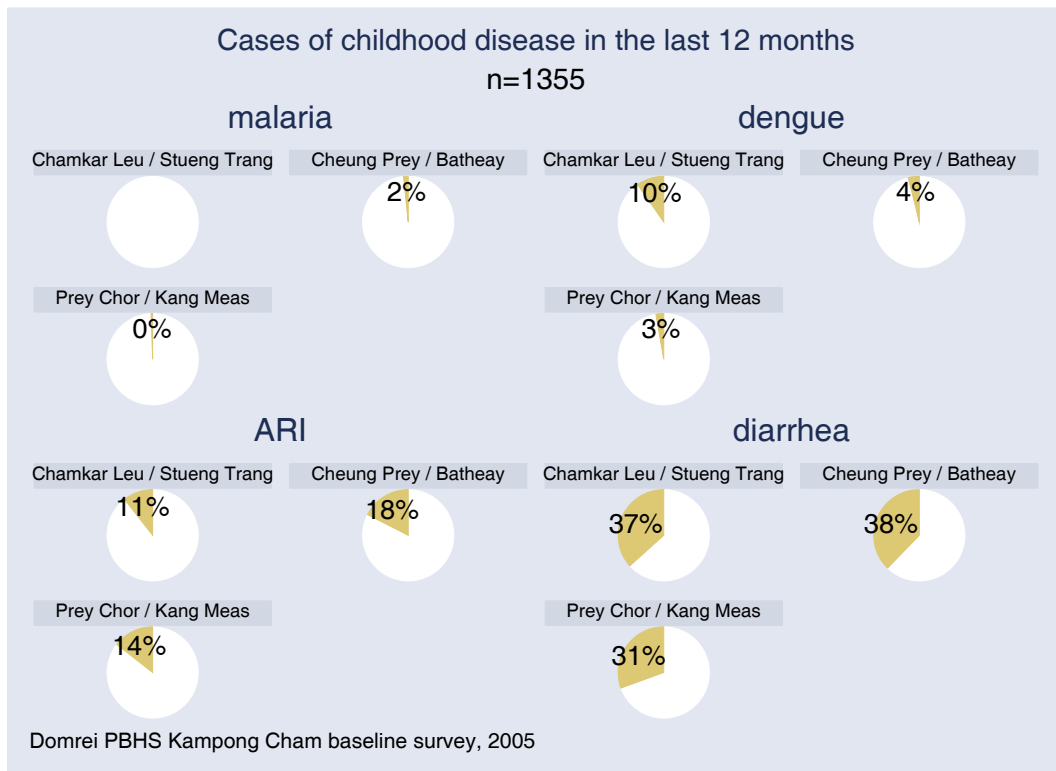


Figure 23: Cases of childhood disease in household (last 12 months)

7. Satisfaction with Public Health Services

Client satisfaction is important to measure as one explanation for preferring private providers is dissatisfaction with public sector providers. Moreover, improving service quality and client-provider relations is a PBHS objective and a greater level of satisfaction is expected at the follow-up surveys. However, as with health expenses, interpretation of client satisfaction results requires caution. Answers may reflect the respondents' low expectations in regards to service quality and their perceptions about polite and appropriate answers rather than an accurate assessment of the service. Therefore, actual service improvement may lead to increased expectations and a decrease in satisfaction.

Client satisfaction surveys are usually conducted immediately after the service was provided (exit interviews), with a detailed and comprehensive instrument that collects in the least biased and most ways the different facets of client satisfaction (see Health Facilities Baseline Survey report). In this multi-purpose household health survey, BTC/PBHS chose to focus on three programme relevant topics (appreciation of cost, cleanliness of facility and politeness of staff) and two more general ones (overall satisfaction and effectiveness of service).

Of the 1355 respondents, 354 (26%) had gone to a public health facility in the three months preceding the survey. This includes women who accompanied a child, relative or friend. Between 69% and 85% of these public facilities were health centres (Figure 24).

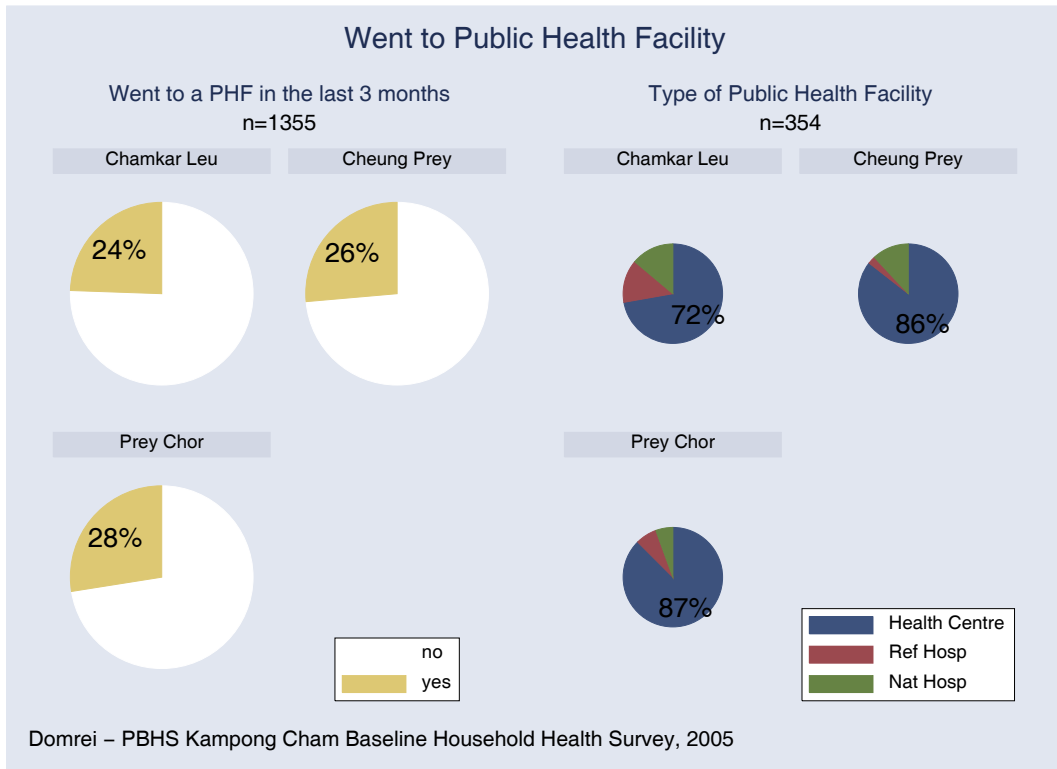


Figure 24: Proportion of respondents who went to a public health facility in the three months preceding the survey.

The majority of women said the health facility was clean, or acceptable. Only a handful of respondents said that it was dirty. This does not mean that the health centres do not need to improve hygiene: it may just reflect low expectations or politeness on the respondent's part.

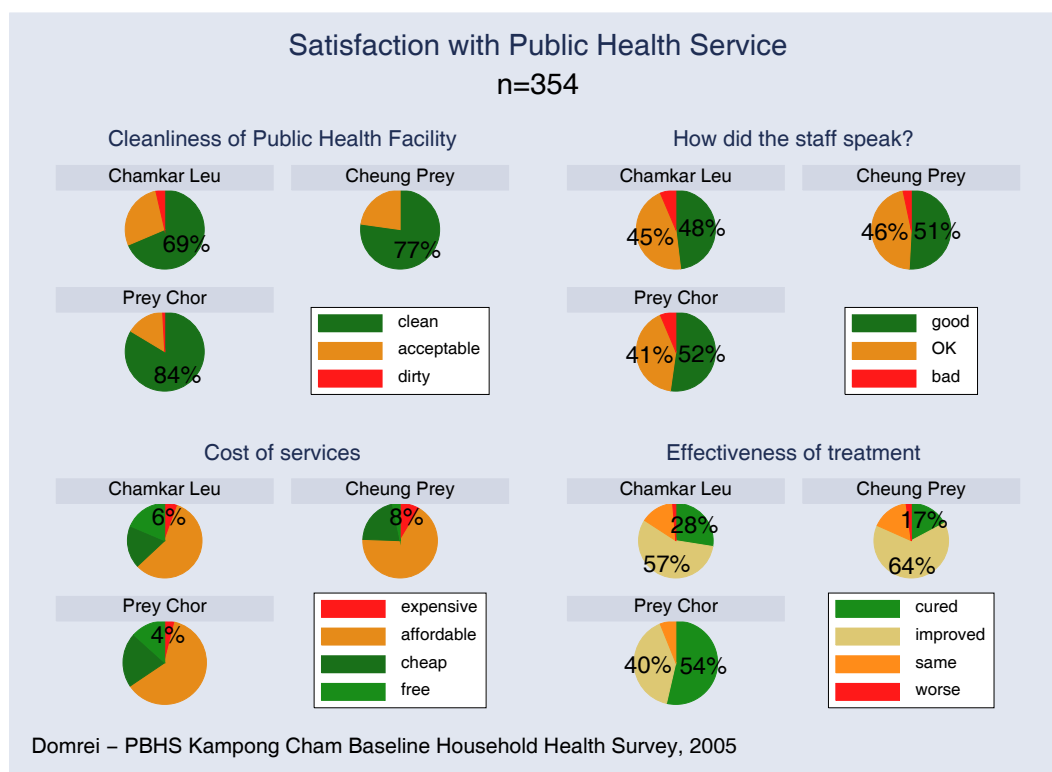


Figure 25: Proportion (%) of respondents who said the facility was clean among those who went to a public health facility in the three months preceding the survey.

Price of services does not appear to be an issue, as less than ten percent of the respondents say that they are expensive (Figure 25). However, it is important to note that these statistics by themselves do not measure the affordability of health services, as some respondents may not have gone to a public health facility *because* they could not afford to do so and therefore are not included in this sample.

The attitude of staff is approached by the way the staff spoke to the respondents (Figure 25). The results are less positive than for the cleanliness of the facility, as in every OD respondents were unhappy about how the staff spoke to them, despite low expectations. There is no doubt room for improvement here.

The great majority of the respondents declared that the health problem that prompted their latest visit to the public health facility improved or was solved (Figure 25).

Table 8: Baseline indicators - satisfaction with public health facilities (n=354).

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|---|-------------|-------------|------------|-------|
| % PHF clients satisfied with services | 94.2 | 97.7 | 90.2 | 94.2 |
| % PHF clients satisfied with staff attitude | 48.1 | 50.9 | 52.4 | 50.6 |

These indicators are NOT representative of the whole Kampong Cham province or of Cambodia as a whole. Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

8. Contraceptive use

In this section, we present levels of current modern contraceptive use for (1) married women and (2) ever-married women who are not pregnant and say they do not wish to

become pregnant. Those women who are not using contraception have an “unmet need”

8.1. Current contraceptive prevalence rate (CPR)

In this section, unless otherwise specified, we define a contraceptive user as a woman who reports using a modern method.

Increasing contraceptive prevalence is an objective of the Health Sector Strategic Plan, and there is some evidence that contraceptive rates are increasing in rural Cambodia. This is the case in Kampong Cham where CPR is over 20% in all three ODs, and the overall average is at 21% against 14% in 2000.

Table 9: CPR among married women, by OD

| OD | n | CPR (%) | [CI at 95%] |
|---------------|------|---------|-------------|
| Chamkar Leu | 391 | 25.6 | 21.2 – 29.9 |
| Cheung Prey | 397 | 21.4 | 17.4 – 25.5 |
| Prey Chor | 419 | 16.7 | 13.1 – 20.3 |
| All three ODs | 1207 | 21.0 | 18.8 – 23.4 |

**Domrei – PBHS Kampong Cham Baseline Health Survey.

The highest increase in contraceptive use since 2000 is among users of the daily pill (Table 10).

Table 10: CPR among married women of reproductive age, by method

| | 2000* | 2005** |
|-----------------|-------|--------|
| Daily pill | 2.0 | 8.5 |
| Monthly Pill | 3.0 | 2.2 |
| IUD | 0.6 | 0.7 |
| Injections | 5.9 | 7.4 |
| Condom | 0.8 | 1.0 |
| Sterilisation | 1.0 | 0.9 |
| Other modern*** | 0.2 | 0.3 |
| Total modern | 13.6 | 21.0 |
| Traditional | 4.7 | 9.9 |
| Any method | 18.6 | 30.9 |
| No method | 81.4 | 69.1 |

*CDHS (for the whole province)

**Domrei – PBHS Kampong Cham Baseline Health Survey, weighted.

***Norplant in 2005

Despite a significant increase in the CPR since 2000, unmet need is high (Table 11). It should be noted however that the unmet need presented here does not take into account women who are not exposed to unwanted pregnancies (e.g. women who are sterile or who are not sexually active) since we did not collect these data. “Real” unmet need is thus lower.

Table 11: CPR and unmet need for ever-married non-pregnant women who do not want to become pregnant, by OD

| OD | n | CPR (%) | [CI at 95%] | Unmet need (100-CPR) |
|---------------|-----|---------|-------------|----------------------|
| Chamkar Leu | 312 | 32.1 | 26.8 – 37.3 | 67.9 |
| Cheung Prey | 298 | 28.5 | 23.4 – 33.7 | 71.5 |
| Prey Chor | 331 | 21.1 | 16.7 – 25.6 | 78.9 |
| All three ODs | 941 | 27.1 | 24.3 – 30.0 | 72.9 |

Domrei – PBHS Kampong Cham Baseline Health Survey, weighted.

Even when including traditional methods in current use, the unmet need for contraception remains high.

8.2. Contraceptive mix

Figure 26 presents the methods currently used among women who say they are currently using a method. As noted above, the most frequently used modern methods are the daily pill and injectables, followed by traditional methods.

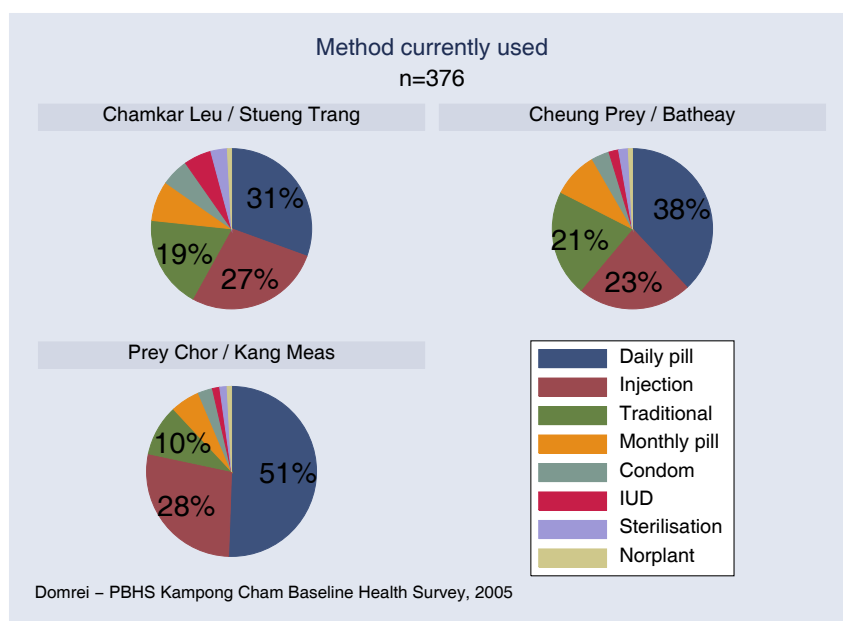


Figure 26: Proportion (%) of current contraceptors by method.

9. Maternal health

As explained above, we decided to target ever-married women to maximise the number of women in our sample who would have given birth and taken care of children. This clearly shows in Figure 27 where over 90% of our respondents have experienced at least one complete pregnancy.

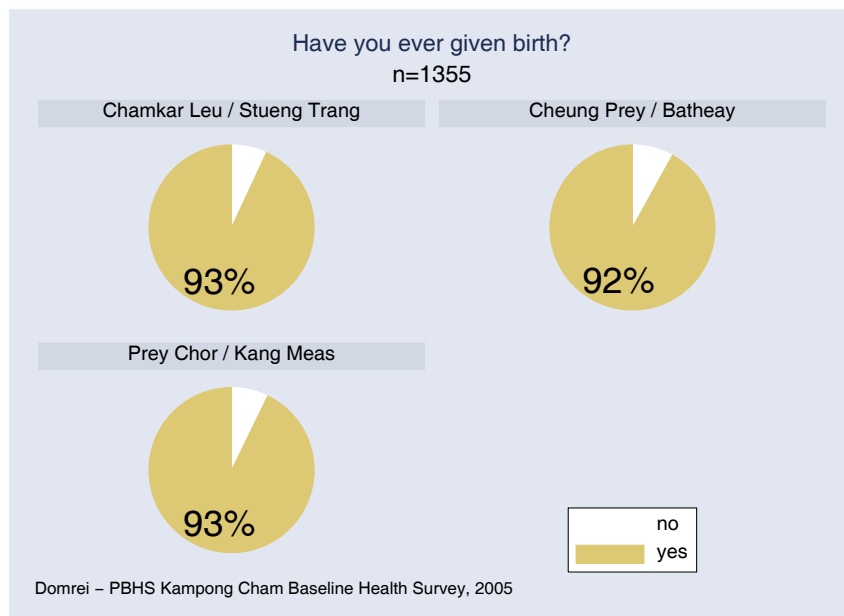


Figure 27: Proportion of respondents who have given birth at least once.

The following indicators are computed among all respondents who have delivered since 2002, and relate to their last completed pregnancy (n=621 deliveries).

Three quarters of the respondents delivered at home; and about half were assisted by a midwife. The proportion of recent deliveries assisted by traditional birth attendants is higher in Cheung Prey than in the other two ODs. This was explained at the dissemination workshop by the fact that Cheung Prey was the site of a community-based intervention where TBAs were trained. It was suggested that the training may have promoted the use of TBAs.

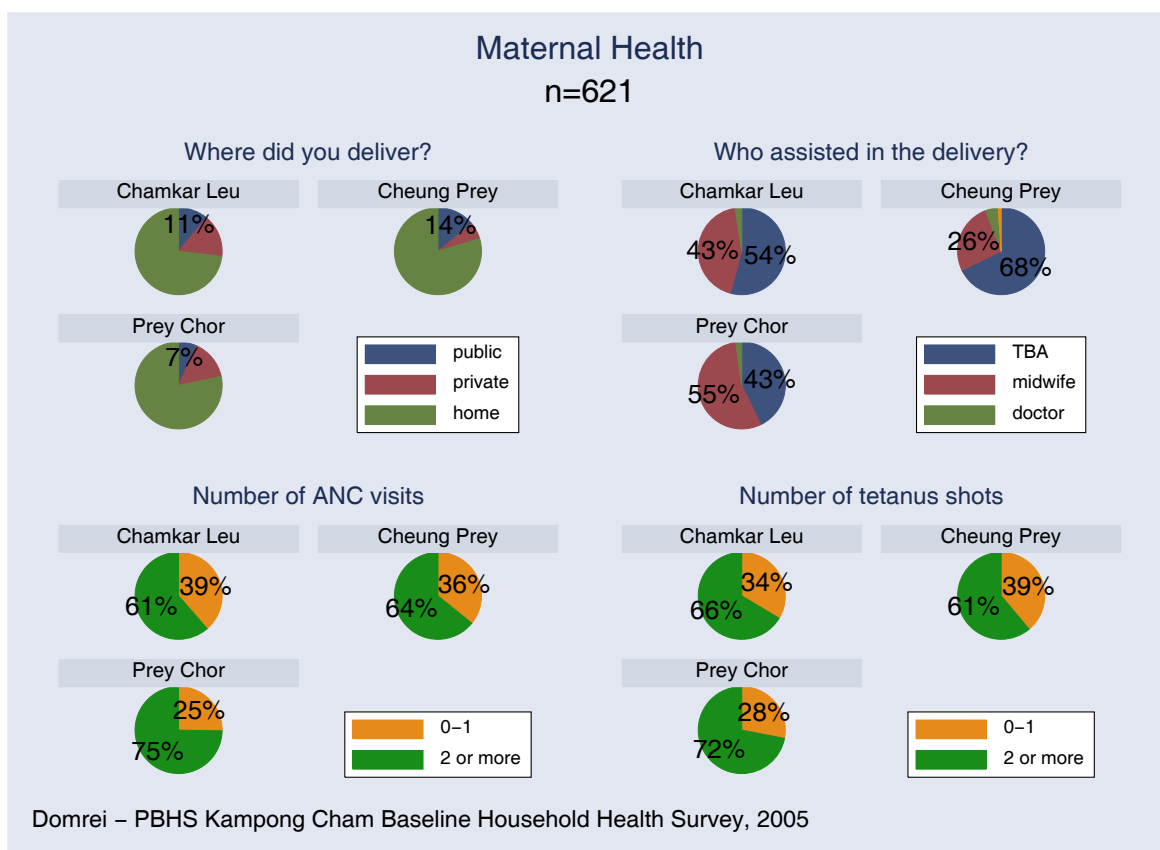


Figure 28: Maternal health indicators.

Contrarily to the child vaccination section, interviewers did not seek documentary evidence of the respondent's TT vaccination status. Respondents were first asked if they had received tetanus injections during or before their last pregnancy. If they answered yes, then they were asked how many shots they received (Figure 28).⁴

Delivery by caesarean sections are a rare occurrence in the three ODs (Table 12), though there is an indication that more are being performed now than in the nineties (Table 13)

Table 12: Percent of live births by caesarean section in the last 24 months.

| OD | live births | Caesarean sections | % | [CI at 95%] |
|---------------|-------------|--------------------|-----|-------------|
| Chamkar Leu | 151 | 2 | 1.3 | 0 – 3.2 |
| Cheung Prey | 157 | 3 | 1.9 | 0 – 4.1 |
| Prey Chor | 145 | 0 | 0 | - |
| All three ODs | 453 | 5 | 1.1 | 0.1 – 2.1 |

Domrei – PBHS Kampong Cham Baseline Health Survey

⁴ CDHS2000: 19.3% at national level

Table 13: Increase in live births by caesarean section since 2001.

| Period | live births | c. sections | % |
|-------------|-------------|-------------|-----|
| 2004-2005 | 262 | 3 | 1.2 |
| 2003-2004 | 191 | 2 | 1.1 |
| 2002-2003 | 178 | 5 | 2.8 |
| 2001-2002 | 181 | 0 | 0.0 |
| before 2001 | 3,569 | 13 | 0.4 |
| Total | 4,381 | 23 | 0.5 |

Domrei – PBHS Kampong Cham Baseline Health Survey

Table 14: Baseline indicators - maternal health (n=621).

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|--|----------------|----------------|---------------|-------|
| % of pregnant women who received at least 2 ANC | 61.5 | 64.0 | 74.7 | 67.0 |
| % of pregnant women who received at least 2 TT | 66.3 | 61.1 | 71.8 | 66.4 |
| % of respondents advised to deliver at PHF | 46.4 | 54.4 | 54.0 | 51.8 |
| % of deliveries attended by trained health staff | 45.4 | 31.0 | 57.3 | 44.5 |
| % of deliveries by Caesarean section | 1.3 | 1.9 | 0 | 1.1 |

These indicators are NOT representative of the whole Kampong Cham province or of Cambodia as a whole. Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

Proportion of deliveries by Caesarean section computed for period 0-23 months preceding the survey

10. Fertility

The fertility indicators below are computed with the birth history data (section 8 of the questionnaire). Each respondent was asked whether she had ever given birth in section 7. If she had, she was asked to provide a detailed birth history of her children in chronological order starting with the first child. For each birth, respondents were asked the date of birth (month and year, either by the Gregorian or Khmer calendar system). The age of the respondent at the time of the birth is deducted from her current age (section 2). The Total fertility Rate (TFR) is the number of children a woman would have by the end of her reproductive years if she experienced the current rate of childbearing at each age of her childbearing years assuming that she survived to the end of her reproductive age.

We find a total fertility rate (TFR) in the three ODs combined of 3.1 for the period 2001-2005, compared to the CDHS national TFR of 4.0 for 1995-2000 (see Table 15).

Though a decrease of 0.9 in five years can be expected in a country in full demographic transition, caution should be used when comparing these two figures.

On one hand, our fertility indicators are slightly overestimated because we have the fertility histories of ever-married women only, rather than of all women. Since in rural Cambodia over 95% of all women are ever-married (except in the youngest age group where fertility is low) we do not think this increases the estimated TFR by more than 0.1. On the other hand, compared to the CDHS our sample of respondents is not as large, and our period of reference is 48 months rather than 60. The Kampong Cham TFR for 2005 is thus more susceptible to random fluctuations.

Table 15: Fertility indicators

| | Births | Women | Age-specific fertility rate | |
|------------------|--------|-------|-----------------------------|-----------|
| | | | KC-2005 | CDHS-2000 |
| 15-19 | 50 | 192 | 52 | 51 |
| 20-24 | 307 | 457 | 134 | 191 |
| 25-29 | 177 | 203 | 174 | 203 |
| 30-34 | 136 | 160 | 170 | 165 |
| 35-39 | 84 | 113 | 149 | 118 |
| 40-44 | 52 | 70 | 149 | 55 |
| 45-49 | 3 | 6 | 100 | 15 |
| GFR | 809 | 1201 | 135 | 129 |
| TFR 15-49 | | | 3.1 | 4.0 |
| TFR 15-44 | | | 2.8 | 3.9 |

CDHS-2000 rates are for the period 1-60 months preceding the survey. KC-2005 rates are for the period 1-48 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.

TFR: Total fertility rate for ages 15-49 expressed per woman

GFR: General fertility rate (births ÷ no. of women 15-44) expressed per 1,000 women

ASFR: Age-specific fertility rate expressed per 1,000 women

Age Specific Fertility Rates

Live births for 1,000 women

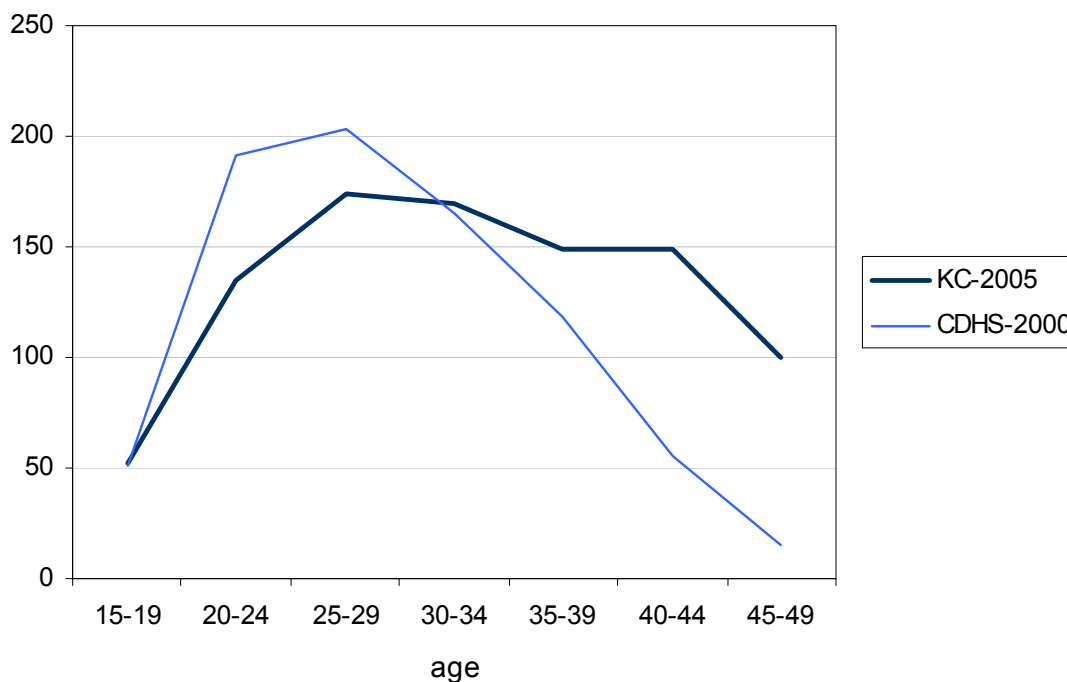


Figure 29: Age specific fertility.

Figure 29 shows how fertility evolved in the last five years, if we assume that the age specific fertility rates in Kampong Cham in 1996-2000 were similar to those of the CDHS (light blue curve). Before 2000, women had more children earlier (see peak between 20-24 and 25-29) than in 2001-2005 (bold dark curve). Older women (ages between 30-44) had more children in 2001-2005 than they did at the same ages in 1996-2000. This is consistent with the increase in contraceptive prevalence, notably among younger women who have become, as a result, more efficient in delaying their first birth and spacing their next births than previous generations.

11. Infant mortality

The infant mortality rate is also computed with the birth history data (section 8 of the questionnaire, see fertility indicators above). The respondent's detailed birth history of her children included the each child's survival status and if the child was not alive, the age at death. Infant mortality is expressed as the number of deaths of children under one per 1,000 live births.

CDHS 2000 uses the same method, with the exception that the birth histories of all women are recorded, rather than only those of ever-married women. Infants born out of wedlock from young girls are vulnerable, but few single women give birth and over 90% of women are married, so the sampling bias is small.

If we use the birth histories from our sample for the same period as CDHS, (1990-1999) we find an infant mortality rate of 92.6 per thousand live births, against 107.9 for the CDHS. The difference may be attributed to the fact that we did not include in our sample women aged 50-54 (who were 45-49 in 2000) and the extra five year recall period.

Using the same method, we compute the current infant mortality rate. Between 1995 and June 2004 (i.e. 12 months before the survey), there were 1,880 live births in our sample among which 167 children died before their first birthday. The weighted **infant mortality rate is 89.0 per thousand live births**⁵. This suggests a decrease in infant mortality in Kampong Cham since 2000.

12. Vaccination

Vaccination data were collected from the yellow cards for all children in the household aged between 12 and 35 months that had a yellow card. This is method is used because respondent's recall of the various vaccines that are required for full vaccination is notoriously unreliable. It allows a more accurate comparison of vaccination coverage today with those at mid-term or endline evaluation. It does not allow comparisons with CDHS or other surveys that include recall data in the coverage estimate. The vaccination coverage figures that follow may exclude a small number of children who were fully vaccinated, but they are less biased than those computed among yellow cards holders only, and more reliable than those where recall is used. In other words, the vaccination coverage rates assume that (1) children that have no yellow card are not fully vaccinated and (2) that the yellow cards are accurate.

The household sample included 345 children aged 12 to 35 months old, among which 220 had yellow cards.

The proportion of children who had yellow cards was similar in all three ODs. In Cheung Prey, 56% of the children had yellow cards, against 70% in Chamkar Leu. This

⁵ The weighted IMR is close to the unweighted IMR because the total population in all three ODs is similar.

difference is small and not statistically significant. Children from better-off households are more likely to have their yellow cards⁶ than those from the poorest households.

We now present the results for each vaccine (Figure 31 and Figure 32), then the proportion of fully vaccinated children (Figure 33).

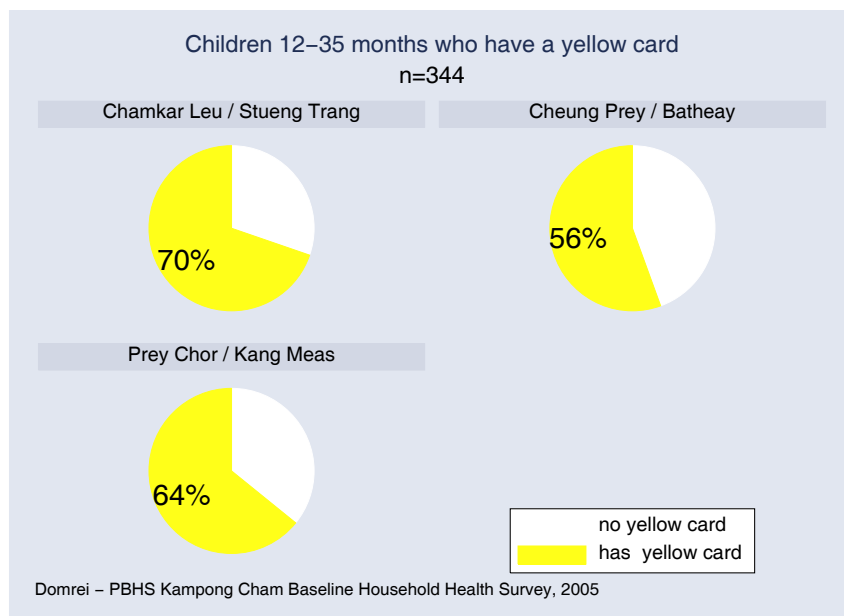


Figure 30: Proportion (%) of children who had a yellow card.

The difference in coverage between OD is greatest for measles⁷. BCG is the vaccine with the highest coverage rate in all three ODs

Vaccination coverage (excluding Hepatitis B) varied between ODs, from 28% in Cheung Prey to 61% in Chamkar Leu. The difference between ODs is mostly attributable to differences in measles coverage.

In the three ODs combined, 47.7% of the children aged 12 to 35 months were fully vaccinated, excluding hepatitis B.

If one includes hepatitis B, then only 7.6% of the children aged 12 to 35 months are fully vaccinated. With the implementation of systematic vaccination against Hepatitis B, this figure is expected to increase substantially in the next three years.

⁶ Odds Ratio: 1.8 [1.1-3.2]

⁷ The difference between ODs for measles coverage rates is statistically significant at 90% confidence level.

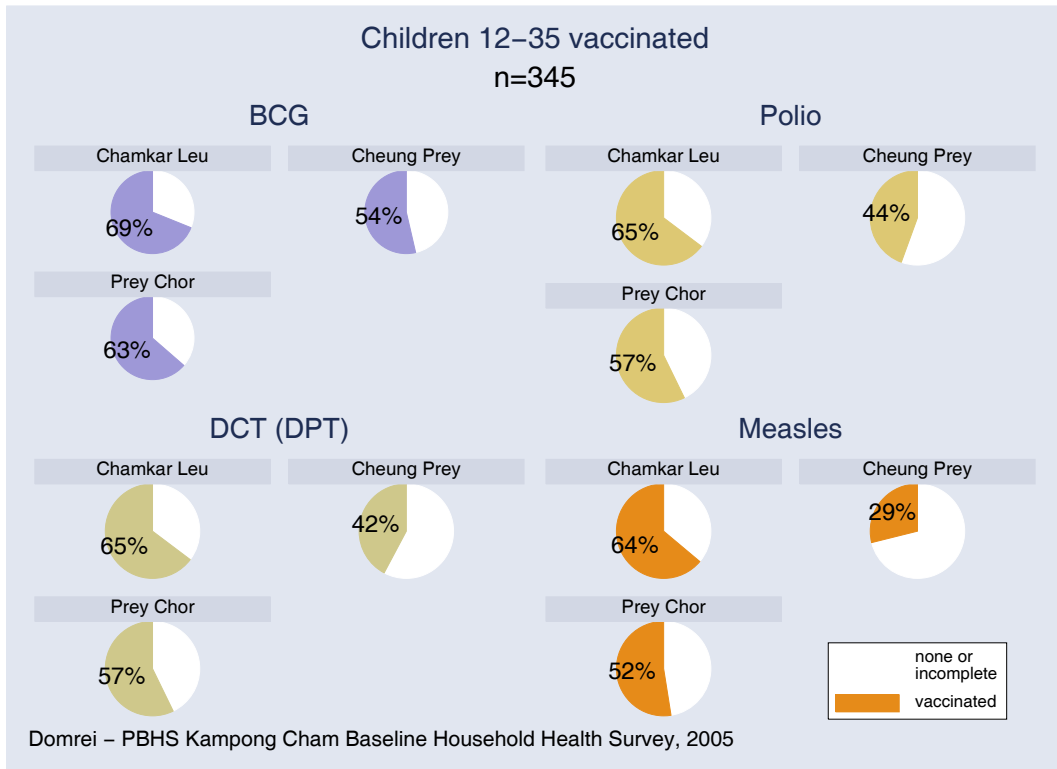


Figure 31: vaccination status per vaccine, by OD.

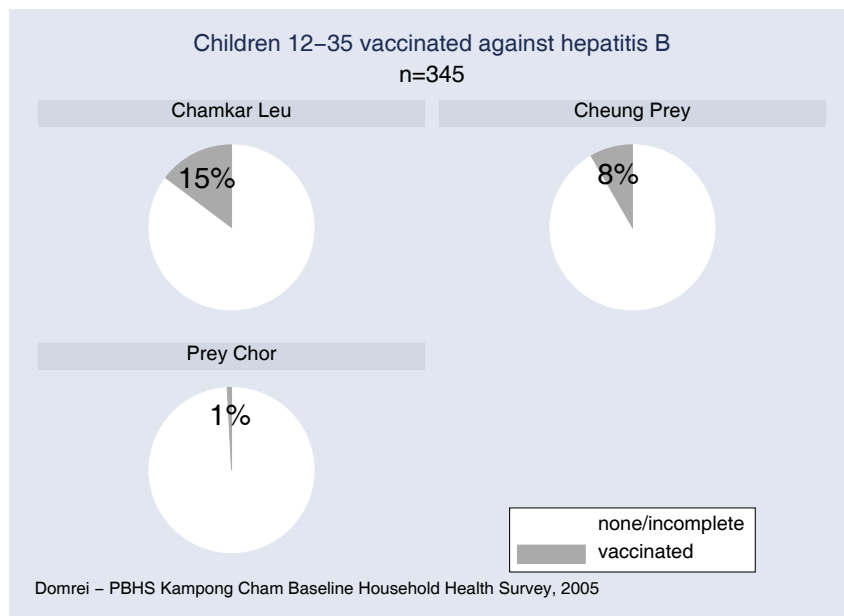


Figure 32: hepatitis vaccination coverage, by OD.

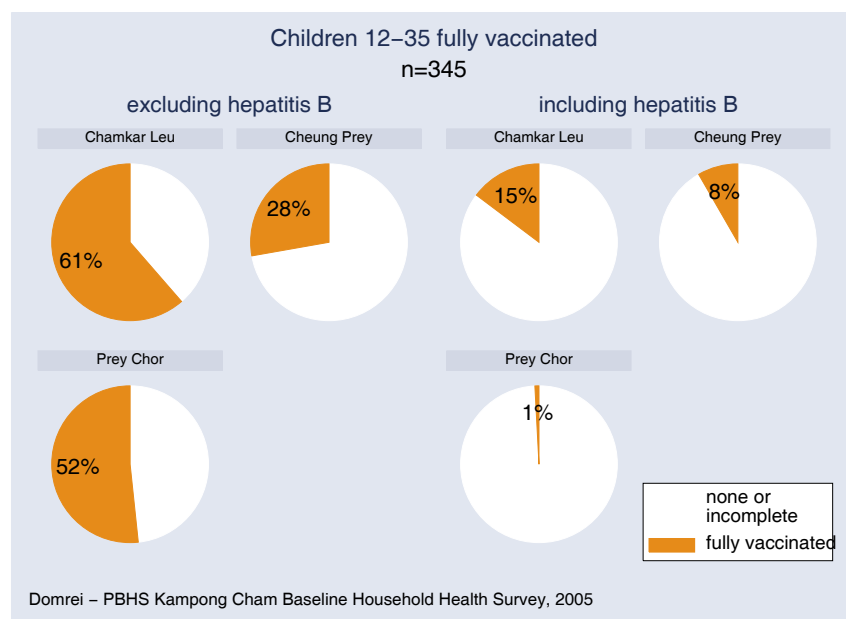


Figure 33: Proportion of fully vaccinated children, by OD.

It is important to note that full vaccination status is only weakly correlated to wealth (the difference is not statistically significant beyond 85% confidence level). With the exception of hepatitis B, differences in vaccination coverage are not statistically significant at 95%, though some are at lower levels of confidence (e.g. measles at 90%).

Table 16: Baseline indicators – vaccination (n=345).

| | Chamkar Leu | Cheung Prey | Prey Chor | Total |
|--|-------------|-------------|-----------|-------|
| % Children 12-35 months old fully vaccinated | | | | |
| BCG | 68.9 | 53.6 | 63.5 | 62.3 |
| Polio | 64.8 | 44.3 | 57.1 | 55.8 |
| DCT | 64.8 | 42.3 | 57.1 | 55.1 |
| Measles | 63.9 | 28.9 | 52.4 | 49.1 |
| Hepatitis B | 14.8 | 8.3 | 0.8 | 7.6 |
| Fully vaccinated (excl. Hep B) | 61.5 | 27.8 | 51.6 | 47.7 |
| Fully vaccinated (inc. Hep B) | 14.8 | 8.3 | 0.8 | 7.6 |

These indicators are NOT representative of the whole Kampong Cham province or of Cambodia as a whole. Vaccination coverage rates are based on yellow cards only. Children with no yellow cards are included in the denominator. Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

13. Anthropometrics

13.1. Anthropometric data and methods

At the end of each interview, interviewers gave the respondents an invitation slip for all children under five. They recorded on the invitation slip the household code, the child's line number on the household list (section 2), the child's sex and birth date. All children under five were thus invited to the weighing station. To ensure maximum coverage, hesitant children and their guardians were brought to the weighing station by car. The mother presented her children's invitation slips and yellow cards to the health staff. The health staff recopied from the yellow slip the child's household and individual ID codes,

sex, date of birth and recorded the age in months using the age converter form (section 10 of the instrument). The data was then crosschecked with the yellow vaccination card. The health staff then computed the age in months using the age converter form, and weighed and measured the child with the mother's help. Children under 24 months were measured lying down, children 24-49 months standing up, in accordance with WHO guidelines. The health staff then plotted the child's weight on the yellow card growth chart. If the child was severely underweight according to the growth chart, the health staff counselled the mother and referred the child to the appropriate health facility.

Age in months were checked by the Field editors and validated in Microsoft Access. Age, weight and height consistency, and Z scores were computed and validated using EpiNut software. Anthropometric norms are the international WHO norms, recommended by MCH.

Of the 949 children enumerated in the sample household, 867 (91.3%) were brought to the weighing station. Among the 867 children brought to the weighing station, the health staff successfully measured 860 children.⁸ In other words, the coverage rate of the anthropometrics component is 90.6%, a very satisfactory figure.

13.2. *Prevalence of wasting*

Wasting is measured by comparing a child's weight with the "normal" weight of children of the same height. Children who are too light for their height are skinny, and when their weight-for-height is more than -2 standard deviation from the norm they are moderately (<-2 Z scores) or severely (<-3 Z score) wasted. Wasting is an indicator of an immediate case of illness or low calorie intake. The prevalence of wasting among children (e.g. the percentage of children who are wasted at a given time) is expected to be high in a population where there was a recent food shortage, an epidemic and very poor sanitary conditions. There were only four cases of severe wasting and 47 cases of moderate wasting in our sample.

⁸ A measurement is assessed to be satisfactory when the weight AND the height are consistent with the child's age and sex. EpiNut thus "flags" all records where this is not the case. Sixteen (16) flagged records are excluded from the prevalence rates.

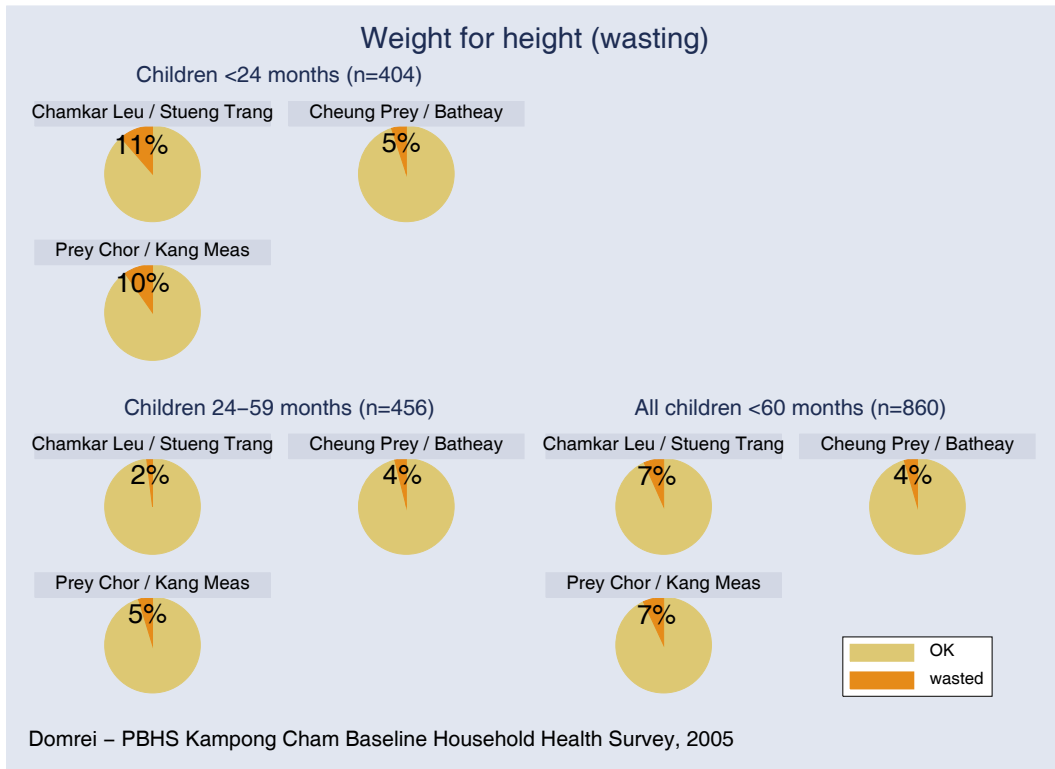


Figure 34: Prevalence of wasting among children under 24 months, 24-59 months, and all children under 5, by OD.

13.3. Prevalence of stunting

Stunting is measured by comparing a child's height with the "normal" height of children of the same age. Children who are too short for their age, i.e. when their height-for-age is more than -2 standard deviation from the norm they are moderately (<-2 Z scores) or severely (<-3 Z score) stunted. Stunting is an indicator of long-term low calorie intake, usually associated with long term poverty. The prevalence of stunting among children is expected to be high in a population where there are regular food shortages, epidemics and inadequate sanitary conditions. Older children are more susceptible to stunting as they have been longer exposed to the risk of inadequate nutrition and poor health

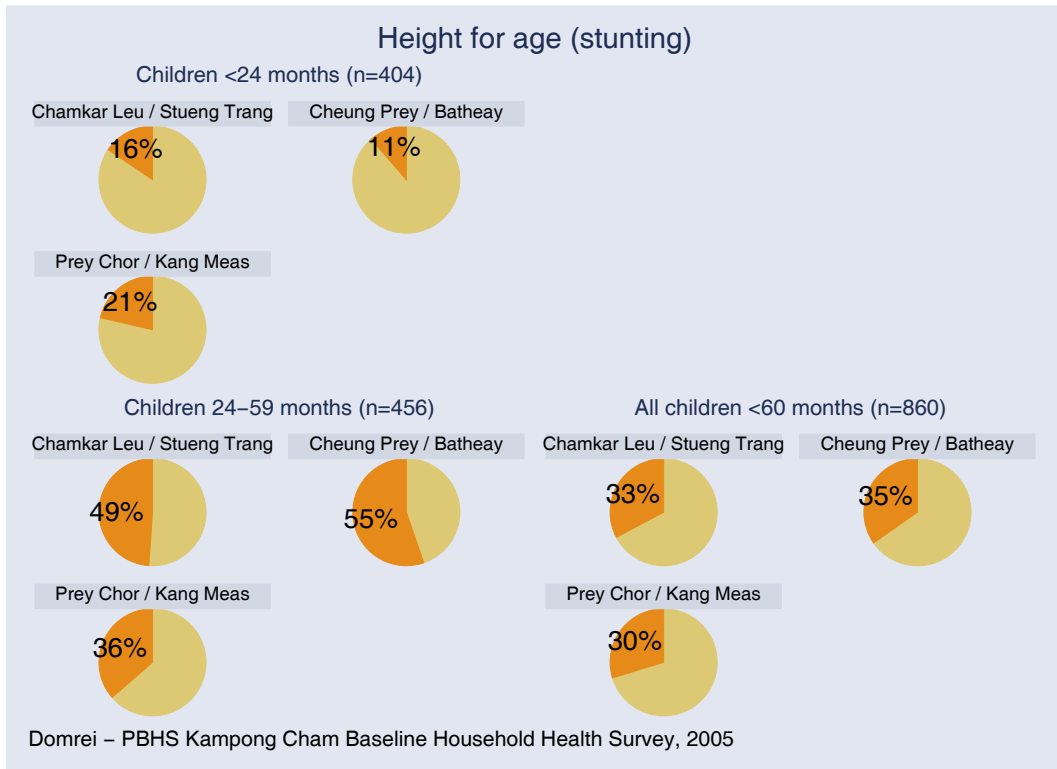


Figure 35: Prevalence of stunting among children under 24 months, 24-59 months, and all children under 5, by OD.

Children in the poorest households are twice as likely to be stunted than in the better off households (Figure 36). Wasting is present in all three wealth groups.

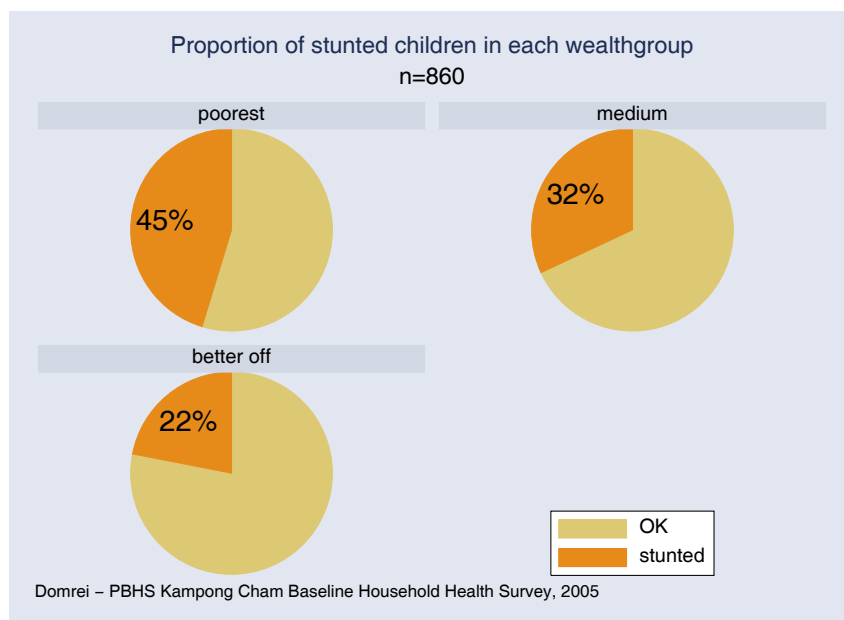


Figure 36: Proportion of moderately and severely stunted children by wealth group.

13.4. Summary of anthropometric indicators

Table 17 and Figure 37 summarise the anthropometric results. The high rate of underweight children is the result of stunting, and is therefore more prevalent in the 24-59 month age group.

Table 17: Baseline indicators – anthropometrics (n=860).

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|-------------------------------------|----------------|----------------|---------------|-------|
| % Underweight children 0-4 years | 30.0 | 35.3 | 35.6 | 33.8 |
| % Wasting among children 0-2 years | 11.4 | 5.0 | 9.8 | 8.5 |
| % Wasting among children 2-4 years | 2.1 | 3.8 | 4.7 | 3.6 |
| % Stunting among children 2-4 years | 49.0 | 55.4 | 36.5 | 47.2 |

Malnutrition prevalence rates: -2 standard deviations (Z scores) from WHO norm.

These indicators are NOT representative of the whole Kampong Cham province or of Cambodia as a whole.

Comparisons with DHS or other surveys should therefore be interpreted with extreme caution.

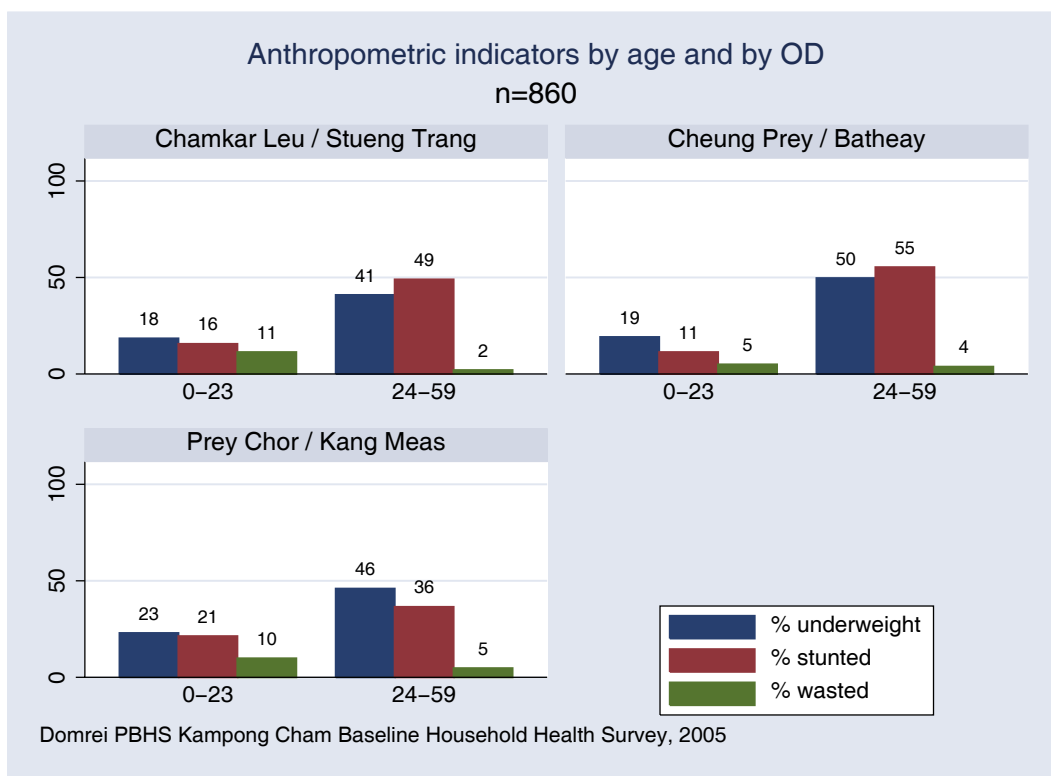


Figure 37: Summary of anthropometric indicators, by OD

PART II: HEALTH FACILITIES SURVEY

14. HEALTH FACILITIES SURVEY OBJECTIVE

To collect baseline data and to produce baseline indicators on a random sample of PHF clients in all **Public Health Centres** in the three Operational Districts covered by the Belgian Technical Co-operation project.

The indicators for the Facilities-based survey are:

- 1) Cost of services and prescriptions
- 2) Client satisfaction with health service, staff attitude and behaviour
- 3) Percentage of public health patients who report receiving a diagnosis
- 4) Percentage of public health patients who report receiving health information or advice after utilising curative services.
- 5) Percentage of public health patients who report being asked to return for follow up visits
- 6) Percentage of patients who report that they understood how to take the medication they were given/prescribed
- 7) Patient expectations of treatment cost
- 8) Price lists posted in health facilities

15. METHODS AND DATA

15.1. Sample

We collected data at all the public health centres in the three Operational Districts. For exit interviews, the total number of respondents required for baseline-endline comparison is the following:

$$n = D [(Z_{\alpha} + Z_{\beta})^2 * (P_1 (1 - P_1) + P_2 (1 - P_2)) / (P_2 - P_1)^2]$$

where:

n = required minimum sample size per survey round (baseline and end line)

D = design effect (set at 1 because there is no cluster effect as all public health centres are surveyed)

P₁ = the estimated level of an indicator measured as a proportion at the time of the first survey

P₂ = the expected level of the indicator either at end line such that the quantity (P₂ - P₁) is the size of the magnitude of change it is desired to be able to detect

Z_α = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (P₂ - P₁) would not have occurred by chance (α— the level of statistical significance, is set at 90% to avoid the risk of not detecting a change when one actually occurred), and

Z_β = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size (P₂ - P₁) if one actually occurred (β— statistical power, set at 80%).

We thus recommended a minimum sample of at least 120 respondents in each OD (n=360), which is sufficient at endline to capture at OD level an increase from 10% to

20% or more, or from 40 to 55% or more. Smaller increases (e.g. from 40% to 50%) can be captured at programme level by combining all three ODs.

15.2. *Data collection*

Exit interviews were conducted in the morning during visiting hours. All 43 public health centres in the three ODs were covered. Interviewers invited the respondent in a quiet location near, but not in the health centre to avoid bias. Interviewers were trained to be even more polite than usual, brief and sensitive to the respondent's health problems. No interviews were conducted without the respondent's informed consent.

One roving supervisor controlled the quality of data collection. All interviewers had a cell telephone and called either the supervisor or the research director if when encountered unexpected difficulties or delays.

The draft exit interview instrument has four sections (see instrument in annex).

- Section One collects demographic data on the respondent.
- Section Two collects information on the reason for visiting the facility, the type of service received, the respondent's understanding of the diagnosis (if any) and on any health information/advice given
- Section Three collects information on the cost of services and prescriptions at the facility and client transport expenses (if any).
- Section Four assesses the client's satisfaction with the cleanliness, attitude, cost and health outcome (if treatment was sought) of the visit to the facility.

15.3. *Data analysis*

The baseline health facility indicators were computed in Stata version 8. They are presented for each OD and for all three ODs combined in Table 2 (page 4) and in more detail below.

HEALTH FACILITIES SURVEY RESULTS

16. Data collection results

The response rate was very high with only 12 refusals out of 1168 potential respondents. The final sample of respondents is 1,156 individuals, which exceeds by far the minimal sample size requirements of 360 (120 respondents per OD). Respondents include individuals who were accompanying PHC clients, as well as those who were also after their perception of PHC services. Clients include patients of curative services and women going for ANC and Family Planning visits.

Of the 1156 individuals we interviewed, 756 came for curative services - either as a patient (568) or to accompany one (184), 287 came to get medicine, and 111 came for ANC, birth spacing and vaccination.

As expected, the vast majority of respondents are women (Figure 38).

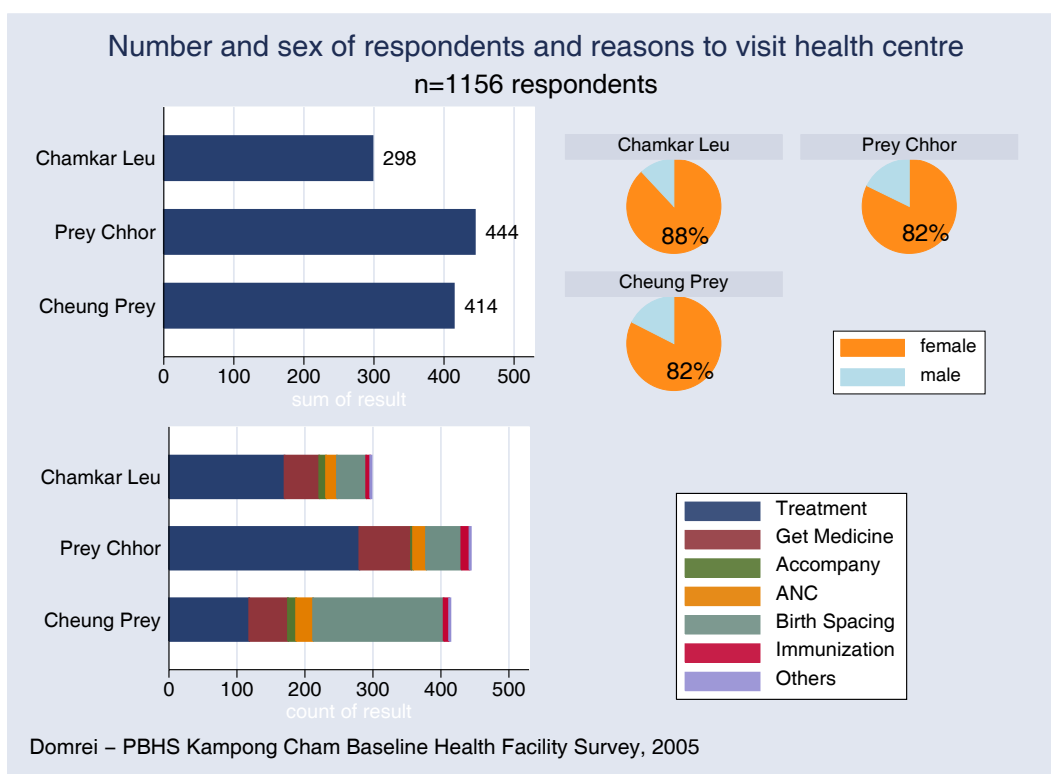


Figure 38: Health facilities survey respondents, by OD.

17. Cost of services and prescriptions

Cost of PHF services for the visit that preceded the interview are presented in Riel (Figure 39). Between half and two thirds of these costs are for drugs (see also Figure 40).

Cost of Public Health Facility services for the *visit* that preceded the interview are in Riel. They are therefore not comparable to those of the household survey where the

total amount spent was collected for each *episode* of disease. Health costs would be much higher if we interviewed hospital clients, and not just health centre clients.

Between 16% (in Cheung Prey) and 35% (in Chamkar Leu) of clients did not pay anything (except for transportation)

Between half and two thirds of these costs are for drugs. The proportion of money spent on drugs was greater in the household survey data. This suggests that (1) the private sector prescribes more drugs, more expensive drugs and (2) the money paid for drugs may include fees, as we explained in section 5.1 (page 26). As a result, transportation to and from the public facility is proportionally more expensive than in the household survey.

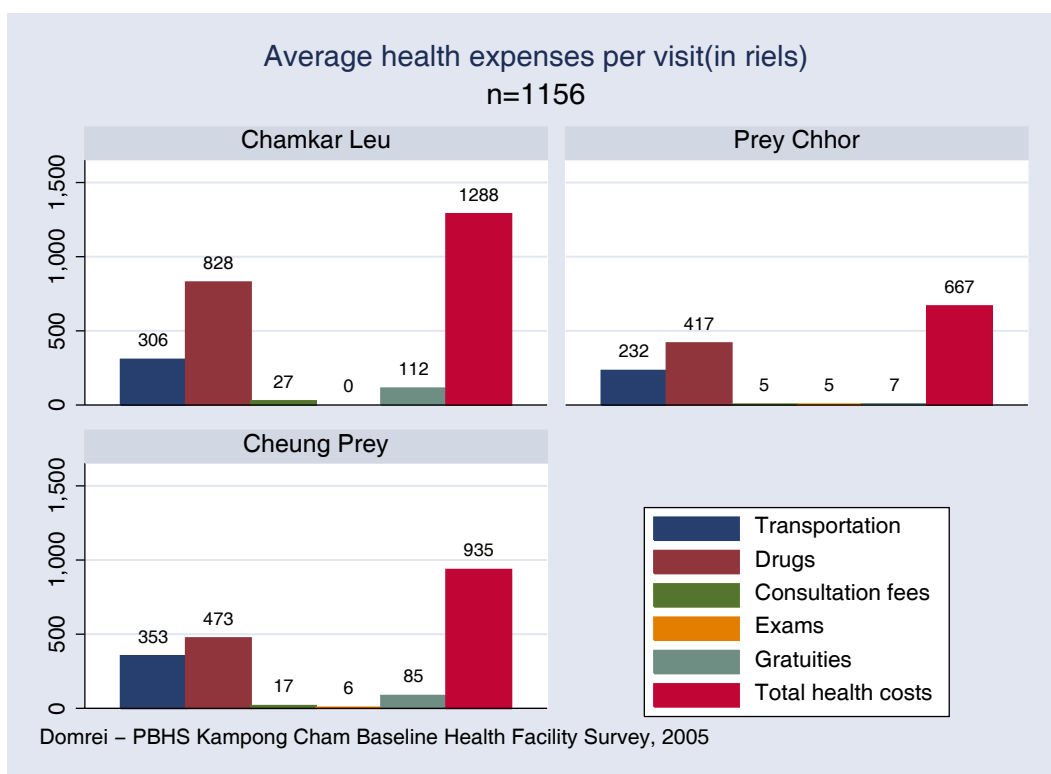


Figure 39: Average health expenses per visit, by type of expense and by OD.

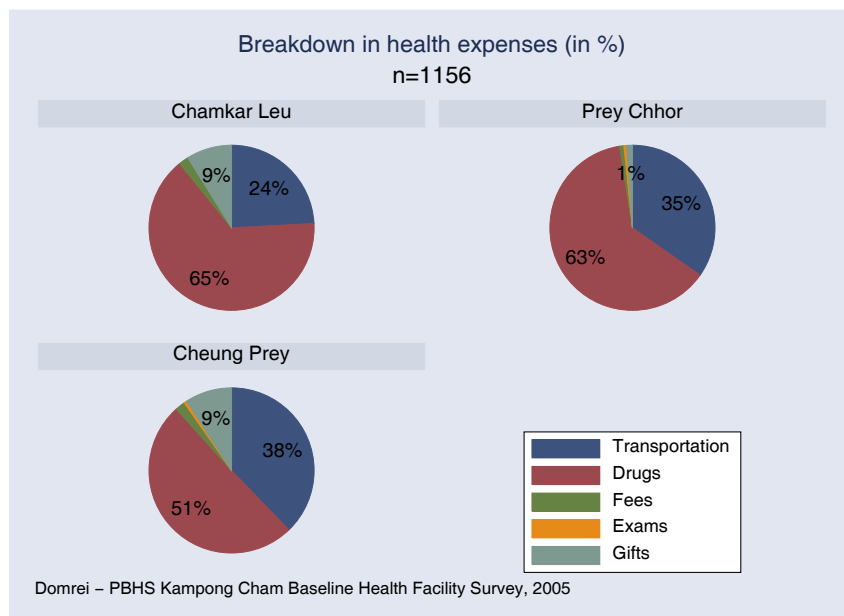


Figure 40: Breakdown by type of health expense, by OD.

18. Client satisfaction with health service, staff attitude and behaviour

As for the household survey, satisfaction with services depends on expectations. The fact that more than half of the respondents said that the health facility was clean may be an indication of low standards in hygiene rather than the state of the health facility (Figure 41). Between a third and half of the respondents answered “acceptable”: there is room for improvement.

In Cambodia, patients may have low expectations of politeness from health staff, and respondents are reluctant to be critical. The high frequency of the answer “OK” to the question “How did the staff speak” shows that client-provider interactions need to be improved.

Waiting time is the most frequent reason for dissatisfaction. Between 8 and 15% of the respondents complained that the waiting time was too long. Altogether, only a third said it was short.

Cost of service is perceived to be affordable, which is coherent with the amounts that average clients are charged at the public health centres (see page 57)

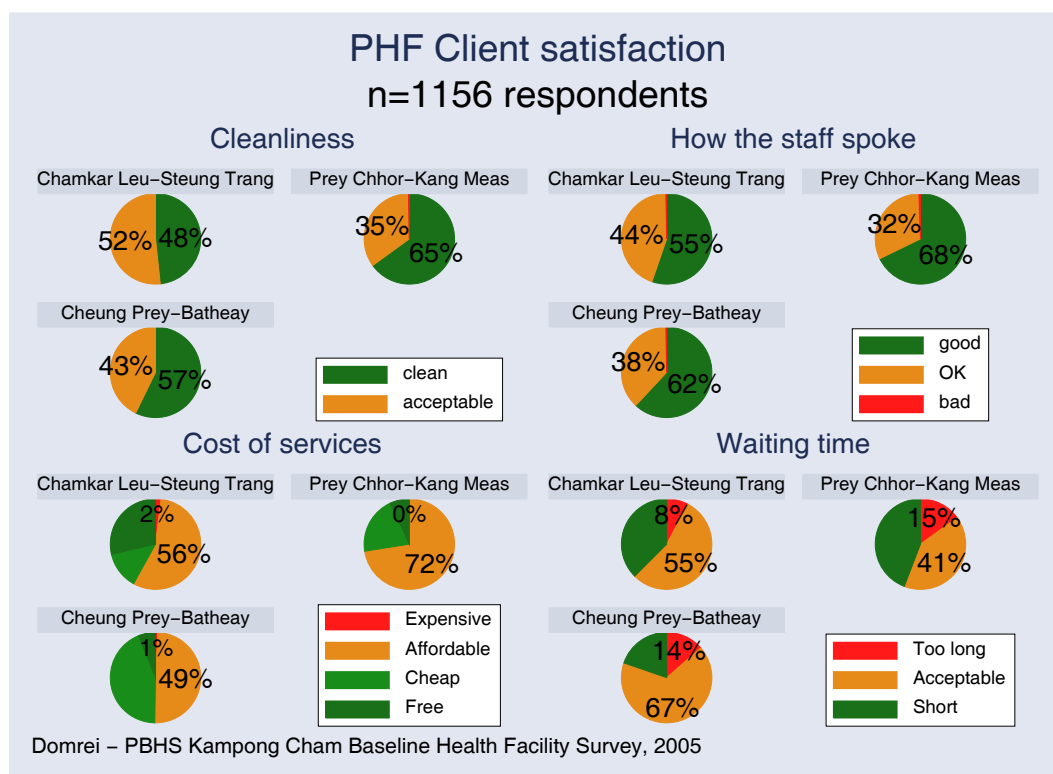


Figure 41: Selected indicators on satisfaction with PHF services, by OD.

Table 18: PHF baseline indicators – Client satisfaction (n=1156)

| Baseline indicators (Facilities survey) | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|--|-------------|-------------|------------|-------|
| % PHF clients who said facility was clean | 48.3 | 64.9 | 57.1 | 57.8 |
| % PHF clients who said health staff spoke well | 55.4 | 67.8 | 61.8 | 62.5 |
| % PHF clients who said cost was free or cheap | 42.0 | 27.5 | 49.8 | 39.2 |
| % PHF clients who said they did not wait too long | 37.6 | 44.1 | 19.8 | 33.7 |
| % PHF clients who said patient was cured / health improved | 49.3 | 56.8 | 31.2 | 45.7 |

19. Information received by patients (curative services).

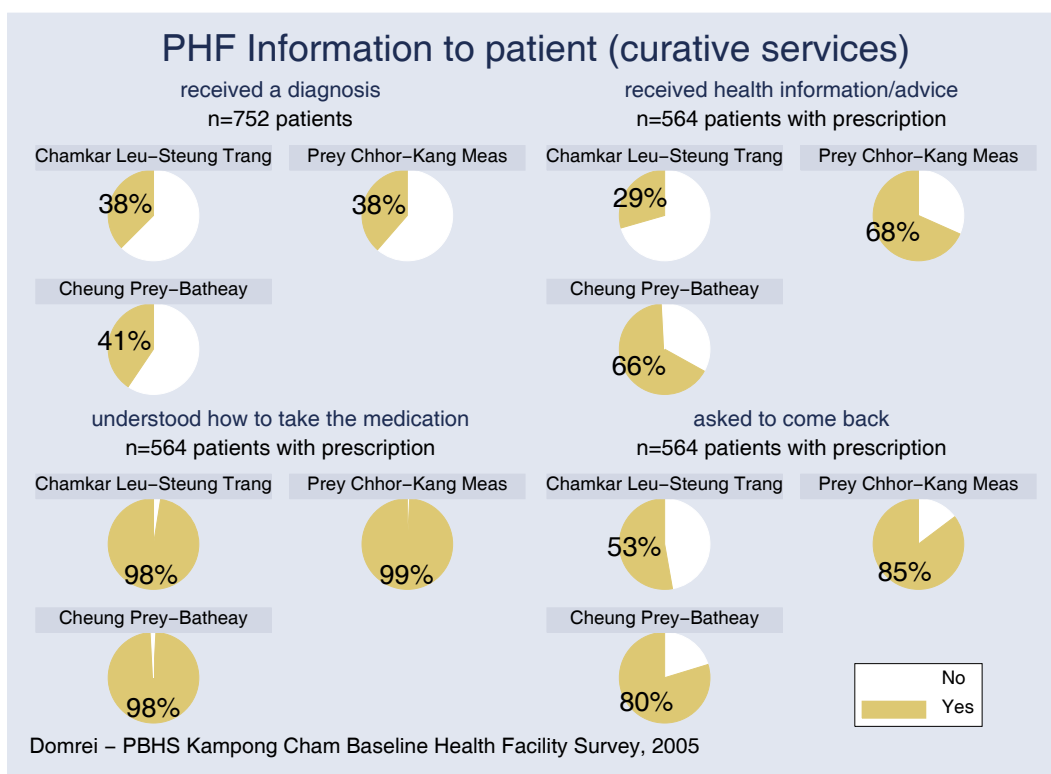


Figure 42: Selected indicators on information received by patients of PHF curative services, by OD.

Patients—and/or the person accompanying them— were asked if they received a diagnosis. Less than half said they did, and among those that did receive a “diagnosis”, many reported a symptom (e.g. cough, fever).

Two thirds of the patients who were prescribed a drug also received health information and advice, except in Chamkar Leu OD where the proportion is lower.

Practically all of the respondents said they understood how to take the medication they were prescribed, though a “no” answer to this question is improbable.

In all three ODs the majority of the patients were asked to come back.

Table 19: PHF baseline indicators – Health information (n=584)

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|--|-------------|-------------|------------|-------|
| % PHF patients who report receiving a diagnosis | 37.6 | 38.5 | 40.6 | 38.7 |
| % PHF patients who report receiving health information or advice | 29.4 | 68.2 | 66.7 | 56.3 |
| % PHF patients who report being told to come back for follow-up | 78.2 | 88.1 | 69.6 | 78.9 |
| % PHF patients who say they understand how to take the drug(s) they were prescribed. | 97.6 | 99.3 | 99.2 | 98.8 |

20. Patient expectations of treatment cost and information on costs

Between a tenth and a third of the respondents expected to pay less than they did, and two thirds were not surprised at the cost (which does not mean they think it is inexpensive). Most clients did not remember seeing a price list in the facility. This may be an indication that informational posters may not have much impact. It would be interesting to ask about IEC posters to assess the impact they have on people's knowledge on health.

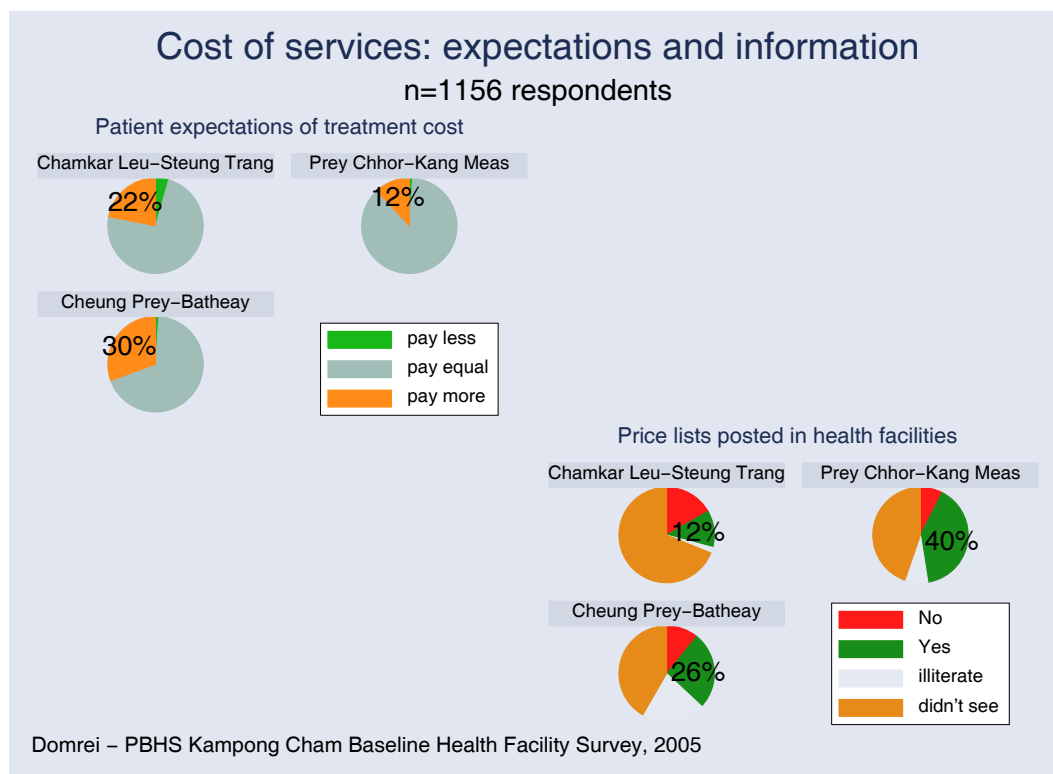


Figure 43: Cost of service: expectations and information.

Table 20: PHF baseline indicators - Cost expectations and information (n=1156)

| | Chamkar Leu | Cheung Prey | Prey Chhor | Total |
|---|-------------|-------------|------------|-------|
| % PHF clients who say costs were same as expected or cheaper. | 78.2 | 88.1 | 69.6 | 78.9 |
| % PHF clients who say they saw price lists posted in the PHF | 12.4 | 40.1 | 26.1 | 27.9 |

Conclusion

The two surveys were designed to compute baseline indicators. While survey results never perfectly represent the “real” situation, we are confident that these data provide a fair estimate of health indicators in the three ODs.

Moreover, the methods, tools and procedures used at baseline are replicable and will produce comparable data over time. The changes that will occur during the project period will thus be accurately measured.

In three years, the same two instruments will be administered in the same locations. While we will not be able to attribute changes between 2005 and 2008 to the efforts of the Public Health System alone, there can be no doubt that better public health services will improve the health of the population, notably of mothers and children, and, indeed, alleviate some of the hardships suffered by the vast majority of the Cambodian people.

ANNEXES

Household survey clusters

Location of surveyed public health facilities

Household Survey instruments

Health Facilities Survey instrument

1. LOCATION OF HOUSEHOLD SURVEY SAMPLE CLUSTERS



Figure 44: Location of Prey Chhor - Kang Meas OD sample clusters

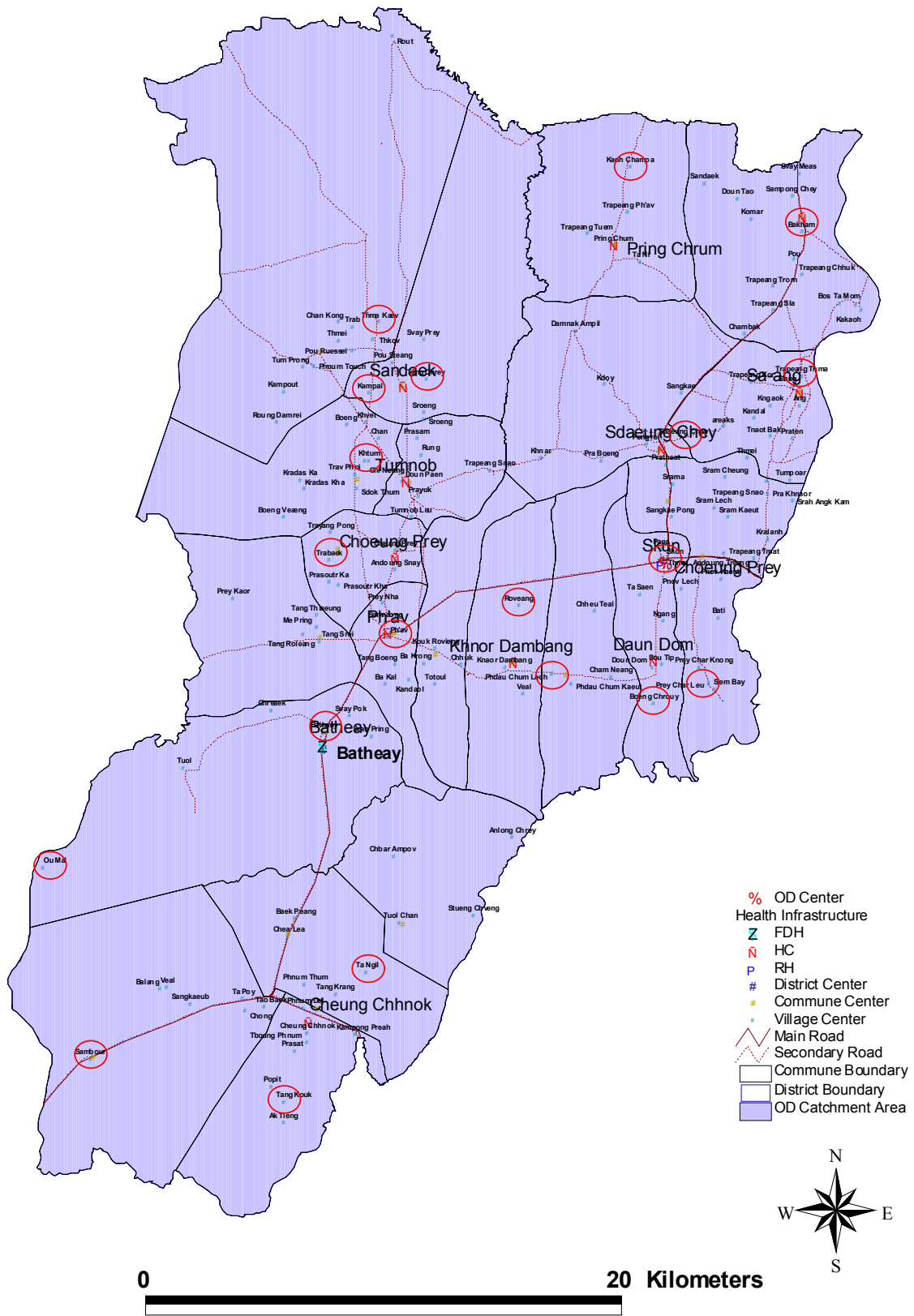


Figure 45: Location of Choeng Prey - Batheay OD sample clusters

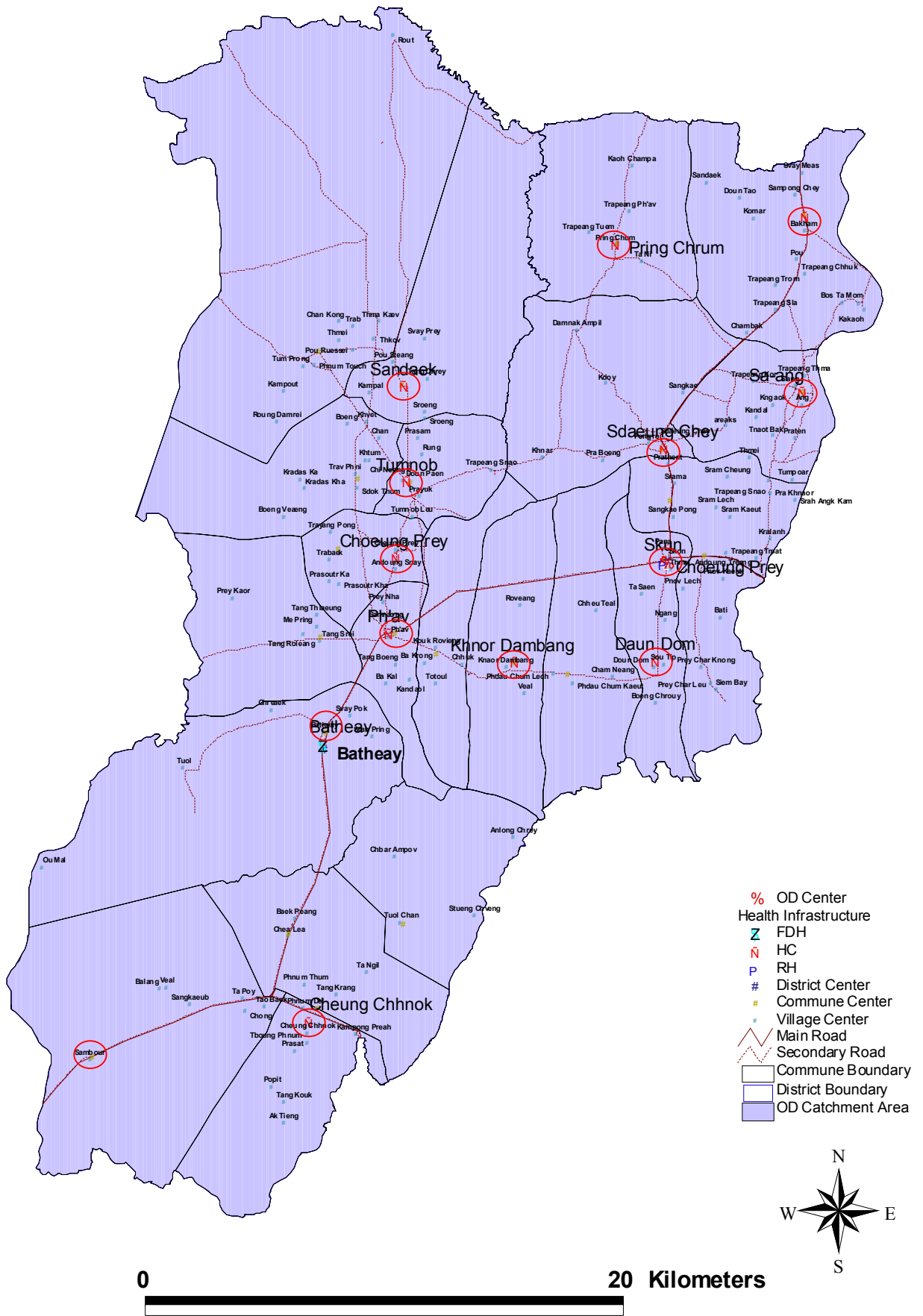


Figure 48: Choeng Prey - Batheay OD Public Health Facilities survey sites

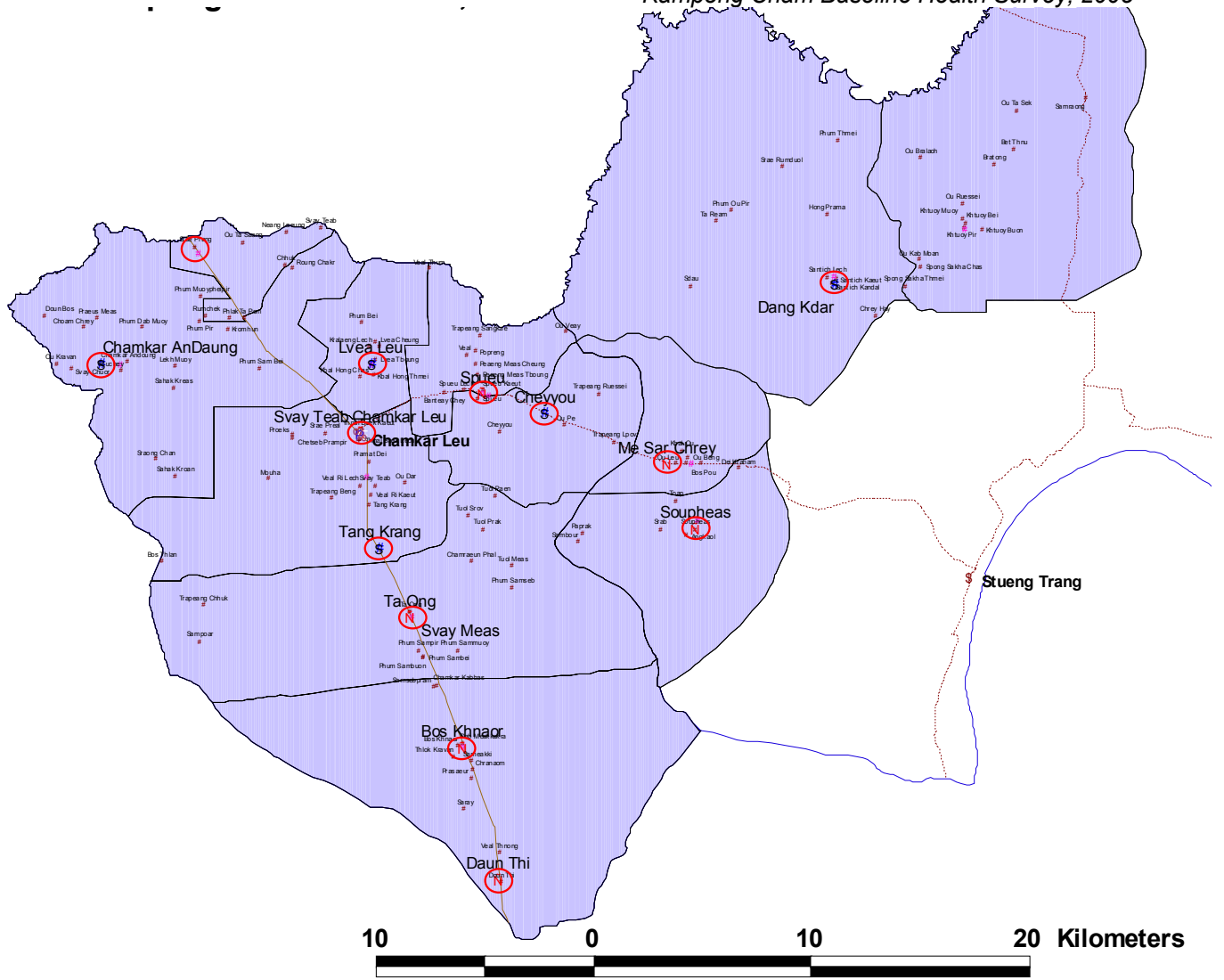


Figure 49: Location of Chamkar Leu – Stueng Trang OD Public Health Facilities survey sites

3. HOUSEHOLD SURVEY INSTRUMENTS

**Provision of Basic Health Services - Kampong Cham Province
Baseline Health Survey 2005**

CONFIDENTIAL



| | |
|---|----------------------|
| Operational District (OD): _____ | <input type="text"/> |
| District : _____ | <input type="text"/> |
| Commune : _____ | <input type="text"/> |
| Village/Cluster: _____ | <input type="text"/> |
| Wealth Ranking – Poorest (0) Medium (1) Better-off (2)..... | <input type="text"/> |
| House Type – please check your own observation..... | <input type="text"/> |
| House palm leaves/thatch (0) house wood/roof palm leaves (1) house Wood/roof tin (2) house Wood/roof tile (3) brick or concrete (4) | |

| | 1 st attempt | Appointment | 2 nd attempt | |
|-----------------------------|-------------------------|----------------------|-------------------------|----------------------|
| Date | / /05 | / /05 | / /05 | |
| Time | | | | |
| Location | | | | |
| Interviewer ID | <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| Number of eligible women | | | | <input type="text"/> |
| Number of women interviewed | | | | <input type="text"/> |
| Number of eligible children | | | | <input type="text"/> |

| RESULT CODE | |
|--|---|
| Completed | 1 |
| Incomplete-respondent termination | 2 |
| Incomplete-third party interruption | 3 |
| Respondent refusal | 4 |
| Parent/guardian/spouse refusal | 5 |
| Respondent absent at 2 nd appointment | 6 |

| | Interviewer | Editor | Supervisor | Encoder1 | Encoder2 | Archived |
|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------------|
| ID code | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Box: <input type="text"/> |
| Date | / /05 | / /05 | / /05 | / /05 | / /05 | / /05 |
| Signature | | | | | | |

Introduction:

Hello! I am (use your name) working with Domrei Research and Consulting. We are here to interview women in this village about their families and some of their health problems. Please don't be scared or worried because this is only about health. Everything you say will be kept quietly (confidential). We won't let anybody in the village or your family know what you say.

You can refuse to answer any question that you don't want to answer or you can stop to discuss the questions at any time. I want to thank you and say I hope this interview will only take 30 minutes. I want to remind you that all your answers are very important. This is not a test. There are no right or wrong answers. Therefore, I want to ask you to answer correctly and tell the truth. This will allow my team to give good information to the Ministry of Health to improve health services in (your) province.

Do you have any questions for me?

Can I start asking the questions now?

Section 1: Household assets

| | | | |
|------------|---|-------------------------|---|
| 100 | What assets does your family own? | Not have | 0 |
| | <i>PROMPT BY READING THE LIST</i> | Radio | 1 |
| | <i>MULTIPLE ANSWERS POSSIBLE</i> | Television | 2 |
| | <i>CIRCLE ALL ANSWERS GIVEN</i> | Bicycle | 3 |
| | <i>CHECK YOUR OWN OBSERVATION AS WELL</i> | Refrigerator | 4 |
| | | Motorcycle | 5 |
| | | Ox cart | 6 |
| | | Boat | 7 |
| | Car/Koyun | 8 | |
| 101 | What farm animals does your family own? | Not have | 0 |
| | <i>PROMPT BY READING THE LIST</i> | Chicken/ducks | 1 |
| | <i>MULTIPLE ANSWERS POSSIBLE</i> | Pigs | 2 |
| | <i>CHECK THAT THEY DO NOT MIND THE ANIMALS FOR SOMEONE ELSE</i> | Goats | 3 |
| | | Cows | 4 |
| | | Horses | 5 |
| | | Buffalo | 6 |
| 102 | How many toilets does your house have? | Not have/ field | 0 |
| | | Share with other family | 1 |
| | | One toilet | 2 |
| | | Two or more | 3 |
| 103 | How many rooms in your house are used for sleeping? | | <input type="text"/> <input type="text"/> |
| 104 | How many people slept at this house last night? | | <input type="text"/> <input type="text"/> |

Section 2: Household List

Now I would like to ask you about the people who slept here last night. Please Do not worry all information that we carefully gather will stay confidential.

| Please give me the first names of the persons who slept in this house last night. | What is this person's relationship to the male head of the household? SEE CODES BELOW | What sex is this person sex M F | How old is this person If under one year code 00 | Has this person married yet? 0-never married 1-currently married 2-separated divorced 3-widowed | Date of Birth Can't remember : Day: code 15 in day Day and month: - code 30 in day - code 06 in month Day Month Year | Circle the code of all women who were ever married between the ages of 15-49 years | Circle the code number of all children under age 5 |
|---|--|--|---|---|--|--|--|
| 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 |
| 01 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 01 | 01 |
| 02 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 02 | 02 |
| 03 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 03 | 03 |
| 04 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 04 | 04 |
| 05 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 05 | 05 |
| 06 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 06 | 06 |
| 07 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 07 | 07 |
| 08 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 08 | 08 |
| 09 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 09 | 09 |
| 10 | □ | 1 2 | □ □ | 0 1 2 3 | _ _ _ _ _ _ _ _ _ _ _ | 10 | 10 |

1-self 2-spouse 3-child 4-father/mother 5-brother/sister 6-uncle/aunt; in-law 7-niece/nephew/cousin 8-grandchild 9-guest

Section 2: Household list (continued).

| | | |
|------------|--|---|
| 208 | <p><i>Count all the household members recorded on the household list (question 200) write the number of family members in the box below, When you have finished ask the question.</i></p> <p>Were there really <input type="text"/> <input type="text"/> household members sleeping here last night or not?</p> | <p>No: Check with the family list</p> <p>Yes</p> |
| 209 | <p><i>Count all the ever married women aged 15-49 recorded on the household list (question 206) and write the number in the box below. When you have finished ask the question.</i></p> <p>Were there really <input type="text"/> <input type="text"/> ever married women between 15 and 49 years old sleeping here last night or not?</p> | <p>No: Check with the family list</p> <p>Yes</p> |
| 210 | <p><i>Please count children under five years old recorded on the household list (question 207) Write the number in the box below. When you have finished ask the question.</i></p> <p>Were there really <input type="text"/> <input type="text"/> children under 5 years sleeping here last night or not?</p> | <p>No: Check with the family list</p> <p>Yes</p> |

Section 3-1: Family health expenses*COMPLETE ONE SHEET FOR EACH SICK PERSON*

Now I would like to know about your family health expenses

| | | |
|------------|---|--|
| 300 | In the last 15 days, did any person on your household list have a health problem? | No: Skip to 400 0 Yes 1 |
| 301 | What was their name? NAME: _____ | write code number <input type="text"/> <input type="text"/> |
| 302 | What problem did they have? | Fever 1 Malaria 2 Dengue 3 Diarrhoea 4 Coughing/ARI 5 Measles 6 Injury 7 Other illness 8 DK 9 |
| 303 | Where was the very first place they went to treat the illness? | Self treat 0 Government doctor 1 Private doctor 2 Traditional healer 3 Family, friend 4 DK 9 |
| 304 | Were they hospitalised or not? | No: Skip to 306 0 Yes 1 |
| 305 | How many days were they hospitalised? | <input type="text"/> <input type="text"/> |
| 306 | How many places did they go to treat this illness? | <input type="text"/> |
| 307 | Did they have to pay for transport to this health facility from your home? | No: Skip to 309 0 Yes 1 |
| 308 | How much did it cost to go there and return home? | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK 9 |
| 309 | Did they have to pay for drugs? | No: Skip to 311 0 Yes 1 |

| | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|---|--|--|--|--|--|--|---|--|--|--|----|--|--|--|--|--|--|--|--|---|
| 310 | How much did they have to pay? | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> </tr> <tr> <td colspan="9">DK</td> <td style="text-align: right;">9</td> </tr> </table> | | | | | | | | | | | DK | | | | | | | | | 9 |
| | | | | | | | | | | | | | | | | | | | | | | |
| DK | | | | | | | | | 9 | | | | | | | | | | | | | |
| 311 | Did they have to pay for treatment (excluding medicine)? | No: Skip to 313 0 Yes 1 | | | | | | | | | | | | | | | | | | | | |
| 312 | How much did they have to pay (Beside paying for drug)? | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> </tr> <tr> <td colspan="9">DK</td> <td style="text-align: right;">9</td> </tr> </table> | | | | | | | | | | | DK | | | | | | | | | 9 |
| | | | | | | | | | | | | | | | | | | | | | | |
| DK | | | | | | | | | 9 | | | | | | | | | | | | | |
| 313 | Did they pay anything to the doctor for 'thanks'? | No: Skip to 315 0 Yes 1 | | | | | | | | | | | | | | | | | | | | |
| 314 | How much did they have to pay? | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> </tr> <tr> <td colspan="9">DK</td> <td style="text-align: right;">9</td> </tr> </table> | | | | | | | | | | | DK | | | | | | | | | 9 |
| | | | | | | | | | | | | | | | | | | | | | | |
| DK | | | | | | | | | 9 | | | | | | | | | | | | | |
| 315 | <i>Add the total and check with the respondent</i> So in total, that health problem cost about... | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> </tr> <tr> <td colspan="9">DK</td> <td style="text-align: right;">9</td> </tr> </table> | | | | | | | | | | | DK | | | | | | | | | 9 |
| | | | | | | | | | | | | | | | | | | | | | | |
| DK | | | | | | | | | 9 | | | | | | | | | | | | | |
| 316 | How did they pay? | No payment 0 Paid cash 1 Borrowed money/in debts 2 Sold assets 3 Family help 4 | | | | | | | | | | | | | | | | | | | | |
| 317 | In the last 15 days, did any other person on the household list have a health problem? | No: Skip to 400 0 Yes 1 | | | | | | | | | | | | | | | | | | | | |

| Section 4: Satisfaction with Public Health Services | | | |
|--|--|-------------------------|---|
| Now I want to ask you about satisfaction with public health services | | | |
| 400 | <i>RECORD THE RESPONDENT'S CODE</i> | Code number | <input type="text"/> <input type="text"/> |
| 401 | In the last three months, did you go to a government health facility? | No : Skip to 500 | 0 |
| | | Yes | 1 |
| 402 | Which public health facility did you go to? | Health post | 1 |
| | | Health centre | 2 |
| | | Referral hospital | 3 |
| | | National hospital | 4 |
| 403 | Was the health facility clean, acceptable or dirty? <i>PROMPT BY READING THE ANSWERS</i> | clean | 1 |
| | | Acceptable | 2 |
| | | Dirty | 3 |
| 404 | How did the staff at that place speak? <i>PROMPT BY READING THE ANSWERS</i> | Good | 1 |
| | | OK | 2 |
| | | Bad | 3 |
| 405 | How was the cost of the health service? <i>PROMPT BY READING THE ANSWERS</i> | Expensive | 1 |
| | | Affordable | 2 |
| | | Cheap | 3 |
| | | Free | 4 |
| 406 | In the last three months, did you go there for treatment? <i>INCLUDE ACCOMPANYING OTHER FOR TREATMENT</i> | No: Skip to 500 | 0 |
| | | Yes | 1 |
| 407 | How effective was the treatment? <i>PROMPT BY READING THE ANSWERS</i> | Cured | 1 |
| | | Improved | 2 |
| | | Same | 3 |
| | | Worse | 4 |

Section 5: Malaria, dengue, ARI, diarrhoea

Now, I would like to ask you some questions about childhood diseases.

| | | |
|-----|---|---|
| 500 | <p>How would you know if your child had malaria?</p> <p><i>Multiple answers possible</i></p> | <p>Fever 1</p> <p>Headache 2</p> <p>Muscle pain 3</p> <p>Tremor 4</p> <p>Unconscious 5</p> <p>Sweating 6</p> <p>Joint pain 7</p> <p>Pallor 8</p> <p>Jaundice 9</p> <p>Abdominal pain 10</p> <p>Vomiting/Frequent vomiting 11</p> <p>loss of appetite 12</p> <p>Diarrhoea 13</p> <p>Abdominal Swelling 14</p> <p>Enlarged spleen or liver 15</p> <p>Can't drink 16</p> <p>Cold hands/feet 17</p> <p>Abnormal bleeding 18</p> <p>Frequent convulsion 19</p> <p>Scant urine 20</p> <p>Went to the forest 21</p> <p>Other(Specify)..... 88</p> <p>Don't know 99</p> |
| 501 | <p>How would you care for a child with malaria?</p> <p><i>Multiple answers possible</i></p> | <p>Antipyretic 1</p> <p>Wipe body 2</p> <p>Continue feeding 3</p> <p>Seek treatment 4</p> <p>Drink water 5</p> <p>Clean the house 6</p> <p>Other(Specify)..... 8</p> <p>Don't know 9</p> |
| 502 | <p>What are the danger signs or most serious symptoms of malaria?</p> <p><i>Multiple answers possible</i></p> | <p>Can't drink 1</p> <p>Cold hands/feet 2</p> <p>Frequent convulsion 3</p> <p>Unconscious 4</p> <p>Difficulty breathing 5</p> <p>Abnormal bleeding 6</p> <p>Jaundice 7</p> <p>Pallor 8</p> <p>Scant urine 9</p> <p>Frequent vomiting 10</p> <p>Lethargic 11</p> <p>Tremor/Frequent tremor 12</p> <p>Numbness (Arms, legs) 13</p> <p>Other(Specify)..... 12</p> <p>Don't know 13</p> |

| | | | |
|---------------------|---|------------------------------------|--|
| 503 | How can malaria be prevented? <i>Multiple answers possible</i> | Sleep in the net | 1 |
| | | Kill mosquito | 2 |
| | | Clean the house | 3 |
| | | Cut jungle around the house | 4 |
| | | Clean the jar/container | 5 |
| | | Buried materials (Can, bottle ...) | 6 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |
| | | 504 | In the last 12 months, were there any children under the age of five years (on your family list) that had malaria? |
| Yes | 1 | | |
| Dengue Fever | | | |
| 505 | What are the signs of dengue? <i>Multiple answers possible</i> | Fever | 1 |
| | | Lethargic | 2 |
| | | Headache | 3 |
| | | Eyes pain | 4 |
| | | Muscle pain | 5 |
| | | Joint pain | 6 |
| | | Red skin rash | 7 |
| | | Bleeding(Gum) | 8 |
| | | Unconscious | 9 |
| | | Enlarged liver | 10 |
| | | Restless/Irritability | 11 |
| | | Abdominal pain | 12 |
| | | Vomit | 13 |
| | | Vomit with blood | 14 |
| | | Black stool/Blood in stool | 15 |
| | | Sweating | 16 |
| | | Cold and clammy skin | 17 |
| | | Blue skin rash | 18 |
| | | Cold hands/feet | 19 |
| | | Fever>7days | 20 |
| Other(Specify)..... | 88 | | |
| Don't know | 99 | | |
| 506 | How would you care for a child with dengue? <i>Multiple answers possible</i> | Antipyretic | 1 |
| | | Wipe body | 2 |
| | | Continue feeding | 3 |
| | | Seek treatment | 4 |
| | | Drink water | 5 |
| | | Sleep in the net | 6 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |

| | | | |
|------------------------------------|---|-------------------------------|----|
| 507 | What are the danger signs or most serious symptoms of dengue? <i>Multiple answers possible</i> | Lethargic | 1 |
| | | Restless/Irritability | 2 |
| | | Abdominal pain | 3 |
| | | Vomit | 4 |
| | | Black stool/Blood in stool | 5 |
| | | Vomit with blood | 6 |
| | | Bleeding(gum, nose) | 7 |
| | | Sweating | 8 |
| | | Cold and clammy skin | 9 |
| | | High fever | 10 |
| | | Can't eat | 11 |
| | | Blue skin rash | 12 |
| | | Red skin rash | 13 |
| Other(Specify)..... | 88 | | |
| Don't know | 99 | | |
| 508 | How can dengue be prevented? <i>Multiple answers possible</i> | Sleep in the net | 1 |
| | | Kill mosquito | 2 |
| | | Clean the house | 3 |
| | | Cut jungle around the house | 4 |
| | | Clean the jar/container | 5 |
| | | Buried materials(Can, bottle) | 6 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |
| 509 | In the last 12 months, were there any children under the age of five years (on your family list) that had dengue? | No | 0 |
| | | Yes | 1 |
| Acute Respiratory Infection | | | |
| 510 | What are the signs of ARI? <i>Multiple answers possible</i> | Fever | 1 |
| | | Coughing | 2 |
| | | Rapid breathing | 3 |
| | | Difficulty breathing | 4 |
| | | Wheezing | 5 |
| | | Won't eat/drink | 6 |
| | | Lethargic/sleepy | 7 |
| | | Sunken chest when breathing | 8 |
| | | Vomiting | 9 |
| | | Convulsions | 10 |
| | | Lost weigh | 11 |
| | | Other(Specify)..... | 88 |
| Don't know | 99 | | |
| 511 | How would you care for a child with ARI? <i>Multiple answers possible</i> | Antipyretic | 1 |
| | | Feed child | 2 |
| | | Drink water | 3 |
| | | Seek treatment | 4 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |

| | | | |
|--|--|--|----|
| 512 | What are the danger signs or most serious symptoms of ARI? <i>Multiple answers possible</i> | Fever/cold | 1 |
| | | Won't eat/drink | 2 |
| | | Lethargic/sleepy | 3 |
| | | Difficulty breathing | 4 |
| | | Sunken chest when breathing | 5 |
| | | Vomiting | 6 |
| | | Convulsions | 7 |
| | | Cough and rapid breathing | 8 |
| | | Lost weigh | 9 |
| | | Other(Specify)..... | 88 |
| Don't know | 99 | | |
| 513 | In the last 12 months, were there any children under the age of five years (on your family list) that had ARI? | No | 0 |
| | | Yes | 1 |
| Diarrhoea: Three or more bowel motions in one day | | | |
| 514 | What are the signs of Diarrhoea? <i>Multiple answers possible</i> | Soft or watery stool | 1 |
| | | Sunken eyes | 2 |
| | | Dry eyes | 3 |
| | | Dry mouth/tongue | 4 |
| | | Restless/irritable | 5 |
| | | Lethargic | 6 |
| | | Very thirsty/can't drink | 7 |
| | | Diarrhoea >3 days | 8 |
| | | Can't eat/drink | 9 |
| | | Fever | 10 |
| | | Frequent Vomiting | 11 |
| | | Blood in stool | 12 |
| | | Frequent watery motions | 13 |
| | | Swollen abdominal | 14 |
| Other(Specify)..... | 88 | | |
| Don't know | 99 | | |
| 515 | How would you care for a child with Diarrhoea? <i>Multiple answers possible</i> | Re-hydrate | 1 |
| | | Increase feeding | 2 |
| | | Seek treatment | 3 |
| | | Restricted eating because of breastfeeding | 4 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |
| 516 | What are the danger signs or most serious symptoms of Diarrhoea? <i>Multiple answers possible</i> | Diarrhoea >3 days | 1 |
| | | Can't eat/drink | 2 |
| | | Fever | 3 |
| | | Frequent Vomiting | 4 |
| | | Blood in stool | 5 |
| | | Frequent watery motions | 6 |
| | | Weakness | 7 |
| | | Lethargic | 8 |
| | | Lost weigh | 9 |
| | | Other(Specify)..... | 88 |
| Don't know | 99 | | |

| | | | |
|-----|--|------------------------------------|---|
| 517 | How can diarrhoea be prevented? <i>Multiple answers possible</i> | Wash hand when come from toilet | 1 |
| | | Wash hand before eating | 2 |
| | | Body hygiene | 3 |
| | | Drink boiled water | 4 |
| | | Wash fruit/vegetable before eating | 5 |
| | | Well cooked | 6 |
| | | Protect food from fly | 7 |
| | | Other(Specify)..... | 8 |
| | | Don't know | 9 |
| 518 | In the last 12 months, were there any children under the age of five years (on your family list) that had Diarrhoea? | No | 0 |
| | | Yes | 1 |

Section 6: Contraceptive Use

| | | | |
|-----|--|--------------------------|---|
| 600 | Are you pregnant now? | No | 0 |
| | | Yes: Skip to 700 | 1 |
| 601 | Do you want to become pregnant? | No | 0 |
| | | Yes : Skip to 700 | 1 |
| 602 | Are you currently using a method of contraception? | No : Skip to 700 | 0 |
| | | Yes | 1 |
| 603 | Which contraceptive are you currently using ? <i>READ EACH ANSWER AND HAND THE APPROPRIATE METHOD CARD TO THE RESPONDENT AS YOU READ EACH ONE.</i> | Daily pill | 1 |
| | | Monthly pill | 2 |
| | | IUD | 3 |
| | | Norplant | 4 |
| | | Injection | 5 |
| | | Sterilisation | 6 |
| | | Vasectomy | 7 |
| | | Condom | 8 |
| | | Traditional method | 9 |

| Section 7 : Last delivery | | | | | | | | | | |
|---------------------------|--|---|--|--|--|--|-----|-------|------|--|
| 700 | Have you ever given birth, include stillbirth. | No : Skip to 900 0 Yes 1 | | | | | | | | |
| 701 | What was the day, month and year when you last gave birth? <i>IF BEFORE 2002, skip TO 800</i> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;"> </td> <td style="width: 25%; text-align: center;"> </td> <td style="width: 25%; text-align: center;"> </td> <td style="width: 25%; text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">DAY</td> <td style="text-align: center;">MONTH</td> <td colspan="2" style="text-align: center;">YEAR</td> </tr> </table> | | | | | DAY | MONTH | YEAR | |
| | | | | | | | | | | |
| DAY | MONTH | YEAR | | | | | | | | |
| 702 | The last time you gave birth where did you deliver? | Government facility 1 Private facility 2 Home 3 Other 8 | | | | | | | | |
| 703 | The last time you gave birth who assisted you in the delivery? | No one 0 TBA 1 Midwife 2 Doctor 3 Other 8 | | | | | | | | |
| 704 | During that pregnancy did you go for a check up before the birth? (ANC) | No : Skip to 706 0 Yes 1 | | | | | | | | |
| 705 | How many times did you go to check? | | | | | | | | | |
| 706 | Did you ever get tetanus injections any time before or during your last pregnancy? | No : Skip to 708 0 Yes 1 | | | | | | | | |
| 707 | How many times were you injected? | | | | | | | | | |
| 708 | Did a health professional tell you to deliver at a government health facility? | No 0 Yes 1 | | | | | | | | |

Section 8 : Birth History

Sorry I want to say to ask this question can make you unhappy. But I want to know because it has great importance for the programme to know about childhood mortality.

I want to ask you some questions about the number of all the children you have given birth to. I'm counting children that were born recently then died. So please give us the real information

| Please tell me about the children you have delivered from the first child to the last. | DATE OF BIRTH | | | How did you deliver? | | Is the child still alive? | | IF CHILD DEAD: How old were they when they died? | | |
|--|-------------------------------------|---|------|----------------------|------------|---------------------------|-------|--|-----------------------|------------------------|
| | DK day only: code 15 in the day box | DK day and month: code 30 in the day box code 06 in the month box | | Normal 0 | Cesarean 1 | NO 0 | YES 1 | <1 day: code 1 | <1 month: age in days | <1 year: age in months |
| 800 | 801 | | | 802 | | 803 | | 804 | | |
| | DAY | MONTH | YEAR | | | | | in DAYS | in MONTHS | in YEARS |
| 1 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 2 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 3 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 4 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 5 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 6 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 7 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 8 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 9 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 10 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 11 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 12 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 13 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 14 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |
| 15 _____ | _ | _ | _ | 0 | 1 | 0 | 1 | _ | _ | _ |

Section 9-1 Immunization Status

| | | |
|------------|---|--|
| 900 | <p><i>CHECK QUESTION 207 IN SECTION 2 AND COMPLETE ONE SECTION FOR EACH CHILD UNDER FIVE YEARS IN THE HOUSEHOLD.</i></p> <p>WRITE CHILD'S CODE AND COMPLETE ONE SHEET FOR ONE CHILDREN <5 YEARS</p> | <p>No: Skip to 1000 0</p> <p>Yes: Child's code <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/></p> |
| 901 | <p><i>Please can I see VACCINATION CARD FOR THIS CHILD</i></p> | <p>Not have : Skip to 909 0</p> <p>Have 1</p> |
| 902 | <p>Can you tell me the day, month and year of birth?</p> | <p><input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/></p> |
| 903 | <p><i>Record the child's age in months</i></p> | <p>Age in months <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/></p> |
| 904 | <p><i>BCG (tuberculosis vaccine)</i></p> | <p>Incomplete 0</p> <p>Complete 1</p> |
| 905 | <p><i>POLIO 1</i></p> <p><i>POLIO 2 (vaccination for polio)</i></p> <p><i>POLIO 3</i></p> | <p>Incomplete 0</p> <p>Complete 1</p> |
| 906 | <p><i>DCT (DPT) 1</i></p> <p><i>DCT (DPT) 2 (vaccination for Diphtheria, Pertussis and Tetanus)</i></p> <p><i>DCT (DPT) 3</i></p> | <p>Incomplete 0</p> <p>Complete 1</p> |
| 907 | <p><i>MEASLES (vaccination for measles)</i></p> | <p>Incomplete 0</p> <p>Complete 1</p> |
| 908 | <p><i>HEPATITIS B (Vaccination for Hep B)</i></p> | <p>Incomplete 0</p> <p>Complete 1</p> |
| 909 | <p>Is there another child under five years?</p> | <p>No (skip to 1000) 0</p> <p>Yes 1</p> |

Section 10: Anthropometric Referral

| | | |
|-------------|--|--|
| 1000 | <p><i>CHECK questions 207 in Section 2 for children under five years - FOR EACH CHILD COMPLETE AN INVITATION SLIP- Always instruct the woman TO take THE CHILD TO measure WITH THEIR YELLOW CARDS AND THE INVITATION SLIP.</i></p> <p><i>RECORD THE NUMBER OF CHILDREN dispatched to be measured</i></p> | <p>Number of Children invited <input style="width: 20px; height: 20px;" type="text"/></p> |
|-------------|--|--|

Province Operational District Commune village **Section 10: Measuring children under five years Complete one line per child in the order that they come to the weighing station**

| Questionnaire number | CHILD code | SEX | | DATE OF BIRTH | | | AGE | WEIGHT | HEIGHT | | Was the child | | | | | |
|-------------------------|----------------------|------|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------------|---------------|--------------------|---|-----------------------|---|---|
| | | M | F | DAY | MONTH | YEAR | IN MONTHS | IN KILOS | IN CM | Child laying down NO YES | | referred NO YES | | counselled? NO YES | | |
| 1000 | 1001 | 1002 | | 1003 | | | 1004 | 1005 | 1006 | 1007 | | 1008 | | 1009 | | |
| 1 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 2 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 3 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 4 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 5 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 6 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 7 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 8 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 9 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |
| 10 <input type="text"/> | <input type="text"/> | 1 | 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 0 | 1 | 0 | 1 | 0 | 1 |

| | Measurer | Editor | Supervisor | Encoder1 | Encoder2 | Archived | Comment on each child |
|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------------|-----------------------|
| ID code | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Box: <input type="text"/> | |
| Date | / / 05 | / / 05 | / / 05 | / / 05 | / / 05 | / / 05 | |
| Signature | | | | | | | |

4. HEALTH FACILITIES SURVEY QUESTIONNAIRE



BTC Kampong Cham – Health Facilities Survey 2005

CONFIDENTIAL

RESPONDENT'S NAME SHOULD NOT BE WRITTEN ON THE QUESTIONNAIRE

| | |
|-----------------------------|----------------------|
| Province: _____ | <input type="text"/> |
| Operational District: _____ | <input type="text"/> |
| Health Facility: _____ | <input type="text"/> |
| Village/Cluster: _____ | <input type="text"/> |
| Female (1) Male (2) | <input type="text"/> |

| | 1st attempt | Appointment | 2nd attempt | RESULT |
|-------------|----------------------|----------------------|----------------------|----------------------|
| Date | / /05 | / /05 | / /05 | |
| Time | | | | |
| Location | | | | |
| Interviewer | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

| Result Codes | |
|-------------------------------------|---|
| Completed | 1 |
| Incomplete-respondent termination | 2 |
| Incomplete-third party interruption | 3 |
| Respondent refusal | 4 |
| Parent/guardian/spouse refusal | 5 |

| | Interviewer | Supervisor | Encoder1 | Encoder2 | Archived |
|-----------|----------------------|----------------------|----------------------|----------------------|---------------------------|
| ID code | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Box: <input type="text"/> |
| Date | / /05 | / /05 | / /05 | / /05 | / /05 |
| Signature | | | | | |

Exit Interview Questionnaire

Introduction:

Hello! I am (use your name) working with Domrei Research and Consulting. We are here to interview the people that seek treatment at public health services about their health and health services. Please don't be scared or worried because this is only about health. Everything you say will be kept quietly (confidential). We won't let anybody know what you say.

You can refuse to answer any question that you don't want to answer or you can stop to discuss the questions at any time. I want to thank you and say I hope this interview will only take 15 minutes. I want to remind you that all your answers are very important. This is not a test. There are no right or wrong answers. Therefore, I want to ask you to answer correctly and tell the truth. This will allow my team to give good information to the Ministry of Health to improve health services in (your) province.

I would like to ask you some questions about the health facility you just visited.

Do you have any questions for me?

Can I start asking the questions now?

Section1: Respondent's background

| | | | |
|---|--|---|---|
| 1 | How old are you? | Age in years | <input type="text"/> <input type="text"/> |
| 2 | What grade have you studied? If no formal schooling code '00' | Grade | <input type="text"/> <input type="text"/> |
| 3 | Have you got a family yet? (What is your marital status?) | Single Married Widowed Divorced Separated | 1 2 3 4 5 |

| Section 2: Health Service | | | |
|----------------------------------|---|---|--------------------------------------|
| 4 | Why did you visit this health facility? | Curative services Other: (Skip to 28) | 1 8 |
| 5 | What treatment/service did they receive? | Out patient consultation Small surgery STDs Gyneco-Obstetric Laboratory Other..... | 1 2 3 4 5 88 |
| 6 | What illness do they have? | Cold Cough/ARI Malaria Diarrhoea Injury Headache Fever Other..... | 1 2 3 4 5 6 7 8 |
| 7 | Did the doctor tell you what health problem you have? | Yes No | 0 1 |
| 8 | Did the doctor give you any advice or information about your illness? | Yes No (skip) | 0 1 |
| 9 | What was the advice? | | |
| 10 | Did you get any prescription? | Yes No | 0 1 |
| 11 | Did you get medicine? | Yes No | 0 1 |
| 12 | Did the doctor ask you to come back? | Yes No | 0 1 |
| 13 | Did you receive any paperwork? (Ask to see paperwork and circle) Paperwork: leaflet, poster, sticker..... | Yes No | 0 1 |
| 14 | Do you understand how to use the medicine? | Yes No | 0 1 |

| Section 3: Cost of Service and Prescriptions | | |
|--|--|----------------------------------|
| 15 | Did they have to pay for transport to this health facility from your home? | No: Skip to 17 0 Yes 1 |
| 16 | How much did it cost to go there and return home? | <input type="text"/> DK 9 |
| 17 | Did you have to pay for drugs? | No: Skip to 19 0 Yes 1 |
| 18 | How much did they have to pay? | <input type="text"/> DK 9 |
| 19 | Did you have to pay for consultation? | No: Skip to 21 0 Yes 1 |
| 20 | How much did they have to pay? | <input type="text"/> DK 9 |
| 21 | Did you have to pay for laboratory exam? | No: Skip to 23 0 Yes 1 |
| 22 | How much did they have to pay? | <input type="text"/> DK 9 |
| 23 | Did you pay anything to the doctor for 'thanks'? | No: Skip to 25 0 Yes 1 |
| 24 | How much did they have to pay? | <input type="text"/> DK 9 |
| 25 | So in total, that health problem cost about... <i>Add the total and check with the respondent</i> | <input type="text"/> DK 9 |
| 26 | Did you expect to pay this much? | No 0 Yes 1 |
| 27 | Did you see a price list in the health centre? | No 0 Yes 1 |

| Section 4: Client Satisfaction | | | |
|---------------------------------------|--|--|------------------|
| 28 | Was the health facility clean, acceptable or dirty? | clean Acceptable Dirty | 1 2 3 |
| 29 | How did the staff at that place speak? PROMPT BY READING THE answers | Good OK Bad | 1 2 3 |
| 30 | How was the cost of the health service? PROMPT BY READING THE answers | Expensive Affordable Cheap Not take money | 1 2 3 4 |
| 31 | What do you thing about waiting time? | Bad Acceptable Good | 1 2 3 |
| 32 | How effective was the treatment? | Cured Improved Same Worse | 1 2 3 4 |