កម្មវិធីរួមគ្នាដើម្បីជួយជីវិតមាតា និងទារក

Partnering to Save Lives

# Midterm Evaluation Report

# Reproductive, Maternal and Neonatal Health

# In Eight Cambodian Provinces

**July 2016**


**Principal Investigator: Ir Por, MD, MPH, PhD**

**Chief of Technical Bureau**

**National Institute of Public Health**

**ipor@niph.org.kh**


Australian Aid

MARIE STOPES CAMBODIA
Children by choice, not chance

Save the Children

# Midterm Evaluation Report

# Reproductive, Maternal and Neonatal Health

# In Eight Cambodian Provinces

**July 2016**

**Principal Investigator: Ir Por, MD, MPH, PhD**

**Chief of Technical Bureau**

**National Institute of Public Health**

**ipor@niph.org.kh**

Midterm Evaluation on Reproductive, Maternal and Neonatal Health in Eight Provinces of Cambodia 2016 was approved by National Ethics Committee for Health Research, Ministry of Health, Cambodia, letter no.470NECHR, dated 28th December 2015.

**Suggested citation:**

Partnering to Save Lives. *Midterm Evaluation Report on Reproductive, Maternal and Neonatal Health in Eight Provinces of Cambodia 2016.* National Institute of Public Health; Phnom Penh, Cambodia.

# Table of Contents

## List of Tables

## List of Figures

## Acknowledgements

First of all, the study team would like to thank the National Ethics Committee for Health Research for its review and approval on the study protocol. We would also like to thank the Provincial Health Directors and Operational District Directors in the study sites for their support and facilitation of the study in their relevant area.

Our sincere thanks go to the Operational District supervisors for maternal and child health services, midwives and other personnel at assessed facilities, and the women of reproductive age who dedicated their valuable time to participate in the interviews.

We are grateful to the key personnel of the PSL NGO partners for their technical inputs in the design of this study, and in review of this report, and the excellent coordination and facilitation support given to our team throughout the whole process of this study.

## Funding

This report was funded by the Australian Government through the Partnering to Save Lives program. The findings, interpretations and conclusions expressed in the report are those of the authors and do not necessarily reflect the views of the Australian Government.

## Abbreviations

| | |
|---|---|
| ANC | Antenatal Care |
| BAT | Battambang |
| BCC | Behaviour Change Communication |
| BEmONC | Basic Emergency, Obstetric and Newborn Care |
| CEmONC | Comprehensive Emergency, Obstetric and Newborn Care |
| CBD | Community-Based Distribution |
| CCMN | Community Care of Mothers and Newborns |
| CDHS | Cambodia Demographic and Health Survey |
| CI | Confidence Interval |
| DFAT | Department of Foreign Affairs and Trade |
| FP | Family Planning |
| FTIRM | Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality |
| HC | Health Centre |
| HCMC | Health Centre Management Committee |
| H-EQIP | Health Equity and Quality Improvement Project |
| HIS | Health Information System |
| HP | Health Post |
| IUD | Intra-uterine Device |
| KKG | Koh Kong |
| KRT | Kratie |
| LAM | Lactational Amenorrhoea Method |
| LAPM | Long-acting or Permanent Method |
| LBW | Low Birth Weight |
| MCAT | Midwifery Coordination Alliance Team |
| MCH | Maternal and Child Health |
| MCM | Modern Contraceptive Method |
| MERI | Monitoring, Evaluation, Reporting and Improvement |
| MKR | Mondul Kiri |
| MoH | Ministry of Health |
| MSIC | Marie Stopes International Cambodia |
| NGO | Non-governmental Organisation |
| OD | Operational District |
| PHF | Public health Facility |
| PNC | Postnatal Care |

| | |
|---|---|
| PSK | Population Services Khmer |
| PSL | Partnering to Save Lives |
| PUR | Pursat |
| RAT | Ratanak Kiri |
| RHAC | Reproductive Health Association of Cambodia |
| RH | Referral Hospital |
| RMNH | Reproductive, Maternal and Neonatal Health |
| SBA | Skilled Birth Attendant |
| SHV | Preah Sihanouk |
| STG | Stung Treng |
| TBA | Traditional Birth Attendant |
| WRA | Woman of Reproductive Age (15-49 years) |

# Executive summary

Partnering to Save Lives (PSL) is a five year partnership between three implementing non-governmental organisations (CARE, Marie Stopes International Cambodia, and Save the Children), the Cambodian Ministry of Health and the Australian Government Department of Foreign Affairs and Trade. The overall goal of PSL program is to save the lives of women and neonates in Cambodia through improved access to and utilisation of quality reproductive, maternal and neonatal health (RMNH) services with a partnership approach. In addition to activities in the garment factory sector, PSL implements holistic RMNH initiatives in the underserved north-eastern provinces of Kratie, Mondul Kiri, Ratanak Kiri and Stung Treng and supports family planning services and training on safe abortion in an additional 14 provinces across the country.

As part of the program's monitoring, evaluation, reporting and improvement (MERI) framework, a baseline evaluation was conducted in late 2013 and early 2014 during year 1 of the program. In late 2015, the mid-point of the five-year program period, a midterm evaluation was conducted, aiming to: (1) assess the progress of the program towards the 3 year targets in PSL's MERI and (2) gather qualitative information about the effectiveness of the program and the partnership in achieving the program objectives and outcomes. More specifically, the midterm evaluation intended to measure the changes of the values of key performance indicators between the baseline and the midterm evaluation. Similarly to the baseline, the midline evaluation explored knowledge, attitudes and practices, including health service utilization in relation to RMNH in five operational districts in Kratie, Stung Treng, Mondul Kiri and Ratanak Kiri provinces (component 1) and four operational districts in Battambang, Pursat, Preah Sihanouk and Koh Kong provinces (component 2).

Following a literature review and document analysis, data for measuring performance indicators were collected through: a cross-sectional survey of women of reproductive age (WRA) or women's survey; interviews with operational district supervisors on maternal and child health; and facility-based assessment of basic emergency, obstetric and newborn care (BEmONC).

For women's survey, in order to ensure comparability with the baseline, researchers adopted a two-stage cluster sampling method. They revisited the 60 villages (clusters) in each component selected during the baseline through probability-proportional-to-size sampling method, and then selected 22 households per village using simple random sampling method. They applied a structured household questionnaire to household heads and a structured women's questionnaire to all WRA in each household. Researchers interviewed 1,663 WRA in 1,320 households for component 1 and 1,587 WRA in 1,320 households for component 2. All maternal and child health supervisors in the nine studied operational districts were interviewed. BEmONC assessment was carried out in nine BEmONC facilities in component 1 area. Researchers strictly followed the basic ethical procedures, including submission of this study protocol and related tools to the National Ethics Committee for Health Research in Cambodia for review and approval.

The collected data were analysed primarily to calculate 16 selected MERI indicators and compare them with those of the baseline, with significance determined at the 5% level ($p<0.05$). Women's survey data were used to compute 15 of the 16 indicators, whereas BEmONC assessment data were used to compute the percentage of functioning BEmONC health centres. Qualitative data from the interviews with operational district maternal and child health supervisors were triangulated with the quantitative data to assess the effectiveness of the PSL program in achieving the program objectives and outcomes, and to identify operational issues of the program and suggested solutions to address them. Where applicable, data of the 16 indicators were disaggregated by type of services, providers, women's age, marital status, ethnicity, disability and socio-economic status.

## Socio economic characteristics

The average household size (number of members per household) was 5.35 members (of which 2.66 male members and 2.69 female members). The average number of members who could generate income was 2.41 members per household and the proportion of households having an ID Poor Card was 28.7%, compared with 31% at the baseline. There were 369 (14%) households in the midterm survey sample which were from ethnic minorities including 8 reported ethnic minority groups. Tampoun, Phnong and Jarai were the three largest groups, representing in total of nearly 65% of the ethnic minority households in the midterm survey sample.

The mean age of interviewed WRA was 30 years old. Married WRA represented 77.4% of the midterm sample, compared with only 72.6% of the baseline. Single WRA accounted for 17.6% of all the WRA at the midterm survey, with only 1.2% single WRA living with a sexual partner.

Based on the six Washington Group questions on functional impairment/disability, 18.4% of the midterm sample reported having at least some functional impairment (some difficulty) and only 0.6% had severe impairment or disability (a lot of difficulty or cannot do).

## Family planning

Knowledge on any family planning methods, including modern contraceptive methods (MCM), was almost universal, but knowledge on some individual methods such as male sterilization, female condom, lactational amenorrhea method, emergency contraception and the two traditional methods remained relatively low. The percentage of all WRA using an MCM in both component areas significantly increased from 26.8% at the baseline to 31.3% at the midterm survey ($p<0.001$). Such increase was also found among vulnerable WRA (including ethnic minority women, women with some functional impairment and poor women), and in all the eight study provinces. The most commonly used MCM is daily pills, followed by injectable and IUD. Withdrawal, a traditional method of contraception, also increased in use in the midterm survey. The percentage of married WRA using an MCM also jumped from 36.6% at the baseline to 40.7% at the midterm, reaching a level comparable to the national coverage. The percentage of MCM users using long acting or permanent methods also increased between the two surveys, but the difference was not significant statistically ($p>0.05$).

## Pregnancy, antenatal care and delivery

The percentage of women with a live birth in the past 24 months preceding the survey attending four or more antenatal care (ANC4)consultations in component 1 area significantly increased from 47% at the baseline to 55.4% at the midterm survey ($p<0.05$), and such increase was observed in all the four provinces. The percentage of women delivering with a skilled birth attendant and the percentage of women delivering in a health facility with a skilled birth attendant (SBA) in component 1 area also augmented significantly from 58.8% and 55.4% at the baseline to 72.2% and 71% respectively at the midterm survey ($p<0.001$). More interestingly, such augmentation was also found among vulnerable WRA and across the four study provinces.

## Newborn and postnatal care

The percentage of newborns with low birth weight slightly decreased from 5.7% at the baseline to 5.3% at the midterm, but the decrease was not significant statistically ($p>0.05$). The percentage of women with a live birth in the past 24 months preceding the survey attending two or more postnatal care (PNC) consultations in component 1 area, dropped from 40.4% to 16.4% ($p<0.001$), likely due to a change in the definition of this indicator.

## Abortion and post-abortion

Of all the interviewed women, only 103 (3.2%) reported to have had a pregnancy that ended in induced abortion within the 24 months preceding the survey, compared with 75 (2.7%) at the

baseline. The majority of induced abortions at both surveys were carried out in private hospitals/clinics/cabinets and in women's homes. The women's knowledge on where to access safe abortion services when needed increased significantly ($p<0.001$) from 61.5% at the baseline to 72.1% at the midterm survey. The percentage of WRA knowing that abortion is legal was 12.2% at the midterm, compared with 11.7% at the baseline survey. The difference is not significant statistically.

### Service utilisation, satisfaction, expenditure and financial support

Similar to the baseline, 44.3% of WRA at the midterm survey reported to have used at least one RMNH service in the 12 months preceding the survey.

The percentage of people accessing RMNH services in the past 12 months who were referred through a community referral mechanism significantly increased from less than 8.5% at the baseline to nearly 24.9% at the midterm survey ($p<0.001$). We also found the same pattern for each of the three vulnerability groups, with the largest increase for ethnic minority WRA from 6.5% to 35.4%. Similarly, a significantly larger percentage of RMNH service users in the past 12 months at the midterm (14.7%) than that at the baseline (10.3%) received financial support at least once ($p=0.001$), with health equity funds the most commonly used health financing mechanism (by almost 90% of all the users). This pattern is also observed among the vulnerability groups, except for poor WRA among which the financial support rates appears to be stable between both surveys (21.5% at the baseline and 22% at the midterm). Despite this increased access to financial assistance, fewer RMNH users at the midterm than at the baseline survey reported zero out-of-pocket expenditure and the average amount of out-of-pocket expenditure per woman (RMNH user) in the past 12 months appears to have increased (with a median of US$8 at the baseline and US$8.8 at the midterm).

### RMNH knowledge and self efficacy

The percentage of WRA who can identify five danger signs during pregnancy increased significantly ($p<0.001$) from 3% at the baseline to 8.5% at the midterm survey. We also observe an increase among the vulnerable women groups, but the difference for WRA with some functional impairment is not significant. The percentage of WRA who can identify three danger signs for neonatal distress increased significantly ($p<0.001$) from 11.3% at the baseline to 28.1% at the midterm survey. The percentage of women who felt empowered or had self-confidence on negotiating and using family planning also significantly increased from 25.3% at the baseline to 32.3% at the midterm survey ($p<0.001$). Such increase was also observed among the vulnerable women groups, but the difference for ethic minority group is not significant.

### BEmONC assessments

Results from BEmONC assessment show an increase in average score for the seven assessed health centres from 27.7/35 points (79.2%) at the baseline to 30.4/35 points (86.9%) at the midterm survey, suggesting improvement in BEmONC functionality. However, none of the seven health centres was found to be fully functioning BEmONC facility.

### Results from OD MCH supervisors interviews

All the interviewed maternal and child health supervisors in component 1 area noted a considerable improvement in RMNH and BEmONC service provision and coverage in their respective operational districts (OD) after the start of PSL program in late 2013. A number of PSL supported activities and interventions were believed to have contributed to the improvement, including PSL-supported practical training, midwifery coordination alliance meetings, and supervisions to increase midwives' capacity and skills; additional and necessary supplies by PSL in terms of equipment, materials and commodities; and PSL-supported extension of community-based networks and referral mechanisms and other PSL initiatives such as in kind incentives for women giving birth in public health facilities.

The interviews also revealed a number of remaining constraints and challenges, including limited RMNH and BEmONC related capacity and skills of some midwives, poor infection control during

delivery, lack of supplies for some commodities and equipment, difficult physical access and the lack of transport means for referrals and motorbike for staff to do outreaches, lack of reproductive health services specifically provided by health centres (HCs) for youth and teenagers in their areas, and inconsistency between PSL partners in technical guidance and materials provision. All the respondents strongly appreciated PSL support and wished to have it continued and further expanded to other non-covered HCs in the coming years.

## Conclusions and recommendations

The significant increase in knowledge, utilization or coverage of RMNH services, and access to community referral and financial support mechanisms between the two surveys for 10 out of 16 assessed indicators, coupled with the findings from qualitative data, strongly suggests that a huge improvement in RMNH services was made in the study areas in the past two years, and that PSL support was a key contribution, among others, to this improvement.

The significant increase in service utilisation between the two surveys was observed for percentage of target population using MCM, percentage of women delivering in a health facility with an SBA, percentage of women delivering with an SBA, percentage of women attending PNC who receive counselling in MCM and ANC4 coverage. There was also a significant increase in knowledge of at least 5 danger signs during pregnancy and 3 danger signs for neonatal distress. The percentage of people accessing RMNH services in the past 12 months who were referred through a community referral mechanism and those users using a financial support mechanism as well as percentage of women who feel empowered to discuss and use MCM also increased significantly between the two surveys. Such increase was also often found among vulnerable WRA, including ethnic minority women, women with some functional impairment and poor women. However, the increase was not significant statistically for other indicators, such as percentage of newborns with low birth weight, percentage of women using long acting or permanent methods of family planning (FP), percentage of women who know that abortion is legal and percentage of functioning BEmONC health centres. PNC2 coverage and the percentage of target population who report being highly satisfied with RMNH services provided significantly declined between the two surveys partly because of change in definition.

Recommendations for PSL planning and actions in years 4 and 5 to address the identified shortcomings to further improve RMNH services in the target areas, thereby contributing to reducing maternal and neonatal mortality in Cambodia, are as follows:

- Further strengthening of the PSL supported referral mechanisms, in particular pregnancy clubs, men's clubs, listening & dialogue group, printed IEC materials, radio broadcast, mobile phone message and hotline, will not only further improve the referral indicator, but also promote women's awareness, knowledge (including knowledge on danger signs of pregnancy and neonatal distress, and legality of abortion) and utilization of RMNH services;
- In line with the national priority and the focus of Health Equity and Quality Improvement Project, PSL should continue to prioritize interventions to improve quality of RMNH services in public health facilities in its target areas (including strengthening infection prevention and control measures and capacity building of midwives as suggested by key informants).
- Given the fact that further investment to make the seven BEmONC health centres fully functioning is challenging and likely impossible in the short run, PSL should consider supporting effective referrals to CEmONC facilities along with efforts to further strengthen these BEmONC health centres;
- Seeing the importance to meet the special RMNH needs for youth and teenagers for improving RMNH, PSL should consider supporting the expansion of the existing UN-supported model of youth and teenager services (youth centres) nested in some health facilities in Kratie and Stung

Treng, coupled with outreach services and peer education specifically designed for this population group;

- Since the current PSL support in component 1 area does not cover all health centres yet, along with further strengthening of the support within the current coverage, PSL should, if it is technically and financially feasible, expand its support to other non-covered HCs, which is essential for further improvement of the PSL indicators;
- For possible endline survey, researchers should consider addressing the limitations identified in this midterm survey, in particular the discrepancies between the baseline and midterm surveys in terms of rating of functional impairment and RMNH service users' satisfaction, and definition of postnatal care 2, throughout the process of the study, including design, training, data collection and analysis.

# 1 Background

## 1.1 Introduction to the Partnering to Save Lives program

Partnering to Save Lives (PSL) is a partnership between three implementing non-governmental organisations (CARE, Marie Stopes International Cambodia or MSIC, and Save the Children), the Cambodian Ministry of Health (MoH) and the Australian Government Department of Foreign Affairs and Trade (DFAT). Building on the considerable progress made on reproductive, maternal and neonatal health (RMNH) within Cambodia in recent years, PSL combines the complementary strengths of government and non-governmental partners to achieve the goals of the Fast-Track Initiative Roadmap for Reducing Maternal and Neonatal Mortality (FTIRM) and beyond.

The overall goal of PSL program is to save the lives of women and neonates in Cambodia through improved quality, access and utilisation of RMNH services through a partnership approach. After three years of implementation, there are expected to be six primary outcomes:

- improved quality of RMNH services for target populations;
- greater equity of access to appropriate RMNH services for target populations;
- more responsive RMNH services meet the needs of target populations;
- improved RMNH behaviours amongst target populations;
- evidence-based innovation and learning that contributes to improved policy and practices;
- a partnership model that demonstrates impact and value for money to achieve RMNH outcomes.

To achieve these outcomes, the program works through three core components: improving health service delivery, community strengthening and engagement, and translating learning and knowledge into policy. PSL focuses on holistic RMNH service provision in the underserved north-eastern provinces of Kratie, Mondul Kiri, Ratanak Kiri and Stung Treng. Family planning services and safe abortion capacity development are supported in an additional 14 provinces across the country. PSL also works to improve access to RMNH information and services for vulnerable young women working in garment factories in Phnom Penh and Kandal province. Program progress is monitored and assessed against indicators in the program's monitoring, evaluation, reporting and improvement (MERI) framework.

## 1.2 Rationale and objectives of the midterm evaluation

As part of the MERI framework, an independent baseline evaluation was conducted in late 2013 and early 2014 during year 1 of the program. The evaluation included a population-based survey among women of reproductive age (WRA) and interviews with maternal and child health (MCH) supervisors in five operational districts (ODs) in Kratie, Stung Treng, Mondul Kiri and Ratanak Kiri provinces (component 1) and in four ODs (Sampov Loun, Sampov Meas, Smach Meanchey and Preah Sihanouk) in Battambang, Pursat, Preah Sihanouk and Koh Kong provinces respectively (component 2). The component 1 also included a rapid facility-based assessment of basic emergency obstetric and newborn care (BEmONC)[1].

As PSL approaches the mid-point of the five-year period, it is important to review the progress and impact of program implementation to date. Therefore, in late 2015 the PSL partners commissioned a midterm evaluation, which includes a comparison with the results of baseline in the nine ODs listed above.

The main objectives of this midterm evaluation are to:

(1) assess the progress of the program towards the 3 year targets in PSL's MERI and

(2) gather qualitative information about the effectiveness of the program and the partnership in achieving the program objectives and outcomes.

More specifically, the midterm evaluation aims to measure the changes of the values of 16 selected key indicators of the MERI framework between the baseline evaluation and the midterm evaluation (Annex 1). The preliminary findings from the midterm evaluation were shared with key stakeholders and used for improving program design for years 4 & 5.

### 1.3 Context in the study sites

Table 1 provides an overview of health infrastructure and target population in the study sites. According to the MOH's routine health information system (HIS) data [2], the four PSL targeted provinces in the northeast of Cambodia –Kratie, Stung Treng, Mondul Kiri, and Ratanak Kiri (component 1 area) –have a total of five operational districts (OD), four provincial hospitals (PH), three district referral hospitals (RH), 66 functioning health centres (HC) and 45 health posts (HP), providing health services to a total of approximately 763,442 people. The number of women of reproductive age (WRA), 15-49 years, in these provinces is estimated to be 202,318.[1] The four ODs in the provinces of Battambang, Pursat, Koh Kong and Preah Sihanouk (component 2 area) have three PHs, three district RHs, 59 functioning HCs and 4 HPs, providing health services to a total of 716,004 people, in which there are approximately 198,612 WRA.

Table 1: Health infrastructure and target population in the study sites

| Province | OD | Functioning Health Facilities | | | | Population | |
|---|---|---|---|---|---|---|---|
| | | PH | RH | HC | HP | General | WRA (15-49) |
| Kratie | Chhlong | 0 | 1 | 9 | 1 | 106,073 | 26,900 |
| | Kratie | 1 | 1 | 20 | 10 | 258,817 | 65,636 |
| Mondul Kiri | Mondul Kiri | 1 | 0 | 11 | 16 | 71,367 | 19,532 |
| Ratanak Kiri | Banlong | 1 | 1 | 14 | 17 | 196,557 | 54,328 |
| Stung Treng | Stung Treng | 1 | 0 | 12 | 1 | 130,628 | 35,922 |
| Total component 1 | 5 | 4 | 3 | 66 | 45 | 763,442 | 202,318 |
| Component 2 area | | | | | | | |
| Battambang | Sampov Loun | 0 | 1 | 10 | 0 | 161,663 | 44,102 |
| Koh Kong | Smach Meanchey | 1 | 0 | 7 | 2 | 59,678 | 16,167 |
| Preah Sihanouk | Preah Sihanouk | 1 | 0 | 13 | 0 | 204,107 | 59,660 |
| Pursat | Sampov Meas | 1 | 2 | 29 | 2 | 290,556 | 78,683 |
| Total component 2 | 4 | 3 | 3 | 59 | 4 | 716,004 | 198,612 |

*Source: HIS data 2015 [2]*

Table 2 provides an overview of RMNH indicators in the study sites based on MOH's HIS 2015 and Cambodia Demographic and Health Survey (CDHS) 2014 data. In the four provinces in component 1, ethnicity, language and remoteness create major challenges for the local populations in accessing essential health care. As a result, these locations often show poor health status and the lowest RMNH and FTIRM indicators. The total fertility rate, the percentage of newborns with low birth weight and the neonatal mortality rate by province in component 1 are generally higher than those in component 2 and national average. On the contrary, key RMNH service coverage indicators are relatively lower than those in component 2 and national average.

[1] It was estimated at around 26% of the total population, using CDHS 2014 data as reference.

Table 2: Key RMNH indicators in the study sites

| Key RMNH indicators | Component 1 | | | | Component 2 | | | | National Average |
|---|---|---|---|---|---|---|---|---|---|
| | Kratie | Mondul Kiri | Ratanak Kiri | Stung Treng[2] | Battambang[3] | Koh Kong | Preah Sihanouk | Pursat | |
| Total fertility rate for all WRA | 3.6 (CDHS 2014) | 3.3 (CDHS 2014) | 3.3 (CDHS 2014) | 3.6 (CDHS 2014) | 2.9 (CDHS 2014) | 2.7 (CDHS 2014) | 2.7 (CDHS 2014) | 3.1 (CDHS 2014) | 2.7 (CDHS 2014) |
| % of currently married WRA using any MCM | 30.7 (CDHS 2014) 27.1 (HIS 2015) | 42.7 (CDHS 2014) 37.8 (HIS 2015) | 42.7 (CDHS 2014) 46.9 (HIS 2015) | 34.9 (CDHS 2014) 39.0 (HIS 2015) | 40.6 (CDHS 2014) 29.8 (HIS 2015) | 41.5 (CDHS 2014) 42.5 (HIS 2015) | 41.5 (CDHS 2014) 27.1 (HIS 2015) | 40.1 (CDHS 2014) 31.9 (HIS 2015) | 38.8 (CDHS 2014) 41.0 (HIS 2015) |
| % of women receiving at least 4 ANC visits by SBA | 33.2 (HIS 2015) | 58.0 (HIS 2015) | 70.7 (HIS 2015) | 86.1 (HIS 2015) | 71.5 (HIS 2015) | 64.5 (HIS 2015) | 50.9 (HIS 2015) | 77.4 (HIS 2015) | 71.5 (HIS 2015) |
| % of deliveries attended by SBA | 51.9 (CDHS 2014) | 53.6 (CDHS 2014) | 53.6 (CDHS 2014) | 54.6 (CDHS 2014) | 94.1 (CDHS 2014) | 97.5 (CDHS 2014) | 97.5 (CDHS 2014) | 86.1 (CDHS 2014) | 89.0 (CDHS 2014) 85.2 (HIS 2015) |
| % of deliveries attended by SBA in a health facility | 46.3 (CDHS 2014) | 51.2 (CDHS 2014) | 51.2 (CDHS 2014) | 51.1 (CDHS 2014) | 90.2 (CDHS 2014) | 88.9 (CDHS 2014) | 88.9 (CDHS 2014) | 78.4 (CDHS 2014) | 83.2 (CDHS 2014) |
| % of deliveries attended by SBA in a public health facility | 40.3 (CDHS 2014) 61.0 (HIS 2015) | 39.3 (CDHS 2014) 50.0 (HIS 2015) | 39.3 (CDHS 2014) 66.0 (HIS 2015) | 49.3 (CDHS 2014) 77.0 (HIS 2015) | 81.3 (CDHS 2014) 61.0 (HIS 2015) | 68.6 (CDHS 2014) 52.0 (HIS 2015) | 68.6 (CDHS 2014) 44.0 (HIS 2015) | 72.6 (CDHS 2014) 76.0 (HIS 2015) | 68.9 (CDHS 2014) 80.4 (HIS 2015) |
| % of women receiving at least 2 PNC visits by SBA | 54.5 (HIS 2015) | 42.8 (HIS 2015) | 57.5 (HIS 2015) | 80.2 (HIS 2015) | 53.2 (HIS 2015) | 48.1 (HIS 2015) | 28.7 (HIS 2015) | 51.2 (HIS 2015) | 52.3 (HIS 2015) |
| % of newborns with low birth weight | 11.5 (CDHS 2014) | 9.2 (CDHS 2014) | 9.2 (CDHS 2014) | 7.8 (CDHS 2014) | 5.2 (CDHS 2014) | 6.6 (CDHS 2014) | 6.6 (CDHS 2014) | 4.4 (CDHS 2014) | 7.9 (CDHS 2014) |
| Neonatal mortality rate (deaths/1,000 live births) | 30 (CDHS 2014) | 36 (CDHS 2014) | 36 (CDHS 2014) | 25 (CDHS 2014) | 12 (CDHS 2014) | 20 (CDHS 2014) | 20 (CDHS 2014) | 14 (CDHS 2014) | 18 (CDHS 2014) |

*Source: CDHS 2014 [3] and HIS 2015 [4].*

[2] For CDHS 2014, this is an average of Stung Treng together with Preah Vihear province.

[3] For CDHS 2014, this is an average of Battambang together with Pailin province.

# 2 Methodology

## 2.1 Study design, sampling and sample size

In line with the baseline evaluation, we adopted a mixed-methods design for this midterm evaluation, for which data were collected through:

- a cross-sectional survey among WRA or 'women's survey';
- interviews with OD supervisors for maternal and child health (MCH) services or 'OD MCH supervisor interviews';
- facility-based assessment of basic emergency obstetric and newborn care (BEmONC) or 'BEmONC assessment'.

**For the women's survey**, a minimum sample size was estimated based on two key variables (% of WRA using modern contraceptive methods and % of births given with assistance of a skilled attendant in a health facility) with 15 and 20 percentage points of change respectively for these key variables, using a *formula for calculating sample size for comparison of two proportions*. Based on the calculation, taking account of disaggregation (e.g. by socio-economic status and by gender), we proposed a minimum sample size of approximately 1,500 WRA from 1,320 households for each of the two components.

WRA were randomly selected through a two-stage cluster sampling method. The sampling frame was the list of villages with respective number of households by health center catchment area (the OD health coverage plan) within the five ODs of component 1 and four selected ODs of component 2. In order to ensure comparability with the baseline in terms of distance and physical access to public health facilities, the midterm women's survey took the 120 villages/clusters (60 for each component)[4] selected for the baseline (Annex 2). The 120 villages were selected (as clusters) based on the size of estimated number of WRA of each OD –a probability-proportional-to-size method commonly used for immunization surveys. In each of the 120 villages, researchers selected 22 households (1,320/60 = 22) through a systematic sampling approach. First, a list of all households in the village was developed. Based on the village list of households, interval between selected households was calculated by dividing the total number of households by 22 (e.g. for a village of 289 households, the interval = 289/22 = 13). We then randomly selected (by lucky draw or using excel simple random) the first household within the first 13 households in the list. Selection of other 21 households was just by scrolling down the list with an interval of 13 households. In the few villages lacking a reliable list of households, the teams used a systematic walking direction approach. Selected households with no eligible WRA were replaced by their closest neighbors. All WRA in a selected household were invited for interview. Researchers sought help from village chiefs to identify selected households in their respective village.

OD MCH supervisor interviews were conducted with all OD MCH supervisors in the nine studied ODs to collect additional data which were not covered by the women's survey and other qualitative data on the effectiveness of the program in achieving the program objectives and outcomes, in particular the perceived progress in the provision of RMNH services and related issues within their respective OD. The interviews also allow confirming health facilities officially considered as BEmONC facilities for further assessment. The BEmONC assessment was carried out at nine officially considered BEmONC facilities in component 1 area only with the aim to learn about the signal functions offered at these health facilities in order to confirm whether they really are BEmONC facilities. The assessment also explored the reasons why some of the BEmONC facilities were unable to offer some signal functions.

[4] Theoretically, a minimum of 30 clusters is needed. To be safe, but feasible, we go for 60 clusters.

## 2.2 Data collection

The women's survey data were collected in late December 2015 and early January 2016 through administration of a structured household questionnaire (Annex 3) and a structured women's questionnaire (Annex 4) to eligible respondents, including the household head (for household questionnaire only) and/or WRA in each of the selected households. The questionnaires used for this midterm evaluation were adapted from the ones used for baseline survey.[5] The household questionnaire includes women's household identification data, details of household members (household rosters) and information related to household socio-economic status, including household ownership of an ID Poor card.

The women's questionnaire is structured in seven sections:

(1) Section 1: household and woman's identification data,
(2) Section 2: key characteristics of the woman, including age, gender, marital status, highest level of education and religion
(3) Section 3: disability status of the woman, including sensory, physical, intellectual and speech/language disability
(4) Section 4: woman's knowledge and utilization of family planning services,
(5) Section 5: woman's pregnancy experience and related information such as antenatal care, delivery care, immediate newborn care, postnatal care, abortion and post-abortion care,
(6) Section 6: satisfaction, referral, health expenditures and financial support mechanisms of woman who had used reproductive, maternal and newborn health services within the past 12 months preceding the survey, and
(7) Section 7: woman's knowledge and self-efficacy on abortion, family planning and ability to refuse sex

For Section 3 –disability, we used the internationally-validated Washington Group short set of questions to assess disability status[6]. Respondents self-assessed their level of difficulty or impairment (none, some, a lot, total) in carrying out six functions (seeing, hearing, self-care, walking, communication, memory/concentration).

Household and women's interviews were carried out by a group of 20 trained enumerators divided in five teams – each team under close supervision by a senior surveyor. The interviews were conducted in Khmer. Most ethnic minority people, especially women of reproductive age, could speak the Khmer language, except a few who had difficulty in expressing some Khmer words. For these women, with their prior consent, the interviewer asked for translation from another woman in the village who could speak Khmer, whilst maintaining as much privacy and confidentiality as possible.

Data for OD MCH supervisor interviews and BEmONC assessment were collected by a trained senior midwife. The interviews with all OD MCH supervisors (one per OD) were conducted sometimes with the presence of OD director or chief of Technical Bureau, following a semi-structured questionnaire (Annex 5). The BEmONC assessment was guided by a BEmONC assessment questionnaire and form (Annex 6).

[5] Major changes made to the baseline questionnaires include: one new question (Q220) added to the household questionnaire to specify whether the household holds a valid Priority Access Card, modification of some questions on antenatal care consultation (Q510 and Q511) and postnatal care consultation (Q522 and Q523) in section 5.1, and more PSL supported community referral mechanisms added to the list of answer to a question (Q607) in section 6 of the women's questionnaire.

[6] CDC National Center for Health Statistics, 2006: Overview of implementation protocols for testing the Washington Group short set of questions on disability. Atlanta, USA. www.cdc.gov/nchs/washington_group/wg_questions.htm

Prior to data collection, the senior researchers provided a two-day training session for all enumerators, field supervisors and other people involved in the study (e.g. those involved in the data entry). The main objectives of the training were to introduce the research protocol and to familiarise them with the questionnaires. At the end of the training, the research tools were field tested and a practical planning of the field work was completed.

### 2.3 Data management and analysis

For women's survey, supervisors gathered all completed questionnaires in the field and checked them for accuracy and completeness, making necessary corrections, and/or re-interviewing respondents as needed. The completed questionnaires were then processed for data entry. Two trained people entered data from each questionnaire into a database form at the same time (double entry) under the supervision of an experienced database manager who developed and tested the database form. The team then cleaned the data and uploaded them into an SPSS format developed for the analysis. Data from OD MCH supervisor interviews and BEmONC assessment were managed separately.

Senior researchers analysed the data primarily to calculate 16 selected MERI indicators as listed in Annex 1. Women's survey data were analysed using SPSS software to compute 15 of the 16 indicators, whereas BEmONC assessment data were analysed using MS Excel to compute the percentage of functioning BEmONC health centres. Qualitative data from OD MCH supervisor interviews were analysed manually and triangulated with the quantitative data to assess the effectiveness (impact) of the PSL program in achieving the program objectives and outcomes as well as to identify operational issues of the program and possible solutions to address them.

Where applicable, data of the 16 indicators were disaggregated by type of services, providers, women's age, marital status, ethnicity, disability and socio-economic status. For disability, data were disaggregated two ways: those with at least some impairment (some difficulty) versus those with none; those with severe or total impairment versus those with some or no impairment. We also disaggregated household data according to household poverty status, defined by ownership of an ID Poor Card issued by the ministry of Planning and/or Priority Access Card issued by MoH.

The researchers systematically compared the midterm evaluation data with the baseline evaluation data for the 16 MERI indicators. It is to note that definition of some of the 16 indicators have been modified after the baseline survey in order to align with the national RMNH policy. For example, ANC and PNC coverage at the baseline survey included all ANC and PNC visits regardless their type of providers. At this midterm survey, these indicators included only those with skilled providers. Moreover, at the baseline survey, all the second PNC visits were considered PNC2 regardless the timing, whereas at this midterm survey, only those made within six weeks after the discharge were considered PNC2. For midterm-baseline comparison purpose, some of the indicators presented in the baseline survey report were therefore recomputed to match with those of the midterm survey. Where applicable, midterm evaluation data were also compared with HIS 2015 and CDHS 2014 data.

The researchers used Chi-square tests to compare proportions between the midterm and baseline surveys, and significance was determined at the 5% level ($p < 0.05$). They compared means of normally-distributed data between the two surveys using Independent-Sample t-tests and applied a non-parametric test (Mann-Whitney) for skewed data. For core indicators which were used as a basis for sample size calculation and were primarily related to PSL interventions in component 1 only (e.g. % of women delivering with a skilled birth attendant and % of women delivering with a skilled birth attendant in a health facility), component 2 area was considered as control site and difference-in-difference analysis was made.

## 2.4 Ethical considerations

The researchers strictly followed ethical procedures, including submission of the study protocol and related tools to the National Ethics Committee for Health Research in Cambodia for review. The committee approved the protocol on 28 December 2015 (reference number: 470 NECHR).

Prior to each interview, the researcher obtained verbal consent from the interviewee, based on a consent form attached to each questionnaire as an introductory section. The consent form varied slightly across the different survey tools. In general, it included a greeting and self-introduction by the interviewer, a short introduction of the study and its objectives, and the voluntary and unconditional nature and confidentiality of the interview. The interviews were carried out by trained and professional surveyors. In case the respondent could not or could hardly speak Khmer, the interview was conducted through a translator (another woman in the village) with prior agreement by the respondent. The research team is responsible for the confidentiality of all interviewees' personal information. The data collected are kept securely and will not be shared with unauthorised people. No names will be used in any dissemination of the results.

The researchers did not pay or provide any services to respondents during the survey, except a symbolic gift (e.g. soap, toothbrush and toothpaste) given to each respondent, which cost about US$ 0.5. For unexpected demand for and need of services or support by the respondents, especially demand for family planning services and support to victims of sexual abuse (related to section 7 of the women's questionnaire) we provided relevant information, including the telephone numbers of help-lines.

# 3 Results from the quantitative survey

## 3.1 Description of the sample

Table  describes the survey sample in the two component areas by administrative location and health coverage area. Researchers interviewed a total of 3,250 (100%) WRA in 2,640 households. These included 1,663 (51.2%) WRA in 1,320 households for component 1, and 1,587 (48.8%) WRA in 1,320 households for component 2 area. Among the total 2,640 households included in this midterm survey, 436 households (185 in component 1 and 251 in component 2) were replacement households, as the originally selected households could not be found or had no eligible WRA (aged 15-49 years). Of the eligible WRA in the studied households, 355 WRA (157 for component 1 and 197 for component 2) were not available for interview and only 12 WRA refused to be interviewed, as they were leaving immediately for work and rescheduling was not possible.

The number of interviewed WRA in each of the two components is bigger than that at the baseline survey (which included only 1,412 WRA for component 1 and 1,350 WRA for component 2) and even slightly bigger than the estimated sample size (1,500).

Table 3: Description of the sample

| | Component 1 | Component 2 | All |
|---|---|---|---|
| Total number (%) of WRA | 1,663 (51.2) | 1,587 (48.8) | 3,250 (100.0) |
| Total number of households | 1,320 | 1,320 | 2,640 |
| Number of villages | 60 | 60 | 120 |
| Number of communes | 57 | 50 | 107 |
| Number of health centres | 49 | 48 | 97 |
| Number of districts | 25 | 17 | 42 |
| Number of operational districts | 5 | 4 | 9 |
| Number of provinces | 4 | 4 | 8 |

Table 4 compares some key characteristics of the midterm survey sample households with those of the baseline. The average household size (number of members per household) was 5.35 members (of which 2.66 male members and 2.69 female members), compared with 5.01 members (of which 2.5 male members and 2.5 female members). The difference in household size between the two surveys is small, but statistically significant not only for all members but also for male and female members. On average, there were 1.37 eligible WRA (aged 15-49 years) per household, compared with only 1.17 at the baseline. The average number of members who could generate income was 2.41 members per household, significantly bigger than that of baseline (2.13 members per household). In the opposite, the proportion of households who had an ID Poor Card was 28.7%, compared with 31% at the baseline. The difference is statistically significant ($p<0.01$).

There were 369 (14%) households in the midterm survey sample which were from ethnic minorities, compared with 399 (15.1%) in the baseline survey sample. The difference is not significant statistically. Figure 1 presents the percentage distribution of ethnic minority households by group at the two surveys. In total, there were 8 reported ethnic minority groups at the midterm survey, compared with 10 groups at the baseline. As in the baseline, Tampoun, Phnong and Jarai were the three largest groups, representing in total of nearly 65% of the ethnic minority households in the midterm survey sample.

Table 4: Key household characteristics

| Key variables | Baseline n = 2,638 | Midterm n = 2,640 | p-value |
|---|---|---|---|
| Household size or average no. of members/household (Std. Deviation)<br>• All members<br>• Male members<br>• Female members<br>• Eligible WRA (aged 15-49 years)<br>• Members who can generate income | <br>5.01 (2.071)<br>2.50 (1.419)<br>2.50 (1.297)<br>1.17 (0.716)<br>2.13 (1.134) | <br>5.35 (2.083)<br>2.66 (1.462)<br>2.69 (1.279)<br>1.37 (0.665)<br>2.41 (1.217) | <br>p<0.001 |
| Households having an ID Poor Card and/or Priority Access Card (% within survey) | 818 (31.0) | 758 (28.7) | p<0.01 |
| Ethnic minority households (% within survey) | 399 (15.1) | 369 (14.0) | NS |

*NS = Not significant (p>0.05)*

Figure 1: Percentage distribution of ethnic minority households by group

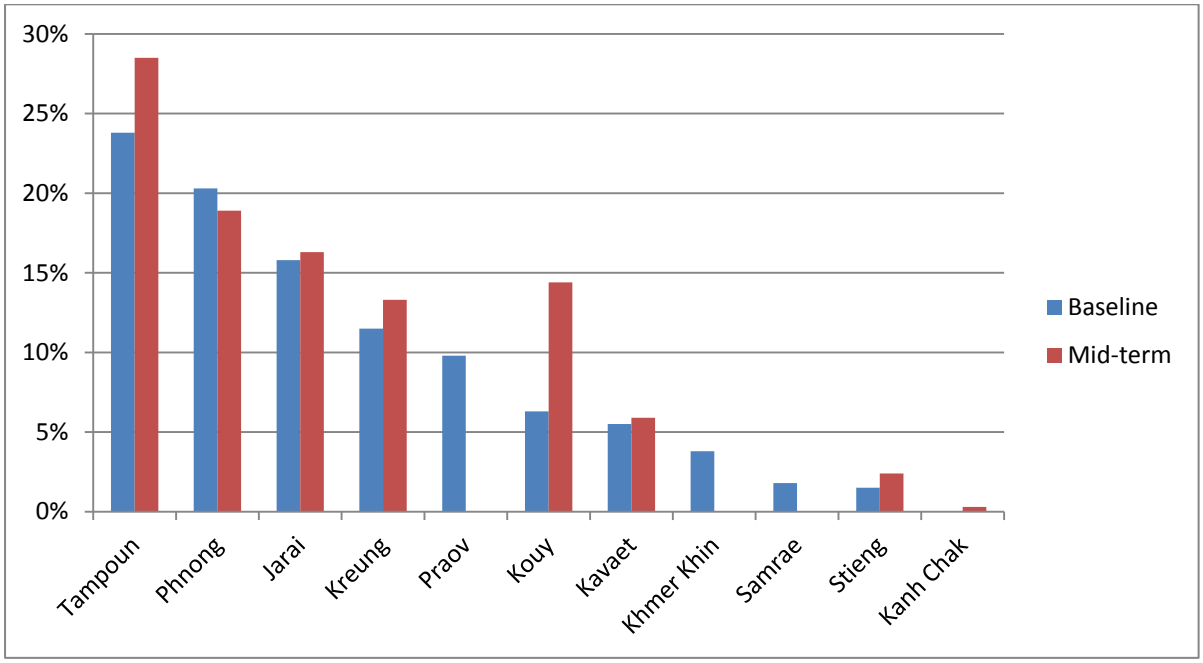



Table 5 compares some key socio-demographic characteristics of the interviewed WRA between the baseline and midterm surveys. The mean age in both surveys was approximately 30 years old. The percentage distribution of WRA by age group as well as highest level of education was similar in both surveys. The percentage distribution of WRA by religious group was also comparable between the two surveys, with a large majority (over 80%) of them being Buddhist. However, the percentage distribution by marital status was significantly different between both surveys. Married WRA represented 77.4% of the midterm sample, compared with only 72.6% at the baseline. Single WRA accounted for 17.6% of all the WRA at the midterm survey and 21.3% at the baseline survey, with only 1.2% and 0.1% respectively single WRA living with a sexual partner. 55% of the women at the midterm survey (compared with 60.9% at the baseline) reported to have had always lived in their current village. Others moved in and out for work and other reasons, including marriage and migration for work.

Based on the six Washington Group questions on functional impairment/disability, 18.4% of the midterm sample reported having at least some functional impairment (some difficulty) and only 0.6% had severe impairment or disability (a lot of difficulty or cannot do). These figures are significantly lower than those at the baseline; 44% of all WRA having some functional impairment

and 4.7% having severe impairment or disability. In line with the baseline, the most common functional impairments were visual and related to memory and concentration.

Table 5: Women's socio-demographic characteristics

| Key variables | Baseline n=2,763 | Midterm n=3,250 | p-value |
|---|---|---|---|
| Mean age in years (Std. Deviation) | 29.9 (9.364) | 30.1 (9.327) | NS |
| % distribution of WRA by age group | | | |
| • Teenagers (15-19 years) | 15.1 | 14.2 | NS |
| • 20s (20-29 years) | 37.0 | 36.5 | |
| • 30s (30-39 years) | 28.0 | 29.4 | |
| • 40s (40-49 years) | 19.8 | 19.9 | |
| % distribution of WRA by highest level of education | | | |
| • No education | 23.5 | 21.8 | NS |
| • Primary or equivalent | 46.1 | 47.7 | |
| • Lower secondary or equivalent | 19.5 | 20.5 | |
| • Upper secondary or equivalent | 9.1 | 8.6 | |
| • University or higher education | 1.9 | 1.4 | |
| % distribution of WRA by religious group | | | |
| • Buddhist | 82.9 | 86.4 | NS |
| • Muslim | 5.5 | 5.1 | |
| • Christian | 0.9 | 1.5 | |
| • Others | 10.6 | 7.0 | |
| % distribution of WRA by marital status | | | |
| • Single, not in a regular relationship | 14.8 | 16.3 | p<0.001 |
| • Single with boyfriend living elsewhere | 6.4 | 0.9 | |
| • Single living with a partner | 0.1 | 0.3 | |
| • Married | 72.6 | 77.4 | |
| • Divorced/Separated | 3.1 | 2.9 | |
| • Widowed | 3.0 | 2.1 | |
| % distribution of WRA always living in the area | 60.9 | 55.0 | p<0.05 |
| % distribution of WRA having disability | | | |
| • Having at least some impairment | 44.0 | 18.4 | p<0.001 |
| • Having severe impairment or disability | 4.7 | 0.6 | |

## 3.2 Family planning

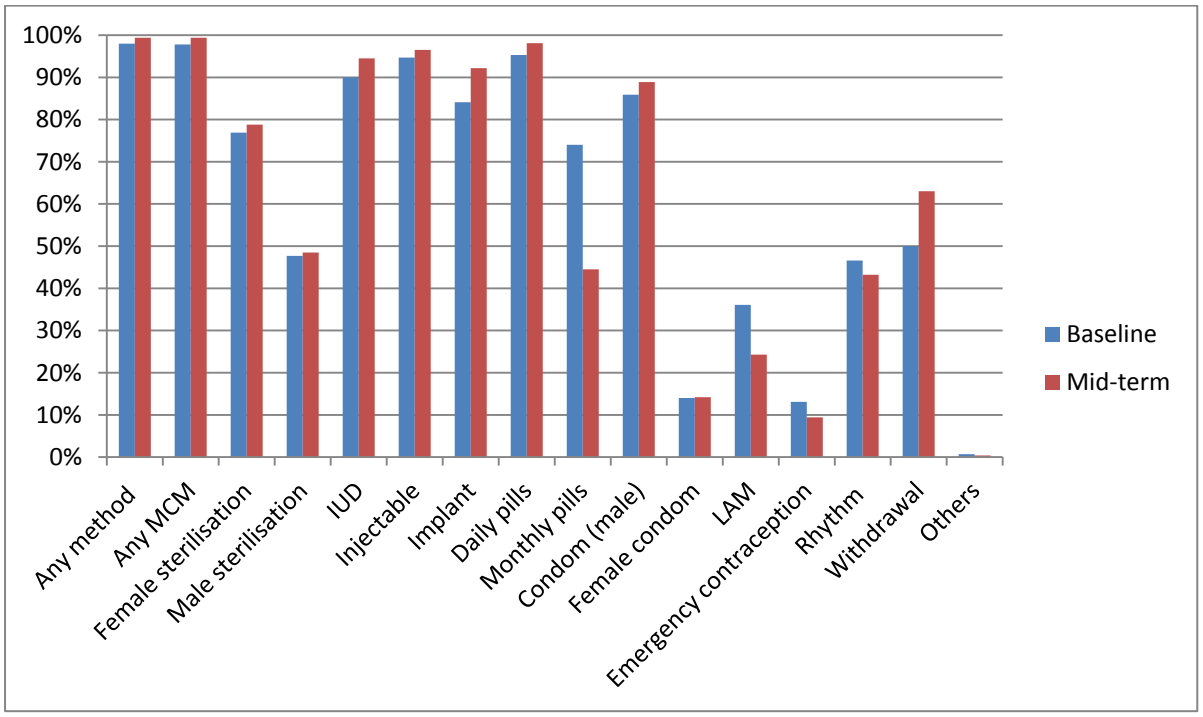
In line with Cambodia Demographic and Health Survey (CDHS) and the baseline survey, for this midterm survey, researchers also collected data on 11 modern contraceptive methods (MCM): female and male sterilisation, intra-uterine device (IUD), injectable, implant, daily pills, monthly pills, male condoms, female condoms, the lactational amenorrhea method (LAM), and emergency contraception. Data were also collected on two traditional methods: rhythm or periodic abstinence and withdrawal.

To collect data on knowledge of contraceptive methods, the interviewer described each method, according to the definitions provided in the questionnaire, and probed if necessary, rather than just reading the list of methods. This follows the method used for the CDHS.

### 3.2.1 Contraceptive methods

Figure 2 shows the percentage of knowledge of contraceptive methods among all WRA at both surveys. In general, knowledge of at least one contraceptive method and one MCM was nearly universal among all women. However, knowledge of individual methods varied greatly. Women's knowledge of male sterilisation, female condoms, LAM, emergency contraception and the two traditional methods was relatively low. Knowledge on monthly pills significantly declined from 74% at the baseline to less than 45% at the midterm survey.

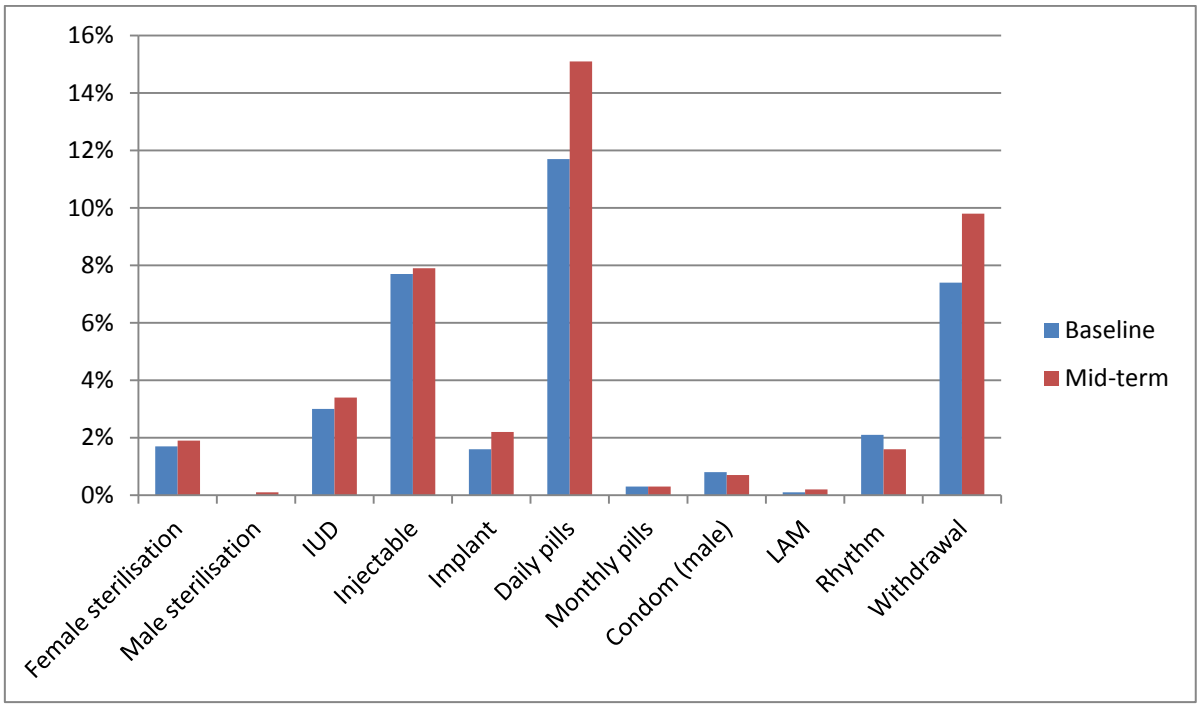
Figure 2: Percentage of women's knowledge of contraceptive methods




Of all the interviewed WRA at the midterm survey, 42.4% reported to be using a contraceptive method, compared with 35.6% at the baseline.

Figure 3 shows the percentage of the current use of contraception disaggregated by method among all WRA in baseline and midterm surveys. Similarly in both surveys, the most commonly used MCM is daily pills, followed by injectable and IUD. Surprisingly, withdrawal, a traditional method which ranked third among all the methods at the baseline jumped to second at the midterm.

Figure 3: Percentage of WRA using contraception disaggregated by method




### 3.2.2 Modern contraceptive methods

*The percentage of target population using modern contraception (MERI indicator O2.1) here refers to the percentage of all WRA using any MCM in the two component areas.*

Table 6 compares the percentage of all WRA using MCM, disaggregated by women's vulnerability group (ethnic minorities, women living with some functional impairment, and the poor) between baseline and midterm surveys. The percentage of all WRA using any MCM significantly increased ($p<0.001$) from 26.8% at the baseline to 31.3% at the midterm survey. The MCM user rate among ethnic minority and poor WRA also increased significantly ($p<0.05$) from 33.4% and 28.7% at the baseline to 41.4% and 33.2% at the midterm survey, respectively. The MCM user rate among WRA with some functional impairment also increased between both surveys, but the increase was not significant statistically.

Table 6: Percentage of all WRA using MCM by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA using any MCM | n=2,763<br>26.8 | n=3,250<br>31.3 | p<0.001 |
| % of ethnic minority WRA using any MCM | n=455<br>33.4 | n=473<br>41.4 | p<0.05 |
| % of WRA with some functional impairment using any MCM | n=1,215<br>28.2 | n=597<br>32.0 | NS |
| % of poor WRA using any MCM | n=840<br>28.7 | n=921<br>33.2 | p<0.05 |

Figure 4 presents a graphical comparison of the percentage of all WRA using MCM between baseline and midterm surveys. It clearly shows that the lowest value within the 95% CI at the midterm is above (not overlapping with) the highest value at the baseline, indicating a significant increase in the percentage of all WRA using MCM between both surveys.

Figure 4: Comparison of percentage of WRA using MCM between baseline and midterm surveys

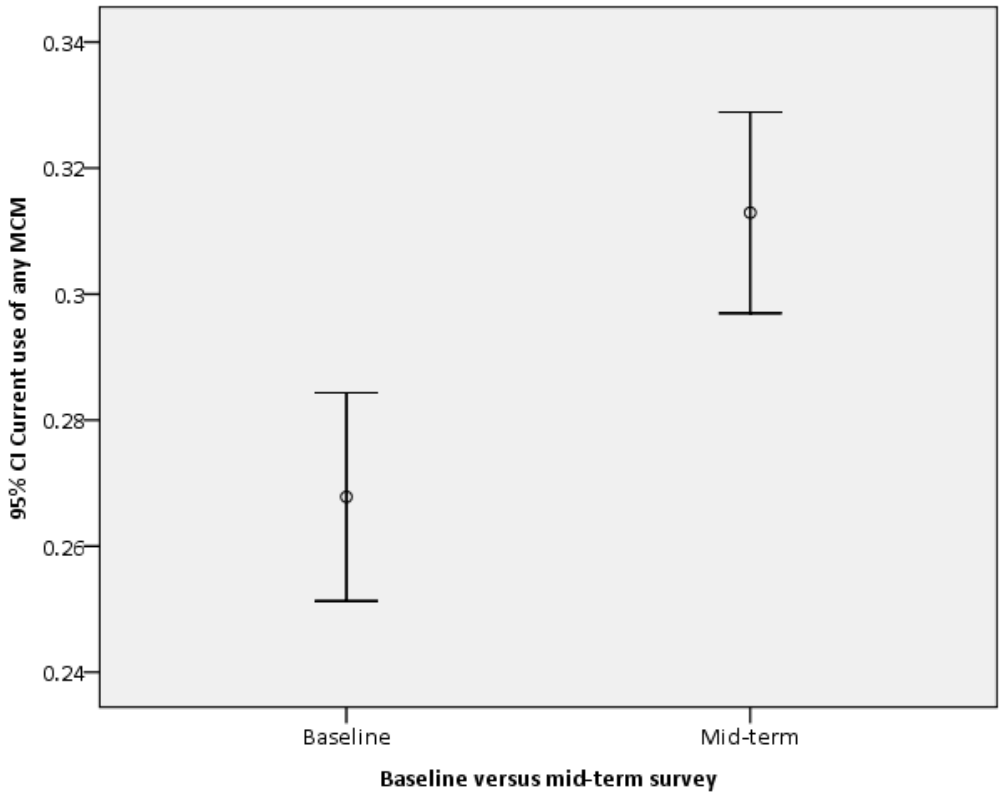



Figure 5: Percentage of WRA using MCM disaggregated by province

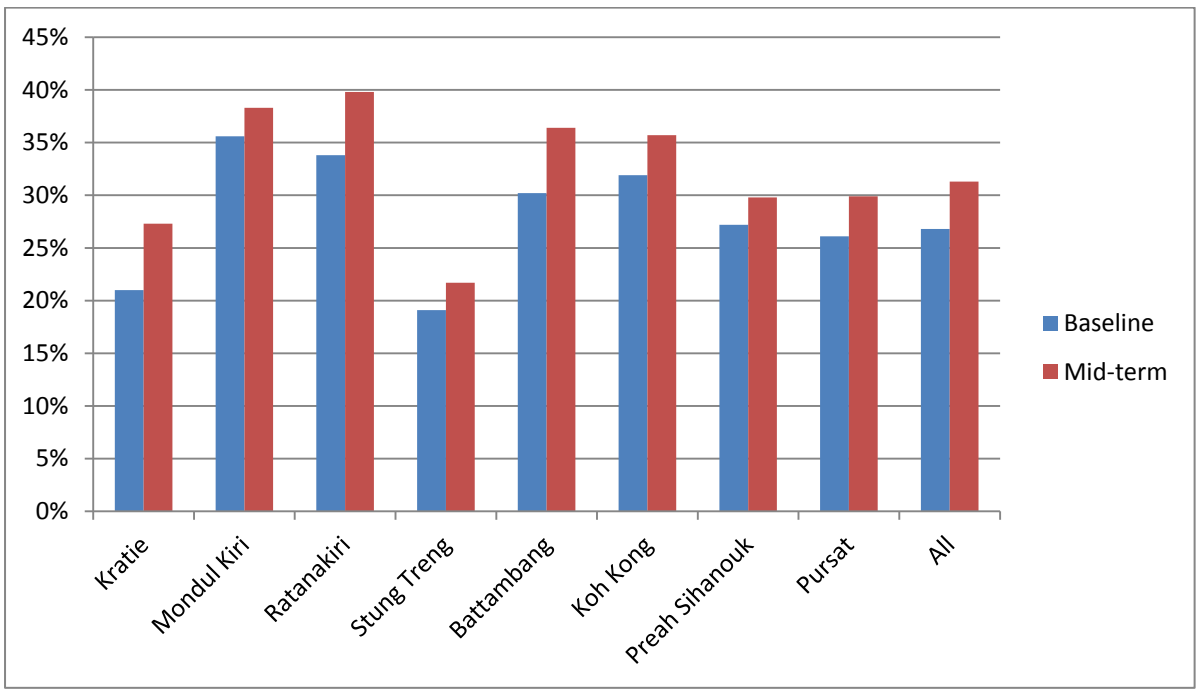
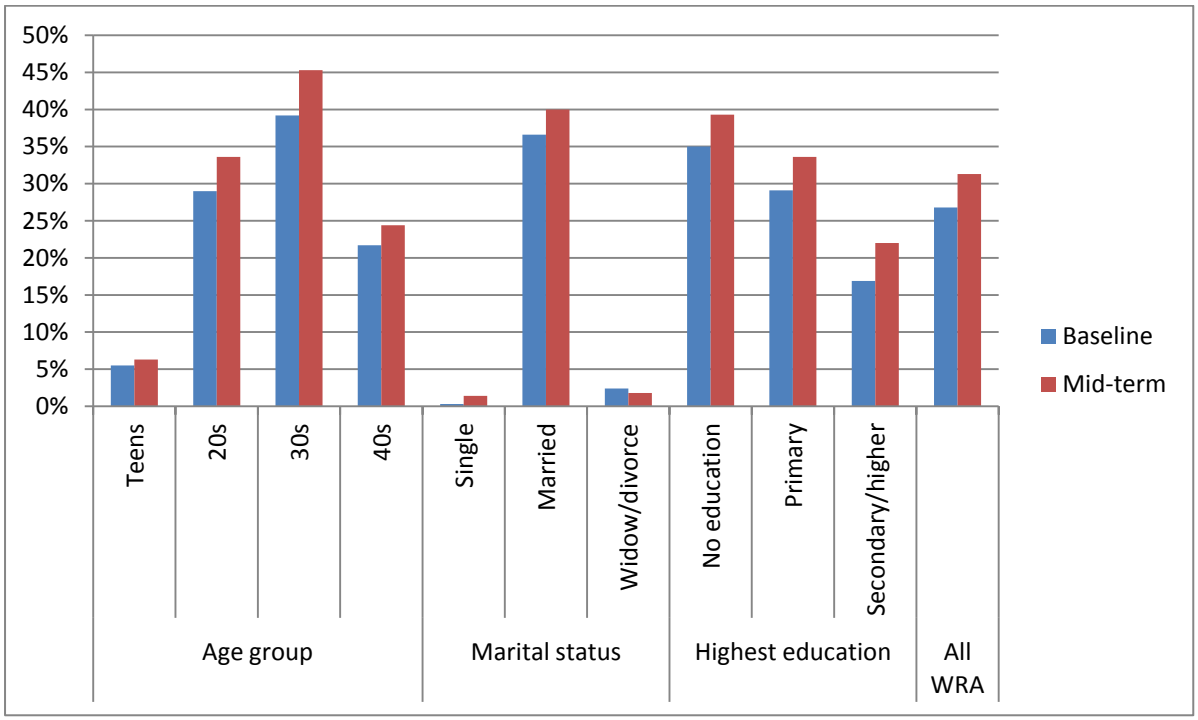


Figure 5 shows the percentage of WRA using MCM across the eight studied provinces at the midterm and baseline surveys. The percentage of WRA using MCM in all provinces was higher at the midterm survey than at the baseline. The highest percentage was consistently found in Mondul Kiri and Ratanak Kiri province, whereas the lowest percentage was found in Kratie and Stung Treng in both surveys.

Figure 6 shows the percentage of WRA using MCM disaggregated by age, marital status and highest level of education group. By age group, the highest percentage was found among group of 30s, followed by group of 20s. The lowest percentage was found among teenagers. Unsurprisingly, the WRA using MCM were almost exclusively married WRA. Only very few unmarried WRA (single and widowed/divorced WRA) were using MCM. Surprisingly, the percentage of WRA using MCM declines by their highest level of education –the higher education level the lower percentage.

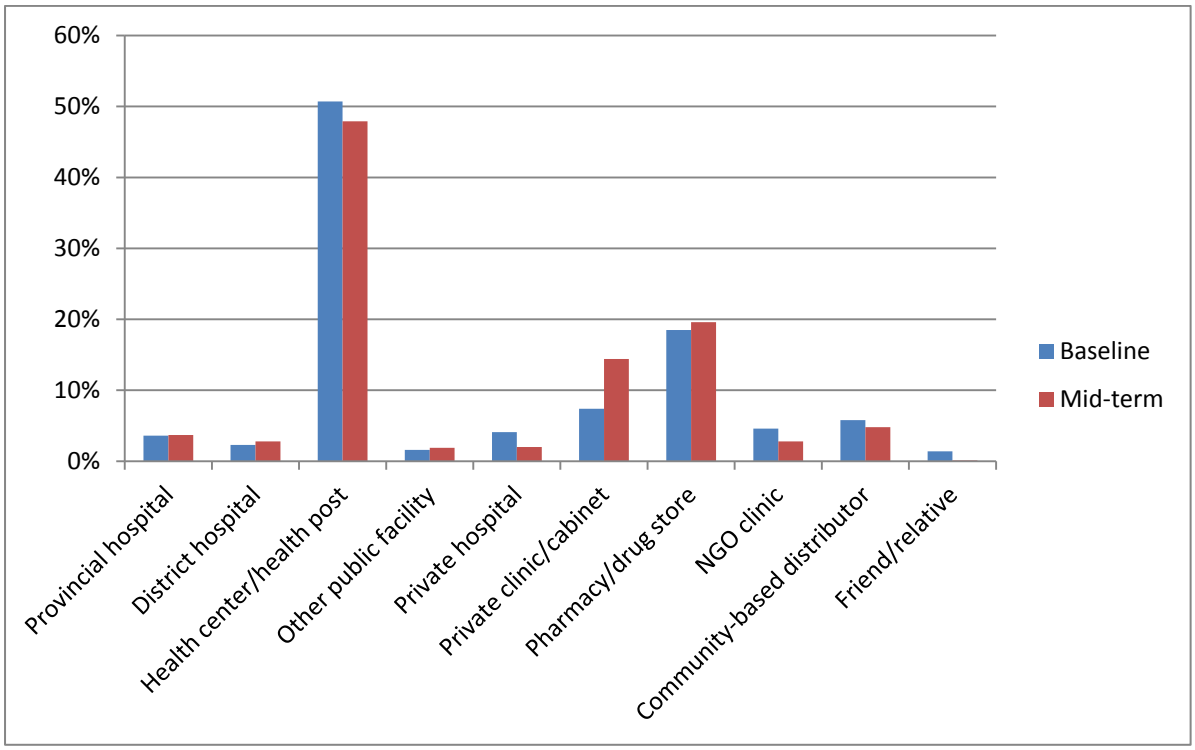
Figure 6: Percentage of WRA using MCM disaggregated by age, marital status and highest level of education group




It is to note that PSL indicator on current use of MCM refers to the percentage of all WRA currently using any MCM, whereas the national indicator is defined as the percentage of *married* WRA currently using any MCM. Our survey data shows that the percentage of *married* WRA currently using any MCM was 36.6% and 40.7% at the baseline and midterm respectively, compared with the national coverage (41% according to HIS 2015 [4] and 38.8% according to CDHS 2014 [3]) as presented in Table 2.

Figure 7 demonstrates the percentage distribution of any MCM use by source. The main source of MCMs in both surveys was a health centre/health post (representing approximately half of all the MCM use), followed by pharmacies/drug stores (accounting for nearly one fifth of all the MCM use) and private clinic/cabinet. The latter accounted for nearly 15% of all the MCM use at the midterm survey, compared with only less than 10% at the baseline.

Figure 7: Percentage distribution of any MCM use by source




### 3.2.3 Long acting or permanent contraceptive methods

*The percentage of women (MCM users) using long acting or permanent method (LAPM) of family planning (MERI indicator O4.4) here refers to the percentage of all MCM users using LAPM, including female and male sterilization, IUD and implant in the two component areas.*

Table 7 compares the percentage of LAPM use among all WRA using MCM with disaggregation by their vulnerability group between baseline and midterm surveys. The percentage of LAPM use among WRA using MCM was slightly higher at the midterm survey (24.2%) than at the baseline (23.5%), but the difference was not significant statistically. The difference among all the vulnerable groups also was not significant statistically.

Table 7: Percentage of LAPM use among all MCM users disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all MCM users using LAPM | n=740<br>23.5 | n=1,017<br>24.2 | NS |
| % of ethnic minority MCM users using LAPM | n=152<br>9.9 | n=196<br>7.1 | NS |
| % of MCM users with some functional impairment using LAPM | n=343<br>24.5 | n=191<br>30.9 | NS |
| % of poor MCM users using LAPM | n=241<br>22.0 | n=306<br>22.2 | NS |

Disaggregation by province shows a great variation between the eight provinces. The three provinces with the highest percentage of LAPM use at both surveys were Battambang, Koh Kong and Kratie, whereas the lowest percentages were found in Mondul Kiri, Ratanak Kiri and Stung Treng

provinces. However, comparison between both surveys shows largest increase in Mondul Kiri and Battambang (Figure 8).

Figure 8: Percentage of LAPM use among MCM users disaggregated by province

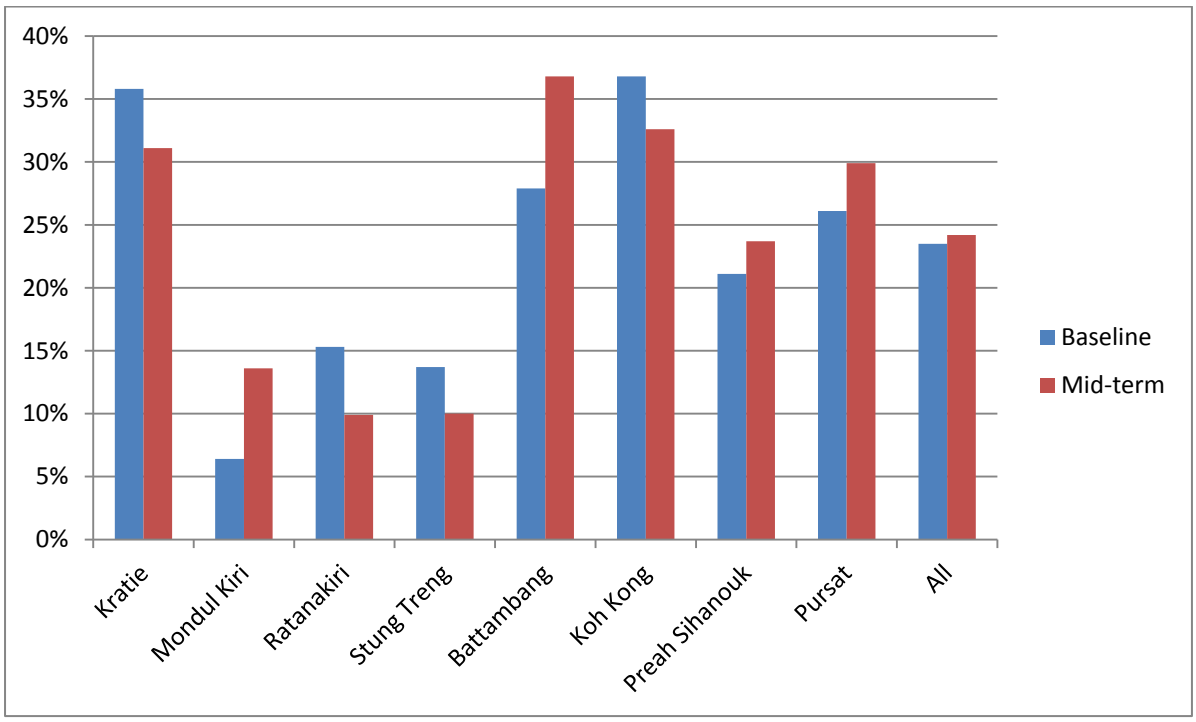



Figure 9 presents the LAPM use disaggregated by age, marital status and highest level of education at midterm and baseline surveys. The percentage of LAPM use increases by age group –the older the higher percentage of LAPM use. By marital status, no single MCM user reported to have used LAPM, compared with over 20% among married MCM users. Surprisingly, 75% (3 persons) and 100% (3 persons) of all MCM users who were widowed/divorced WRA reported to have used LAPM at the baseline and midterm survey, respectively. The percentage of LAPM use is comparable among educational groups. However, this data must be interpreted with caution, as the number of cases is too small and this study is not designed for such level of disaggregation.

Among all the interviewed WRA at the midterm survey, 19.8% reported to have had ever used a family planning method before, but decided to stop using it at the time of interview. The major reasons why they did so are presented in Table 8. The major reason was because they wanted to get pregnant (34%), followed by side-effects (25%) and inconvenience (12.9%). The misconception (e.g. afraid of not being able to have a child later) and the influence by their husband were negligible (only 2.3% and 3.5% respectively).

Figure 9: Percentage of LAPM use among MCM users disaggregated by age, marital status and highest level of education group

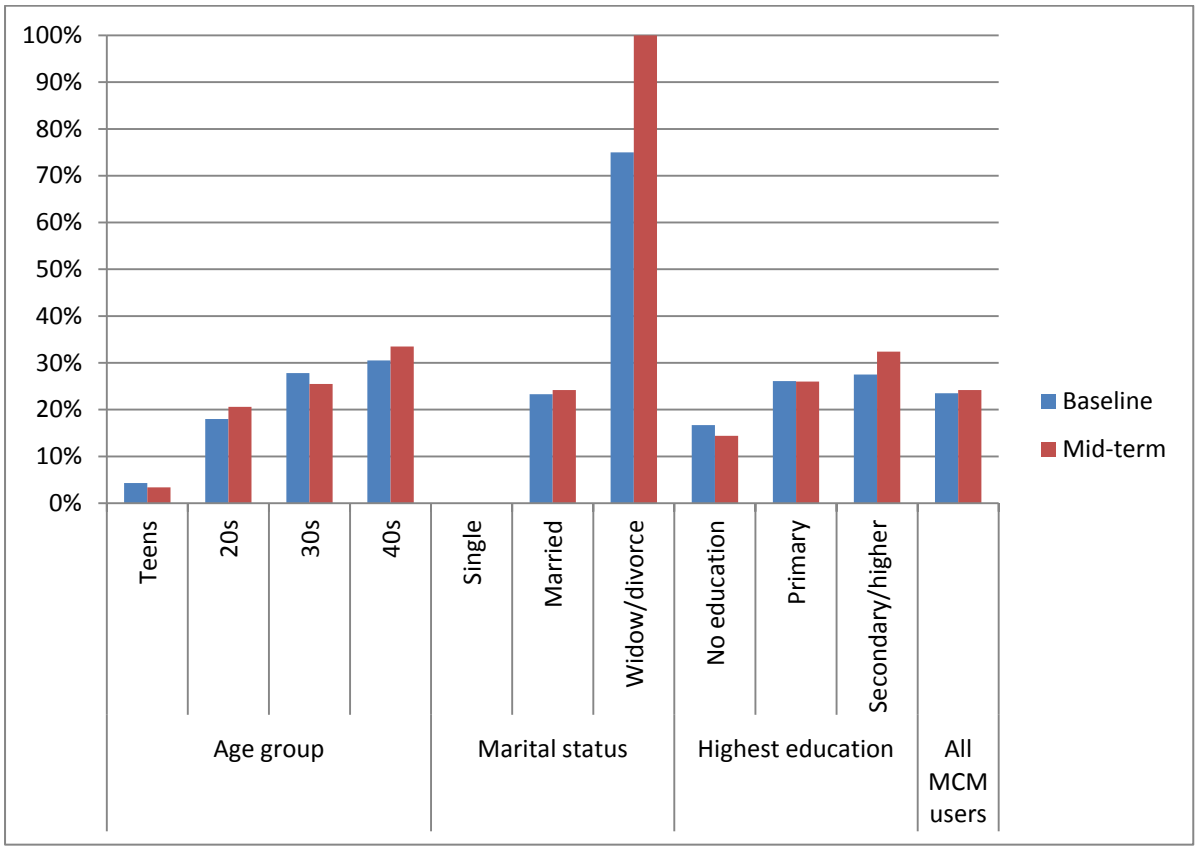



Table 8: Major reasons why former family planning users stop using a family planning

| Reasons | Number | Frequency |
|---|---|---|
| I wanted to get pregnant | 225 | 34.00% |
| I felt uncomfortable with that method (because of side effect) | 165 | 25.00% |
| The method was not convenient for me | 85 | 12.90% |
| My husband/partner did not want to use it | 23 | 3.50% |
| I was afraid of not being able to have a child later | 15 | 2.30% |
| Other reasons | 148 | 22.40% |
| All MCM users | 661 | 100.00% |

## 3.3 Pregnancy, antenatal care and delivery

Since all the MERI indicators related to pregnancy and child birth focus on the four north-east provinces: Kratie, Mondul Kiri, Ratanak Kiri and Stung Treng (component 1 area), we also focus our analysis on the data from component 1 area. Where necessary, data of component 2 area are used for comparison, using difference-in-difference methods.

Table 9 presents the pregnancy experience of the interviewed WRA in component 1 area at the baseline and midterm surveys. Of all the interviewed WRA, 1,104 (78.2%) and 1,333 (80.2%) reported at least one pregnancy at the baseline and midterm survey respectively. Similarly in both surveys, the average number of pregnancies per woman was nearly four, of which close to three ended in a live birth, and the rest ended in miscarriage, abortion or stillbirth.

There were 88 WRA (8%) and 114 WRA (8.4%) among all WRA in component 1 area who reported that they were pregnant at the time of interview at the baseline and midterm survey, respectively. The mean age of the pregnancy was around six months in both surveys.

There were 379 (26.8%) and 424 (25.5%) of all WRA in component 1 area who reported at least one live birth in the 24 months preceding the survey at the baseline and midterm survey, respectively. The difference is not significant statistically.

Table 9: Pregnancy experience

| **Key variables** | **Baseline n = 1,412** | **Midterm n = 1,663** | **p-value** |
|---|---|---|---|
| Number of women with at least one pregnancy (% within survey) | 1,104 (78.2) | 1,333 (80.2) | NS |
| Average number of pregnancies/woman or fertility rate (Std. Deviation) | | | |
| • All pregnancies | 3.72 (2.609) | 3.78 (2.577) | NS |
| • Pregnancies ended in a live birth | 2.81 (1.845) | 2.85 (1.978) | NS |
| • Pregnancies ended in a stillbirth | 0.16 (0.576) | 0.20 (0.605) | NS |
| • Pregnancies ended in a miscarriage/abortion | 0.64 (0.143) | 0.67 (1.176) | NS |
| Number of women currently pregnant (% within survey) | 88 (8.0) | 114 (8.6) | NS |
| Mean age (in months) of the current pregnancy (Std. Deviation) | 6.35 (2.679) | 5.54 (2.339) | NS |
| Women with live birth experience in the past 24 months (% within survey) | | | |
| • Within the past 12 months | 200 (14.1) | 247 (14.9) | NS |
| • Over 12 months up to 24 months | 179 (12.7) | 177 (10.6) | NS |
| • All in the past 24 months | 379 (26.8) | 424 (25.5) | NS |

### 3.3.1 Antenatal care

Among all WRA with a live birth in the past 24 months in component 1 area, 83.4% and 90.8% of them reported to have attended at least one antenatal care consultation (ANC) with any type of providers at baseline and midterm surveys, respectively. Of these ANC visits, over 90% were with a skilled or trained provider, mainly midwives, with a large majority carried out in public health facilities, mainly in health centres/health posts.

*The percentage of women attending four or more antenatal care consultations (ANC4) (MERI indicator O4.2) here refers to the percentage of all WRA with a live birth in the past 24 months attending ANC4 with a skilled birth attendant at a facility or during outreach sessions in component 1 area or ANC4 coverage*.

Table 10 compares ANC4 coverage among all WRA with a live birth in the past 24 months, disaggregated by vulnerability group between baseline and midterm surveys. The ANC4 coverage among all WRA with a live birth in the past 24 months was significantly ($p<0.05$) higher at the midterm (55.4%) than at the baseline (47%). However, this achieved coverage (at the midterm in component 1 area) remains relatively lower than the coverage in component 2 area (81.3%) and the national coverage (71.5% according to HIS 2015) as shown in Table 2. Comparison of the ANC4 coverage among each of the three vulnerable women groups between the two surveys also shows an increase, but such increase is statistically significant ($p<0.05$) only for ethnic minority group.

Table 10: ANC4 coverage among all WRA with a live birth in the past 24 months disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA with a live birth in the past 24 months attending ANC4 | n=379<br>47.0 | n=424<br>55.4 | p<0.05 |
| % of ethnic minority WRA with a live birth in the past 24 months attending ANC4 | n=151<br>30.5 | n=130<br>46.9 | p=0.05 |
| % of WRA with a live birth in the past 24 months and some functional impairment attending ANC4 | n=166<br>46.4 | n=55<br>58.2 | NS |
| % of poor WRA with a live birth in the past 24 months attending ANC4 | n=129<br>44.2 | n=136<br>55.1 | NS |

Figure 10 shows ANC4 coverage disaggregated by province at midterm and baseline survey. Comparison between the two surveys shows an increase in ANC4 coverage in all provinces, with the largest increase observed in Mondul Kiri, which makes its ANC4 coverage the highest among the four provinces. In Stung Treng, the ANC4 coverage remains more or less stable between the two surveys, with this province falling from the highest at the baseline to the second place at the midterm survey. While there was an increase between the two surveys, the ANC4 coverage in Ratanak Kiri remained the lowest among the four provinces.

Figure 11 presents the ANC4 coverage with disaggregation by age and highest level of education at baseline and midterm surveys. The ANC4 coverage is comparable among the four age groups with the highest coverage among 20s and 30s, and lowest among 40s. The ANC4 coverage by the highest level of education shows a sharp increasing trend –the higher the level of education, the higher percentage of ANC4 use.

Figure 10: ANC4 coverage disaggregated by province

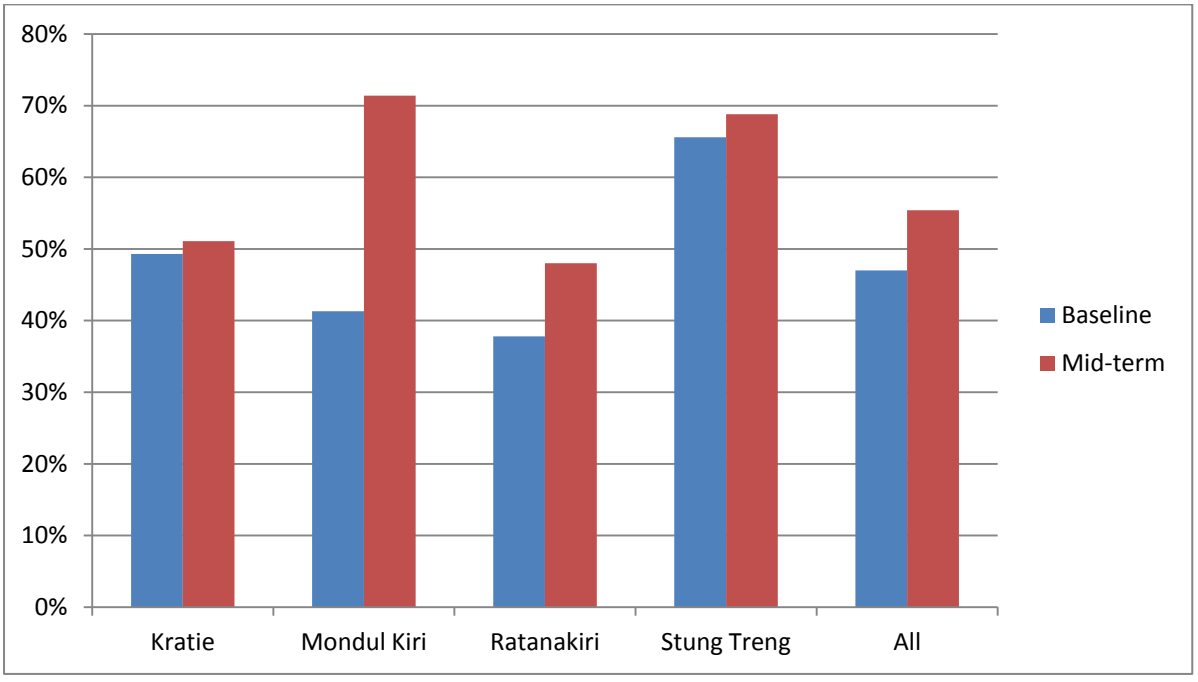
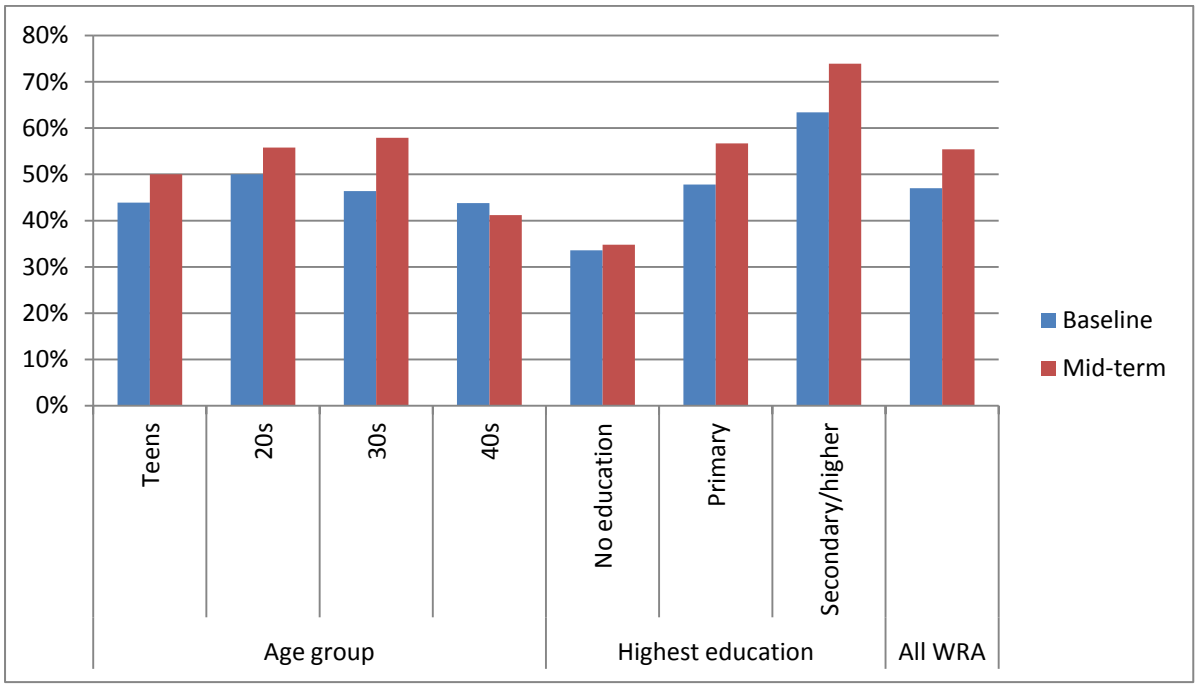


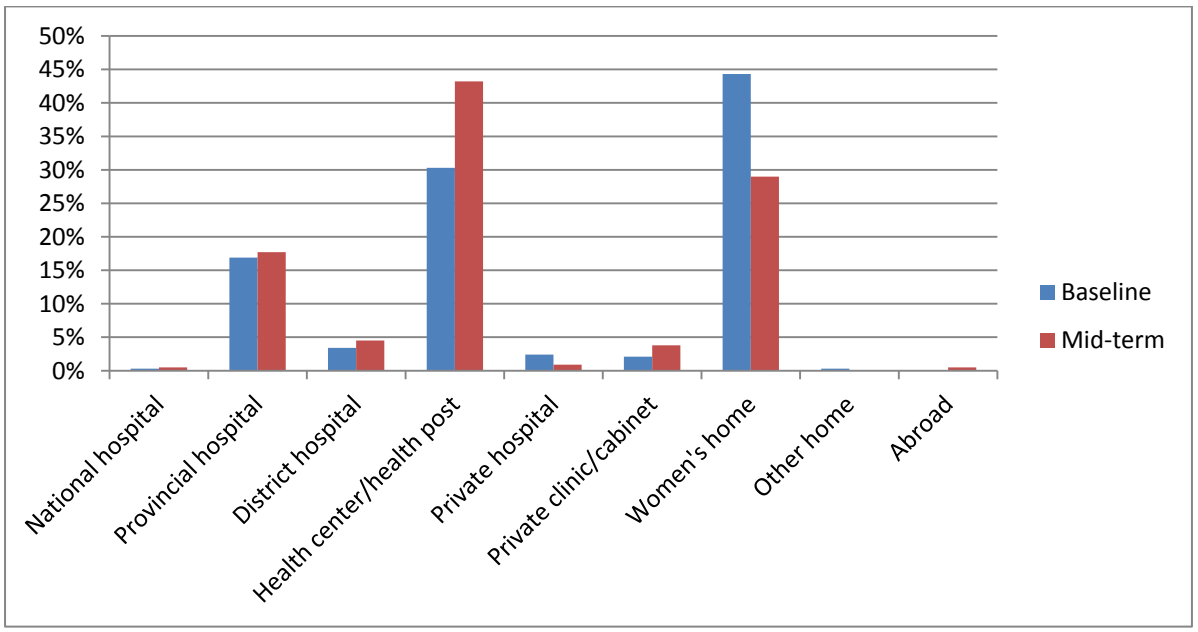
Figure 11: ANC4 coverage disaggregated by age and highest level of education group




### 3.3.2 Delivery

Figure 12 presents the percentage distribution of the reported births in the past 24 months by location or type of facility at the baseline and midterm surveys. Similarly for both surveys, the three main locations where WRA gave births were health centres/health posts, women's home and provincial hospitals. While births at health centres/health posts increased sharply, births at women's home declined significantly between both surveys.

Figure 12: Percentage distribution of births in the past 24 months by location




*The percentage of women delivering in a health facility with a skilled birth attendant (SBA) or institutional delivery (MERI indicator O1.2) here refers to the percentage of the most recent live births in the past 24 months in component 1 area attended by a trained skilled provider in a public or private health facility in the country or abroad.*

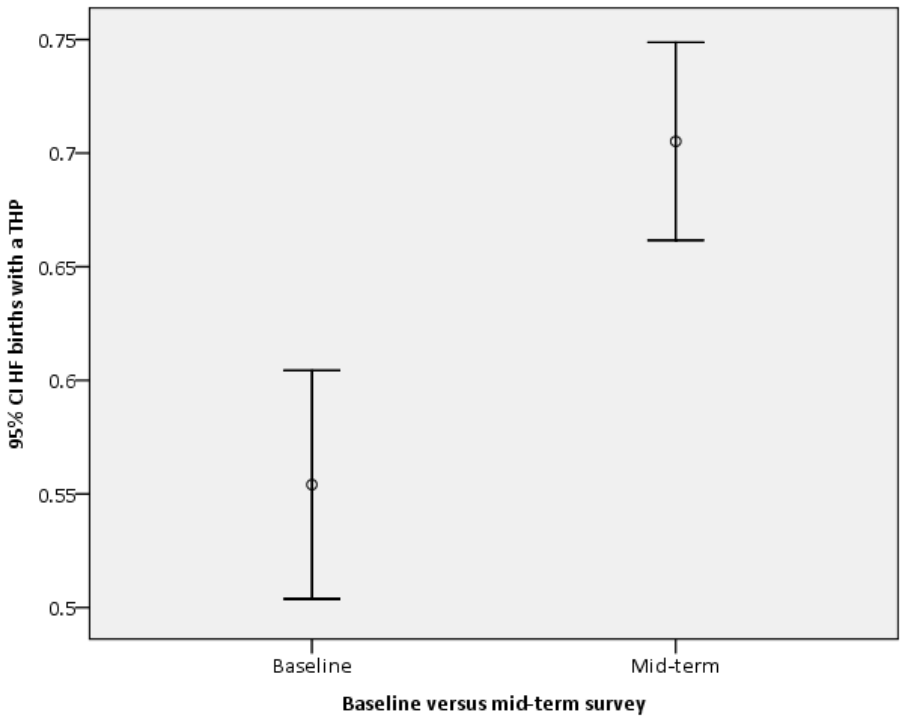
Table 11 compares the percentage of WRA delivering in a health facility with SBA, disaggregated by their vulnerability group between baseline and midterm surveys. The percentage of WRA delivering in a health facility with SBA was significantly (p<0.001) higher at the midterm (71.0%) than at the baseline (55.4%). Compared with the coverage in component 2 area of 94.7% and the national coverage of 83.2% (according to CDHS 2014) as presented in Table 2, the achieved coverage of institutional delivery (at the midterm in component 1 area) remains relatively low. Comparison of the percentage of WRA delivering in a health facility with SBA among each of the three vulnerable WRA groups between the two surveys also shows a significant increase.

Table 11: Percentage of WRA delivering in a health facility with SBA disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA delivering in a health facility with SBA | n=379<br>55.4 | n=424<br>71.0 | p<0.001 |
| % of ethnic minority WRA delivering in a health facility with SBA | n=151<br>37.1 | n=130<br>53.8 | p<0.01 |
| % of WRA with some functional impairment delivering in a health facility with SBA | n=166<br>56.6 | n=55<br>78.2 | p<0.01 |
| % of poor WRA delivering in a health facility with SBA | n=129<br>46.5 | n=136<br>68.4 | p<0.001 |

Figure 13 clearly shows that the lowest value within the 95% CI at the midterm is above (not overlapping with) the highest value at the baseline survey, indicating a significant increase in the percentage of all WRA delivering in a health facility with SBA between both surveys.

Figure 13: Comparison of percentage of women delivering in a health facility with SBA between baseline and midterm surveys




If we consider component 1 as intervention area where PSL has interventions to increase births in health facilities with SBA and component 2 as control area, we can run difference-in-difference (did) analysis comparing the outcome of interest (the percentage of WRA delivering in a health facility with SBA) between the intervention and control areas, within time of intervention “t” (before =

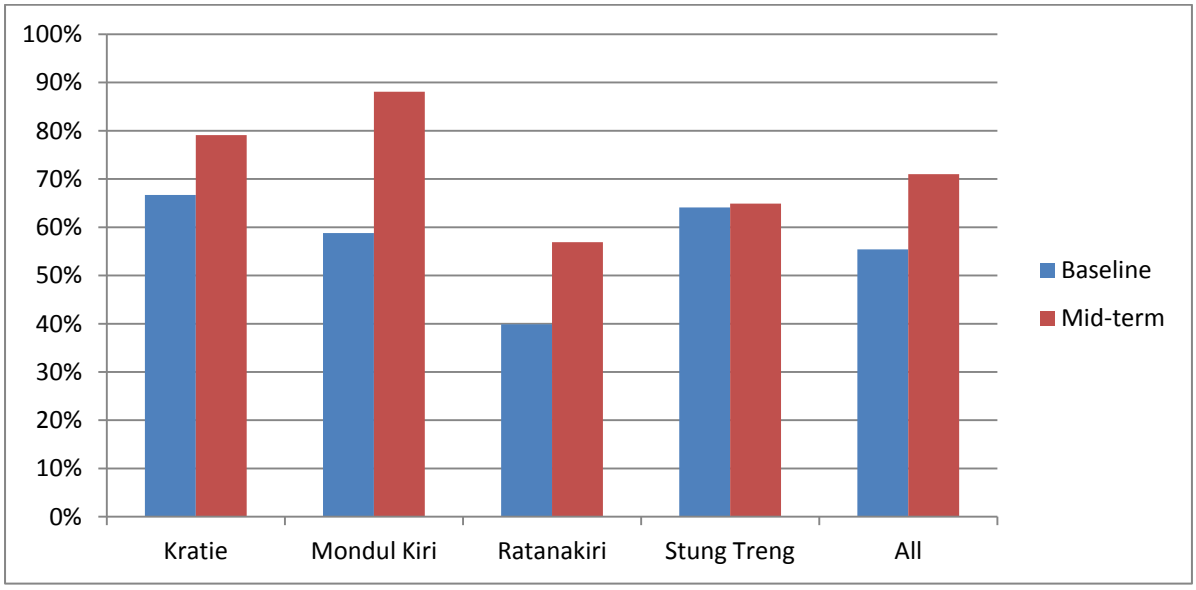
baseline and after = midterm). The results (Table 12) show that the p-value for the intervention effect or did estimator is <0.01, indicating the positive and significant effect of the intervention on the outcome.

Table 12: Difference-in-difference analysis of the proportion of WRA delivering in a health facility with SBA between baseline and midterm surveys and between component 1 and 2 areas

| hfbirth | Coef. | Robust Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| survey | .0364412 | .0205175 | 1.78 | 0.076 | -.0038054 | .0766878 |
| component | -.3563046 | .0307712 | -11.58 | 0.000 | -.4166645 | -.2959446 |
| did | .1146578 | .0395766 | 2.90 | 0.004 | .0370254 | .1922902 |
| _cons | .9103943 | .0171226 | 53.17 | 0.000 | .876807 | .9439815 |

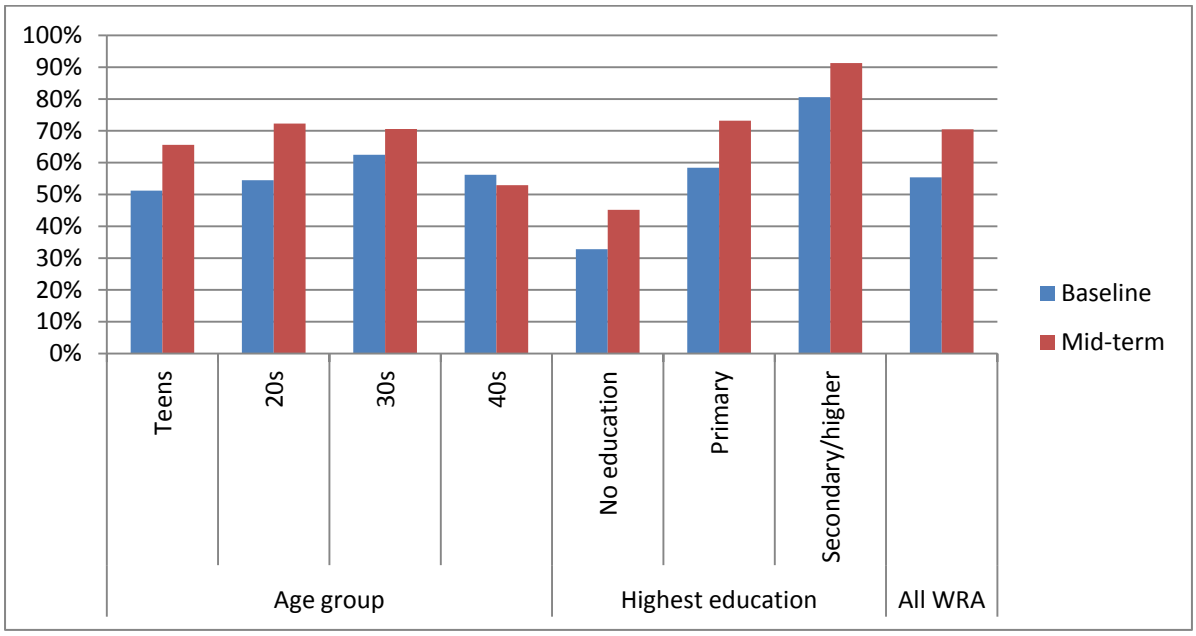
Figure 14 shows the percentage of WRA delivering in a health facility with SBA, disaggregated by province at midterm and baseline survey. Comparison between the two surveys shows an increase in all provinces, with the largest increase observed in Mondul Kiri. In Stung Treng, the percentage of WRA delivering in a health facility with SBA remains more or less stable between the two surveys. While there has been an increase between the two surveys, the percentage of WRA delivering in a health facility with SBA in Ratanak Kiri remains the lowest among the four provinces. This pattern is similar to the one observed for the ANC4 coverage above (Figure 10).

Figure 14: Percentage of WRA delivering in a health facility with SBA disaggregated by province




Similar to what observed for ANC4 coverage above, disaggregation by age and highest level of education group (Figure 15) shows that the percentage of WRA delivering in a health facility with SBA is comparable among the four age groups with the highest coverage among 20s and 30s, and lowest among 40s. The percentage of WRA delivering in a health facility with SBA sharply increased by their highest level of education –the higher the level of education, the higher percentage.

Figure 15: Percentage of WRA delivering in a health facility with SBA disaggregated by age and highest level of education group




*The percentage of women delivering with SBA (MERI indicator I6.5) here refers to the percentage of the most recent live births in the past 24 months in component 1 area attended by a trained skilled provider regardless the delivery location.*

Table 13 compares the percentage of WRA delivering with SBA, disaggregated by their vulnerability group between baseline and midterm surveys. The percentage of WRA delivering with SBA was significantly (p<0.001) higher at the midterm (72.2%) than at the baseline (55.8%). However, this achieved coverage (at midterm in component 1 area) remains relatively lower than the coverage in component 2 area (96.5%) and the national coverage (89.0% according to CDHS 2014 or 85.2% according to HIS 2015), as presented in Table 2. Comparison of the percentage of WRA delivering with SBA among each of the three vulnerable women groups between the two surveys also shows a significant increase (p=<0.01).

Table 13: Percentage of WRA delivering with SBA disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA delivering with SBA | n=379<br>55.8 | n=424<br>72.2 | p<0.001 |
| % of ethnic minority WRA delivering with SBA | n=151<br>38.4 | n=130<br>54.6 | p<0.01 |
| % of WRA with some functional impairment delivering with SBA | n=166<br>59.0 | n=55<br>78.2 | p=0.01 |
| % of poor WRA delivering with SBA | n=129<br>52.7 | n=136<br>68.4 | p<0.01 |

Figure 16: Comparison of percentage of women delivering with SBA between baseline and midterm surveys

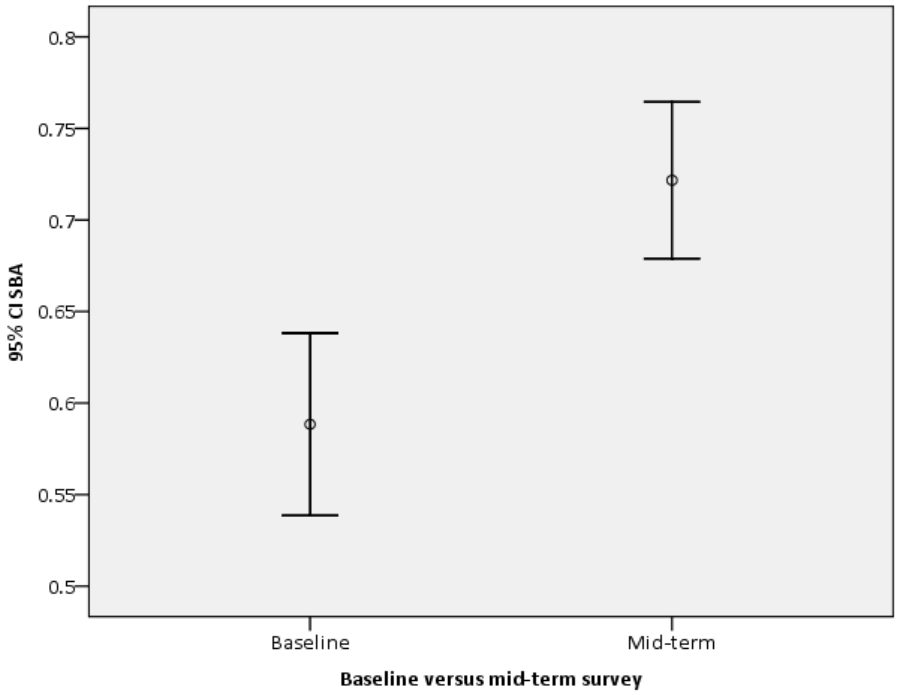



Figure 16 clearly shows that the lowest value within the 95% CI at the midterm is above (not overlapping with) the highest value at the baseline, indicating a significant increase in the percentage of all WRA delivering with SBA.

As for the percentage of WRA delivering in a health facility with SBA above, we can run difference-in-difference (did) analysis comparing the outcome of interest (the percentage of WRA delivering with SBA) between the intervention and control areas, within time (before and after) of intervention "t". The results (Table 14) show that the p-value for the intervention effect or did estimator is =0.001, indicating the positive and significant effect of the intervention on the outcome.

Table 14: Difference-in-difference analysis of the proportion of WRA delivering with SBA between baseline and midterm surveys and between component 1 and 2 areas

| sba | Coef. | Robust Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| survey | .0147362 | .0160648 | 0.92 | 0.359 | -.0167761 | .0462484 |
| component | -.3614303 | .0284964 | -12.68 | 0.000 | -.4173281 | -.3055325 |
| did | .1185714 | .037065 | 3.20 | 0.001 | .0458656 | .1912773 |
| _cons | .9498208 | .0130879 | 72.57 | 0.000 | .9241479 | .9754937 |

Figure 17 presents the percentage of WRA delivering with SBA, disaggregated by province at midterm and baseline survey. Comparison between the two surveys shows an increase in Kratie, Mondul Kiri and Ratanak Kiri provinces, but a decrease in Stung Treng. Although increasing between the two surveys, the percentage of WRA delivering with SBA in Ratanak Kiri remained the lowest among the four provinces, as observed for the ANC4 coverage and institutional delivery above.

Figure 17: Percentage of WRA delivering with SBA disaggregated by province

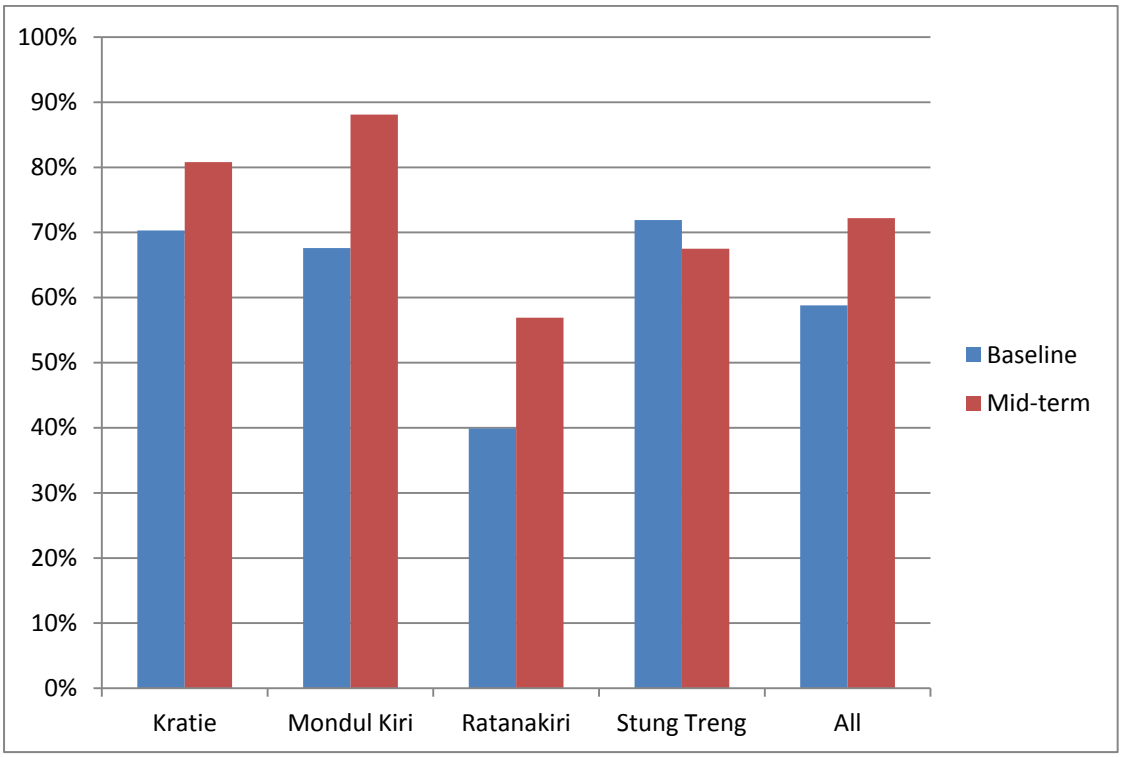
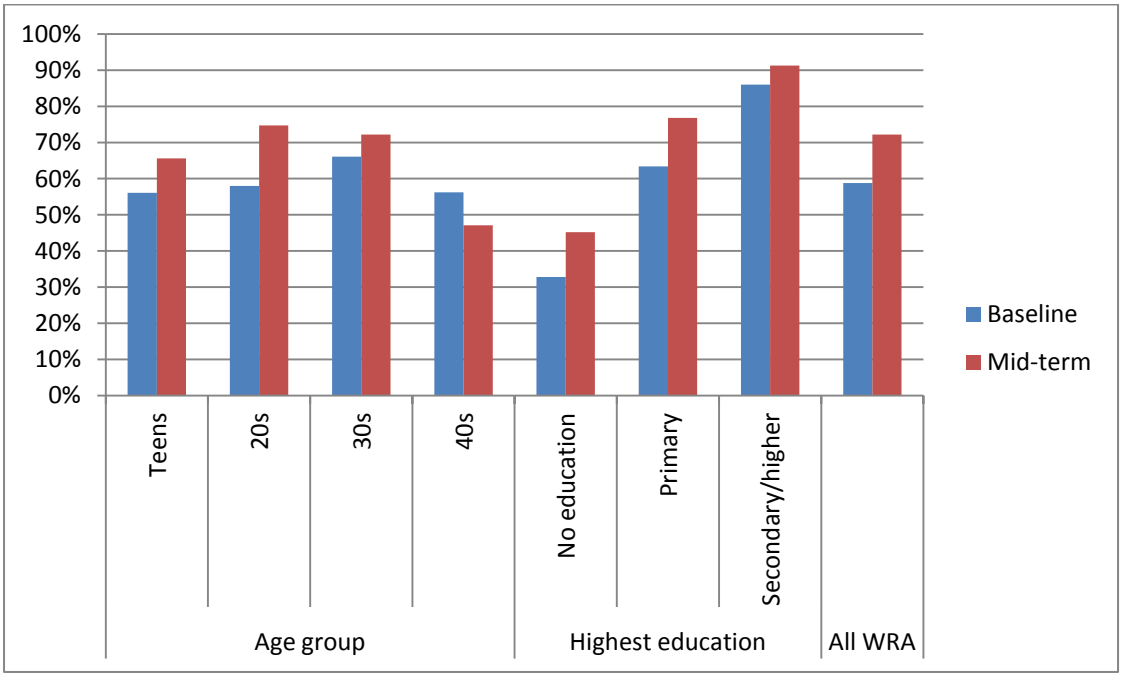



Figure 18 shows the percentage of WRA delivering with SBA, disaggregated by age and highest level of education at baseline and midterm survey. Similar to what was observed for ANC4 coverage and the percentage of WRA delivering in a health facility with SBA above, the percentage of WRA delivering with SBA is comparable among the four age groups with the highest coverage among 20s and 30s, and lowest among 40s. The percentage of WRA delivering with SBA sharply increases by their highest level of education –the higher the level of education, the higher percentage of WRA delivering with SBA.

Figure 18: Percentage of WRA delivering with SBA disaggregated by age and highest level of education group



## 3.4 Newborn and postnatal care

### 3.4.1 Newborn care

In line with section 3.2 above, this section focuses on the analysis of data from component 1 area. Table 15 summarises newborn care in the 24 months preceding the survey. Appropriate immediate newborn care was assessed by three proxy indicators: (1) the newborn was placed on the bare chest of the mother for a few minutes immediately after birth; (2) the newborn was dried or wiped immediately after birth; and (3) the first bath was delayed at least 6 hours after birth. Any newborn given all three types of care was considered as having received appropriate immediate newborn care. The percentage of all newborns receiving appropriate immediate care was significantly ($p<0.001$) higher at the midterm (56.9%) than at the baseline survey (36%). The percentage of all newborns receiving appropriate immediate care among the three vulnerable WRA groups also significantly increased between both surveys.

Table 15: Newborn care

| Key variables | Baseline n = 391 | Midterm n = 421 | p-value |
|---|---|---|---|
| % of newborns receiving immediate care among all WRA (95% CI) | | | |
| • Placed on the bare chest of mother for a few minutes immediately after birth | 52.1 | 72.1 | p<0.001 |
| • Dried (wiped) immediately after birth | 83.9 | 88.9 | p<0.05 |
| • Delay bath at least 6 hours after birth | 58.7 | 73.6 | p<0.001 |
| • All three types of care | 36.0 | 56.9 | p<0.001 |
| % of newborns receiving all three types of immediate newborn care among vulnerable WRA (n) | | | |
| • Ethnic minority WRA | 26.4 | 43.6 | p<0.01 |
| • WRA with some functional impairment | 32.7 | 60.0 | p=0.001 |
| • Poor WRA | 34.7 | 58.7 | p<0.001 |

Newborns weighing less than 2.5 kg at birth are considered to have a low birth weight (LBW). The best way to measure this indicator is to use weight data recorded on the 'yellow card'. However, such data were not available for many cases, because the babies were not weighed, or they were weighed but their weight was not recorded in the yellow card, or the yellow card was lost. Of the 424 births reported at the midterm evaluation in component 1 area, 332 (78.3%) were reported to have been weighted at birth and only 190 (44.8%) of them had their recorded weight reported by the mother. However, these figures are better than that of the baseline data for which only 257 (67.8%) of the 379 reported births in component 1 area were reported to have been weighted at birth and only 106 (28%) of them had their recorded weight reported by the mother.

Therefore, researchers asked mothers an additional question to recall the weight of their child at birth if no yellow card record was available. The percentage of newborns perceived by their mother as being smaller than average or very small was approximately 13.1% in the midterm survey, compared with 15.3% at the baseline.

*The percentage of newborns with LBW (MERI indicator O1.4) here refers to the percentage of newborns with LBW (weight <2.5 kg) recorded on the yellow cards in component 1 area.*

Table 16 compares the percentage of newborns with LBW, disaggregated by mothers' vulnerability group between baseline and midterm surveys. The percentage of newborns with LBW among all

mothers is comparable between both surveys (at 5.7% and 5.3%, respectively). These percentages are slightly lower than that in component 2 area (7.8%) and the national data reported by the CDHS 2014 (7.9%), as shown in Table 2. Disaggregation by mothers' vulnerability groups shows some level of difference between both surveys, but the difference is not significant statistically. Because there were very few cases, interpretation of the disaggregated results should be made with caution, and further disaggregation by province, mothers' age, level of education and type of facility is not useful.

Table 16: Percentage of newborns with low birth weight at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of newborns with LBW among all mothers | n=106<br>5.7 | n=190<br>5.3 | <br>NS |
| % of newborns with LBW among ethnic minority mothers | n=19<br>10.5 | n=49<br>8.2 | <br>NS |
| % of newborns with LBW among mothers with some functional impairment | n=43<br>7.0 | n=38<br>10.5 | <br>NS |
| % of newborns with LBW among poor mothers | n=36<br>2.8 | n=64<br>7.8 | <br>NS |

### 3.4.2 Postnatal care

*The percentage of women attending two or more postnatal care consultations (PNC2) (MERI indicator O4.3) here refers to the percentage of all WRA with a live birth in the past 24 months attending PNC2 with* ***a skilled provider*** *at a health facility or during expanded outreach sessions within six weeks after delivery in component 1 area.*

Of all the WRA with a live birth in the past 24 months reported to have attended at least one PNC with a skilled provider was comparable between baseline and midterm surveys (47.5% and 47.4% respectively). Nearly 84% of all the PNC1 visits at the midterm survey were carried out before 4 hours and 15% within 4-23 hours after delivery. Check-up of both mother's and baby's health was reported to be done during 69% of the PNC visits, whereas check-up of mother's health only was done during 26% of the PNC visits, followed by 5% with check-up of baby's health only.

Table 17 compares the percentage of WRA attending PNC2 disaggregated by women's vulnerability group between baseline and midterm surveys[7]. Surprisingly, the percentage of WRA attending PNC2 was significantly ($p<0.001$) lower at the midterm (14.6%) than at the baseline (40.4%), and the national coverage (52.3% reported in the HIS 2015) as shown in Table 2. Comparison of the PNC2 coverage among each of the three vulnerable WRA groups between the two surveys also shows a significant difference between both surveys ($p<0.001$).

Figure 19 shows the percentage of WRA attending PNC2, disaggregated by province at midterm and baseline surveys. While there is a significant difference of coverage between the two surveys, the comparison across provinces consistently shows that the PNC2 coverage in Ratanak Kiri province was the lowest, while the coverage in other three provinces was comparable.

[7] An important change in definition impacts the results here: at baseline, all the second PNC visits were counted as PNC2 without consideration of time, while at the midterm only the second visit made within six weeks and after the discharge was considered PNC2

Table 17: PNC2 coverage among all WRA with a live birth in the past 24 months disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA with a live birth in the past 24 months attending PNC2 | n=379<br>40.4 | n=424<br>14.6 | p<0.001 |
| % of ethnic minority WRA with a live birth in the past 24 months attending PNC2 | n=151<br>24.5 | n=130<br>8.5 | p<0.001 |
| % of WRA with a live birth in the past 24 months and some functional impairment attending PNC2 | n=166<br>38.6 | n=55<br>12.7 | p<0.001 |
| % of poor WRA with a live birth in the past 24 months attending PNC2 | n=129<br>36.4 | n=136<br>15.4 | p<0.001 |

Figure 19: Percentage of WRA attending PNC2 disaggregated by province

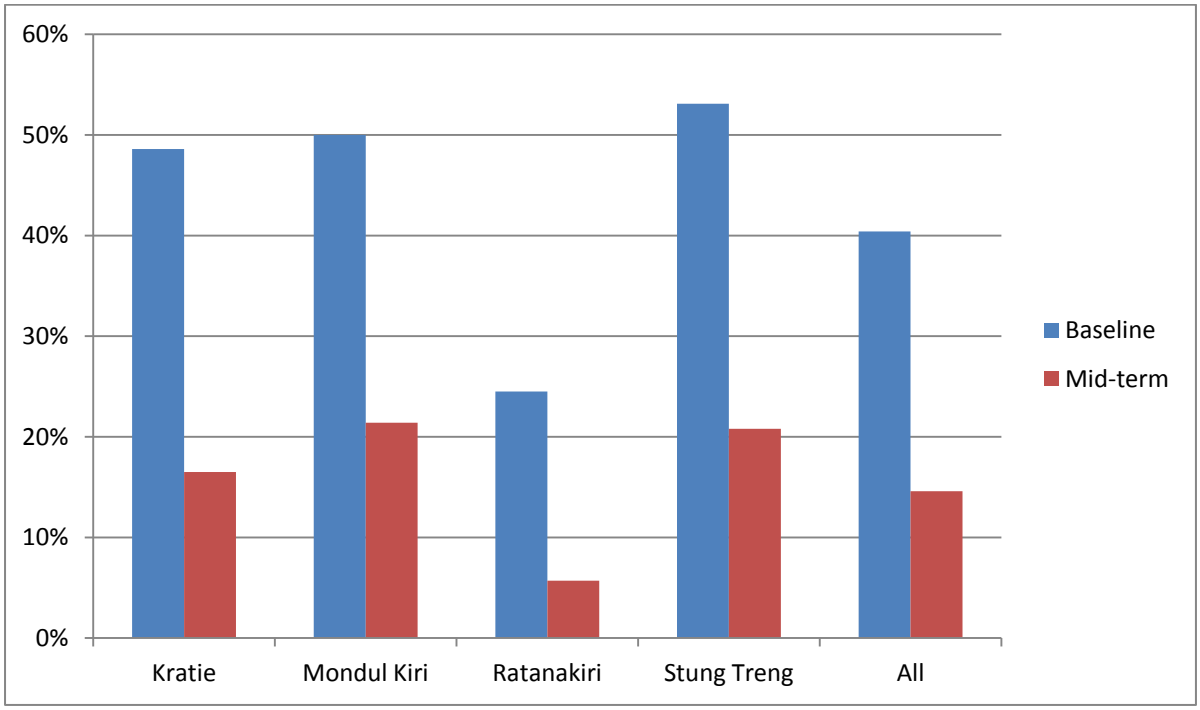
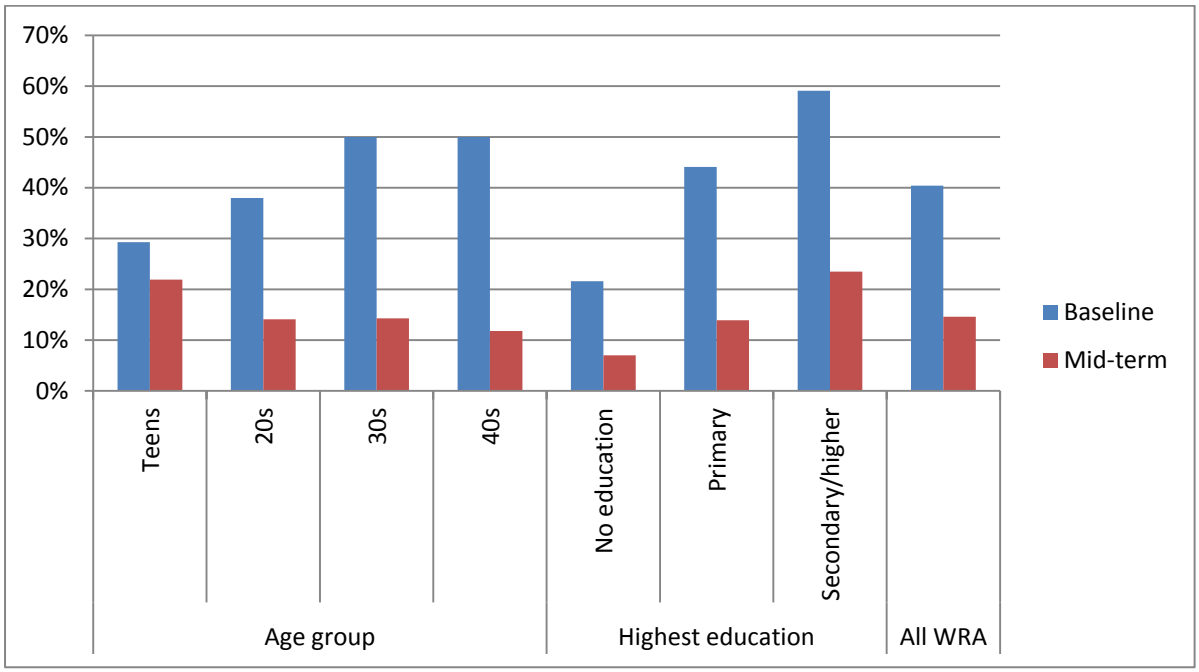



Figure 20 shows that the PNC2 coverage between age groups is heterogeneous, whereas the comparison between education groups shows that the PNC2 coverage increases by the women's highest level of education –the higher the level of education, the higher PNC2 coverage.

Figure 20: Percentage of WRA attending PNC2 disaggregated by age and highest level of education group




*The percentage of women attending PNC who receive counseling in modern family planning methods (MERI indicator O3.2) here refers to the percentage of all WRA who reported to have received family planning counselling from a skilled provider during PNC visits in component 1 area.*

Table 18 shows that the percentage of WRA attending PNC who received counselling in MCM was significantly (p<0.001) higher at the midterm (48.8%) than at the baseline (26.3%). Comparison of the percentage of WRA attending PNC who receive counseling in MCM among each of the three vulnerable WRA groups between the two surveys also shows a significant increase.

Table 18: Percentage of WRA attending PNC who receive counselling in MCM, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA attending PNC who receive counselling in MCM | n=285<br>26.3 | n=201<br>48.8 | p<0.001 |
| % of ethnic minority WRA attending PNC who receive counselling in MCM | n=97<br>23.7 | n=46<br>58.7 | p<0.001 |
| % of WRA with some functional impairment attending PNC who receive counselling in MCM | n=125<br>25.6 | n=26<br>46.2 | p<0.05 |
| % of poor WRA attending PNC who receive counselling in MCM | n=99<br>28.3 | n=62<br>59.7 | p<0.001 |

Figure 21 shows the percentage of WRA attending PNC who receive counselling in MCM, disaggregated by province. The percentage of WRA attending PNC who received counselling in MCM sharply increased between the two surveys in all provinces, with a great variation of coverage across provinces. The highest coverage was found in Mondul Kiri, whereas the lowest coverage was observed in Ratanak Kiri, despite an important increase in this province between the two surveys.

Figure 21: Percentage of WRA attending PNC who receive counselling in MCM, disaggregated by province

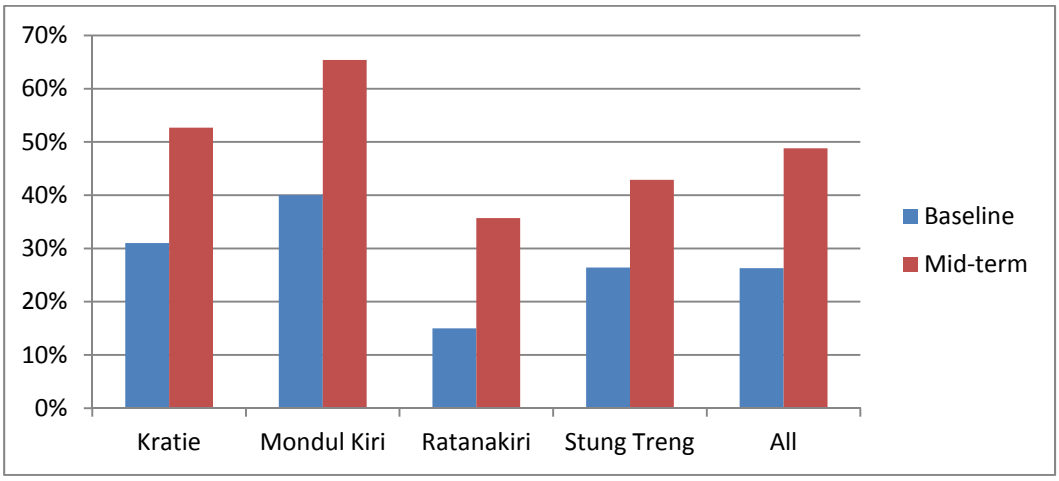
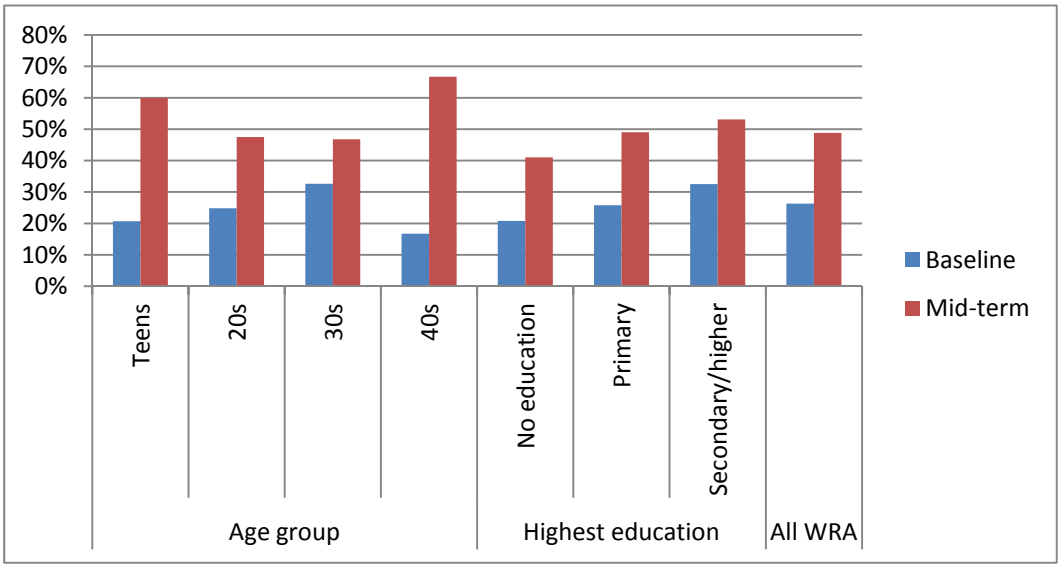



**Figure** 22 shows the percentage of WRA attending PNC who receive counselling in MCM, disaggregated by age and highest level of education at baseline and midterm surveys. The percentage of WRA attending PNC who received counselling in MCM between age groups is heterogeneous, whereas comparison between education groups shows an increase by the women's highest level of education –the higher the level of education, the higher percentage.

Figure 22: Percentage of WRA attending PNC who receive counselling in MCM, disaggregated by age and highest level of education group



## 3.5 Abortion and post abortion care

Of all the interviewed women, only 103 (3.2%) reported to have had a pregnancy that ended in induced abortion within the 24 months preceding the survey, compared with 75 (2.7%) at the baseline.

Table 19 summarises data regarding induced abortion and post-abortion care. The mean age of pregnancy at the time of induced abortion was less than two months at both surveys. Oral-vaginal pill/tablet combination and manual vacuum aspiration were the two most commonly used methods, with similar share of all the abortion cases in both surveys. While a few WRA reported to have used traditional method for the induced abortion at the baseline, none of them did so at the midterm. Approximately half of the cases in both surveys were assisted by trained health personnel, mainly midwives. Another half of the cases did not report any attendant, most probably those using oral-vaginal pill/tablet combination.

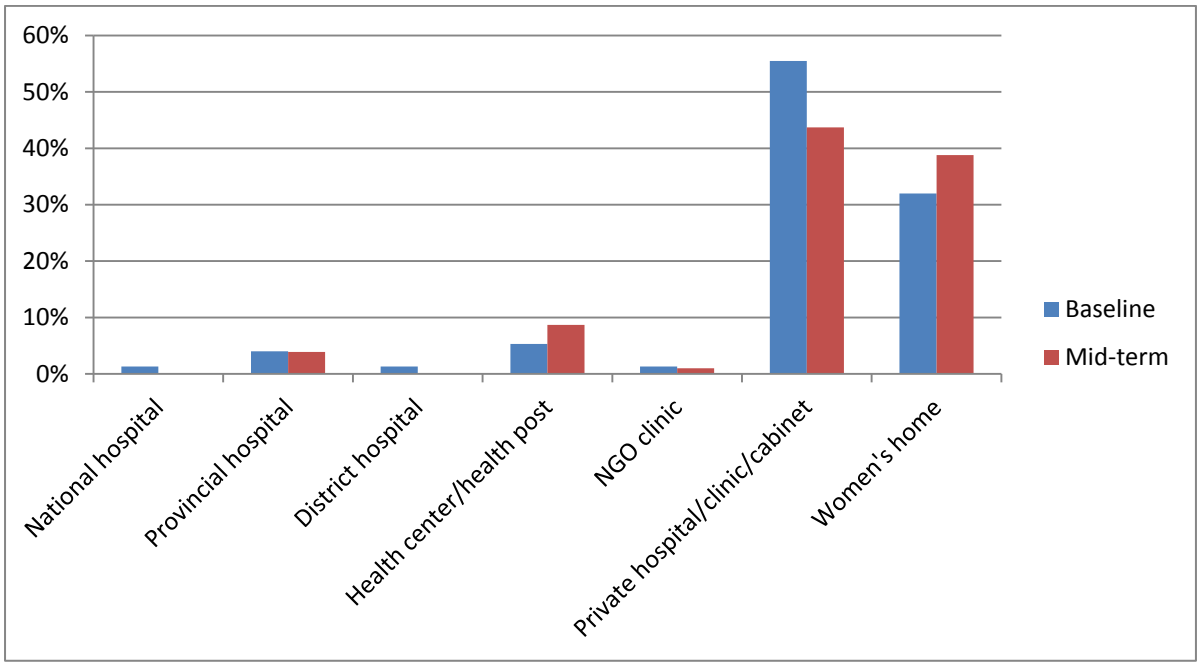
Among the women who reported to an induced abortion in the past 24 months at the midterm survey, 28.2% sought medical care, compared with 32% at the baseline. The difference is not significant statistically. The women's knowledge on where to access safe abortion services when needed increased significantly (p<0.001) from 61.5% at the baseline to 72.1% at the midterm survey. The latter indicator was assessed based on those WRA who broadly reported that they knew where to get safe abortion (i.e. answering Yes to Q706) and referred to a place with the presence of trained health personnel (i.e. answering 1, 2, 3, or 5 to Q707).

Table 19: Induced abortion and post abortion care

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| Number (%) of WRA reporting an induced abortion in the past 24 months | 75 (2.7) | 103 (3.2) | NS |
| Mean age (months) of pregnancy at the time of induced abortion (Std. Deviation) | n=75<br>1.81 (0.881) | n=103<br>1.62 (0.768) | NS |
| % of induced abortions by method<br>• Manual vacuum aspiration<br>• Oral + vaginal pill/tablet<br>• Traditional methods | n=75<br>52.0<br>52.7<br>2.7 | n=103<br>41.7<br>67.0<br>0 | NS |
| % of induced abortions by type of provider<br>• *Any trained health personnel (SBA)*<br>• *Doctor/medical assistant*<br>• *Midwife*<br>• *Other trained health personnel*<br>• TBA<br>• No attendant | n=75<br>62.7<br>9.3<br>50.7<br>2.7<br>0<br>37.3 | n=103<br>49.5<br>4.9<br>39.8<br>1.0<br>0<br>49.5 | NS |
| % of WRA with an induced abortion seeking post-abortion care | n=75<br>32.0 | n=103<br>28.2 | NS |
| % of women knowing where to access to safe abortion (95% CI) | n=2,763<br>61.5 | n=2,649<br>72.1 | p<0.001 |

Unlike other RMNH services, the majority of induced abortions at both surveys were carried out in private hospitals/clinics/cabinets and in women's homes (Figure 23).

Figure 23: Percentage distribution of induced abortions in the past 24 months by location




*The percentage of women knowing that abortion is legal (MERI indicator I6.4) here refers to the percentage of all WRA who reported to know that induced abortion is allowed by law and woman has the right to end the pregnancy if she does not want to keep it in the two component areas.*

Table 20 compares the percentage of WRA knowing that abortion is legal, disaggregated by vulnerability group between baseline and midterm surveys. The percentage of WRA knowing that abortion is legal was 12.2% at the midterm, compared with 11.7% at the baseline survey. The difference is not significant statistically. Comparison of the percentage of knowing that abortion is legal among each of the three vulnerable WRA groups between the two surveys shows similar results and no significant difference was found.

Table 20: Percentage of WRA knowing that abortion is legal, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA knowing that abortion is legal | n=2,763<br>11.7 | n=3,025<br>12.2 | NS |
| % of ethnic minority WRA knowing that abortion is legal | n=74<br>16.3 | n=80<br>19.1 | NS |
| % of WRA with some functional impairment knowing that abortion is legal | n=146<br>12.0 | n=51<br>8.9 | NS |
| % of poor WRA knowing that abortion is legal | n=111<br>13.2 | n=101<br>11.7 | NS |

Figure 24 shows the percentage of WRA knowing that abortion is legal, disaggregated by province at midterm and baseline surveys. Comparison between the two surveys shows that the percentage of WRA knowing that abortion is legal increased in most provinces, except Kratie and Pursat. The highest increase was observed in Koh Kong, making it and Ratanak Kiri become the highest at midterm survey. The lowest percentage was found in Pursat.

Figure 25 presents the percentage of WRA knowing that abortion is legal, disaggregated by age, marital status and highest level of education group at midterm and baseline survey. It shows similarity among all groups, except among widowed/divorced WRA.

Figure 24: Percentage of WRA knowing that abortion is legal, disaggregated by province

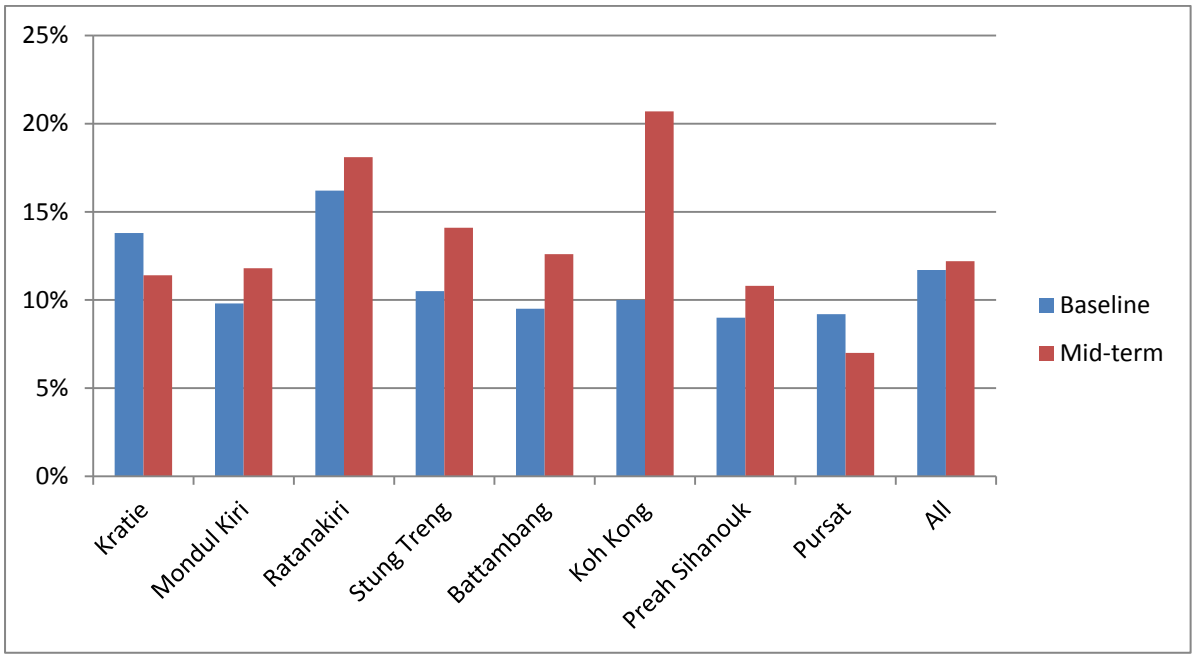
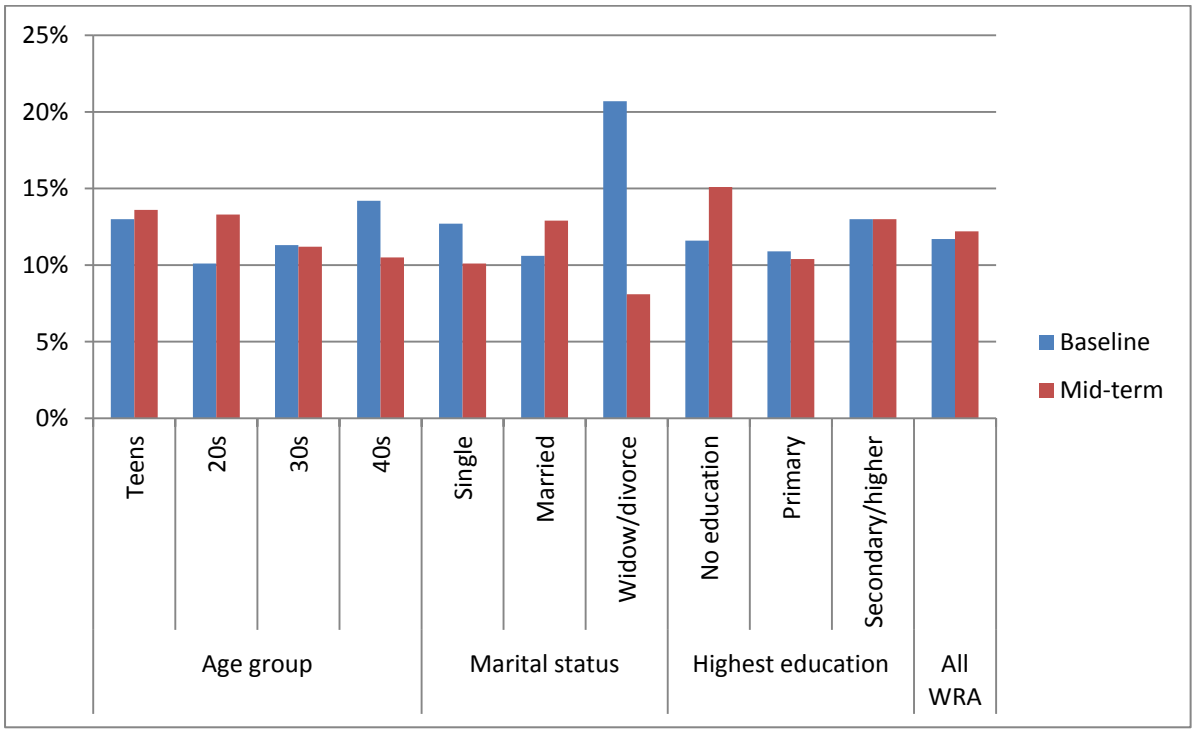



Figure 25: Percentage of WRA knowing that abortion is legal, disaggregated by age, marital status and highest level of education group



## 3.6 Service utilisation, satisfaction, referral and financial support mechanisms, and out-of-pocket expenditure

### 3.6.1 RMNH service utilization

Researchers collected data on the use of five groups of RMNH services: FP, abortion and post-abortion care, ANC, delivery and associated services, and PNC. Of all the interviewed WRA at the midterm survey, 44.3% (43.9% in component 1 area and 44.7% in component 2 area) reported to have used at least one RMNH service in the 12 months preceding the survey. This is similar to the result of baseline (45.8%; 46.5% in component 1 and 45% in component 2 area) and the difference between both surveys is not significant statistically.

FP was the most commonly used RMNH service (27.3%), followed by ANC (20.3%) and delivery (16.1%), sharing the same pattern of the baseline result. The majority of the RMNH services were provided by public health facilities, especially ANC and delivery, except for abortion and post-abortion care, which were predominantly provided by private health facilities.

### 3.6.2 Users' satisfaction

Among all the WRA who reported to have used at least one RMNH service provided by public facilities at the midterm survey, 97.1% (97.1% in component 1 and 97% in component 2) were either 'satisfied or very satisfied' with the services provided. Such satisfaction rate was comparable across the five RMNH service users, and significantly (p>0.05) higher than what reported at the baseline (94.9%; 93.3% in component 1 and 96.6% in component 2 area).

However, *the percentage of target population who report being highly satisfied with RMNH services provided (MERI indicator O3.3) which here refers to the percentage of WRA using at least one public RMNH service who were 'very satisfied' with the services provided in component 1 area* was significantly lower at the midterm survey (16%) than at the baseline (42.8%). Similar pattern was observed among each of the three vulnerable WRA groups (Table 21).[8] In the meantime, the percentage of population who reported being 'satisfied' with RMNH services in component 1 increased from 50.5% at baseline to 81% at the midterm suggesting a movement from 'very satisfied' to 'satisfied between the two surveys.

Table 21: Percentage of WRA being highly satisfied with RMNH services provided, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA being highly satisfied with RMNH services provided | n=446<br>42.8 | n=561<br>16.0 | p<0.001 |
| % of ethnic minority WRA being highly satisfied with RMNH services provided | n=194<br>45.9 | n=227<br>19.4 | p<0.001 |
| % of WRA with some functional impairment being highly satisfied with RMNH services provided | n=204<br>39.2 | n=90<br>16.7 | p<0.001 |
| % of poor WRA being highly satisfied with RMNH services provided | n=158<br>44.9 | n=194<br>17.0 | p<0.001 |

Figure 26 presents the percentage of WRA who were highly satisfied with the service provided, disaggregated by type of services. The satisfaction rate at the midterm survey was significantly lower than that at the baseline survey for all the key RMNH services, except abortion which was rated the lowest at the baseline has jumped to the highest at the midterm survey. However, this finding should be interpreted with caution, as there were very few cases of abortion.

[8] It is to note that enumerators introduced the study as being conducted by MOH at the time of the baseline and by independent consultant company at the time of the midterm; this may have brought a bias in answers.

Figure 26: Percentage of WRA being highly satisfied with RMNH service provided, disaggregated by type of services

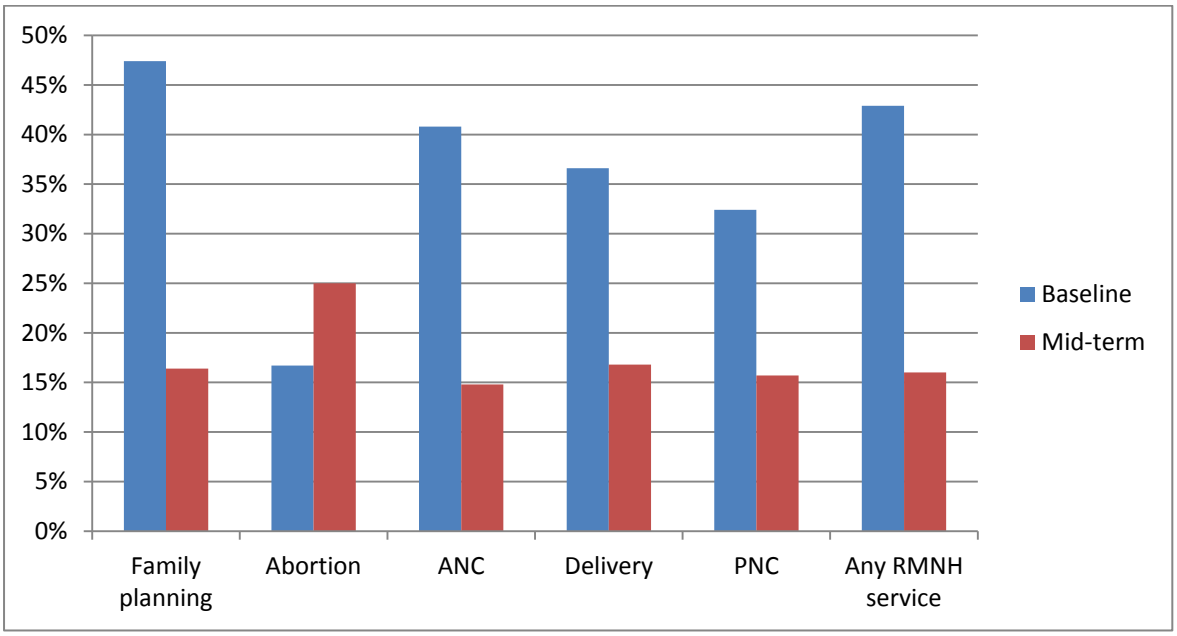



Figure 27 shows the percentage of WRA who were highly satisfied with the service provided, disaggregated by province. The satisfaction rate at the midterm survey was significantly lower than that at the baseline in Kratie, Ratanak Kiri and Stung Treng. However, in Mondul Kiri, the satisfaction rate at the midterm survey appeared to be higher than that at the baseline.

Figure 27: Percentage of WRA being highly satisfied with RMNH service provided, disaggregated by province

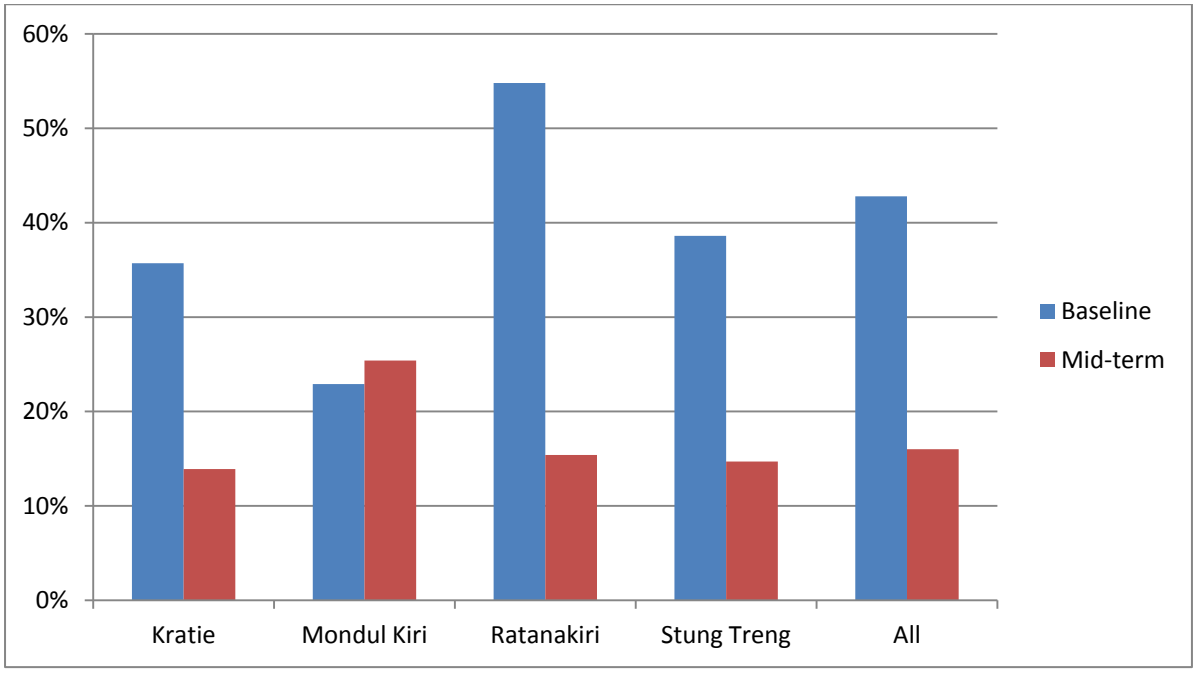
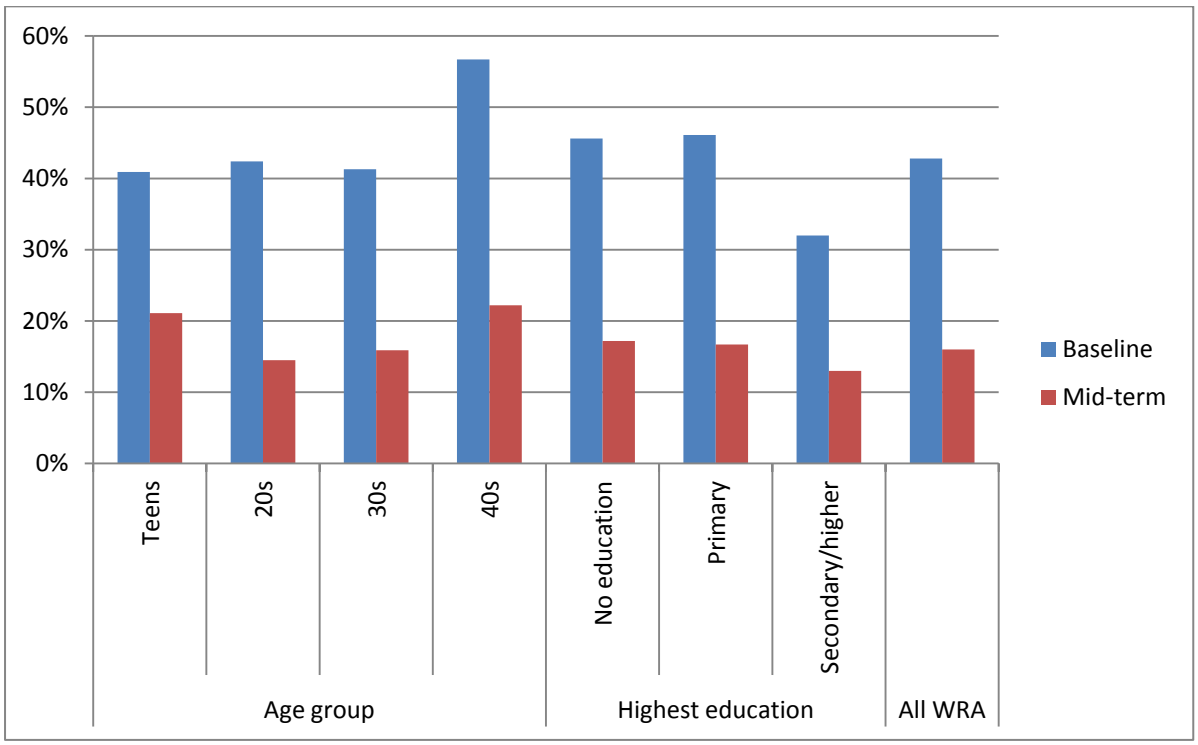



Figure 28 shows the percentage of WRA highly satisfied with RMNH service provided, disaggregated by age and highest level of education. In general, the satisfaction rate was comparable among all age and education groups. We did not consider disaggregation by marital status, as almost all RMNH

service users in the past 12 months were married WRA and there were very few single or widowed/divorced WRA reported to have used such service.

Figure 28: Percentage of WRA being highly satisfied with RMNH service provided, disaggregated by age and highest level of education group




### 3.6.3 Referral mechanisms

*The percentage of people accessing RMNH services in previous 12 months who were referred through a community referral mechanism (MERI indicator I3.1) here refers to all RMNH users who have received guidance from any of the PSL supported community referral mechanisms: pregnancy clubs, men's clubs, listening and dialogue groups, village saving and loan associations (VSLAs), village health support groups (VHSGs), community-based distributors (CBDs), commune council/CCWC and community health promotion in component 1 area.*

Table 22 **compares the percentage of RMNH service users who were referred through a community referral mechanism, disaggregated by vulnerability group between baseline and midterm surveys. It shows that the percentage of all WRA using RMNH service who were referred through a community referral mechanism increased significantly (p<0.001) from 8.5% at the baseline to 24.9% at the midterm survey. We also found the same pattern for each of the three vulnerability groups.**

**Figure 29** shows the percentage of RMNH service users referred through a community referral mechanism disaggregated by province. The increase in percentage of RMNH service users referred through a community referral mechanism between both surveys was observed in all provinces, of which Mondul Kiri shows the most impressive increase from the lowest at the baseline to the highest at the midterm survey.

Table 22: Percentage of RMNH service users referred through a community referral mechanism, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA using RMNH service referred through a referral mechanism | n=656<br>8.5 | n=730<br>24.9 | p<0.001 |
| % of ethnic minority WRA using RMNH service referred through a referral mechanism | n=247<br>6.5 | n=271<br>35.4 | p<0.001 |
| % of WRA with some functional impairment using RMNH service referred through a referral mechanism | n=328<br>8.5 | n=120<br>19.2 | p<0.01 |
| % of poor WRA using RMNH service referred through a referral mechanism | n=212<br>12.7 | n=236<br>31.4 | p<0.001 |

Figure 29: Percentage of RMNH service users referred through a community referral mechanism, disaggregated by province

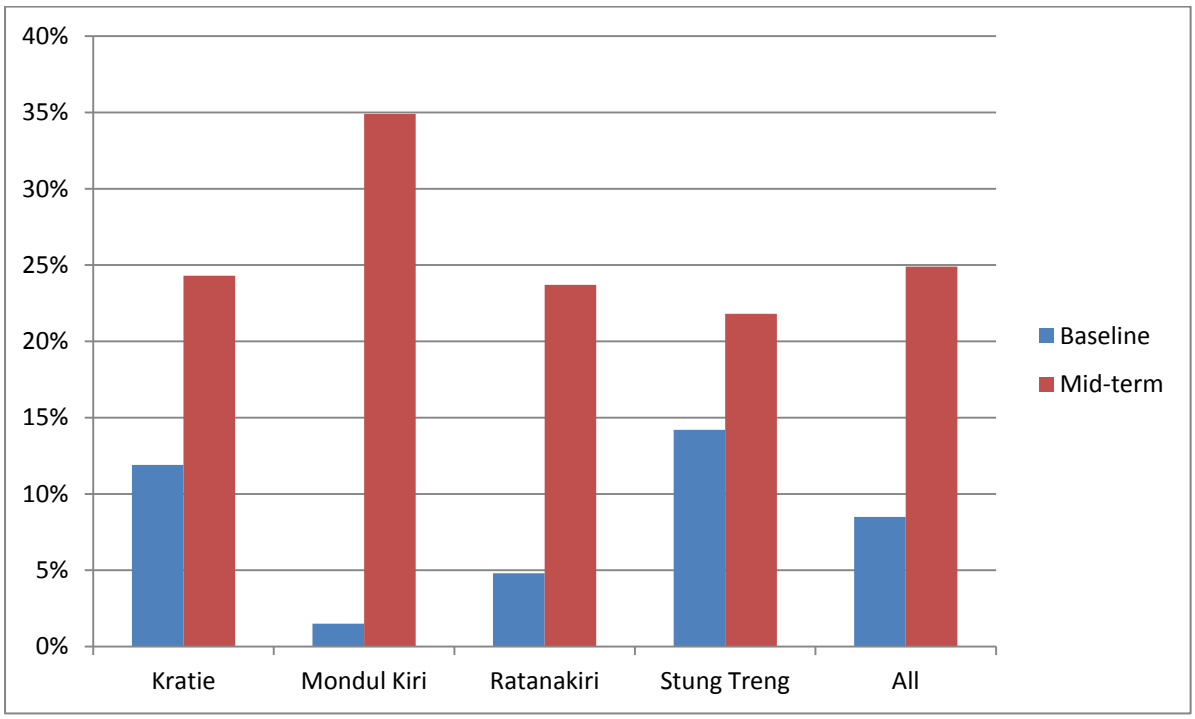
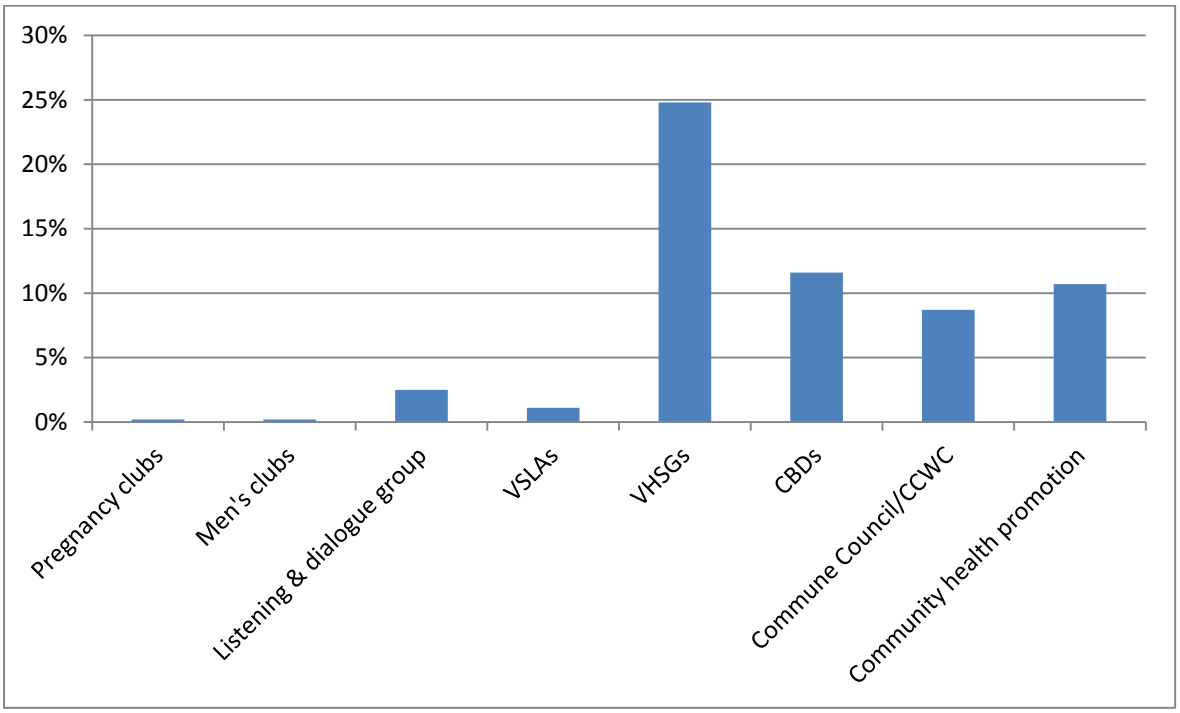



Figure 30 shows the percentage of RMNH service users referred through a community referral mechanism at midterm survey disaggregated by type of referral mechanisms. Among all the PSL supported community referral mechanisms, VHSGs were the most commonly used (24.8%), followed by CBDs (11.6%), community health promotion (10.7%). Only less than 1% of all RMNH users reported being referred through pregnancy clubs and men's clubs.

Figure 30: Percentage of RMNH service users referred through a community referral mechanism at midterm survey, disaggregated by type of referral mechanisms




### 3.6.4 Financial support mechanisms

*The percentage of target population accessing RMNH services using a financial support mechanism (MERI indicator I5.1) here refers to the percentage of all RMNH users who reported to have received financial support at least once in the past 12 months through various health financing mechanisms, including health equity funds (HEFs), reproductive health vouchers, conditional cash transfers, financial support for long-term family planning services by MSIC, financial support from commune council, VSLAs and user fee exemptions in the two component areas.*

Table 23 compares the percentage of WRA accessing RMNH service (RMNH service users) receiving financial support in the past 12 months, disaggregated by vulnerability group between baseline and midterm surveys. The percentage of all WRA accessing RMNH service in the past 12 months (RMNH service users) significantly (p=0.001) increased from 10.3% at the baseline to 14.7% at the midterm survey. This pattern is also observed among the vulnerability groups, except for poor WRA among which the financial support rate appears to be stable between both surveys (21.5% at the baseline and 22% at the midterm), while other 78% of poor WRA accessing RMNH services still did not receive support from any financial support mechanism.

**Figure 31** shows the percentage of WRA accessing RMNH services (RMNH users) in the past 12 months receiving financial support, disaggregated by province. The percentage of RMNH users in the past 12 months receiving financial support varied greatly across the eight provinces and between the two surveys. Comparison between the two surveys shows that the percentage of RMNH users in the past 12 months receiving financial support increased in six of eight provinces, in particular in Stung Treng and Battambang which became the first and second highest respectively. In the opposite, such figures in Koh Kong and Pursat declined. Despite significant increase between both surveys, the figure in Ratanak Kiri remains the lowest.

Figure 32 shows the percentage of WRA accessing RMNH services (RMNH users) in the past 12 months receiving financial support, disaggregated by age, marital status and highest level of education. We observe an increase with varying degrees in all groups between the two surveys. While the baseline data shows an increasing trend among the four age groups, the trend of data at the midterm survey is rather heterogeneous. Comparison between marital status and highest level of education groups does not show any particular trend either.

Table 23: Percentage of RMNH service users receiving financial support, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA accessing RMNH service using a financial support mechanism | n=1,022<br>10.3 | n=1,439<br>14.7 | p=0.001 |
| % of ethnic minority WRA accessing RMNH service using a financial support mechanism | n=191<br>4.2 | n=255<br>11.8 | p<0.01 |
| % of WRA with some functional impairment accessing RMNH service using a financial support mechanism | n=451<br>9.3 | n=245<br>15.5 | p<0.05 |
| % of poor WRA accessing RMNH service using a financial support mechanism | n=331<br>21.5 | n=432<br>22.0 | NS |

Figure 31: Percentage of RMNH service users receiving financial support, disaggregated by province

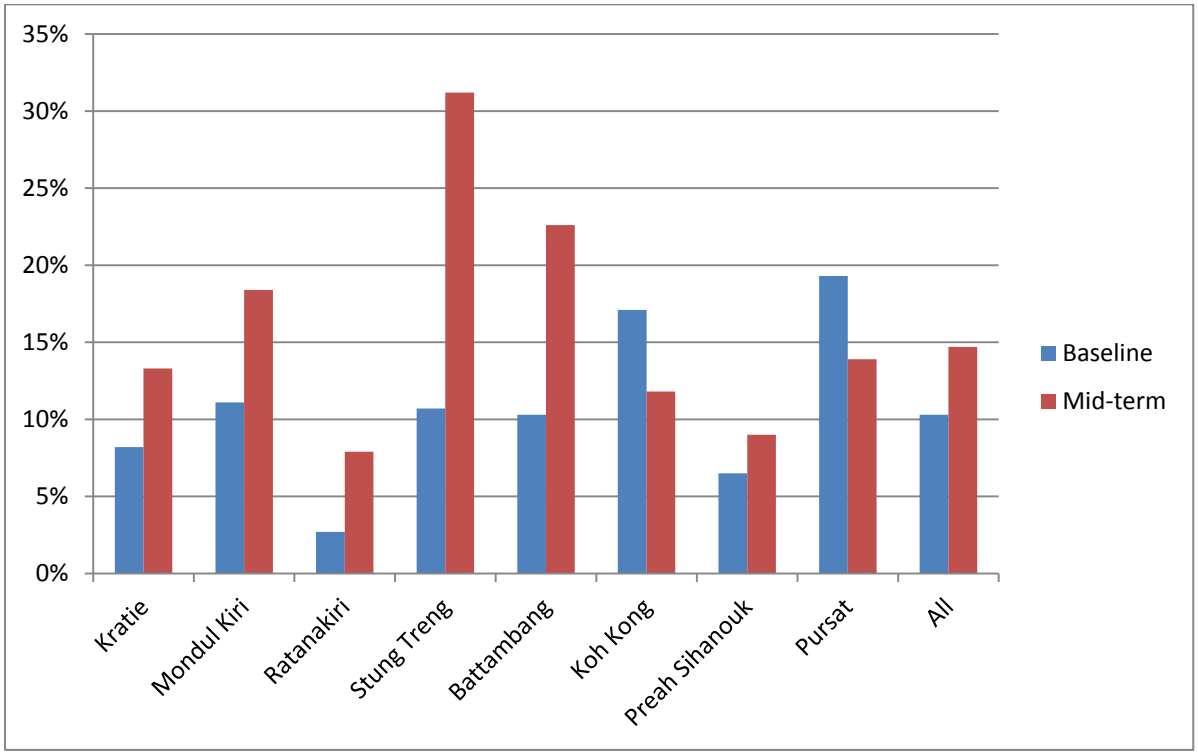


Figure 32: Percentage of RMNH users receiving financial support, disaggregated by age, marital status and highest level of education group

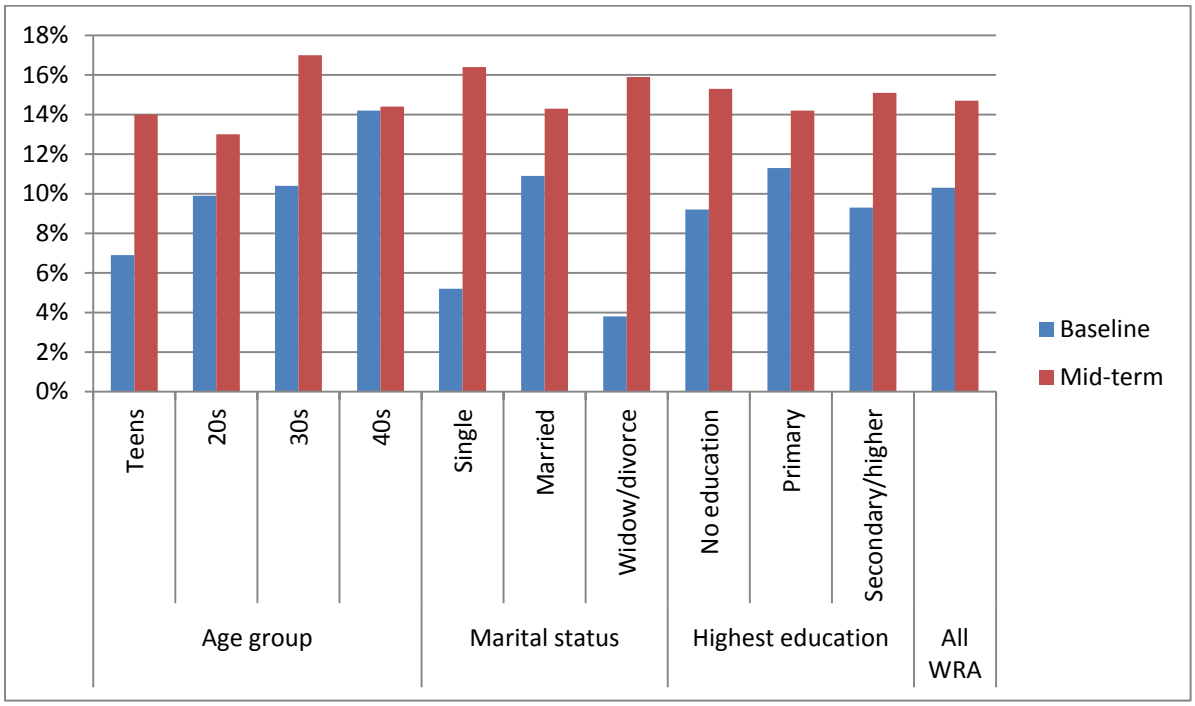
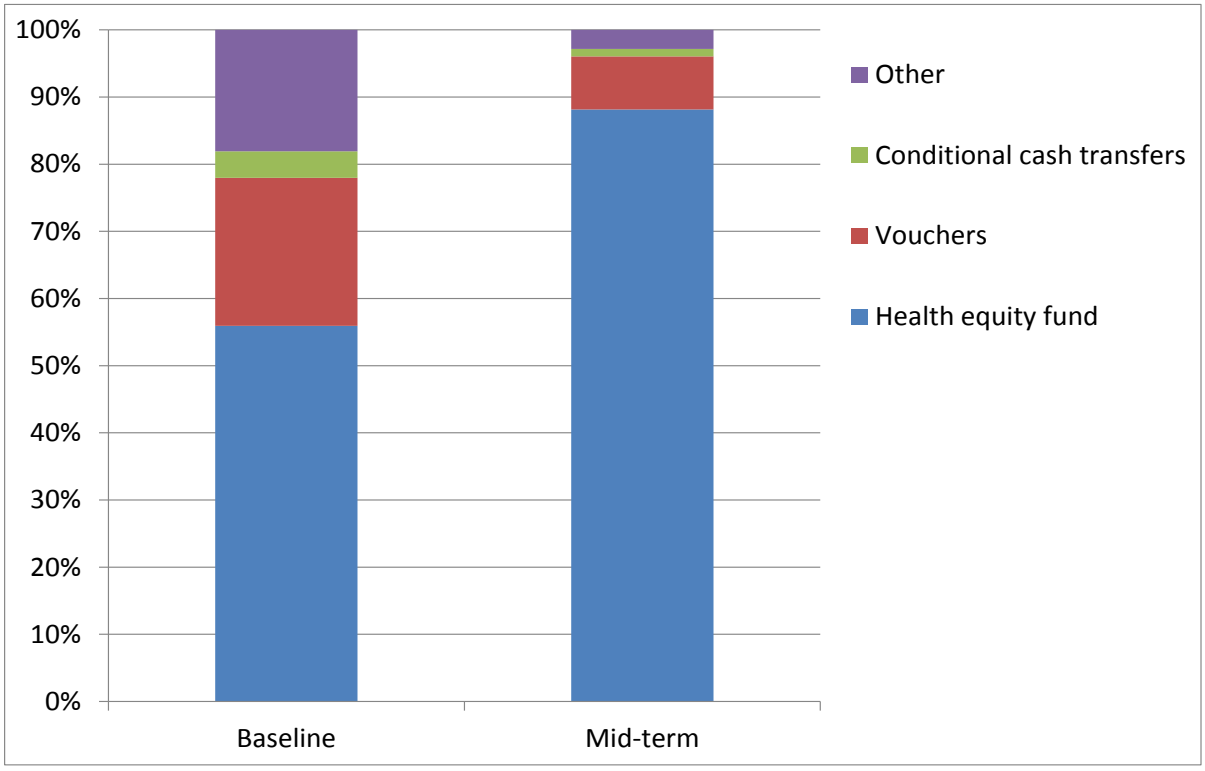



Figure 33 shows the distribution of financing mechanisms supporting RMNH users at baseline and midterm surveys. HEFs were the most commonly used health financing mechanism, followed by reproductive health vouchers and conditional cash transfer. “Other” mechanisms include user fee exemptions and financial support for long-term FP by MSIC.

Figure 33: Distribution of financing mechanisms supporting RMNH service users at baseline and midterm surveys



### 3.6.5 Out-of-pocket expenditure

Data on the total out-of-pocket expenditure (OOP) on RMNH services in the past 12 months, which includes service fees and transport cost, were collected in Cambodian Riels and subsequently converted to US$ for analysis, using an exchange rate of US$ 1 = 4,000 Riels.

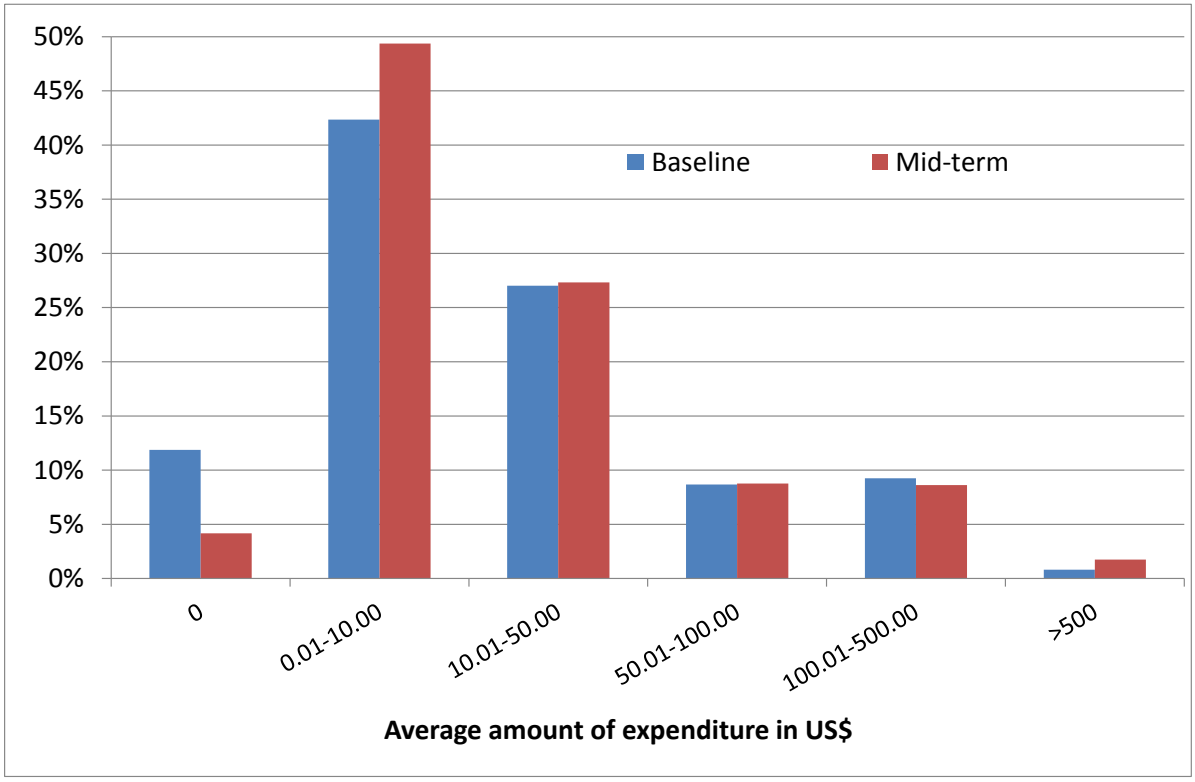
Table 24 summarises the OOP on RMNH services in the past 12 months by type of service at baseline and midterm survey. At the midterm survey, the amount spent on all RMNH services in the past 12 months varied greatly, from no expenditure at all to US$ 1,555 per woman, with a median of US$ 8.8. At the baseline, the amount spent on all RMNH services in the past 12 months varied from no expenditure to over US$ 3,000 per woman, with a median of US$ 8.0. Comparison between both surveys (using the non-parametric test) shows a significant difference ($p<0.05$). Similar pattern is also observed for the OOP on delivery. At both surveys, the highest median expenditure was on delivery and abortion services and the lowest was on PNC.

Figure 34 shows the OOP for RMNH services by category of amount spent per woman at baseline and midterm survey. Over 10% of the RMNH service users at the baseline did not report any OOP at all, compared with less than 5% at the midterm survey. The large majority of the expenditure was between US$0.01 and US$10, followed by between US$10.01 and US$50. There were a few RMNH users who reported OOP over US$500.

**Table 24: Total OOP expenditure on RMNH services in the past 12 months by type of services**

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| • Median (range) total expenditure on all RMNH services in the past 12 months in US$ | n = 1,221<br>8.0 (0-3,007.5) | n = 1,439<br>8.8 (0-1,555) | p<0.05 |
| • Median (range) total expenditure on FP in the past 12 months in US$ | n=829<br>2.9 (0-1,000.0) | n=863<br>4.0 (0-1,555) | NS |
| • Median (range) total expenditure on abortion in the past 12 months in US$ | n=101<br>25.0 (0-3,000.0) | n=68<br>31.6 (6.3-190.0) | NS |
| • Median (range) total expenditure on ANC in the past 12 months in US$ | n=459<br>5.0 (0-500.0) | n=664<br>3.8 (0-337.5) | NS |
| • Median (range) total expenditure on delivery in the past 12 months in US$ | n=385<br>22.0 (0-2,500.0) | n=514<br>32.1 (0-1,200.0) | p<0.05 |
| • Median (range) total expenditure on PNC in the past 12 months in US$ | n=255<br>3.8 (0-250.0) | n=175<br>1.8 (0-312.5) | NS |

Figure 34: Total OOP expenditure on RMNH services in the past 12 months by category of amount spend per woman at baseline and midterm survey




## 3.7 RMNH knowledge and self-efficacy

### 3.7.1 Knowledge on danger signs

During the midterm as well as baseline survey, women were asked to identify as many as possible out of nine listed symptoms and signs indicating danger during pregnancy. These symptoms and signs are: (1) vaginal bleeding (early or late pregnancy); (2) anaemia; (3) elevated blood pressure, headache, blurred vision, convulsions or loss of consciousness; (4) fever (during pregnancy and labour); (5) abdominal pain in early pregnancy; (6) abdominal pain in later pregnancy; (7) difficulty in breathing; (8) loss of foetal movements; and (9) pre-labour rupture of membranes.

Among all WRA, 81% (80% in component and 82.1% in component 2 area) could correctly name at least one danger sign during pregnancy at the midterm survey, compared with only 66.8% (65.2% in component 1 and 68.5% in component 2 area) at the baseline. The percentage of WRA who could correctly name at least three danger signs during pregnancy was much lower, 40.4% (36.6% in component 1 and 44.4% in component 2 area) at the midterm, compared with 23.6% (20.9% in component 1 and 26.4% in component 2 area) at the baseline.

*The percentage of WRA who can identify five danger signs during pregnancy (MERI indicator O4.1) here refers to the percentage of WRA who could correctly name at least five of the nine danger signs during pregnancy in component 1 area.*

As shown in Table 25, the percentage of WRA who can identify five danger signs during pregnancy increased significantly ($p<0.001$) from 3% at the baseline to 8.5% at the midterm survey. We also observe an increase among the vulnerable women groups, but the difference for WRA with some functional impairment is not significant.

Figure **35** shows that the percentage of WRA who can identify five danger signs during pregnancy varied greatly across the four provinces. Comparison between the two surveys shows an increase in all provinces with the highest increase in Mondul Kiri and Kratie, and the lowest increase in Ratanak Kiri.

Figure 36 shows that the percentage of WRA who can identify five danger signs during pregnancy also increased with varying degrees in all age, marital status and education groups between the two surveys. Unsurprisingly, among the four age groups, teens had the lowest knowledge on danger signs during pregnancy. Similarly, single women had the lowest knowledge on danger signs during pregnancy among the three marital status groups. It appears that the knowledge on danger signs during pregnancy increased by level of education.

Table 25: Percentage of WRA who can identify 5 danger signs during pregnancy, disaggregated by vulnerability group at baseline and midterm survey

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA who can identify 5 danger signs during pregnancy | n=1,412<br>3.0 | n=1,663<br>8.5 | p<0.001 |
| % of ethnic minority WRA who can identify 5 danger signs during pregnancy | n=455<br>4.0 | n=473<br>8.7 | p<0.05 |
| % of WRA with some functional impairment who can identify 5 danger signs during pregnancy | n=697<br>4.2 | n=301<br>6.3 | NS |
| % of poor WRA who can identify 5 danger signs during pregnancy | n=460<br>4.3 | n=469<br>7.9 | p<0.05 |

Figure 35: Percentage of WRA who can identify 5 danger signs during pregnancy, disaggregated by province

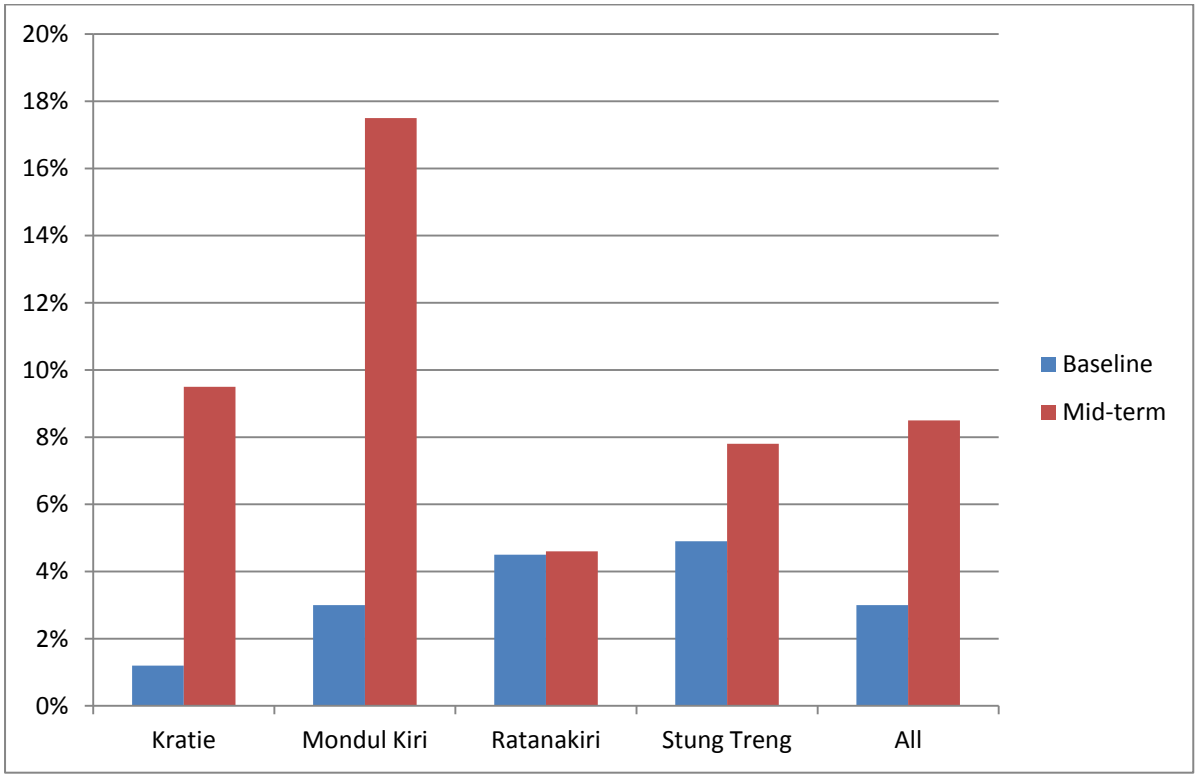
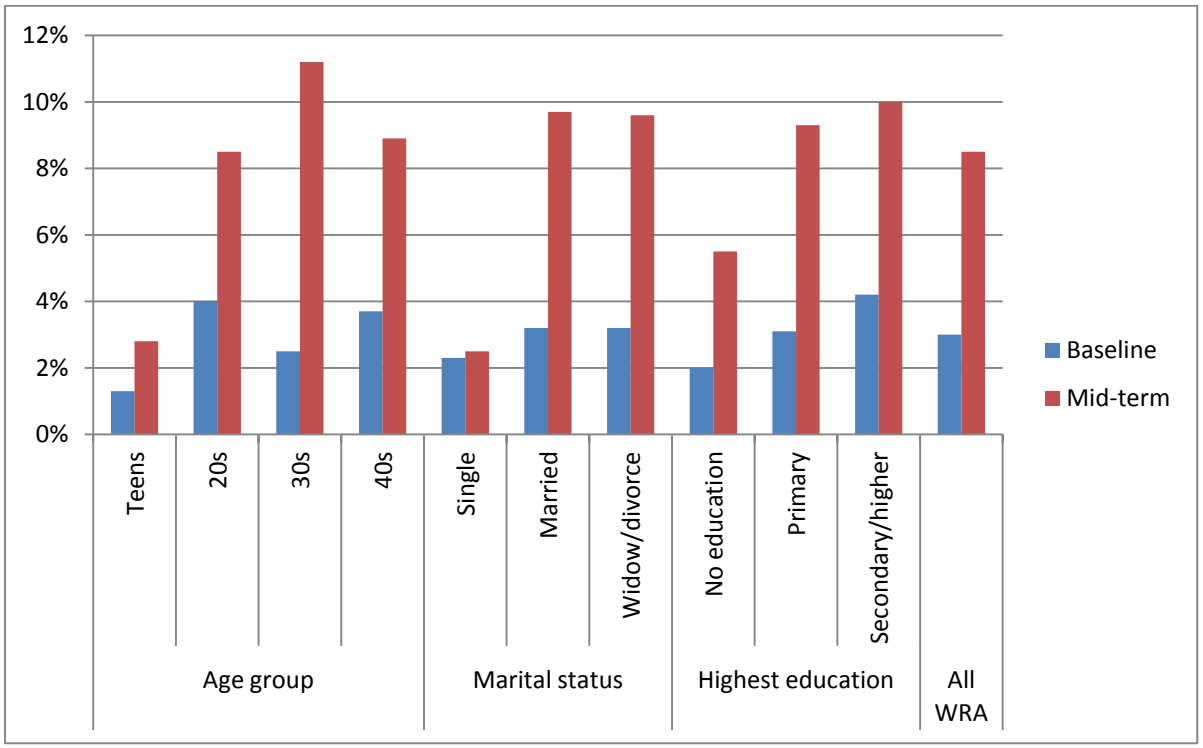


Figure 36: Percentage of WRA who can identify 5 danger signs during pregnancy, disaggregated by age, marital status and highest level of education group




During the midterm as well as baseline survey, women were also asked to identify as many as possible out of seven listed symptoms and signs of neonatal distress. These symptoms and signs were: 1) abnormal body temperature; 2) jaundice; 3) lethargy; 4) feeding difficulty; 5) vomiting and/or abdominal distension; 6) bleeding and/or pallor; 7) umbilicus red and swollen, draining pus or foul smelling.

Among all WRA, 78.8% (79.5% in component 1 and 82.1% in component 2) could correctly name at least one danger sign for neonatal distress at this midterm survey, compared with 63% (63.5% in component 1 and 62.4% in component 2) at the baseline. The percentage of WRA who could correctly name at least five danger signs for neonatal distress at this midterm survey was only 3.2% (2.8% in component 1 and 3.7% in component 2), compared with 0.9% (1.6% in component 1 and 0.2% in component 2) at the baseline.

*The percentage of WRA who can identify three danger signs for neonatal distress (MERI indicator I6.2) here refers to the percentage of WRA in component 1 area who could correctly name at least three of the seven danger signs for neonatal distress.* The percentage of WRA who can identify three danger signs for neonatal distress increased significantly ($p<0.001$) from 11.3% at the baseline to 28.1% at the midterm survey (Table 26). The same pattern of increase was observed among the three vulnerable groups.

As shown in Figure 37, the percentage of WRA who can identify three danger signs for neonatal distress increased sharply in all provinces between the two surveys. As for the knowledge on danger signs during pregnancy, the lowest knowledge on danger signs for neonatal distress was observed in Ratanak Kiri.

Figure 38 shows that the percentage of WRA who can identify three danger signs for neonatal distress sharply increased in all age, marital status and education groups. Among the four age groups, teens had the lowest knowledge on danger signs for neonatal distress, whereas single women had the lowest knowledge among the three marital status groups. It appears that the knowledge on danger signs for neonatal distress increased by level of education.

Table 26: Percentage of WRA who can identify 3 danger signs for neonatal distress, disaggregated by vulnerability group at baseline and midterm survey

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA who can identify 3 danger signs for neonatal distress | n=1,412<br>11.3 | n=1,663<br>28.1 | p<0.001 |
| % of ethnic minority WRA who can identify 3 danger signs for neonatal distress | n=455<br>7.7 | n=473<br>24.3 | p<0.001 |
| % of WRA with some functional impairment who can identify 3 danger signs for neonatal distress | n=697<br>13.3 | n=301<br>27.6 | p<0.001 |
| % of poor WRA who can identify 3 danger signs for neonatal distress | n=460<br>15.0 | n=469<br>29.2 | p<0.001 |

Figure 37: Percentage of WRA who can identify 3 danger signs for neonatal distress, disaggregated by province

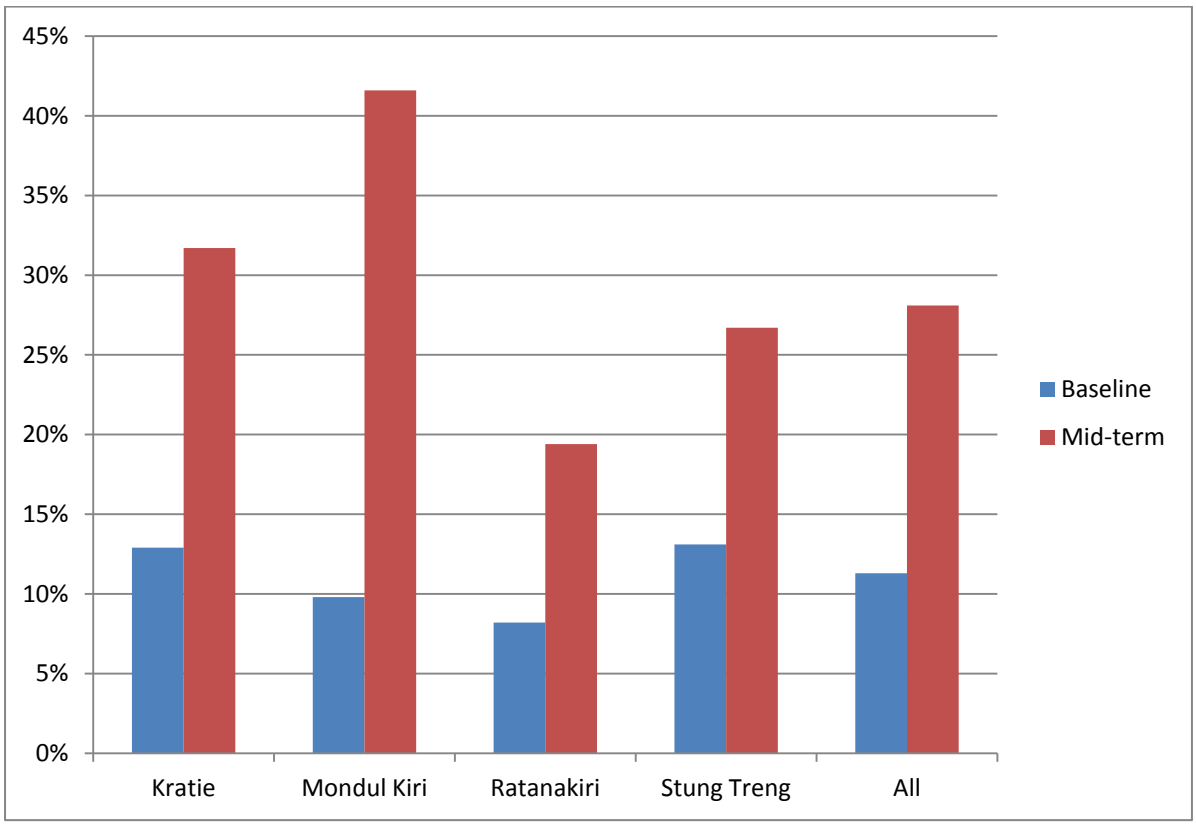
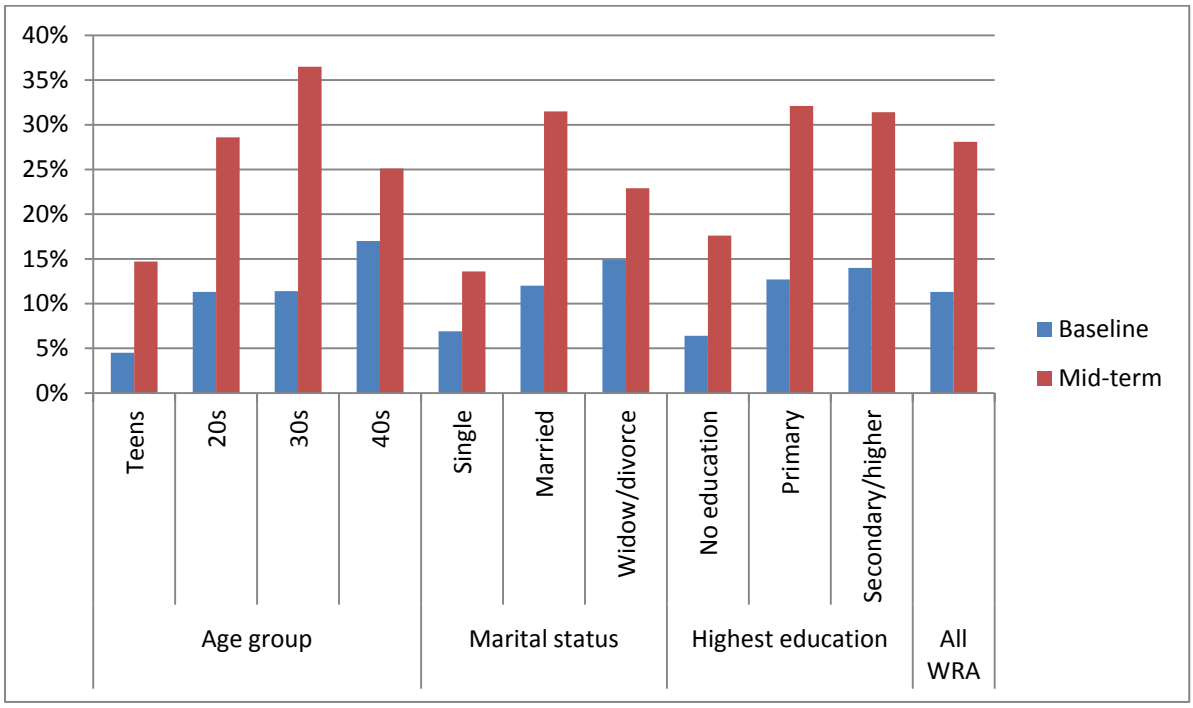


Figure 38: Percentage of WRA who can identify 3 danger signs of neonatal distress, disaggregated by age, marital status and highest level of education group




### 3.7.2 Self-efficacy

Questions using a five-point scale (5 = completely sure; 4 = somewhat sure; 3 = neither sure/unsure; 2 = somewhat unsure; 1 = not at all sure) were administered to WRA to measure their self-efficacy or confidence on negotiating and using family planning and refusing sex in a number of different situations –four situations (questions) for negotiating and using FP, and five situations (questions) for refusing sex.

Figure 39: Percentage of WRA who answered "completely sure" to any of the four questions relating to FP

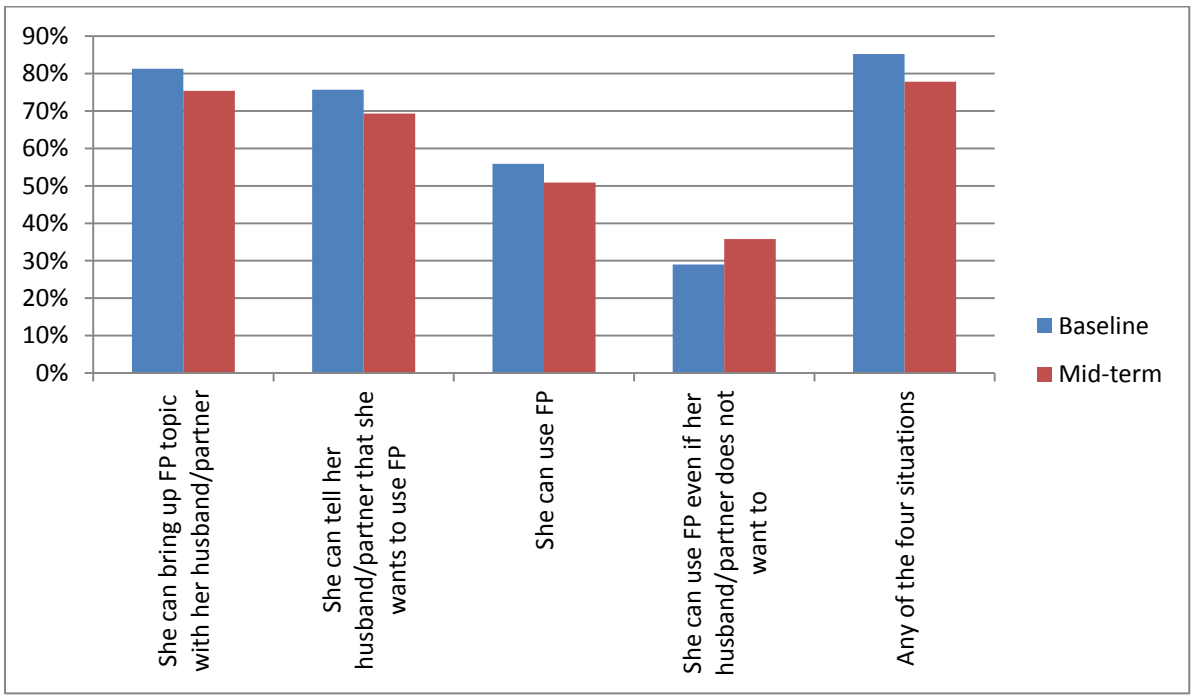


Figure 39 shows that the percentage of WRA who answered "completely sure" to any of the four questions (situations) relating to family planning (FP) was slightly lower at the midterm survey than at the baseline. This pattern was also observed for each of the first 3 questions (situations), except question 4 (the most difficult situation) which shows the opposite.

*The percentage of women who feel empowered to discuss and use modern FP (MERI indicator I6.3) here refers to the percentage of WRA who answered "completely sure" to all four questions (situations) relating to FP or WRA who had self-efficacy or confidence on discussing and using modern FP in the two component areas.*

Comparison between the two surveys shows that the percentage of WRA who had confidence on discussing and using modern FP increased significantly ($p<0.001$) from 25.3% at the baseline to 32.3% at the midterm survey (Table 27). Such increase was also observed among the vulnerable women groups, but the difference for ethic minority group is not significant.

Table 27: Percentage of WRA who had confidence on discussing and using FP, disaggregated by vulnerability group at baseline and midterm surveys

| Key variables | Baseline | Midterm | p-value |
|---|---|---|---|
| % of all WRA who had confidence on discussing and using FP | n=2,763<br>25.3 | n=3,250<br>32.3 | p<0.001 |
| % of ethnic minority WRA who had confidence on discussing and using FP | n=455<br>21.3 | n=473<br>26.0 | NS |
| % of WRA with some functional impairment who had confidence on discussing and using FP | n=1,215<br>29.2 | n=597<br>31.7 | p<0.001 |
| % of poor WRA who had confidence on discussing and using FP | n=460<br>27.0 | n=469<br>34.6 | p=0.001 |

Disaggregation by province (Figure 40) shows that in all provinces (except Preah Sihanouk province) the percentage of WRA who had confidence on discussing and using modern FP increased with varying degrees between the two surveys.

Figure 41 shows that the percentage of WRA had self-efficacy or confidence on discussing and using modern FP increased in all age, marital status and education groups. Among the four age groups, teens had the lowest level of confidence, whereas single women had the lowest confidence among the three marital status groups. The degree of confidence increases following the highest level of education.

Figure 40: Percentage of WRA who had confidence on discussing and using FP, disaggregated by province

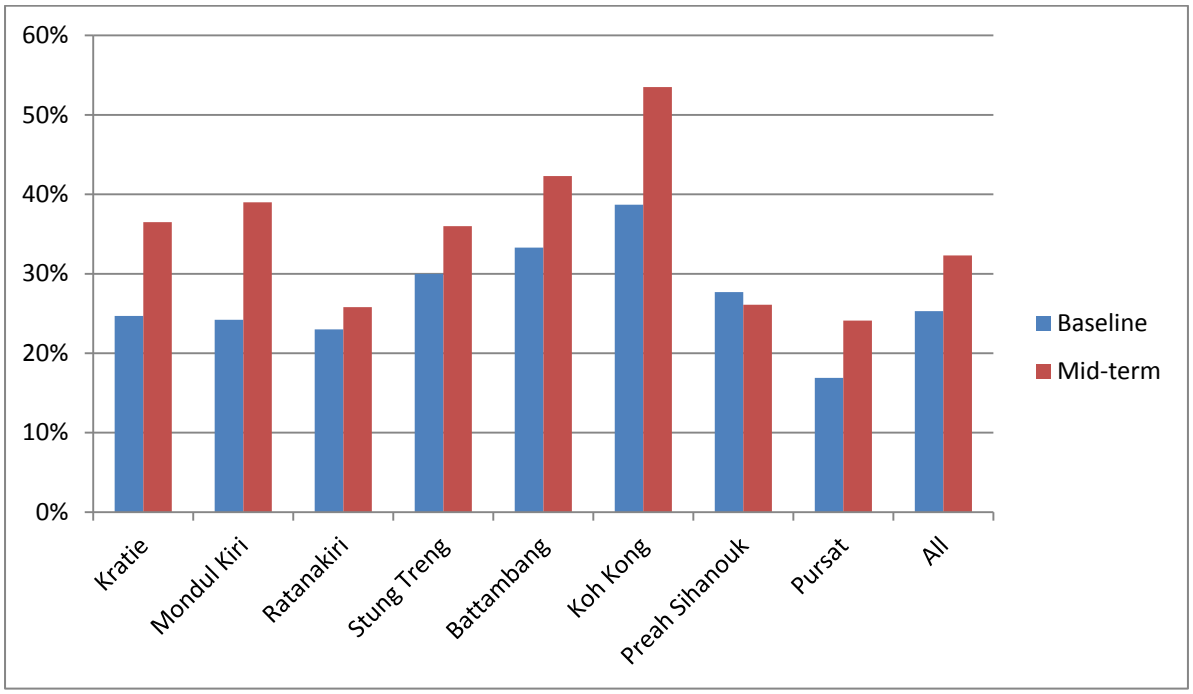
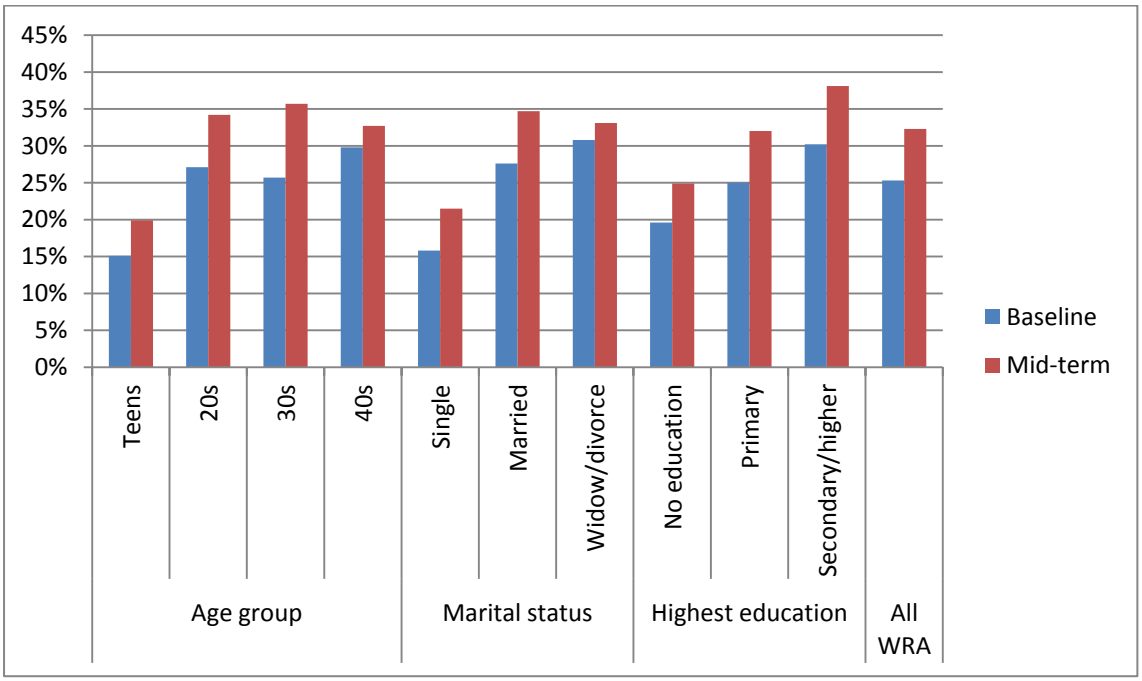
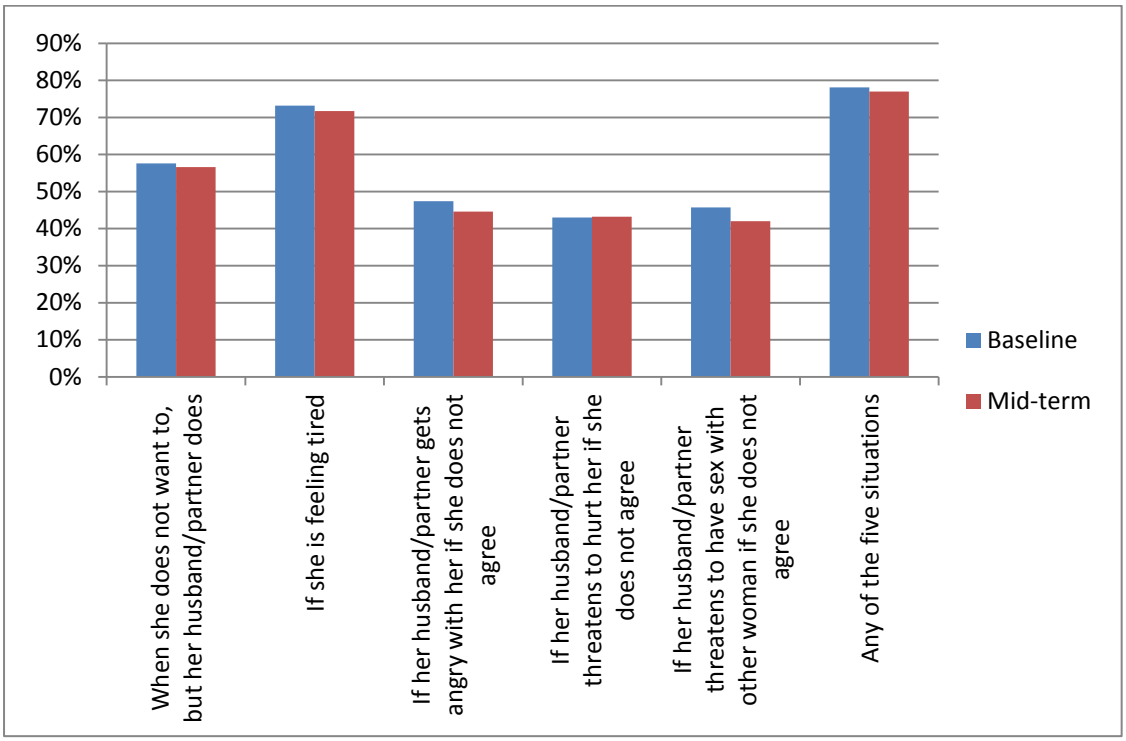



Figure 41: Percentage of WRA who had confidence on discussing and using FP, disaggregated by age, marital status and highest level of education group




The percentage of WRA who answered "completely sure" to any of the five questions (situations) relating to refusing sex was comparable between the two surveys. This pattern was also observed for each of the five situations (Figure 42). The percentage of WRA who answered "completely sure" to all the five questions relating to refusing sex or WRA who had self-efficacy or confidence on refusing sex was also comparable between the midterm survey (30.8%) and the baseline (31.5%).

Figure 42: Percentage of WRA who answered “completely sure” to any of the five questions relating to refusing sex



# 4 Results from OD MCH supervisor interviews and BEmONC assessments

In addition to the women's survey, researchers interviewed all MCH Supervisors in the nine ODs, mostly in the presence of the OD Director or Chief of Technical Bureau, to collect additional data necessary for indicators which were not covered by the quantitative survey. These include the reported number of health facilities, mainly public health facilities, offering comprehensive modern contraceptive services; the perceived improvement in RMNH and BEmONC services and the relation of such improvement to PSL support; the remaining constraints and challenges; and suggestions to address the constraints and further improve RMNH and BEmONC services. The interviews also identified the number of health facilities officially considered as BEmONC facilities. According to OD MCH supervisors, there were 121 functioning public health facilities, including seven referral hospitals (RHs), 69 health centres (HCs) and 45 health posts (HPs) in component 1 areas, compared with 112 (seven RHs, 62 HCs and 43 HPs) at the baseline. In component 2 area, there were 73 functioning public health facilities, including six RHs, 59 HCs and eight HPs, compared with 70 (four RHs, 58 HCs and eight HPs) at the baseline. Two HCs in Sampov Meas OD were promoted to become RHs –Krakor and Kravanh –for newly created Krakor and Kravanh ODs, respectively.

Table 28 presents percent distribution of MCM provided by the health centers in both component areas at the midterm and baseline evaluation. None of the HCs provided permanent contraceptive methods (tubal ligation and vasectomy), which were only available at RHs. While daily pills and injectables were available at almost all HCs in both component areas, IUDs and implants were only available at 77% and 87% of the HCs in component 1, compared with 97% and 95% in component 2, respectively. Many HCs in component 1 areas reported stock out of implants during the survey. All HCs in component 2 area provided male condoms, compared with only 80% in component 1 due to stock-out at the time of interviews. None of the public health facilities provided female condoms. All HCs in component 2 area provided emergency contraception, compared with only 61% in component 1 area. Comparison between baseline and midterm shows a considerable increase in the proportion of HCs providing long-term family planning methods (IUD and implant) in both component areas, mainly in component 1 for IUD and in component 2 for implant. It was also reported that MCM were also provided in many private health facilities, including the Sun Clinics of Population Services Khmer (PSK), but the exact number was not known.

Table 28: Percentage distribution of MCM provided by health centres in the two component areas at the midterm and baseline evaluation

| No | Method | Baseline | | | | Midterm | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HCs offering MCM | | % of all HCs | | HCs offering MCM | | % of all HCs | |
| | | Com. 1 | Com. 2 | Com. 1 | Com. 2 | Com. 1 | Com. 2 | Com. 1 | Com. 2 |
| 1 | Permanent | 0 | 0 | 0% | 0% | 0 | 0 | 0% | 0% |
| 2 | IUD | **37** | 53 | 60% | 91% | **53** | 57 | 77% | 97% |
| 3 | Implant | **39** | **31** | 63% | 53% | **60** | **56** | 87% | 95% |
| 4 | Injection | 62 | 58 | 100% | 100% | 67 | 59 | 97% | 100% |
| 5 | Daily pills | 62 | 58 | 100% | 100% | 68 | 59 | 99% | 100% |
| 6 | Condoms (male) | 62 | 43 | 100% | 74% | 55 | 59 | 80% | 100% |
| 7 | Emergency | | | | | 42 | 59 | 61% | 100% |

Eight out of the 69 functioning HCs and one RH in component 1, and seven out of the 59 functioning HCs in component 2 were reported to be official BEmONC facilities. Compared with baseline data, there is one new BEmONC facility (O' Am HC in Sen Monorom OD) in component 1. The number of BEmONC facilities in component 2 area remains unchanged.

During the mid-term evaluation, researchers then visited the nine official BEmONC health facilities in component 1 and assessed them against the seven signal functions of BEmONC:

(1) administer parenteral antibiotics;
(2) administer uterotonic drugs (e.g. parenteral oxytocin, misoprostol);
(3) administer parenteral anticonvulsants (e.g. magnesium sulphate);
(4) perform manual removal of placenta;
(5) perform removal of retained products (e.g. manual vacuum aspiration, misoprostol);
(6) perform assisted vaginal delivery (e.g. vacuum extractor);
(7) perform neonatal resuscitation (e.g. with bag and mask).

The assessment involved six questions on each signal function, covering: staff training and authorised cadres; availability and functional status of supplies and equipment; total number of reported cases and cases in the past three months; reasons for any gaps (see BEmONC assessment form in Annex 5). According to the answer (yes = 1 or no = 0) to the questions, each BEmONC facility was scored from 0 to 5 points for each of the seven signal functions. A complete or fully performing BEmONC facility should get a total of 35 points.

The results from midterm BEmONC assessment are summarized in Table 29. The average score from the seven health centres assessed at both evaluations was 27.7/35 points (79.2%) at the baseline to 30.4/35 points (86.9%) at the midterm evaluation. One of the assessed facilities (Bor Keo RH) was rated as fully functional BEmONC, compared to none at the baseline. O' Am was a new BEmONC health centre and only assessed at the midterm evaluation. Among all seven signal functions, scores were lowest for signal functions 3 (administer parenteral anticonvulsants, e.g. magnesium sulphate) and 6 (perform assisted vaginal delivery, e.g. vacuum extractor), the same as baseline result. The main issues were related to the absence of applied cases for many of the seven functions since the health facility became BEmONC and in the past three months. This could be explained by two reasons: (1) there has been no BEmONC related case presented at the facility; and (2) midwives who had not received BEmONC training or received it insufficiently had no confidence to apply BEmNOC functions when cases were presented, and thus, referred them to CEmONC facilities. The problem related to the availability of magnesium sulphate (which found at the baseline as a major reason for incomplete BEmONC) was not anymore the case for this midterm. Only two facilities (Siem Pang and O' Am) still had no functioning vacuum extractor, compared to almost all at the baseline.

Table 30 compares the level of functionality (defined by scores) of each BEmONC facility between the midterm and baseline evaluations. It shows that in general, the level of scores increased between both surveys for all BEmONC facilities, except Siem Pang HC with lowest score. The marked increase in score was found at five BEmONC facilities, namely Chambak, Sre Krasang, Bor Keo, Koh Nhek and Keo Seima.

Table 29: Summary of results from BEmONC assessments at midterm evaluation

| Name of health facility | Score by the 7 BEmONC signal functions | | | | | | | | Explanations |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | All | |
| **Sambo HC** | 5 | 5 | 3 | 5 | 4 | 3 | 3 | 28 | No applied case for magnesium sulphate, vacuum extraction and newborn resuscitation since the start and in the past three months for manual removal of placenta |
| **Snoul HC** | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 31 | No applied case for magnesium sulphate and manual removal of placenta since the start. Presented cases were referred to RH due to lack of confidence |
| **Chambak HC** | 5 | 5 | 3 | 4 | 5 | 4 | 5 | 31 | No applied case for parenteral antibiotic administration and magnesium sulphate since the start (one case presented but magnesium sulphate was not available) and in the past 3 months for manual removal of placenta and vacuum extraction |
| **Sre Krasaing HC** | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 33 | No applied case for magnesium sulphate since the start |
| **Siem Pang HC** | 3 | 5 | 4 | 5 | 4 | 2 | 4 | 27 | No vacuum extractor; no applied case for parenteral antibiotic administration and vacuum extraction since the start and in the past 3 months for magnesium sulphate, manual removal of placenta and newborn resuscitation |
| **Bor Keo RH** | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 35 | Complete for all the 7 functions |
| **Koh Ngek HC** | 5 | 5 | 4 | 5 | 4 | 3 | 4 | 30 | No applied case for vacuum extraction since the start (presented cases were referred due to lack of confidence) and in the past 3 months for magnesium sulphate, manual removal of placenta and newborn resuscitation |
| **Keo Seyma HC** | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 33 | No applied case for magnesium sulphate and newborn resuscitation in the past 3 months |
| **O' Am** | 4 | 5 | 3 | 5 | 5 | 2 | 4 | 28 | No vacuum extractor; no applied case for magnesium sulphate and vacuum extraction since the start and in the past 3 months for parenteral antibiotic administration and newborn resuscitation |
| **Average** | **4.7** | **5** | **3.6** | **4.7** | **4.7** | **3.8** | **4.3** | **30.7** | |

Table 30: Comparison of BEmONC functionality between midterm and baseline evaluations

| Name of health facility | Baseline | | | | | | | | Midterm | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***All*** | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***All*** |
| Sambo | 5 | 5 | 0 | 5 | 4 | 3 | 5 | 27 | 5 | 5 | 3 | 5 | 4 | 3 | 3 | 28 |
| Snoul | 5 | 5 | 2 | 5 | 4 | 5 | 4 | 30 | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 31 |
| Chambak | 4 | 4 | 2 | 4 | 4 | 5 | 5 | **28** | 5 | 5 | 3 | 4 | 5 | 4 | 5 | **31** |
| Sre Krasang | 4 | 5 | 2 | 5 | 5 | 2 | 5 | **28** | 5 | 5 | 3 | 5 | 5 | 5 | 5 | **33** |
| Siem Pang | 5 | 5 | 3 | 4 | 4 | 2 | 4 | 27 | 3 | 5 | 4 | 5 | 4 | 2 | 4 | 27 |
| Koh Nhek | 3 | 5 | 3 | 5 | 3 | 2 | 5 | **26** | 5 | 5 | 4 | 5 | 4 | 3 | 4 | **30** |
| Keo Seima | 5 | 5 | 3 | 3 | 5 | 2 | 5 | **28** | 5 | 5 | 4 | 5 | 5 | 5 | 4 | **33** |
| ***Average*** | ***4.4*** | ***4.9*** | ***2.1*** | ***4.4*** | ***4.1*** | ***3.0*** | ***4.7*** | ***27.7*** | ***4.7*** | ***5.0*** | ***3.4*** | ***4.6*** | ***4.6*** | ***3.9*** | ***4.3*** | ***30.4*** |
| Bor Keo | 4 | 5 | 3 | 3 | 5 | 3 | 5 | **28** | 5 | 5 | 5 | 5 | 5 | 5 | 5 | **35** |
| O' Am | | | | | | | | 0 | 4 | 5 | 3 | 5 | 5 | 2 | 4 | 28 |

All the interviewed OD MCH supervisors in component 1 area noted a considerable improvement in RMNH and BEmONC service provision and coverage in their respective OD after the start of PSL program in late 2013. They observed that many HCs in their OD were becoming obviously busier and had increasingly more clients for RMNH services, including FP and deliveries, than before the start of PSL program, and many of them referred to the improvement in some RMNH indicators in the OD HIS data. PSL supported activities and interventions that the key informants believed to have contributed (been strongly related) to the improvement include: (1) PSL-supported practical training (e.g. the 3-week training at RHs), midwifery coordination alliance teams (MCAT) meetings, and supervisions to increase midwives' capacity and skills; (2) additional and necessary supplies by PSL in terms of equipment, materials and commodities; and (3) PSL-supported extension of community-based networks and referral mechanisms, such as pregnancy clubs, men's clubs, listening & dialogue groups, VSLAs, VHSGs, CBDs, commune councils, community health promotion, printed IEC materials, radio broadcast, mobile phone message and hotline. In addition, they also appreciated the many initiatives by PSL to promote RMNH services, in particular the provision of kind incentives (kits for the mother and her baby such as *Krama and Sarong*) to women who give birth in public health facilities.

The perceived improvement in RMNH and BEmONC service provision and coverage was also found in component 2 area, but the level of improvement and its relation to PSL was less obvious than in component 1 area. While many OD MCH supervisors in component 2 area appreciated the support by PSL partners in promotion of long-term family planning (IUD and implant) and abortion services, they did not specifically report marked improvement in such service, but in RMNH services in general, including coverage of all FP methods, ANC, births in public health facilities, and PNC. The interviews with them also found that a part from MSIC's support on long-term family planning and abortion, there are other PSL partners (e.g. CARE in Smach Meanchey and Save the Children in Sampov Meas) and organizations (UNFPA in Preah Sihanouk and Sampov Loun, RACHA in Sampov Meas, and a Korean organization –KOFI in Sampov Loun) providing support on RMNH services, mainly through training of midwives, MCAT and community promotion. Therefore, in the following, we will report only findings on remaining constraints and challenges, and suggestions to address them as results from the interviews with OD MCH supervisors in component 1 area.

The interviewees in component 1 raised a number of remaining constraints and challenges in further improving comprehensive RMNH and BEmONC services. These include, but not limited to, low capacity and skills of some midwives (especially the newly recruited ones and those at non-PSL supported HCs) in ANC, delivery and PNC (especially the AMSTL, newborn care and BEmONC as well as FP counselling), poor infection control during delivery, lack of supplies for some commodities (e.g. implants) and equipment (vacuum extractor), difficult physical access and the lack of transport means for referrals and motorbike for staff to do outreaches. They also raised a concern about the lack of reproductive health services specifically provided by HCs for youth and teenagers in their areas. Some interviewees observed inconsistency between different PSL partners in technical guidance, IEC and training materials they provided. This would create confusion and inefficiency in implementation.

In order to address the above-mentioned constraints, the interviewees in component 1 provided some suggestions. In general, they strongly appreciated PSL support and wished to have it continued and further expanded to other non-covered HCs in the coming years, if financially affordable for PSL. More specifically, in order to maintain and further improve midwives' capacity and skills, refresher training on various RMNH related topics, including how to complete partograph, should be provided regularly (every year) to all HC midwives, as a stand-alone sessions or through MCAT meetings. Practical training sessions on specific RMNH and BEmONC topics (e.g. the 3-week training at RH), followed by field coaching, should be organized for selected number of midwives (especially the junior and newly recruited ones). Attention should be made to infection control and midwives should be reminded about this issue during supervisions and MCAT meetings. Additional and necessary supplies by PSL in terms of equipment, materials and commodities and in kind incentives (kits for the mother and her baby such as *Krama and Sarong*) to women who give birth in public health facilities were considered crucial for RMNH service provision and should be continued. Some of them even requested PSL to provide motorbikes for some HC personnel (those who did not have one) to be used for their outreach activities. They wished to see a better harmonized technical guidance, IEC and training materials provided by different PSL partners. With regards to the concern about the lack of reproductive health services provided by HC for youth and teenagers, it was suggested to expand/replicate the model of youth and teenager services (youth centers) nested in HCs like in Sambo HC and the provincial hospital (in Kratie), and Kamphun and Sre Krasaing HCs (in Stung Treng), currently supported by UN. In addition, outreach services, specifically designed for this target group of population and peer education can also be considered.

# 5 Discussion and conclusions

## 5.1 Validity and limitations

This midterm evaluation was conducted in late 2015, almost two years after the baseline evaluation, with the aim to assess the progress, and to a larger extent the impact, of the PSL program toward the three-year targets in MERI. According to the literature, the optimal ways to assess the effectiveness or impact of a program refer to randomized experiments or quasi-experimental designs –controlled before and after studies and interrupted time series studies using panel data [5, 6]. Because of technical and financial constraints, we could not include a proper control site in the baseline and midterm surveys. Although the difference of PSL interventions between component 1 and 2 areas allow control possibility for some indicators, this study is not a controlled before and after design. As shown by the results of OD MCH supervisor interviews, several organizations other than PSL partners have supported various RMNH promotion activities, not only FP and abortion, but also training of midwives, MCAT and community promotion, in component 2 area. This indicates that it is not adequate to simply consider component 1 area as intervention site and component 2 area as control site. Therefore, for key indicators, we carefully compared significant changes of results between the two similar surveys, coupled with qualitative data from in-depth interviews with OD MCH supervisors and other data sources to assess the impact of PSL program –a mixed-method evaluation design which is increasingly used for impact evaluations [7].

Although the total sample size of the women's survey at the baseline was slightly smaller than the initially estimated minimum sample size [1], this could be compensated by the relatively larger sample of this midterm survey. These sample sizes are large enough for many of the assessed indicators, including the two major indicators –the percentage of WRA currently using MCM and the percentage of deliveries in a health facility with an SBA –based on which the same sizes were estimated. However, for some other indicators, e.g. the percentage of newborns with low birth weight, the number of observed cases was relatively too small, especially when it is disaggregated by vulnerable groups. One could also question why the household size of the midterm survey sample was significantly larger than that of the baseline. Actually, the difference was small, though statistically significant. As shown by the series of CDHS surveys [3, 8, 9], the change in household profile and characteristics, including household size, of a particular population over time is not unexpected. This means that, with an appropriate sampling, a sample of a changing population should also change over time. However, the increased household size of the survey population was not in line with the national data which rather shows a decreasing trend. This could be partly related to the increase in migration of our study population, as explained by the significant change in the percentage of WRA who always lived in the village (60.9% at baseline to 55% at midterm). With professional sampling approach as presented in the methodology section, this change is unlikely a result of sampling issue, and thus would not affect the comparison of results between both surveys. The assessed indicators are mainly related to WRA whose key characteristics are comparable between both surveys.

In general, the quality of collected data was good with only a few missing variables and no surprising or inconsistent results across key variables in this midterm survey. However, comparing with the baseline, we found two surprisingly different results on the percentage of WRA with functional impairment and the percentage of RMNH users in the past 12 months who were very satisfied with the services they received. It is very unlikely that such difference entirely reflects the change in the reality, but it is possibly related to the quality of data collection. Our analysis of the CDHS 2014 data showed that 4.7% of WRA had at least some functional impairment (based on the six Washington Group questions), and only 0.9% had severe impairment. This is closer to the results of midterm survey (with 18.4% and 0.6% respectively) than to the results of baseline (with 44% and 4.7%

respectively). This indicates possible over estimation at the baseline survey due to the fact that enumerators defined differently the different levels of the Likert scale for impairment. Enumerators who mostly joined both the midterm and baseline surveys became more accurate after the second training at the midterm. Trainers at the midterm survey further stressed that any functional impairment was only considered when it still exist after correction (by wearing glasses for difficulty seeing, using hearing aid for difficulty hearing, assistive devices for difficulty walking…). While the percentage of RMNH users who were highly satisfied with services provided was significantly lower at midterm survey (16%) than at the baseline (42.8%), the percentage of those who were either satisfied or very satisfied was higher at the midterm (97.1%) than at the baseline (94.9%). This could be also partly resulted from the discrepancies in rating the level of satisfaction by enumerators between the two surveys. However, disaggregation by type of services (Figure 26) shows that the percentage of WRA being highly satisfied with abortion service increased between both surveys. In addition, at the time of the midterm evaluation, enumerators introduced themselves as working for and independent research consultant firm, while during the baseline they introduced themselves as working for NIPH, MoH. This may have influenced respondent to express their feeling more openly at the time of the midterm. Therefore, findings related to these two areas should be interpreted with cautions.

Lastly, the comparison of the PNC2 indicator between the two surveys is difficult, if not impossible, due to important changes in definition and methodology. The results show that while PNC1 coverage was comparable between midterm and baseline surveys (47.4% and 47.5% respectively), the PNC2 coverage was significantly lower at the midterm (14.6%) than at the baseline survey (40.4%). This could be a result of over estimation of PNC2 at the baseline survey. At baseline, all the second PNC visits were counted as PNC2, while at the midterm only the second visit made within six weeks and after the discharge was considered PNC2. However, if compared with PNC2 coverage of 52.3% presented in the National Health Congress Report 2016 [4], the PNC2 coverage at midterm survey (14.6%) was too low and cannot reflect the real coverage in component 1 area. With no significant increase in coverage of PNC1 for which the quality was rated (47.6% out of maximum 100%) higher than the PNC2 (36.4% out of maximum 100%) by the Level 2 Quality of Care Assessment [10], it is unlikely that the PNC2 coverage increased significantly between the two surveys.

## 5.2 Key findings and impact of the PSL program

The findings from women's surveys show that there was a significant increase in knowledge, utilization or coverage of RMNH services, and access to community referral and financial support mechanisms between the two surveys for 10 out of the 16 assessed indicators, especially the two indicators used for sample size calculation, and the increase in component 1 area was generally more substantial than the increase in component 2.

### Family planning

Knowledge on any family planning method as well as on MCM was almost universal, similar to the results of baseline [1] and CDHS 2014 [3]. Although knowledge on some individual methods such as male sterilization, female condom, LAM, emergency contraception and the two traditional methods remained relatively low, it has increased considerably since the baseline. The percentage of all WRA using an MCM in both component areas significantly increased from 26.8% at the baseline to over 31.3% at the midterm survey. Such increase was also found among vulnerable WRA (including ethnic minority women, women with some functional impairment and poor women), and in all the eight study provinces. The percentage of married WRA using an MCM also jumped from 36.6% at the baseline to 40.7% at the midterm, reaching a level comparable to the national coverage (Table 2). The percentage of LAPM use among WRA using MCM also increased between the two surveys, but the difference was not significant statistically.

### Pregnancy, antenatal care and delivery

The percentage of women with a live birth in the past 24 months preceding the survey attending four or more ANC consultations (ANC4 coverage) in component 1 area significantly increased from 47% at baseline to 55.4% at midterm, and such increase was observed in all the four provinces. The percentage of women delivering with an SBA and the percentage of women delivering in a health facility with an SBA in component 1 area also augmented significantly from 58.8% and 55.4% at the baseline to 72.2% and 71% respectively at the midterm survey. Difference-in-difference analysis between the two surveys and between component 1 (intervention area) and component 2 (control area) of these two indicators also showed significant results. More interestingly, such augmentation was also found among vulnerable WRA and across the four provinces in component 1 area. However, the achieved coverage at the midterm for these two indicators remains relatively lower than the national coverage (Table 2) and far below the coverage in component 2 area (96.5% and 94.7% respectively), suggesting room for further improvement.

### Newborn and postnatal care

The percentage of newborns with low birth weight slightly decreased from 5.7% at the baseline to 5.3% at the midterm, but the decrease was not significant statistically. For the PNC2 coverage, comparison between the two surveys shows a significant decline. Although the negative result for this indicator is difficult to interpret because of change in definition, as explained earlier in section 5.1, it suggests the absence of significant PSL program impact on these services. Furthermore, it suggests greater effort to explore the validity of the findings, and the reasons behind the observations, in order to make improvements in this area, with a particular attention on quality of PNC2 service. Nevertheless, the percentage of women attending PNC who receive counselling on MCM also increased significantly between the two surveys.

### Abortion and post-abortion

Of all the interviewed women, only 103 (3.2%) reported to have had a pregnancy that ended in induced abortion within the 24 months preceding the survey, compared with 75 (2.7%) at the baseline. The majority of induced abortions at both surveys were carried out in private hospitals/clinics/cabinets and in women's homes. The women's knowledge on where to access safe abortion services when needed increased significantly ($p<0.001$) from 61.5% at the baseline to 72.1% at the midterm survey. The percentage of WRA knowing that abortion is legal was 12.2% at the midterm, compared with 11.7% at the baseline survey. The difference is not significant statistically.

### Service utilisation, satisfaction, expenditure and financial support

We also found that the percentage of people accessing RMNH services in the past 12 months who were referred through a community referral mechanism significantly increased from less than 8.5% at the baseline to nearly 24.9% at the midterm survey. A snapshot survey on the use of community referral mechanisms conducted by PSL in February 2015 showed a similar result (34%). But another snapshot survey conducted in August 2015 resulted in much higher percentage (48%) [11], suggesting a seasonal variation for this indicator. Similarly, a significantly larger percentage of RMNH service users in the past 12 months at the midterm (14.7%) than that at the baseline (10.3%) received financial support at least once, with HEF the most commonly used health financing mechanism (by almost 90% of all the users). Despite this increased access to financial assistance, fewer RMNH users at the midterm than at the baseline survey reported zero OOP and the average amount of OOP per woman (RMNH user) in the past 12 months appears to have increased.

The percentage of target population who report being highly satisfied with RMNH services provided shows a significant decline between baseline and midterm. The negative result for this indicator is difficult to interpret but can be possibly explained by discrepancies in rating the level of satisfaction by enumerators between the two survey and the different way in which they introduced themselves as explained earlier in section 5.1,

### RMNH knowledge and self-efficacy

The findings from women's survey also show a significant increase in knowledge on the danger signs during pregnancy and neonatal distress. The percentage of WRA who could identify at least five danger signs during pregnancy and those who could name at least three danger signs for neonatal distress increased significantly from about 3% and 11.3% at the baseline to approximately 8.5% and 28.1% respectively at the midterm survey. The percentage of women who felt empowered or had self-confidence on negotiating and using family planning also significantly increased from 25.3% at the baseline to 32.3% at the midterm survey. Despite this significant increase, the current level of knowledge on the danger signs and self-confidence remains low and requires further improvement. Moreover, the self-confidence on refusing sex and the knowledge that abortion is legal did not increase.

### BEmONC assessments

None of the seven health centres assessed at both surveys was found to be fully functioning BEmONC facility. However, there was an increase in average score from the seven assessed health centres from 27.7/35 points (79.2%) at the baseline to 30.7/35 points (86.9%) at the midterm survey, suggesting their improved BEmONC functionality. The main issues were not anymore related to equipment and supply problem as found at the baseline, but to the absence of applied cases for many of the seven functions since the health facility became BEmONC and in the past three months. This could be explained by two reasons: (1) there has been really no BEmONC related case presented at the facility; and (2) midwives who had not received BEmONC training or received it insufficiently had no confidence in applying BEmNOC practices when cases were presented, but referred them to CEmONC facilities.

### Results from OD MCH supervisors interviews

Furthermore, all the interviewed OD MCH supervisors in component 1 area noted a considerable improvement in RMNH and BEmONC service provision and coverage in their respective OD after the start of PSL program in late 2013. A number of PSL supported activities and interventions were believed to have contributed to the improvement: (1) PSL-supported practical training (e.g. the 3-week training at RHs), midwifery coordination alliance (MCAT) meetings, and supervisions to increase midwives' capacity and skills; (2) additional and necessary supplies by PSL in terms of equipment, materials and commodities; and (3) PSL-supported extension of community-based networks and referral mechanisms and other PSL initiatives such as kind incentives for women giving birth in PHF. Such perceived improvement was also reported by the respondents in component 2, but the magnitude of improvement and its relation to PSL was less obvious.

A number of remaining constraints and challenges were raised by the respondents in component 1 area. These include, but not limited to:

- low RMNH and BEmONC related capacity and skills of some midwives (especially the newly recruited ones and those at non-PSL supported HCs);
- poor infection control during delivery;
- lack of supplies for some commodities and equipment, difficult physical access and the lack of transport means for referrals and motorbike for staff to do outreaches;
- lack of reproductive health services specifically provided by HCs for youth and teenagers in their areas; and
- inconsistency between PSL partners in provided technical guidance and materials which could create confusion and undermine the program efficiency.

All the respondents strongly appreciated PSL support and wished to have it continued and further expanded to other non-covered HCs in the coming years. At the same time, they proposed a number of suggestions to address the remaining constrains. These include:

- regular refresher training on various RMNH related topics for all HC midwives, as a stand-alone sessions or through MCAT meetings, to improve and maintain their knowledge and skills;
- practical training sessions on specific RMNH and BEmONC topics, followed by field coaching, for selected number of midwives (especially the junior and newly recruited ones);
- strengthening infection control through effective supervisions and MCAT meetings;
- continuation of additional and necessary supplies by PSL in terms of equipment, materials and commodities;
- continuation of in-kind incentives for births in public health facilities;
- possible provision of motorbikes for some HC personnel to be used for their outreach activities;
- better harmonized technical guidance and materials provided by PSL partners; and
- expansion the existing UN-supported model of youth and teenager services (youth centres) nested in some health facilities in Kratie and Stung Treng, coupled with outreach services and peer education specifically designed for this population group.

### Findings about vulnerable groups

All MERI indicators (except BEmONC) have been disaggregated for the three vulnerable groups (ethnic minority WRA, ID Poor WRA, and WRA with some functional impairment). This can give an idea of the progress of the program in reaching the most vulnerable, although data needs to be taken with care due to the very small number of persons from respective populations in the sample.

The proportion of households having an ID Poor Card was 28.7%, compared with 31% at the baseline. There were 369 (14%) households in the midterm survey sample which were from ethnic minorities including 8 reported ethnic minority groups. Tampoun, Phnong and Jarai were the three largest groups, representing in total of nearly 65% of the ethnic minority households in the midterm survey sample. Based on the six Washington Group questions on functional impairment/disability, 18.4% of the midterm sample reported having at least some functional impairment (some difficulty) and only 0.6% had severe impairment or disability (a lot of difficulty or cannot do).

Findings from the women survey shows progress across most indicators for these three vulnerable groups. Mostly the evolution between baseline and midterm situation follows the same pattern for these groups as for all WRA. Changes seemed statistically slightly more significant for ethnic minority than other groups with 9 out of 15 MERI disaggregated indicators increasing significantly for this group, compared to 8 and 7 respectively for ID Poor WRA and WRA with some functional impairment. Despite significant progress, results for ethnic minorities remained low for delivery in health facility assisted by SBA (53,8% compared to 71% for all WRA), ANC4 attendance (46.9% compared to 55.4% for all WRA), and self confidence to discuss family planning with husband (26% compared 32.3%). WRA with some functional impairment were less likely to be referred through a community mechanism (19.2%) despite a very significant increase between baseline and midterm. The use community referral mechanisms were on the contrary higher for ID poor WRA and ethnic minority WRA than for all WRA. Financial support rates for poor WRA appear to be stable between both surveys (21.5% at the baseline and 22% at the midterm), while other 78% of poor WRA accessing RMNH services still did not receive support from any financial support mechanism.

### Findings about provincial differences

All MERI indicators have also been disaggregated by provinces. Progress across most indicators is observed for all provinces with some exceptions (use of LAPM decreased in Koh Kong, Kratie, Ratanakiri and Stung Treng, RMNH users receiving financial support in Koh Kong and Pursat, and knowledge that abortion is legal reduced in Kratie and Pursat). In the NE, the percentage of WRA delivering in HF with support from SBA increased in all four provinces but the progress is more important in Mondul kiri and Ratanakiri while it remains stable in Stung Treng. Progress in access to ANC4 is quite marked for Mondul kiri which shows the highest rate (above 70%). Lowest rate for ANC4 is observed in Ratanakiri. Highest rates of use of MCM were found in Ratanakiri and Mondul

kiri and the lowest in Stung Treng and Kratie. Similarly most important increase of referral to RMNH services from community referral mechanisms were found in Mondul kiri and Ratanakiri with Mondul Kiri showing the highest rate (35%). Stung Treng showed the most impressive increase for percentage of RMNH service users receiving financial support likely due to the introduction of HEF in this province between baseline and midterm.

## 5.3 Conclusions

Despite some limitations in methods, the significant increase in knowledge, utilization or coverage of RMNH services, and access to community referral and financial support mechanisms between the two surveys for 10 out of 16 assessed indicators, especially the key indicators used for sample size calculation, coupled with the findings from qualitative data, strongly suggests that a huge improvement in RMNH services was made in the study areas in the past two years, and that PSL support was a key contribution, among others, to this improvement.

However, such improvement was not homogenous across all the assessed indicators. There was no or minimal evidence of improvement for six assessed indicators: (1) % of newborns with low birth weight, (2) % of target population who report being highly satisfied with RMNH services provided, (3) % of women receiving two or more PNC visits (PNC2 coverage), (4) % of women using long acting or permanent methods of FP, (5) % of fully functioning BEmONC health centres, and (6) % of women who know that abortion is legal. These indicators may be the priority areas to be focused by the PSL program interventions for years 4 and 5. For 10 other indicators with evidence of improvement, the absolute level of achievement or coverage at the midterm was generally lower than the national coverage, and the achieved coverage in component 1 was generally lower than that in component 2 area. This reflects the rationale for prioritisation of the north eastern provinces for these interventions and suggests the need for further efforts to improve these indicators.

## 5.4 Recommendations

In addition to the above suggestions by key informants to address the remaining constrains, the following are some considerations for PSL planning and actions in years 4 and 5 to address the identified shortcomings to further improve RMNH services in the target areas, thereby contributing to reducing maternal and neonatal mortality in Cambodia.

- PSL-supported extension of community-based networks and referral mechanisms (pregnancy clubs, men's clubs, listening & dialogue group, VSLAs, VHSGs, CBDs, commune council, community health promotion, printed IEC materials, radio broadcast, mobile phone message and hotline) was considered by OD MCH supervisors as a key intervention contributing to the improvement in RMNH service provision and coverage. Although the percentage of people accessing RMNH services in the past 12 months who were referred through a community referral mechanism increased significantly between the two surveys, such increase was limited to some mechanisms (VHSGs, CBDs, Commune Council and Community Health Promotion) and other mechanisms remained largely unknown (See Figure 30). Further strengthening of these mechanisms will not only improve the referral indicator, but also promote women's awareness, knowledge (including knowledge on danger signs of pregnancy and neonatal distress, and legality of abortion) and utilization of RMNH services;
- A recent assessment of quality of care at public health facilities in 15 provinces and Phnom Penh municipality found that quality of care offered at these facilities is relatively poor if compared to the gold standards, and requires major improvement. Among the assessed RMNH services, quality of PNC2 was the second poorest after triage [10]. Therefore, improving quality of care in public health facilities is a pressing need and a focus of new MOH-donor collaborative project, namely Health Equity and Quality Improvement Project (H-EQIP). In 2017, H-EQIP will gradually introduce a performance-based financing scheme to all public health facilities, which will be linked to a quarterly quality of care assessment and coaching by PHD and OD. In line with this,

PSL should also prioritize some interventions to improve quality of RMNH services (including PNC2) in public health facilities in its target areas, which will in turn improve the satisfaction of the target population with the provided services, and consequently, increase the utilisation of RMNH service (including PNC2). As suggested by OD MCH supervisors, strengthening infection prevention and control measures and capacity building of midwives such as refresher training through MCAT and practical training sessions followed by field coaching, are necessary for improving quality of RMNH services. In addition, PSL can also make use of or link up with the quarterly quality assessment and coaching introduced by H-EQIP to identify quality related problems and define solutions to address them;

- Despite some improvement in average scores between baseline and midterm evaluations, none of the seven HCs assessed in both baseline and midline was rated as fully functional BEmONC. This was mainly because of no BEmONC related case presented at the facility and/or the lack of confidence of midwives on duty in applying BEmONC functions (administer magnesium sulphate and perform vacuum extraction) when cases were presented, and thus, referred them to CEmONC facilities. This suggests that further investment to make midwives (at least one per duty team or three per HC) confident in applying BEmONC functions is challenging and may not allow successfully making the seven BEmONC health centres fully functioning in the short run. With generally improved road access to RHs, it may be more efficient or safer for pregnant women with any identified risk to be referred straight to RHs. In this context, along with efforts to further strengthen these BEmONC HCs, PSL should consider supporting effective referrals to CEmONC facilities;
- Meeting the RMNH needs for youth and teenagers is crucial for improving RMNH and requires a special approach to service delivery. PSL can consider supporting the expansion of the existing UN-supported model of youth and teenager services (youth centres) nested in some health facilities in Kratie and Stung Treng, coupled with outreach services and peer education specifically designed for this population group;
- Since the current PSL support in component 1 area does not cover all HCs in the target areas, along with further strengthening of the support within the current geographical coverage, PSL should consider expanding its support to other non-covered HCs, if it is technically and financially feasible. This is essential for further improvement of the PSL indicators.
- For possible endline survey, researchers should consider addressing the limitations identified in this midterm survey, in particular the discrepancies between the baseline and midterm surveys in terms of rating of functional impairment and RMNH service users' satisfaction, and definition of PNC2, throughout the process of the study (design, training, data collection/supervision and data analysis). Special attention on the definitions and challenge in rating of different levels of Likert scale should be made during the training and field supervisions. For RMNH service users' satisfaction, PSL can consider both "satisfied" and "very satisfied" as an indicator of satisfaction rather than focusing on "very satisfied" only. This may help address the problem of discrepancy in rating the difference between these two levels of satisfaction. The National Client Satisfaction Survey [12] also included both levels for satisfaction rating, but researchers gave weighed score of satisfaction differently to the two questions: 100% for "very satisfied" and only 75% for "satisfied".

# Annexes

## Annex 1: Summary of results for 16 assessed PSL indicators at baseline and midterm evaluation

| Performance Measures/Indicators | Target Areas | Baseline | Midterm | p-value |
|---|---|---|---|---|
| O1.2. % of women delivering in a health facility with a skilled birth attendant | KRT, MKR, RAT, STG | 55.4% | 71.0% | p<0.001 |
| O1.4.% of newborns with low birth weight | KRT, MKR, RAT, STG | 5.7% | 5.3% | NS |
| O2.1. % of target population using modern contraception | KRT, MKR, RAT, STG, BAT, KKG, PUR, SHV | 26.8% | 31.3% | p<0.001 |
| O3.2. % of women attending PNC who receive counselling in MCM | KRT, MKR, RAT, STG | 26.3% | 48.8% | p<0.001 |
| O3.3. % of target population who report being highly satisfied with RMNH services provided | KRT, MKR, RAT, STG | 42.8% | 16% | p<0.001 |
| O4.1. % of women of reproductive age who can identify 5 danger signs during pregnancy | KRT, MKR, RAT, STG | 3% | 8.5% | p<0.001 |
| O4.2. % of women attending 4 or more ANC consultation (ANC4) | KRT, MKR, RAT, STG | 47% | 55.4% | p<0.05 |
| O4.3. % of women receiving 2 or more PNC visits (PNC2) | KRT, MKR, RAT, STG | 40.4% | 14.6% | p<0.001 |
| O4.4. % of women (modern FP users) using long acting or permanent methods of FP | KRT, MKR, RAT, STG, BAT, KKG, PUR, SHV | 23.5 | 24.2% | NS |
| I1.1. % of functioning BEmONC facilities (health centres) | KRT, MKR, RAT, STG | 0/7 | 0/7 | |
| I3.1. % of people accessing RMNH services in previous 12 months who were referred through a community referral mechanism | KRT, MKR, RAT, STG | 8.5% | 24.9% | p<0.001 |
| I5.1. % of target population accessing RMNH services using a financial support mechanism in the previous 12 months | KRT, MKR, RAT, STG, BAT, KKG, PUR, SHV | 10.3% | 14.7% | p=0.001 |
| I6.2. % of target population who can identify 3 danger signs for neonatal distress | KRT, MKR, RAT, STG | 11.3% | 28.1% | p<0.001 |
| I6.3. % of women who feel empowered to discuss and use modern family planning | KRT, MKR, RAT, STG, BAT, KKG, PUR, SHV | 25.3% | 32.3% | p<0.001 |
| I6.4. % of women who know that abortion is legal | KRT, MKR, RAT, STG, BAT, KKG, PUR, SHV | 11.7% | 12.2% | NS |
| I6.5. % of women delivering with a skilled birth attendant | KRT, MKR, RAT, STG | 58.8% | 72.2% | p<0.001 |

BAT = Battambang; KKG = Koh Kong; KRT = Kratie; MKR = Mondul Kiri; PUR = Pursat; RAT = Ratanak Kiri; SHV = Preah Sihanouk; STG = Stung Treng.

## Annex 2: List of villages (clusters) selected for the study

| | Village | | | Nearest public health facility | | |
|---|---|---|---|---|---|---|
| | **Name** | **Commune** | **Population** | **Name** | **Type** | **Distance from village (km)** |
| **Component 1** | | | | | | |
| **Chhlong OD** | | | | | | |
| 1 | Chrouy Ampil Muoy | Chambak | 1622 | Chambak | HC | 4 |
| 2 | Chhney | Chhloung | 539 | Chroy Thma | HC | 3 |
| 3 | Prey Kou | Damrei Phong | 1191 | Chroy Thma | HC | 11 |
| 4 | Chheu Teal Phloas | Preaek Saman | 4368 | Kanhchor | HC | 2 |
| 5 | Tnaot | Pongro | 1911 | Khsach Andet | HC | 3 |
| 6 | Chong Kaoh | Kaoh Ta Suy | 543 | Pongro | HC | 12 |
| 7 | Preaek Prasab Kraom | Preaek Prasab | 1239 | Prek Prasob | FDH | 0 |
| 8 | Kraham Ka Kraom | Ta Mau | 1008 | Ta Mau | HC | 10 |
| **Kratie OD** | | | | | | |
| 1 | Bos Leav Leu | Bos Leav | 1047 | BosLeav | HC | 2 |
| 2 | Kasang | Changkrang | 2841 | Changkrang | HC | 0 |
| 3 | L'iet | Chrouy Banteay | 855 | Chrouy Banteay | HC | 5 |
| 4 | Ta Nguon | Dar | 479 | Da | HC | 15 |
| 5 | Mak Kandal | Srae Char | 2221 | Kbaltrach | HC | 7 |
| 6 | S'at | Srae Char | 3291 | Kbaltrach | HC | 15 |
| 7 | Ruessei Char | Thma Kreae | 2065 | Momnorum | HC | 4 |
| 8 | Ou Preah | Ou Krieng | 2052 | Ou Krieng | HC | 15 |
| 9 | Srae Sdau | OuRuessei | 4087 | Ou Ruessei | HC | 1 |
| 10 | Roka Kandal Ti Pir | Roka Kandal | 3217 | Rakar Kandal | HC | 3 |
| 11 | Kaoh Dambang | Boeng Char | 664 | Sambo | FDH | 54 |
| 12 | Kaoh Chbar | Kaoh Khnhaer | 1150 | Sambo | FDH | 20 |
| 13 | Sangkom | Sandan | 2026 | Sandan | HC | 12 |
| 14 | Boeng Chraeng | Saob | 1367 | Saob | HC | 5 |
| 15 | Kbal Snuol | Snuol | 5996 | Snuol | HC | 0 |
| 16 | Rumpuk | Svay Chreah | 1630 | Svay Chreah | HC | 8 |
| 17 | Sambok | Sambok | 3332 | ThmaKrae | HC | 6 |
| 18 | Thmei | Thmei | 1245 | Thmei | HC | 6 |
| **Sen Monorom OD** | | | | | | |
| 1 | Pu Chhab | Dak Dam | 499 | Dak Dam | HC | 40 |
| 2 | Ou Buon Leu | Ou Buon Leu | 401 | Koh Nhek | HC | 11 |
| 3 | Rangsei | Srae Sangkom | 1218 | Koh Nhek | HC | 0 |
| 4 | Ou Am | Srae Khtum | 3890 | O Am | HC | 15 |
| 5 | Pu Reang | Bu Sra | 484 | Pich Chreada | HC | 2 |
| 6 | Pu Lung | Romonea | 798 | Sen Monorom | HC | 15 |
| **Ban Lung OD** | | | | | | |
| 1 | Lom | Malik | 1116 | Andaung Meas | FDH | 4 |
| 2 | Phum Bei | Labansiek | 2381 | Ban Lung | HC | 2 |
| 3 | Phum Muoy | Labansiek | 11662 | Ban Lung | HC | 0 |
| 4 | Yeun | Kak | 756 | Borkeo | FDH | 4 |
| 5 | Chaet | Seung | 369 | Borkeo | FDH | 7 |

| | Village | | | Nearest public health facility | | |
|---|---|---|---|---|---|---|
| | **Name** | **Commune** | **Population** | **Name** | **Type** | **Distance from village (km)** |
| 6 | Kam Bak | Teun | 463 | Kachanh | HC | 32 |
| 7 | Kachoun Kraom | Kachoun | 544 | Kachoun | FDH | 0.2 |
| 8 | Rak | KokLak | 740 | Koklak | HP | 5 |
| 9 | KaChanh | La Bang Pir | 558 | Labang Muoy | HP | 35 |
| 10 | Pruok | Pa Tang | 1351 | Lumphat | FDH | 5 |
| 11 | Muoy | Nhang | 391 | Nhang | HP | 27 |
| 12 | Tang Pleng | Ou Chum | 377 | Ochum | HC | 4 |
| 13 | Un | Lum Choar | 1279 | Oyadav | FDH | 1 |
| 14 | Sam | Ya Tung | 460 | Oyadav | FDH | 35 |
| 15 | SakmotrLeu | Seda | 843 | Seda | HP | 30 |
| 16 | Phyang | Ta Veaeng Kraom | 366 | Taveng | FDH | 8 |
| 17 | Phnum KokLav | Phnum Kok | 311 | Veunsai | FDH | 13 |
| **Stung Treng OD** | | | | | | |
| 1 | Anlong Phe | Anlong Phe | 627 | Chamkar Leu | HC | 18 |
| 2 | Hang Savat | Samkhuoy | 624 | Kampun | HC | 8 |
| 3 | Kaoh Hib | Ou Svay | 431 | Preah Rumkel | HC | 30 |
| 4 | Khes Svay | Preaek Meas | 1076 | Siem Pang | FDH | 11 |
| 5 | Siem Pang | Sekong | 1469 | Siem Pang | FDH | 1 |
| 6 | Damrei Phong | Kaoh Sampeay | 737 | Srae Krasang | FDH | 5 |
| 7 | Kaoh Krouch | Srae Krasang | 902 | Srae Krasang | FDH | 2 |
| 8 | Srae Pou | Sarh Ruessei | 3039 | Srah Ruessei | HC | 4 |
| 9 | Preaek | Stueng Traeng | 6444 | Stueng Traeng | HC | 3 |
| 10 | Spean Thma | Stueng Traeng | 2843 | Stueng Traeng | HC | 3 |
| 11 | Pong Tuek | OuRai | 619 | Thalabarivat | HC | 10 |
| **Component 2** | | | | | | |
| **Sampov Loun OD** | | | | | | |
| 1 | Kaoh Touch | Sampov Lun | 273 | Angkor Ban | HC | 1 |
| 2 | Hong Tuek | Baraing Thleak | 430 | Baraing Thleak | HC | 5 |
| 3 | Anlong Sdei | Chak Krey | 2279 | Chak Krei | HC | 8 |
| 4 | Phnum Prampir | Chak Krey | 2986 | Chak Krei | HC | 3 |
| 5 | Samraong | Ou Da | 644 | Kamrieng | HC | 9 |
| 6 | Ou Tapon | Pech Chenda | 835 | Pich Chenda | HC | 13 |
| 7 | Anlong Mean | Pech Chenda | 803 | Raksmey Samki | HC | 8 |
| 8 | Kilou Dabbei | Santepheap | 1446 | Serei Meanchey | HC | 4 |
| 9 | Damnak Sala | Ta Krei | 629 | Ta Krey | HC | 13 |
| 10 | Boeung Reang | Boeng Rean | 765 | Trang | FDH | 9 |
| 11 | Lumphat | Ou Da | 1327 | Trang | FDH | 18 |
| 12 | Lvea Te | Trang | 646 | Trang | FDH | 1 |
| 13 | Ou Kandal | Santepheap | 1,750 | Travchou | HC | 1 |
| **Sampov Meas OD** | | | | | | |
| 1 | Chamkar Chrey Cheung | Anlong Reab | 455 | Anlong Reab | HP | 19 |
| 2 | Trapeang Rumdenh | Kbal Trach | 826 | Ansa Chambak | HC | 11 |

| | Village | | | Nearest public health facility | | |
|---|---|---|---|---|---|---|
| | **Name** | **Commune** | **Population** | **Name** | **Type** | **Distance from village (km)** |
| 3 | Sna Reach | Kampong Pou | 286 | Boeng Kantuot | HC | 15 |
| 4 | Dangkieb Kdam | Chheu Tom | 1138 | Chheu Tom | HC | 1.5 |
| 5 | Boeng Smok | Svay Sa | 1490 | Chheu Tom | HC | 7 |
| 6 | Ta Kaev Leu | Boeng Kantuot | 482 | Chhouk Meas | HC | 10 |
| 7 | Phum Pram | Kg Luong | 2335 | Kampong Luong | HC | 10 |
| 8 | Ampil Kanchrinh | Koh Chum | 938 | Koh Chum | HC | 20 |
| 9 | Krang Pophleak | Svay At | 1255 | Koh Chum | HC | 4 |
| 10 | Totueng | Anlong Tnaot | 509 | Krakor | FDH | 3 |
| 11 | Sarovoan | Sna Ansa | 270 | Krakor | FDH | 7 |
| 12 | Dangkear | Phteah Prey | 736 | Peal Nheaek | HC | 4 |
| 13 | Krouch Chhmar | Leach | 1038 | Phnom Kravanh | FDH | 1 |
| 14 | Kol Totueng | Santreae | 1343 | Phnom Kravanh | FDH | 3 |
| 15 | Doun Ei | Chamraeun Phal | 754 | Preaek Tnaot | HC | 20 |
| 16 | Roleab | Roleab | 1817 | Preaek Tnaot | HC | 15 |
| 17 | Bak Roteh | Prey Nhi | 1134 | Prey Nhi | HC | 0 |
| 18 | Ou Srav | Prongil | 1102 | Prongil | HC | 2 |
| 19 | Phteah Rung | Phteah Rung | 1175 | Samraong | HC | 10 |
| 20 | Samraong Pir | Samraong | 1784 | Samraong | HC | 9 |
| 21 | Thlea Ampil | Srae Sdok | 658 | Srae Sdok | HC | 7 |
| 22 | Tuol Totueng | Kanhchor | 769 | Sya | HC | 13 |
| 23 | Ou Rumchang | Bak Chenhchien | 1590 | Ta Sah | HC | 6 |
| 24 | Sdok Khtum | Phteah Rung | 1012 | Ta Sah | HC | 5 |
| 25 | Voat Luong | Lolok Sa | 925 | Voat Luong | HC | 1 |
| **Preah Sihanouk OD** | | | | | | |
| 1 | Samrong Kraom | Samrong | 2064 | Andaung Thma | HC | 5.8 |
| 2 | Trapeang Mul | Cheung Kou | 1405 | Cheung Kou | HC | 6 |
| 3 | Boeng Ta Prum | Boeng Ta Prum | 1302 | O Chrov | HC | 2 |
| 4 | Bang Kokir | Ou Oknha Heng | 2659 | O Oknha Heng | HC | 0 |
| 5 | Ong | Ream | 2816 | Ream | HC | 6 |
| 6 | Thma Thum | Ream | 1675 | Ream | HC | 1 |
| 7 | Phum Muoy | Sangkat Bei | 3083 | Sangkat Muoy | HC | 1 |
| 8 | Phum Bei | Sangkat Muoy | 8983 | Sangkat Muoy | HC | 1 |
| 9 | Phum Pir | Sangkat Muoy | 2748 | Sangkat Muoy | HC | 1 |
| 10 | Phum Buon | Sangkat Buon | 2820 | Sihanoukville | HC | 1 |
| 11 | Phum Pir | Sangkat Buon | 3073 | Sihanoukville | HC | 2.2 |
| 12 | Phum Pir | Kampenh | 953 | Steung Hav | HC | 3 |
| 13 | Phum Pir | Tumnob Rolok | 1211 | Steung Hav | HC | 3 |
| 14 | Stueng Samraong | Ou Bak Roteh | 1871 | Takkaveth | HC | 16 |
| 15 | Preaek Sangkae | Tuek Thla | 1113 | Tuek Laak | HC | 8 |
| 16 | Tuol Totueng Muoy | Tuol Toetueng | 1620 | Tuol Tatoeung | HC | 0 |
| 17 | Veal Thum | Veal Renh | 5047 | Veal Rinh | HC | 2 |
| **Smach Meanchey OD** | | | | | | |

| | Village | | | Nearest public health facility | | |
|---|---|---|---|---|---|---|
| | **Name** | **Commune** | **Population** | **Name** | **Type** | **Distance from village (km)** |
| 1 | Bak Khlang Pir | Bak Khlang | 2163 | Bak Khlang | FDH | 2 |
| 2 | Preaek Khsach | Preaek Khsach | 773 | Kaoh Sdach | FDH | 40 |
| 3 | Prek Svay | Thma Doun Pov | 200 | Ruessei Chrum | HC | 19 |
| 4 | Phum Ti Bei | Smach Mean Chey | 4414 | Smach Mean Chey | HC | 2 |
| 5 | Stueng Veaeng | Stueng Veaeng | 1952 | Steung Veng | HC | 3 |

## Annex 3: Household questionnaire

### SECTION 1: HOUSEHOLD'S IDENTIFICATION AND INTERVIEW DATA

| | | |
|---|---|---|
| 101. | Household ID number | : [ ][ ][ ][ ] |
| 102. | Name of head of household (spouse) | : _____ (Spouse:_____) |
| 103. | Province | : name _____ code: [_____] |
| 104. | District | : name _____ code: [_____] |
| 105. | Commune | : name _____ code: [_____] |
| 106. | Village | : name _____ code: [_____] |
| 107. | Operational District | : name _____ code: [_____] |
| 108. | Health Centre catchment area | : name _____ code: [_____] |
| 109. | Distance from village to HC | : _____ km |
| 110. | Interviewer's ID number | : _____ |
| 111. | Date of interview | : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy) |
| 112. | Interview outcomes | 1 = Completely done 2 = Incomplete |
| 113. | If incomplete, give the main reason | 1 = Household with no eligible respondent (WRA)<br>2 = Respondent refused to answer some questions<br>3 = Eligible respondent refused to participate |
| 114. | Duration of the completed interview | : _____ minutes |
| 115. | Language used for interview | 1 = Khmer<br>2 = Ethnic Minority language (with translation)<br>3 = Other language (specify): _____ |
| 116. | Checked by supervisor | Date : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy)<br>Signature |
| 117. | Data entry | Date : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy) |

**NOTE:**

**This SECTION 1 of the form has to be completed for all households selected for interview even if there is no eligible woman for interview. Any selected household with no eligible woman should be replaced by the next closest one.**

## INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is_____. I am working with an independent research consultant team. We are conducting a mid-term evaluation survey for a health project, collecting information on reproductive, maternal and newborn health (RMNH) services in several provinces in Cambodia. The information we collect will help the project to improve RMNH in the project coverage areas, including your area (village). Your household (including yourself) is selected for this survey. The questions usually take about 30 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You are not obliged to participate in this survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions? May I begin the interview now?

Signature of interviewer: _____ Date: _____

Respondent agrees to be interviewed => Continue

Respondent does not agree to be interviewed => End

## SECTION 2: SOCIO-ECONOMIC STATUS OF HOUSEHOLD

| | | | |
|---|---|---|---|
| **201** | Is your household among an ethnic minority group? | *0 = No 1 = Yes* | *If No, Skip to Q203* |
| **202** | If Yes, which ethnic minority group?<br>***One answer*** | *1 = Jarai 2 = Tampoun 3 = Kreung*<br>*4 = Phnong 5 = Stieng 6 = Kuoy*<br>*7 = Samrae 8 = Kavaet 9 = Kanh Chak*<br>*10 = Other (specify): _____* | |
| **203** | How many people are living in this household (household members)? | *Male: _____ people*<br>*Female: _____ people* | |
| **204** | Among the female members, how many are of reproductive age (15-49 years old)? | *_____ WRA*<br>*If No, write 00* | |
| **205** | How many of the household members generate income (income earners)? | *_____ people*<br>*If No, write 00* | |
| **206** | Does any household member own any agricultural land? | *0 = No 1 = Yes* | *If No, Skip to Q208* |
| **207** | If Yes, what is the size of the land? | *_____ hectare(s)* | *1ha = 10,000 $m^2$*<br>*1rai = 1,600 $m^2$*<br>*1kong = 1,000 $m^2$*<br>*1are = 100 $m^2$* |
| **208** | Does your household own any buffalo, cow, horse, donkey, elephant, goat, sheep or pig? | *0 = No 1 = Yes* | *If No, Skip to Q210* |
| **209** | If Yes, how many in total does your household own? | _____ | *Record the number* |
| **210** | Does your household have:<br>▪ Electricity?<br>▪ A radio?<br>▪ A television?<br>▪ A regular mobile phone?<br>▪ A smartphone?<br>▪ A refrigerator?<br>▪ A wardrobe?<br>▪ A sewing machine/loom?<br>▪ A CD/VCD/DVD player?<br>▪ A generator/battery/solar panel? | <br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes* | *Probe by reading the list and circle the correct answer for each item* |
| **211** | Does any member of this household | | *Probe by reading* |

| | | | |
|---|---|---|---|
| | own:<br>▪ A watch?<br>▪ A bicycle or cyclo?<br>▪ A motorcycle or scooter?<br>▪ A motorcycle-cart?<br>▪ An oxcart or horsecart?<br>▪ A car or van or truck or *Koyun*?<br>▪ A boat with a motor?<br>▪ A boat without a motor? | <br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes*<br>*0 = No 1 = Yes* | *the list and circle the correct answer for each item* |
| **212** | What is the main source of drinking water for your household?<br><br>***One answer*** | *1 = Dam/pond/river*<br>*2 = Rain water*<br>*3 = Tanker truck/water vendor*<br>*4 = Public open well*<br>*5 = Public tube well/borehole*<br>*6 = Open well in own yard*<br>*7 = Tubed well or borehole in residence yard*<br>*8 = Piped drinking water* | *Circle only one most relevant answer* |
| **213** | What is the main fuel used for cooking in your household?<br><br>***One answer*** | *1 = Dung*<br>*2 = Collected wood*<br>*3 = Purchased wood/sawdust*<br>*4 = Charcoal*<br>*5 = Kerosene*<br>*6 = Gas*<br>*7 = Electricity* | *Circle only one most relevant answer* |
| **214** | What kind of toilet facility do your household members usually use?<br><br>***One answer*** | *0 = No facility/bush/rice field*<br>*1 = Shared pit latrine*<br>*2 = Own pit latrine*<br>*3 = Shared flushed toilet*<br>*4 = Own flushed toilet* | *Circle only one most relevant answer* |
| **215** | What is the main material of the roof of the house?<br><br>***One answer*** | *1 = Plastic sheet*<br>*2 = Natural materials (thatch, leaves)*<br>*3 = Galvanized iron or fibrous cement* | *Observe and circle only one most relevant answer* |

| | | | |
|---|---|---|---|
| | | *4 = Tiles*<br>*5 = Concrete*<br>*6 = Other (specify): _____* | |
| **216** | What is the main material of the exterior wall of the house?<br><br>***One answer*** | *0 = None*<br>*1 = Thatch/leaves or bamboo*<br>*2 = Galvanized iron*<br>*3 = Wood*<br>*4 = Concrete, brick/stone*<br>*5 = Other (specify): _____* | *Observe and circle only one most relevant answer* |
| **217** | What is the main material of the floor of the house?<br><br>***One answer*** | *1 = Earth/sand*<br>*2 = Rudimentary (bamboo/planks)*<br>*3 = Polished wood*<br>*4 = Cement*<br>*5 = Cement with additional covering*<br>*6 = Other (specify): _____* | *Observe and circle only one most relevant answer* |
| **218** | How many rooms in this household are used for sleeping? | *_____ room(s)* | |
| **219** | Does your household hold a valid Poor Card (issued by the MOP's ID Poor project)? | 0 = No<br>1 = Yes (holding a Poor Card)<br>98 = Don't know | *Ask to see the card if possible. If not, probe by showing example* |
| **220** | Does your household hold a valid Priority Access Card (MOH's HEF post-identification card)? | 0 = No<br>1 = Yes (holding a Priority Access Card)<br>98 = Don't know | *Ask to see the card if possible. If not, probe by showing example* |

## Annex 4: Women's questionnaire

**SECTION 1: IDENTIFICATION AND INTERVIEW DATA**

| | | |
|---|---|---|
| **101** | Household ID number | : [ ][ ][ ][ ] |
| **102** | Woman's ID in the household | : [ ][ ] |
| **103** | Interviewer's ID number | : _____ |
| **104** | Date of interview | : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy) |
| **105** | Interview outcome | 1 = Completely done 2 = Incomplete |
| **106** | If incomplete, give the main reason | 1 = The respondent refused to participate<br>2 = The respondent refused to answer some questions<br>3 = The respondent was not available for the interview |
| **107** | Duration of the completed interview | : _____ minutes |
| **108** | Language used for interview | 1 = Khmer<br>2 = Ethnic Minority (with translation)<br>3 = Other language (specify): _____ |
| **109** | Checked by supervisor | Date : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy)<br>Signature |
| **110** | Data entry | Date : [ __ __ /__ __ /__ __ __ __ ] (dd/mm/yyyy) |

**For ethnic minority women who cannot communicate in Khmer, please ask for a translator.**

**INTRODUCTION AND CONSENT**

INFORMED CONSENT*

Hello. My name is_____. I am working with an independent research consultant team. We are conducting a mid-term evaluation survey for a health project, collecting information on reproductive, maternal and newborn health (RMNH) services in several provinces in Cambodia. The information we collect will help the project to improve RMNH in the project coverage areas, including your area (village). Your household (including yourself) is selected for this survey. The questions usually take about 30 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You are not obliged to participate in this survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions? May I begin the interview now?

Signature of interviewer: _____ Date: _____

Respondent agrees to be interviewed => Continue

Respondent does not agree to be interviewed => End

***** *For respondent aged 15-17 years, verbal consent will be asked from both the interviewee and her parent.*

**SECTION 2: KEY CHARACTERISTICS**

| Now, I would like to ask some general information about you. | | | |
|---|---|---|---|
| **201** | In what month and year were you born? | *Month: _____*<br>*Year: _____*<br>*Write 98 if don't know* | *If Gregorian date of birth impossible, ask for Khmer one and use **date conversion chart*** |
| **202** | How old are you now? | *_____ years*<br>*Write 98 if don't know* | |
| **203** | Interviewer to check and confirm if the woman is aged between 15 and 49. | *0 = No 1 = Yes* | *If No, end the interview* |
| **204** | What is the highest level of schooling you attended?<br><br>***One answer*** | *0 = No education at all*<br>*1 = Some primary/equivalent*<br>*2 = Complete primary school*<br>*3 = Some lower secondary/equivalent*<br>*4 = Complete lower secondary school*<br>*5 = Some upper secondary/equivalent*<br>*6 = Complete upper secondary school*<br>*7 = University or higher education* | *The interviewer should be careful with different grading systems in Cambodia,*<br>*e.g. Before the Khmer Rouge, the grading was counted from 12 to 1 and vice versa after* |
| **205** | What is your religion?<br><br>***One answer*** | *1 = Buddhist*<br>*2 = Moslem*<br>*3 = Christian*<br>*4 = Other (specify):*<br>*_____* | |
| **206** | What is your current marital status?<br><br>***One answer*** | *1 = Single and **NOT** in a regular relationship*<br>*2 = Single with boyfriend living elsewhere*<br>*3 = Single living with a partner*<br>*4 = Married living with her husband*<br>*5 = Married with husband living elsewhere*<br>*6 = Divorced/separate*<br>*7 = Widowed* | |
| **207** | For how many years have you been living continuously in this village? | *_____ year(s)*<br>*Write 95 if always stay in this village and 98 if don't know the number of year(s)* | *Write 00 if living for less than a year* |

**SECTION 3: DISABILITY STATUS**

| The next questions ask about difficulties you may have doing certain activities. | | | |
|---|---|---|---|
| **301** | Do you have difficulty seeing, ***even if wearing glasses***?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot see at all* | *Circle one answer which corresponds to the answer* |
| **302** | Do you have difficulty hearing, ***even if using a hearing aid***?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot hear at all* | *Circle one answer which corresponds to the answer* |
| **303** | Do you have difficulty walking or climbing steps?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot walk at all* | *Circle one answer which corresponds to the answer* |
| **304** | Do you have difficulty remembering or concentrating?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot remember at all* | *Circle one answer which corresponds to the answer* |
| **305** | Do you have difficulty (with self-care such as) washing all over or dressing?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot do at all* | *Circle one answer which corresponds to the answer* |
| **306** | Because of a physical, mental or emotional problem, do you have difficulty communicating (using your usual/customary language), for example understanding others or others understanding you?<br>***One answer*** | *0 = No – no difficulty*<br>*1 = Yes – some difficulty*<br>*2 = Yes – a lot of difficulty*<br>*3 = Yes – cannot do at all* | *Circle one answer which corresponds to the answer* |

**SECTION 4: FAMILY PLANNING**

| | | | |
|---|---|---|---|
| Now, I would like to talk to you about family planning – the various ways or methods that an adult man or woman or a couple use to delay or avoid a pregnancy. | | | |
| **401** | Have you ever heard of (METHOD)? | | *PROBE:* |
| | Female sterilisation | *0 = No 1 = Yes* | *Women can have an operation to avoid having any more children* |
| | Male sterilisation | *0 = No 1 = Yes* | *Men can have an operation to avoid having any more children* |
| | IUD | *0 = No 1 = Yes* | *Women can have a loop or coil placed inside their uterus to avoid becoming pregnant* |
| | Injectable | *0 = No 1 = Yes* | *Women can have an injection by a health provider to avoid becoming pregnant* |
| | Implant | *0 = No 1 = Yes* | *Women can have small rod(s) placed in their upper arm to avoid becoming pregnant* |
| | Daily pills | *0 = No 1 = Yes* | *Women can take a pill every day avoid becoming pregnant* |
| | Monthly pills | *0 = No 1 = Yes* | *Women can take a pill once a month to avoid becoming pregnant (Chinese pills)* |
| | Condom (male) | *0 = No 1 = Yes* | *Men can put a rubber sheath on their penis before sexual intercourse* |
| | Female condom | *0 = No 1 = Yes* | *Women can put a rubber sheath in their vagina before sexual intercourse* |
| | Lactational Amenorrhea Method (LAM) | *0 = No 1 = Yes* | *Period after birth during which a woman has <2% chance becoming pregnant if her menstrual cycle has not resumed and she is exclusively breastfeeding a child <6 months old* |
| | | | *Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on that days of the months* |

| | | | |
|---|---|---|---|
| | Rhythm Method<br><br>Withdrawal<br><br>Emergency Contraception<br><br>Other method (specify):_____ | *0 = No 1 = Yes*<br><br>*0 = No 1 = Yes*<br><br>*0 = No 1 = Yes*<br><br>*0 = No 1 = Yes* | *Men can be careful and pull off before climax*<br><br>*For emergency measure, within 3 days after unprotected sexual intercourse, women can take special pills to prevent pregnancy*<br><br>*If Yes, specify: _____* |
| **402** | Are you currently doing something or using any method to delay or avoid pregnancy? | *0 = No 1 = Yes* | *If No, skip to Q405* |
| **403** | If Yes, which method(s) are you using?<br><br>***Multiple answers*** | ***1 = Female sterilisation***<br>***2 = Male sterilisation***<br>***3 = IUD***<br>***4 = Injectable***<br>***5 = Implants***<br>***6 = Daily pills***<br>***7 = Monthly pills***<br>***8 = Condom (male)***<br>***9 = Female condom***<br>*10 = LAM*<br>*11 = Rhythm method*<br>*12 = Withdrawal*<br>*13 = Other modern method: _____*<br>*14 = Other traditional methods: _____* | *Circle all mentioned*<br><br>*If no answer 1-9, skip to*<br>*SECTION5* |
| **404** | ***If answer 1 to 9 to Q403*****,** where do you usually get this method of family planning?<br><br>***One answer*** | *1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health center or health post*<br>*5 = Military hospital*<br>*6 = Other public facility (specify): _____* | *Probe to identify the type of source and record it.*<br>*If unable to specify, record the name of the place:* |

| | | | |
|---|---|---|---|
| | | *7 = Private hospital*<br>*8 = NGO clinic (specify): _____*<br>*9 = Private clinic/cabinet*<br>*10 = Private pharmacy/drug store*<br>*11 = Community-based distributor (CBD)*<br>*12 = Friend/relative*<br>*13 = Other place (specify): _____*<br>*98 = Don't know* | _____ |
| **405** | ***If answer No to Q402***, have you ever done something or used any method to delay or avoid pregnancy before? | *0 = No 1 = Yes* | *If No, skip to SECTION 5* |
| **406** | If ever used (answer Yes to Q405), but currently do not use any method (answer No to Q402), please tell me the reasons that make you stop using that method.<br><br>***Multiple answers*** | *1 = Not convenient for me*<br>*2 = I feel uncomfortable (side effect)*<br>*3 = The method is expensive*<br>*4 = Afraid of not being able to have a child later*<br>*5 = I wanted to get pregnant*<br>*6 = My husband/partner doesn't want to use it*<br>*7 = Other (Specify): _____* | *Probe and circle all mentioned* |

**SECTION 5: PREGNANCY EXPERIENCE AND RELATED INFORMATION**

| | | | |
|---|---|---|---|
| Now I would like to ask you some questions about your experience in pregnancy and related information | | | |
| **501** | Have you ever been pregnant, regardless how long it lasted or ended, including stillbirth, miscarriage and abortion? | *0 = No 1 = Yes* | *If No, skip to SECTION6* |
| **502** | If Yes, how many times have you been pregnant so far? | _____ *time(s)* | |
| **503** | How many of the pregnancies ended in a:<br><br>***Multiple answers*** | *live birth?* _____ *times=====* ➔<br>*stillbirth?* _____ *times*<br>*miscarriage?* _____ *times*<br>*abortion?* _____ *times ======* ➔<br>*Write 00 if No, and 98 if Don't know* | ***SECTION 5.1***<br><br>***SECTION 5.2*** |
| **504** | Are you currently pregnant? | *0 = No 1 = Yes 98 = Unsure* | *If No, skip to SECTION 5.1* |
| **505** | If Yes, how many months pregnant are you? | _____ *month(s)*<br>*Complete month(s). Write 98 if unsure* | |

**SECTION 5.1: ANTENATAL CARE, DELIVERY, IMMEDIATE NEWBORN CARE AND POSTNATAL CARE**

| | | | |
|---|---|---|---|
| **506** | How many live births have you had in total **in the last 2 years**?<br>*Please verify with answer to Q503* | _____ *birth(s)*<br>*Write 00 if no live birth in this period* | *If 00 (None), skip to SECTION 5.2* |
| **507** | If Yes (at least one live birth in this period), in what month and year was the last live birth?<br>*Get the NAME of the last baby or child for following use.* | *Month:* _____<br>*Year:* _____<br>*Write 98 if don't know* | *If Gregorian date of birth impossible, ask for Khmer one and use* ***date conversion chart*** |
| **508** | Interviewer to check and confirm if (NAME) was born: | *1 = Within the last 12 months*<br>*2 = Over 12 to 24 months ago*<br>*98 = Don't know* | *Verify with birth registration paper/health card if available* |
| **509** | During the pregnancy of (NAME), did you have any check-ups or examinations (ANC)? | *0 = No 1 = Yes* | *If No, skip to Q512* |
| **510** | Please tell me with whom you had your pregnancy check-ups/examinations (ANC) and for how many times each:<br><br>*a-Doctor/Medical assistant:* _____ *times*<br>*b-Midwife:* _____ *times*<br>*c-Nurse:* _____ *times* | | *Probe to identify each type of provider and record the number of check-ups for each type of provider.* |

| | | |
|---|---|---|
| | *d-Other trained health personnel:* _____ *times*<br>*e-Traditional birth attendant:* _____ *times*<br>*f-Other person:* _____ *times*<br>*(0 if not used 98 if don't know)* | |

| | | | | |
|---|---|---|---|---|
| **511** | *The interviewer counts the number of ANCs with trained health personnel (answers from "a" to "d" above) and ask the woman about each ANC with the following questions:* | | | |
| | ANC # | a-In which month of the pregnancy did you have the check up?<br><br>*Complete with number 1 - 9* | b-With which provider?<br>*Complete with one of the following codes*<br>*1 = Doctor/Medical assistant*<br>*2 = Midwife*<br>*3 = Nurse*<br>*4 = Other trained health personnel*<br>*98 = Don't know* | c-At which location?<br>*Complete with one of the following codes*<br>*1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health centre or health post*<br>*5 = Military hospital*<br>*6 = Other public facility*<br>*7 = Private hospital*<br>*8 = NGO clinic*<br>*9 = Private clinic/cabinet*<br>*10 = Other private medical facility*<br>*11 = Your home*<br>*12 = Other home*<br>*13 = Other place (specify):*<br>_____<br>*98 = Don't know* |
| | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| | 10 | | | |

| | | | |
|---|---|---|---|
| **512** | Where did you give birth to (NAME)?<br><br>***One answer*** | *1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health centre or health post*<br>*5 = Military hospital*<br>*6 = Other public facility (specify): ___*<br>*7 = Private hospital*<br>*8 = NGO clinic (specify): _____*<br>*9 = Private clinic/cabinet*<br>*10 = Other private medical facility*<br>*11 = Your home*<br>*12 = Other home*<br>*13 = Other place (specify): _____*<br>*98 = Don't know* | *Probe to identify the type of source and record it.*<br>*If unable to specify, record the name of the place:*<br>_____ |
| **513** | Who assisted with the delivery of (NAME)?<br><br>***One answer*** | *0 = None*<br>*1 = Doctor/Medical assistant*<br>*2 = Midwife*<br>*3 = Nurse*<br>*4 = Other trained health personnel*<br>*5 = Traditional birth attendant*<br>*6 = Relative/friend*<br>*7 = Other person (specify): _____*<br>*98 = Don't know* | *Probe to identify the most qualified person and record it* |
| **514** | When (NAME) was born, did the attendant place him/her on your bare chest for a few minutes immediately after birth? | *0 = No  1 = Yes  98 = Don't know* | |
| **515** | Did the attendant dry (wipe) (NAME) immediately after birth? | *0 = No  1 = Yes  98 = Don't know* | |
| **516** | How long after birth was (NAME) bathed for the first time? | _____ *hour(s).*<br>*Write 00 if immediately/less than 1h*<br>*98 if don't know* | |
| **517** | How long after birth, did you first put (NAME) to the breast? | _____ *hour(s).*<br>*Write 00 if immediately/less than 1h*<br>*98 if don't know*<br>*99 if never put to the breast* | |

| | | | |
|---|---|---|---|
| **518** | When (NAME) was born, was s/he very large, larger than average, average, smaller than average, or very small?<br><br>***One answer*** | *1 = Very large*<br>*2 = Larger than average*<br>*3 = Average*<br>*4 = Smaller than average*<br>*5 = Very small*<br>*98 = Don't know* | |
| **519** | Was (NAME) weighed at birth? | *0 = No 1 = Yes 98 = Don't know* | *If No, skip to Q522* |
| **520** | If Yes, how much did (NAME) weigh? | ___,___ *Kg from CARD (e.g. 2.85 kg)*<br>___,___ *Kg from recall (e.g. 2.80 kg)* | *Record the weight from* ***health card****, if available* |
| **521** | **Within 6 weeks after you gave birth to (NAME)**, did anyone check on your health and the baby's health (PNC)[9] at a health facility or elsewhere? | *0 = No 1 = Yes* | *If No, skip to SECTION 5.2* |
| **522** | Please tell me with whom you had your health and baby's health checked (PNC) and for many times each:<br>*a-Doctor/Medical assistant:* _____ *times*<br>*b-Midwife:* _____ *times*<br>*c-Nurse:* _____ *times*<br>*d-Other trained health personnel:* _____ *times*<br>*e-Traditional birth attendant:* _____ *times*<br>*f- Other person:* _____ *times*<br>*(0 if not used 98 if don't know)* | | *Probe to identify each type of provider and record the number of check-ups for each type of provider.* |

[9] *Check temperature, blood pressure, pulse, urine output, bleeding, vaginal injury/swelling, anaemia (pallor) and breast problem within the first 48h after delivery*

| **523** | *The interviewer counts the number of PNCs with trained health personnel (answers from "a" to "d" above) and ask the woman about each PNC with the following questions:* | | | | | |
|---|---|---|---|---|---|---|
| | PNC #[10] | a-When did the PNC take place after the delivery of (NAME)?<br>*Complete with one of the following codes*<br>*1 = Within 24 hours*<br>*2 = 24-48 hours*<br>*3 = Over 48h-7days*<br>*4 = Over 7 days*<br>*98 = Don't know* | b-With which provider?<br>*Complete with one of the following codes*<br>*1 = Doctor/Medical assistant*<br>*2 = Midwife*<br>*3 = Nurse*<br>*4 = Other trained health personnel*<br>*98 = Don't know* | c-At which location?<br>*Complete with one of the following codes*<br>*1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health centre or health post*<br>*5 = Military hospital*<br>*6 = Other public facility (specify): _____*<br>*7 = Private hospital*<br>*8 = NGO clinic (specify): _____*<br>*9 = Private clinic/cabinet*<br>*10 = Other private medical facility*<br>*11 = Your home*<br>*12 = Other home*<br>*13 = Other place (specify): _____*<br>*98 = Don't know* | d-During the PNC, did the provider perform any check-up of your and your baby's health?<br>*Complete with one of the following codes*<br>*0 = Not at all*<br>*1 = Yes, check-up of my health only*<br>*2 = Yes, check-up of my baby's health only*<br>*3 = Yes, check-up of both –my health and my baby's health* | e-During the PNC, did the provider discuss family planning with you?<br>*Complete with one of the following codes*<br>*0 = No*<br>*1 = Yes* |
| | 1 | | | | | |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |

[10] *Please note that all checks within 48 hours in a facility are considered still PNC1. It is counted as PNC2 only after discharge the woman goes back to the facility for her and her baby's health check.*

| | | | |
|---|---|---|---|
| **524** | If any discussion about family planning during PNC (Q523e), which method(s) did they discuss about?<br><br>***Multiple answers*** | ***1 = Female sterilisation***<br>***2 = Male sterilisation***<br>***3 = IUD***<br>***4 = Injectable***<br>***5 = Implants***<br>***6 = Daily pills***<br>***7 = Monthly pills***<br>***8 = Condom (male)***<br>***9 = Female condom***<br>*10 = LAM*<br>*11 = Rhythm method*<br>*12 = Withdrawal*<br>*13 = Other modern method: _____*<br>*14 = Other traditional methods: _____*<br>*98 = Don't know* | *Circle all mentioned* |

**SECTION 5.2: ABORTION AND POST-ABORTION CARE**

| | | | |
|---|---|---|---|
| **525** | *The interviewer to verify answer to **Q503d** and ask the woman again for how many times in total did she have a pregnancy that was ended in induced abortion **in the past 2 years*** | *_____ time(s)*<br>*Write 00 if no miscarriage or abortion in this period* | *If 00 (None), skip to SECTION6* |
| **526** | If at least one induced abortion in the past 2 years, in what month and year was the last induced abortion? | *Month: _____*<br>*Year: _____*<br>*Write 98 if don't know* | *If Gregorian date impossible, ask for Khmer one and use **date conversion chart*** |
| **527** | *Interviewer to check and confirm if the ending date of the last such pregnancy was:* | *1 = Within the last 12 months*<br>*2 = 12 months to 24 months ago*<br>*98 = Don't know* | |
| **528** | How many months pregnant were you when the last such pregnancy ended in induced abortion? | *_____ months*<br>*Write 98 if don't know* | |
| **529** | What was the method used for that induced abortion?<br><br>***Multiple answers*** | *1 = Medical Vacuum Aspiration (MVA)/evacuation*<br>*2 = Oral pill/tablet + vaginal pill/tablet*<br>*3 = Traditional methods* | *In case of doubt, record the name:*<br>*_____* |

| | | | |
|---|---|---|---|
| | | *4 = Other method (specify): _____*<br>*98 = Don't know* | |
| **530** | Where did the induced abortion take place?<br><br>***One answer*** | *1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health centre or health post*<br>*5 = Military hospital*<br>*6 = Other public facility(specify): ___*<br>*7 = Private hospital*<br>*8 = NGO clinic (specify): _____*<br>*9 = Private clinic/cabinet*<br>*10 = Other private medical facility*<br>*11 = Your home*<br>*12 = Other home*<br>*13 = Other place (specify): _____*<br>*98 = Don't know* | *Probe to identify the type of place and record it. If unable to specify, record the name of the place:*<br><br>_____ |
| **531** | Was anyone present to help you at the time of the induced abortion?<br><br>***One answer*** | *0 = None*<br>*1 = Doctor/Medical assistant*<br>*2 = Midwife*<br>*3 = Nurse*<br>*4 = Other medical professional*<br>*5 = Traditional birth attendant*<br>*6 = Other person (specify): _____*<br>*98 = Don't know* | *If more than one, record the one with the highest professional qualification* |
| **532** | Did you seek any care after the induced abortion? | *0 = No  1 = Yes* | *If No, skip to SECTION6* |
| **533** | If Yes, where did you receive such care?<br><br>***One answer***<br><br>*If more than one answer, record the highest level facility* | *1 = National hospital (PP)*<br>*2 = Provincial hospital (RH)*<br>*3 = District hospital (RH)*<br>*4 = Health centre or health post*<br>*5 = Military hospital*<br>*6 = Other public facility*<br>*7 = Private hospital*<br>*8 = NGO clinic*<br>*9 = Private clinic/cabinet*<br>*10 = Other private medical facility* | *Probe to identify the type of place and record it. If unable to specify, record the name of the place:*<br><br>_____ |

| | | | |
|---|---|---|---|
| | | *11 = Your home*<br>*12 = Other home*<br>*13 = Other place (specify): _____*<br>*98 = Don't know* | |
| **534** | Were you advised or recommended to use any family planning method(s) after the induced abortion? | *0 = No 1 = Yes 98 = Don't know* | |
| **535** | Did you receive a family planning method within 14 days after the abortion? | *0 = No 1 = Yes 98 = Don't know* | *If No, skip to SECTION 6* |
| **536** | If Yes, which method(s)?<br><br>***One answer***<br><br>*If more than one answer, record the first one* | ***1 = Female sterilisation***<br>***2 = Male sterilisation***<br>***3 = IUD***<br>***4 = Injectable***<br>***5 = Implants***<br>***6 = Daily pills***<br>***7 = Monthly pills***<br>***8 = Condom (male)***<br>***9 = Female condom***<br>*10 = LAM*<br>*11 = Rhythm method*<br>*12 = Withdrawal*<br>*13 = Other modern method: _____*<br>*14 = Other traditional methods: ___*<br>*98 = Don't know* | *Circle one answer which corresponds to the answer* |

**SECTION 6: SATISFACTION, REFERRAL, HEALTH EXPENDITURES AND FINANCIAL SUPPORT MECHANISMS AMONG RMNH SERVICE USERS IN THE PAST 12 MONTHS**

Interviewer to check in SECTION 4, 5.1 & 5.2 and verify again with the respondent if there is any reported use of family planning (modern methods)[4], miscarriage/abortion, antenatal care, delivery (including caesarean section) and postnatal care within the last 12 months and then try to get answers to the following questions:

| **Type of RMNH services** | **601**<br>In the past 12 months, did you use any family planning, abortion and post abortion care, antenatal care, delivery and post natal care services?<br><br>***Record one answer***<br>*0 = No*<br>*1 = Yes*<br>*98 = Don't know*<br>*If No or don't know for all services, skip to SECTION 7* | **602**<br>If Yes (used any of the services), did you receive any of these services from a public health facility?<br><br>***Record one answer***<br>*0 = No (Skip to Q605)*<br>*1 = Yes*<br>*98 = Don't know*<br>*99 = If no service use* | **603**<br>If Yes (received the service from a public health facility, could you tell me how satisfied were you with the service?<br><br>***Record one answer***<br>*5 = very satisfied,*<br>*4 = satisfied,*<br>*3 = not satisfied, neither dissatisfied,*<br>*2 = somewhat dissatisfied,*<br>*1 = very dissatisfied*<br>*99 = If no service use* |
|---|---|---|---|
| a. Family planning services, modern methods[11] | | | |
| b. Abortion and post abortion care services | | | |
| c. Antenatal care services | | | |
| d. Delivery and associated services | | | |
| e. Postnatal care services | | | |

[11] *Female sterilisation, male sterilisation, IUD, injectable, implants, daily pills, monthly pills, condom (male), female condom*

| **Type of RMNH services** | **604**<br>The last time that you used this service at a public health facility, has anyone or anything guided you to get this service?<br>***Record one answer***<br>*0 = No (self-decision)*<br>*1 = Yes (Continue to Q607)*<br>*98 = Don't know*<br>*99 = If no service use* | **605**<br>Could you tell me how much money have you spent for the services (including private services) you used in the past 12 months (actual out-of-pocket payments, excluding subsidies by different schemes)?<br>***Record the reported amount in Riels.***<br>*Record 00 if no expenditure,*<br>*98 = Don't know the amount*<br>*99 if no service use*<br>USD1 = 4,000 Riels<br>One Baht = …. | | | **606**<br>Have you received any financial assistance from the following schemes for using the above-mentioned services?<br>***Record one answer***<br>*0 = None*<br>*1 = Health equity fund*<br>*2 = Vouchers*<br>*3 = Conditional Cash Transfer*<br>*4 = Financial support for Long Term Family Planning by MSI*<br>*5 = Financial Support from commune council*<br>*6 = Village Saving and Loan Association*<br>*7 = Other (specify):*<br>_____<br>*98 = Don't know*<br>*99 = If no service use* |
|---|---|---|---|---|---|
| | | Total: service fees, transport cost, and others | Service fees only | Transport cost only | |
| a. Family planning services, modern methods[12] | | | | | |
| b. Abortion and post abortion care services | | | | | |
| c. Antenatal care services | | | | | |
| d. Delivery and associated services | | | | | |
| e. Postnatal care services | | | | | |

[12] *Female sterilisation, male sterilisation, IUD, injectable, implants, daily pills, monthly pills, condom (male), female condom*

| | | | |
|---|---|---|---|
| **607** | If anyone or anything guided you to get the service (answer Yes to Q604), please tell me who or what guided you to get this service?<br><br>***Multiple answers*** | *1 = Pregnancy clubs*<br>*2 = Men's clubs*<br>*3 = Listening & dialogue group*<br>*4 = VSLAs*<br>*5 = VHSGs*<br>*6 = CBDs*<br>*7 = Commune Council/CCWC*<br>*8 = Community health promotion activity*<br>*9 = Health facility staff*<br>*10 = TBA*<br>*11 = Printed IEC materials*<br>*12 = Radio broadcast*<br>*13 = Mobile phone message*<br>*14 = Hotline*<br>*15 = Family/relatives*<br>*16 = Friends/neighbours*<br>*17 = Other (specify): _____*<br>*98 = Don't know* | *Circle all mentioned* |

**SECTION 7: KNOWLEDGE AND SELF-EFFICACY ON RMNH**

| | | | |
|---|---|---|---|
| Now I am going to ask you some questions about your knowledge on symptoms or signs during pregnancy and after childbirth which indicate that the mother and baby are in danger. | | | |
| **701** | Could you tell me all symptoms or signs of dangers (**for mothers and foetus during pregnancy)** you know, starting from the early period of pregnancy until the labour?<br><br>***Multiple answers*** | [ ] *Vaginal bleeding (early or late pregnancy)*<br>[ ] *Anaemia*<br>[ ] *Elevated blood pressure, headache, blurred vision, convulsions or loss of consciousness*<br>[ ] *Fever (during pregnancy and labour)*<br>[ ] *Abdominal pain in early pregnancy*<br>[ ] *Abdominal pain in later pregnancy*<br>[ ] *Difficulty in breathing*<br>[ ] *Loss of foetal movements*<br>[ ] *Pre-labour rupture of membranes* | *Please do not read, but listen and tick in [ ] for all appropriate answers* |
| **702** | Interviewer to verify and calculate the number of correct answer(s) to Q701 | _____ correct answers | |
| **703** | Could you tell me all symptoms or signs of dangers for **newborns** (neonatal distress) you know?<br><br>***Multiple answers*** | [ ] *Abnormal body temperature*<br>[ ] *Jaundice*<br>[ ] *Lethargy*<br>[ ] *Feeding difficulty*<br>[ ] *Vomiting and/or abdominal distension*<br>[ ] *Bleeding and/or pallor*<br>[ ] *Umbilicus red and swollen, draining pus or foul smelling* | *Please do not read, but listen and tick in [ ] for all appropriate answers* |
| **704** | Interviewer to verify and calculate the number of correct answer(s) to Q703 | _____ correct answers | |
| Now I am going to ask you some questions about your knowledge on (induced) abortion and where to access safe abortion. | | | |
| **705** | Could you tell whether (induced) abortion is: | *1 = Legal (allowed by low = woman has the right to end the pregnancy if she does not want to keep it*<br>*2 = Illegal (not allowed by low = woman has no right to end the pregnancy if she does not want to keep it*<br>*98 = Don't know* | *If no straight answer, probe by reading the text in brackets* |
| **706** | Even if you have no abortion experience or do not want to, try to imagine sometime in the | *0 = No 1 = Yes 98 = Don't know* | *If No or Don't know, skip to Q709* |

| | | | |
|---|---|---|---|
| | future when you might wish to do so, do you know where you can get a safe abortion? | | |
| **707** | If Yes, where? Please indicate one place of your preference<br><br>***One answer*** | *Name of the place: _____*<br>*1 = A public hospital or health centre with trained midwife/MD/MA*<br>*2 = A private hospital or clinic with trained midwife/MD/MA*<br>*3 = At a known NGO clinic: MSIC & RHAC*<br>*4 = At private pharmacy*<br>*5 = At home with trained midwife/MD/MA*<br>*6 = At home with TBA or other untrained/not properly trained person*<br>*7 = Other (specify): _____* | *Record the name of the place and circle one most appropriate category* |
| **708** | Why do you think you can get safe abortion there [PLACE]?<br><br>***Multiple answers*** | *Reason(s): _____*<br>*1 = There are trained midwife/MD/MA*<br>*2 =There are experienced personnel*<br>*3 = There are enough equipment/medicines*<br>*4 = Women usually get safe abortion there*<br>*5 = I just learn from family/friend/other*<br>*6 = Other (specify): _____* | *Record the reason(s) and circle all appropriate categories* |
| Now I am going to ask you some questions about how confident or sure you are that you could use family planning if wanted to do so. Even if you do not want to use family planning right now, try to imagine sometime in the future when you might wish to use it, how sure are you that you could: | | | |
| **709** | Bring up the topic of family planning with your husband (or partner)?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **710** | Tell your husband (or partner) that you wanted to use family planning?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **711** | Use family planning?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure* | *Circle one answer which corresponds to the answer* |

| | | | |
|---|---|---|---|
| | | *2 = Somewhat unsure*<br>*1 = Not at all sure* | |
| **712** | Use family planning, even if your husband (or partner) did not want to?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| Now I am going to ask you some questions about whether you feel you can refuse to have sex in certain situations. Your answers will be kept completely secret and you don't have to answer questions you don't want to do so. How sure are you that you could refuse to have sex with your husband (or partner): | | | |
| **713** | When you don't want to have sex but he does?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **714** | If you were feeling tired?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **715** | If he gets angry with you if you don't have sex?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **716** | If he threaten to hurt you if you don't have sex?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |
| **717** | If he threaten to have sex with other women if you don't have sex with him?<br><br>***One answer*** | *5 = Completely sure*<br>*4 = Somewhat sure*<br>*3 = Neither sure/Unsure*<br>*2 = Somewhat unsure*<br>*1 = Not at all sure* | *Circle one answer which corresponds to the answer* |

## Annex 5: OD MCH supervisor questionnaire

### Introduction and consent

Hello. I am _____, a researcher from an independent research consultant team. We are collecting mid-term evaluation data in the coverage areas of an Australian Aid funded reproductive, maternal and newborn health (RMNH) project, known as Partnering to Save Lives (PSL) as part of the project monitoring and evaluation framework. Your health district (OD) is in the coverage area of this PSL project. You are an OD supervisor for MCH, a key person on RMNH in this OD (OD NAME). Therefore, I would like to ask you some questions on RMNH services in your OD. The interview will take about 30 minutes. Your participation in the interview is crucial for this mid-term evaluation data collection and for the PSL project to help improve RMNH services in Cambodia, including your OD. However, you are free to decide whether to participate or not. During the interview, you can also refuse to answer any question you do not want to do so. Do you have any questions? May I start the interview now?

Signature of interviewer: _____

Date: _____

Respondent agrees to be interviewed => Continue

Respondent does not agree to be interviewed => End

**Questions**

1. Since when have you been MCH supervisor in this OD? _____/_____ (mm/yyyy)
2. If she has been MCH supervisor before December 2013, did she participate in an interview related to the PSL baseline evaluation? 0 = No 1 = Yes
3. In your OD (NAME), how many **functioning** health facilities are there?
    a. _____ health posts
    b. _____ health centres
    c. _____ health centres with beds or former district hospitals
    d. _____ district RH(s)
    e. _____ provincial hospitals
    f. _____ major private facilities providing RMNH services. Write 98 if don't know

Please verify with the provided data from HIS and mark the difference.

.....

.....

4. Please ask for information about all kinds of modern contraceptive methods that are offered by each public health facility, excluding health posts, in this OD and complete cells in the provided table with 0 = No; 1 = Yes, and 9 = Not applicable

   Example for Chhlong OD

| Facility code/name | Female sterilization | Male sterilization | IUD | Implant | Injectable | Daily pills | Male/Female condom | Emergency Contraceptive |
|---|---|---|---|---|---|---|---|---|
| 100102. Chambak_HC | | | | | | | | |
| 100103. Ta Mao_HC | | | | | | | | |
| 100105. Khsach Andet_HC | | | | | | | | |
| 100106. Pongro_HC | | | | | | | | |
| 100107. Chroy Thmor_HC | | | | | | | | |
| 100108. Kanhchor_HC | | | | | | | | |
| 100109. Damrei Phong_HC | | | | | | | | |
| 100110. Russey Keo_HC | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 100104. Prek Prasob_FDH | | | | | | | | |
| 100101. Chhlong_RH | | | | | | | | |

5. How many of the health centres (with and without beds) are officially considered as functioning BEmONC facilities or offering BEmONC services? ____HCs

Please verify with the provided data from PSL and mark the difference.

   .....
   .....

   In general, have you observed any improvement in providing BEmONC services in terms of completion of the 7 signal functions[13] and the quality of each function, especially the quality of newborn resuscitation (function 7) in this OD since the start of PSL (in late 2013)? Why?

   .....
   .....
   .....
   .....

6. In general, have you observed any improvement in the provision (quantity and quality) and utilization of RMNH services (family planning, ANC, delivery, PNC and abortions) in this OD since the start of PSL (in late 2013)? Why?

   .....
   .....
   .....
   .....

7. What do you think are the constraints to the provision (quantity and quality) and utilization of services, mainly RMNH services at health centre level and BEmONC in this OD? What might be ways to overcome these constraints?

[13] *The 7 signal functions are: (1) administer parenteral antibiotics; (2) administer uterotonic drugs (e.g. parenteral oxytocin, misoprostol); (3) administer parenteral anticonvulsants (e.g. magnesium sulfate); (4) perform manual removal of placenta; (5) perform removal of retained products (manual vacuum aspiration, misoprostol); (6) perform assisted vaginal delivery (e.g. vacuum extractor); and (7) perform neonatal resuscitation (e.g. with bag and mask).*

.....
.....
.....
.....
.....
.....
.....

8. What do you think are some of the constraints with improving the quality of services being delivered by some health centres in this OD? What might be ways to overcome these constraints?

.....
.....
.....
.....

9. How do you think that midwives can improve their skills and confidence to deliver timely and appropriate care to pregnant women and mothers?

.....
.....
.....
.....

10. Could you please share with me your ideas of how improvements could be made with reaching and providing services to newborns?

.....
.....
.....

11. How could health centres better meet the RMNH needs of adolescents and youth?

.....
.....
.....

12. Imagine you could do whatever you wanted to improve health services, in particular to improve RMNH services, in this OD. What are the 3 most important things (actions) you would like to do immediately?

1.....
2.....
3.....

13. Would you have any recommendations for PSL (Please refer to the PSL based in that OD) to do to make their support on RMNH efforts in this OD more effective?

.....
.....
.....
.....

14. Do you have any question to ask me? Take note about the question if any. If no question, thank the interviewee and stop the interview

    .....
    .....

## Annex 6: BEmONC assessment form

This form is to be used for assessment of health facilities, mainly health centres with and without beds (including former district hospitals), which are considered by OD MCH supervisors to be potentially BEmONC facilities. The main aim is to learn about which signal functions are offered at a health facility in order to confirm that it really is a BEmONC facility as indicated by OD MCH supervisor.

In order to answer the six questions in the form, the trained midwife should pay a visit to each health facility and complete the form using:

- direct observation;
- interviewing facility registers and midwives;
- discussion with fellow team members.

*CODES of answers to question 6:*

1. *Training issues: authorised cadre available but not (sufficiently) trained or lack of confidence / skills.*
2. *Supplies / equipment issues: supplies / equipment are not available or not functional / broken, needed drugs are not available.*
3. *Management issues: providers desire compensation to perform this function or encouraged to perform alternative procedures or uncomfortable / unwilling to perform procedure for reasons unrelated to training.*
4. *Policy issues: required level of staff are not posted to this facility in adequate numbers (or at all).*
5. *No indication because no client needing this procedure came to this facility during this time period.*

| **Signal function** | **Questions to assess BEmONC signal functions** | | | | | |
|---|---|---|---|---|---|---|
| | 1-Is there any staff at the facility trained to perform the service?<br>*0 = No; 1 = Yes* | 2-Are the cadres of staff working at the facility authorised to perform the service?<br>*0 = No; 1 = Yes* | 3-Are the requisite supplies and equipment available and functioning?<br>*0 = No; 1 = Yes* | 4-Were there any cases for which the use of a particular signal function was indicated?<br>*0 = No; 1 = Yes* | 5-Were there any cases for which the use of a particular signal function was indicated **in the last 3 months**?<br>*0 = No; 1 = Yes* | 6-If No, why?<br>*Tick in [ ] for all the relevant reasons* |
| 1. Administer parenteral antibiotics | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 2. Administer uterotonic drugs (e.g. parenteral oxytocin, misoprostol) | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 3. Administer parenteral anticonvulsants (e.g. magnesium sulfate) | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 4. Perform manual removal of placenta | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 5. Perform removal of retained products (MVA, misoprostol) | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 6. Perform assisted vaginal delivery (e.g. vacuum extractor) | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |
| 7. Perform neonatal resuscitation (e.g. with bag and mask) | | | | | | 1 [ ] 2 [ ] 3 [ ]<br>4 [ ] 5 [ ] |

## References


1. Ir P: **Baseline Survey Report on Reproductive, Maternal and Neonatal Health Situation Analysis in Eight Cambodian Provinces.** pp. 74. Phnom Penh, Cambodia: Partering to Save Lives; 2014:74.
2. **MOH's Routine Health Information Website:** **http://hismohcambodia.org/public/homepage_en.php**
3. **Cambodia Demographic and Health Survey 2014.** Phnom Penh, Cambodia: National Institute of Statistics, Ministry of Planning; Directorate General for Health, Ministry of Health; and ICF Macro; 2015.
4. **Report on Health Achievments in 2015 and Plan of Activities for 2016: The 37th National Health Congress (Khmer Version).** Phnom Penh, Cambodia: Ministry of Health; 2016.
5. Eccles M, Grimshaw J, Campbell M, Ramsay C: **Research designs for studies evaluating the effectiveness of change and improvement strategies.** *QualSaf Health Care* 2003, **12:**47-52.
6. Grimshaw J, McAuley LM, Bero LA, Grilli R, Oxman AD, Ramsay C, Vale L, Zwarenstein M: **Systematic reviews of the effectiveness of quality improvement strategies and programmes.** *QualSaf Health Care* 2003, **12:**298-303.
7. Bamberger M: *Introduction to mixed methods in impact evaluation.* InterAction - a united voice fo global change and the Rockefeller Foundation; 2012.
8. *Cambodia Demographic and Health Survey 2005.* Phnom Penh, Cambodia: National Institute of Statistics, Ministry of Planning; Directorate General for Health, Ministry of Health; and ICF Macro; 2006.
9. *Cambodia Demographic and Health Survey 2010.* Phnom Penh, Cambodia: National Institute of Statistics, Ministry of Planning; Directorate General for Health, Ministry of Health; and ICF Macro; 2011.
10. Chhea CI, P.; Chau, D.; Mam, S.: **Level 2 Quality of Care Assessment in 2015 among Public Health Facilities in 15 Provinces and Phnom Penh Municipality.** Phnom Penh: The Technical Working Group for Level 2 Quality of Care Assessment, Ministry of Health; 2016.
11. **Community Referral System Snapshot Survey Report.** Phnom Penh, Cambodia: Coordination and Learning Unit, PSL; 2016.
12. Peou ED, J.P.: **National Client Satisfaction Survey: Healthcare Services at Public Health Facilities in Cambodia Baseline Survey Report for Ministry of Health.** Phnom Penh: Ministry of Health; 2012.

កម្មវិធីរួមគ្នាដើម្បីជួយជីវិតមាតា និងទារក

Partnering to Save Lives

Australian Aid

care

MARIE STOPES CAMBODIA
Children by choice, not chance

Save the Children