

Understanding contracting in Cambodia: The performance of contracting and non-contracting districts in extending primary health coverage: analysis of secondary data

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Prey Pnovh Hospital
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ReBUILD is funded by UK Aid
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Acknowledgement

This work was carried out as part of the ReBUILD research programme (Research for building pro-poor health systems during the recovery from conflict). ReBUILD is funded by UK Aid from the UK government.

Suggested citation: Vong, S., Raven, J. and Newlands, D. 2015. *Understanding Contracting in Cambodia. The performance of contracting and non-contracting districts in extending primary health coverage: analysis of secondary data.* ReBUILD RPC Research Report

Contents

Abbreviations	6
Summary	7
1. Introduction	8
2. Data and methods	8
3. Results	11
4. Discussion	13
5. Conclusions	14
6. References	15
7. Annex	16

List of acronyms

ANC	Antenatal Care
CBHI	Community Based Health Insurance
CPA	Complementary Package of Activity
HC	Health Centre
HCMC	Health Centre Management Committee
HEF	Health Equity Fund
HSSP2	Health Sector Support Project 2
HW	Health Worker
IDI	In-Depth Interview
KII	Key Informant Interview
MCH	Maternal and Child Health
MOH	Ministry of Health
MPA	Minimum Package of Activity
NGO	Non-Governmental Organisation
OD	Operational District
OPD	Outpatients Department
PHD	Provincial Health Department
RH	Referral Hospital
RGC	Royal Government of Cambodia
SDG	Service Delivery Grant
SOA	Special Operating Agency
VHSG	Village Health Support Group

Summary

This study compares the performance of 13 contracting (Special Operating Agency (SOA)) districts and 10 non-contracting (non-SOA) districts across four provinces of Cambodia in increasing coverage of basic health services. The four Minimum Package of Activity (MPA) indicators used are: full immunisation of children under one, antenatal care (two or more consultations), delivery by a trained professional, and delivery in a health facility.

Suspensions about the quality of the routine HMIS data mean that all conclusions about the relative performance of contracting and non-contracting districts have to be treated with some caution. This is particularly true of the data for immunisation and antenatal care.

Placing greater emphasis on the data on deliveries, by a trained professional and in a health facility, and in the two provinces included in our study where systematic comparison of SOA and non SOA districts is possible – Kampong Cham and Prey Veng – leads to the conclusion that there is some, but very weak, evidence that SOA districts perform better than non SOA districts over the period 2009-12.

However, clear selection bias and the existence of countervailing factors such as the greater resources available to SOA districts and the various parallel initiatives, particularly the nationwide midwifery scheme, pose considerable problems of attribution of the observed improvements of the four health indicators. Overall, there is little reason to believe that the better performance of SOA districts is due to the contracting mechanisms in these districts as such.

1 Introduction

There has been much effort and commitment to strengthen the Cambodian health system to provide better quality of care. There is evidence that health outcomes have improved: life expectancy has risen from 49 years in 1990 to 62 years in 2010; the infant mortality rate has halved from 95 per 1000 live births in 2000 to 45 per 1000 live births in 2010; and maternal mortality rate has decreased from 437 per 100,000 live births in 2000 to 206 per 100,000 live births in 2010 (NIPH, NIS & ORC Macro, 2001; NIPH, NIS & ORC Macro, 2011).

Despite these achievements, there remain many challenges in the health care system. These include a shortage of skilled health care providers, maldistribution of health workers with many working in the capital Phnom Penh, issues with quality of care and low utilisation of healthcare services (Sok 2012; Asante et al 2011).

In order to address these issues, the Royal Government of Cambodia (RGC) introduced significant health sector reforms. Between 1996 and 2008, the Ministry of Health (MoH) reformed health financing, planning and service management. These reforms responded to health workforce capacity, fragmented management and service delivery, low rural coverage of health services and inequitable access to services by socially excluded and economically marginalised groups (Grundy, 2009). In 1998, the RGC introduced contracting of health services to non-governmental organizations (NGOs).

Since the introduction of this external contracting model in 1998, there have been many changes to the contracting models. The current model “Special Operating Agencies” (SOA) is a form of internal contracting. Contracting is a complex process that requires a good understanding of the work, thorough planning, negotiation and monitoring. The arrangements themselves are not static, rather they continue to adapt and respond to new emerging issues.

There has been limited research on the new contracting arrangements in Cambodia. Khim and Annear (2013) is one of the few published studies. Past studies focused on the external contracting interventions, but very little on the process of the contracting. The current arrangement is new and employs the principles of contracting. However, as it is an internal arrangement it is anticipated that it must conform to the bureaucratic environment, capacity, and management framework of the government.

The overall study aims are:

1. To understand the change process in contracting arrangements in the Cambodian health sector, by identifying the drivers for change, the reasons behind the arrangements and the contextual factors at the time
2. To document the processes of implementation of the current contracting model (Special Operating Agencies - SOA) including the contextual and health system factors which facilitate or constrain the implementation and how these factors have been addressed
3. To examine the implications of the SOA on service coverage and equity

This report focuses on the third aim, to analyse secondary data in order to examine the implications of the SOA on service coverage and equity. Unfortunately, the absence of systematic data on any equity variables meant that the analysis was confined to levels and trends in service coverage.

2. Data and methods

The principal data source was the Health Information System database but a variety of other data sources were explored, including the Health Equity Fund (HEF) database and published national health statistics reports.

The intention had been to collect data on the key Minimum Package of Activity (MPA) indicators, particularly:

- full immunisation of children under 1
- antenatal care (2 or more antenatal care consultations)
- deliveries by a trained professional
- deliveries at a health facility

In addition, if available:

- number and proportion of eligible poor that received health services and were exempted from user charges

Data were collected from 2009-12 for each of the four MPA indicators listed. 2012 is the latest year for which data are available. The principal source of data was the Annual Health Statistics (Ministry of Health, Department of Planning and Health Information, various years). This publication was supplemented by SOA Performance Trends 2008-12 (Ministry of Health, Department of Planning and Health Information, 2013).

There were some data on the number and proportion of eligible poor in receipt of health services and exempted from user charges but, with one exception, they were only available for SOA districts, making impossible a

comparison of the performance of contracting and non-contracting districts in terms of extending coverage to the poor.

The available coverage data were analysed to describe the trends from 2009-12 in immunisation, antenatal care, deliveries by trained professionals and deliveries at health facilities. Where possible, systematic comparison was made between contracting (SOA) and non-contracting (non-SOA) districts. The a priori hypothesis was that SOA districts should perform better than non-SOA districts (and the province average), for example in achieving a greater increase in the proportion of deliveries attended by a trained professional.

The appropriate denominators for calculating the coverage of the four variables are the number of children under the age of 1 and the number of pregnant women. Estimates of the number of pregnant women are available for all districts although they are derived from the application of fixed ratios to the district total populations. It appears that for all districts, the number of women of reproductive age (WRA) is assumed to be 14.0% of the total population. Further fixed ratios, although differing by province, are then applied to the number of WRA to derive estimates of the number of pregnant women. For example, across Kampong Cham Province, 21.07% of WRA are assumed to be pregnant. The number of children under the age of 1 is also calculated by means of assumed fixed ratios to total population, although again these vary by province.

The districts selected for the contracting study were chosen according to their experience with contracting and geographical location. In two of the four provinces, Oddar Meanchey and Takeo, it was not possible to compare contracting and non-contracting districts within the same province. There is just one district in Oddar Meanchey province, Samraong (a SOA district). All five districts in Takeo province are SOA districts. It was not possible to compare the performance of contracting districts with control districts in either of these districts.

A comparison of SOA and non-SOA districts is possible for the other two provinces, Kampong Cham and Prey Veng. In addition, we compared the levels and trends of coverage of the four MPA indicators in the 13 SOA districts in the four provinces of the study with the 10 non SOA districts and used the average of the 23 districts in the four provinces as an overall benchmark of performance.

Table 1 lists the 23 ODs (Operational Districts, health districts), which province they are in, whether or not they are SOA districts (and if so the date of commencement of SOA status), previous contracting experience, and whether or not one or more of four other initiatives (Health Equity Fund, Community Based Health Insurance, a maternity voucher scheme, and a midwife incentive scheme) are present.

Table 1: Health districts included in the secondary data analysis

District	Province	SOA/date of commencement	Previous contracting	Other initiatives*
Memut	Kampong Cham	SOA, July 2009	Contracting out (1999-2002); Contracting (SCA) (2004-08)	HEF, CBHI
Chamkar Leu	Kampong Cham	SOA, January 2010	Performance contract (BTC) (2004-08)	HEF, CBHI
Choeung Prey	Kampong Cham	SOA, January 2010	Contracting in (1999-2002); Performance contract (BTC) (2004-08)	HEF, CBHI
Ponhea Krek	Kampong Cham	SOA, July 2009	Contracting (SCA) (2004-08)	HEF, CBHI
Prey Chhor	Kampong Cham	SOA, January 2010	Performance contract (BTC) (2004-08)	HEF, CBHI
Kompong Cham	Kampong Cham	Non SOA		
Kroch Chhmar	Kampong Cham	Non SOA		
O Reang Ov	Kampong Cham	Non SOA		
Srei Santhor	Kampong Cham	Non SOA		
Tbong Khmum	Kampong Cham	Non SOA		HEF, CBHI
Samraong	Oddar Meanchey	SOA, January 2010	Performance contract (BTC) (2004-08)	HEF, CBHI
Pearang	Prey Veng	SOA, July 2009	Contracting in (1999-2002); Contracting (HNI) (2004-08)	HEF, CBHI, RHVS
Preh Sdach	Prey Veng	SOA, July 2009	Contracting (HNI) (2004-08)	HEF, CBHI, RHVS
Kamchay Mear	Prey Veng	Non SOA		
Kampong Trabek	Prey Veng	Non SOA		RHVS
Mesang	Prey Veng	Non SOA		
Neok Loeung	Prey Veng	Non SOA		
Svay Antor	Prey Veng	Non SOA		
Ang Rokar	Takeo	SOA, July 2009	Contracting out (1999-2002); Contracting (SRC) (2004-08)	HEF, CBHI
Bati	Takeo	SOA, May 2010		HEF, CBHI
Daun Keo	Takeo	SOA, May 2010		HEF, CBHI
Kirivong	Takeo	SOA, July 2009	Contracting in (1999-2002); Contracting (SRC) (2004-08)	HEF, CBHI
Prey Kabass	Takeo	SOA, May 2010		HEF, CBHI

Key: SCA: Save Children Australia; BTC: Belgian Technical Cooperation; HNI: Health Net International; SRC: Swiss Red Cross; HEF: Health Equity Fund; CBHI: Community Based Health Insurance; RHVS: Reproductive Health Voucher Scheme

* GMIS, the Government Midwifery Incentive Scheme, is a nationwide scheme, operating in all districts

3. Results

There are severe doubts about the accuracy of many of the HMIS data. There are 42 instances of immunisation coverage rates in excess of 100%, including most of the figures for the districts in Kampong Cham Province. There are 11 instances of antenatal care coverage rates in excess of 100%, including Ang Rokar (SOA in Takeo Province) that reported 153% coverage in 2009. It is unclear whether these instances are the results of different definitions of the populations of children under 1 or of pregnant women or reflect how the data were collected. Either way, they reduce confidence in the reliability of the immunisation and antenatal care data.

There are a number of other figures that cast doubt upon the accuracy of the routine HMIS data. There was an apparent collapse in coverage of deliveries by a trained professional in Kompong Cham district between 2011 and 2012. If the data are believed, the number of deliveries by a trained professional fell by 61%. Also in Kampong Cham Province, in Choeung Prey district, the recorded number of children under 1, pregnant women, children immunized, and women receiving antenatal care, delivering with a trained professional or in a health facility, all fell by around half between 2011 and 2012, suggesting perhaps that the published figures cover six months rather than the full year. A further example is that the number of children recorded as having been immunised in Samraong district, in Oddar Meanchey Province, in 2009 was zero.

These issues and other doubts about the robustness of the routine HMIS data, together with the small number of data points, means that many of the common statistical tests cannot be applied with any confidence. Instead, the focus is on descriptive data analysis.

Tables A1 to A5 (in Annex 1) show the coverage figures, in absolute numbers and in percentage terms, for the four variables, immunization of children, antenatal care, delivery by a trained professional, and delivery in a health facility, for each of the four years between 2009 and 2012. The annual rates of change and change over the whole period are shown. Attention here is focused on the initial % coverage level in 2009 and the rate of change in absolute terms between 2009 and 2012.

Table A1 shows the overall averages across the 23 districts. For the overall average across all 23 districts, the initial levels of coverage, in 2009, of full immunisation and antenatal care were relatively high, at 92.1% and 81.4% respectively. Coverage levels for the two delivery indicators in 2009 are lower: 57.5% for delivery by a trained professional and 42.2% for delivery in a health facility.

From 2009-12, antenatal coverage declines due to a large fall from 2009-10. There is a small increase in immunisation and deliveries by a trained professional. Only deliveries in a health facility show a significant increase, by 24% (2009-12).

Figure 1 compares the average initial coverage levels in the (13) SOA districts across the four provinces with the average of the (10) non SOA districts. There were similar initial levels of immunisation coverage but SOA coverage of deliveries by a trained professional was higher than the non-SOA figure, however this was not statistically significant. SOA coverage was much higher and statistically significant for the other two variables, antenatal care ($p < 0.01$) and deliveries in a health facility ($p < 0.0001$).

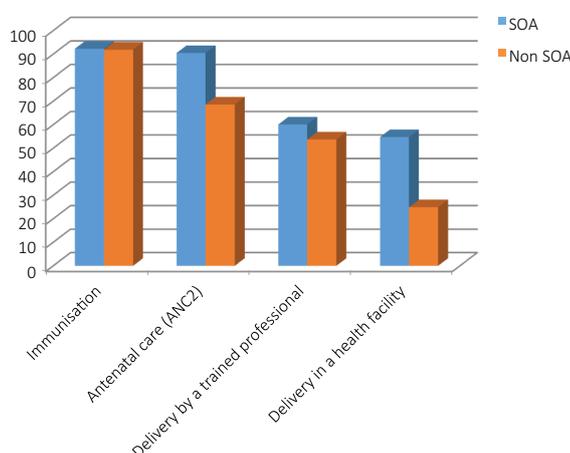


Figure 1: % coverage, 2009, SOA v Non SOA districts

Figure 2 compares the changes in the absolute numbers of coverage of the four indicators between 2009 and 2012. SOA districts performed better on average than non SOA districts 2009-12 with regard to immunisation (an increase in numbers of children immunised of 14% compared to almost static figures) and antenatal care (a fall of 1% compared to a fall of 12%). SOA districts achieved a 10% increase in deliveries by a trained professional 2009-12 in contrast to a 9% fall in non SOA districts over the same period. Finally, non SOA districts achieved a much greater increase in deliveries in a health facility than SOA districts (52% compared to 15%). The latter result, for deliveries in a health facility, is the only statistically significant difference ($p = 0.0316$). Tables A2-5 show the levels and rates of change of coverage of indicators from 2009-2010, 2010-2011 and 2009-2011. There is only a very brief summary of the results for Oddar Meanchey Province (Table A3) and Takeo Province

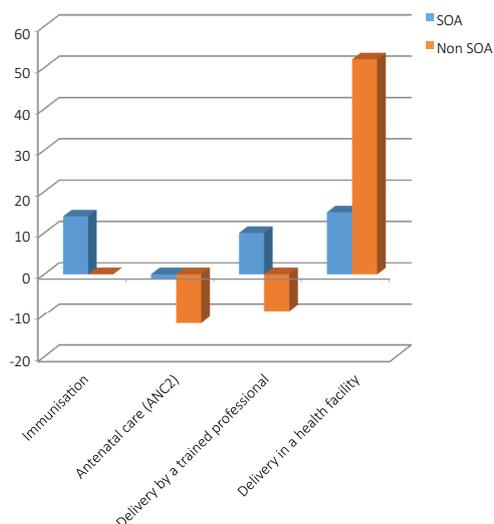


Figure 2: Changes in coverage, %, 2009-12, SOA v Non SOA districts

(Table A5) since all the Operational Districts in these provinces are SOAs, thus precluding any comparison of SOA and non-SOA performance within either province.

Table A2 shows the five SOA and five non SOA districts of Kampong Cham. Comparing the SOA and non SOA averages, there were similar initial levels of immunisation coverage and deliveries by a trained professional (the non SOA figures being slightly higher) but SOA coverage of antenatal care and deliveries in a health facility was much higher.

The SOA districts performed better on average than the non SOA districts 2009-12 with regard to antenatal care (an increase of 1% compared to a fall in numbers of 5%) and deliveries by a trained professional (an increase of 4% compared to a fall of 19%). For the other two indicators, the non SOA districts in Kampong Cham Province perform slightly better than the SOA districts, with regard to immunization (an increase of 4% compared to one of 1%) but much better with regard to deliveries in a health facility (an increase of 58% compared to one of 11%).

Table A3 shows the single district, Samraong, an SOA district in Oddar Meanchey. As mentioned previously, there is no data on immunisation in 2009. There were large increases in coverage between 2009 and 2012 of ANC (53%), deliveries by a trained professional (69%) and deliveries in a health facility (78%).

Table A4 shows the two SOA and five non-SOA districts in Prey Veng. Comparing the SOA and non-SOA averages, there were higher initial levels of coverage, in 2009, for all four indicators. In the case of antenatal care and deliveries in a health facility, coverage levels were much higher: 88.8% (SOA) versus 71.5% (non SOA) for

antenatal care and 56.3% (SOA) versus 30.0% (non SOA) for deliveries in a health facility.

In terms of rates of change of coverage 2009-12, apart from immunisation, the pattern in Prey Veng is similar to that in Kampong Cham. The SOA districts performed better on average than the non SOA districts with regard to immunisation and antenatal care (with coverage falling in non SOA districts for both indicators) and also deliveries by a trained professional. However, non-SOA districts achieved a greater increase in deliveries in a health facility between 2009 and 2012.

Table A5 shows the five SOA districts of Takeo. Taking the average across the five districts, immunisation coverage falls by 2% between 2009 and 2012 while antenatal care coverage falls by 17%. Deliveries by a trained professional are static overall but deliveries in a health facility rise by 2%.

4. Discussion

The descriptive data analysis casts serious doubt on the robustness of many of the data, particularly with regard to immunisation and antenatal care, due to definitional problems and data patterns which are not easily explained.

The reasons for the large number of immunisation rates (42) and antenatal care coverage rates (11) in excess of 100% are unclear. One possible explanation, common in other countries, is the inward movement of people seeking care who are resident in other districts (or even other countries), thus inflating the denominator but not the numerator of the coverage rate. The application of uniform provincial or national ratios to district populations, which may be inaccurate, to estimate the number of children under 1 or the number of pregnant women may be another factor. For example, it was noted above that in all the districts of Kampong Cham Province it is assumed that 2.95% (21.07% of 14%) of the population are pregnant women. If the actual population of pregnant women or children under 1 is greater than the assumed figures, the true coverage rate may be significantly lower.

There are many decreases in immunisation coverage. Remarkably, it appears to fall in most districts (21 out of 23) between 2010 and 2011, (all but Memut and Daun Keo) and in 11 out of 22 districts between 2009 and 2012 (there are no data for the three year period for Samraong). Whether these trends were real or artefacts of the data is not clear.

For antenatal care, there are also a large number of falls in coverage over the period 2009-12. Some of these falls were large, 30% or more over the three years in Mesang in Prey Veng Province (30%), Ang Rokar in Takeo Province (35%), Srei Santhor in Kampong Cham Province (37%) and Prey Kabass in Takeo Province (45%). In addition, there is a 37% fall in Srei Santhor district but, as already mentioned, this may be a mistake. There are consistent falls in antenatal coverage in 2009-10 with 18 out of the 23 districts showing reductions. This does not appear to be the consequence of any change in definition and so the reasons for this are again unclear.

The data for deliveries by a trained professional mostly show increases 2009-12, some of them large, but there are a number of falls in coverage, including a 62% fall in Kompong Cham district although this seems scarcely credible. Deliveries in a facility show a similar trend although with more large increases in coverage – probably because the number of deliveries in a facility start from a smaller base than deliveries by a trained professional – and fewer falls.

There appear to be several districts that display very poor performance across these key variables. The

reasons behind this performance may involve resource constraints, problems in the management of the district or problems in the external environment. These include Srei Santhor in Kampong Cham Province and Ang Rokar and Prey Kabass in Takeo Province. The latter two districts are SOA districts.

Only two of the four provinces enable comparison of the performance of SOA and non SOA. Oddar Meanchey consists of a single SOA district, Samraong, performing reasonably well. Takeo consists of five, generally poorly performing, SOA districts.

Measuring performance by the rates of change of coverage between 2009 and 2012, there is a similar pattern in Kampong Cham and Prey Veng Provinces for three of the four MPA indicators, the exception being immunisation. In both provinces, the SOA districts performed better on average than the non SOA districts with regard to antenatal care (with coverage falling in non SOA districts) and also deliveries by a trained professional. However, non-SOA districts achieved a greater increase in deliveries in a health facility between 2009 and 2012 in both provinces.

These trends suggest that SOA districts have performed more strongly than non SOA ones but, if greater weight is given to the two delivery indicators (despite the dubious data for Kompong Cham and Choeung Prey districts) due to the widespread doubts about the reliability of the data for immunisation and for antenatal care, the pattern is more balanced. SOA districts have done better in terms of increasing deliveries by a trained professional but non SOA districts have achieved the greater increases in deliveries in a health facility.

In the first contracting phase in Cambodia, there was careful matching of contracting districts with similar non-intervention control districts (Bhushan et al, 2002). However, the same has not been true of the current contracting regime. Health ODs had to be assessed against various criteria, including service provision, planning and financial management, before being deemed ready for SOA status. The secondary data confirm the expectation that, on designation, the performance of SOA districts was already better than that of non SOA districts. In Kampong Cham Province, there were similar initial levels of immunisation coverage and deliveries by a trained professional but SOA coverage of antenatal care and deliveries in a health facility was much higher than in non SOA districts. Similarly, in Prey Veng Province, there were higher initial levels of coverage, in 2009, for all four indicators in SOA districts than non-SOA ones. In the case of antenatal care and deliveries in a health facility, coverage levels were much higher. Clearly, in both provinces, there has been selection bias with SOA districts already better performing districts.

In Table 1 the date of commencement of SOA status and whether SOA districts were part of either or both of the two previous contracting regimes are recorded. In theory, both these measures could cast light on the nature and degree of selection bias but no consistent patterns are readily identifiable.

There are considerable problems in attributing the observed changes in coverage to contracting. In the first phase of contracting, the contracting districts were much better resourced. Resources available to SOA districts are still greater than to non-contracting districts because of the Service Delivery Grants (SDGs) available to SOAs, partly financed by donor funding.

In addition, alongside the contracting process, there have been a variety of other interventions operating in the four provinces. The Government Midwifery Incentive Scheme (GMIS) is a government initiated and funded supply-side and output-based health financing mechanism aimed at motivating skilled birth attendants to promote deliveries in public health facilities. It became operational in late 2007. It operates nationwide. A Health Equity Fund (HEF) programme operates in a number of districts, administered by NGOs. There is also a Community Based Health Insurance (CBHI) scheme which appears to operate in the same districts and to be linked to the HEF programme. The CBHI scheme is targeted at people working within the informal sector while the HEF programme is targeted at the poor. There is also a reproductive health voucher scheme that is operational in three of the districts included in this study: Pearaing, Preah Sdach and Kampong Trabek in Prey Veng Province.

These other interventions, particularly the nationwide midwifery scheme (GMIS) make it even more difficult to attribute the observed changes in levels of coverage of immunisation of children, antenatal care, and deliveries by a trained professional and in a health facility to the SOA contracting regime.

The study by Khim and Annear (2013) finds similar trends in MPA indicators but draws somewhat different conclusions. They conclude that '[T]he rate of improvement in service delivery indicators across the three years [2008-10] was similar for the two groups [SOA and non SOA districts] ... These results indicate that the ... SOA districts maintained the elevated level of service delivery established by the earlier external contracting approach. This is a significant outcome ... and establishes internal contracting as an effective approach' (Khim and Annear, 2013, p.6). However, selection bias and problems of attribution, both of which are acknowledged by Khim and Annear, cast doubt on the extent to which the service delivery data are evidence in favour of contracting. The claim that these data show internal contracting to be 'an effective approach' is a generous interpretation.

5. Conclusions

Suspicious about the quality of the HMIS data mean that all conclusions about the relative performance of contracting and non-contracting districts in Cambodia have to be treated with some caution. This is particularly true of the data for immunisation of children under one and antenatal care.

Placing greater emphasis on the data for deliveries by a trained professional and in a health facility, and in the two provinces included in our study where systematic comparison of SOA and non SOA districts is possible – Kampong Cham and Prey Veng – leads to the conclusion that there is some weak evidence that SOA districts performed better than non-SOA districts from 2009-12. However, clear selection bias and the existence of countervailing factors such as the greater resources available to SOA districts and the various parallel initiatives, particularly the nationwide midwifery scheme, pose considerable problems of attribution of the observed improvements of the four health indicators.

In conclusion, there is little reason to believe that the better performance of SOA districts is due to the contracting mechanisms in these districts.

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7. Annex

Table A1 Overall averages, all districts, SOA districts, non SOA districts

Average across health districts in all four provinces

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	112680	115906	113849	112972	–	–	–	–
# of children under 1 year	88391	90790	89132	88426	–	–	–	–
Immunisation coverage of children under 1 year	81423	92338	84383	87949	13%	-9%	4%	8%
Immunisation coverage as % of # of children under 1 year	92.1%	101.7%	94.7%	99.5%	10%	-7%	5%	8%
Antenatal care for pregnant women (ANC2)	91694	82488	87937	87222	-10%	7%	-1%	-5%
ANC as % of # of pregnant women	81.4%	71.2%	77.2%	77.2%	-13%	9%	0%	-5%
Child delivery by a trained professional	64748	68831	67320	66367	6%	-2%	-1%	3%
Delivery by a trained professional as % of # of pregnant women	57.5%	59.4%	59.1%	58.7%	3%	0%	-1%	2%
Delivery in a health facility	47596	55453	54726	58987	17%	-1%	8%	24%
Delivery in a health facility as % of # of pregnant women	42.2%	47.8%	48.1%	52.2%	13%	0%	9%	24%

SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	65508	67885	67093	65339	–	–	–	–
# of children under 1 year	50846	52566	51942	50533	–	–	–	–
Immunisation coverage of children under 1 year	46930	55594	52866	53405	18%	-5%	1%	14%
Immunisation coverage as % of # of children under 1 year	92.3%	105.8%	101.8%	105.7%	15%	-4%	4%	15%
Antenatal care for pregnant women (ANC2)	59312	53984	59197	58725	-9%	10%	-1%	-1%
ANC as % of # of pregnant women	90.5%	79.5%	88.2%	89.9%	-12%	11%	2%	-1%
Child delivery by a trained professional	39398	41479	40898	43362	5%	-1%	6%	10%
Delivery by a trained professional as % of # of pregnant women	60.1%	61.1%	61.0%	66.4%	2%	0%	9%	10%
Delivery in a health facility	35831	38485	38517	41155	7%	0%	7%	15%
Delivery in a health facility as % of # of pregnant women	54.7%	56.7%	57.4%	63.0%	4%	1%	10%	15%

Non SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	47172	48021	46756	47633	–	–	–	–
# of children under 1 year	37545	38224	37190	37893	–	–	–	–
Immunisation coverage of children under 1 year	34493	36744	31517	34544	7%	-14%	10%	0%
Immunisation coverage as % of # of children under 1 year	91.9%	96.1%	84.7%	91.2%	5%	-12%	8%	-1%
Antenatal care for pregnant women (ANC2)	32382	28504	28740	28497	-12%	1%	-1%	-12%
ANC as % of # of pregnant women	68.6%	59.4%	61.5%	59.8%	-14%	4%	-3%	-13%
Child delivery by a trained professional	25350	27352	26422	23005	8%	-3%	-13%	-9%
Delivery by a trained professional as % of # of pregnant women	53.7%	57.0%	56.5%	48.3%	6%	-1%	-15%	-10%
Delivery in a health facility	11765	16968	16209	17832	44%	-4%	10%	52%
Delivery in a health facility as % of # of pregnant women	24.9%	35.3%	34.7%	37.4%	42%	-2%	8%	50%

Table A2 Kampong Cham Province

SOA districts

Memut

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4021	4069	4046	4063	–	–	–	–
# of children under 1 year	3120	3158	3140	3155	–	–	–	–
Immunisation coverage of children under 1 year	3373	3758	3874	4155	11%	3%	7%	23%
Immunisation coverage as % of # of children under 1 year	108.1%	119.0%	123.4%	131.7%	10%	4%	7%	22%
Antenatal care for pregnant women (ANC2)	3729	3506	3994	4567	-6%	14%	14%	22%
ANC as % of # of pregnant women	92.7%	86.2%	98.7%	112.4%	-7%	15%	14%	21%
Child delivery by a trained professional	1840	2216	2569	3050	20%	16%	19%	66%
Delivery by a trained professional as % of # of pregnant women	45.8%	54.5%	63.5%	75.1%	19%	17%	18%	64%
Delivery in a health facility	1409	1703	2278	2634	21%	34%	16%	87%
Delivery in a health facility as % of # of pregnant women	35.0%	41.9%	56.3%	64.8%	19%	35%	15%	85%

Chamkar Leu

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4819	4916	4854	4853	–	–	–	–
# of children under 1 year	3740	3815	3767	3769	–	–	–	–
Immunisation coverage of children under 1 year	3568	4165	3910	4234	17%	-6%	8%	19%
Immunisation coverage as % of # of children under 1 year	95.4%	109.2%	103.8%	112.3%	14%	-5%	8%	18%
Antenatal care for pregnant women (ANC2)	3647	3806	4420	4908	4%	16%	11%	35%
ANC as % of # of pregnant women	75.7%	77.4%	91.1%	101.1%	2%	18%	11%	34%
Child delivery by a trained professional	2145	2507	2670	3026	17%	7%	13%	41%
Delivery by a trained professional as % of # of pregnant women	44.5%	51.0%	55.0%	62.4%	15%	8%	13%	40%
Delivery in a health facility	1981	2398	2605	2905	21%	9%	12%	47%
Delivery in a health facility as % of # of pregnant women	41.1%	48.8%	53.7%	59.9%	19%	10%	12%	46%

Choeng Prey

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	6247	6392	5918	2690	–	–	–	–
# of children under 1 year	4848	4960	4592	2086	–	–	–	–
Immunisation coverage of children under 1 year	4854	5258	5113	2518	8%	-3%	-51%	-48%
Immunisation coverage as % of # of children under 1 year	100.1%	106.0%	111.3%	120.7%	6%	5%	8%	21%
Antenatal care for pregnant women (ANC2)	5837	4895	5568	2685	-16%	14%	-52%	-54%
ANC as % of # of pregnant women	93.4%	76.6%	94.1%	99.8%	-18%	23%	6%	7%
Child delivery by a trained professional	3484	3644	3509	1901	5%	-4%	-46%	-45%
Delivery by a trained professional as % of # of pregnant women	55.8%	57.0%	59.3%	70.7%	2%	4%	19%	27%
Delivery in a health facility	3259	3609	3447	1872	11%	-4%	-46%	-43%
Delivery in a health facility as % of # of pregnant women	52.2%	56.5%	58.2%	69.6%	8%	3%	19%	33%

Ponhea Krek

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	6023	6023	5980	6743	–	–	–	–
# of children under 1 year	4674	4674	4640	5233	–	–	–	–
Immunisation coverage of children under 1 year	5285	5858	5087	6110	11%	-13%	20%	16%
Immunisation coverage as % of # of children under 1 year	113.1%	125.3%	109.6%	116.8%	11%	-13%	6%	3%
Antenatal care for pregnant women (ANC2)	4908	4463	5393	5845	-9%	21%	8%	19%
ANC as % of # of pregnant women	81.5%	74.1%	90.2%	86.7%	-9%	22%	-4%	6%
Child delivery by a trained professional	4179	4378	4220	4430	5%	-4%	5%	6%
Delivery by a trained professional as % of # of pregnant women	69.4%	72.7%	70.6%	65.7%	5%	-3%	-7%	-5%
Delivery in a health facility	3140	3434	3527	3826	9%	3%	8%	22%
Delivery in a health facility as % of # of pregnant women	52.1%	57.0%	59.0%	56.7%	9%	3%	-4%	9%

Prey Chhor

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	5535	5637	5569	5592	–	–	–	–
# of children under 1 year	4295	4374	4322	4342	–	–	–	–
Immunisation coverage of children under 1 year	4577	4930	4690	4797	8%	-5%	2%	5%
Immunisation coverage as % of # of children under 1 year	106.6%	112.7%	108.5%	110.5%	6%	-4%	2%	4%
Antenatal care for pregnant women (ANC2)	5362	5324	5456	5761	-1%	2%	6%	7%
ANC as % of # of pregnant women	96.9%	94.4%	98.0%	103.0%	-3%	4%	5%	6%
Child delivery by a trained professional	3347	3402	3274	3159	2%	-4%	-4%	-6%
Delivery by a trained professional as % of # of pregnant women	60.5%	60.4%	58.8%	56.5%	0%	-3%	-4%	-7%
Delivery in a health facility	3115	3285	3111	3134	5%	-5%	1%	1%
Delivery in a health facility as % of # of pregnant women	56.3%	58.3%	55.9%	56.0%	4%	-4%	0%	0%

**Non SOA districts
Kompong Cham**

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	8488	8654	8510	8804	–	–	–	–
# of children under 1 year	6587	6716	6604	6834	–	–	–	–
Immunisation coverage of children under 1 year	8050	7611	6947	8960	-5%	-9%	29%	11%
Immunisation coverage as % of # of children under 1 year	122.2%	113.3%	105.2%	131.1%	-7%	-7%	25%	7%
Antenatal care for pregnant women (ANC2)	5224	4550	5052	4959	-13%	11%	-2%	-5%
ANC as % of # of pregnant women	61.5%	52.6%	59.4%	56.3%	-15%	13%	-5%	-8%
Child delivery by a trained professional	7713	6806	7545	2967	-12%	11%	-61%	-62%
Delivery by a trained professional as % of # of pregnant women	90.9%	78.6%	88.7%	33.7%	-13%	13%	-62%	-63%
Delivery in a health facility	1400	1690	1549	1750	21%	-8%	13%	25%
Delivery in a health facility as % of # of pregnant women	16.5%	19.5%	18.2%	19.9%	18%	-7%	9%	21%

Kroch Chhmar

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3259	3259	3221	3389	–	–	–	–
# of children under 1 year	2529	2529	2499	2630	–	–	–	–
Immunisation coverage of children under 1 year	1233	2485	1965	2329	102%	-21%	19%	89%
Immunisation coverage as % of # of children under 1 year	48.8%	98.3%	78.6%	88.6%	102%	-20%	13%	82%
Antenatal care for pregnant women (ANC2)	1415	2184	2322	2420	54%	6%	4%	71%
ANC as % of # of pregnant women	43.4%	67.0%	72.1%	71.4%	54%	8%	-1%	64%
Child delivery by a trained professional	554	1163	1150	1155	110%	-1%	0%	108%
Delivery by a trained professional as % of # of pregnant women	17.0%	35.7%	35.7%	34.1%	110%	0%	-5%	100%
Delivery in a health facility	338	812	833	931	140%	3%	12%	175%
Delivery in a health facility as % of # of pregnant women	10.4%	24.9%	25.9%	27.5%	140%	4%	6%	165%

O Reang Ov

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3044	3037	3052	3052	–	–	–	–
# of children under 1 year	2362	2357	2368	2371	–	–	–	–
Immunisation coverage of children under 1 year	2745	2570	2348	2552	-6%	-9%	9%	-7%
Immunisation coverage as % of # of children under 1 year	116.2%	109.0%	99.2%	107.6%	-6%	-9%	9%	-7%
Antenatal care for pregnant women (ANC2)	1583	1553	1848	1906	-2%	19%	3%	20%
ANC as % of # of pregnant women	52.0%	51.1%	60.6%	62.5%	-2%	18%	3%	20%
Child delivery by a trained professional	1311	1322	1883	2230	1%	42%	18%	70%
Delivery by a trained professional as % of # of pregnant women	43.1%	43.5%	61.7%	73.1%	1%	42%	18%	70%
Delivery in a health facility	545	966	1342	1387	77%	39%	3%	154%
Delivery in a health facility as % of # of pregnant women	17.9%	31.8%	44.0%	45.4%	78%	38%	3%	154%

Srei Santhor

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4893	5146	5165	5317	–	–	–	–
# of children under 1 year	3797	3993	4008	4125	–	–	–	–
Immunisation coverage of children under 1 year	4275	4195	3279	3400	-2%	-22%	4%	-20%
Immunisation coverage as % of # of children under 1 year	112.6%	105.1%	81.8%	82.4%	-7%	-22%	1%	-27%
Antenatal care for pregnant women (ANC2)	3523	2838	2512	2204	-19%	-11%	-22%	-37%
ANC as % of # of pregnant women	72.0%	55.1%	48.6%	41.5%	-23%	-12%	-15%	-42%
Child delivery by a trained professional	2497	2393	2152	2238	-4%	-10%	4%	-10%
Delivery by a trained professional as % of # of pregnant women	51.0%	46.5%	41.7%	42.1%	-9%	-10%	1%	-18%
Delivery in a health facility	1136	1469	1198	1247	29%	-18%	4%	10%
Delivery in a health facility as % of # of pregnant women	23.2%	28.5%	23.2%	23.5%	23%	-19%	1%	1%

Tbong Khmum

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	6130	6130	6153	6149	–	–	–	–
# of children under 1 year	4757	4757	4775	4772	–	–	–	–
Immunisation coverage of children under 1 year	4995	5057	4271	4885	1%	-16%	14%	-2%
Immunisation coverage as % of # of children under 1 year	105.0%	106.3%	89.4%	102.4%	1%	-16%	14%	-3%
Antenatal care for pregnant women (ANC2)	5364	4598	5011	4726	-14%	9%	-6%	-12%
ANC as % of # of pregnant women	87.5%	75.0%	81.4%	76.9%	-14%	9%	-6%	-12%
Child delivery by a trained professional	3235	3764	3554	3843	16%	-6%	8%	19%
Delivery by a trained professional as % of # of pregnant women	52.8%	61.4%	57.8%	62.5%	16%	-6%	8%	18%
Delivery in a health facility	1948	3073	2839	3156	58%	-8%	11%	62%
Delivery in a health facility as % of # of pregnant women	31.8%	50.1%	46.1%	51.3%	58%	-8%	11%	62%

Province average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	52459	53263	52468	50652	–	–	–	–
# of children under 1 year	40709	41333	40715	39317	–	–	–	–
Immunisation coverage of children under 1 year	42955	45887	41484	43940	7%	-10%	6%	2%
Immunisation coverage as % of # of children under 1 year	105.5%	111.0%	101.9%	111.8%	5%	-8%	10%	6%
Antenatal care for pregnant women (ANC2)	40592	37717	41576	39981	-7%	10%	-4%	-2%
ANC as % of # of pregnant women	77.4%	70.8%	79.2%	78.9%	-8%	12%	0%	2%
Child delivery by a trained professional	30305	31595	32526	27999	4%	3%	-14%	-8%
Delivery by a trained professional as % of # of pregnant women	57.8%	59.3%	62.0%	55.3%	3%	5%	-11%	-4%
Delivery in a health facility	18271	22439	22729	22842	23%	1%	0%	25%
Delivery in a health facility as % of # of pregnant women	34.8%	42.1%	43.3%	45.1%	21%	3%	4%	29%

SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	26645	27037	26367	23941	–	–	–	–
# of children under 1 year	20677	20981	20461	18585	–	–	–	–
Immunisation coverage of children under 1 year	21657	23969	22674	21814	11%	-5%	-4%	1%
Immunisation coverage as % of # of children under 1 year	104.7%	114.2%	110.8%	117.4%	9%	-3%	6%	12%
Antenatal care for pregnant women (ANC2)	23483	21994	24831	23766	-6%	13%	-4%	1%
ANC as % of # of pregnant women	88.1%	81.3%	94.2%	99.3%	-8%	16%	5%	13%
Child delivery by a trained professional	14995	16147	16242	15566	8%	1%	-4%	4%
Delivery by a trained professional as % of # of pregnant women	56.3%	59.7%	61.6%	71.4%	6%	3%	16%	27%
Delivery in a health facility	12904	14429	14968	14371	12%	4%	-4%	11%
Delivery in a health facility as % of # of pregnant women	48.4%	53.4%	56.8%	60.5%	10%	6%	7%	25%

Non SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	25814	26226	26101	26711	–	–	–	–
# of children under 1 year	20032	20352	20254	20732	–	–	–	–
Immunisation coverage of children under 1 year	21298	21918	18810	22126	3%	-14%	18%	4%
Immunisation coverage as % of # of children under 1 year	106.3%	107.7%	92.9%	106.7%	1%	-14%	15%	0%
Antenatal care for pregnant women (ANC2)	17109	15723	16745	16215	-8%	7%	-3%	-5%
ANC as % of # of pregnant women	66.3%	60.0%	64.2%	60.7%	-10%	7%	-5%	-8%
Child delivery by a trained professional	15310	15448	16284	12433	1%	5%	-24%	-19%
Delivery by a trained professional as % of # of pregnant women	59.3%	58.9%	62.4%	46.5%	-1%	6%	-25%	-22%
Delivery in a health facility	5367	8010	7761	8471	49%	-3%	9%	58%
Delivery in a health facility as % of # of pregnant women	20.8%	30.5%	29.7%	31.7%	47%	-3%	7%	53%

Table A3 Oddar Meanchey Province

Samraong (SOA)

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4488	5842	5767	6262	–	–	–	–
# of children under 1 year	3043	3961	3910	4250	–	–	–	–
Immunisation coverage of children under 1 year	0	5054	5001	5686	–	-1%	14%	–
Immunisation coverage as % of # of children under 1 year	0.0%	127.6%	127.9%	133.8%	–	0%	5%	–
Antenatal care for pregnant women (ANC2)	4296	5173	5795	6561	20%	12%	13%	53%
ANC as % of # of pregnant women	95.7%	88.5%	100.5%	104.8%	-7%	13%	4%	9%
Child delivery by a trained professional	2674	3389	3658	4513	27%	8%	23%	69%
Delivery by a trained professional as % of # of pregnant women	59.6%	58.0%	63.4%	72.1%	-3%	9%	14%	21%
Delivery in a health facility	2510	3305	3611	4475	32%	9%	24%	78%
Delivery in a health facility as % of # of pregnant women	55.9%	56.6%	62.6%	71.5%	1%	11%	14%	28%

Table A4 Prey Veng Province

SOA districts**Pearang**

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	5306	5445	5163	5164	–	–	–	–
# of children under 1 year	4351	4465	4234	4236	–	–	–	–
Immunisation coverage of children under 1 year	3506	4249	4042	4056	21%	-5%	0%	16%
Immunisation coverage as % of # of children under 1 year	80.6%	95.2%	95.5%	95.8%	18%	0%	0%	19%
Antenatal care for pregnant women (ANC2)	4895	5191	5340	5295	6%	3%	-1%	8%
ANC as % of # of pregnant women	92.3%	95.3%	103.4%	102.5%	3%	8%	-1%	11%
Child delivery by a trained professional	3160	3744	3649	4046	18%	-3%	11%	28%
Delivery by a trained professional as % of # of pregnant women	59.6%	68.8%	70.7%	78.4%	15%	3%	11%	32%
Delivery in a health facility	3141	3739	3647	4043	19%	-2%	11%	29%
Delivery in a health facility as % of # of pregnant women	59.2%	68.7%	70.6%	78.3%	16%	3%	11%	32%

Preh Sdach

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3178	3217	3052	3052	–	–	–	–
# of children under 1 year	2606	2638	2503	2503	–	–	–	–
Immunisation coverage of children under 1 year	2237	2731	2673	2625	22%	-2%	-2%	17%
Immunisation coverage as % of # of children under 1 year	85.8%	103.5%	106.8%	104.9%	21%	3%	-2%	22%
Antenatal care for pregnant women (ANC2)	2636	3029	3095	3097	15%	2%	0%	17%
ANC as % of # of pregnant women	82.9%	94.2%	101.4%	101.5%	14%	8%	0%	22%
Child delivery by a trained professional	1673	2044	1913	2308	22%	-6%	21%	38%
Delivery by a trained professional as % of # of pregnant women	52.6%	63.5%	62.7%	75.6%	21%	-1%	21%	44%
Delivery in a health facility	1638	1960	1865	2304	20%	-5%	24%	41%
Delivery in a health facility as % of # of pregnant women	51.5%	60.9%	61.1%	75.5%	18%	0%	24%	46%

Non SOA districts

Kamchay Mear

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3540	3621	3370	3387	–	–	–	–
# of children under 1 year	2903	2969	2763	2779	–	–	–	–
Immunisation coverage of children under 1 year	2320	2410	2130	2094	4%	-12%	-2%	-10%
Immunisation coverage as % of # of children under 1 year	79.9%	81.2%	77.1%	75.4%	2%	-5%	-2%	-6%
Antenatal care for pregnant women (ANC2)	2280	1976	1963	1946	-13%	-1%	-1%	-15%
ANC as % of # of pregnant women	64.4%	54.6%	58.2%	57.5%	-15%	7%	-1%	-11%
Child delivery by a trained professional	1324	1666	1595	1711	26%	-4%	7%	29%
Delivery by a trained professional as % of # of pregnant women	37.4%	46.0%	47.3%	50.5%	23%	3%	7%	35%
Delivery in a health facility	1312	1651	1500	1668	26%	-9%	11%	27%
Delivery in a health facility as % of # of pregnant women	37.1%	45.6%	44.5%	49.2%	23%	-2%	11%	33%

Kampong Trabek

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3756	3839	3598	3672	–	–	–	–
# of children under 1 year	3080	3148	2950	3011	–	–	–	–
Immunisation coverage of children under 1 year	2557	2769	2184	2087	8%	-21%	-4%	-18%
Immunisation coverage as % of # of children under 1 year	83.0%	88.0%	74.0%	69.3%	6%	-16%	-6%	-17%
Antenatal care for pregnant women (ANC2)	2757	2255	2043	2043	-18%	-9%	0%	-26%
ANC as % of # of pregnant women	73.4%	58.7%	56.8%	55.6%	-20%	-3%	-2%	-24%
Child delivery by a trained professional	1708	2483	2148	2111	45%	-13%	-2%	24%
Delivery by a trained professional as % of # of pregnant women	45.5%	64.7%	59.7%	57.5%	42%	-8%	-4%	26%
Delivery in a health facility	1253	2330	2140	2111	86%	-8%	-1%	68%
Delivery in a health facility as % of # of pregnant women	33.4%	60.7%	59.5%	57.5%	82%	-2%	-3%	72%

Mesang

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3432	3503	3364	3409	–	–	–	–
# of children under 1 year	2814	2872	2758	2796	–	–	–	–
Immunisation coverage of children under 1 year	2297	2769	2256	2319	21%	-19%	3%	1%
Immunisation coverage as % of # of children under 1 year	81.6%	96.4%	81.8%	82.9%	18%	-15%	1%	2%
Antenatal care for pregnant women (ANC2)	3088	2253	2130	2149	-27%	-5%	1%	-30%
ANC as % of # of pregnant women	90.0%	64.3%	63.3%	63.0%	-29%	-2%	0%	-30%
Child delivery by a trained professional	1903	2128	1926	2051	12%	-9%	6%	8%
Delivery by a trained professional as % of # of pregnant women	55.4%	60.7%	57.3%	60.2%	10%	-6%	5%	9%
Delivery in a health facility	1722	2043	1902	2043	19%	-7%	7%	19%
Delivery in a health facility as % of # of pregnant women	50.2%	58.3%	56.5%	59.9%	16%	-3%	6%	19%

Neok Loeung

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4821	4930	4722	4772	–	–	–	–
# of children under 1 year	3953	4043	3872	3916	–	–	–	–
Immunisation coverage of children under 1 year	2777	3026	2569	2759	9%	-15%	7%	-1%
Immunisation coverage as % of # of children under 1 year	70.3%	74.8%	66.3%	70.5%	7%	-11%	6%	0%
Antenatal care for pregnant women (ANC2)	3577	3095	2820	2841	-13%	-9%	1%	-21%
ANC as % of # of pregnant women	74.2%	62.8%	59.7%	59.5%	-15%	-5%	0%	-20%
Child delivery by a trained professional	2406	2712	1920	2201	13%	-29%	15%	-9%
Delivery by a trained professional as % of # of pregnant women	49.9%	55.0%	40.7%	46.1%	10%	-26%	13%	-8%
Delivery in a health facility	982	1447	1407	1659	47%	-5%	18%	69%
Delivery in a health facility as % of # of pregnant women	20.4%	29.4%	29.8%	34.8%	44%	2%	17%	71%

Svay Antor

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	5809	5902	5601	5682	–	–	–	–
# of children under 1 year	4763	4840	4593	4659	–	–	–	–
Immunisation coverage of children under 1 year	3244	3852	3568	3159	19%	-7%	-11%	-6%
Immunisation coverage as % of # of children under 1 year	68.1%	79.6%	77.7%	67.8%	17%	-2%	-13%	0%
Antenatal care for pregnant women (ANC2)	3571	3202	3039	3303	-10%	-5%	9%	-8%
ANC as % of # of pregnant women	61.5%	54.3%	54.3%	58.1%	-12%	0%	7%	-5%
Child delivery by a trained professional	2699	2915	2549	2498	8%	-12%	-2%	-7%
Delivery by a trained professional as % of # of pregnant women	46.5%	49.4%	45.5%	44.0%	6%	-8%	-3%	-5%
Delivery in a health facility	1129	1487	1499	1880	32%	1%	25%	67%
Delivery in a health facility as % of # of pregnant women	19.4%	25.2%	26.8%	33.1%	30%	6%	24%	70%

Province average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	29842	30457	28870	29138	–	–	–	–
# of children under 1 year	24470	24975	23673	23900	–	–	–	–
Immunisation coverage of children under 1 year	18938	21806	19422	19099	15%	-11%	-2%	1%
Immunisation coverage as % of # of children under 1 year	77.4%	87.3%	82.0%	79.9%	13%	-6%	-3%	3%
Antenatal care for pregnant women (ANC2)	22804	21001	20430	20674	-8%	-3%	1%	-9%
ANC as % of # of pregnant women	76.4%	69.0%	70.8%	71.0%	-10%	3%	0%	-7%
Child delivery by a trained professional	14873	17692	15700	16926	19%	-11%	8%	14%
Delivery by a trained professional as % of # of pregnant women	49.8%	58.1%	54.4%	58.1%	17%	-6%	7%	17%
Delivery in a health facility	11177	14657	13960	15708	31%	-5%	13%	41%
Delivery in a health facility as % of # of pregnant women	37.5%	48.1%	48.4%	53.9%	28%	0%	11%	44%

SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	8484	8662	8215	8216	–	–	–	–
# of children under 1 year	6957	7103	6737	6739	–	–	–	–
Immunisation coverage of children under 1 year	5743	6980	6715	6681	22%	-4%	-1%	16%
Immunisation coverage as % of # of children under 1 year	82.5%	98.3%	99.7%	99.1%	19%	1%	-1%	20%
Antenatal care for pregnant women (ANC2)	7531	8220	8435	8392	9%	3%	-1%	11%
ANC as % of # of pregnant women	88.8%	94.9%	102.7%	102.1%	7%	8%	-1%	15%
Child delivery by a trained professional	4833	5788	5562	6354	20%	-4%	14%	31%
Delivery by a trained professional as % of # of pregnant women	57.0%	66.8%	67.7%	77.3%	17%	1%	14%	36%
Delivery in a health facility	4779	5699	5512	6347	19%	-3%	15%	33%
Delivery in a health facility as % of # of pregnant women	56.3%	65.8%	67.1%	77.3%	17%	2%	15%	37%

Non SOA average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	21358	21795	20655	20922	–	–	–	–
# of children under 1 year	17513	17872	16936	17161	–	–	–	–
Immunisation coverage of children under 1 year	13195	14826	12707	12418	12%	-14%	-2%	-6%
Immunisation coverage as % of # of children under 1 year	75.3%	83.0%	75.0%	72.4%	10%	-10%	-4%	-4%
Antenatal care for pregnant women (ANC2)	15273	12781	11995	12282	-16%	-6%	2%	-20%
ANC as % of # of pregnant women	71.5%	58.6%	58.1%	58.7%	-18%	-1%	1%	-18%
Child delivery by a trained professional	10040	11904	10138	10572	19%	-15%	4%	5%
Delivery by a trained professional as % of # of pregnant women	47.0%	54.6%	49.1%	50.5%	16%	-10%	3%	7%
Delivery in a health facility	6398	8958	8448	9361	40%	-6%	11%	46%
Delivery in a health facility as % of # of pregnant women	30.0%	41.1%	40.9%	76.2%	37%	0%	86%	154%

Table A5 Takeo Province (all SOA districts)

SOA districts

Ang Rokar

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	3798	3845	3925	3950	–	–	–	–
# of children under 1 year	2959	2995	3058	3075	–	–	–	–
Immunisation coverage of children under 1 year	3428	3346	3047	3241	-4%	-9%	6%	-5%
Immunisation coverage as % of # of children under 1 year	115.8%	111.7%	99.6%	105.4%	-4%	-11%	6%	-9%
Antenatal care for pregnant women (ANC2)	5810	3796	3637	3803	-35%	-4%	5%	-35%
ANC as % of # of pregnant women	153.0%	98.7%	92.7%	96.3%	-35%	-6%	4%	-37%
Child delivery by a trained professional	3547	3475	3135	3197	-2%	-10%	2%	-10%
Delivery by a trained professional as % of # of pregnant women	93.4%	90.4%	79.9%	80.9%	-3%	-12%	1%	-13%
Delivery in a health facility	3513	3472	3132	3194	-1%	-10%	2%	-9%
Delivery in a health facility as % of # of pregnant women	92.5%	90.3%	79.8%	80.9%	-2%	-12%	1%	-13%

Bati

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	5401	5401	5607	5646	–	–	–	–
# of children under 1 year	4207	4207	4368	4396	–	–	–	–
Immunisation coverage of children under 1 year	4435	3938	3694	3823	-11%	-6%	3%	-14%
Immunisation coverage as % of # of children under 1 year	105.4%	93.6%	84.6%	87.0%	-11%	-10%	3%	-18%
Antenatal care for pregnant women (ANC2)	4245	3551	4120	4136	-16%	16%	0%	-3%
ANC as % of # of pregnant women	78.6%	65.7%	73.5%	73.3%	-16%	12%	0%	-7%
Child delivery by a trained professional	3125	2775	2775	3169	-11%	0%	14%	1%
Delivery by a trained professional as % of # of pregnant women	57.9%	51.4%	49.5%	56.1%	-11%	-4%	13%	-3%
Delivery in a health facility	2541	2288	2198	2598	-10%	-4%	18%	2%
Delivery in a health facility as % of # of pregnant women	47.0%	42.4%	39.2%	46.0%	-10%	-7%	17%	-2%

Daun Keo

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	5901	6145	6187	6227	–	–	–	–
# of children under 1 year	4597	4787	4820	4848	–	–	–	–
Immunisation coverage of children under 1 year	4098	3921	4130	4629	-4%	5%	12%	13%
Immunisation coverage as % of # of children under 1 year	89.1%	81.9%	85.7%	95.5%	-8%	5%	11%	7%
Antenatal care for pregnant women (ANC2)	3291	3074	4022	4365	-7%	31%	9%	33%
ANC as % of # of pregnant women	55.8%	50.0%	65.0%	70.1%	-10%	30%	8%	26%
Child delivery by a trained professional	2793	2746	3145	3848	-2%	15%	22%	38%
Delivery by a trained professional as % of # of pregnant women	47.3%	44.7%	50.8%	61.8%	-6%	14%	22%	31%
Delivery in a health facility	2273	2244	2771	3547	-1%	23%	28%	56%
Delivery in a health facility as % of # of pregnant women	38.5%	36.5%	44.8%	57.0%	-5%	23%	27%	48%

Kirivong

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	6293	6425	6469	6510	–	–	–	–
# of children under 1 year	4902	5005	5039	5070	–	–	–	–
Immunisation coverage of children under 1 year	4223	4928	4205	4278	17%	-15%	2%	1%
Immunisation coverage as % of # of children under 1 year	86.1%	98.5%	83.4%	84.4%	14%	-15%	1%	-2%
Antenatal care for pregnant women (ANC2)	4963	4626	4805	4559	-7%	4%	-5%	-8%
ANC as % of # of pregnant women	78.9%	72.0%	74.3%	70.0%	-9%	3%	-6%	-11%
Child delivery by a trained professional	4320	4279	4027	4173	-1%	-6%	4%	-3%
Delivery by a trained professional as % of # of pregnant women	68.6%	66.6%	62.3%	64.1%	-3%	-7%	3%	-7%
Delivery in a health facility	4252	4218	3971	4144	-1%	-6%	4%	-3%
Delivery in a health facility as % of # of pregnant women	67.6%	65.6%	61.4%	63.7%	-3%	-6%	4%	-6%

Prey Kabass

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	4498	4528	4556	4587	–	–	–	–
# of children under 1 year	3504	3527	3549	3570	–	–	–	–
Immunisation coverage of children under 1 year	3346	3458	3400	3253	3%	-2%	-4%	-3%
Immunisation coverage as % of # of children under 1 year	95.5%	98.0%	95.8%	91.1%	3%	-2%	-5%	-5%
Antenatal care for pregnant women (ANC2)	5693	3550	3552	3143	-38%	0%	-12%	-45%
ANC as % of # of pregnant women	126.6%	78.4%	78.0%	68.5%	-38%	-1%	-12%	-46%
Child delivery by a trained professional	3111	2880	2354	2542	-7%	-18%	8%	-18%
Delivery by a trained professional as % of # of pregnant women	69.2%	63.6%	51.7%	55.4%	-8%	-19%	7%	-20%
Delivery in a health facility	3059	2830	2354	2479	-7%	-17%	5%	-19%
Delivery in a health facility as % of # of pregnant women	68.0%	62.5%	51.7%	54.0%	-8%	-17%	5%	-21%

Province (SOA) average

	2009	2010	2011	2012	% change 2009-10	% change 2010-11	% change 2011-12	% change 2009-12
# of pregnant women (# expected pregnancies)	25891	26344	26744	26920	–	–	–	–
# of children under 1 year	20169	20521	20834	20959	–	–	–	–
Immunisation coverage of children under 1 year	19530	19591	18476	19224	0%	-6%	4%	-2%
Immunisation coverage as % of # of children under 1 year	96.8%	95.5%	88.7%	91.7%	-1%	-7%	3%	-5%
Antenatal care for pregnant women (ANC2)	24002	18597	20136	20006	-23%	8%	-1%	-17%
ANC as % of # of pregnant women	92.7%	70.6%	75.3%	74.3%	-24%	7%	-1%	-20%
Child delivery by a trained professional	16896	16155	15436	16929	-4%	-4%	10%	0%
Delivery by a trained professional as % of # of pregnant women	65.3%	61.3%	57.7%	62.9%	-6%	-6%	9%	-4%
Delivery in a health facility	15638	15052	14426	15962	-4%	-4%	11%	2%
Delivery in a health facility as % of # of pregnant women	60.4%	57.1%	53.9%	59.3%	-5%	-6%	10%	-2%



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ReBUILD is funded by UK Aid
from the Department for International Development