

CAMBODIA

IDENTIFYING ACTIONS FOR **SCALING UP LONG-ACTING REVERSIBLE CONTRACEPTIVES**



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Abbreviations

BMZ	Federal Ministry for Economic Cooperation and Development (Germany)
CBD	community-based distributor
CDHS	Cambodia Demographic and Health Survey
CPR	contraceptive prevalence rate
DFAT	Department of Foreign Affairs and Trade (Australia)
DHS	Demographic and Health Survey
FP	family planning
IUD	intrauterine device
LARC	long-acting reversible contraceptives
PSI	Population Services International
PSK	Population Services Khmer
RHAC	Reproductive Health Association of Cambodia
SDG	Sustainable Development Goal
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Executive summary

Background

Among the Member States of the World Health Organization (WHO) Western Pacific Region, Cambodia has one of the lowest modern methods contraceptive prevalence rates (CPRs) at 38.8% among married women. Thirty per cent of married women not desiring pregnancy either do not use a family planning method or use a traditional method, placing them at increased risk of pregnancy. Addressing this unmet need for modern contraceptives is critical to reach the United Nations Sustainable Development Goals (SDGs). Fewer unwanted pregnancies reduce maternal and child mortality, morbidity and malnutrition, and also improve employment opportunities for women, educational attainment and economic gains. Reversible contraceptive methods allow a woman to stop using the methods if and when she decides to have another baby. Long-acting reversible contraceptives (LARC) are the most effective methods. Two to eight per 1000 women using intrauterine devices (IUDs), and 0.5 per 1000 women using implants experience unintended pregnancies, compared to 30 per 1000 women using progestin-only injectables, 80 per 1000 women using pills, and 150 per 1000 women using male condoms.

This study aims to understand:

- What strategic actions can be built upon the current family planning programme to accelerate the reduction of undesired pregnancies?
- What is the feasibility of scaling up LARC, including implants, nationwide to help reduce undesired pregnancies?

A literature review, cost analysis, on-site semi-structured interviews and focus group discussions with health workers, family planning programmers and nongovernmental organizations were conducted.

Findings

Government policies support the availability and use of family planning services. However, the scale-up of LARC has been slow with a prevalence rate of only 6.6% in 2014. Special tabulations developed from the 2014 Cambodia Demographic and Health Survey (CDHS) revealed that 10% of pregnancies were undesired. Among those women with a current undesired pregnancy, 46% did not use any contraception before the undesired pregnancy, 25% had used traditional methods, 26% had used short-acting contraception, and only 3% had used LARC. The Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality (2016–2020) has proposed a 2020 target of 48% CPR with modern methods. To reach this target, interventions to increase availability, accessibility and utilization of long-term/permanent family planning methods are needed.



Health workers report having received relevant training, but they desire support to increase confidence in inserting and removing implants and counselling skills to counter misinformation about implants. The limited reach of implant services and high user fees for LARC at health facilities (US\$ 15 for implants and US\$ 5 for IUDs at the interviewed health centres), as well as myths and misconceptions among health workers and the general population, were identified as issues that need to be addressed.

On the basis of per unit cost, implants were the most expensive commodities (US\$ 8.50), and IUDs were the least expensive (US\$ 0.35) for the Government to purchase. Per year of use, LARC were the least expensive (US\$ 0.035 for IUDs and US\$ 1.70 for implants), while pills and progestin-only injectables were the most expensive (US\$ 3.24 for both). To achieve a 48% CPR with modern methods by 2020 through expanding LARC – with implants increasing to 12.5%, IUDs to 14.4% and female sterilization to 4.3% of the modern method mix – the estimated annual Government investment required for all modern methods between 2017 and 2020 will be US\$ 3.5–3.9 million. This is similar to the expenses estimated in 2015 (US\$ 3.4 million). These annual investments focusing on scaling up LARC will avert an estimated 350 000–500 000 unwanted pregnancies, 200 000–280 000 abortions and more than 200 maternal deaths per year. Averting these events will save the Government an estimated US\$ 9 million in 2017 and US\$ 12 million or more in 2020 from direct health-care costs alone.

To achieve the above 2020 target with the focus on scaling up LARC, the following are recommended:

- Gradually scale up LARC with a focus on implants.
- Ensure the availability of LARC in all health facilities including referral hospitals.
- Reconsider the price setting of LARC at health facilities and ensure that existing financial mechanisms include full coverage for the provision of LARC.
- Focus on improving the quality of counselling by health-care workers to reduce myths and misconceptions among women.
- Target supportive supervision to increase the confidence of and eliminate misconceptions among health-care workers.
- Promote LARC through community-based distributors to refer women to health facilities.
- Prepare targeted messaging about effective contraceptives, designing the logistics of procurement and service delivery for unmarried women.

Introduction

In September 2015, world leaders adopted the 17 Sustainable Development Goals (SDGs) intended to end all forms of poverty (1). SDG 3 Target 7, which aims for universal access to sexual and reproductive health-care services, recognizes the central role of improved family planning services^a. Global evidence shows that reducing the unmet need for birth control and raising the contraceptive prevalence rate (CPR) would have enormous benefits for maternal and child health. Fewer unwanted pregnancies contribute to the reduction of maternal and child mortality, morbidity and malnutrition (2, 3, 4, 5, 6). Fewer unwanted pregnancies also bring improved opportunities for women, higher educational attainment, economic gains for households and countries, and reduced pollution and use of natural resources (7, 8).

In the World Health Organization (WHO) Western Pacific Region, Cambodia has one of the lowest modern CPRs. By definition, CPR includes any married or “in-union” woman aged 15–49 years using at least one method of contraception, regardless of its being modern or traditional. Among 56.3% of CPR in Cambodia, 38.8% are using modern methods and 17.5 % are using traditional methods (9). If women using traditional methods are excluded from CPR due to low effectiveness, the unmet need increases. Further, if we want to cover both married and unmarried women with modern methods, the unmet need is even higher.

An estimated 15 million (90%) of 16.7 million undesired pregnancies occurring annually in 35 low- and middle-income countries could have been prevented with the optimal use of modern methods of contraception. Of women who neither desired pregnancy nor used contraception, 37.3% cited the fear of side-effects and health concerns as the reasons for non-use, and 17.6% underestimated the risk of pregnancy. Additionally, most countries had high failure rates of contraceptives, probably due to over-reliance on short-acting methods (10).

Analysis of Demographic and Health Survey (DHS) data from 19 countries worldwide revealed that 40–50% of users for pills, injectables and condoms stopped using them during the first 12 months of use, as opposed to 13% of users for intrauterine devices (IUDs) (11). Thus, women not desiring to have a baby within the next two years should consider longer-term methods.

Long-acting reversible contraceptives (LARC), i.e. IUDs and implants, are effective for couples wishing to space pregnancies as opposed to sterilization, which can only be considered once childbearing is completed. As commonly used, the rate of unintended pregnancies for IUDs and implants is 2–8 and 0.5 per 1000 women, respectively, during the first year of use. This compares to 30 unintended pregnancies per 1000 women for progestin-only injectables, 80 per 1000 women for pills, and 150 per 1000 women for male condoms (12). See Annex 1 for more on contraceptive effectiveness.

Making LARC accessible in countries with a high prevalence of undesired pregnancies could dramatically improve the lives of millions of women, children and families. It could save governments significant budget expenditures by reducing the need to invest in expanding health care, education and other public services. It could also increase the gross domestic product and improve the health of the workforce.

^a “By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes” (<http://www.un.org/sustainabledevelopment/health/>, accessed 10 January 2016).



Country context

Cambodia has a population of about 15 million people, and it is about to become a lower middle-income country. Administratively, Cambodia has 24 provinces and 81 health operational districts (13). Life expectancy at birth is 67.1 years for males and 70.1 years for females. Infant and under-5 mortality are estimated at 25 and 29 per 1000 live births, respectively (14). Maternal mortality is estimated at 161 per 100 000 live births (15).

In November 2014, during the first National Conference on Family Planning, the Government of Cambodia and its partners expressed their commitment to comprehensive family planning. Cambodia has made tremendous strides in lifting modern CPR and reducing unmet need, yet use of LARC and in particular implants remains extremely low compared with short-acting methods.

This study aims to answer the following questions in Cambodia:

- What strategic actions can be built upon the current family planning programme to accelerate reduction of undesired pregnancies?
- What is the feasibility of scaling up LARC, including implants, nationwide to help reduce undesired pregnancies?

A desk review, semi-structured interviews and focus group discussions were conducted from March to May 2015 to understand family planning policies, trends in contraceptive coverage and uptake including implants, and health workers' knowledge and skills in providing family planning services (see Annex 2). A cost analysis was also conducted to identify the cost-effectiveness of different types of contraception and financial feasibility of scaling up LARC.

Findings

National family planning policies

Ten documents from the Ministry of Health comprising policies, legislation, strategies, plans and guidelines from 1995 to 2013 were analyzed to understand the family planning policies context in Cambodia (Table 1).

Since adoption of the Birth Spacing Policy for Cambodia in 1995, the family planning programme has been a core policy intervention of the national Government to reduce undesired pregnancies and maternal and newborn mortality. Further emphasis was placed on family planning with the Health Strategic Plan of 2008 and the Fast Track Initiative of 2010, which emphasized the achievements of the Millennium Development Goals (MDGs), including MDG 5 Target 5B on reproductive health. These policies and plans also highlighted the importance of LARC, calling for a steady increase in their availability.

In 2013, in line with the Fast Track Initiative for Reducing Maternal and Newborn Mortality (2010–2015), the Minister of Health issued Circular No. 1876 (part of the circular):

“All Provincial Health Departments/Municipal Directors need to support and promote... better provision of birth spacing/family planning by assuring that all health centres and referral hospitals effectively provide birth spacing service and methods to postpartum and post-abortion women. Health facilities that are implementing health equity fund and voucher schemes need to ensure that poor clients can access birth spacing/family planning services that are of high quality and effective.”

This circular presents approaches for the health system to reduce missed opportunities for family planning services and out-of-pocket expenditures.

However, data collected from semi-structured interviews and focus group discussions revealed challenges with the implementation of Ministerial Circular No. 1876. While hospital staff have been trained on providing family planning services, including IUDs and implants, services have been limited to counselling and information dissemination because referral hospitals are not yet supplied with commodities from the central medical store or the Provincial Health Department. Women are counselled and referred to the health centre where they can avail of family planning services, but there is no system of tracking and following up on these women.

The Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality (2016–2020) sets the 2020 target of CPR with modern methods at 48% compared to the baseline of 39% in 2014. One of the key intervention areas to achieve this target is increasing availability and utilization of LARC and permanent methods. All referral hospitals are expected to provide at least three long-term/permanent family planning methods. This shift towards promotion of LARC, while maintaining the availability of other modern methods, was recognized by all participants of the semi-structured interviews and focus group discussions.



Table 1. Government documents pertaining to reproductive health and family planning

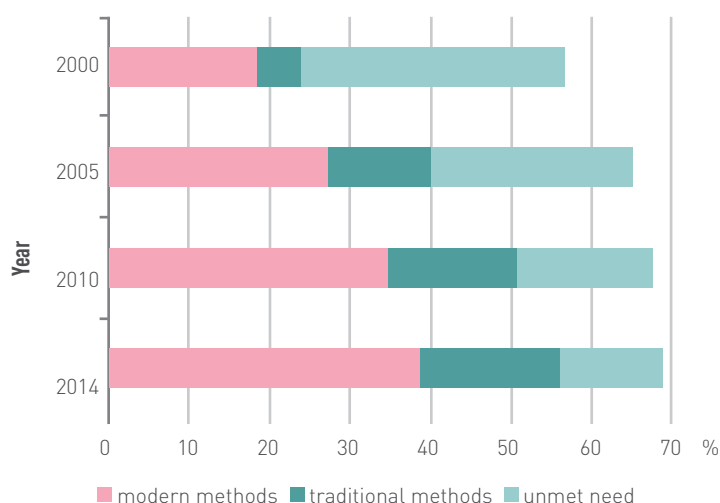
Title	Relevant aims
Birth Spacing Policy for Cambodia (1995)	<ul style="list-style-type: none"> - Promote maternal and child health through greater birth intervals
Abortion Law (1997)	<ul style="list-style-type: none"> - Set the criteria and the conditions necessary to carry out abortion in Cambodia
Safe Motherhood National Policy and Strategies (1997)	<ul style="list-style-type: none"> - Reduce the number of unwanted pregnancies by increasing the CPR to 30% by 2005
National Safe Motherhood Five-Year Plan 2001–2005 (2001)	<ul style="list-style-type: none"> - Reduce the number of unwanted pregnancies by enhancing access to, and utilization of family planning services
National Strategy for Reproductive and Sexual Health in Cambodia 2006–2010 (2006)	<ul style="list-style-type: none"> - Improve the policy and resource environment for reproductive health and sexual health - Increase availability and strengthen delivery of quality reproductive and sexual health services - Strengthen community understanding of reproductive and sexual health needs - Expand the evidence base to inform policy and strategy development
Health Strategic Plan 2008–2015 (2008)	<ul style="list-style-type: none"> - Identify family planning and birth spacing among the priorities and essential services of Government - Promote increased spending on family planning commodities, among which long-term reversible methods are listed
Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality, 2010–2015 (2010)	<ul style="list-style-type: none"> - Rapidly achieve universal coverage of reproductive health services - Improve access to and affordability of reproductive health services - Improve family and community care practices
National Strategy for Reproductive and Sexual Health in Cambodia, 2013–2016 (2013)	<ul style="list-style-type: none"> - Improve access to services through increased financial and human resources - Strengthen delivery, governance processes and information management
Implementation by Reproductive Maternal Health Services of Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality (2013)	<ul style="list-style-type: none"> - Enlist provincial health departments and hospitals to provide postpartum and post-abortion family planning services
Outreach Management Guidelines (2013)	<ul style="list-style-type: none"> - Redefine the role of outreach activities in the context of a strategic framework for service delivery at health centres

Trends in contraceptive coverage

The total fertility rate in Cambodia has fallen from 4.0 in 2000 to 2.7 in 2014. The Ministry of Health of Cambodia has concluded that the increase in contraceptive use and the concomitant rise in birth intervals (>24 months) have contributed to the drastic declines in under-5 mortality from 54 per 1000 in 2010 to 35 per 1000 in 2014 (16), and maternal mortality from 472 per 100 000 in 2005 to 170 per 100 000 in 2014.

Unmet need for contraception decreased from 32.6% in 2000 to 12.5% in 2014 due to increases in the use of both modern (from 18.5% to 38.8%) and traditional methods (from 5.3% to 17.5%) (Figure 1).

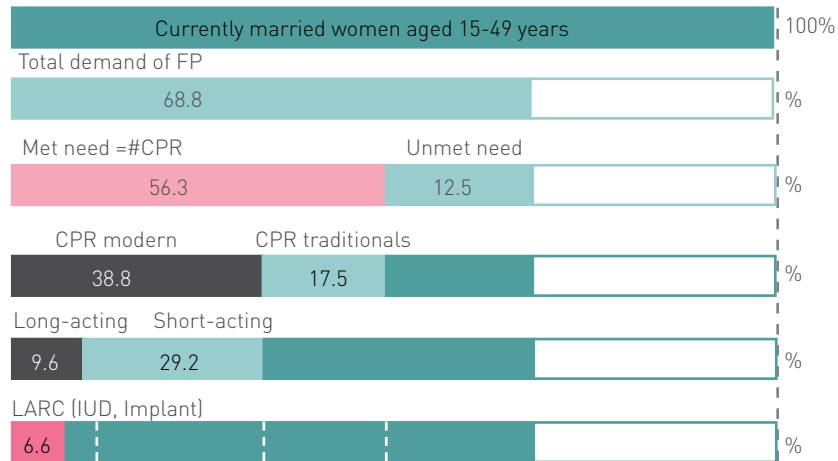
Fig. 1. Trends in unmet need and contraceptive prevalence rates among currently married women aged 15-49 years, 2000-2014



Source: Cambodia Demographic and Health Survey 2000, 2005, 2010 and 2014.

Short-acting methods (e.g. pills, condoms and injectable) are used by most users of modern methods, with only one out of four using LARC. Furthermore, use of short-acting methods has risen faster than that of LARC (Figures 2 and 3).

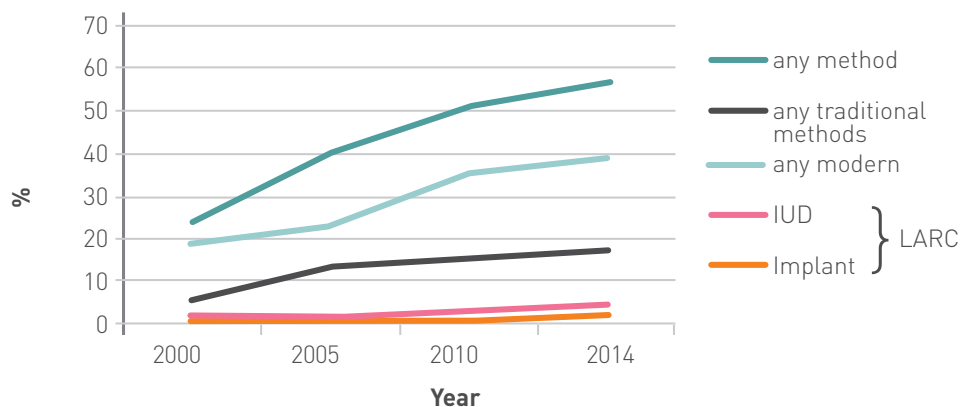
Fig. 2. Family planning in 2014



CPR, contraceptive prevalence rate; FP, family planning; LARC, long-acting reversible contraceptives; IUD, intrauterine device. *Source:* Cambodia Demographic and Health Survey 2014.

Reasons for slow scale-up of LARC were explored in several studies. In a qualitative study, the majority of participants reported confidence in their understanding of traditional methods; however, their understanding of modern methods of contraception was generally poor. Their lack of knowledge of IUDs and implants (both called *kong* in Khmer) was particularly worrisome. Participants expressed fear that fat may build up around those devices, making them difficult or impossible to remove (17). Another survey revealed frequent missed opportunities for offering postpartum administration of LARC in the 48–72 hours (immediate) and 4–8 weeks (standard) following delivery (18). The Reproductive Health Association of Cambodia, a local nongovernmental organization, reported that implants were less popular than IUDs in the project area because new IUD clients exceeded the target (126%), while new implant clients were fewer than targeted (90.4%). No reasons are indicated in the report (19).

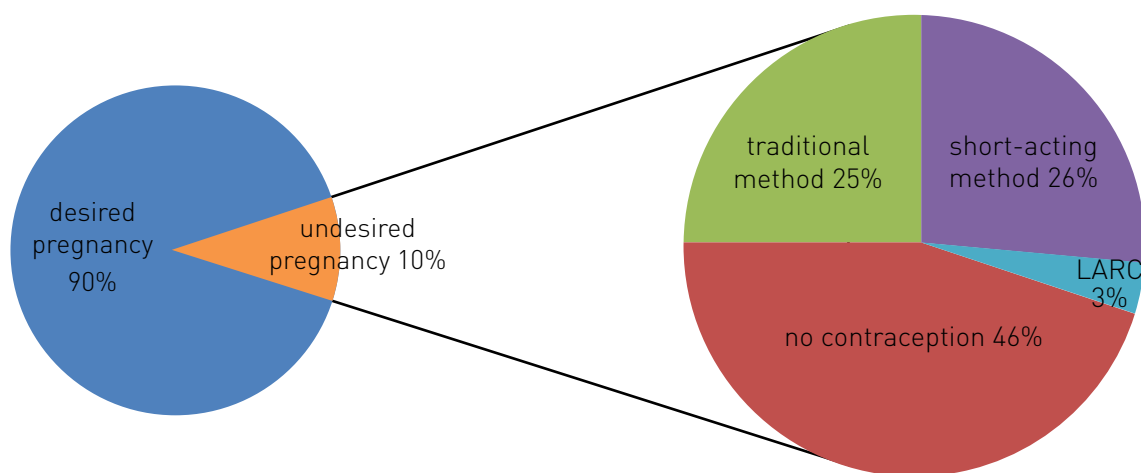
Fig. 3. Trends in the utilization of LARC (IUDs and implants) versus other methods, 2000–2014



LARC, long-acting reversible contraceptives; IUD, intrauterine device. *Source:* Cambodia Demographic and Health Survey 2000, 2005, 2010 and 2014.

Patterns of contraceptive use have an impact on reproductive health outcomes, including undesired pregnancies. Secondary analyses of data from the 2014 CDHS showed that 10% of current pregnancies were undesired. Among women with a current undesired pregnancy, 46% did not use any contraception before the undesired pregnancy, 25% had used traditional methods, 26% had used short-acting methods, and only 3% had used LARC (Figure 4). When reasons for discontinuation of contraception among the women currently undesired pregnancy were examined, analyses showed that 96% of women using traditional methods and 13% using short-acting methods became pregnant while using that method. In contrast, no pregnancies were reported while using long-term methods. Thus, though unmet need does not include women using traditional and short-acting methods, these methods account for 27% of women with a current undesired pregnancy. The remaining women who had used contraception prior to the current undesired pregnancy stopped contraception for various reasons including disapproval of their husbands (4% of traditional method users), fear of side-effects (63% of short-acting methods users and all LARC users), and inconvenience in usage (17% of short-acting methods users).

Fig. 4. Last method of contraception among women with a current undesired pregnancy, 2014



LARC, long-acting reversible contraceptives

Source: Secondary analysis of data from Cambodia Demographic and Health Survey, 2014.

Procurement, availability and accessibility of family planning commodities

The Government of Cambodia has received contraceptive supplies from development partners since the 1990s. Germany's KfW Development Bank provided the largest contribution, but its programme came to an end in 2012. In the interim, the Department of Foreign Affairs and Trade (DFAT), Australia, has stepped up with a cofinancing agreement worth an estimated AU\$ 2 million through the United Nations Population Fund (UNFPA). This funding was enough to procure sufficient contraceptives until the end of 2015, including the stocks available in the central medical store. In mid-2015, the United States Agency for International Development (USAID) donated contraceptives to fulfil immediate gaps. The Government of Cambodia has allocated US\$ 2 million per year for family planning commodities from 2016 to 2018 in the national budget.

For supplies of LARC, the deputy director of the central medical store noted there are sufficient IUDs in stock for four years' supply at current consumption rates. However, the level of implants is insufficient to maintain a continuous supply. To better understand use of implants and inform its procurement, UNFPA Cambodia is supporting a study on the acceptability of implants and an in-depth analysis of the 2014 CDHS results.

Interviews conducted at health centres and nongovernmental organization clinics revealed widespread unavailability of IUDs, implants and related services. Where commodities are available, the high price of LARC at health facilities set by local committees and absence of an equity fund or vouchers to cover that price inhibit uptake. On the other hand, in areas where community-based distributors (CBDs) operate, government health centres offer pills at a subsidized price, which is lower than the procurement price. The service provider component raises the price of IUDs by 14 times (from US\$ 0.35 to US\$ 5.00) and 1.8 times for implants (from US\$ 8.50 to US\$ 15.00) compared to the unit cost for the Government (Table 2).

Table 2. User costs for family planning services in Government health facilities

Family planning service	User unit cost at health facility (US\$)	Government purchase unit cost (US\$)
Pill (combined oral contraceptive, blister) with CBD system	0.125 per blister	0.27 per blister
Injectable (with syringe)	0.375 per injection	0.81 per set
Implant (5 years)	15.0 per set	8.50 per set
IUD (10 years) Copper T 380a	5.0 per set	0.35 per set

Note: Price based on interviews with government field health workers.

Not included in these costs are the transportation costs incurred by clients to reach the facility. Women have to travel to a health facility monthly to receive their oral contraceptive pills and every three months for progestin-only injectables, while only occasional visits are required for implants and IUDs unless there are specific concerns. Therefore, the final user unit cost differs among women even if they use the same family planning service.

Health worker knowledge and skills

Interviewed health workers reported having received training on birth spacing beginning in 1988 and implant administration in 2010. Most of them highlighted a need for further training, updates and capacity-building initiatives. Some of them did not feel confident in offering implants and preferred to refer for counselling and insertion. Others reported that heart-related conditions may prevent a woman from using any family planning method. They further added that a woman with no children or not yet married should not be using any family planning methods.

All health workers interviewed at the provincial and district levels reported myths and misconceptions for LARC among clients, such as fear of “side-effects”, “continuous bleeding”, fear that the “device will flow in the body” and “no menstrual period”. However, actual counselling and support such as careful listening and understanding clients’ concern to articulate these myths and misconceptions were not done. Health workers reported that most of their time was spent on one-way information sharing on family planning methods and recognized the missed opportunities to promote LARC during antenatal and postpartum care. To ensure high-quality family planning counselling, focus group discussion participants emphasized the need for supportive supervision, continuous monitoring, coaching, regular meetings and updates.

All interviewed midwives at the provincial level were engaged in both public and private health facilities. Some were running their own private clinics. This raised some questions about the risk of conflicts of interest among health workers, in that they may benefit more if a woman decides to access their family planning services in a private health facility instead of the public health facility where they are employed.

Only one in three villages visited had active CBDs for pills and condoms. Subnational staff attributed supervisory issues, low volunteer interest, lack of incentives and support and absence of nongovernmental organizations to villages not having CBDs. The CBD scheme reportedly focuses on promoting and providing access to short-acting contraception rather than promoting LARC, as CBDs can retain client fees collected for condoms and pills as an incentive but not those for LARC. This also raises the possible risk of conflict of interest among CBDs to promote condoms and pills over LARC.

Cost analysis

A cost analysis was conducted to identify the cost-effectiveness of different types of contraception and determine financial feasibility of scaling up long-acting reversible contraception. An initial cost analysis looked at the cost incurred by the Government and donors to procure commodities. The cost of implants (US\$ 8.50 per set) is a globally agreed special price between UNFPA and the manufacturer for lower-income countries including Cambodia. The other three methods remain below US\$ 1.00 or less per set or blister. However, per year of continuous use, IUDs remain the least expensive for users (US\$ 0.035), followed by implants (US\$ 1.70), while pills and injectables are the most expensive methods (US\$ 3.24) (Table 3). IUDs and implants are also the most effective family planning methods.

Table 3. Cost for the Government to procure pills, IUDs and implants in Cambodia

Method/Commodity	Cost per unit US\$	Cost per year US\$
Pill (combined oral contraceptives)	0.27 per blister	3.24
Injectable (with syringe)	0.81 per set	3.24
Implant (5 years)	8.50 per set	1.70
IUD (10 years) Copper T 380a	0.35 per set	0.035

Source: Contraceptive Needs Assessment for 2013 to 2020 for the Public Sector and Proposed Procurement Plan for 2013–2016. Phnom Penh: UNFPA.

The team estimated the investment necessary to achieve a 48% CPR with modern methods by 2020, as set in the Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality (2016–2020) with a focus on the expansion of implants.

In this costing exercise, 48% CPR is assumed to be distributed as follows in 2020: pills, 9.6%; injectables, 7.2%, IUDs, 14.4%; implants, 12.5%; and female sterilization, 4.3%. Data from the 2014 CDHS were used as a baseline. Assuming no change of total demand from 2014 to 2020, the research team then estimated the annual demographic, health and economic impacts using Marie Stopes International’s Impact 2 (version 3) model (Table 4).

Table 4. Costing exercise to achieve 48% modern methods CPR with 14.4% IUDs and 12.5% implants by 2020

Variables		2014	2015 ^(a)	2016	2017	2018	2019	2020 ^(b)
CPR with modern methods (%)		36.5	36.5	36.2	37.2	39.4	42.9	48.0
Pills (daily, monthly)		17.8	17.8	16.0	14.3	12.7	11.1	9.6
Injectables		9.1	9.1	8.7	8.3	7.9	7.5	7.2
IUD		4.4	4.4	5.0	6.3	8.3	11.1	14.4
Implants		2.2	2.2	3.3	4.8	6.7	9.1	12.5
Female sterilization		3.0	3.0	3.3	3.6	3.8	4.1	4.3
Number of married women of reproductive age ^(c)		3 437 000	3 524 000	3 611 000	3 698 000	3 783 000	3 869 000	3 954 000
Number of women using modern methods		1 254 505	1 138 252	1 307 654	1 375 751	1 491 898	1 660 897	1 897 920
Pills (daily, monthly)	Current users			627 272	577 734	528 197	478 659	429 122
	New users			-49 538	- 49 538	- 49 538	- 49 538	- 49 538
	Total users	611 786	627 272	577 734	528 197	478 659	429 122	379 584
	Number of commodity to purchase (unit) ^(d)	7 953 218	8 154 536	7 510 547	6 866 558	6 222 570	5 578 581	4 934 592
Injectables	Current users			320 684	313 485	306 286	299 086	291 887
	New users			- 7 199	- 7 199	- 7 199	- 7 199	- 7 199
	Total users	312 767	320 684	313 485	306 286	299 086	291 887	284 688
	Number of commodity to purchase (unit) ^(e)	1 251 068	1 282 736	1 253 939	1 225 142	1 196 346	1 167 549	1 138 752
IUD (10 years)	Current users		127 031	130 247	152 090	194 183	264 628	361 124
	New users		28 025	50 000	80 000	120 000	165 000	208 252
	Total users ^(f)	151 228	155 056	180 247	232 090	314 183	429 628	569 376
	Number of commodity to purchase (unit)		28 025	50 000	80 000	120 000	165 000	208 252
Implants (5 years)	Current users		65 784	67 449	102 421	155 194	222 466	307 889
	New users		11 744	50 000	75 000	100 000	130 000	156 570
	Replacement users			0	0	0	0	29 000
	Total users ^(g)	75 614	77 528	117 449	177 421	255 194	352 466	493 459
	Number of commodity to purchase (unit)		11 744	50 000	75 000	100 000	130 000	185 570

Table 4. (cont.)

Variables		2014	2015 ^(a)	2016	2017	2018	2019	2020 ^(b)
Female sterilization	Current users		103 110	105 720	118 739	131 757	144 776	157 794
	New users		2 610	13 019	13 019	13 019	13 019	13 019
	Total users	103 110	105 720	118 739	131 757	144 776	157 794	170 813
Annual investment of each method per year (US\$)								
Pills (daily, monthly)		2 147 369	2 201 725	2 027 848	1 853 971	1 680 094	1 506 217	1 332 340
Injectables		1 013 365	1 039 016	1 015 691	992 365	969 040	945 715	922 389
IUD			9 808	17 500	28 000	42 000	57 750	72 888
Implants			99 824	425 000	637 500	850 000	1 105 000	1 577 344
Total ^(h)			3 350 373	3 486 038	3 511 836	3 541 134	3 614 681	3 904 962
Annual impact								
Unwanted pregnancies averted (case)				298 000	350 000	399 000	445 000	490 000
Abortions averted (case)				170 000	200 000	227 000	254 000	279 000
Maternal deaths averted (case)				217	242	260	273	282
Direct health-care cost prevented (US\$) ⁽ⁱ⁾				7 655 000	9 012 735	10 249 000	11 445 000	12 599 000

(a) Assumption: 2015 data similar to 2014 data

(b) Assumption: No change of total demand for modern methods from 2014 to 2020

(c) Estimates and projections of the number of women aged 15–49 who are married or in a union: 2015 Revision (http://www.un.org/en/development/desa/population/theme/marriage-unions/marriage_estimates.shtml)

(d) 13 pill cycles = 1 user

(e) 4 injectables = 1 user

(f) Cumulative continuation rates: Year 1, 84%; Year 2, 71%; Year 3, 59%; Year 4, 50%; Year 5, 42%

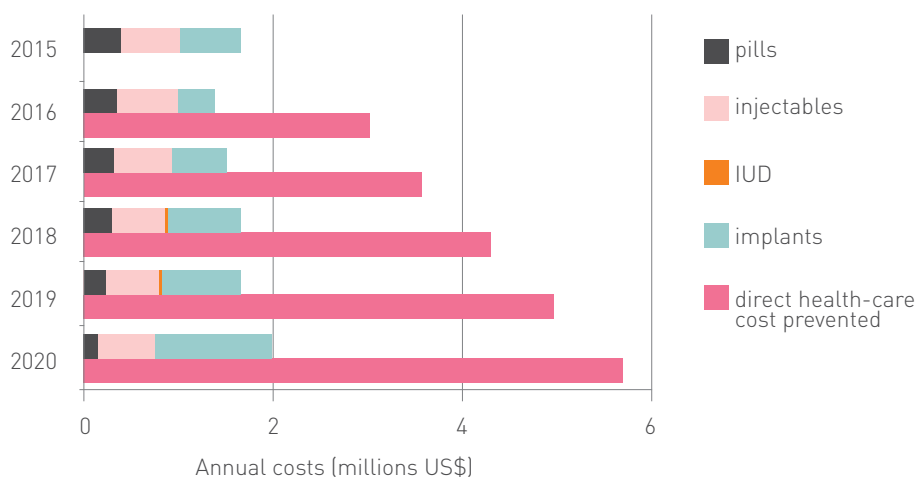
(g) Cumulative continuation rates: Year 1, 87%; Year 2, 76%; Year 3, 67%; Year 4, 58%; Year 5, 51%

(h) Annual investment for female sterilization is not included due to lack of data

(i) Estimate of the direct costs of pregnancy and safe delivery that do not have to be spent by families or the health-care system because women do not experience an unintended pregnancy, and therefore do not incur any of the costs associated with pregnancy and safe delivery. Estimate of direct cost of treating post-abortion care that does not have to be spent by families or the health-care system because women have access to a safe abortion and therefore do not need to seek an unsafe abortion, and therefore do not experience complications requiring post-abortion care.

Because the annual cost for the Government to purchase LARC per user is less expensive than short-term methods (Table 4), the estimated annual Government investment required for all modern methods between 2017 and 2020 (US\$ 3.5–3.9 million) to achieve 48% CPR with modern methods focusing on LARC was found to be similar to the 2015 investment (US\$ 3.4 million). These annual investments will avert an estimated 350 000–500 000 unwanted pregnancies, 20 000–28 000 abortions, and more than 200 maternal deaths per year. Averting these events will save the Government at least an estimated US\$ 9 million in 2017 and US\$ 12 million in 2020 from direct health-care costs alone (Figure 5).

Fig. 5. Direct health-care costs prevented compared with annual Government costs to purchase modern contraceptive methods, 2015–2020





Recommendations

To achieve and exceed the target of 48% CPR with modern methods by 2020, and accelerate the reduction of undesired pregnancies, the following actions are recommended:

- Gradually scale up LARC with a focus on implants.
- Ensure the availability of LARC in all health facilities including referral hospitals.
- Reconsider price setting of LARC at the health-facility level and ensure that existing financial mechanisms include full coverage for the provision of LARC.
- Focus on improving the quality of counselling by health-care workers to reduce myths and misconceptions among women.
- Target supportive supervision to increase the confidence of and eliminate misconceptions among health-care workers.
- Promote LARC through CBDs to refer women to health facilities.
- Prepare targeted messaging about effective contraceptives, and plan for procurement and delivery of contraception and family planning services to unmarried women.

Annex 1. Contraceptive effectiveness

PREVENT UNWANTED PREGNANCY

Without protection,
85 in 100 women* will get pregnant
 (in a year)



WHAT IS THE BEST WAY TO PROTECT YOUR FAMILY FROM UNWANTED PREGNANCY?

TYPE OF CONTRACEPTION

RISK OF GETTING PREGNANT** (in one year of use)



*Sexually active women who are 15 to 49 years of age
 **Risk of an unintended pregnancy with typical use of the contraceptive
 Source: Trussell J. Contraceptive efficacy. In: Hatcher RA, Trussell J, Nelson AL, Cates W, Kowal D, Polcar M, editors. Contraceptive technology: twentieth revised edition. New York (NY): Ardent Media; 2011.

Annex 2. Methodological issues

Desk review

National policies, investment plans, strategies, priorities and statistics, regional WHO-UNFPA technical documents, global databases, and peer-reviewed and other published and official documents were searched. Government agencies and nongovernmental organizations were engaged to provide materials, where Internet-based searches failed to identify and retrieve relevant documents.

Focus group discussions and semi-structured interviews

Primary data were collected through focus group discussions and semi-structured interviews to grasp existing efforts and best practices in relation to the promotion and utilization of long-acting reversible contraceptives (LARC), and to understand what will be required to accelerate the scale-up of implants. Twenty-six semi-structured interviews or focus group discussions were conducted. The interviewees were representatives from Government and nongovernmental organizations involved in family planning programmes at the national and subnational levels, health workers and community-based distributors (CBDs). One provincial referral hospital, two health centres and two private clinics run by nongovernmental organizations were selected in Kampong Chhnang province, which has one of the lowest CPRs for modern methods (26.5%, CDHS 2010). Interviews also helped generate costing data on pills, progestin-only injectables, IUDs and implants. Verbal informed consent was obtained prior to interviews.

Cost analysis

The procurement costs for four commodities—pills, progestin-only injectables, IUDs and implants—were retrieved from existing Government documentation. The unit cost for one blister of pills was multiplied by 12 months to estimate the cost for a user for a one-year period. For the progestin-only injectables, the cost for one vial was multiplied by four to estimate the cost for a user for a one-year period. For IUDs and implants, their total effectiveness period was considered as 10 years for IUDs and five years for implants. User fees charged by the health centres visited were also surveyed. The cost to allocate commodities from the capital to each health facility or the transportation cost for users to visit the health facility was not included in the analysis.

The user fees to access pills, IUDs and implants were obtained from the interviews at the health centre. For pills, the amount charged by a CBD was considered the fee for a client using pills, while for IUDs and implants, the actual user fees of the two health centres visited were used.

For the costing exercise, data from the Population Division of the United Nations Department of Economic and Social Affairs was used to estimate the number of women aged 15–49 years who would be married or in a union by 2020. We calculated the yearly needs of commodities as 13 pill cycles or four injectables per one user. We applied the same cumulative continuation rates as Marie Stopes International for IUDs and implants.

The Marie Stopes International's Impact 2 (version 3) model was used to estimate the impact of the procured quantities of modern family planning methods. A full paper on methodology and assumptions used by the model can be found at <http://mariestopes.org/sites/default/files/Impact-2v3-Methodology-and-Assumptions.pdf>.

Data analysis

The primary and secondary data collected were coded based on the identified themes and variables important to providing an accurate country-level understanding of access and utilization of family planning methods and the feasibility of scaling up reversible LARC. The themes and variables were identified by the team based on the research questions and objectives. The themes and variables included: demographics; socioeconomic factors including community acceptance; current practices and utilization of family planning methods; national policies; current and planned investments in family planning; health worker knowledge and skills; and the availability of locally produced and imported contraceptive commodities. Data collected for each variable were entered into an Excel database and used to develop a comprehensive country profile and report on access and use of family planning services and methods.

Funding, ethical issues and conflict of interest

The study was supported by a WHO grant. The WHO Ethical Review Committee for the Western Pacific Region issued ethical approval for the research on 16 April 2015. Ethical approval was received by the National Ethics Committee for Health Research in Cambodia on 27 April 2015. The researchers have reported no conflicts of interest.

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