MCHIP Country Brief: Egypt

Selected Health and Demographic Data for Egypt	
Maternal mortality ratio (deaths/100,000 live births)	54/100,000
Neonatal mortality rate (deaths/1,000 live births)	16/1,000
Under-5 mortality rate (deaths/1,000 live births)	28/1,000
Infant mortality rate (deaths/1,000 live births)	25/1,000
Contraceptive prevalence rate	60%
Total fertility rate	3
Skilled birth attendant coverage	90.9%
Antenatal care,4+ visits	66%
Source: EDHS 2008	

Health Areas:

- Maternal Health
- Newborn Health
- Child Health
- Nutrition
- Family Planning

Program Dates	October 2011–June 2014					
Total Mission Funding to Date by Area	Redacted [redacted]					
Geographic Coverage	Number of governorates	22%	Number of districts	12	Number of villages/ total population	100/ ~two million people
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INTRODUCTION

The United States Agency for International Development (USAID)/Egypt has supported Ministry of Health (MOH) maternal and child health programs in Egypt over the past 30 years, contributing to the notable decline in child and maternal mortality in the last two decades and improvements in several key maternal and child health indicators. However many challenges remain, including persistent high levels of child malnutrition: stunting among children under the age of five increased from 23% in 2005 to 29% in 2008 with increases concentrated in two regions (Lower Egypt and Frontier Governorates) according to the 2008 Egypt Demographic Health Survey (EDHS). The neonatal mortality rate has also stagnated despite declines in infant and under-five mortality.

The 2008 EDHS estimated neonatal mortality at 16 per 1,000 live births, a decrease in mortality of 33% from the 2000 EDHS estimate of 24 deaths per 1,000 live births. For the same period, infant mortality declined by 43% and under-five mortality by 48%. The neonatal mortality contribution to under-five mortality has therefore increased from 44% to 58% during the same time period.

Although almost all infants are breastfed, on average, only half are exclusively breastfed in the first six months. Feeding practices for children during the complementary feeding period (six to 23 months) are also not optimal—only 68% of children consumed the minimum number of food groups (a proxy for the quality of the diet) in 2008, and only 50% of children were fed the minimum number of meals per day (a proxy for energy intake). As a result, it is estimated that only 41% of all children are fed a minimally adequate diet in Egypt. Although most newborns are screened for iodine deficiencies, other newborn care interventions are not routinely provided. The major causes of neonatal death are preventable or treatable with simple, cost-effective interventions.

Preventing unintended pregnancies, particularly through pregnancy spacing, is a critical component of improving the health, nutrition, and survival of mothers and infants. According to the 2008 EDHS, 58% of currently married women 15 to 49 years of age were using a modern method of family planning (FP). Even though contraceptive use in Egypt has been increasing, overall trends in pregnancy spacing have not improved.

According to a 2010 gender assessment conducted by USAID/Egypt, persistent gender inequalities in Egypt continue to contribute to poor health outcomes for women, children, and even men. Unequal power relations based on gender are evident within families and communities, and are also reflected in health, educational, judicial, and economic institutions. These inequities severely affect women's capacity to make optimal decisions about their health care and the prevention of illness for themselves and their children. For instance, the 2008 EDHS reported that only 21% of ever-married women had knowledge of the danger signs during pregnancy and childbirth—vital information that should have been given to them during antenatal checkups.

Key SMART Activities

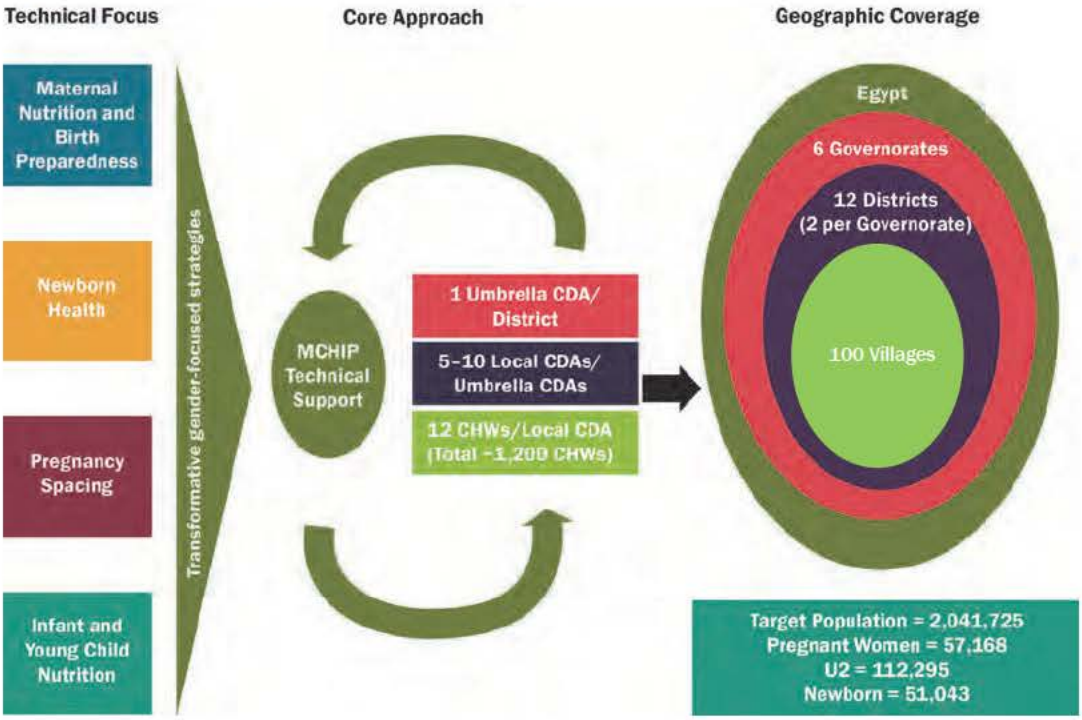
- Carry out community health outreach and communication activities that increase knowledge, skills, and practice of key maternal, neonatal, and child health behaviors, while creating demand for related services.
- Implement a nutrition education and rehabilitation program at the community level to address childhood malnutrition and stunting.
- Promote home-based neonatal care through a package of simple interventions that can save the lives of newborns, especially those delivered at home. Train outreach workers to counsel mothers about newborn care including, thermal regulation, cord care, kangaroo mother care for low birth weight, and initiation of breastfeeding within one hour after birth.
- Build capacity of local CDAs to respond to health care needs with a focus on sustainability.
- Conduct an in-depth study to understand the underlying causes of increased stunting in Lower Egypt.

In this context, SMART (Community-based Initiatives for a Healthy Life) was a two-and-a-half-year initiative under MCHIP that was implemented in six governorates of Egypt: Qalyubia and Sharqia in Lower Egypt, and Beni Suef, Asyut, Qena, and Sohag in Upper Egypt. Intervention areas were selected by considering malnutrition rates and low health indicators related to neonatal, child, and maternal health. SMART's aim was to reduce neonatal mortality and malnutrition for children under the age of two by increasing knowledge of and demand for quality antenatal care (ANC) services, neonatal care, and postnatal care (PNC), and providing nutritional information and support to caretakers of children under two years of age (U2) through a community approach. SMART sought to provide a package of proven, low-cost interventions during the first 1,000 days of life to improve children's health and nutrition.

For most of the duration of the SMART program—December 2011 through December 2013—Egypt was in a state of political upheaval, including a rise of religious conservatism in some SMART implementation areas. In this environment SMART sought to build on past experience working with local civil society organizations to provide direct implementation support to address malnutrition and newborn health with program activities that complemented services provided through the public health system. Building on the success of previous programs working with community development associations (CDAs), SMART partnered with 12 local organizations in the six governorates to implement community-based health initiatives. These 12 umbrella CDAs each oversaw an additional five to 10 local CDAs, building their capacity and supporting them to reach the community level effectively in all six governorates. The target population for SMART interventions was over two million people.

SMART's goal has been to improve neonatal health and child nutrition outcomes in Egypt, with a strategic objective to increase the use of key maternal, neonatal, and child health (MNCH) and nutrition behaviors and use of community-based MNCH-FP-Nutrition services. The integrated SMART approach is shown in Figure 1 below.

Figure 1. SMART Program Overview and Logic Framework



KEY ACHIEVEMENTS

1. Improved access to and quality of key MNCH-FP-Nutrition services by private, community-based providers

   - Approximately 1,200 community health workers (CHWs) have been trained through a 10-day, competency-based training program followed by supportive supervision by a strong team of experienced supervisors with the goal of ensuring that CHWs are performing their tasks. CHWs are committed to delivering health messages to women, making home visits during which they provide health and nutrition guidance and refer women to clinics. CHWs also conduct group nutrition counseling and health education sessions, including cooking demonstrations, for pregnant women, women with children under two years of age, their husbands, and mothers-in-law.
   - SMART has had a 98% retention rate of CHWs, many of whom will continue their work with CDAs after the end of the program as a result of funds secured for future SMART-modelled programs.
   - Approximately 38,000 women and children have received free health care from UCDA-facilitated mobile clinics arranged in villages with limited access to public services. SMART funds supported logistics and additional training to providers to ensure quality ANC and child assessments delivered from mobile units.
   - Approximately 149,000 women and their families received health messages as part of group counseling sessions and monthly home visits.
   - Over 4,241 mothers who gave birth during the program period received their first PNC home visit by a CHW within two days of delivery (i.e., nearly all mothers who participated in the program).

2. Increased knowledge and use of key MNCH-FP-Nutrition behaviors by women and men

   - SMART has built upon the previous materials developed by USAID-funded health programs and produced a variety of well-researched publications about MNCH and nutrition. SMART collected these materials in an "e-Library," which was widely-disseminated to partners and stakeholders. These publications included the 1,000 Days[1] Protocol for physicians (shared with public and private sector doctors), a manual for nurses, CHW Guidelines and Health Messages, eight brochures on MNCH and nutrition, eight fact sheets for public information, and two posters. These publications have been well-utilized by key stakeholders and implementing partners.
   - Approximately 3,200 doctors, nurses, and CHWs have been trained in key SMART interventions, including essential newborn care (ENC), Helping Babies Breathe (HBB), kangaroo mother care (KMC), promotion of exclusive breastfeeding, healthy timing and spacing of pregnancy, nutrition counseling, and growth monitoring. Introduction of these interventions were accepted well among health care providers and have been utilized in their daily practices.
   - SMART collaborated with key national institutions including the National Nutrition Institute, Egyptian Association of Neonatology, and the Coalition of NGOs (nongovernmental organizations) against Pneumonia, and partnered with medical faculties of universities selected to include SMART key interventions in training programs for physicians.

[1] The period of 1,000 days refers to the window of opportunity for intervening to prevent and address poor health and nutrition from conception through the first two years of life.

- The Egyptian MOHP expressed an interest in the SMART approach and is considering scaling up key nutrition and neonatal health interventions using SMART materials and foundation.
- Increased women's and men's knowledge of danger signs during a woman's pregnancy, delivery, and in newborns (see Table 3).

3. Increased capacity of CDAs to implement community-based strategies to improve MNCH-FP-Nutrition
   - SMART supported and strengthened the 12 Umbrella CDAs to implement their own MNCH activities and fundraise for new projects and initiatives. These 12 CDAs, in turn, supported 100 local CDAs working in 100 villages. As a testament to the significant impact that SMART has had in building capacity among the CDAs to implement programs and secure funds for future initiatives, a combined Redacted has already been secured to fund an additional two years of programming to replicate the SMART model in areas not currently covered by the program.
     - In all six program governorates, 32 SMART partner CDAs were able to raise a total of Redacted) to scale up the SMART model for community-based MNCH activities. Funding sources included the Japanese Embassy and the Social Fund for Development. LCDAs reported that SMART's organizational development training package, which included modules on program needs assessment and design, proposal writing, financial management and sustainability planning, supported them to successfully seek additional funds, as did the opportunity to network with other CDAs in their geographic area.
     - Fifteen of the 32 SMART-funded CDAs have received additional funding from non-USAID sources for 28 complementary MNCH programs. The total value of these additional program activities equals Redacted .
4. Increased knowledge base of factors associated with stunting (including those that are gender-specific) and approaches to reduce stunting and neonatal mortality
   - SMART carried out a four-part study examining factors related to stunting within the Egypt context including the following:
     - Longitudinal study tracking 300 children's growth, health, and infant and young child nutrition practices during their first year of life
     - In-depth interviews with 120 pregnant and postpartum women
     - Trials of Improved Practices (TIPS) study with 150 mothers with children younger than two years of age to identify small-scale interventions mothers can take to improve their children's health and nutrition
     - In-depth interviews with 120 fathers, grandmothers, and health care workers
   - Four peer reviewed journal articles detailing results associated with the stunting study and SMART's community-based activities have been drafted.
   - SMART provided materials and training for professional associations, medical faculty and students, and for other strategic networks to increase awareness of MNCH as well as nutrition issues. Results of best practices under the program, such as simple and cost effective trainings to support evidence-based interventions like Kangaroo Mother Care (to enhance thermal regulation and promote optimal breastfeeding for premature and low birth-weight babies); Helping Babies Breathe (to assist babies who do not breathe spontaneously at birth); Child Nutrition and Development Counselling (to promote optimal Infant and Young Child Nutrition (IYCN) and education around child developmental milestones), and Post-Partum Family Planning, were shared broadly with key stakeholders

at all levels, raising awareness of the widespread problems of preventable newborn death, childhood illness, and malnutrition and the simple measures that are available as solutions.

5. Improved awareness of the impact of gender roles in improving MNCH-FP-Nutrition outcomes

   - A gender analysis was completed to gain an understanding of the differences and inequalities between men and women in program planning, implementation, and assessment of the planned SMART program activities. Staff used gender analysis results to support CDA partners with further gender awareness training and design of community-based activities to encourage greater social equality. The results of this analysis are discussed in greater detail under Objective 5, later in this document.
   - SMART developed and supported implementation of an innovative "Family Solidarity Training Guide" with four units. Local CDAs received training and support to use the guide in all 100 SMART villages in six governorates. The training units provided the basis for CHWs to begin conversations about gender and family decision-making in a culturally appropriate and non-threatening manner.

Presented below (in Table 1) are key indicators that SMART tracked in the baseline and endline surveys. Findings from these evaluations demonstrate the SMART program's achievements in accelerating behavior change and improving knowledge about key areas that support newborn and maternal health including nutrition, despite the unrest and societal changes occurring in Egypt during the program period.

Please note that data presented in Table 1 are for survey respondents with children *less than 12 months in age*. This subset of respondents was optimally-exposed to the SMART intervention package beginning with home visits in pregnancy, continuing through childbirth and the postpartum period, and including breastfeeding support and nutrition promotion for their infants. Due to SMART's short intervention period, which spanned only 15 months, women whose children were 12 months or older during the end line survey would not have interacted significantly with CHWs during their pregnancies.

Table 1. Key SMART Program Indicators

INDICATOR	UPPER EGYPT			p-value	LOWER EGYPT			p-value
	Baseline	Endline	Difference		Baseline	Endline	Difference	
% of women who received ANC 4+	73.6 (794)	85.4 (875)	11.8	0.001	75.4 (808)	86.7 (799)	11.3	0.001
% of women who consumed 90+ IFA during recent pregnancy	32.5 (477)	41.7 (693)	9.2	0.001	32.0 (528)	45.1 (638)	13.1	0.001
% of women with knowledge of at least three complications during delivery	4.9 (792)	46.1 (875)	41.2	0.001	6.6 (801)	19.2 (799)	12.6	0.001
% of women whose child was delivered by skilled birth attendant	89.0 (794)	95.1 (875)	6.1	0.001	89.2 (808)	98.1 (799)	8.9	0.001
% of women breastfeeding their newborn within one hour of delivery	43.0 (702)	43.6 (794)	0.6	0.828	41.0 (566)	40.8 (618)	-0.2	0.941

INDICATOR	UPPER EGYPT			p-value	LOWER EGYPT			p-value
	Baseline	Endline	Difference		Baseline	Endline	Difference	
% of women practicing exclusive breastfeeding for children under six months	38.8 (351)	55.2 (433)	16.4	0.001	43.9 (367)	57.8 (422)	13.9	0.001
% of women feeding their children at least three food groups (a sign of nutritional diversity)*	5.4 (443)	18.8 (442)	13.4	0.001	10.8 (441)	15.9 (377)	5.1	0.001
% of women with knowledge of benefit of two plus years of spacing between pregnancies	66.3 (789)	82.7 (872)	16.4	0.001	64.6 (791)	89.2 (799)	24.6	0.001
Number of women**	794	875			808	799		

* includes: (1) milk or other dairy products; (2) eggs; and (3) any green, leafy vegetables or yellow or orange fruits and vegetables.

** number of women varies by responses, hence actual number given in parenthesis

Table 2. Services offered during ANC, as reported by surveyed women

SERVICES OFFERED	UPPER EGYPT (%)			LOWER EGYPT (%)		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Weight measured	66.7	90.4	23.7	76.2	94.6	18.4
Height measured	30.8	77.3	46.5	38.8	87.3	48.5
Blood pressure measured	79.0	89.7	10.7	85.2	93.1	7.9
Urine tested	67.4	79.9	12.5	77.5	90.0	12.5
Blood tested	69.0	86.7	17.7	80.3	90.7	10.4
Counseling on breastfeeding	60.7	85.1	24.4	60.4	90.9	30.5
Counseling on pregnancy spacing	49.6	80.8	31.2	52.5	86.3	33.8
Number of women	(794)	(875)	-	(808)	(799)	-

Although much work remains to be done to improve maternal and child health in Egypt, in a relatively short period the SMART program supported local organizations to create lasting change for Egyptian mothers and children by building the capacity of hundreds of community members and key individuals at the district and governorate levels who make decisions about and act upon health and nutrition issues. The strategic SMART approach of working through CHWs and CDAs, including building their capacity to fundraise for health programs, increases the likelihood that similar programming and demand for quality services will continue after the SMART program ends. The partnership developed with Egyptian professional associations for the rollout of training and the broad dissemination of key materials with service providers, pharmacies, governorate and district health managers, and national MOHP stakeholders will also help to ensure that what was developed under SMART will be used beyond the life of the program.

WAY FORWARD

Community-based approach to deliver health and nutrition messaging: A community-based approach to deliver health and nutrition information and counseling support to women and their families—the SMART approach—is an effective way to ensure community acceptance of healthy behaviors. CDAs are highly-connected with an extensive network in their catchment areas and should continue to be prioritized as development partners to deliver high-quality health and nutrition services that are appropriately targeted and relevant for the local population. CHWs can be agents of change in their communities, enabling knowledge acquisition and Improved behaviors at the household level; however, they need structured support and targeted capacity-building. For communities to adopt positive health and nutritional practices, service providers and NGOs should gain CHWs' trust, address their needs, and seek solutions that work within the local context. Early involvement of the community in designing and planning the intervention will ensure long-term sustainability of the healthy behaviors.

Initial social mapping of intervention areas defined a number of high-caseload, private health care providers whom SMART invited to participate in trainings on community health practices, new evidence-based medicine, and effective interventions like KMC, HBB and IYCN. As trainers were often well-known and even leaders in their fields, providers showed interest in attending the trainings. As a result of the trainings, many providers began offering services to their Communities that they were not offering before SMART due to lack of knowledge and/or skills to perform certain procedures. These health care providers were able to provide essential services, particularly maternal and child nutrition promotion and reinforcement of simple primary health care messages to poor families and rural communities through mobile clinics, maternal and child health consultation days, and health education campaigns.

Areas for Improvement of the SMART Approach: Despite increases in the majority of indicators, the SMART program fell short of reaching the ambitious targets set for five indicators (Indicators 1.2, 1.4, 1.7, 1.8, 1.9). These deviations from the achieved versus the targeted results could be attributed to a number of potential factors. As noted earlier in this document, the effect of commodity insecurities in Egypt during the period of political unrest led to decreased use of modern family planning methods and availability of iron folate acid across the country. In future programs, availability of key commodities must be addressed.

A longer period of implementation would likely yield even greater gains for the majority of indicators. During expansion of the SMART model, decision makers should consider further strengthening support and supervision of CHWs to ensure greater retention of knowledge and skills. It would also be important to explore further barriers and solutions to ensuring immediate postnatal home visits.

Further research, supervision and training for health care providers and CHWs in Egypt about nutrition and prevention of stunting is needed: The underlying causes of malnutrition and stunting, including the socioeconomic factors specific to Egypt, must be fully understood by health care providers and CHWs. Acknowledging these underlying causes and emphasizing the importance of role models and supportive supervision could prove to be very effective in addressing the key barriers and misconceptions related to infant and young child feeding. Education materials related to the prevention of stunting – beginning with exclusive breastfeeding and followed by healthy, complementary feeding practices – should continue to be developed for health care providers to use in counseling mothers and families about breastfeeding and complementary feeding practices. These educational materials should be based on WHO recommendations and should utilize culturally-appropriate, targeted messages developed during the program. In addition, mothers' support groups that also include grandmothers, applied in SMART intervention areas, and fathers' support groups will

strengthen knowledge and behavior change at the community level. Advocacy is needed to develop a national policy on junk food, and routine surveys (such as the EDHS) should collect data on junk food consumption by young children. Generating awareness in communities about optimal maternal nutrition and infant feeding, along with decreasing and eliminating the intake of junk food, can positively impact the growth of children and the entire family's health and well-being.

Uptake of SMART materials with Egyptian service providers from the NGO, private, and public sectors: Although SMART materials have been shared broadly in the six program governorates during the life of the program, the program's vast resources should be taken up by other NGOs, private providers, and the MOHP. SMART has focused the last six months of the program on developing and rolling out a dissemination plan in which key program stakeholders at the governorate and national levels have received SMART tools and resources and have been enabled to use these tools and resources as broadly as possible. Ideally, the MOHP will authorize inclusion of the SMART-developed 1,000 Day Series of guidelines for doctors and nurses, as well as the TIPs counseling guide, in all medical training curricula, and will provide in-service training for those who have not yet participated in this training. MOHP support for these initiatives is especially important to ensure that infant and young child feeding practices are improved for all children, the HBB neonatal resuscitation technique is used appropriately, and KMC/Warm Hug Care is provided for preterm babies.

Government scale-up and time are needed for long-term success and behavior change: Without government support and buy-in, health and nutrition interventions will remain localized. And although improving knowledge about health and nutrition can take place over short periods of time, behavior change takes a longer, more sustained effort. By providing the resources needed as well as evidence of the success of the SMART interventions, this program sought to enable the MOHP and local decision-makers to roll out similar activities in other areas of Egypt in alignment with national development goals. It is encouraging that the Social Fund for Development and other donors provided additional funding to CDAs to replicate the SMART model in areas that were not previously covered by the SMART program. Interestingly, the Social Fund for Development was also interested in SMART's approach because it promoted women's employment, thereby furthering women's opportunities to earn an income and contribute to the economic well-being of their families.