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EGYPT HEALTH AND POPULATION LEGACY REVIEW VOLUME I



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FOREWORD

When the United States first partnered with Egypt over 30 years ago, the mutual goals of saving lives, eradicating disease and building quality health systems were inspiring. They were also ambitious—the Nile Delta was a region long beset by disease and poverty and there was much work to do to improve livelihoods and health and access to family planning.

However, our work with the Egyptian people delivered remarkable results, a testament to the strength of our partnership. We worked together to provide effective vaccines against polio, rotavirus and other preventable diseases to 92% of all children, one of the highest immunization coverage rates in the world. We effectively ended the scourge of schistosomiasis—a disease that plagued Egypt since the time of the Pharaohs—bringing its prevalence down to less than 1% of the population. We reduced maternal mortality by over 72% in just 15 years. And, we increased access to family planning services dramatically, helping bring high birthrates down by nearly half.

The *USAID/Egypt Health and Population Legacy Review* details the story behind results like these over the three decades of collaboration between USAID and Egypt. The Agency's technical and financial investments in Egypt led to remarkable returns. Data analysis shows striking improvements in the health of the Egyptian people and the country's ability to provide high-quality primary health care. These successes are due to a focus not only on delivering services but also on building sustainable systems to support healthy and productive lives.

Egyptians should be enormously proud of their accomplishments over the past three decades. While this Legacy Review is presented as a retrospective, Egypt's new political reality presents an important opportunity to build on the progress cited here. The solid foundation of improved policies, infrastructure, skilled human resources, institutional capacities, and health practices in the population set the stage for further improvements and innovations in the future.

The history documented here provides powerful lessons to guide other countries as they strive to improve the health of their people. It is also meant to inform a new Egyptian political order as it embarks on charting the next chapter of the country's future.

Sincerely,



Rajiv Shah
Administrator
U.S. Agency for International Development

CONTENTS

ACRONYMS	vii
EXECUTIVE SUMMARY	xi
I. INTRODUCTION	1
II. EVOLUTION OF THE USAID PROGRAM IN EGYPT	3
III. KEY ACHIEVEMENTS FROM THE EGYPT-USAID COLLABORATION	7
Demographic and Health Outcomes	7
Fertility Reduction and Improvement in Reproductive Health	7
Safe Motherhood	15
Infant and Child Health Improvements	20
Infectious and Endemic Disease Control	26
Infectious Disease Awareness and Control	35
Health Systems Development	38
Quality Improvement Systems	38
Health Information Systems and Surveillance	42
Building an Evidence Base: Strengthened Survey and Research Capacity	47
Human Capacity Development	52
Health Sector Reform	56
IV. EGYPTIAN LEADERSHIP	63
Senior Policymakers	63
Program Leaders	63
Technical and Research Leaders	65
V. INSTITUTIONALIZATION AND SUSTAINABILITY	67
Technical and Managerial Capacity	67
Financial Sustainability	67
VI. LESSONS LEARNED	69
Program-Specific Lessons	69
General Lessons	71
VII. CONCLUSIONS	75
ANNEXES	
ANNEX 1: SCOPE OF WORK	77
ANNEX 2: REFERENCE LIST	91

THE FOLLOWING ANNEXES ARE AVAILABLE UPON REQUEST:

ANNEX 3: KEY INFORMANTS

ANNEX 4A: USAID/ EGYPT OBLIGATIONS FOR HEALTH & POPULATION SECTORS FROM FY 1976- FY 2009 (\$ 000)

ANNEX 4B: USAID/EGYPT OBLIGATIONS FOR HEALTH & POPULATION SECTORS FROM FY 1976-FY 2009 (\$ 000)

ANNEX 5: PROJECT TIMELINE

ANNEX 6: POWERPOINT PRESENTATION OF DATA CHARTS

FIGURES

Figure 1: Egypt Total Fertility Rate, 1976-2008	7
Figure 2: Egypt Contraceptive Prevalence Rate (CPR), 1976-2008	8
Figure 3: Median Age at Marriage and First Birth, 1988-2008.....	8
Figure 4: Percentage of Currently Married Women Aged 15-49 Using Individual Modern Methods, 1980-2008 (For Methods with Use Greater than or Equal to 1% in 2008)	9
Figure 5: Twelve Month Contraceptive Discontinuation Rate by Method, 1992-2008.....	12
Figure 6: Maternal Mortality Ratio (Maternal Deaths per 100,000 Live Births) in Egypt, 1992-2008.....	15
Figure 7: Percentage of Births 5 Years Prior to Survey Medically Delivered by Doctor or Trained Nurse/Midwife, 1988-2008	18
Figure 8: Percentage of Births 5 Years Prior to Survey with Any and Regular Antenatal Care (4 or More Visits), 1995-2008	18
Figure 9: Egypt Infant and Child Mortality Rates (Ages 1-4), 1976-2008.....	20
Figure 10: Egypt Neonatal and Post neonatal Mortality Rates, 1988-2008	20
Figure 11: Infant Mortality Rate by Previous Birth Interval, 2008	23
Figure 12: Nutrition of Children Under Age 5, 1988-2008 (Percent of Children with Greater than Two Standard Deviations from NCHS/CDC/WHO Reference Median).....	24
Figure 13: Percentage of Children Aged 12-23 Months Fully Immunized, 1988-2008.	26
Figure 14: Prevalence of Schistosomiasis in Lower and Upper Egypt (Dominant Strains), 1983-2008	29
Figure 15: Percentage of Ever-married Women with Knowledge of Family Planning Methods, 1988-2008.....	31
Figure 16: SIS logo Promoting Small Family.....	33
Figure 17: CDD Project Logo.....	34
Figure 18: Unmet Need for Family Planning Among Currently Married Women Aged 15-49 by Wealth Quintile, 2008.....	37

ACRONYMS

ANC	Antenatal care
ARI	Acute respiratory infection
BCC	Behavior change communication
CA	Cooperating agency
CDA	Community development organization
CDC	U.S. Centers for Disease Control and Prevention
CDD	Control of diarrheal disease
CGC	Credit Guarantee Corporation
CHC	Community health committee
CIS	Clinical information system
CPR	Contraceptive prevalence rate
CSI	Clinical Services Improvement Project
CQIS	Continuous quality improvement system
DHHS	U.S. Department of Health and Human Services
DHS	Demographic and Health Survey
EDHS	Egyptian Demographic and Health Survey
EFCF	Egyptian Fertility Care Foundation
EGP	Egyptian Pounds
EPI	Expanded Program of Immunization
EPTC	Egyptian Pharmaceutical Trading Company
ESU	Epidemiology Surveillance Unit
EU	European Union
FACT	Feedback Analytic and Comparison Tool
FETP	Field Epidemiology Training Program
FGM	Female genital mutilation
FHM	Family Health Model
FOF	Family of the Future
FP	Family planning
GOE	Government of Egypt
H1N1	Swine influenza
H5N1	Avian influenza
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIO	Health Insurance Organization

HIS	Health information system
HMIS	Health management information system
IC	Infection control
IDU	Injecting drug user
IEC	Information, education, and communication
IL	Implementation Letter
IMCI	Integrated management of childhood illness
IMR	Infant mortality rate
ISOP	Integrated standards of practice
IUD	Intrauterine device
M&E	Monitoring and evaluation
MBA	Master's in Business Administration
MCH	Maternal and child health
MDG	Millennium Development Goal
MIS	Management Information System
MMR	Maternal mortality ratio
MMSS	Maternal Mortality Surveillance System
MOHP	Ministry of Health and Population
MSM	Men who have sex with men
NAP	National AIDS Program
NDDCP	National Diarrheal Disease Control Program
NEDSS	National Electronic Disease Surveillance System
NGO	Nongovernmental organization
NHIF	National Health Insurance Fund
NIH	U.S. National Institutes of Health
NPC	National Population Council
OJT	On-the-job training
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PAC	Post-abortion care
PBS	Patient-based system
PD	Positive deviance
SIS	State Information Service
SMC	Safe Motherhood Committee
SPA	Service Provision Assessment
STI	Sexually transmitted infection

TT	Tetanus toxoid
VCT	Voluntary counseling and testing
VHRL	Viral Hepatitis Research Lab
VSR	Vital statistics registration

EXECUTIVE SUMMARY

USAID/Egypt commissioned the Egypt Health and Population Legacy Review to review Egypt's accomplishments in the health sector over the past 30 years, highlight major outcomes and achievements, and analyze the role of USAID in supporting the progress achieved. This report also analyzes remaining challenges. The work commissioned was conducted over three months and included extensive interviews of people who worked in Egypt, a review of data and hundreds of documents about the program, and a visit to Egypt to meet with a wide variety of people in Cairo and eight governorates.

From this background work, ten “legacy” areas were chosen because they showed evidence of *sustained* positive health outcomes and health system improvements in areas where the Government of Egypt (GOE) and USAID worked together. Since 1976, the GOE has annually committed between 2.0% and 4.7% of the national budget to health (in the fiscal year 2007 alone, this accounted to a total of 10.2 billion Egyptian Pounds), supplemented by a total of about \$1.5 billion for health and population programs from USAID over the same period.

DEMOGRAPHIC AND HEALTH OUTCOMES

Fertility Reduction and Improvement in Reproductive Health

- The average number of children per woman decreased from 5.6 in 1976 to 3.0 in 2008, and contraceptive use increased from 18.8% in 1976 to 60.3% in 2008.
- Female genital mutilation (FGM) was recognized as a problem and its prevalence has begun to drop, especially among younger groups. The percentage of women who say that FGM should continue as a practice fell from 82% in 1995 to 54% in 2008.

Safe Motherhood

- In Upper Egypt, the area first targeted by Ministry of Health and Population (MOHP)-USAID programs, the maternal mortality ratio decreased by 72% between 1993 and 2007 from 217 to 59 maternal deaths per 100,000 live births. Nationwide, as of 2008, the maternal mortality ratio was 55.
- The number of births attended by a trained provider has increased substantially; medically assisted deliveries rose from 35% in 1988 to almost 80% in 2008.

Improvements in Infant and Child Health

- Between 1988 and 2008, deaths in the first month of life declined from 39 to 16 per 1,000 live births. Infant deaths in general decreased dramatically, from 124 in 1976 to 24 per 1,000 live births by 2008.
- An estimated 300,000 child deaths from diarrhea were averted between 1982 and 1989 alone. Mortality related to acute respiratory infection (ARI) declined 35% among infants, and 74% in children aged 1–4.

Control of Infectious and Endemic Diseases

- With 92% of all children between 12 and 23 months now fully immunized against the six vaccine-preventable diseases, Egypt has one of the highest immunization coverage rates in the world.

- Schistosomiasis, a scourge since the days of the Pharaohs, is no longer a threat to the health of rural Egyptians; prevalence is less than 1% of the population. Hepatitis C and other blood-borne pathogens are declining as infection control programs ensure safer medical practices and better patient education.

Behavior Change Communications

- One hundred percent of ever-married women have been found to be knowledgeable about modern contraception, and the desire to increase birth intervals and have smaller families has become the norm.
- The inevitability of maternal deaths is no longer passively accepted. Egyptian women and their families now recognize possible dangers in pregnancy and seek timely medical care.

HEALTH SYSTEMS DEVELOPMENT

Quality Improvement Systems

- Maternal and child health (MCH) and family planning (FP) clinical protocols have been drafted and officially approved as national standards, paving the way for sustainable change nationwide in the quality of care.
- An accreditation system for primary care units that qualify for the Family Health Model is now in place and is fully financed by the MOHP, which has established a Quality Improvement Directorate to develop an organizational structure.

Health Information Systems and Surveillance

- Effective health information systems are functioning in clinics and hospitals, producing program information on key MCH and FP services and infectious diseases.
- The countrywide Electronic Disease Surveillance System (EDSS) now reports routinely on diseases of major public health importance.

Evidence-based Survey and Research Capacity

- Egypt now has institutions that can conduct large-scale demographic and health surveys to generate essential information for monitoring and evaluating progress and identifying future program needs.
- Egypt is now capable of conducting a wide variety of studies on health programs and outcomes, including: biomedical and behavioral research studies; program (operations) research; clinical trials; utilization of national health accounts; and assessments of household health expenditure patterns. This enhanced capacity greatly increases the range and richness of information available relevant to the design and evaluation of Egypt's health programs.

Human Capacity Development

- Egypt has institutionalized the capacity to train field epidemiologists, who are now working in all governorates of the country and responding effectively to disease threats like avian influenza (H5N1) and swine influenza (H1N1).
- The MOHP has an on-going training program for nurses to become skilled midwives and has greatly improved the training and professionalism of its bachelor's and secondary-level nurses.

Health Sector Reform

- An ambitious reform program is underway to improve service quality, equity of access, sustainability of the health care system and, ultimately, to provide universal health insurance.
- An integrated Family Health Model (FHM) designed to improve the quality of primary health care services has been pilot-tested in five governorates and is being expanded nationwide. To date, approximately 1,500 facilities have been accredited.

LESSONS LEARNED

The experience in Egypt is replete with useful lessons for USAID globally as well as the Egyptian and other partner governments. Program-specific lessons are summarized in Section VI. Several general factors, however, contributed to a successful partnership between Egyptian institutions and USAID.

- Duration, funding level, and staffing of programs were central to the success and high productivity of the Egypt-USAID partnership in health.

The fact that USAID/Egypt was a reliable partner of the MOHP for 30 years made it possible to not only introduce programs, but also to see them through the various stages of their evolution. Substantial funding over the decades also helped ensure that programs were of a large enough scale to have significant impact. Multiple funding modalities also built ownership and institutional capacity. In addition to the traditional technical assistance contracts, each project provided for directing funding to the MOHP and partner institutions through implementation letters (ILs) to cover recurrent costs.

For many years, USAID/Egypt also had a large number of U.S. Foreign Service Officers, Egyptian Foreign Service Nationals, and contract staff working on both health and population programs that were able to engage intensively with MOHP and other counterparts. USAID staff was able to travel to spend time with MOHP colleagues, and USAID project staff was often housed at the MOHP and other implementing entities. USAID's decades of work with a variety of health projects also benefited Egypt by making best practices and lessons learned globally available. Some USAID partner organizations have been working in Egypt for three decades, and while they are not named individually here, they have been enormously important in helping Egypt achieve its impressive health and population outcomes.

- Effective programs must be flexible and adaptable to respond to changing circumstances and needs.

USAID's support to the health and population program in Egypt was characterized by flexibility to respond to both changing conditions and lessons learned. The confidence to be innovative also came from knowing that USAID was in Egypt for the long term and programs could grow or change direction as experience dictated. Outcomes were not assumed, they were measured. When the evidence suggested a need to change tactics, the programs were directed to do so. USAID support to the MOHP evolved as needed.

- Sustained political commitment facilitates progress.

Both the Government of Egypt (GOE) and the U.S. government (USG) demonstrated commitment to the program in Egypt. Most striking was the Government's enduring commitment to population and family planning programs. In addition to changing societal norms about ideal family size, other family issues, such as girls' education and ceasing FGM practice, also required active advocacy at the central level and sustained leadership from governors and other local officials. Although funds for Egypt are flexible, USAID consistently has been faced

with competing demands, but always has continued to maintain its commitment to the health and population sectors in Egypt.

- The length of assistance and the variety of institutions involved facilitated mutually beneficial and long-lasting relationships.

Throughout the three decades of Egypt-USAID partnership, the USAID program was able to link a wide variety of USG individuals and institutions to Egyptian institutions for maximum mutual benefit. Egyptian scientists benefitted from joint research activities and their U.S. colleagues benefited from the opportunity to study endemic diseases and publish collaboratively with Egyptians. The GOE placed well-trained people into leadership positions to achieve impressive results.

- Egypt's legacy of achievement in health and population is empirically substantiated.

Largely because of GOE and USAID support for Demographic and Health Surveys and other survey research conducted at regular intervals, a substantial volume of high-quality data is available to track progress and trends in health and demographic outcomes, service coverage, and the health knowledge and practices of the population. This information was critical to building and shaping programs and also provides an unusually well-substantiated 30-year retrospective view of Egypt's health and population accomplishments. Annex 6 contains 138 annotated graphs and charts, many of which document trends and progress.

Most of the achievements over the past three decades were clearly due to the leadership of the talented Egyptians who worked on and guided programs supported by USAID and other donors. The Egypt-USAID partnership has paid enormous dividends in terms of better health and welfare for the Egyptian people. The history is complex, with participation from many sectors and development partners. Not all efforts led to the expected outcomes, and some challenges still remain. These challenges are discussed in detail later in the report.

Both countries have much to gain from this analysis of experiences to date. It will help guide health and population sector partnerships not only between Egypt and the U.S., but also between the U.S. and other countries.

I. INTRODUCTION

PURPOSE AND RATIONALE FOR THE REVIEW

Egypt and the United States have been development partners since the mid-1970s. During this 30-year period, USAID has provided over \$1.5 billion for programs in population, health, and nutrition. This long span of collaboration and funding helped Egypt achieve important, well-documented improvements in the health of its people. Because this partnership has been so fruitful, USAID/Egypt commissioned a Health and Population Legacy Review to assess comprehensively how USAID-supported health and population programs are linked to the lasting outcomes Egypt has achieved during this period of collaboration. The purpose of the review is to draw conclusions about how USAID technical and financial support contributed to the improvements in the health and welfare of the Egyptian people. The review also analyzes lessons learned from this experience with a view to guiding future USAID partnerships with Egypt as well as other countries.

METHODOLOGY AND FRAMEWORK FOR THE REVIEW

The Legacy Review was organized into three phases. The first, a preparatory phase, consisted of (1) acquiring and organizing hundreds of documents and publications describing the Egyptian health and population program; (2) interviews of people associated with the USAID health and population program who have lived or worked in Egypt at various times during the past 30 years; (3) analysis of the data from all Egyptian Demographic and Health Surveys (EDHSs) and other surveys to update demographic and service coverage trends; and (4) identification of programmatic areas for further analysis.

The Legacy team worked to identify specific areas where there is evidence of the link between investments by USAID and the Government of Egypt (GOE) and significant health outcomes. Once identified, these program areas were targeted for exploration in Phase II. During Phase II, the team interviewed people both in the U.S. and abroad who had worked on these areas in Egypt. The team also made a three-week site visit to gather Egyptian perspectives on the 30-year history of accomplishment and remaining challenges. The team interviewed senior officials and program managers from the MOHP,¹ the new Ministry of State for Family and Population, the State Information Service (SIS), nongovernmental and private sector organizations, universities, and training institutes. The team visited eight governorates to consult with governors and health leaders on the operations of the health system in Egypt today, observe village community mobilization activities, and visit primary health care (PHC) units and hospitals. In Phase III, the findings of this review will be disseminated to a variety of audiences in Egypt and the U.S.

THE CONTEXT FOR THE LEGACY REVIEW

Egypt has experienced significant social and economic change over the past 30 years. This context is important to the evolution of Egypt's demographic and health transitions. Egyptian gross national product has registered solid growth, averaging 7%–8% annually, particularly since the economic reforms of 1991–2007. Even with the world food crisis in 2008 and the current global financial crisis, Egypt's economy has continued growing 4%–5% annually. Solid growth in exports (oil, gold, and natural gas) revenues from tourism, international trade and remittances

¹ At times the Ministry of Health and Population was called the Ministry of Health. To avoid confusion and demonstrate continuity, the acronym MOHP is used throughout this paper when referring to this entity.

from some 500,000 Egyptian expatriate workers in the Persian Gulf States have helped to sustain Egypt's economic performance. Per capita incomes and living standards for most Egyptians have risen substantially in recent decades (e.g., by 2007, 98% of all Egyptians had access to an improved water source).² These changes have undoubtedly been important to the improvements in the country's demographic and health outcomes.

However, with current economic growth now averaging only 4%–5%, the country will find it difficult to generate enough jobs and income for its future job seekers. Rising inflationary pressures (especially for food and housing), increasing disparities in the distribution of income, as well as rapidly growing urban congestion and pollution, also pose enormous challenges.

Over the past 30 years, Egypt also achieved major gains in literacy, educational attainment, and employment generation, especially for girls. For example, as of 2007, 95.9% of all school-age girls had completed primary schooling and girls were nearly as likely as boys to be attending secondary and tertiary educational facilities. While official unemployment rates are still higher for women than men, the percentage of women now earning incomes through regular employment in Egypt's formal economy has never been higher.³ Such social change, which occurred over the past half century (two generations), has been truly remarkable.

LIMITATIONS

Given the size and complexity of USAID's support for Egypt's health and population programs, the team had to establish parameters for the Legacy Review. Many broader development activities that probably had health impacts could not be explicitly covered. They include a multi-billion-dollar investment in water and sanitation infrastructure projects, in both urban and rural areas; a public and private sector commodity import program that included health equipment for clinics and hospitals; PL480 proceeds programmed as local currency to support government ministries, including the MOHP; and broad grants to nongovernmental organizations (NGOs) that often engage in health activities. To foster manageability and reduce complexity, the team restricted most of its analysis to programs managed primarily by the Health, Nutrition and Population office of USAID/Egypt.

² World Bank, 2009. "Egypt, Arab Republic: Data at a Glance," devdata.worldbank.org/AAG/egy_aag.pdf.

³ World Bank, 2009. *Statistical Indicators: Genderstats*, (Washington, DC).

II. EVOLUTION OF THE USAID PROGRAM IN EGYPT

EGYPT-USAID PARTNERSHIP

The development collaboration between the U.S. and Egypt began before the Camp David Accords in September 1978, but the commitment of development and military resources grew significantly after the Israel-Egypt Peace Treaty in 1979. Since 1975, USAID has committed a total of about \$75 billion to Egypt. The Congressional earmark for Egypt held at \$815 million until 1998 and then gradually declined to \$250 million in 2009. The 2003 Congressional Budget Justification for Egypt described a planned gradual decline of U.S. development assistance by roughly \$40 million a year (the Glide Path) to plateau at \$415 million beginning in 2008. In fact, rather than plateauing, the allocation between 2008 and 2009 plunged from \$400 million to \$250 million, where it remained for 2010.

HEALTH AND POPULATION RESOURCES

Health and population resources over the 30-year period were substantial at about \$1.5 billion. The program grew from about \$1.7 million in 1976 to \$30 million in 1980, after which it held at about \$30 million through the 1980s. During the 1990s, it increased to between \$30 and \$50 million annually. Between 2000–2009, it averaged about \$37 million. While the amount obligated each year varied somewhat depending on the pipeline and needs of the program, there was consistent and substantial funding for the full 30 years. Annex 4 provides detailed information by fiscal year, listed by project title. The team was not able to assess total GOE spending for programs supported by USAID, although clearly donor funding in Egypt is only a small fraction of total expenditures. Currently, Egypt spends 4.7% of its government budget on health.⁴

PROGRAM STRATEGIC THEMES

The past 30 years have seen a large array of projects (see the project timeline in Annex 5). The strategic priorities of the USAID/Egypt-supported program were often driven by data generated by the Egyptian Demographic and Health Surveys (EDHSs), project evaluations, and program research findings. Most programs were implemented nationwide for broad impact. Since 1995, the program has also focused more on regions of the country that were lagging in program performance.

The following are some of the strategic themes the Legacy Review team identified in its interviews and document reviews.

Increasing Access to Family Planning and Health Services

Starting in the mid-1970s and continuing into the early 1990s, USAID/Egypt's primary focus was on assisting the MOHP and other partners to increase the availability of family planning (FP) and public health services. This involved considerable investment in building or renovating clinics to ensure that services would be accessible throughout Egypt.

Early FP projects included training clinicians to deliver services; developing sustained institutional training capacity; ensuring that commodities were available, with reliable logistical systems in place to manage the commodities; making contraceptives available in commercial outlets; and stimulating development of high-quality NGO services.

⁴ "Rights report calls on Government to up health budget," *Daily News Egypt*, May 13, 2009.

In the 1980s and 1990s, USAID/Egypt supported projects to help the MOHP address the leading causes of childhood death—dehydrating diarrhea, acute respiratory infections (ARIs), and vaccine-preventable diseases—taking advantage of the expanded network of health facilities. As these programs became institutionalized, the joint USAID/Egypt and MOHP-led program focused on reducing maternal and neonatal death rates. At the same time, projects were initiated to address specific endemic diseases, such as schistosomiasis, and to improve Egypt’s ability to respond to new disease challenges.

Improving the Quality of Services

Throughout the 1990s and the 2000s, more attention was focused on improving the quality of services in both health and FP. For example, investments were made to draw up quality standards and protocols for clinical practice, establish quality assurance programs, and introduce facility accreditation.

Since the mid-2000s, part of the effort to both improve quality and facilitate access was to assist the MOHP in strengthening its integrated service delivery structure by expanding the Family Health Model (FHM). Until then, the GOE and USAID had agreed to operate separate projects for FP and for health services to help ensure a strong focus in both areas. The program in recent years has emphasized a more integrated approach, both for services and for supporting programs such as behavior change communications (BCC).

Stimulating Demand for Services and Changing Health-related Behavior

USAID/Egypt and the GOE realized that simply making high-quality FP and maternal and child health (MCH) services available and accessible to the Egyptian people is only part of achieving health impact. Building demand for and continued use of services—sustained behavior change—required other, complementary approaches. For this reason, USAID/Egypt supported a creative variety of communications and behavior change programs that incorporated the latest technologies, partnering with and reinforcing the capacity of Egyptian institutions, which continue to be an important resource for the country today. Besides encouraging the public to better utilize FP and MCH services and avoid infectious diseases, a substantial program of community mobilization helped sustain adoption of positive health behaviors ranging from exclusive breastfeeding to avoiding sick poultry.

Fostering the Sustainability of Improved Services

In the early 1990s, recognition of the importance of sustaining successful programs led USAID to work with the Egyptian government on broader health system issues. Data collection and analysis of the costs of health and FP services, sources of financing for the health care system, equity in the accessibility and utilization of services, and other issues pertaining to the functioning and effectiveness of the health sector gained importance in plans to reform the sector. USAID, together with other partners like the World Bank, the African Development Bank, and the European Union (EU) has been heavily engaged in assisting the GOE with its health sector reform. The current program is designed not only to improve health outcomes, but also to rationalize funding mechanisms to ensure improved access to services and greater long-term sustainability of the health system.

USAID’s health and population programs in Egypt have largely been directed at strengthening public sector programs; its main partners have been the MOHP, the National Population Council (NPC), and other government entities with health responsibilities. This responded to the Egyptian government’s own desire to prioritize the strengthening of public services. Some inroads made with NGO and private sector activities were limited and not enthusiastically embraced by the government. As Egypt enters a period of re-conceptualizing its government

institutions and the role of the state in 2011, some of the structures and policies of the past 30 years in the health sector may evolve in new directions.

III. KEY ACHIEVEMENTS FROM THE EGYPT-USAID COLLABORATION

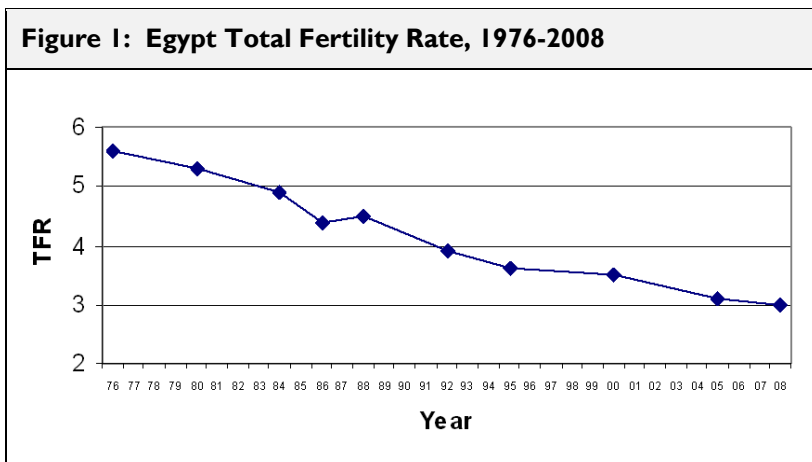
This section presents ten legacies in terms of both demographic and health outcomes and achievements in health systems development. For each, this report presents the evidence of progress, why the achievement is important, how the outcomes were achieved (including the role of USAID support), and analyzes the remaining challenges.

DEMOGRAPHIC AND HEALTH OUTCOMES

Fertility Reduction and Improvement in Reproductive Health

Evidence of Progress

The Egyptian FP and reproductive health (RH) program has achieved considerable success over the last three decades, preventing millions of infant and child deaths and high-risk births in Egypt and saving tens of thousands of mothers' lives. Before the program began in the 1970s, the country had hardly any FP services or products, maternal and infant mortality were high, and population growth was straining the country's resources. In addition, FGM was a nearly universal practice that was not discussed.



For instance, over the 30-year partnership there was a dramatic decline in the total fertility rate (TFR), which fell from 5.6 births in 1976 to 3.0 in 2008. Since 1988, fertility has fallen faster in rural areas, leading to a substantial narrowing of the gap between rural and urban fertility. While all regions have seen significant declines,

fertility fell most dramatically in Upper Egypt, and the gap in fertility rates between Upper and Lower Egypt has almost closed.

Between 1976 and 2008, the total contraceptive prevalence rate (CPR) for all methods increased substantially, from 18.8% to 60.3%. Since 1988, contraceptive use has been increasing more rapidly in rural areas, and the earlier gap between rural and urban areas has narrowed considerably.

Important determinants of fertility—median age at marriage and median age at first birth—have also increased. Between 1988 and 2008, median age at marriage rose from 18.5 to 20.6, and at first birth from 20.8 to 22.5.

Unmet need for FP also fell by more than half from 19.8% in 1992 to only 9.2% in 2008. Most of this reduction took place between 1988 and 1992

and differentials between urban and rural areas have almost vanished. While unmet need for spacing methods fell more rapidly than limiting need, both unmet need components have fallen substantially over the past three decades, despite the low adoption of permanent methods.

Figure 2: Egypt Contraceptive Prevalence Rate (CPR), 1976-2008

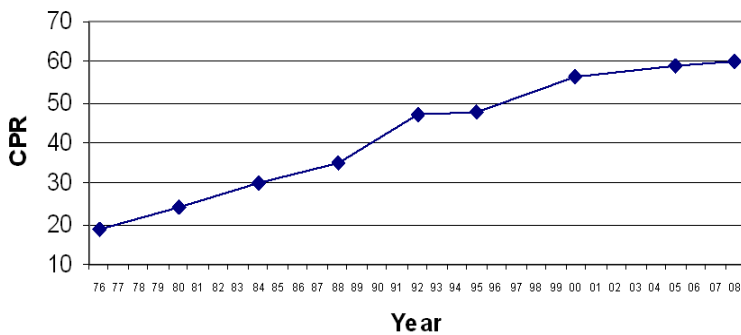
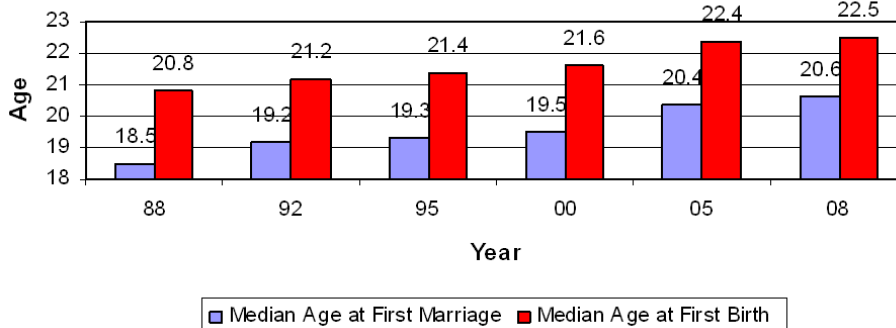


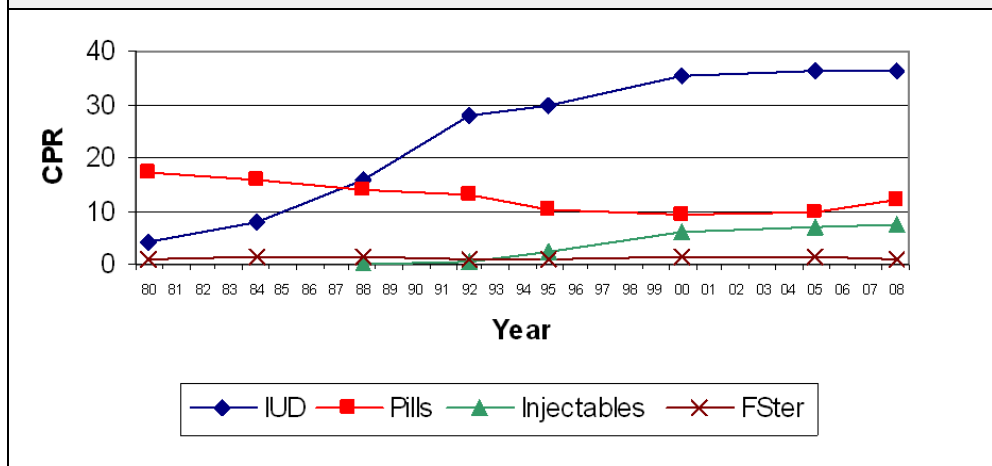
Figure 3: Median Age at Marriage and First Birth, 1988-2008



The availability of modern FP methods and the method mix have improved significantly. The method mix in the mid-1970s reflected a low-prevalence country that relied on pills, mainly supplied through pharmacies. Since the 1970s, there have been substantial gains in the use of interuterine devices (IUDs) and an uptick in injectable use. Among currently married women aged 15–49, IUD use rose from 15.8% in 1988 to 36.1% in 2008, and the use of injectable contraceptives increased from 0.1% to 7.4%.

There is now widespread recognition in Egypt of the dangers posed by female genital mutilation (FGM), and the practice is officially criminalized. According to EDHS data, the percentage of girls who underwent the procedure by age 17 dropped from an estimated 92% in 1995 to 78% in 2008. DHS data also show some reduction in the percentage of women who say the practice should continue. Most importantly, FGM, once a taboo subject in Egypt, is now an issue that can be publicly discussed.

Figure 4: Percentage of Currently Married Women Aged 15-49 Using Individual Modern Methods, 1980-2008 (For Methods with Use Greater than or Equal to 1% in 2008)



Why this Program Is Important

The FP program and slower population growth have benefitted Egyptians in many ways. There is solid evidence that the FP program, with concomitant drops in fertility, was a major contributor to steep declines in infant and maternal mortality. Major gains in FP use also reduced the number of high-risk births (first births occurring to very young mothers, high parity births, and births spaced less than 24 months apart) and lessened maternal depletion resulting from frequent unwanted pregnancies.

Slowing population growth is of great importance to Egypt’s economic development, social stability, and national security. The GOE is striving to reach replacement level fertility (TFR = 2.1) by 2017 in order to keep the population in balance with natural and economic resources.

A 2006 study, updated in 2010, reviewed the progress of the FP program in Egypt and analyzed the health and demographic benefits that have been realized.⁵ It found that investments in FP in the 28 years between 1980 and 2008 resulted in:

- 3.8 million fewer infant deaths;
- Over 7 million fewer childhood deaths;
- Fewer maternal deaths, with over 18,000 mothers’ lives saved;
- A population of 76.6 million rather than 92.2 million, a difference of 15.4 million;
- A total fertility rate of 3.0 rather than 4.5 births per woman; and
- Annual population growth of 1.6% rather than 2.7%.

The estimate of deaths averted was calculated based on the fact that FP greatly reduced the number of children who otherwise would have been born and subsequently exposed to the risk of dying from, e.g., malnutrition, childhood diseases, and poor water and sanitation. The study also revealed that EGP 2.8 billion spent on FP was more than offset by EGP 70.5 billion estimated savings in child health, education, and food subsidies. Other sectors (such as general health, housing, employment and the economy) also benefitted from the FP program.

⁵ Moreland, S., 2010, “Egypt’s Population Program: Assessing 28 Years of Family Planning” (Washington, DC: Futures Group International).

Combating FGM is important because the practice is internationally recognized as a violation of the human rights of girls and women. The procedure injures female genital organs for nonmedical reasons and has no health benefits. In addition to the psychological trauma it causes young girls, it often leads to long-term marital disharmony. The practice can cause severe bleeding, chronic infections of the reproductive and urinary tracts and may lead to childbirth complications and newborn deaths due to severe scarring of the genitalia.

How Progress Was Achieved and the USAID Role

The history of population policy and FP program development in Egypt has not been a linear progression, but has multiple complementary dimensions that matured over time. International donor agencies played an important role in the evolution of the Egyptian FP program from the early days; USAID has been a major partner since the mid-1970s.

Initially, the FP program was intended to slow population growth and reduce pressure on Egypt's limited resources. Before 1975, it was mainly a pill-only program but it had a clear impact: the CPR rose from 10% in 1970 to 18.8% in 1976. In the mid-1970s, influenced by the 1974 Bucharest Population Conference, Egypt added a new thrust to its FP efforts by launching the Population and Development Program (PDP). The PDP, an ambitious approach to creating demand for FP services, was supported by numerous international donors, among them USAID, the World Bank, and United Nations Population Fund (UNFPA). The approach was to make FP outreach an integral part of comprehensive community rural development projects. However, it did not increase contraceptive prevalence appreciably. A valuable lesson was learned—that dedicated FP services were the most direct way to lower fertility and that diffusing FP field worker efforts to other development issues, no matter how worthy, did not raise contraceptive prevalence. In other words, FP, not development, is the best contraceptive. Based on this important experience, the PDP model was abandoned and the focus switched to expanding FP services and increasing demand for them.⁶

Lesson Learned

Because cultural and social sensitivities affect family planning, unlike other health programs, such as treating sick children, special attention must be given to introducing and building family planning services. Otherwise, they could be neglected given the pressure to respond to more urgent curative care needs.

The mid-1980s marked a major breakthrough for the Egyptian FP program. Beginning in 1985, efforts were directed to a more vertical program, which by expanding access and availability achieved considerable results. USAID/Egypt's involvement in FP grew in size and complexity; USAID became the largest donor supporting the program. USAID built a broad-based portfolio, seizing on many opportunities within the public, NGO, and private sectors. After careful analysis, in 1993, the numerous projects were consolidated into fewer, more cost-effective programs.

During these years, the USAID-Egypt partnership implemented comprehensive projects addressing high fertility. These consecutive projects built on each other's gains, learning from the past. The projects supported both supply-strengthening and demand-creating activities based on four pillars: services, research, policy, and information, education, and communication (IEC)⁷.

Following the 1994 International Conference on Population and Development in Cairo, emphasis shifted from demographic objectives (reducing fertility and population growth) to improving the health and survival of mothers and children. The Egyptian FP program began to emphasize integrated models of RH and FP. In the 2000s, integrating vertical MCH and FP

⁶ Robinson, W.C., and El-Zanaty, F. 2006, *The Demographic Revolution in Modern Egypt*, New York: Lexington Books, 2006. p. 63.

⁷ Ibid., p. 83.

projects and consolidating them under umbrella programs became a strategic theme in USAID programs. Since the mid 2000s, USAID-supported activities have focused on increasing utilization of integrated FP/MCH services at hospital and primary health care (PHC) facilities while promoting positive behavior change in communities. The projects also contribute as the country moves to reform the health sector and transform its PHC facilities into integrated FHM facilities.

Close collaboration with the GOE and other implementing partners:

USAID built excellent relationships and worked closely not only with the GOE, but with over 20 implementing partners, including parastatal agencies, public and private universities, research organizations, NGOs, and private sector organizations. In addition to the MOHP and the National Population Council (NPC), the Ministries of Information and Social Affairs, the SIS, the Teaching Hospital Organization, Muslim and Christian religious leaders, the Egyptian Pharmaceutical Trading Company, and Clinical Services Improvement (CSI), Family of the Future (FOF) and numerous other NGOs were involved. Over time, based on performance and need, some programs were selected for further support, some were able to garner other resources, and some that did not prove effective either shrank or closed down their efforts. The overall result was that awareness of population issues increased, demand for FP services rose appreciably, and discussions in Egypt of fertility and contraceptive use were largely desensitized.

Focus on institutional and human capacity development: Important to a successful FP program is reinforcing capacity at all levels. USAID/Egypt projects provided extensive long-term technical assistance through co-location of technical advisors and short-term technical assistance. Key public and private institutions trained thousands of professionals in numerous competencies, resulting in notable improvements in such areas as provider competence and counseling, supervision, strategic planning, and program monitoring and evaluation (M&E) in participating institutions.

USAID/Egypt provided NPC with significant support to capacity building through staff training,



An Ask-Consult pharmacy in Alexandria with HIN1 materials on display.

Photo by Leslie Curtin

Lesson Learned

The 'big tent' approach was necessary in the early days of the family planning program to entice and support all interested parties to engage in population and family planning activities. Careful analysis then helped prune and refine the program to select the most cost-effective approaches to yield the best outcomes.

creation of planning and coordination capacity at the governorate level, and creation of research management and evidence-based programming capacity within the NPC Secretariat. Under the auspices of NPC, a Regional Center for Training (RCT) in FP and RH was created at the Ain Shams University. (USAID/Egypt's contributions to institutional and human capacity building are discussed in greater detail later in this section.)

Making FP available and accessible through public, commercial, and NGO channels:

The programs followed a multi-channel approach to strengthen public, NGO, and private commercial capacity to provide high-quality FP

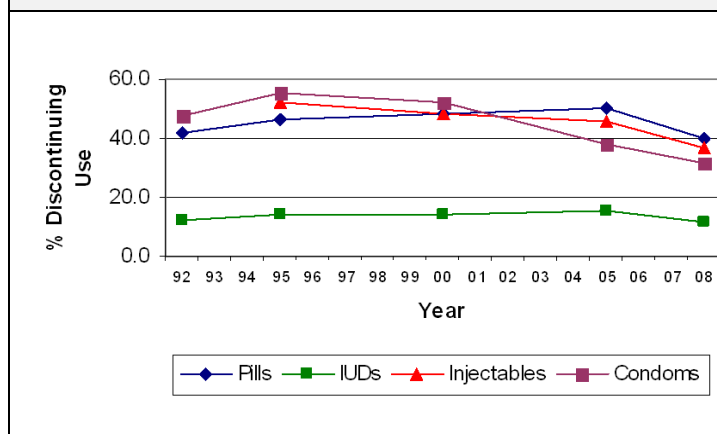
services. The most impressive example in the public sector was the MOHP Systems Development Project, in which thousands of clinics substantially improved their clinical performance, and staff was trained in all aspects of providing FP services and program management. Multi-level management systems, including management information systems (MIS) and supervision and revenue collection procedures, were institutionalized. Finally, the last building block of the project, the MOHP Gold Star Program, was introduced to recognize quality services.

The Clinical Services Improvement Project (CSI) was an example of building service delivery capacity in the NGO sector. Its achievements were based on an entrepreneurial and client-oriented approach that served as a model of quality for other NGOs and the public sector. Founded in 1988 as a joint effort of USAID, the Ministry of Social Affairs, and the Egyptian Family Planning Association, CSI clinics became known for their dedication to high-quality service and effective clinical performance.

USAID/Egypt invested in increasing the demand for and availability of contraceptive methods in the private sector through social marketing. Programs obtained free contraceptives from USAID and made them available to private and NGO providers. Pharmacies quickly became the major source for pills and condoms and private physicians the main providers of IUDs. During the 2000s, USAID/Egypt used multiple channels and approaches to behavior change, including mass media, electronic and information technology, and well-publicized governorate, district and community events. Since 1995, USAID/Egypt has not funded commodity-based social marketing but rather supports the ability of private commercial providers, especially pharmacists and private doctors, to provide quality FP services. As part of a wide range of activities for both consumers and providers since late 1995, the *Ask-Consult* campaign has successfully promoted commercial services and improved client-provider interaction in 30,000 pharmacies.

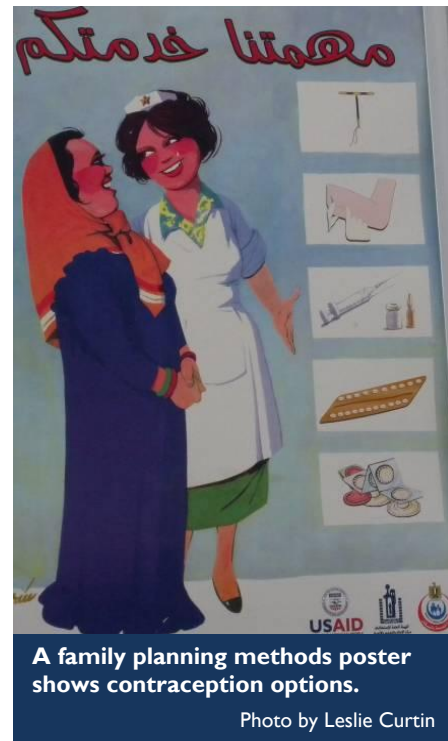
Improving quality: Egypt/USAID partnership gave high priority to improving standards of FP practice, both public and private. These programs were directed to improve clinic performance, especially in infection prevention and client counseling; physical conditions at clinic sites; management systems to improve team functioning; and monitoring systems to measure compliance with standards. Since the 2005 EDHS, more attention has been given to reducing the high rates of method discontinuation owing to side effects or rumors about the methods. Some progress has been made in reducing discontinuation rates by improving counseling skills, but this area still needs attention. (USAID's impact on achievements in quality improvement is discussed in more detail later in this section.)

Figure 5: Twelve Month Contraceptive Discontinuation Rate by Method, 1992-2008



Expanding FP method choice: The increase in the CPR in the 1980s and 1990s was largely due to the introduction by USAID of the Copper T 380A intrauterine device (IUD) in the mid-1980s. This IUD, which can remain in place for several years, quickly became the preferred method among women, and demand rose sharply. Making the IUD widely available in both public and private facilities was a critical breakthrough leading to significant increases in the CPR.⁸ Later, the injectable contraceptive, Depo-Provera, and the long-term contraceptive implant, Norplant, were introduced on a trial basis. Depo-Provera quickly became popular among women and further expanded method choice. More recently, in collaboration with the private sector, progestin-only pills and one-month injectables were introduced.

Increasing demand for services: Programs to improve knowledge of, attitudes toward, and use of modern contraception have been central in Egypt's successful long-term efforts to increase CPRs. A full description of this BCC program is found later in this section.



Renovation of facilities and provision of equipment: Due to USAID contributions and investments in infrastructure, clinic renovations, and the refurbishment and provision of equipment, the program was able to move from a primary focus on access to services to a broader program of improving quality, increasing demand, and ensuring the sustainability of FP services. Infrastructure improvement activity began with the Urban Health Delivery Systems and Strengthening Rural Health Delivery Projects in the late 1970s and early 1980s, but facility renovation and provision of equipment have been components of most USAID projects throughout the 30-year period. The visibly improved clinics became a resource that communities were proud of and eager to maintain. USAID projects since 2002 have emphasized mobilizing communities as well as the availability of quality services, which inspire trust and increase utilization of facilities.

Provision of contraceptive commodities and achieving contraceptive security: For many years, USAID was the largest donor in Egypt supplying public and private sector contraceptives, along with technical assistance in contraceptive logistics management. Until 2004, it continued to be the major provider of IUDs and injectable contraceptives to the public sector. This assistance was also aimed at building local capacity to forecast needs, budget for and procure contraceptives, and ensure logistical quality control. These capacities are now institutionalized.

In 2004, USAID and the GOE began working on a plan to enable the GOE to assume financial and technical responsibility for procuring and managing contraceptive supplies. From these efforts, a contraceptive security strategic plan was drawn up. By 2007, the GOE had assumed complete responsibility for contraceptive procurement and management.

Contraceptive security can be defined as the capability of all persons to choose, obtain, and use high-quality contraceptives whenever they need them. According to this definition, contraceptive security is now high in Egypt. The 2008 EDHS reveals that very few women who

⁸ Ibid., p. 89.

are not using, and do not plan to use, contraceptives cite lack of access (0.1%) or cost (0.1%) as reasons for non-use.

Raising awareness of FGM negatives: Since very little information was available before 1995, FGM was a socially taboo subject for public discussion and its pervasiveness was not realized. With USAID/Egypt support, a module on FGM was included for the first time in the 1995 EDHS. The survey found that the practice was nearly universal among women of reproductive age.

The initial reaction among policy makers was disbelief and a desire to verify the information. Because of their close partnership, the MOHP, the NPC, and USAID/Egypt were able to verify the findings, and moved to take action rather than suppress the information. The emergence of FGM as a public health issue is an important case study in the benefits of using survey research to raise awareness of health and social issues that are not fully appreciated and understood. Just making nationwide data on FGM available was a substantial contribution, especially as the pervasiveness of the practice had been underestimated by decision-makers.

In cooperation with the GOE, local NGOs, and other donor agencies, USAID/Egypt supported interventions to combat FGM, including training health care providers on the hazards of the practice and using mass media programs to emphasize its harmful effects and the importance of eradicating it. Since 2002, USAID/Egypt supported community activities to discourage the practice, often by working with local religious leaders. Combating FGM was a high priority for the former State Ministry of Family and Population. The Ministry implemented a large FGM project through several local NGOs that was directed towards reducing social pressure on families and addressing the medicalization of FGM. The initiative, begun in 2003, is supported by USAID and six other international agencies.

Remaining Challenges

Continued high population growth: Over the past 30 years, Egypt's crude birth rate has fallen dramatically owing to the success of its FP program. However, the rate of population growth has not fallen as rapidly because mortality rates, especially among infants and children, have also plunged. Egypt's current annual population growth rate is 1.9%, which, if held constant, will double the country's population in 36 years. In addition, population momentum, driven by the large cohorts of young adults now entering their reproductive years, will ensure that the population will continue to grow for many decades even once replacement fertility is reached.

Stalled FP program performance: Between 1976 and 2000, Egypt's TFR declined steadily and the use of contraception continued to rise. However, both show signs of plateauing. The upward trend in the CPR has flattened since 2003, and the decline in TFR has slowed since 2003, coming almost to a standstill between 2005 and 2008. The three-child family norm is a major contributor to the slowdown in FP performance. For 20 years, the ideal number of children has stagnated at 2.9 children, which is very close to the current fertility rate of 3.0. Further increases in CPR and declines in fertility require not only a renewed impetus on reducing unmet FP need, expanding the availability of long-term methods, and quality assurance but also concerted efforts to change family norms. Stimulating a major shift in ideal family size is a continuing social challenge for the GOE and civil society.

Political support for population issues and FP fluctuated in recent years, as attention and resources were diverted to mega-development projects. The National Population Conference held in 2008 was part of an effort to renew commitment to resolving population issues. The establishment of the Ministry of Family and Population in 2009 was a positive step toward renewing awareness of population issues and raising the status of the FP program. However, that Ministry's role was limited in scope and in February, 2011, its functions were merged back into the MOHP.

Shifting priorities might also have played a role as the push toward greater program integration over the past decade reduced emphasis on FP. There is concern that FP is losing focus within the integrated FHM, as more resources and attention are given to service integration. A recent study commissioned by UNFPA indicates that the FHM model, if implemented as originally designed, will have a negative impact on utilization of RH services at the health facility and community levels.⁹

Barriers that face Private Sector involvement in FP: Despite USAID’s efforts to support the involvement of the private sector in providing FP services, policy barriers and restrictions continue to slow the sector’s growth. Data from the 2008 EDHS shows that the public sector accounts for not just a large, but a growing share of FP methods, having risen from 35% in 1992 to 60% in 2008. Price controls on commercial contraceptives are a significant disincentive for pharmaceutical company participation in the FP market. The MOHP also continues to subsidize public sector contraceptives. Finally, significant improvements in the quality of public FP service have narrowed the quality gap between the public and commercial sectors and had an unintended negative impact on growth of the private sector.

Medicalization of FGM: FGM is still a widespread practice that is deeply embedded in Egypt’s culture and customs. Although it is now officially outlawed, physicians still perform 72% of all FGM procedures in the country.

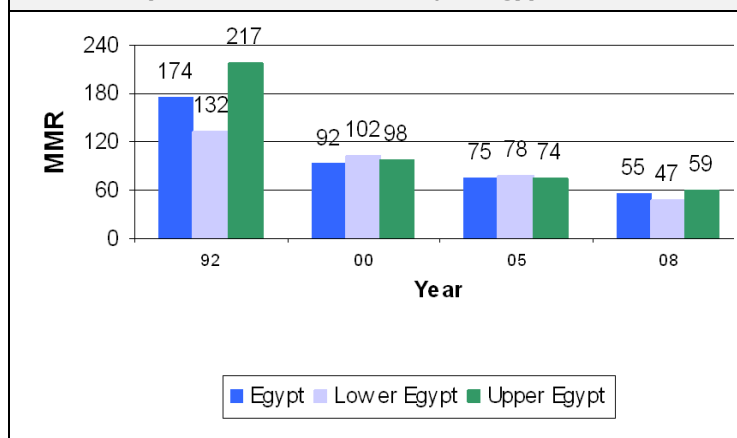
Safe Motherhood

Evidence of Progress

Impressive improvements in maternal health care are saving women’s lives throughout Egypt. The changes were accomplished in less than eight years (1993–2000) by employing a systematic approach to addressing avoidable causes of death. An essential package of MCH services and standards for antenatal care (ANC) and postnatal care, delivery, essential obstetric care, neonatal care and preventive child health was applied in targeted governorates, reducing suffering and increasing lives saved.

The maternal mortality ratio (MMR) (maternal deaths per 100,000 live births) was reduced from 174 in 1993 to 84 in 2000 as measured by two National Maternal Mortality Studies. A further decrease has been reported by the National Maternal Mortality Surveillance System (MMSS), from 84 in 2000 to 55 in 2008. Between 1993 and 2008, Upper Egypt, the area first targeted by joint MOHP-USAID programs, experienced a 72% decrease in MMR, which fell from 217 to 59 per 100,000 live births.

Figure 6: Maternal Mortality Ratio (Maternal Deaths per 100,000 Live Births) in Egypt, 1992-2008



Why this Program Is Important

Efforts to make pregnancy and childbirth safe throughout Egypt save the lives of women and newborns and reduce needless suffering. A mother’s health also profoundly affects the health

⁹ El-Zanaty & Associates, 2008, Study on Reproductive Health Impact of Family Health Model Pilots in Egypt.

and wellbeing of her children. The tragedy of a woman's premature death is compounded by the severe consequences it can have for her surviving children. Ensuring that skilled providers apply basic interventions at delivery and postpartum can also protect newborns from the major causes of neonatal death. The benefits to society as a whole of reduced maternal deaths are very clear: families are saved the anguish of the loss, their economic and social wellbeing is enhanced, young children are more likely to grow and prosper normally, and the woman's role as key caregiver, educator, and anchor in every Egyptian household is protected.

There has been a clear shift in awareness of and attention to maternal deaths both within the community and among health providers. Women and their families are recognizing obstetric problems and seeking medical advice earlier. Safe Motherhood Committees (SMCs) in each district and governorate meet to review cases of maternal death and, most importantly, plan for and take action to prevent further such deaths. This signals the increased value given to women's lives and the importance to every woman of optimum care during pregnancy and delivery.

Egypt is on track to achieve Millennium Development Goal (MDG) 5 of improving maternal health. The target aims at reducing the MMR by three-quarters between 1990 and 2015. Egypt has already reduced its MMR by 68% since 1992 and has the technical capacity to fully achieve the goal.

How Progress Was Achieved and the USAID Role

Establishing the evidence: In 1993, the first national Maternal Mortality Study documented the MMR in each governorate and also determined some avoidable causes of maternal deaths. Obstetric complications—especially postpartum hemorrhage, eclampsia, infections, prolonged or obstructed labor, and complications of abortion—accounted for the majority of maternal deaths. Anemia, which is very prevalent in women of reproductive age in Egypt, heightened the risk of death from hemorrhage. Yet most of these conditions could have been prevented or treated with good-quality RH services, ANC, skilled health workers assisting at birth, and access to emergency obstetric care. Maternal and child health specialists recognized that when life-threatening complications arise, a referral system from the community to the hospital and ready access to emergency obstetric care in both public and private facilities would be crucial to ensure that better care could be provided more promptly. Based on this information, the MOHP and USAID planned a program to systematically address the major causes of maternal death in the areas with the highest MMRs.

Although Egyptians have excellent access to health services, the MMR in some governorates was unacceptably high due to substandard emergency obstetric care in some health facilities and other controllable factors, such as delay in seeking care and lack of ready transportation. Tackling the avoidable causes of maternal death formed the basis of joint MOHP and USAID plans and resource allocations for essential obstetric care and emergency obstetric care. Interventions to reduce maternal mortality were put in place using an approach that integrated policy, technical, management, and community-based components. The program sought to strengthen the quality and efficiency of health services for pregnant women within both public and private health care systems.

Quality and efficiency of services: The MOHP and USAID as partners worked together to define the essential package of MCH services and standards for antenatal and postnatal care, delivery, essential obstetric care, neonatal care, and preventive services for child health. The services package combined best practices with the promotion of behaviors and interventions that are essential for saving lives and reducing morbidity among women and children. The standards cover essential equipment, supplies, drugs, staffing, the physical condition of structures, infection control, record-keeping, and administration. In 2004, the MOHP officially

approved the essential obstetric care and neonatal care service standards as national standards for all public health facilities, paving the way for sustainable change nationwide in the quality of care.

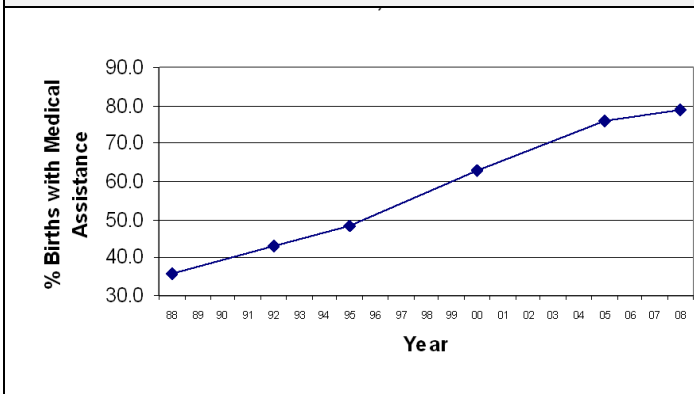
Standards of care for basic and emergency obstetric care were first introduced into the health system in target districts and later in other governorates. Avoidable causes of death due to mismanagement by doctors in hospitals were reduced through on-the-job training (OJT) and supervision to support practitioners in mastering how to manage obstetric complications according to standards of practice. Competency-based training was used to improve the skills of health personnel to meet the clinical performance monitoring indicators. At the same time, facilities were renovated to ensure that they were capable of providing quality services. Essential equipment and supplies were also provided.

Targeting Upper Egypt: Investments in maternal health were first targeted to the geographic areas with the highest MMR: the underserved governorates of Upper Egypt. A total of 253 facilities in the 75 target districts received a package of renovation and essential equipment, drugs, and supplies to upgrade obstetric and neonatal care to meet the standards for each level of care. Facilities included in the upgrade were general hospitals, neonatal care units, district hospitals, and other rural and urban hospitals and centers. Special initiatives also improved standards in emergency medical services, anesthesiology, infection control, blood banks, and laboratory services. As a result, an estimated 22.9 million people in nine Upper Egypt governorates and two slum areas now have better access to essential obstetric and neonatal care. Among them are an estimated 2.6 million women of reproductive age and some 661,500 infants born each year.

Improving maternal health services: The first Maternal Mortality Study showed that obstetricians and other medical personnel did not consistently follow evidence-based standards. Reducing maternal and newborn mortality depends on implementing clinical practice standards and monitoring them through active quality improvement programs. Therefore, one of the first steps the MOHP-USAID program took was to introduce protocols and standards of clinical practice and the use of tools such as partographs. The standards were drawn up through a collaborative process involving representatives of the MOHP, university staff, and other technical experts. Disseminated, adopted, and implemented throughout Egypt, they were updated in 2009.

The increase in births attended by a trained provider was excellent; medically assisted deliveries increased from 35% in 1988 to almost 80% in 2008. This change is thought to be a result of many factors: an MOHP policy to promote trained medical providers and phase out *dayas* (traditional birth attendants); a program to train nurses in midwifery skills; improved care in facilities; and more awareness of the importance of good obstetric care to save the lives of mothers and babies.

Figure 7: Percentage of Births 5 Years Prior to Survey Medically Delivered by Doctor or Trained Nurse/Midwife, 1988-2008

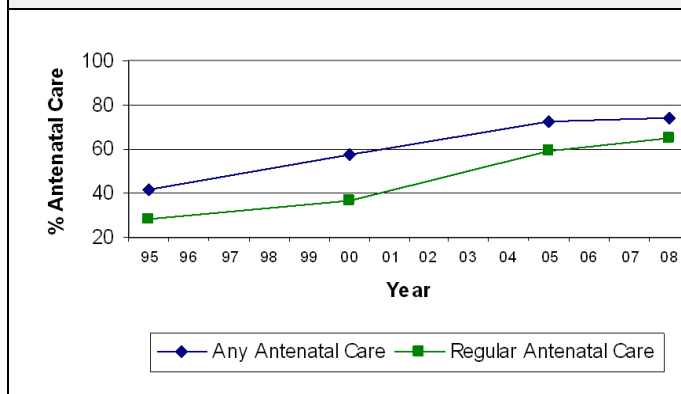


Over the past several decades, FP has increased throughout the country, reducing high-risk pregnancies and helping to space births. Births that are too close together, too early, or too late in a woman’s life decrease the chances of survival for both mother and infant. By helping women space births at least three years apart, bear children during their healthiest years, and avoid unplanned pregnancies, FP has prevented innumerable maternal and child deaths in Egypt.

The MOHP policy for antenatal care calls for monitoring the progress of pregnancy and regularly assessing maternal and fetal well-being routinely for all pregnant women. At least four antenatal visits are recommended and should cover detection of problems complicating pregnancy (e.g., anemia, hypertensive disorders, bleeding, mal-presentations, and multiple pregnancy); preventive health care interventions, such as tetanus toxoid immunizations; and iron, folate, and iodine supplements. Mothers also need education and counseling on breastfeeding, birth preparedness, and nutrition as well as access to an adequate diet during pregnancy.

Severe pregnancy-related complications should be treated, and referrals made as necessary. Support should also be given to women with special needs, such as girls who become pregnant in their early teens. In Egypt, there has been progress in encouraging women to obtain prenatal care: the average number of pregnant women receiving four or more ANC visits per pregnancy rose from 28.0% in 1995 to 65.1% in 2008 (EDHS). These visits can protect the health of both women and babies.

Figure 8: Percentage of Births 5 Years Prior to Survey with Any and Regular Antenatal Care (4 or More Visits), 1995-2008



Management and supervisory systems are in place to support the provision of quality services. The MOHP has enhanced its capacity to set standards, policy, and management systems for cost-effective MCH services. It has consolidated its Health Information System (HIS) so that all data essential for monitoring and management are collected while minimizing the reporting burden on facilities. Planning, budgeting, supervision, and support to districts at the governorate level have also been strengthened.

To create a sustained, self-sufficient system for measuring maternal mortality, the Maternal Mortality Surveillance System (MMSS) was instituted in 2001 at all levels of the health system. Its purpose was to identify maternal deaths and analyze and discuss factors contributing to mortality. This system contributed to building GOE capacity to independently undertake studies on maternity care and craft strategies for reducing risk before and during delivery. At the same

time, SMCs were created to review MMSS findings and take appropriate action. Governors and Undersecretaries of Health provided political support for creation of these committees. The committees changed the orientation of health providers from cover-up of negligence to promotion of professional discussion.

In recent decades, communities have become more aware of danger signs during pregnancy, delivery, and postpartum. Awareness of the actions that can be taken on behalf of mothers has encouraged families and *dayas* to bring women for urgent care earlier. After two national mass media campaigns and other communication approaches, the 2000 Maternal Mortality Study documented a decrease in the percentage of deaths due to delay in care-seeking from 42% in 1992–93 to 30%.

Remaining Challenges

Leadership: Stronger leadership is required at the central level of the MOHP for SMCs, transparency in MMSS results, and quality review of governorate MMSS data. The many district and governorate teams that track and report maternal deaths should receive encouragement to continue and intensify their efforts. Weaknesses in the system that have been recognized should be attended to. Also, according to the MOHP 2005 and 2008 data, the MMR may have leveled off, especially in Upper Egypt. While an achievement of an MMR of 55 shows the incredible progress Egypt has achieved, most industrialized countries are estimated to have an MMR of 12 or less.

Antenatal and Postnatal Care: Although the proportion of women who receive ANC regularly has more than tripled in the past 13 years, there has not been enough focus on the quality of such ANC and postpartum care. Quality ANC should provide a comprehensive package of health and nutrition services. It also appears that the content of ANC visits needs to be improved. The 2000 National Maternal Mortality Study called attention to the fact that a lack of ANC (19% of cases) and poor quality ANC (15%) were contributing significantly to maternal deaths. For example, if blood pressure was checked at each encounter, women at risk of eclampsia could be identified and treated, which could help reduce deaths from hypertensive disease (the second most common cause of maternal deaths in Egypt). Coverage of ANC is lowest among women in rural Upper Egypt and those in the lowest wealth quintiles, indicating the need for additional work to promote use of health care by these groups.

Similarly, a postnatal visit should be conducted by a trained provider for every mother and newborn, ideally within two days of birth. Proper care after delivery is especially important for births occurring in the home (28%, according to the 2008 EDHS). The MOHP recommends at least four postnatal care visits, the first within two days of delivery, another at 7 and then 15 days, and the last at 40 days. The 2008 EDHS reveals that 64.6% of all mothers, but only 31.2% of their newborns, received a postpartum check up within two days of delivery. Interestingly, 90.1% of mothers reported that a blood sample was taken from their infant's heel within two weeks of delivery as a check for hypothyroidism. This visit to a health facility for the blood sample should be used for other interventions, such as promotion of breastfeeding.

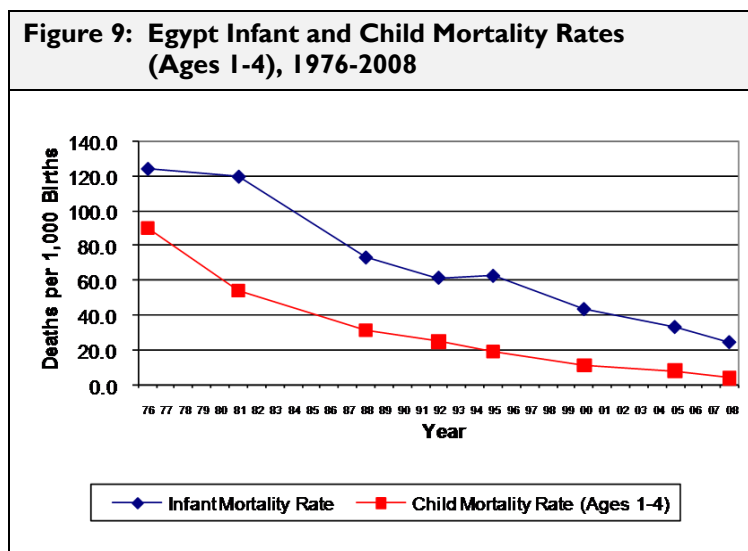
The goal needs to be a continuum of care for women and their children that includes prevention of unplanned pregnancies; high-quality ANC and delivery care, including emergency obstetric care; and postpartum care for mothers and infants, with a functioning referral system linking the services. The Integrated Standards of Practice (ISOP) define these service standards and they should be reviewed and upgraded based on recent experiences.

Chronic Disease: Overweight and obesity indicators are high among married women in Egypt: the 2008 EDHS found 40% to be obese. Obesity increases the risk of pregnancy complications and may contribute to the high rates of caesarean sections in Egypt. The burden of chronic

disease in Egypt has a clear relationship with RH in terms of hypertension and diabetes in pregnancy and contraceptive choice for women with cardiovascular conditions and risk factors.

Infant and Child Health Improvements

Evidence of Progress



Over the past 30 years, improvements in infant and child health in Egypt have been dramatic. Early childhood mortality levels have declined steadily in every socioeconomic and geographic segment of the Egyptian population. The infant mortality rate (IMR) has been reduced from 124 per 1,000 births in 1976 to 24.5 in 2008 (EDHS 2008)—an 80% decrease. The death rate of children under 5 (the under 5 MR) was reduced from 203 per 1,000 births in 1976 to 28 in 2008—an 86% decline.

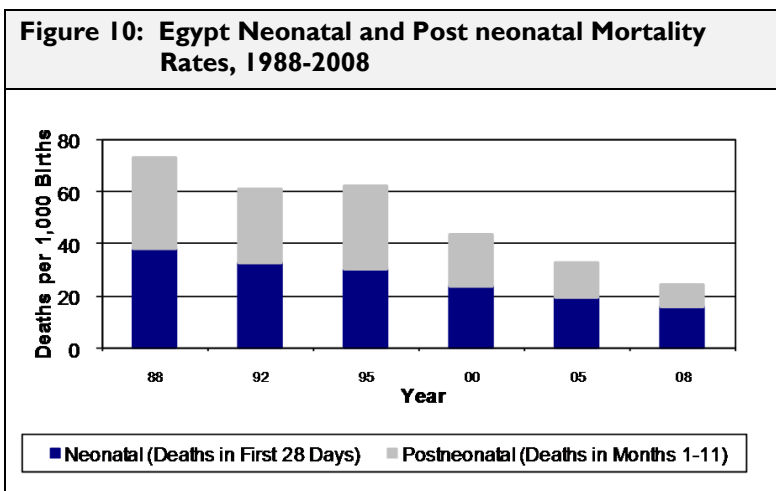
Neonatal mortality (deaths occurring within the first month of life) was 53 deaths per 1,000 births in 1976 and 16 in 2008—a 70% reduction. However, as is usually the case, the proportion of deaths among newborns has increased as child death rates have generally decreased.

National child survival programs led by the MOHP have been largely responsible for the outstanding progress in child health. The Expanded

Program of Immunization (EPI) increased full vaccination against six vaccine-preventable diseases from 67% in 1992 to 92% in 2008 for children 12–23 months, and in 2008, 96% of Egyptian children received three doses of hepatitis B (HBV) vaccine.

The incidence of all vaccine-preventable diseases has dropped. For instance, a concerted effort to reduce neonatal tetanus through vaccination of pregnant women pushed down annual tetanus-related newborn deaths from 6,000-7,000 in 1980s to only 11 in 2009. According to EDHS 2008 results, slightly more than three-quarters of last-born children during the five-year period before the survey were fully protected against neonatal tetanus.

Dehydrating diarrhea caused an estimated 50% of infant deaths in 1977 before oral rehydration salts (ORS) were introduced. GOE data show that after ORS were introduced in a nationwide program, between 1982 and 1987, mortality from diarrhea dropped 82% in infants and 62% in



children under 5. WHO reports that in 2004, 13.8% of deaths of Egyptian children aged under 5 years were due to diarrhea.

Acute Respiratory Infection (ARI) interventions were also a central element of the Child Survival Program. In 1990, pneumonia was the leading cause of infant and child mortality; MOHP data indicate that ARI-related infant mortality declined 35% by 1996, another 14.6% between 1996 and 2000, and another 11.7% between 2000 and 2004.¹⁰

Why this Program Is Important

Simple, cost-effective health measures, such as birth spacing, have saved millions of children in Egypt. An Egyptian child was almost six times as likely to die before reaching five years-old in the mid-1960s as in the early 2000s. Between 1982 and 1989, 300,000 fewer children died simply because diarrheal deaths were reduced due to widespread knowledge and use of ORS. Health care for infants and children is better in both public and private facilities. When parents bring their children for health services, they receive good quality care.

In Egypt, as elsewhere, children are the most important investment in the country's future. The societal benefits of reduced infant and childhood mortality are well-substantiated. Well-nourished and healthy children perform better in school and over time become economically and socially more productive. The premature death of a child, in addition to being a tragedy for the family and community, robs the country of the human capital it needs to prosper.

Lesson Learned

The ability of the Egypt-USAID partnership to build child health programs sequentially, within a long-term relationship, contributed to program achievements and sustainability. Effective vertical child survival interventions were brought together in broader health programs and new initiatives were built on this foundation.

How Progress Was Achieved and the USAID Role

More than any other segment of the health system, child health has benefited from the long-term USAID-GOE partnership in the health sector. Long-term USAID commitments and the priority the GOE has given to child health, coupled with ample resources for national coverage, permitted a sequential approach. Over the past 30 years, successive investments have laid a foundation for first increasing access to PHC for all communities and then step-by-step building in key elements of child health care. Cost-effective interventions prevented some childhood infections and helped to treat others and save lives. Units for specialized care of at-risk newborns have been added to hospitals.

Early collaborative programs expanded geographic access to PHC units, first in rural areas and later in urban centers. Once these units were widely accessible, attention turned to broadening the services they provided. For example, rural PHC units are very active in schistosomiasis screening and treatment.

Diarrheal Disease: The first child survival intervention introduced into the Egyptian health system was the USAID-supported Control of Diarrheal Disease (CDD) Program started in 1982. Dehydration due to diarrhea was the leading cause of death among children under 5 in Egypt in the 1970s and early 1980s. The

Lesson Learned

Once Egyptian mothers learned to prepare ORS for their sick children to save them from dehydration and possible death, this boosted the confidence of the mothers, encouraging them to learn more about caring for their children's health. The concept of "health competence" recognizes that once a person is successful in learning a new skill, it becomes easier to add other behavior changes.

¹⁰ WHO, 2009, "Distribution of Causes of Death Among Children aged <5 years (%), 2004," *World Health Statistics*, 2009 (Geneva).

National CDD Program and the MOHP implemented a nationwide effort to promote the widespread use of oral rehydration therapy (ORT). Mass media was used to increase the mothers' awareness of the dangers of dehydration, the need for continued food and fluids for children with diarrhea, and to create demand for the Egyptian ORS product. By 1986, 99% of mothers knew about ORS. Training of nurses, doctors, and pharmacists in diarrhea case management was central to improving care and helping mothers learn how to mix and give ORT to their children; by 1990, providers countrywide were using ORS. Another important element was ensuring an effective distribution system so that ORS were available everywhere. By 1989, ORS packets could be found in almost every public clinic and private pharmacy in the country. The ORS product that was introduced and manufactured in Egypt, promoted to mothers, and widely adopted is still universally available and inexpensive.

Immunizations: Extending and strengthening the EPI was the second of twin engines of child survival. Fundamental elements of the EPI system built through the USAID-GOE partnership included:

- The network of trained personnel;
- Primary Health Care (PHC) units equipped for vaccination;
- Extension of the cold chain throughout the country;
- Implementation of a timely and accurate MIS;
- Passive and active surveillance of vaccine-preventable diseases; and
- Ensuring steady vaccine supplies.

Close donor coordination was important to the success of EPI. WHO, UNICEF, and Rotary International each had a major role in technical leadership, commodity assistance, and other program support.

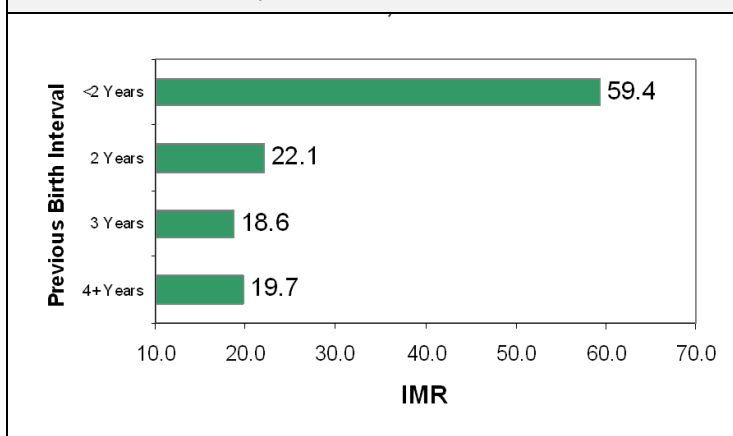
In 1992, the GOE committed to taking on all vaccine procurement and distribution and by 1996 was fully funding the routine costs. Such sustained funding and management of the national program has been critical to achieving and maintaining immunization coverage at about 92% for the six childhood antigens.

Acute Respiratory Infections: In 1989, ARI was the leading cause of infant mortality in Egypt, and in 1990, pneumonia was the leading cause of child mortality (most deaths result from pneumonia with bacterial etiology), killing almost 11 infants per 1,000 live births and 1.6 per 1,000 children aged 1–4. Statistics for those years show that 30% of infant deaths were ARI-related. Rates of rheumatic heart disease due to untreated streptococcal throat infections were also high, even as simple colds and coughs were often over treated with antibiotics. The National ARI Program was initiated in 1990, as part of the MOHP-USAID-supported child survival programs, with the goal of reducing infant mortality from ARI by 25% by 1995. The program particularly targeted infant and child mortality and morbidity from pneumonia and the inappropriate use of antibiotics for ARI. Standard case management guidelines for the treatment of ARI in children were applied throughout the national health system, with excellent results.

Broadening Vertical Programs: The MOHP has sustained the solid vertical EPI, CDD, and ARI programs while adding interventions for further child health improvements, in part through GOE funding allocations. The specific line item for diarrhea control in the MOHP budget, created for the initiative, was made permanent and allocated substantial funding. This precedent had significant implications for sustainability. These vertical programs were also brought together within the MOHP Maternal and Child Health Directorate, and surveillance of individual diseases was combined within the overall HIS. Over time, the separate programs also were consolidated into the Integrated Management of Childhood Illness (IMCI) program, which has now expanded nationwide.

Child spacing is a proven child survival intervention. The 2008 EDHS shows that longer birth intervals are associated with lower mortality in infants and young children. The under-5 mortality rate among children born less than two years after a previous birth is 70 deaths per 1,000 births; more than triple the rate for children born four or more years after a previous birth. Figure 11 shows the dramatic difference in infant mortality for babies born with less than a two-year interval compared to longer intervals.

Figure 11: Infant Mortality Rate by Previous Birth Interval, 2008



The success of the FP program in Egypt contributed significantly to ensuring that mothers are able to care for their children and themselves before a subsequent pregnancy.

With a focus on **neonatal health**, newborn deaths were reduced, especially those from preventable causes. As neonatal mortality declines, however, it becomes more difficult to prevent and treat those problems related to congenital anomalies and to save very premature babies that require highly sophisticated interventions not available in all hospitals. Nevertheless, efforts supported by USAID to improve neonatal health services and preventive health practices contributed significantly to improvements in neonatal and infant mortality between 1992 and 2008 in both Upper and Lower Egypt. Maternal health improvements also have had a direct positive impact on neonatal and child morbidity and mortality.

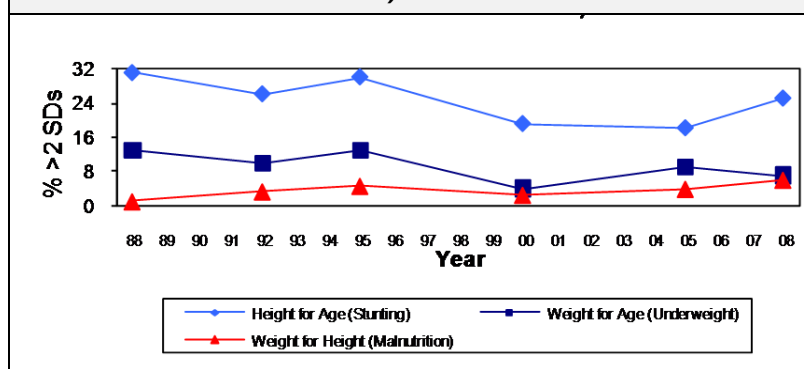
Breastfeeding promotion is one of the most cost-effective child survival interventions. Immediate and exclusive breastfeeding can benefit both mother and baby. Early initiation of breastfeeding can help women by minimizing immediate postpartum hemorrhage, one of the most common causes of maternal death. A 2006 study published in *Pediatrics* documented that 16% of neonatal deaths could be avoided if all infants were breastfed from day one and 22% if breastfeeding started within the first hour.¹¹ Almost all Egyptian children are breastfed for some period, but optimal breastfeeding (immediate initiation and exclusive breastfeeding up to six months coupled with adequate and timely complementary foods, and continued breastfeeding up to 24 months) needs further strengthening.

Promotion of breastfeeding has been an element of most child health programs over the past two decades, and breastfeeding has been incorporated into medical school education. These efforts have produced positive results. The 2008 EDHS revealed significant progress was achieved in promoting the first step in optimal breastfeeding: 56% of the children were put to the breast within an hour after delivery, and 88% were breastfed within the first day, compared to 24.6% and 63.9% in 1992. This shows that even a culturally ingrained practice such as delayed initiation of lactation can be changed through a combination of training for health providers and BCCs for mothers and influential family members. With sufficient focus on immediate and exclusive breastfeeding, neonatal survival and child health and nutrition can be further improved.

¹¹ Edmond, K.M., et al., 2006, "Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality," *Pediatrics*, Vol. 117, No. 3 (March).

Remaining Challenges

Figure 12: Nutrition of Children Under Age 5, 1988-2008 (Percent of Children with Greater than Two Standard Deviations from NCHS/CDC/WHO Reference Median)



Malnutrition: The EDHS 2008 survey results suggest that the nutritional status of young children in Egypt remained relatively stable during the period between the 2000 and 2005 surveys. Looking at height-for-age measures, for example, the prevalence of stunting in young children was 23% in both 2000 and 2005. In 2008, however, stunting increased to 29%. The proportions of children

who were found to be wasted and underweight were also higher in 2008 than in either of the two earlier EDHS surveys.¹²

Attention to malnutrition has not been a consistent focus of joint USAID-GOE programs. The nutrition component of the National Child Survival Program from the mid-1980s to the mid-1990s was not fully implemented, and there were few child nutrition programs other than breastfeeding. The MOHP did not have a nutrition department, there was little public health nutrition expertise within major directorates, and USAID/Egypt did not push heavily for more nutrition interventions until the evidence about the cost-effectiveness of Vitamin A supplementation and other micronutrients was better established. The MOHP did add Vitamin A supplementation to the immunization program, with encouragement from UNICEF, WHO, and USAID. More attention should have been paid to ensuring that improvements in nutritional status were part of child health programs. Integrated management of childhood illness (IMCI) is designed to incorporate growth monitoring and promotion as an integral part of care of sick children, but it does not deal with infant and young child nutrition in general.

Stunting and chronic undernutrition have increased over the past few years, perhaps due to economic pressures. Identifying the causes and preventing stunting should be an immediate focus. Investments in education will not yield benefits for children who are cognitively impaired from early nutritional deprivation. Use of the positive deviance (PD) approach¹³ to lowering malnutrition in young children as it has shown considerable promise in the governorates of Minia, Qena, and Fayoum, should be considered for expansion. Rates of underweight children decreased from 29.4 to 5.4 in Minia, 30.5 to 5 in Qena, and 21.1 to 5.7 in Fayoum in villages where the PD approach was used.¹⁴

Breastfeeding and child-feeding practices: Although breastfeeding is nearly universal, giving newborns liquids before initiating breastfeeding (prelacteal feeding) is common; 47% of all children born in the five years before the 2008 EDHS received prelacteal feeds during the first

¹² In 1988: Children aged 3–6 who fall two or more standard deviations below the reference population median in terms of height for age are considered to be moderately to severely stunted. Among Egyptian children, 31% are in this category, more than 10 times the 2.3% expected in a population of well-fed children.

¹³ An approach that uses positive examples of child feeding and care approaches employed by selected families to help change such behavior across entire communities.

¹⁴ Communications for Healthy Living Monitoring System, 2009.

three days after birth. They were most often given sugar, glucose water, or tea and other infusions. Anecdotal information indicates that most families do not consider herbal infusions given to infants to be supplemental feeding. Immediate and exclusive breastfeeding means that to protect newborns from disease and promote their optimum growth, they should be given no other fluids of any kind.

Feeding practices during diarrhea and ARI episodes are less than satisfactory. Many children are given less or no food or fluids. Increased feeding is the second element of Oral Rehydration Therapy (ORT). Withholding food is a dangerous practice that can increase a child's chance of becoming malnourished and can accelerate a life-threatening cycle of malnutrition and severe diarrhea, since undernutrition weakens the immune system.

IMCI coverage is nearly complete in all districts of the country, but it is unclear if continued training will be available beyond the one week included in the six-week basic training course for all new MOHP doctors. Competency-based training through continuous supervision is needed to ensure that practitioners and nurses in PHC units are proficient in IMCI skills. Integration of IMCI guidelines into curricula in faculties of nursing and new technical schools is essential.

Vaccine quality: While national vaccine coverage rates are impressive and the program is clearly sustained, vigilance in assuring that the cold chain is respected at every level is important.



Neonatal intensive care units in use at El Menshawi Hospital in Gharbia.

Photo by Leslie Curtin

Neonatal mortality: A large proportion of the significant gains of the first three decades of the Egypt Child Survival Program were realized among infants and children between the ages of 1 month and 5 years. Much less progress occurred in the survival of infants in the first month of life: 87% of early childhood deaths in Egypt take place before a child's first birthday, more than half (58%) during the first month of life (EDHS 2008). Causes of neonatal deaths are complex and will require concerted effort to address those that are avoidable through interventions in both community and facility.

Newborn health: Because newborn and maternal health and survival are closely linked, it is important to treat mothers and their children as a dyad through all phases of pregnancy and delivery. Healthy mothers who have access to

proper nutrition and health care throughout the continuum of pregnancy and postpartum care are less likely to suffer from ill health or to die, and their babies are at less risk of disease and premature death. But keeping a newborn alive and well requires special attention and much more than proper care for mothers to assure a healthy start to life.

In Egypt, where currently 28% of babies are born at home, and some without medically trained attendants, newborns are even more vulnerable. The major causes of neonatal death—tetanus, birth injuries, lack of oxygen (asphyxia), hypothermia, sepsis, and low birth weight—are preventable or treatable with simple, cost-effective interventions such as tetanus injections, safe and clean delivery, and appropriate antibiotics for infections. In the late 1980s, joint USAID-GOE programs included clean birth kits and trainings for traditional birth attendants. As the international evidence mounted that such training was not reducing maternal mortality, the programs shifted to the use of medically trained birth attendants (doctors, nurses, and midwives).

As a growing proportion of women in Egypt chose to deliver in facilities, neonatal units were created in the 1990s in most MOHP hospitals to offer special care for low-birth weight, premature, and ill newborns. Nevertheless, more emphasis is needed on essential newborn care at the place of birth and in the home. Better newborn care should include promotion of immediate and exclusive breastfeeding, antiseptic solutions to reduce infections during and after birth, and resuscitation to stimulate breathing in asphyxiated babies.

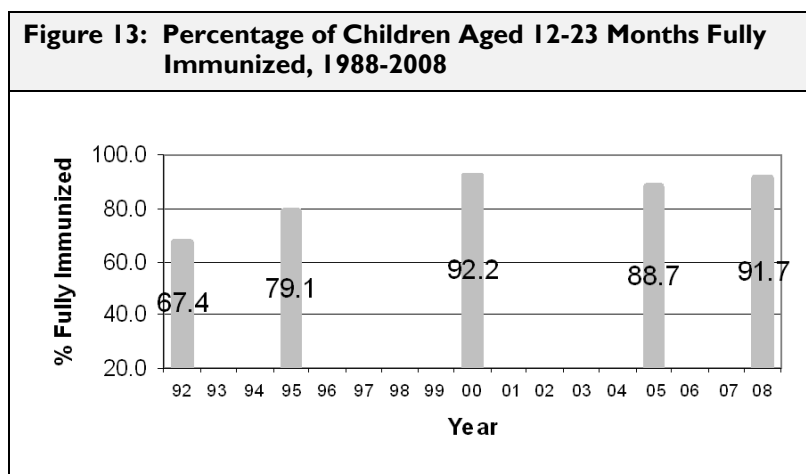
Inequities: Although infant and child deaths have been greatly reduced in all geographic and socioeconomic groups within Egypt, inequities persist. Although mortality in rural Upper Egypt is higher at all ages than mortality in rural Lower Egypt, the large differential in post-neonatal mortality is particularly noteworthy. The post-neonatal mortality rate in rural Upper Egypt is 19 deaths per 1,000 births, more than double the 8 per 1,000 in rural Lower Egypt. The child mortality rate in rural Upper Egypt (7 per 1,000) is 68% higher than the rate in rural Lower Egypt (4 per 1,000).

Infectious and Endemic Disease Control

Evidence of Progress

Egypt has made tremendous progress in reducing endemic diseases and building the capacity to control new and emerging infectious diseases. Schistosomiasis, a scourge since the days of the Pharaohs, is no longer a threat to the health of rural Egyptians. Egyptian children are well protected from vaccine-preventable diseases and are no longer at risk of being crippled by polio or suffering lifelong chronic consequences from HBV infection. The MOHP has built a viable network throughout the country to monitor and manage communicable diseases.

In 1983, the prevalence of schistosomiasis in rural Egypt was greater than 50%; the MOHP now reports that it is less than 1% in most areas throughout the country, except for a few “hot spots” where prevalence is 1%–3%. An effective oral medication has reduced the intensity of infection for those few still affected. Bladder cancer caused by schistosomiasis was once the number one cause of cancer in rural Egypt; deaths from bladder cancer have plunged.^{15,16}



Egypt has one of the highest child vaccination coverage rates in the world. With the three doses of HBV vaccine, it is 96%. This is a key measure of health system performance and output. As a result of this excellent routine coverage, complemented by special campaigns, polio was eradicated in Egypt in 2005.

Where its prevalence was high, the epidemiology of hepatitis C (HCV) in Egypt was described and modes of transmission and risk factors identified through a USAID-supported research program with the University of Maryland and several Egyptian universities. In response to the

¹⁵ El-Khoby, T., et al., 2000, “The Epidemiology of Schistosomiasis in Egypt: Summary Findings in nine Governorates,” *Am. J. Trop. Med. Hyg.*, Vol. 62(2 suppl.), pp. 88–99.

¹⁶ El-Khoby, T., Galal, N., and Fenwick, A., 1998, “The USAID/Government of Egypt’s Schistosomiasis Research Project,” *Parasitology Today*, Vol. 14, No. 3.

data it produced, a National Infection Control Program to control blood-borne pathogens and other infections acquired in health care settings started in late 2001 and is being implemented in all MOHP hospitals and PHC units; it is now being expanded to university hospitals and the private sector. Clinical trials were carried out to determine the best treatments for those affected by the genotype of HCV that is most prevalent in Egypt.

Surveillance and research activities were also built up over time. An Egyptian Field Epidemiology Training Program (FETP) was created in 1993 to strengthen MOHP capacity in applied epidemiology; today there is at least one FETP graduate serving in every governorate and infectious disease surveillance is greatly improved. Substantial research capacity was also built through a number of mechanisms more fully described later in this section.

The first case of avian influenza (H5N1) was diagnosed in Egypt in 2006. As the result of years of capacity-building within the health system, the MOHP responded to the outbreak quickly and effectively. H5N1 fatality rates were lower in Egypt than in most other countries; the current rate is 31% against the international average of 60%.¹⁷ The MOHP is now responding capably and vigorously to the newest pandemic threat, the swine flu (H1N1) virus, adhering to the National Guidelines for Communicable Disease Surveillance and the MOHP Pandemic Preparedness Plan, which specifies considerable public information and education efforts.

Why this Program Is Important

Lesson Learned

Recent global outbreaks of H5N1 and H1N1 have pointed up the importance of creating trust between governments and their people. In Egypt, vaccination programs and endemic disease control programs have enhanced the people's trust in health authorities. This has enabled the MOHP to convey urgent messages about poultry handling and other hygienic measures that households accept as important and to seek medical care for suspected H5N1 and H1N1 cases promptly.

Health risks from many communicable diseases have been greatly reduced for all Egyptians, men, women, and children. Life expectancy in rural areas, where some of the poorest Egyptians live, has increased with the reduction in schistosomiasis. Schistosomiasis infection was so widespread and severe that before the 1990s, many children as young as 5 had enlarged livers and spleens and every hospital had a "hematemesis ward" where those coughing up blood were kept for 24-hour observation. Since a

pediatric formulation of praziquantel was developed to treat young children, those wards are no longer necessary. In addition to the successes with schistosomiasis, Egyptian children are no longer afflicted with paralysis from polio, either.

Young people growing up in Egypt today are at less risk of contracting viral hepatitis thanks to 17 years of high HBV vaccination coverage, infection control procedures in medical facilities, and increased awareness of the high-risk behaviors to avoid. Infection control measures in health settings and increased awareness of the risks of blood-borne pathogens are also reducing the risk of HIV/AIDS in the general population.

A reservoir of HCV had built up in the 1960s and 1970s as a result of unsafe practices during campaigns to treat schistosomiasis with intravenous medications. According to the 2008 EDHS, men were more likely to be infected than women and levels of infection increased sharply with age among both women and men. Today, the National Viral Hepatitis Prevention Strategy 2008–2012 is being implemented to prevent the spread of HCV to young people.

Better functioning of the health system has a direct impact on the health of Egyptians. The entire population is benefiting from the MOHP laboratory-based disease surveillance system that

¹⁷ World Health Organization, Sept 24, 2009, Global Alert and Response, www.who.int.

reports accurate and timely health data, investigates and contains outbreaks, and can handle both communicable and non-communicable diseases. For example, the MOHP rapidly informed Egyptian citizens about ways to protect themselves from H5N1 and H1N1 and has been vigilant in monitoring these threats.

Over the past decade, the global public health community has been challenged by the emergence and rapid spread of novel influenza strains, severe acute respiratory syndrome (SARS), drug-resistant tuberculosis (MDR-TB), and other pathogens. Modern transportation, increased tourism, business travel, and immigration help disseminate these high-impact pathogens. The International Health Regulations, which entered into force in 2007, require countries to report certain disease outbreaks and public health events to the WHO. Egypt is now one of WHO's high-performance countries in the Eastern Mediterranean Region in terms of disease surveillance and reporting. This has elevated Egypt's status globally as a reliable partner and puts it among nations that participate in transparent health information-sharing and cooperation. This partnership can only help the country continue to protect its people from future waves of emerging pathogens.

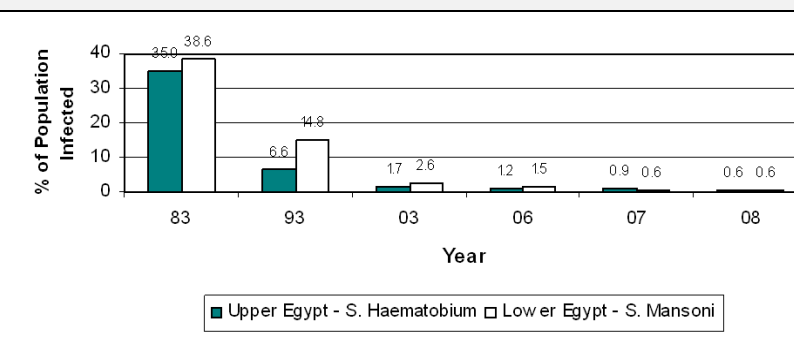
How Progress Was Achieved and the USAID Role

Egypt's capacity to control emerging and infectious diseases has been built through decades of experience in addressing priorities for surveillance, biomedical research, prevention and control, and public health infrastructure. Through cooperation with the U.S. Centers for Disease Control and Prevention (CDC), Egyptian health professionals have been trained to detect, promptly investigate, and monitor endemic and emerging pathogens, including the diseases they cause, and factors influencing their emergence. The MOHP devoted resources to integrating laboratory science and epidemiology to optimize public health practice. Cairo worked to build up the infrastructure in PHC facilities and district health offices and at the governorate level to support surveillance and implement prevention and control programs. USAID-supported programs implemented in partnership with the GOE were directed primarily to schistosomiasis, vaccine-preventable diseases, viral hepatitis, and most recently emerging viruses. The Egyptian health system as a whole was strengthened through both disease-specific interventions that improved the efficiency and effectiveness of disease control and construction of an effective network for disease surveillance and response.

Research capability for schistosomiasis control was developed through a close partnership of Egyptian and American scientists. The Schistosomiasis Research Project did basic research on snails (the intermediate host) and their control; immune responses and vaccine development (although several candidates have been identified and tested, no effective and safe vaccine been approved in Egypt or internationally); health education and sociological and ecological factors associated with transmission; diagnosis and clinical management of complications; and epidemiology. American "schistosomologists" worked alongside Egyptian scientists to better understand and find ways to control schistosomiasis in the country. USAID-MOHP partners worked with the pharmaceutical companies and the GOE to produce praziquantel domestically in Egypt, which lowered the price from \$4.50 a dose for the imported product to \$0.30, and also developed a pediatric praziquantel formulation. Furthermore, Egypt pioneered the application of mass treatment programs in schools.

Children along the Nile River and its tributaries are still infected by schistosomiasis, but in hotspot villages identified through school-based monitoring, they are rapidly and regularly treated with safe and effective medication. This concept of school-based treatment was pioneered in joint MOHP-USAID programs. The

Figure 14: Prevalence of Schistosomiasis in Lower and Upper Egypt (Dominant Strains), 1983-2008



MOHP first perfected school-based distribution of drugs by medical and nonmedical staff coupled with surveillance of school-aged children. Egyptian scientists then integrated the delivery systems to cover other diseases that can be treated by mass drug interventions, especially the school- and community-based treatment programs pioneered for the treatment of schistosomiasis. This strategy has also been used for lymphatic filariasis, one of the most neglected tropical diseases.

Joint programs similarly supported junior and senior scientists doing research tied to specific aspects of schistosomiasis control, linked American and Egyptian scientists in joint research, and built research capacity in Egypt. The fruits of social and biomedical research and epidemiology were applied in the National Schistosomiasis Control Program, which successfully brought the disease under control. Egypt achieved high compliance in mass drug administration through effective outreach by the PHC delivery system and through a variety of social mobilization methods—posters, announcements in mosques, television clips with recognized actors, and comic books for schoolchildren. The presence of the USAID-MOHP research program encouraged other donors to fund the schistosomiasis control program and resulted in synergistic work under MOHP management. Today, the MOHP maintains an active schistosomiasis M&E program to keep prevalence low. Biomedical facilities established in numerous Egyptian universities and other institutions to address schistosomiasis are now used to address other endemic diseases, such as lymphatic filariasis and HCV.

Consistent high-quality training, coupled with provision of the laboratory equipment necessary to build host country capacity, have had a long-term impact on Egypt's ability to control endemic diseases and respond to new and emerging infectious diseases. USAID and the MOHP enlisted and supported the U.S. CDC to assist with the FETP, upgrading practical epidemiology skills among university staff and MOHP managers, and building a core laboratory-based disease surveillance system in the MOHP. Because the MOHP had well-trained epidemiologists with experience in outbreak investigations, in 2006, it assisted and trained the Ministry of Agriculture in investigating the outbreak of avian influenza (H5N1) among poultry.

Disease Surveillance: Egypt has established an Epidemiology and Surveillance Unit (ESU) linked to the FETP. The National Electronic Disease Surveillance System (NEDSS) replaced a manual system for tracking diseases that were clinically diagnosed without standard case definitions or laboratory confirmation. Considerable investments were also made to ensure top-quality diagnostic capacity in the MOHP's Central Laboratory.



Hepatitis C: As a result of studies on liver disease in Egypt in the 1980s and early 1990s, it was clear that HCV had replaced schistosomiasis as the major national infectious public health threat. In fact, Egypt has among the world's highest prevalence rates of HCV (10%–15% of rural residents have HCV antibodies) and intermediate levels of HBV infection (16%–55% have been exposed and 2%–7% have chronic infections).¹⁸ The 2008 EDHS shows that 15% of its respondents aged 15–49 carried HCV antibodies, indicating that they had been exposed to the virus at some point, and 10% were found to have an active infection.

Funding was allocated to Egyptian and American scientists in the mid-1990s to study modes of HCV transmission, risk factors, treatment modalities, and other facets of the disease and to share the findings widely. The studies provided evidence that new HCV infections are occurring in medical facilities as well in communities and homes. Unsafe injections and equipment improperly sterilized by dentists, barbers, and during circumcision are all factors. An Egyptian

National Control Strategy for Viral Hepatitis was drafted for 2008–2012 to reduce hepatitis prevalence, incidence, and burden. It is a comprehensive approach to preventing future infections and treating HCV patients.

Immunizations: In 1992, Egypt became the first country in the region to add HBV vaccine to its immunization program. At that time, only 31 countries offered HBV vaccine. However, by 2006, 164 countries routinely vaccinated infants against HBV, making Egypt somewhat a pioneer.¹⁹ USAID contributed the first supply of vaccine but the MOHP quickly took over procurement. The GOE has been self-sufficient in vaccines since 1992, although USAID and other donors have provided cold chain equipment and other supplies.

Public health leaders recognized that infection control must be the keystone of activities designed to control viral hepatitis in Egypt; they saw that reducing the number of infections transmitted in health care settings was probably the quickest way to reduce incidence. The MOHP Infection Control (IC) Program was started in 2001 with expert technical assistance after careful planning: a structure was established at MOHP central, governorate, district, and facility levels; IC guidelines were created; IC teams were trained; and intensive M&E was introduced. Among innovative features to ensure sustainability are a three-year commitment required of participants to remain in place as a precondition to training, competition among facilities for the highest IC scores, and transparency in scores and rankings.

Remaining Challenges

Introduction of technology: New technology should be introduced carefully and supported by training, supervision, and monitoring to ensure that it is used properly by health providers who may not have the necessary technological background to use it correctly. It is not adequate to simply provide a 40-page manual for the operation of new equipment. One sad example is that in neonatal intensive care units in MOHP hospitals, high rates of sepsis occurred in newborns

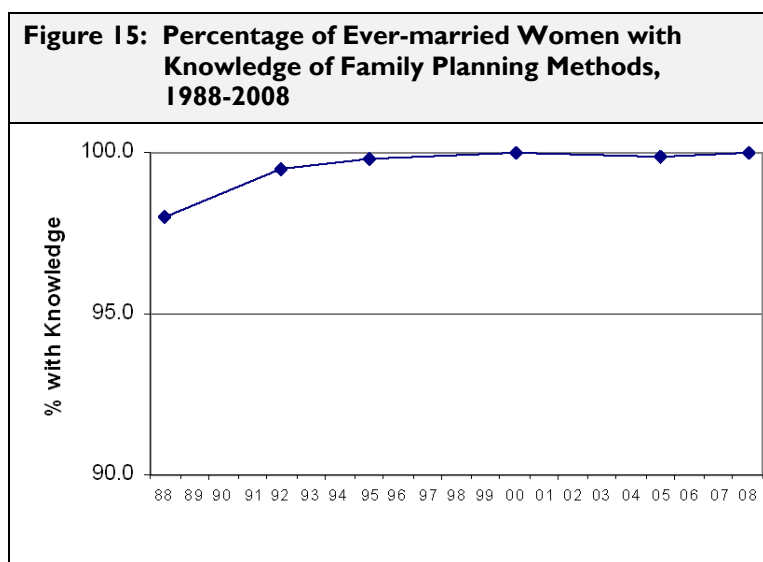
¹⁸ *Egyptian National Control Strategy for Viral Hepatitis 2008-2012*, April 2008. (Cairo: MOHP and National Committee for the Control of Viral Hepatitis).

¹⁹ WHO Factsheet, Hepatitis B, August 2008.

due to hospital-acquired infections that could have been prevented through adherence to IC guidelines.²⁰

Chronic disease: In Egypt, most deaths are due to chronic diseases, such as heart disease, cancer, and diabetes. Behavioral risk factors abound: smoking, overweight and obesity, poor-quality diets, and physical inactivity. USAID-supported work through the U.S. Department of Health and Human Services (DHHS) has helped focus attention on chronic diseases as well as injury prevention and other lifestyle problems. However, beyond promulgating sound policies, the GOE needs to enforce the regulations on such issues as smoking in buildings, helmet and seatbelt use, and labeling of food contents. Lifestyle changes, such as increasing physical activity, need major attention in national mass media campaigns.

The MOHP is beginning to gear up to address non-communicable diseases. Successful management of chronic conditions like diabetes or heart disease requires a long-term relationship between health provider and patient. This will require new skills and approaches at all levels of the health care system as well as health promotion that asks people to take a more active role in their own health.



Behavior Change Communications

Individual and normative behavior changes that resulted from population and health communication campaigns launched in Egypt is among the most successful outcomes in the history of international development. Highly visible communications have raised awareness, changed attitudes and cultural norms, stimulated demand, and positively influenced FP and health-related behaviors throughout the country.

Evidence of Progress

Over the past 30 years, FP has grown from a little-known or used intervention to one that is widely accepted and practiced throughout Egypt. Knowledge and utilization of FP have increased dramatically since 1979, as documented in demographic surveys undertaken over the years with USAID support.²¹ In 1979–80, Egyptian Fertility Surveys reported a CPR of about 24% with correspondingly low rates of knowledge. With intensive IEC effort, the CPR raised significantly, from 38% in 1988 to 48% in 1995 and over 57% in 2000—a very remarkable increase by any standard. Today, knowledge of modern FP methods is universal: 100% of ever-married women reported in the 2008 EDHS that they know about modern methods.

Communication efforts also helped to change attitudes and behaviors related to FGM. Today, there is widespread recognition of its dangers. Between 1995 and 2008, there was a significant

²⁰ Talaat, M., et al., 2006, “Evolution of Infection Control in Egypt: Achievements and Challenges”, *American Journal of Infection Control*, Vol. 34, pp. 193–200.

²¹ Egyptian Fertility Survey (1979–80), the Egyptian Contraceptive Prevalence Surveys (1980, 1984), and the series of Egyptian Demographic and Health Surveys from 1980 through 2008.

decline in the percentage of women who say that FGM should continue, from 82% to 54%, and the percentage of women who have been circumcised has declined, particularly among girls under 18.

Communication campaigns since the early 1980s have pointed out the dangers of dehydration due to diarrhea, the importance of immunization, and danger signs associated with ARIs. This has contributed to the dramatic reductions in infant and child mortality between 1976 and 2008. The CDD program ran a national television campaign in 1982–1990 to educate Egyptian mothers about the dangers of dehydrating diarrhea and to inform them that inexpensive ORS were available. The media campaign was extraordinarily successful in dramatically increasing awareness of ORS and their correct preparation and in changing feeding practices. By 1986, 99% of mothers knew of ORS, thus the use of ORS was widespread, and most women could correctly mix the solution. Through its success in disseminating both ORS and knowledge about how to use it, the CDD program contributed to a 43% reduction in child mortality between 1982 and 1987.²²

Through public educational efforts, Egypt also achieved very impressive gains in the percentage of children fully immunized against childhood illnesses. The percentage of mothers who recognize the danger signs of ARI increased from 30% in 1990 to 72% in 1995.

Health education campaigns also contributed to normative changes that affected demand for and utilization of maternal health services. These campaigns designed to enhance the knowledge of mothers, communities, and health care providers to recognize the danger signs of early and too closely spaced pregnancies have improved the medical care-seeking behaviors of pregnant women and their families. The percentage of births assisted by a doctor, nurse, or midwife surged from 35% percent to nearly 80%, and geographic differentials have nearly disappeared.

BCC efforts have helped increase the Egyptian population's awareness of critical endemic and infectious diseases and mobilize control efforts. A campaign to combat schistosomiasis, which used to affect over 50% of Egyptians, helped reduce prevalence to less than 1% today through increased knowledge about modes of transmission and treatment. More recently, communications efforts to educate the population about HCV, avian influenza (H5N1), and swine influenza (H1N1) have been successful.

Why this Program Is Important

Globally, health and population experts recognize the benefits of a well-informed nation, where individuals and communities take steps to protect their own health, and understand when to use preventive and curative health services. Ensuring that people comprehend how their own actions contribute to good health and recognize when to seek care requires effective health information and behavior change programs. BCC programs can also be effective in changing societal norms, such as desiring a small family or ceasing the practice of FGM. Changing these norms not only protects the rights and health of women but also enhances the socioeconomic status of the family and the country.

IEC and BCC have made major contributions to the forward momentum of the Egyptian FP program. Egypt has succeeded in reducing infant and child mortality by disseminating through modern communication methods information about life-saving treatments. The ability of the MOHP and the SIS to conduct effective communication campaigns also led to Egypt's capacity to rapidly control the spread of infectious diseases. BCC will soon become increasingly important as Egypt implements a complex health reform agenda, deals with new diseases, and struggles to change deeply embedded cultural norms that affect fertility.

²² Kinder, M., 2004, "Preventing Diarrheal Diseases in Egypt," Case Study No. 8, in Ruth Levine, ed., *Millions Saved: Case Studies in Global Health* (Washington, DC: Center for Global Development).

How Progress Was Achieved and the USAID Role

Information, education, and communication to promote awareness and change behavior have been an integral part of USAID-supported international population and public health efforts for decades. In Egypt, these campaigns have proven particularly effective. What follows is a brief description of a few of the most successful campaigns that brought about significant individual and social change.

Lessons Learned

Egypt's mass media family planning communication campaigns successfully linked demand with supply. Near-universal awareness had been achieved by 1988, so later strategies promoted "added value and quality" to potential family planning clients.

Family Planning: USAID provided consistent and adequate funding and technical assistance for vigorous information and communication programs. In 1979, the GOE established a Population Information, Education, and Communication Center in the SIS. USAID built a close institutional relationship with the SIS as it planned and executed campaigns to raise public awareness about rapid population growth, build favorable attitudes to FP, and increase knowledge of modern methods of contraception.

Figure 16: SIS logo Promoting Small Family



الهيئة العامة للإستعلامات
مركز الإعلام والتعلم والاتصال

In the late 1970s and early 1980s, educational radio and TV messages were broadcast on nationwide and regional channels. These early efforts stressed the theme of excessive population growth as a national concern, highlighting overcrowding and environmental issues. Evaluations of the impact of these messages made it clear that they increased knowledge and favorable attitudes, but did not lead to modified behavior. This is in part because the messages did not relate these to the social and economic concerns of families and lacked specificity about FP,²³ so CPRs did not rise appreciably.

Between 1985 and 1997—by which time the EDHS had revealed that over 90% of urban and 70% of rural households owned TVs—the SIS launched a campaign on TV, providing free airtime as a public service. This new campaign first made people generally aware of FP and then discussed the economic benefits of smaller families. In the next stage, the campaign closed in on FP specifics by discussing contraceptive methods, source of supply, as well as the advantages and disadvantages of FP. The emphasis became behavior change rather than simply education. The FP program responded by offering information about specific methods and promoting the high-quality care offered by the Gold Star, CSI clinics, private doctors, and pharmacists. The campaign marketed "added value" to potential clients by informing women what high-quality service means, what they could expect from a high-quality service facility, where to find one, and how to ask the right questions. When demand was connected with supply, prevalence increased from 47.8% in 1995 to 56.1% in 2000—an 8% increase in just five years.

As the campaign progressed, the communication approaches became more varied, sophisticated, and effective. They included TV soap operas starring well-known celebrities, radio and TV musical variety shows, contests, televised interviews and discussions, folk entertainment, poetry, and readings featuring actresses and religious leaders. Skeptics feared that the visible campaigns

²³ Parlato, M., et al., 1988, *Communication Makes a Difference. Final Report on Egypt Population Communications Project* (USAID contract 263-0144-C-00-357-00) (Washington, DC: The Academy for International Development, 1988.)

would be too controversial, but SIS-commissioned surveys showed them to be not only very popular, but also highly effective.

TV Dramas

These TV shows during the FP campaign proved enormously popular and continue to be well-known today:

“Danger” and “Ghalia’s Way” in 1988; “The Long Race” “Extremely Urgent” and “Personal Identity” in 1989; “The Loom” and a “A Day in the Life of a Happy Family” in 1990; and “Why Does the Swallow Cry?” and “As the Nile Flows on” in 1993.

A key element of successful impact is being able to reach as many people as possible. The Ministry of Information made an enormous contribution to FP information, education, and BCC efforts throughout the 1980s and 1990s by providing free TV and radio broadcast time. These contributions, which had a significant real cost to the government, were considered host country contributions under the USAID/Egypt Population and Family Planning Assistance Agreements with the GOE. USAID/Egypt played an important

role in building the capacity of the SIS to design and evaluate these campaigns. The IEC media campaigns were estimated to constitute about 15% of all FP program expenditures during the period reviewed for this report.²⁴

Diarrheal Disease Control: In the 1970s and early 1980s, dehydration due to diarrhea was the cause of nearly half of all deaths among Egyptian children under five. Although there was worldwide evidence of the efficacy of ORT, in Egypt it was used to treat only 10%–20% of childhood diarrhea cases.

To raise ORT visibility and promote its use nationwide, USAID and the MOHP established the CDD project. A mass media campaign to educate both the general population and the professional health community about ORT was an essential component of the national strategy to bring about massive behavior change among mothers, physicians, nurses, and pharmacists.

Figure 17: CDD Project Logo

The project logo became the most recognized product label in Egypt. The ORS branding selected was *Mahoul moalgett et gaffaf* (solution treating dehydration) or simply *mahloul*, the solution. The word *gaffaf*, drought, helped mothers make the link between dehydration and oral therapy.



Egypt’s commitment to using ORT to reduce deaths from diarrhea-associated dehydration coincided with other international efforts to introduce this inexpensive and highly effective intervention for saving children in developing countries. Several international conferences on ORT were held in the 1980s to build a global consensus about ORT promotion and use.

In the early phase of the mass media campaign (1980–82), the main objectives were to build awareness, explain the concept of dehydration, emphasize the need for rehydration and continued nutrition, and direct families to treatment. The brand name *Mahloul* was established

²⁴ Robinson, W., and El-Zanaty, F., 2007, *The Demographic Revolution in Modern Egypt*. (Lanham, MD: Lexington Books), p. 88.

for the ORS. The campaign used a variety of media, including radio, billboards, posters, and flyers, but a pilot effort confirmed that TV was by far most effective.

During the scale-up phase (1984–89), the objective was to create demand among mothers and promote ORT through a broad communications strategy. More than 64 prime-time TV spots were designed, approved by a technical medical review panel, produced, and aired. These spots proved particularly popular and effective in educating women about the signs and seriousness of dehydration, how to mix and administer ORS, and how to feed their infants and children during bouts of diarrhea. In response to the heavy demand created, health care providers rapidly changed their case management practices.²⁵ By the end of the project, virtually all mothers in Egypt were aware of ORS, and most could correctly mix the solution.

It took time to understand the cultural and technical context in Egypt, which proved central to producing effective communications for diarrheal disease control. Mass media and print messages had to be pre-tested for specific target populations. After focus groups complained that the original personality, a comedian, was not appropriate for addressing a serious childhood illness, the MOHP recruited a more motherly figure, veteran actress Karina Mukhtar. Achieving consistency between English and Arabic in translations was also extremely important. Technical review panels were established to ensure the accuracy of the medical and public health content of the messages. These lengthy processes proved to be essential, so adequate time for them had to be built into design and production schedules.

Infectious Disease Awareness and Control

Schistosomiasis: Another extremely successful BCC effort in Egypt was the campaign to control schistosomiasis. Designed as one of six components of the USAID-supported Schistosomiasis Research Project (1986–2000), the campaign addressed the social and economic aspects of schistosomiasis. In 1989, the MOHP produced 10 television spots that were broadcasted on Egyptian TV as public service announcements. Each contained a message about a newly available oral drug, a pediatric formulation of praziquantel that was suitable for young children. Other messages educated viewers about the mode of transmission and contained important behavioral do's and don'ts about the dangers of polluting canals through domestic activities (such as doing laundry and disposing of liquid and solid waste) and of recreational activities (such as swimming in infected canals). Additional TV announcements and a series of radio spots were produced in 1994 and 1997.

Assessments by the Schistosomiasis Research Project established that 92% of rural inhabitants reported they had seen the TV spots, knew what schistosomiasis was, knew how to avoid infection, and were aware of how to obtain treatment after a positive diagnosis.²⁶ This is an excellent example of sustained collaboration between the MOHP and Egyptian national television that produced remarkable results in raising awareness, changing behavior, and preventing morbidity.

Avian (H5N1) and Swine Influenza (H1N1): When the avian flu (H5N1) first appeared in Egypt, the MOHP, with USAID support, rapidly mobilized communication assets to warn Egyptians about modes of transmission, risks of the new virus, and the need to seek immediate treatment if flu symptoms appeared after contact with sick or dying poultry. Mass media, print, and community efforts promoted designation of “safe chicken handling zones” in households. The results regarding response capacity for H5N1 have been impressive. In 2009, the average number of days between the onset of symptoms and hospitalization was 2.4 days, compared to a

²⁵ Klein, S., and Burleigh, E., 2004, “Egypt: Control of Diarrheal Diseases Goes National,” Best Practices in Scaling Up Case Study (Boston, MA.: John Snow, International).

²⁶ El-Khoby, T., Galal, N., and Fenwick, A., 1998, “The USAID/Government of Egypt’s Schistosomiasis Research Project,” *Parasitology Today*. Vol 14, No. 3 (March 1), p. 95.

5.2 day average internationally.²⁷ USAID also supported MOHP efforts to produce a 2009 national campaign on H1N1 prevention. Despite some early GOE missteps in response to H1N1, the response to both influenza threats generally has been good. The ability to respond rapidly was due in part to the long-standing collaboration between USAID, SIS, and the MOHP in producing communications campaigns for public health.

Integrated Health Messages through

Community Mobilization: As the FP and MCH programs evolved during the 1990s, BCC programs also evolved from a primary reliance on mass media to a model that relied heavily on print media and counseling through interpersonal communication. USAID/Egypt provided consistent financial resources and technical assistance to support the SIS and the MOHP in producing IEC printed materials, including flip charts and posters that were used successfully as health education materials in both public and private clinics and hospitals. As the programs became more integrated, the messages evolved from having a sole focus on FP to messages on MCH issues separately and then to integrated MCH messages. The messages targeted the dangers of FGM, the importance of ANC, safe delivery, exclusive breastfeeding, and the need for FP after delivery.



Women attend a Community Development Association educational session in Ismailia.

Photo by Leslie Curtin

The strategic approach to health communications has continued to evolve in Egypt. The national slogan is *Sahetak Sarwetak*, “Your Health, Your Wealth,” and treats health in the context of an entire life-stage approach. While “health competence” as a model was developed by USAID globally, the USAID/Egypt-supported program was one of the first to adopt it as the conceptual underpinning for an integrated family life-stage approach to sustainable health behavior change. In 2009, the program reached 34 million adults nationally and utilized TV, outreach, and training with a strategic integration of channels and approaches, from mass media to events, community mobilization, and counseling. It also relied on an extensive network of national partners, including 64 SIS Local Information Centers, 5,000 clinics, and 30,000 pharmacists.

The focus was on promoting a life-stage approach to enable “the household as producer of health.” The program used BCC to affect the health-related behavior of all family members: children younger than 6, school-age children aged 6–14, unmarried youth aged 15–24, young married couples, and older men and women. It covers RH in the context of the woman’s reproductive life cycle, but the messages also cover other behaviors that are assumed to positively impact health and build health competency within the family.

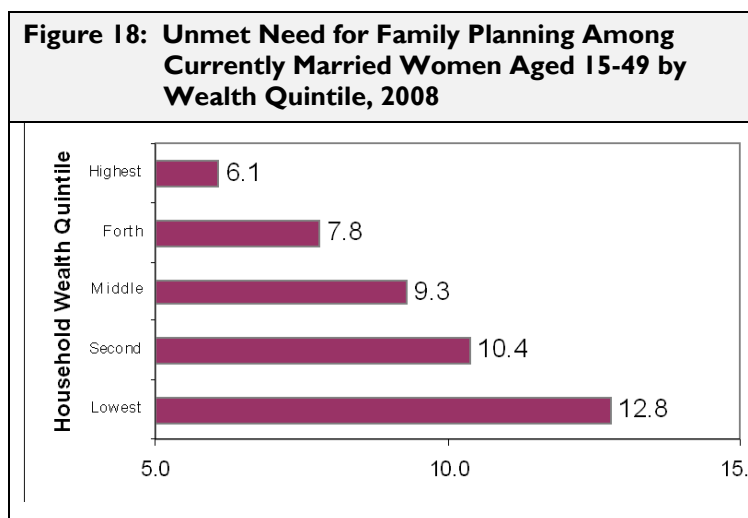
An important component of this approach is community mobilization through the members of community development associations (CDAs). Health promotion, through CDAs and peer-to-peer communication, includes classes for youth on the dangers of addiction (primarily smoking); classes and lectures by religious leaders educating families on the importance of keeping girls in school; classes for mothers on proper hygiene within the household; women’s literacy, micro-enterprise, and empowerment programs; and classes on proposal writing and fundraising to help finance the activities of the CDAs and community clinics.

²⁷ WHO, June 2, 2009.

One benefit of an integrated approach to BCC is that it has mobilized assets; not only from the MOHP, but also from other ministries actively supporting CDAs, including the ministries of Education, Social Solidarity, Youth and Sports, and Finance. This approach is also consistent with the GOE's health sector reform effort, which intends to improve service delivery in community PHC units (the supply side) but also recognizes the need to have citizens take more responsibility for their own health (the demand side). The assumption is that families who are more health competent will demand higher-quality services, thus ensuring a self-reinforcing system. CDA activities increase the linkage between the community and the PHC units. They also helped community members to take corrective action and solve local problems, which in turn helped improve the service provided by the PHC unit.

Remaining Challenges

Fertility Plateau: BCC efforts will be increasingly important if Egypt is to attain replacement-level fertility. The pace of fertility decline has slowed since 2003. Despite the severe crowding and congestion in Egypt's main cities, fertility levels in urban areas changed very little between 1992 and 2008.



The influence of mass media communications on FP has declined in recent years. DHS data indicate that the percentage of women with no exposure to FP information and messages on radio, TV, and newspapers increased from 9% in 2005 to 32% in 2008. This may be occurring because the government is no longer willing to provide free airtime now that production costs have increased significantly. It may also be a response to the evolution of the media industry,

in which the private sector is playing an increasingly important role by providing new satellite channels. The satellite channels favor commercial advertising over public service announcements, and the government cannot exercise the same degree of control as with its own channels. The current effort to improve health competency and mobilize community action around health issues may fill the gap in information being provided via mass media, however, and may prove helpful in changing village norms about the desired number of children.

Communications efforts will need to market the availability of high-quality services to help address the current 9% unmet need. According to 2008 DHS data, unmet need is highest in the lower economic quintiles; the poor are twice as likely to have unmet need than wealthier segments of the population.

Sustaining the CDA Role in BCC: Experience using CDAs to mobilize community involvement in health is showing promise, but it is relatively recent and is not being implemented in all districts or governorates. It is not yet clear whether governors have the political will to provide leadership or sustain activities. As long as the community benefits from CDA activities, their intrinsic value may help to sustain the effort. However, CDAs are not businesses and will likely always need resources from both the public and the private sectors. The sustainability committees established within the Regional Population Councils specifically to plan for sustaining

CDA activities over the long term are a promising sign. Governorate officials appear to be motivated and committed in continuing them.

Declining Knowledge of Pregnancy Danger Signs: The percentage of ever-married women aged 15–49 exposed to messages about pregnancy danger signs declined slightly, from 28.6% to 20.6%, between 2005 and 2008. The reasons for this very short-term trend are not clear, but it is a concern as the 2000 Maternal Mortality Study showed that delay in seeking care, mainly because of failure to recognize danger signs during pregnancy or delivery, contributed to 30% of maternal deaths.

Knowledge of Health Insurance: The GOE has not yet prepared the population for pre-paid health insurance models, such as those proposed in the health sector reform plan. Helping the public to understand the value of social health insurance and the rights they have as clients is as important an educational message as information about specific services. Lessons of the past suggest that awareness can be increased, and behaviors can be changed; that is if significant effort is made to identify the value-added benefits that people can expect.

HEALTH SYSTEMS DEVELOPMENT

Quality Improvement Systems

Evidence of Progress

Improving service quality has been one of USAID’s major contributions to Egypt’s health and FP programs. The focus on FP quality began during the Gold Star and CSI programs in the early 1990s. At the same time, the Cost Recovery for Health Project worked on quality assurance for hospital services. Previously in Egypt, there were few programs that focused on quality improvement systems.

Now, quality improvement is well-received and has been institutionalized in Egypt. The MOHP has incorporated a package of MCH and FP clinical protocols into the quality assurance programs and officially approved them as national standards, paving the way for sustainable change nationwide in the quality of care.

An accreditation system for PHC units that qualify for the Family Health Model (FHM), fully financed by the MOHP, was established in 2003. A Quality Improvement Directorate was established at the MOHP, with support from USAID, to build an organizational structure for quality improvement. Accreditation of facilities using a detailed checklist that assesses both inputs and use of clinical protocols for care is making both clinics and hospital staff more aware of service standards and motivating them to comply with the standards in order to achieve passing marks.

Data on how service quality has improved over the years, however, is difficult to find, much less assess. Some evidence exists from the latest EDHS that the quality of FP counseling has improved as a result of a concerted effort to

Source	Contraceptive Method-Related Discontinuation	Discontinuation for all Reasons
EDHS 2005	18.2	31.8
EDHS 2008	10.9	25.9

reduce the discontinuation rates for various contraceptives, particularly those caused by side effects and lack of confidence in the method.

The fact that 60% of Egyptian women are now obtaining FP services from public facilities may be an indication that the quality of PHC care has improved over the years. This is not surprising

given the heavy investment by the MOHP and USAID/Egypt in public services and continuing disincentives for growth in the private sector. The population's perceptions of quality are also important; health-seeking behavior in Egypt is driven by the availability of good infrastructure and modern equipment, such as sonogram machines, both of which are more common in 2010 than 30 years ago.

Why this Program Is Important

Research worldwide shows that improved quality of care, which is responsive to client needs, both stimulates demand and contributes to more efficient utilization of services. Services that are viewed as poor quality are often underutilized even when provided at no cost to clients. Because poor clients are in fact highly sensitive to the perceived quality of care and are willing to endure higher costs and greater inconvenience to obtain better-quality services, increased service utilization is closely linked to quality.

High-quality services also ensure that the preventive measure or treatment provided is efficacious and produces the intended health outcome. Health providers who ignore IC measures or who use ineffective treatment protocols endanger the lives of patients and increase the cost of health care by causing new health problems or wasting resources. Globally, it has been shown that improving quality results in increased job satisfaction for providers and better program reputation and competitiveness. Providers feel their work is valuable. While programs that are known for good quality attract and retain patients, as well as become more competitive. The benefits to both patients and the health care system are clear and compelling.

How Progress Was Achieved and the USAID Role

From early on, USAID/Egypt emphasized improving the quality of services—a challenging issue in the early stages of the FP and MCH programs. The first step in the early 1990s was to introduce the concept of quality service. All FP and MCH projects supported quality improvement approaches and interventions and built on earlier gains. Key strategic interventions over the past 30 years to improve quality were to formulate and enhance clinical standards; improve client-provider relations; reform provider training; revise human resource and personnel practices; improve supervisory and management systems; and ensure the availability of essential equipment and basic supplies.

Lesson Learned

Quality improvements in one sector can have spillover effects on other sectors. Although the costs of developing an independent network of NGO family planning clinics were high, CSI's contribution was invaluable because these clinics had the unanticipated benefit of pushing the public sector to improve its performance and the quality of its services.

Family Planning: Efforts to improve the quality of FP services trace back to 1988, when USAID supported the establishment of the CSI Project. CSI redefined patient expectations in Egypt and spearheaded a new national emphasis on FP service quality. Superior quality of care, attention to client needs, and sound management made CSI a model for improved FP service delivery. CSI clinics demonstrated a culture of quality that became the staff mindset and contributed greatly to clinic performance. As of 1999, these clinics were delivering the highest annual average of couple-years of protection in the entire national program.

The success of the CSI clinics spurred the MOHP to embark on a quality program of its own. In 1994, the MOHP, with USAID/Egypt support, launched a nationwide quality assurance program for public FP services. This became known as the Gold Star Program, one of the largest public FP quality improvement programs in the world.

The Gold Star Program aimed to upgrade the quality of services while creating among the public and providers an expectation those services would meet high quality standards. It stimulated the supply of services through better training and supervision of health care providers, and it generated demand by promoting higher-quality services to the public.²⁸

Principal components of the program were: improving clinical performance and physical conditions, compliance with established standards, effective management and monitoring systems, and use of MIS to make informed decisions. The program delineated about 100 indicators of quality, and each service point was rated against all indicators. Facilities that met all indicators were identified as Gold Star clinics and staff. Routine supervision and monitoring visits were established at the central, governorate, district, and facility levels.

A work productivity payment plan was critical to the success of the Gold Star program. All FP staff of the clinics shared on a set basis revenues earned from the sale of contraceptives. Though the Gold Star program no longer exists, it left a legacy of quality improvement. Its principal components, such as the standards of practice and supervision systems, as modified over time, form the foundation for current quality improvement structures.

MCH and Hospital Services: Starting in the 1980s, the MOHP, with USAID support, introduced standard case management as a tool to reduce child deaths. For example, to replace incorrect or inadequate prescribing and treatment practices, the use of ORS and continued feeding were promoted as the principal methods of case management, along with limiting use of anti-diarrheal drugs in addition to sustained breastfeeding and good hygiene as diarrhea preventives. The MOHP approach to tackling deaths from ARIs also centered on the development and roll-out of standard case management to all health providers, both private and public.

In 1994, USAID/Egypt-supported expertise was provided to MOHP hospitals in a pioneering effort to introduce the concept of quality as a part of hospital cost recovery efforts. Each of the pilot hospitals created a quality assurance committee and began drafting quality standards and protocols to improve the care provided to their patients. By the end of the 1990s, the MOHP Curative Sector had national quality standards for most hospital services that were being applied countrywide.

Thereafter, USAID/Egypt projects worked with MOHP managers to reduce maternal, neonatal, infant, and child mortality by improving quality of care. Essential packages of MCH services and standards were put together for antenatal and postnatal care, delivery, essential obstetric care, neonatal care, and preventive child health services. Officially approved as national standards, they paved the way for sustainable change nationwide in the quality of care. With USAID/Egypt support, hundreds of facilities received essential inputs to upgrade obstetric and neonatal care to meet the quality service standards for each level of care, including, where needed, equipment, drugs and supplies, and facility renovations. Thousands of physicians, nurses, and support staff in upgraded facilities were trained in clinical protocols for obstetric and neonatal care.



Women sitting outside a former Gold Star Clinic in Fayoum.

Photo by Leslie Curtin

²⁸ *Communication Impact*, November 1998: "Egypt's Gold Star Quality Program Wins Clients and Communities."

An important aspect of the interventions was the systems approach to improving quality of care. This approach included improving the collection and use of data and applying quality control and improvement systems. A continuous quality improvement system (CQIS) was developed to assure compliance with standards.

Family Health Model and Health Sector Reform: Beginning in 1997, when Egypt undertook health sector reform with quality improvement as a primary goal, USAID provided technical assistance in the design and pilot test of the model. At first, the emphasis was on developing a systemic approach to improving PHC quality and drafting standards to be used in accrediting PHC facilities. The efforts were later expanded and integrated across the full spectrum of facilities, including secondary and tertiary hospitals. In 2003, the MOHP launched a national accreditation program, with technical assistance from USAID, to formulate and test accreditation standards and build institutional capacity for accreditation. The accreditation system is now in place and fully financed by the MOHP. A Quality Improvement Directorate was established within the MOHP to build the organizational structure.

Integrated FP/RH/MCH programs supported by USAID continue to work within the MOHP on upgrading and accrediting PHC units in accordance with the FHM. Quality improvement activities include: facility renovations, provision of equipment, improving management and supervision systems, training of staff, and clinical quality improvements. Since the targeted facilities are part of the MOHP master plan for conversion to the FHM, all quality improvement activities are compatible with the FHM model.

Through an integrated approach, previous FP and MCH standards of care were revised and merged into an integrated standard of practice (ISOP) manual in 2007. The ISOP manual, approved by the MOHP, provides technical guidelines on all national services and programs covering MCH and FP. It is used to train physicians and nurses before they are deployed to PHC units throughout the country. In USAID-supported districts and facilities, physicians and nurses receive didactic training using the ISOP manual, supported by OJT and supervision. The OJT program, provided by MOHP district supervision teams with technical support from USAID/Egypt, makes follow-up visits to reinforce the application of newly acquired knowledge in the actual environments of health unit staff and facilitates continuous quality improvement.

An integrated performance checklist addresses quality issues for both self-assessment and supervision. In recognition of the importance of providing better clinical training in FP and deliveries, the MOHP in 2009 initiated a program to send doctors newly assigned to PHC units to hospitals for hands-on practice with IUD insertions and deliveries.

At the hospital level, beginning in mid-2000, standards and protocols for antenatal and postnatal care, delivery, essential obstetric services, and neonatal care were updated and integrated with the standards for RH care. A FP component has been added to the CQIS to monitor quality of care and performance.

Remaining Challenges

Counseling: Despite substantial progress over the last three decades, continuous quality improvement in the Egyptian health and FP programs remains a critical challenge. There is, for instance, a need for further improvements on the aspect of the quality of FP counseling, especially on the behavioral dimension between client and provider. The need for better counseling is reflected in high contraceptive discontinuation rates. Research worldwide confirms that quality of counseling at the time methods are obtained has a significant effect on the continuation of contraception. Better counseling will also help address the issue of unmet need.

Quality Standards: Although FP and MCH quality standards for PHC units have been merged and integrated into the ISOP manual, the manual would benefit from an update and simplification

to ensure that it is appropriate for services offered at the primary rather than higher levels of care. The manual has been disseminated nationwide to PHC facilities, but not all PHC staff are trained in its use because only newly placed personnel receive the six-week FHM training. The integrated CQIS for hospitals also should be institutionalized to improve central and governorate oversight of the quality of hospital services, particularly since the process for formal accreditation of MOHP hospitals had not yet been initiated at the end of 2009.

Supervision Tools: All MOHP managers who oversee PHC units use a simplified assessment tool required by Decree 75, which is essentially a supervision checklist to evaluate standards of care and qualifications for incentives. This checklist, which is an administrative and output-oriented tool, should be updated to integrate performance quality standards. Meanwhile, in USAID-supported districts, MOHP managers also use the revised FP/RH/MCH integrated supervision checklists to supplement the Decree 75 checklist, because it provides additional information about health provider performance.

It is important to ensure that during health care reform, integrated FP/RH/MCH quality improvement standards and tools are incorporated into the FHM and the facility accreditation program. The practice guidelines for family physicians developed for FHM pre-deployment training contain extensive theoretical background material on all services, but there are no protocols to facilitate quality performance in clinics.

Health Information Systems and Surveillance

Evidence of Progress

Egypt has been successful in developing a national health information system (HIS) for reporting on the performance of essential health services by both public and private service providers. The HIS, which is now operational in all districts and governorates, has an integrated reporting format that accounts for a broader array of health services while reducing the number of indicators previously generated for priority health activities.

The MOHP has also instituted effective infectious disease surveillance programs. The NEDSS, located within the MOHP ESU, has been fully functional since 2006, and HIV/AIDS sentinel surveillance is also in place. The system is maintained by field-based MOHP epidemiologists and incorporates MOHP laboratory support for timely diagnostic appraisals. Rapid response teams are also organized to carry out field investigations of new disease outbreaks.

Egypt now operates a national maternal mortality surveillance system that documents all maternal deaths. This information is being used to investigate clinical causes of deaths and social conditions within families and communities that may have contributed to deaths. The outcome of this analysis is used in recommending remedial action to further reduce maternal morbidity and mortality risks.

Egypt also maintains a vital statistics registration (VSR) system to record all births and deaths. This system, which has been in operation for many decades, offers the most current estimates of births and deaths throughout the country. According to Egyptian law, children must have a birth certificate to obtain PHC and enroll in school, and a death certificate is required for burial, both of which help ensure that the system is reasonably complete. VSR data are used to calculate national, governorate, and district vital rates (including crude birth rates, crude death rates, and infant mortality rates). This information is also essential for calculating HIS outcome indicators (e.g., maternal mortality ratios and service coverage estimates).

Why this Program Is Important

A reliable and timely HIS generates essential information on program activity and effectiveness. It is the most current source of data on client contact with the health care system, diagnostic

and treatment patterns for essential services, and the availability of essential drugs and supplies. The MOHP routinely uses the HIS system to monitor and evaluate program performance and correct deficiencies in program outcomes as they arise. It should become increasingly useful in assessing the extent to which noninfectious chronic illnesses (e.g., cardiovascular disease, diabetes, high blood pressure, and metastatic disease) pose challenges for Egypt's health care system.

Egypt's infectious disease surveillance systems generate estimates of disease incidence that better enable the MOHP to identify disease threats, including emerging pathogens, and mobilize effective interventions. This capability is especially critical in tracking the spread of new health threats like H5N1, H1N1, and HIV.

Egypt's MMSS has already proven to be effective in documenting maternal deaths throughout the country. While there has yet to be an external evaluation of the system, it is thought to be reliable and a possible model for other developing countries to emulate. The system's ability to investigate cases of maternal mortality has led to more attention being paid to this often preventable health problem as well as the organization of more effective counseling, referral, and access to modern obstetric care.

How Progress Was Achieved and the USAID Role

Egypt's Health Information System (HIS): The current HIS has evolved from earlier efforts under USAID/Egypt-supported FP and MCH projects to collect reliable and timely service statistics. During the early years of the FP program, public and private facilities reported performance data that were compiled by the NPC. During this formative period, the NPC transmitted FP information to the MOHP and also to the former President of Egypt. The NPC's FP service statistics system was later combined with the HIS for MCH activities maintained by the MOHP. In parallel, the MOHP developed vertical health and management information systems for such programs as EPI, ARI, and diarrheal disease control. The MOHP gradually integrated all these into a more manageable system.

The HIS is now operational at PHC units, regional hospitals, district health offices, governorate health offices, and MOHP headquarters in Cairo. HIS reports from district health offices are compiled and disseminated by the MOHP's National Information Center for Health and Population. The system currently generates monthly reports on such performance indicators as FP acceptance, use, and method discontinuation; MCH services, including antenatal visits, delivery care, child immunization, and diarrheal and ARI disease treatments; and the dispensing of drugs.

Some early refinements to the HIS were made during the 1990s through the collaborative efforts of the U.S. DHHS and the MOHP. At that time, new models for compiling and disseminating information on vital statistics, FP, infectious diseases, and immunization were incorporated into the HIS. In the 2000s, efforts have been made to improve reporting at different tiers of the health system, especially through better forms for reporting client referrals and treatment outcomes at the secondary and tertiary levels.

The MOHP is continuing to streamline the HIS as part of continuing efforts to reform Egypt's health sector and implement the FHM to restructure the delivery of local health services. Reporting forms have been simplified, fewer indicators are being tracked, and reporting formats are better integrated across the range of services provided by different levels of the health care system. However, the current HIS may still require health staff to spend too much time completing forms and reporting on too many indicators.

Within PHC facilities, efforts have been made over the past decade to upgrade systems for tracking patient flow, diagnostic and treatment patterns, and outcome data. These efforts began

in the late 1990s with funding from the World Bank. The initial patient-based system (PBS) prototype has been revised over the past decade to improve its ease of use, replicability, and sustainability.

One notable attempt to improve collection and use of health information within PHC units was the computer-based Feedback and Analytical Comparison Tool (FACT), which was introduced with USAID/Egypt support in the Governorate of Suez in 2004–05 as part of a reform pilot. This system made it possible for doctors to access patient records, assess the effectiveness of various treatments, and compare health outcomes across facilities. It also allowed for immediate feedback of epidemiological information to health care providers—an essential ingredient for assuring high clinical standards and good patient care.

The Clinical Information System (CIS) that is now being piloted in the five governorates incorporates elements of the PBS and FACT systems while striving to be easier to use and more accessible to providers. The system attempts to integrate new family files derived from the canvassing of catchment areas into the record-keeping system of PHC units that have converted to the FHM. It is anticipated that this patient-centered clinic reporting system will eventually be introduced across the country as PHCs gradually convert to the FHM.

National Electronic Disease Surveillance System: After several years of technical support from USAID/Egypt, the Epidemiology Surveillance Unit (ESU) was formally established at the MOHP in 2000. The ESU subsequently supported development of the NEDSS to replace a manual system for tracking diseases that were clinically diagnosed, but without standard case definitions or laboratory confirmation. Since 2006, all 29 governorates routinely use the NEDSS to electronically report suspected notifiable disease data, using standard case definitions, and lab reports, and confirmations from fever hospitals. This information is reported every week to senior ESU and MOHP managers. The upgrading, with USAID/Egypt assistance, of supportive MOHP laboratory capacity through provision of equipment, training, and development of new diagnostic guidelines and procedures was an important element of the system.

The NEDSS reports on established and emerging diseases, though it does not collect information on sexually transmitted infections (STIs), most non-communicable diseases, and outbreaks of malnutrition. Consideration is also being given to a national cancer registry for reporting the incidence of metastatic disease, and several studies of chronic conditions among adults (e.g., diabetes and heart disease) have been completed. It is anticipated that the MOHP will gradually be able to build the capacity to report on the diagnosis and treatment of adult-onset illnesses.

HIV/AIDS Surveillance:

HIV/AIDS surveillance started with the establishment of NAP (National AIDS Control Program) in 1986. Egypt remains a low prevalence country, where HIV/AIDS prevalence among the general population's less than 0.02%, with signs of concentration among IDUs (Injecting drug users) and MSM (Men who have Sex with Men).

With initial funding from USAID, Egypt has also instituted an HIV sentinel surveillance system in urban areas where risk is considered to be greater. Findings from this system suggest that the prevalence of HIV in Egypt is still well below 1%. HIV/AIDS cases are largely concentrated among injecting drug users (IDUs), sex workers, and men who have sex with men (MSM). The majority of reported cases are in the urban centers of Alexandria and Cairo.

From 1999 through its final funding in 2007, USAID supported Egypt's National AIDS Program (NAP) situated in the Ministry of Health. This assistance focused on building sentinel surveillance capabilities in communities where most-at-risk populations live or congregate, and on providing access to voluntary counseling and testing services.

Given Egypt's highly concentrated but low HIV prevalence, priority has been given to increasing prevention using mass media, counseling, and peer-to-peer education to reach higher-risk groups. From 2003 to 2007, USAID provided support to the NAP for reaching IDUs by employing street-based and drop-in counseling approaches to enhance knowledge and reduce risky behaviors. USAID resources enabled NAP to initiate new prevention and treatment services for MSM in Alexandria—the most-at-risk population group with the highest reported HIV prevalence (6.2%) at the end of 2007. USAID also worked with the MOHP to improve prevention and treatment of STIs, including HIV and AIDS. This initiative established pilot clinics for STI diagnosis and treatment; the first facility opened in Cairo in June 2006.

Maternal Mortality Surveillance System: With technical collaboration from USAID, Egypt implemented the national MMSS in 1998. MMSS reporting is based on death notification data from District Health Offices, where all deaths must be registered. District and governorate MCH staff review deaths of women of child-bearing age according to clear guidelines and investigate those that occurred during pregnancy, delivery, or shortly thereafter. The system captures deaths both at home and within private and public facilities. The MMSS provides the MOHP with numbers of maternal deaths each month, and the MOHP tabulates an annual MMR.

The MMSS is highly cost-effective, relying on simplified reporting formats (the current three-page questionnaire replaced two separate forms totaling nearly 50 pages). The system also provides monthly information that can be used to investigate deaths and recommend action to reduce morbidity and mortality. This follow-up work is the responsibility of governorate and district SMCs working in collaboration with Community Health Committees. Unfortunately, not all areas have functioning SMCs, especially in Lower Egypt.

Egypt's MMSS will continue to be vital for monitoring the incidence of maternal deaths, understanding the causes of maternal mortality, and more effectively organizing antenatal, delivery, and emergency obstetric care. While Egypt has seen a dramatic fall in the MMR since 1993, the 2008 figure of 55 maternal deaths per 100,000 live births, while low for most developing countries, could be further reduced. Readily sharing data at the national level and comparing governorate performance would promote transparency and follow-up with governorates that need special attention.

Commodity Logistics Reporting System for FP and Health Programs: Egypt's reliable FP commodity logistics system was one of the more important contributions to strengthening the M&E of FP program performance and operations. The work of developing the logistics system was undertaken by the Egypt Pharmaceutical Trading Company (EPTC) with funding and technical support from USAID. The system quickly proved reliable in accounting for imported contraceptives and provided some of the earliest estimates of FP program performance through the computation of couple-years of protection. Working in close collaboration with the MOHP, the system was also able to track the distribution of contraceptives nationwide and ensure that supplies were fully accounted for and getting where they were needed.

The EPTC commodity logistics reporting system continues to function well. It is critically important in ensuring that the Egyptian health system remains well-supplied and capable of minimizing stock-out risks for contraceptives.

Remaining Challenges

Expansion of Computerized CIS Reporting in Family Health Centers: As the FHM is extended throughout the country, additional efforts will be required to make clinic and hospital reporting procedures more efficient. Most record keeping at PHC units is still done using traditional hand-tabulated record books rather than computer-based data entry systems. Only at the district level is data entered into an electronic system.

If the MOHP is to reach its goal of fielding an efficient, fully linked CIS reporting system easily accessible at all levels of the health system, it will need to build up its computerized HIS capacity throughout the country, particularly in primary health care facilities that have already converted to the FHM. The CIS system currently operational within FHM pilot sites may be the best way to maintain client records at PHC facilities and more effectively relay monthly reports to District Health Offices—assuming this system proves to be adequately comprehensive and user-friendly.

Using HIS and Surveillance Information for Decision Making: HIS statistics compiled by the MOHP mainly flow upward from PHCs to districts, governorates, and finally to the Central Level at the MOHP. There is little downward flow of HIS information. This does not help facility staff, especially at PHC centers, to analyze their performance or make use of HIS data for comparisons with other facilities. Furthermore, current facility staff are not making optimum use of their own data. Eventually, continued improvements in the quality, and usefulness, of data will depend on facility staff knowing how to analyze and use the data to plan and monitor their own programs. The MOHP must devote considerably more time and attention to increasing the capacity of the facility staff to do so. This should be a high priority for the district management team. The slogan of the WHO Health Metrics Network, “Better Information, Better Decisions, Better Health,” should also become a battle cry for the Egyptian MOHP.

It is not always clear how the MOHP uses HIS data. More transparent handling of HIS information and allowing for more public access to and use of HIS materials would make this asset even more valuable. Consideration should be given to developing quarterly summary reports of main HIS results and enhancing on-line access to priority summary indicators.

It is difficult to obtain detailed and timely information from the MMSS as currently structured. For this resource to reach its full potential, access to MMSS data at the national level should be encouraged, especially by MOHP service providers and MCH public health professionals. It also appears that HIV sentinel surveillance data are not always publicly available in a timely manner.

Strengthening Referral and Reporting of Curative Care Outcome: The HIS is not designed to provide information on the outcome of referrals; it only records that they have been made. All too often, clients are referred from PHC facilities to secondary and tertiary care and then lost to follow-up (i.e., the referring physician is often not able to track what services were provided and what resolutions were achieved). USAID is currently supporting an effort to improve the reporting back from hospitals to PHC units in 11 governorates, but this remains a weak link in the system. Such capacity will become even more important as Egypt’s health care system begins to give more attention to treatment of adult-onset chronic conditions.

Ensuring that Private Sector Services Are Completely Reported in the HIS: Although the MOHP HIS is designed to report on health services supplied by both public and private providers, it is difficult to ascertain the extent to which private sector activities are fully reported, and therefore the extent to which the HIS can be considered complete.

Continuing Training in HIS/Surveillance Concepts and Procedure: There is still some confusion at PHC units and district offices about the concepts and definitions used to compute HIS indicators. Because those responsible for managing HIS change over time, there will be a continuing need for refresher and new user training on HIS management and reporting protocols. Egypt’s infectious disease surveillance system seems to be functioning well, but its management also requires continuous refresher training if it is to continue to do so.

Building an Evidence Base: Strengthened Survey and Research Capacity

Evidence of Progress

Over the past three decades, Egypt has greatly improved its ability to undertake household-based DHSs and facility-based assessments of service capacity and quality. There are now public and private institutions in Egypt that can conduct large-scale demographic and health studies, routinely provide information for M&E of health program performance, and identify future challenges. Egypt now requires little external technical assistance in implementing behavioral studies and organizing assessments of its health programs. This is a substantial accomplishment considering that Egypt had little reliable national and regional information on population dynamics or health program outcomes prior to 1976.

In addition to enhancing survey capacity, Egypt has expended considerable effort in improving the range and quality of population and health research. The NPC Research Management Unit was created to strengthen the development of policy and program research and provide funding for Egyptian researchers to investigate priority problems.

Egypt also undertook a wide array of operational research on FP, RH, and MCH issues. Research studies, such as the Egypt Health Communication Surveys, helped guide the mass media and community outreach programs (including peer-to-peer communication). Village health surveys in 2004, 2005, and 2008 took an intensive look at IEC/BCC effectiveness in local communities. National studies in 1993 and 2000 documented high levels of preventable maternal deaths and were instrumental in promoting greater attention to maternal mortality. All of these were supported by USAID/Egypt.

Egypt has established training and research facilities in the population and health sciences that continue to produce new research professionals. While cutbacks in donor funding may have adversely affected training and research opportunities in recent years, Egypt continues to provide some resources for developing home-grown talent.

Significant scientific capability, particularly immunology and virology capacity, has also been built in universities, research organizations, and MOHP institutes to conduct research on endemic and infectious diseases. The Viral Hepatitis Research Laboratory (VHRL), established in 1998 with USAID support, continues to be Egypt's premier biomedical center for research on HCV. U.S.-Egypt collaboration in the medical sciences has been ongoing for at least three decades and continues to this day.

Why this Program Is Important

Investments by the GOE, USAID, and other donors in enhancing Egypt's survey and health research capacities have enabled the country to effectively measure progress in achieving demographic goals and health outcomes. The information generated has increased the country's ability to document the behavioral dimensions of health service utilization and outcomes, improve program design, and enhance client-provider relations.

Egypt now has adequate capacity to document its demographic and epidemiological challenges and will be better equipped to formulate indigenous health strategies and programs to address priority needs. It also now has the ability to compare the data collected by different systems (e.g., population censuses and surveys, health information systems, surveillance data, etc.) so as to better judge the validity of various sources.

The benefits of solid health research capacity for any country are numerous. Information is generated that makes it possible to gauge progress, identify problems, and manage health programs more efficiently. Political and financial support for health programs is enhanced when it is possible to demonstrate positive returns on the money invested. Local capacity and ability

to carry out surveys and research makes the work less costly and more cost-effective. An evidence base is an essential element of any modern health care system.

How Progress Was Achieved and the USAID Role

Egypt Demographic and Health Surveys: Egypt's principal source of reliable and timely information on national demographic and health conditions has been the EDHS. The EDHS typically provides information on household characteristics, estimates of fertility and mortality, and information on FP and RH program performance, maternity care, and infant and child health. It was also the initial source of information that in Egypt FGM was nearly universal, which led to concerted campaigns to reduce the practice. EDHS information is widely used, especially by the MOHP and the Information Decision and Support Center, which supplies the latest statistical data on population, health, and economic activity to the Cabinet.

Egypt has an admirable record of national surveys on demographic and health conditions. Prior to the EDHS program, Egypt acquired experience in organizing large national surveys by completing Egypt Fertility Surveys in 1975 and 1980, and two Contraceptive Prevalence Surveys in 1980 (rural areas only) and 1984–85. Later, Egypt completed standard DHSs in 1988, 1992, 1995, 2000, 2005, and 2008, and smaller interim surveys in 1997, 1998, and 2003. USAID gave these surveys full funding support.

The 2008 EDHS is notable for having covered more health topics than any standard DHS anywhere else in the world. As in previous EDHSs, the survey was based on a nationally representative sample of 16,527 ever-married women aged 15–49. However, in 2008, it also included interviews with all men and women age 15–49 living in a subsample of the households surveyed. In addition to its usual coverage of FP, RH, and MCH issues, the 2008 EDHS obtained information on respondent knowledge of H5NI, HIV/AIDS, and HCV; attitudes toward and prevalence of FGM; and previous history of high blood pressure, diabetes, heart disease, and liver ailments. The survey also collected anthropometric data for young children, youth, and survey respondents to assess nutritional status, and obtained blood pressure measurements and blood samples to measure the prevalence of HCV among respondents. By any standard, this is an ambitious agenda for a single survey instrument.

As part of the EDHS program, Service Provision Assessment Surveys (SPAs) were also completed in 2002 and 2004. These two national surveys provided information on the availability of services, the physical characteristics of facilities, and the capacity of providers to deliver care. Should an additional SPA be conducted, it will identify meaningful trends in the range of services provided to clients and alterations in Egypt's health facility infrastructure since 2004.

The impressive regularity of these national surveys has enabled Egypt to monitor short-term changes in program performance and identify emerging needs. Recent examples of this monitoring capability have been growing concerns about the apparent leveling off of Egypt's fertility decline since 2003, reductions in public contact with mass media FP messaging, the high prevalence of HCV, and the rise in stunting among children under 5 between 2005 and 2008.

Largely because of GOE and USAID support for the EDHS and other surveys conducted at regular intervals over a 30-year period, Egypt has a substantial volume of high-quality data tracking progress and health and demographic trends, service coverage, the population's health knowledge and practices, and other important information. This information was not only critical to building and shaping programs but also provides an unusually well-substantiated view of Egypt's health and population accomplishments over several decades.²⁹

²⁹ See Annex 6 for 138 annotated graphs and charts, many of which document trends and progress.

Studies Relevant to Health Sector Reform: Egypt's growing survey research capacity has been instrumental in generating information relevant to the design of the country's health sector reforms. For example, two surveys commissioned by USAID were important in efforts to restructure Egypt's health delivery system. The 1994–95 Household Health Care and Expenditure Survey, conducted by the Cairo Demographic Center, assessed health service utilization patterns and produced Egypt's first household data on health expenditure patterns. A subsequent series of household income and expenditure surveys that included health allocations for services and pharmaceuticals was conducted by the Central Agency for Public Mobilization and Statistics. The 1998–99 Egypt National Health Care Provider Survey inventoried health services delivered across the country; produced profiles on the characteristics of service providers; and supplied information on clinic work routines and client-provider contact. Three rounds of National Health Account exercises have also provided important information about health care expenditures and helped to catalyze the political impetus to move forward with reform.

NPC-Supported Population Policy and Program Research: Beginning in 1988, USAID/Egypt funding for demographic and health research was channeled through the NPC Research Management Unit. This support enabled the NPC to undertake policy and program studies and make awards to other Egyptian research organizations active in population research (e.g., the Cairo Demographic Center, the Institute of Statistical Studies and Research at Cairo University, and the Social Research Center at the American University of Cairo). It has also been an important mechanism for ensuring that Egyptian researchers can make effective use of the country's principal statistical resources on population and health. In recent years, the GOE has continued to provide funding for the Research Management Unit.

The NPC has supported an extensive array of studies on population and development, the use of FP and RH services, and the status of women in Egyptian society. Many of the results have been useful in planning improvements in FP program design and operations, such as data on the impact of IEC/BCC messages, FP/MCH service referral linkages, and the role of FP in reducing Egyptian fertility rates. A 2009 study NPC conducted in collaboration with the Cairo Demographic Center investigated positive and negative incentives (the dynamics of demand) for smaller families and use of modern contraception.

The NPC also collaborated with USAID/Egypt on studies of FP market segmentation, the cost of children in Egyptian households, estimated maternal and child deaths averted by FP, and the cost-savings for education, food subsidies, and employment generation resulting from the decline in Egyptian fertility rates.

Unfortunately, funding for population policy research at the NPC and other Egyptian centers seems to have declined in recent years, making it more difficult to sustain interest in population concerns. Generating demand for FP is clearly not receiving the attention it once did. Also, the NPC has encountered some difficulties in funding new initiatives. For example, the Population Information Center, created in 2002, proved to be unsustainable in part due to confusion about its role in information exchange and national and regional planning.

Operations FP and RH Research: USAID/Egypt provided funding to international and Egyptian organizations for program (operational) research on FP and RH service provision. The Agency worked with Egyptian researchers on studies of FP and RH program performance and future RH needs. The Egypt Fertility Care Foundation (EFCF), previously the Egypt Fertility Care Society, undertook various clinical trials and FP/RH program assessments.

Program research gave considerable attention to the issue of postabortion care (PAC). Studies were completed on PAC caseloads in public hospitals; means of improving the availability and quality of PAC services; options for greater use of contraception in PAC and postnatal services;

and the feasibility of strengthening PAC training in MOHP and university teaching hospitals. Efforts were made to evaluate the feasibility of integrating PAC services into current FP service facilities and improving PAC counseling and information provision. Additional topics addressed were FP and RH service integration; promotion of optimal birth spacing; the quality of client-provider interaction; the acceptability of the female condom; and the apparent slowdown in Egypt's fertility decline. Egyptian researchers were also, and continue to be, trained in operations research. A methods course was made part of the yearly core training curriculum offered by the Cairo Demographic Center and is taught by Egyptian professors affiliated with the Center.

The EFCF, founded in 1974 by Dr. Mahmoud Fathalla, one of Egypt's most renowned obstetricians, was one of the earliest FP advocacy and research organizations in the Middle East. Since its inception, the EFCF has compiled an impressive FP/RH research legacy and was for many years supported by USAID cooperating agencies in its early work on such topics as voluntary sterilization for medically indicated reasons. In recent years, it has given more attention to FGM, especially the physical, sexual, and psychological impacts of the procedure on adolescent girls, though it has retained its interest in the operation of FP programs.

National Maternal Mortality Studies: Giving considerable attention to maternal mortality, Egypt has managed to substantially reduce the unacceptably high MMRs that prevailed just a decade ago. Maternal mortality studies implemented in 1993 and 2000 stimulated attention to the issue and led to the development of the MMSS (with technical support from the USAID-funded Healthy Mother/Healthy Child Project). This effort was critical to institutionalizing a systematic approach to targeting the main causes of maternal mortality and identifying intervention strategies that would be most effective in saving mothers' lives.

USAID-GOE Partnerships in Research: Egyptian biomedical researchers who benefited from training and enhanced equipment, such as the Virology Laboratory in the Tropical Medicine Research Institute, are now successfully competing for grants from the U.S. National Institutes of Health, the EU, Finland, Japan, and other sources. Young scientists were also supported with small USAID grants and access to laboratory facilities for Ph.D. and master's work. Many of the foremost researchers and public health leaders in the country were once supported by junior scientist grants or USAID training.

Schistosomiasis: USAID-GOE partnerships in medical science have been an important element in building up research efforts for many years. From 1988 to 1998, some 100 research projects for schistosomiasis control were completed by Egyptian investigators and collaborating U.S. scientists, and over 100 Egyptian scientists studied in U.S. laboratories.

Hepatitis C: USAID and other donor support for the VHRL, located at the National Hepatology and Tropical Medicine Research Institute, helped the VHRL make important advances in identifying the HCV genotype found in Egypt. Much of this work dealt with HCV immunology; susceptibility and genetic inheritance; malignant complications; vertical transmission; and interferon and alternative medicine (silymarin) treatment trials. A study initiated in 2009 is also investigating the zoonotic transmission of HCV through rodents and domestic animals. Many distinguished international scientists have worked with the VHRL, and the results of these collaborations have been widely published in peer-reviewed international journals.

Cooperative Health Program with the U.S. DHHS: The DHHS partnered with the MOHP with funding from USAID for a program that spanned 20 years. It supported such studies as national surveys on hypertension and diabetes; studies on urban filariasis and STIs in Cairo; an investigation of the effect of arboviruses on childhood health and development; an assessment of leukemia and lymphomas; and research on injury prevention and genetic counseling. The

program also supported studies of the feasibility of local production of vaccines and drugs, improved HISs, food safety programs, and related areas. Many institutional relationships created through this partnership are still active today.

Joint Science and Technology Fund: The Fund was established under the U.S.-Egypt Science and Technology Cooperative Agreement signed in 1995 and renewed in 2001 and 2005. Some U.S. \$4 million a year is allocated equally to Egyptian and American scientists working together on Fund activities.

Remaining Challenges

Uncertain Resources for Future EDHSs: Mechanisms need to be identified for securing resources for future EDHS rounds and making these surveys an integral feature of future MOHP M&E efforts. Decisions are needed about the content and periodicity of future surveys and how the capacity needed to undertake this work can be made more sustainable.

EDHS Design Overload: The 2008 EDHS covered an exceptionally broad array of health issues, including blood testing for deriving national HCV prevalence rates. There is a tendency to continually add more questions and modules to the EDHS to satisfy the demands of an ever-growing constituency of users. However, when a single survey instrument becomes excessively large and unwieldy, data quality is likely to suffer. Limits on the number of topics that the EDHS can effectively handle will need to be considered in future surveys, especially since the demand for small-area (governorate-level) results seems to be growing. It might be preferable to consider a multi-round survey approach for the EDHS if the number of health topics it is expected to cover continues to grow.

Reduced Funding for Training in Survey Research Methods: There is now less funding for training in data collection and survey research methods than was available in earlier years. More attention is needed on how future Egyptian demographers, epidemiologists, and survey research professionals will be trained and deployed.

Declines in Support for Population Policy and Program Research: Today, there is less funding available for population policy and health program research than in past years, which should be a matter of concern for the Egyptian government. The decline limits the ability of Egyptian researchers to explore relationships between the size, growth, and distribution of Egypt's population and such issues as family welfare, the quality of urban life, future food availability and nutritional intake, educational and employment opportunities, and the provision of health services. Contractions in support for operational research on the performance of Egypt's health programs also compromise efforts to address current implementation difficulties and field-test new approaches to delivering care. In addition, fewer resources for policy and program research deprive Egyptian professionals of the opportunity to work on these issues and discourage young Egyptians from entering the professions of demography, epidemiology, and survey research. After a prolonged period of support from USAID/Egypt and other donors, Egypt should be considering the allocation more of its own resources to these critical research topics.

Maintaining Professional Capacity in the Private Sector: There is currently concern that Egypt's impressive private survey research capacity may falter once the current generation of senior professionals begins to retire. Additional government funding for such research through contracts to private firms can ensure that younger researchers can continue to learn and practice the profession and become a resource for the future.

Faltering Support for Basic Biomedical Research: Egypt currently appears to undervalue the importance of basic biomedical research and the need to develop competence in this area. For instance, it is increasingly difficult to obtain funding to maintain essential equipment and supplies,

clearance procedures for new projects can be onerous, and funding for biomedical research is contracting.

Human Capacity Development

Building human capacity has long been an overarching goal of USAID's development assistance program in Egypt. USAID has invested heavily for the past 30 years in training Egyptian FP and health care service providers and managers and building Egyptian population and health institutions. Large numbers of people received leadership and technical skills training through long-term training programs. Short-term training was designed into most USAID-supported activities, with local costs financed through ILs. Many health entities that USAID supported over the years are now fully institutionalized within the government or are operating independently without USAID or GOE support.

Human and institutional capacity-strengthening activities have been described in each major legacy area, because capacity building has been so fundamental to USAID-supported development efforts. This section describes noteworthy accomplishments that have not yet been discussed.

Evidence of Progress

Many current Egyptian public health leaders and biomedical researchers were once supported by USAID training programs or junior scientist grants. Since the late 1970s, hundreds of promising Egyptians have obtained graduate degrees in public health in the USA.³⁰ After their return, many became directors of MOHP units or project directors for USAID- and other donor-funded projects.

Training Success Story

Dr. Moushira El Shafei was a former MOHP Undersecretary for Family Planning and Director of Planning. With USAID support she earned an MPH from the University of Texas in the late 1970s and became one of the most influential public health professionals in the nation, serving in many capacities in the MOHP. Dr. Moushira later made many important contributions as a consultant to USAID-supported programs until her final

Egyptian biomedical researchers who benefited from such training are successfully competing for grants from such sources as the U.S. National Institutes of Health, the EU, Finland, and Japan. Many of these scientists are also supporting young scientists with small grants and making their laboratory facilities available for master's and doctoral research.

A number of retired or former MOHP officials, many of whom were recipients of long-term training, have established successful careers in other institutions and are still working to improve health in Egypt. Health Care International (HCI), a private health consulting firm in Cairo established in 1992, is composed largely of former health and population officials who previously played key roles in USAID-supported projects. HCI conducts needs assessments, designs and implements participatory training programs for public and private organizations, facilitates study tours, conducts applied research, and leads executive retreats for client organizations. It not only manages donor-funded contracts in Egypt, but also provides expertise to neighboring countries.

USAID support to the NPC in the 1990s created effective leadership, management, and research capacity at NPC headquarters in Cairo. A subproject with NPC helped create a Regional Center for Training in Family Planning and Reproductive Health (RCT) within the Ob/Gyn Faculty of Medicine at Ain Shams University, one of the leading Ob/Gyn hospitals in the Middle East. The RCT offers clinical FP courses, OJT, technical assistance, training packages, and annual

³⁰ It was not possible to reconstruct comprehensive data on all the Egyptians who received training with USAID assistance over the past 30 years. The Mission currently maintains a database of participants in short-term training, but records have been automated only since 2000.

conferences for participants from Egypt and many other countries. RCT is now functioning completely without USAID support.

The Higher Institutes of Nursing grew to exert leadership in nursing education, which has helped to raise the stature of nursing in Egypt. All secondary nursing schools in Egypt are using the updated curriculum developed earlier with support from USAID. The MOHP now has a continuing education program with fellowship and credit requirements to upgrade nursing skills. The MOHP has also institutionalized nurse-midwifery training that was initiated with USAID support. Training of nurses to become midwives now continues without USAID support.

Created in 1993 with support from USAID to build capacity in applied epidemiology, the Field Epidemiology Training Program (FETP) has grown in importance and helped encourage establishment of the ESU within the MOHP. Today, at least one FETP graduate is serving in every governorate.

Why this Program Is Important

Building human capacity ensures the long-term effectiveness and sustainability of the health care system. Institutionalization of any kind of technical or management capacity requires an investment in human resources, through formal training or other skills development efforts, and provision of opportunities for professional growth. The GOE must continue to fill the health field pipeline of skilled providers, managers and researchers. This should not depend on donors. While the importance and benefits of training and improving skills are self-evident, it is equally important to ensure that the investment in training and capacity development is accompanied by changes in the workplace that support utilization of new skills. Skills are rapidly lost and the funds for acquiring them wasted if health personnel find themselves in situations where they cannot practice those skills. In the past 30 years, many institutions in Egypt, supported by USAID, have made substantial progress in building human capacity in the health and population sectors.

How Progress Was Achieved and the USAID Role

USAID used multiple approaches to strengthen human and institutional capacity: short-and long-term training of program participants, hands-on technical assistance, OJT funded through ILs, and longer-term systems development. One of the most effective USAID training approaches used was embedding technical advisors within the MOHP and other implementing agencies. Daily contact between these advisors and their counterparts has fostered trust and close, friendly working relationships.

Participant Training: After 1978, virtually every USAID health project over the following 15–20 years incorporated sending some participants for training at U.S. universities for short- or long-term training. Many of these projects sent Egyptian physicians for a Master’s of Public Health in Primary Health Care. When they returned they became specialists in family health and staffed the rural health centers or filled key MOHP positions in FP, child survival, infectious diseases, and other programs.

Young Scientist Program: Hundreds of young Egyptians received research training through the Young Scientist program, supported by the Schistosomiasis Research Program. Through the program, they received training in practical science and lab bench skills from senior researchers in U.S. universities and laboratories. Many are successful scientists today in academic

Training Success Story

Dr. Wagida Anwar, a prominent biomedical researcher and leader, benefited from the Young Scientist program. She has been a Special Advisor to the Minister of Health and currently is a professor in the Faculty of Medicine at Ains Shams University. Dr. Anwar, a genetics researcher identifying mutagens and geno-toxic carcinogens for chemical risk assessment, is also active in promoting the prevention of chronic disease through better nutrition.

institutions, directing laboratories, and filling senior government research positions.

Regional Center for Training in Family Planning and Reproductive Health: USAID provided support to the RCT from 1988 through 2008 to build its capacity to conduct clinical FP and RH training for physicians, nurses, pharmacists, and social workers. USAID's assistance consisted of creating training materials and packages, equipping a model outpatient clinic where clinicians learn valuable skills, and building conference facilities.

From the late 1980s through the mid-1990s, USAID assistance to RCT focused on FP. In 1995, the scope of assistance was broadened to cover RH components, including breast cancer, STIs, and HIV/AIDS; referrals of couples to specialty clinics; and training in infertility. RCT also trained service providers from remote governorates. An important result is that FP and RH training became standardized throughout the country, which helped the FP program achieve major success.

USAID helped RCT to become financially sustainable by facilitating the drafting of a comprehensive sustainability plan and giving notice to RCT two years in advance that it would be withdrawing financial support. RCT has since been successful in diversifying its funding base and currently receives support from private physicians, the Ford Foundation, UNFPA, Ain Shams University, NGOs, and trainees who come from throughout Africa and the Middle East to participate in RCT programs.

Today, RCT conducts over 30 medical training courses and OJT in FP and RH for physician trainers and supervisors, Ob/Gyn technical supervisors, nurse providers, pharmacists, and lab technicians. Examples of these courses are training for physicians and nurses in FP and RH (including reproductive tract infections); high-risk pregnancies; early detection of gynecological malignancies; postpartum care and contraception; and mammography and laparoscopy training for doctors. RCT also offers training for lab technicians and instruction in the management of commodity logistics systems for essential medical supplies and equipment. RCT is now broadening its scope to address patients' rights and women's reproductive rights, including the need to improve counseling by physicians.

Faculties of Nursing: In the early 1980s, there were only two Higher Institutes of Nursing in Egypt; one in Alexandria University and the other in Cairo University. Project Hope and other partners were supported by USAID/Egypt to help establish an institute in Assuit to serve the needs of Upper Egypt for bachelor's level nurses. Revision of the nursing curriculum for that eventually resulted in an improved curriculum for the entire country. With 15 years of USAID support, Egypt ultimately set up Higher Institutes of Nursing in every university with a medical school; these were eventually upgraded to Faculties of Nursing. Today, these Faculties of Nursing are educating nurse leaders, especially professors and lecturers. Nurses trained at the bachelor's level are now in short supply largely because they are skilled enough to find employment in neighboring countries that pay much higher salaries.

Lesson Learned

The Field Epidemiology Training Program was started in the mid-1990s to increase the capacity of the Ministry of Health for disease investigation and surveillance. The first graduates were a crucial part of the successful effort to eliminate polio from Egypt. Today the MOHP Epidemiology Surveillance Unit is capably handling outbreaks of new viruses that were unknown when the program began.

Nurse-Midwifery Training: USAID supported the nurse-midwifery training program that continues to this day, with some students sponsored by other donors. Besides performing home deliveries, PHC unit-based midwives have helped improve postpartum care home visits.

Field Epidemiology Training Program (FETP): USAID and the MOHP enlisted and supported the U.S. CDC in assisting Egypt to

train field epidemiologists, upgrade the practical epidemiology skills of university staff and MOHP managers, and build a core laboratory-based MOHP disease surveillance system. As of 2009, FETP had trained 113 Egyptian health professionals who complete a rigorous two-year training program prior to graduation. Today, there is at least one FETP graduate in every governorate in the country monitoring infectious diseases and maternal deaths.



School children in Fayoum attend an Avian Influenza educational session.

Photo by Leslie Curtin

FETP also conducts courses in applied epidemiology for MOHP managers and other health professionals. It has trained thousands of governorate and municipal health officials in the case definitions for notifiable diseases, such as avian flu. Dramatic increases in the completeness of notifiable disease reports are apparent. The MOHP has ensured the sustainability of the FETP by adding a line item in the annual budget so that FETP continues without USAID support. When avian flu hit Egypt, the country was able to respond rapidly because there was a cadre of trained epidemiologists available to assess the magnitude of the problem and craft a response to control it.

Remaining Challenges

Quality of Medical Training: Deficiencies in the quality of medical training and in public health training for physicians continue to be intractable problems. An estimated 10,000 students receive medical degrees each year,³¹ but medical curricula are focused on curative care and deficient in basic concepts of infection control, FP, preventive MCH care, and PHC.

Classes that used to have 300 medical students now have about 1,500. Medical education tends to be highly didactic and theoretical and students may graduate with insufficient hands-on clinical experience. For example, it is possible that a student could graduate without ever inserting an IUD or delivering a baby. To correct for this training deficiency, today, the MOHP and international donors must continually invest in postgraduate and in-service medical training. This is neither cost-effective nor sustainable. Rectifying the problems will soon become even more important because under the new FHM, physicians will be expected to perform a range of PHC services fairly independently.

USAID attempted to address pre-service medical training problems through the Health Manpower Development project implemented with the Ministry of Higher Education, but the project was terminated after two years due to lack of progress. Unfortunately for Egypt, unless some elements of medical education are reformed, the need for costly in-service training will continue to be substantial.

FETP: FETP offers two training tracks, one for residents of Cairo and adjacent governorates and a distance-learning track for more distant governorates. This is a good strategy for expansion and equitable outreach, but additional CDC support seems to be needed for mentoring and to strengthen continuing education and the quality of training.

Health Reform and Human Resource Development: Changes in the Egyptian health care system demand new skills, such as actuarial analysis, accreditation and licensing, management,

³¹ Interview with Dr. Hamdi Sayed, President of the Egyptian Medical Syndicate, October 20, 2009.

human resource reform, and leadership. Building human resources, therefore, must be a central concern for health-related institutions in Egypt. The Ministry of Health and Population recognized the need for management training and requested USAID support, which is being given on to the MOHP on a pilot basis as it addresses the problem of poor distribution of human resources. However, the Ministry and the GOE need to address the issue of low salaries. Also, trainees need to be deliberately groomed to learn on the job and grow into leadership positions. It is not clear that there is such a process in the MOHP. Talented managers and leaders are still needed for specific programs.

Health Sector Reform

In Egypt, as elsewhere, health sector reform is a continuous process of reinforcing and restructuring the health care delivery system. In 1996, the MOHP initiated the process with the Health Sector Reform Program; since the ministry does not expect this program to be completed until 2020; many aspects of it have not yet been implemented nationwide. The important principles of the program are to (1) achieve universal health insurance coverage through a National Health Insurance Fund; (2) separate organizations that provide services from those that pay for care, and (3) ensure that a basic benefit package of high-quality services is available to all Egyptians.

The primary focus in the early years of reform was to improve health service delivery, with priority given to primary care. As of 2010, changes in the financing of health care by expanding health insurance and establishing Family Health Funds had not yet been implemented beyond the pilot areas. However, interim mechanisms are in place to improve staff incentives and activate facility service improvement funds to provide more operating support. Since 1994, USAID has been supporting several elements of the MOHP reform program: establishing the evidence base and rationale for reform; helping pilot the FHM, which operationalizes the basic benefit package; developing a system for quality improvement and accreditation; improving facility HIS; and, pilot-testing financing mechanisms.

Evidence of Progress

While health sector reform in any country takes a long time, typically several decades, Egypt has made clear progress since 1996:

The Health Sector Reform Program moved from general principles and objectives to a concrete plan of action, with pilot governorates identified, important elements tested, and plans and a timetable for expansion articulated.

- The Ministry of Finance conducted an actuarial review of the draft health insurance law and endorsed it in 2010.³²
- Key components of quality improvement were institutionalized in the MOHP for PHC facilities. A new Quality Improvement Office reports directly to the Minister of Health.
- An accreditation system is now functioning within the MOHP Quality Improvement Office. As of October 2009, 1,569 PHC units had been accredited.
- The FHM that was formulated and tested with support from USAID, the World Bank, and the EU, and the African Development Bank is being expanded nationwide. As of 2005, it was operating in 15 governorates, where about 50% of the total population resides.³³ It was planned that all FHM units would be completed by the end of 2010 with an EU budget support program funding much of the training and systems development costs.

³² While the law was presented to Parliament for consideration in 2010, the Prime Minister's office withdrew it due to controversy about the costs of overseas medical treatment of government officials.

³³ WHO, 2000, "Health Systems Profile," Regional Health Systems Observatory, EMRO.

- An improved HIS for integrated PHC services is functioning throughout the country. Eventually, it will be reconfigured as the FHM Clinical Information System (CIS). The CIS is currently in use by some FHM facilities in five governorates. While the CIS is being expanded, the HIS provides useful information to the MOHP on service utilization in FHM facilities as well as other clinics and hospitals.
- To put into effect the separation between service provision and financing in health services, the Family Health Fund (FHF) was developed under the HSRP in 1999 as the main contracting and purchasing agency for primary health care services. The FHF was piloted in Suez beginning in 2004 with support from USAID, and is gradually being expanded. As of October 2009, 711 public and 30 NGO facilities have contracted with the FHF.

Why this Program Is Important

The goal for health reform in Egypt is that over several decades, the health care system will be transformed into one in which the MOHP will become the regulator, HIO the insurer, and current health facilities (owned by governorates, NGOs, or formerly HIO) contractors would provide primary and secondary care. Changing the way services are financed should improve equity and institutionalize improvements in quality. Health care for poor Egyptians will still be highly subsidized or free (in the case of basic preventive services), but expanding social health insurance to cover most of the population could help reduce wasteful out-of-pocket spending on poor quality and unregulated care as well as prevent financial ruin due to medical emergencies.

Reform efforts to date create a solid platform on which to base new initiatives that will emerge from the political changes of 2011. Health reform, once fully implemented, should bring substantial benefits for the Egyptian people and government. Egyptians would then have better access to health care thanks to coverage by a social insurance system. The quality of services should improve with accreditation and better governorate and district oversight. Ideally, health care providers will be better compensated and therefore less driven to take additional jobs. Provider compensation will be better tied to performance, and incentives to offer more client-oriented care will be improved. Clients and their representatives will have more opportunities to participate in the oversight of health facilities. Over the long term, the health care system should become more efficient and health outcomes should be enhanced.

How this Progress Was Achieved and the USAID Role

USAID/Egypt played a unique role in several aspects of the health sector reform program.

Reform Conceptual Framework: The original concept, formulated by MOHP with USAID support in the mid-1990s, was formalized as the Health Sector Reform Program in 1996. USAID was the first donor to support the MOHP in this area and was later joined by the EU, the World Bank, and others.

The USAID-supported Egypt Household Health Care Use and Expenditure Survey (1994–95) stimulated and built political support for reform due to concerns that the poor were paying a larger proportion of their income for health services than the rich, and that in general the population favored private over government providers. This survey also produced utilization and expenditure data for private health services that were necessary for conducting the National Health Accounts (the process of analyzing total health sector revenues and expenditures to better understand financial flows in the health care system).

National Health Accounts (conducted three times in Egypt with USAID support beginning in 1995) provided both the evidence base and the rationale and political support for reform. Egypt was the first developing country to test this methodology, which has now become standard for assessing financial aspects of health care systems in all countries that have undertaken this work.

Family Health Model: Extensive USAID/Egypt investments since the early 1990s in building clinical and managerial manpower for MCH and FP services strengthened capacity in a national network of clinics as well as within governorate offices. This service delivery capacity has now become the basis of the integrated and broadened FHM. Moreover, the “family medicine” concept was initially introduced through the Suez Canal Health Training Project, supported by USAID/Egypt in the early 1980s, which emphasized pre-service medical education in community and family medicine.

USAID/Egypt was also the first donor to support the introduction of the FHM by funding the Alexandria pilot in 1999 as part of the Health Sector Reform Program. The FHM was revised in response to lessons learned from that pilot. Since 2006, USAID/Egypt has been working with the MOHP to expand the FHM in 200 PHC units in 11 governorates. The MOHP budget covers the remaining FHM units.

Health Financing and Governance: In 2004, USAID/Egypt was the first donor to help the MOHP pilot-test the financing mechanisms envisioned in health sector reform in the Suez pilot project, which operationalized the Family Health Fund. Continuing work in Suez is currently financed by the MOHP. The pilot activities include FHF contracts with PHC Facilities (733 to date) to provide services to enrolled beneficiaries in 12 governorates.

At the PHC level, the current revenue collection system allows for segregating highly subsidized services, offered in the mornings, from “economic” services, which are provided after 2:00 pm. All revenue generated from both the morning and afternoon services are deposited into each clinic’s Service Improvement Fund (SIF) which is used to pay incentives as well as the costs of operating the clinic (repairs, drugs, cleaning, etc.). USAID is currently helping the MOHP with programs to activate use of SIFs, which are an important source of money for clinic operations.

The poor are protected through an exemption system within new outpatient fee structures. The eventual expansion of social health insurance to cover the informal sector of the economy should also provide greater security for the poor. FP, immunization, ANC, and other preventive services are still highly subsidized for all clients, not just the poor.

One of the most exciting and promising developments in strengthening local governance of health services was the expansion of Facility Management Boards. The expansion included more community members and women in order to improve oversight of health facilities and increase community participation. Support from USAID/Egypt helped to stimulate community activism and a sense of ownership of both PHC centers and hospitals. Community financial and in-kind support for facility furnishings and equipment increased, but more importantly, facility financial management became more transparent to all stakeholders.

Quality Improvement and Accreditation: USAID introduced the concept of quality assurance in Egypt for FP and child survival projects in the early 1990s. The MOHP has established a Quality Improvement Office with technical support from USAID/Egypt that is charged with, among other things, development of accreditation standards and systems. While at the beginning of the health reform process, the MOHP and other donors agreed that USAID should take the lead in the area of quality improvement; the accreditation process now operates without any donor support.

Current MOHP primary care clinical guidelines, the ISOP for MCH and FP, were written with support from USAID/Egypt. The ISOP has been distributed to all PHC centers nationwide, although only newly placed physicians and nurses are being trained on ISOP protocols (which supplement the six volumes of FHM guidelines). Because the FHM guidelines cover a very broad range of topics, including chronic diseases, the level of detail for FP and MCH is not adequate, which heightens the importance of the ISOP as a supplement.

Since 2007, USAID/Egypt has provided technical support for HIO to transform itself into a specialized agency for health insurance. HIO is developing a system for auditing the quality of care offered by contracting facilities (termed medical management) by educating core trainers for medical audits. A program to institutionalize utilization review was initiated in 2009 to ensure that medical procedures performed by contracted facilities are justified. In the mid-1990s, USAID supported the drafting of an extensive set of procedural manuals for HIO hospitals, later shared with all MOHP hospitals, which constituted guidelines for services and procedures for each hospital department. These helped standardize and modernize hospital management procedures, though they will likely need to be updated as hospital accreditation systems come on-line.

Health Information Systems: The current primary care HIS system is largely made up of components of the FP and MCH information systems developed in projects supported by USAID/Egypt in the 1980s and 1990s. While problems of accuracy and delay still exist, PHC units are generally submitting the reports, and the quality of the data is improving. Data use is variable, with more evidence of use at district and governorate levels. There appears to be more awareness of service statistics at clinic and hospital levels compared with 15 years ago, but their use is probably still not optimal. National officials clearly depend on EDHS data for decision-making, but also quote program figures from service statistics. Feedback is not particularly good, especially downward from the national level.

In addition to the MOHP HIS, USAID/Egypt also supported the development of an HIO management information system. It is still in use, though it is being modified to adapt to the new functions, such as claims processing and reimbursements, associated with its new role.

Private Providers: Not much progress has been made in Egypt to induce private practitioners, clinics, and hospitals to join the network of facilities to be contracted as service providers under health sector reform, other than the 30 NGO facilities mentioned earlier. The health reform program envisions incorporating private for-profit and not-for-profit providers into the system because most Egyptians use private providers at a higher rate than public. However, little is known about the quality and efficacy of private services. Accreditation of private facilities may help both to raise standards of care throughout the system and reduce out-of-pocket spending on services that may not be efficacious.

In support of the “growth” of the private health sector, beginning in 1991, USAID and the Ministry of International Cooperation funded a credit guarantee program of £E 33.9 million through the Credit Guarantee Corporation (CGC) to guarantee bank loans and encourage private investment in health services.³⁴ Surprisingly, 18 years later, the program is still operating and growing. As of December 2008, the fund was worth £E 96.4 million and had guaranteed about 20,000 loans, of which 53% were for pharmacists, 25% for doctors in private practice, and the rest for labs, medical centers, radiology units, and other health businesses; 73% of borrowers live in rural areas and 81% are men.³⁵ Interestingly, the default rate is only about 4%.

Remaining Challenges

While Egypt has made progress in health sector reform, vigilance is needed to ensure that the positive health outcomes achieved so far are protected and the performance of the health system continues to improve. The political transition in 2011 sets the stage for further progress. The following are some points to keep in mind:

³⁴ The money came from Trust Fund local currency generated from non-project assistance, such as the commodity import programs.

³⁵ Health Care Provider Program (HCPP), PowerPoint Presentation by Nagia Bahr, CGC consultants, November 2009.

Strengthening FP and MCH within FHM Facilities: The majority of services provided by PHC units will continue to be routine FP and MCH care that responds to the needs of the most vulnerable. Special attention must be paid to ensure that FP and MCH receive enough attention in the FHM. With the addition of chronic disease care responsibilities and the necessity to screen patients for referral to higher levels of care, PHC unit staff may have less time to spend on traditional programs. For pre-service training and OJT guidance, the six volumes of Family Health guidelines, for instance, do not cover all the necessary aspects of FP and MCH. While the ISOP is used as a supplement in these areas, ideally the guidelines should be revised to focus more directly on FP and MCH. Issues related to protecting the gains made in FP and MCH service utilization, raised in several reviews of the reform program, need to be monitored and addressed. Separate FP rooms and access to female providers are also important to ensure that services are used.

Monitoring Quality: The current supervision system is too simplistic and is oriented to inputs and outputs rather than the quality of clinical care. In some locations, the Decree 75 supervision checklist is supplemented by checklists developed by USAID/Egypt that better measure quality, but these need to be incorporated into formal MOHP standards. PHC units throughout the country are currently using the Decree 75 supervision system. Incentives for governorate, district, and facility staff vary depending on their geographic remoteness and other factors. Decree 75 is the primary mechanism used to supplement staff salaries and in some cases is reported to amount to 600% of base salaries. The Decree 75 checklist has been revised several times to improve it as a supervision tool.

Financing Systems: Egypt's health financing system needs to ensure that it does not create disincentives that would discourage the population from seeking MCH and FP services. In particular, preventive services (e.g., childhood immunizations) should continue to be subsidized to encourage utilization. Public confusion and lack of information about the payment systems for new FHM facilities need more attention.

Human Resources: Earlier investments in human resource development and the capacity to conduct analytic work have not always been institutionalized. Staff turnover, retirements, and the inability to control human resource deployment are a serious systemic problem that has eroded some previously established MOHP capacities. A good example is the reported lack of capacity to undertake National Health Accounts even though the MOHP has already conducted three of them. Improvements in the planning and deployment of staff are critically important; otherwise, problems with human resources are likely to greatly complicate efforts to improve the efficiency of the entire health care system.

External Accreditation Body: While the accreditation process is currently moving ahead within the MOHP Quality Improvement Office, as long as the MOHP still has a role in health service delivery, to ensure impartiality and credibility, accreditation should eventually be moved to an independent external body. There are plans to do so, but no specific steps have been taken. USAID/Egypt made the establishment of an external accreditation body one of the policy reform benchmarks in the current cash transfer program.

Monitoring and Evaluation of Progress: Any system in transition is vulnerable. Constant analysis of facility and survey research data is needed to inform MOHP about where to make adjustments and how to protect gains made. Strong surveillance systems for both communicable and non-communicable diseases are also critical, and the quality and use of the data should be continuously examined and improved upon.

USAID Policy Reform Cash Transfers: Numerous interviewees questioned the effectiveness of the USAID cash transfer mechanism for supporting health sector reform. There have been two such programs: the first (1997–2003) disbursed \$57 million and the second (2007–10) had

disbursed only \$15.7 million as of October 2009. These programs have been large investments that have had questionable return, although in the past, they gave USAID a seat at the policy table. The incentives on both sides were generally to formulate and measure policy benchmarks in ways that would assure the disbursement of funds. Technical assistance and funding for pilot work seems to have been much more effective in achieving health sector reforms.

IV. EGYPTIAN LEADERSHIP

The impressive health and demographic outcomes in Egypt were achieved thanks to several levels in the system that had strong and capable leaders whose vision, dedication, and talent were instrumental in moving the country forward.

SENIOR POLICYMAKERS

From the very beginning of the national population program in Egypt, former President Mubarak provided consistent leadership and support. As policymakers realized that rapid population growth was detrimental to Egypt's socioeconomic development as well as the health and wellbeing of the Egyptian people, a Population and Family Planning Board, followed later by the inter-Ministerial NPC, was established to emphasize the importance of and coordinate the activities of all relevant government ministries.

It was understood that the population issue went beyond the purview of the MOHP, because of the range of factors that influence fertility, such as education, age of marriage, religion, societal norms, and economic status. This understanding served to elevate the issue to Cabinet level at a time when there was a common belief among leaders that Egypt's population problem could be solved using irrigation and building new cities in the desert. His support for addressing rapid population growth in Egypt earned former President Mubarak the United Nations Population Award in 1994.

The former president also embraced health sector reform. In July 2007, he announced a medium-term strategy that articulated the elements of the reform program, including expanding health insurance to all Egyptians and reducing the MOHP's role in providing health services directly. The strategy was to focus MOHP resources on policy formulation and on planning, regulating, and managing population-based public health programs. The National Health Insurance Fund (NHIF) would be established to manage a defined benefits package for the population, administered at the governorate level. Private health care providers would be eligible to contract with the NHIF and would compete with public providers for patients. The highest-level political support for reform helped reduce resistance to change. However, there has always been a variety of views on exactly how and how fast such reforms should and will happen.

Successive Ministers of Health have provided the vision and political impetus for initiating health reform. They organized donor support to achieve considerable strategic harmonization and collaboration. In recent years, the MOHP has become more private sector-oriented, with a progressive vision of the health care system. They have greatly accelerated the reform process and provided leadership to move the process forward.

Dr. Moushira Khattab, Former Minister of State for Family and Population from March 2009–January 2011, was an effective champion for women, children, and families. As the former head of the Egyptian Council for Childhood and Motherhood, she provided high-level advocacy for girls' education, girls' protection from FGM and early marriage, and for all children from exploitation and abuse. She served as the leader for advocacy and inter-ministerial coordination for population and FP issues.

PROGRAM LEADERS

When the NPC was established in 1985, Dr. Maher Mahran, a well-known obstetrician/gynecologist and FP expert, was named its first Secretary General. Under his

leadership, NPC accepted broad responsibilities for all coordination of the population/FP program, as well as a vigorous role in advocacy. Dr. Mahran stressed the importance of FP to reduce high fertility rates. His leadership was instrumental in promoting the EDHS as the gold standard for monitoring the performance of the FP program.

Nabil Osman, former Chairman of the SIS, also provided visionary leadership to the FP campaign for many years. The SIS invited both Islamic and Coptic leaders to participate actively in the campaigns. The grand muftis and the popes of the Coptic Church have been particularly influential. Today, health officials from other countries come to Egypt to learn how to engage religious leaders and communities in discussions about reproductive health.

The MOHP, as a key provider of actual services, established the position of Undersecretary for Family Planning. In that role, Dr. Moushira El Shafei ably led MOHP efforts to place FP service in MOHP units nationwide. Dr. Moushira was also instrumental in helping develop the background evidence for health sector reform and supported Minister Sallam in overseeing the reform program in the mid- and late-1990s.

The leadership of Dr. Esmat Mansour, then Undersecretary for Primary Health Care and Executive Director of the Healthy Mother/Healthy Child Project, was crucial in every step taken to reduce maternal mortality in Egypt from the mid-1990s through 2006. She disseminated the results of the first Maternal Mortality Study and used the information to plan a systematic response to the issues it raised. She also supported the strategy of targeting jointly programmed resources to the most egregious problem areas while also applying promising approaches to other needy parts of the country. Dr. Mansour used her considerable technical and strategic skills to work with MOHP leaders in both Cairo and the governorates to enact changes that would have lasting impact on the well-being of Egyptian mothers. She was a leader of the MOHP child survival program from its inception and is often cited as the most important contributor to institutionalizing Egypt's high, sustained rates of immunization coverage.

Another long-term champion of child health is Dr. Mamdouh Gabr, the Head of the Red Crescent Society, a leading pediatrician, and former Minister of Health. Dr. Nasr El-Sayed, Minister's Assistant for Primary Health Care, Preventive Medicine, Family Planning, and Laboratories started the National AIDS Program and today capably directs the bulk of the effective public health protection work of the MOHP.

Key leaders in the MOHP understood the importance of quality improvement for increasing the utilization of services and worked to ensure that these programs were institutionalized. Dr. El Shafei and Dr. Hassan El Gabaly were champions for the Gold Star clinics, and Dr. Mansour led the work to institute quality improvement activities for child survival. Dr. Hassan El Khalla, the Former MOHP Director of the Cost Recovery for Health Project, gave solid support to hospital quality assurance work and later was instrumental in starting the Egyptian Society for Quality Assurance, where he is still active.

Dr. Taha El Khoby, retired Undersecretary for the Preventive Sector and Executive Director of the Schistosomiasis Research Project, led the charge to eliminate this long- time threat to public health in Egypt. Dr. Amr Kandeel, First Undersecretary of Primary Health Care, Preventive Medicine Family Planning, and Laboratories, must be singled out for his remarkable accomplishments in creating and expanding the National Infection Control Program. Many other Egyptian scientists have led the way in controlling HCV, especially Dr. Gamal Esmat, Dr. Waheed Doss, Dr. Mohammed Abdel Halim, Dr. Manal Elsayed, and Dr. Mostafa Kamel; their work is guiding the efforts to reduce viral hepatitis.

Training is another vital function. Dr. Hoda Zaky, Director of Project Hope and Director of the Higher Institutes of Nursing until 2003, is an influential leader in nursing education. She served

as Senior Advisor to the Minister of Health for Nursing Services until her retirement in 2010. Dr. Roushdi Amar catalyzed the establishment and growth the Regional Center for Training in Family Planning and Reproductive Health. Dr. Safa El Baz now serves as RCT Executive Director.

The FETP has benefited from three exceptional directors. Dr. Farouk Abdeen was the first, followed by Dr. Abel Nasser M.A. Ghaffar, who was also the first Executive Director of the ESU. Today, Dr. Samir Abdel Aziz Rifaey is the Executive Director of both the FETP and the ESU, which continue to train health professionals to monitor and manage public health problems.

TECHNICAL AND RESEARCH LEADERS

Egypt's children have benefited from the dedication of a number of specialists over the past three decades. Among the first leaders in the child survival era were Dr. Farag Kamal, who brilliantly led the CDD/ORS programs, and Dr. Nagwa Khallaf and Dr. Moustafa El-Kassas, who were technical directors of child survival activities. Today, child health programs are led by Dr. Khaled Nasr and the National IMCI Director, Dr. Mona Rakha.

Egypt has produced an impressive cast of policy and program researchers over the past three decades. Among them is Dr. Hussein Abdel Aziz, Dr. Saad Gadallah, Dr. Magued Osman (currently director of the Information Decision and Support Center), Sherine Mourad, Dr. Nahla Abdel Tawab, Fadia Abdel Salam (currently director of the Cairo Demographic Center), and Dr. Magdi Abdel Kadr. The EDHS and SPA, as well as other important health assessments, have been undertaken by Dr. Fatma El-Zanaty and her firm, El-Zanaty and Associates.

The EFCF, one of the leading research organizations dealing with women's sexuality and RH in Egypt, was founded by an Egyptian FP pioneer, Dr. Mahmoud Fathalla. His work on reproductive endocrinology and the possible side effects of various contraceptive methods is known throughout the world. Dr. Fathalla has also been a tireless advocate globally for the sexual and reproductive rights of women. After Dr. Fathalla resigned from the EFCF in 1986, EFCF's research work was ably carried forward by Dr. Ezzeldin Osman Hassan. Much of the EFCF's most seminal research was undertaken during Dr. Hassan's stewardship, and the organization also matured considerably in terms of professional capacity during his tenure as its director. Dr. Ismail Sabry, with the Teaching Hospital Organization, also made a significant contribution to work on postabortion and postpartum care.

Dr. Mohamed Abdel-Hamid, the current director of the VHRL, is Egypt's leading authority on the biomedical laboratory work necessary for understanding the etiology of HCV in Egypt and finding more effective treatments.

V. INSTITUTIONALIZATION AND SUSTAINABILITY

TECHNICAL AND MANAGERIAL CAPACITY

Section III gives many Legacy examples of technical and managerial capacity that were institutionalized over the 30-year period. Programs have endured beyond the terms of individual Ministers of Health. In most health areas relevant to this review, Egypt has both abundant technical capacity and a cadre of world-class scientists within its government, universities, and institutes. Managerial capacity is uneven, however; it relies on the skills and interests of individual senior managers. There is particularly a need to improve both technical and managerial capacity in governorates and districts, especially as health sector reform empowers district provider organizations and makes them more accountable.

At present, there does not appear to be a systematic program for building governorate and district managerial capacity. There are training programs, such as USAID-supported training in health administration and business administration, but it is not clear how their graduates fit into a program for systematically enhancing MOHP managerial capacity at different levels. Trainees are likely to take jobs in the private sector or overseas unless they are mentored and moved into senior positions where they can apply the skills they have acquired. A clear human resources development strategy is critically important, particularly to build the kind of managerial capacity that the country will need for the decentralized health care system envisioned by the Health Sector Reform Program.

FINANCIAL SUSTAINABILITY

This review was not intended to look in detail at the financial sustainability of programs formerly supported by USAID. In some programs, such as the EPI and FP, the GOE is already paying for recurrent costs, such as vaccines and contraceptives. Other programs the Legacy team examined, such as the nation-wide IC program previously supported with USAID IL funding, are continuing uninterrupted using GOE resources.

What is happening with other recurrent costs, such as training for FP and MCH, is less clear. The GOE has been focused on pre-service training for doctors and nurses on the FHM array of services. A large proportion of the OJT and in-service training in FP and MCH was funded by USAID through ILs, but these were discontinued as of September 2009. Some programs and governorates recognized that USAID funding support would end and took steps to identify alternative sources of budgetary support. Others have not been so proactive. It seems likely that in the short-term, the discontinuation of IL funding will be felt at least within some governorates and some programs until the MOHP can plan for and request resources for them within its own budget. Egypt, as a lower middle-income country, has the resources and capability to assume these kinds of costs, many of which are currently being supported by USAID.

In 2010, USAID is supporting an MOHP study looking specifically at the financial needs of programs previously supported by USAID, as well as other questions related to how they can be or have become institutionalized. This detailed analysis will help the MOHP learn more about the needs and the finances required to sustain the gains of these older programs while moving forward with the changes inherent in the new service delivery model. Important development lessons may emerge from examining why some programs institutionalize quickly and others do not.

VI. LESSONS LEARNED

A number of both program-specific and general lessons can be drawn from the three decades of collaboration between Egypt and USAID on health and population issues. Some are unique to Egypt but others are also relevant to USAID-supported programs elsewhere. The lessons learned from the 30-year Egypt-USAID partnership are also highly relevant to the Global Health Initiative (GHI) launched in early 2010 by the Obama administration. Egypt offers useful lessons for all overarching GHI themes: a girl- and woman-centered approach; integration and collaboration; strengthening and leveraging efforts; partnering with countries; and learning and accountability. As 20 countries are selected for accelerated impact through GHI-Plus, and programs in the first 10 countries are launched in 2011, lessons learned in Egypt can help GHI to avoid pitfalls as the U.S. enters into partnerships with these countries.

PROGRAM-SPECIFIC LESSONS

- There is a time and place for vertical programs.

Where population and health programs are not well-developed, single-focus programs that demonstrate how outcomes can be achieved are appropriate and cost-effective. In Egypt, the initial USAID programs in both child survival and FP were more vertical than integrated. Effective interventions were brought together in broader health and FP programs as the systems to support those programs became more reliable and better institutionalized. This may be an especially important strategy for FP or immunization services. Such preventive programs can be neglected if subsumed into broader programs that deal with more immediate problems, such as treating sick children. Integrated service delivery is ultimately more cost-effective and has a better response to client needs and demands; however, capacity must be built incrementally to ensure that integration is successful.

- Attributes unique to Egypt were reflected in the public health strategies and approaches employed.

Egypt has several advantages over many other countries that have shaped its programs and facilitated good outcomes in health:

- Egypt has an oversupply of doctors and an undersupply of nurses. Many urban facilities have more doctors than they can efficiently use.
- Most of Egypt's people live in a narrow corridor along the Nile and are within walking distance of a health care facility. Because they have access to hospitals and clinics, they prefer to obtain health services there, and there is less emphasis on community or household service delivery. A high proportion of births, for instance, are now at private and public hospitals and clinics rather than at home.
- A large proportion of the population has access to TV and radio and is therefore readily reached through mass media. This allows for near-universal exposure to IEC messages through broadcast media. Language uniformity has also undoubtedly made it much easier to reach every part of the country with consistent health and FP messages.
- In some circumstances, bringing an issue into the limelight is the most important step towards addressing a problem.

This was vividly demonstrated by the FGM in Egypt. Making nationwide data available on FGM was USAID's most important contribution at a time when the pervasiveness of the practice was underestimated and decision makers had little understanding of the issue. When FGM

prevalence and negative health consequences for girls and women were highlighted in the 1995 EDHS, the Egyptian MOHP moved proactively to discourage and outlaw the practice. Today, even religious and community leaders are involved in the effort to change societal norms on this sensitive subject.

- Giving communities the tools to improve health can have a multiplier effect.

The concept of health competence recognizes that once a person is successful in learning a new skill, it becomes easier to adopt other healthy behaviors. Egyptian mothers learned to prepare ORS for their sick children and saved them from dehydration and possible death. Similarly, mothers learned the danger signs of ARI in their infants and young children and began to understand the importance of seeking treatment from qualified medical personnel. This boosted the confidence of the mothers, encouraging them to learn even more about caring for their children's health.

- Developing human and institutional capacity in the health sector establishes the skills for dealing with new disease challenges as they arise.

For example, beginning in the mid-1990s, investments in epidemiology training and building capacity for outbreak investigation and surveillance enabled the MOHP to effectively manage the challenges of new infectious diseases like H5N1 and H1N1 when they arose.

- Addressing supply and demand issues in health helps ensure that goals are achieved.

USAID-supported health and population programs in Egypt have always contained a good mix of factors that address both supply of and demand for services. They have utilized mass media effectively to build awareness and change attitudes and norms. USAID supported a strong mass media program through state television when most people could be reached through that medium. As sources of information became more pluralistic, USAID helped support community peer-to-peer outreach programs as well as other channels for reaching target populations. To improve the supply of high-quality services, USAID helped introduce NGO FP services to reach a market niche willing to pay more for what was at the time higher-quality service. Private pharmacists were engaged to help educate clients and make essential commodities like contraceptives and ORS more readily available to the public.

The span of the program included work from the national policy level down to grassroots community mobilization. The attention to making programs sustainable added impetus to the reinforcement of essential elements of the health care system (e.g., health information, quality improvement, and staff development) as a way of institutionalizing and sustaining the effectiveness of programs.

- Health outcomes are achieved and sustained over time by strengthening health systems.

A very clear lesson for USAID and the global health community that emerges from analyzing the experience in Egypt is that achieving and sustaining health outcomes requires attention to building up health systems within the partner country. This takes time, and some assurance of sustained engagement by all partners in the health sector. Much of what was accomplished in Egypt was built incrementally over three decades through consistent support for the MOHP and other entities in institutionalizing improved systems, such as HIS; building capacity; service delivery and demand creation; working on policy, financing, and governance; and ensuring the efficacy and safety of medical products.

Supporting improved health systems in Egypt was the “how” in achieving successful outcomes. Egyptians made it happen, but they had a reliable and consistent partner over a long period to ensure that the program received the technical and financial support it needed.

This is not to suggest that USAID needs to support every element of health systems development; depending on the conditions and resources of a given country this may not be necessary. Additionally, as other development partners are engaged in health, harmonization of donor efforts in support of various elements of the health system is clearly important. USAID cannot be a reliable partner if it can only commit to a one-, two-, or even five-year period.

GENERAL LESSONS

- Duration, funding level, and staffing of programs were crucial to building a successful and highly productive Egypt-USAID partnership in health.

Because USAID was a reliable partner over a 30-year period, it was possible for the MOHP not only to introduce new programs, but also to see them through various stages of evolution. Health sector work began with clinic construction, hospital renovation, and other activities designed to ensure a network of clinics and service providers that could deliver primary health care. Once that was established, the MOHP with the support of USAID could direct their attention to strengthening specific elements of quality health care, such as providing FP programs with a good variety of contraceptives and offering childhood immunizations and pneumonia treatment. As some programs, like the EPI, became institutionalized, USAID moved on to help support new initiatives, such as neonatal and maternal health.

The substantial level of funding over the decades also helped ensure that programs were implemented on a large enough scale to have significant impact. The level of resources allowed USAID to fund frequent rounds of the EDHS, which helped document the impact of programs and enhanced the ability of the MOHP to convince the Egyptian government of their value and the need to sustain them.

Also important was the use of multiple funding modalities that built ownership and institutional capacity. In addition to traditional technical assistance contracts, each project provided for directing funding to the MOHP and other partner institutions through ILs to support recurrent costs. For some time, during the 1980s through the mid-1990s, large training projects sent Egyptians to the U.S. for both shorter-term training and graduate degrees, of which several managers currently leading major MOHP programs were beneficiaries. The program also included a public and private sector commodity import program, credit guarantees for private practitioners and pharmacies, policy reform cash transfers, and various local currency sources of funding for projects.

For many years, USAID also had a large number of direct hire, Foreign Service national, and contract staff working on both health and population programs that were able to engage intensively with MOHP and other counterparts. Whereas there were four or five U.S. Foreign Service Officers in the USAID Office of Population and Office of Health, twice that number of very talented Egyptian experts helped navigate the Egyptian bureaucracy and ensure that relationships remained close and collegial. USAID staff was able to travel to spend time with MOHP colleagues, and USAID project staff was often housed at the MOHP and other implementing entities.

- USAID payment of the recurrent costs of programs can be a double-edged sword.

On one hand, providing funding directly to the government to cover costs such as training and supervision builds ownership and helps make the technical assistance offered more attractive, which means that new programs can be launched quickly and assured of adequate funding. On the other hand, if not phased out in a fully transparent and predictable way, it may perpetuate dependence and allow the partner country to postpone the process of institutionalizing those costs within their own budgets. The processes by which Egypt developed vaccine independence

and contraceptive security are positive examples of appropriate transition of recurrent costs to government funding.

- To be effective, programs must be flexible and adaptable, responding to changing circumstances while adhering to global best practices.

USAID support to health and population programs in Egypt was characterized by considerable flexibility and adaptability to respond to changing conditions and lessons learned from previous projects. Confidence to innovate also came from knowing that USAID was in Egypt for the long term, and programs could grow based on experience. Service delivery programs that started with a focus on single diseases or programs became more complex as MOHP capacity increased, and staff gained valuable experience from one project to another. For example, the initial vertical diarrheal disease control and ARI programs merged into IMCI, which became the standard protocol for caring for ill children presenting at all PHC facilities. HISs that began as separate systems for each program (FP, EPI, etc.) were eventually merged into one integrated HIS at the clinic level. Outcomes were not assumed, they were measured; and when evidence suggested a need to change tactics, the programs did so. USAID support to the MOHP continued to adapt, change, and evolve as necessary to respond to changing program conditions and needs. USAID-supported innovations, whether or not they survived in exactly the form originally envisioned, have had a powerful demonstration effect and often served to instigate or launch new ideas, technologies, or approaches.

Egypt has not only used lessons from other countries to improve its own programs, it has also contributed substantially to global best practices in health and population programs. This report cites many of these, such as the involvement of religious leaders in RH and FP programs, the pioneering work in ORT to save children who would otherwise die from diarrhea, and the remarkably effective strategy for reducing maternal mortality. Using BCC to change societal norms about family size and the practice of FGM are other good examples. Over the years, reports on Egypt's experiences were often published in peer-reviewed journals and shared at international conferences. Egyptian officials and managers, often with USAID support, were proactive in seeking out information from other countries through study tours, collaborative research, and making their health staff available for training, both in-country and overseas.

- Sustained political commitment facilitates progress.

Both the GOE and the USG demonstrated their commitment to the program in Egypt. As demonstrated by the FP program, progress was achieved when there was political support. Most striking was the progress made when the Egyptian government demonstrated a strong commitment to population and FP programs, reflecting its understanding that population programs go well beyond providing FP services, and that changing societal norms about ideal family size and other family issues, such as girls education and stopping FGM, require forceful advocacy at the center and sustained leadership from governors and local officials. Political support for population issues and FP fluctuated in recent years, as attention and resources were diverted to mega-development projects. On the US side, although the USAID funds used in Egypt are flexible, USAID maintained its commitment to supporting the health and population sectors in Egypt.

- The length of assistance and the variety of institutions involved led to mutually beneficial and long-lasting relationships.

Throughout the three decades of the partnership between Egypt and the U.S., the USAID program was able to link a wide variety of USG individuals and institutions to Egyptian institutions for maximum mutual benefit. U.S. partners included CDC/Atlanta, several units of the NIH, the DHHS Office of International Health, a number of U.S. universities, the Naval

Medical Research Unit, and others. The scientific, programmatic, and technical linkages that were built have endured. USAID was able to support development of human and institutional capacity in Egypt in ways that have rarely been possible elsewhere. U.S. scientists also benefited from being able to study diseases such as schistosomiasis and blood-borne pathogens like HCV and publish collaboratively with their Egyptian colleagues. Meanwhile, the GOE put well-trained people into leadership positions to achieve impressive results.

Some people interviewed for this report have questioned whether the MOHP has a sufficient pipeline of well-trained people being groomed for leadership positions, and whether there has been sufficient attention to this in recent years. There is a history of poor continuity in programs when senior managers have retired or moved on to new positions. One promising sign, however, was a former Minister of Health's recognition and actions related to training managers for the MOHP through MBA study in the U.S. Management skills will be increasingly important as the health care system changes and the role of the MOHP evolves.

- USAID has available a number of valuable technical resources.

Over the past 30 or more years, USAID worked with numerous partner organizations (contractors, U.S. private voluntary organizations, universities, and other U.S. government agencies) to support programs in Egypt. Specialized headquarters projects that incorporate health best practices and lessons learned worldwide have been used to support specific field programs. The organizations managing those projects are a unique resource for USAID as they help innovate, build the evidence base for new and improved interventions, field-test and scale-up promising models, help foster high-quality research, and work alongside host country counterparts to implement USAID-supported programs. These organizations often employ highly skilled technical and development specialists to work on USAID programs. The USAID partner organizations that have been working in Egypt for the past three decades, while not named individually here, have played an enormously important role in helping Egypt achieve impressive health and population outcomes. USAID/Egypt should retain mechanisms that provide access to these organizations, even as USAID moves to focus its resources more directly to host country institutions.

CONCLUSIONS

The whole world is now aware of the ability of the Egyptian people to effect extraordinary change. The history of Egypt's accomplishments in health and population shows this ability at work, documenting how Egyptians achieved dramatic progress in health outcomes and in building health systems that will endure. Egyptians should be enormously proud of their accomplishments over the past three decades. Of course, they also recognize the vulnerabilities and continuing challenges in improving the health of all Egyptians.

Egypt's health issues straddle those of the developed Nations, and Developing Countries. Further improvements in health will depend increasingly not only on a reliable and equitable health system, but also on the people themselves reversing potential chronic disease problems brought on by poor lifestyle choices.

USAID should also be proud to be a part of Egypt's health successes. The Agency has been a reliable long-term partner, bringing new ideas, offering opportunities to innovate, and helping Egypt take a more evidence-based approach to solving health and population problems. Work in Egypt benefited U.S. institutions and scientists as well as USAID Population, Health and Nutrition program managers as they worked with Egyptian colleagues to solve challenging public health concerns.

As Egypt and the U.S. begin a new era in their partnership, the relationship will mature into one of technical collaboration and exchange based on sharing ideas more than resources. Both countries have much to gain from such a continuing partnership.



ANNEX I: SCOPE OF WORK

USAID/EGYPT HEALTH AND POPULATION LEGACY REVIEW 2009–2010

Phase II: Fieldwork (Final/Revised: 08-24-09)

I. PURPOSE OF THE USAID HPN LEGACY REVIEW

The overall goal of the USAID Health and Population (HPN) Legacy Review is to analyze changes that occurred during USAID's long collaboration with Egypt in health and population programs and determine what conclusions can be drawn linking USAID's technical and financial investments to the documented program outcomes and impacts on the health of the Egyptian people. This twelve to eighteen month comprehensive review will provide USAID with a rich description of the health legacy—the lasting outcomes and impacts that USAID investments have achieved over more than thirty years of assistance.

II. BACKGROUND

Egypt's partnership with USAID over thirty years led to one of the world's most successful and renowned health and family planning programs, with dramatic, well-documented impacts on the health of the Egyptian people, and on the health care systems that serve them. As part of the mutually-planned phase-down of USAID support by 2011, Fiscal Year 2009 is currently slated to be the last year of funding for health and population assistance. The results of the investment and technical collaboration in Egypt are impressive. USAID has been the predominant donor, providing more than \$1 billion for Egypt's population and health sector over a thirty-year period. During the three decades of technical and financial assistance, these USAID contributions helped the Government of Egypt (GOE) and collaborating partners to reduce maternal mortality by more than 50% and infant mortality by more than 70%. The use of contraceptives has more than doubled, and the average Egyptian family size is now three children.

USAID has provided funding and technical assistance for the population-based Egyptian Demographic and Health Survey (EDHS) since 1988. DHS collects, analyzes, and presents high quality, nationally representative and internationally comparable data for use in program planning, monitoring, and evaluation and policymaking in the health sector. In addition to being the biggest DHS customer in the world, Egypt has led innovation in the collection of new data types, such as the 2008 inclusion of an avian influenza (AI) Module and a Hepatitis C biomarker. The 2008 DHS is the ninth Egyptian survey; the final DHS is planned for 2010.

As USAID phases down its support for health and population programs in Egypt, the question naturally arises: What is USAID's legacy—what lasting outcomes and impacts have USAID investments achieved? The rich DHS data sets and other data sources that document major trends over time provide an important base for USAID/Egypt to determine what relationships can be drawn between USAID-supported programs and changes in health outcomes.

III. PHASES OF THE USAID/EGYPT HEALTH AND POPULATION LEGACY REVIEW

This comprehensive review of USAID's Health and Population activities in Egypt over the last three decades is broken down into several phases. Phase I and I.5 will produce a preliminary analysis of health trends in Egypt coinciding with USAID investments in the health sector based

on DHS data (see respective Scopes of Work for illustrative questions), as well as a Framework document outlining the subsequent phases (II and III) and next steps leading towards completion of a final Egypt Legacy report for publication and distribution to diverse stakeholder audiences:

The first phase of the Legacy Review has already been completed in Washington, DC:

Phase I: Planning and Preparing the Framework. Documentation and research including identification of initial key informants and background documents, archival materials and other relevant sources, as required, extensive focused interviews with USAID/W and other US/DC-based key informants and stakeholders, and preparation of a legacy review framework for the comprehensive exercise.

An intermediate phase is currently underway in Washington, DC:

Phase I.5: Further Investigation and Analysis. Further investigational efforts to better relate Egypt's demographic, family planning and reproductive health, and maternal and child health outcomes to USAID program strategies and investments that began with the Pop/FP I project in 1977, drawing on more extensive use and review of demographic and health survey data, other quantitative data sources, and relevant program evaluations and research studies undertaken by USAID's Cooperating Agencies (CAs) active in Egypt.

Future phases of the review include the following:

Phase II: Field Work/Reporting. In country work including Cairo-based Team Planning Meeting, key informant interviews, site visits (if any), and continued information/data collection to enrich the areas of focus identified in the framework. This phase will collect information from expert informants in Egypt, and will produce a final Legacy draft report. It includes draft report discussions/analysis and writing; debriefings with USAID and stakeholders, and draft report revision and submission, final report revisions and final writing; editing/formatting and final submission, and release of final report(s).

Phase III: This dissemination phase will draw on the key findings of the Legacy Review Report in order to prepare and disseminate information and lessons learned from Phases I and 2 with a specific focus on audiences in Egypt, the U.S. and the global health community.

IV. PHASE I – ACHIEVEMENTS AND RECOMMENDATIONS

Identify, collect, organize, and manage archival materials from a range of sources to describe the investments USAID has made in Egypt, as well as the outcomes they achieved.

The Phase I team reviewed hundreds of documents and collected almost 300 relevant documents (past strategies, program descriptions and budgets, implementing documents and agreements, program and strategy evaluations) to serve as reference and source material for the Legacy Framework and for subsequent phases of the Legacy review. GH Tech has cataloged these documents in EndNote bibliographic software, stored them electronically, and made them available on the Egypt Legacy projectspaces.com website. The background materials have been cataloged in the following selected categories:

- Communications
- Data for Decision Making
- Family Planning and Reproductive Health
- Health Systems Development
- Infectious Disease
- Maternal and Child Health

- Population and Development
- Water, Sanitation and Environment

The Phase I team also produced a color-coded timeline detailing the various USAID programs, and surveys taking place over the last three decades in Egypt.

Preliminary Lessons Learned from Phase I

The following are topics emerging from the Phase I interviews and the document review that suggest some preliminary “lessons learned”, worth keeping in mind for Phase 2 of the Legacy Review.

1. **Building evidence-based programs:** The Egypt PHN program is a useful reminder of the value of developing and shaping programs based on reliable data. Because of the resources available to USAID/Egypt, population based surveys such as the DHSs, and Maternal Mortality Surveys, as well as the Health Facility Surveys and National Health Accounts were conducted frequently enough to guide policies and programs. In some cases, unanticipated and completely new problems emerged as a result of these surveys, such as discovering from the 1995 DHS the almost universal prevalence of FGM. Data from the National Health Accounts helped build convincing evidence for health sector reform by demonstrating that the poorest Egyptians were spending a much greater proportion of their income on health than the rich, and that too small a proportion of the government’s budget was devoted to primary and preventive services. The maternal mortality surveys demonstrated the importance of improving the quality of emergency obstetrical care as a high proportion of women were still dying even under the care of obstetricians. Data from DHSs have helped establish trends in contraceptive discontinuation rates and birth intervals that have helped direct resources to problem areas. Without a doubt, building the evidence base has provided a successful foundation for strategic program management, enhanced outcomes and policy change, as well as for documenting progress.
2. **Focus on Quality:** Several decades of focus on quality of care in family planning and health services increased utilization of government primary care services and built the groundwork for a program of health services accreditation underway today. Although developing an independent network of family planning clinics in the PVO/NGO sector may have been expensive at the time, its contribution was invaluable in that these clinics had the unanticipated benefit of pushing the public sector to improve performance and quality of services. While not every element of quality improvement efforts with the MOHP (such as the “Gold Star” program) survived beyond the period of USAID support, the principal components such as the standards of clinical practice and checklists for clinics, modified over time, have provided the basis for the current system of supervision and accreditation.
3. **Policy Environment:** Lessons in public policy are both positive and negative. Strong policy level support from the Former President’s office for population programs has been, and continues to be, an enormously important asset. This kind of broad political-level support facilitated involving both political and religious leaders in the national population program in a way that has been greatly facilitated reaching every segment of society in Egypt. On the other hand, at a more programmatic level, specific policy or regulatory barriers may constrain achieving some program results and inhibit institutionalizing new initiatives. The fact that there has not been much progress in incorporating private providers into the health policy reform program, or changing government pricing strategies for contraceptives in order to improve the commercial availability, are examples.
4. **Behavior change and communication:** Developing and institutionalizing IEC and BCC for public health outcomes in the State Information Service, rather than in the IEC Unit of

the Ministry of Health, was a very important programmatic decision. It makes more sense to build capacity in an entity that has expertise in this area, rather than in a Ministry that should be focusing on service provision. The program today, however, must go beyond government institutions and take advantage of commercial channels as well as civil society organizations and professional associations, as the medium for reaching people is growing increasingly more pluralistic and sophisticated. Establishing positive health norms is a dynamic process that includes life style choices such as smoking cessation, diet and exercise, a desire for smaller families, breastfeeding, as well as appropriate use of health services.

5. **Flexible modes of programming:** The USAID PHN program in Egypt has benefited from the variety of mechanisms available to channel funds and technical assistance. Funds provided directly to the MOHP through Project Implementation Letters (PILs) and Implementation Letters (ILs) ensured that budgets were available for program recurrent costs (e.g. supervision and training) and built strong ownership and involvement of the MOHP units implementing USAID supported programs. Financial management capacity was also built. The variety of other mechanisms such as the CIP commodity import program, the funds generated from PL480 proceeds, and the policy reform cash transfers also facilitated and helped support the technical assistance activities within contracts and cooperative agreements. The challenge, as the USAID program in Egypt shrinks, is to ensure that the funds for the recurrent costs of key programs are adequately planned for in the regular GOE budget in future years.
6. **Graduation terminology:** In the process of conducting the interviews for developing the Legacy Framework, the question about the “graduation” of the Egypt PHN program generally drew a negative response. Interviewees acknowledged that while Egypt has become a middle-income country with strong health and population indicators, and the nature of the partnership between Egypt and US may need to change, most felt that the term ‘graduation’ was patronizing and inappropriate. A number of areas of program vulnerability were also mentioned in which continued collaboration could help ensure further improvements and a sustained high level of performance in the sector. Interviewees also felt that a continuing relationship in PHN was beneficial to both Egypt and the US, and that it should evolve toward a program based on technical and strategic information exchange and learning.

V. PHASE II—OBJECTIVES, ILLUSTRATIVE QUESTIONS (AND ISSUES TO BE ADDRESSED)

This section describes the second phase of this legacy review process, the fieldwork and reporting phase, of a multi-phase effort to determine what relationships can be drawn between USAID-supported programs and changes in health outcomes, and then, to describe the health legacy outcomes and impacts that USAID investments have achieved.

Illustrative Questions:

The key informant interview guide that was prepared and used in Phase I is attached for reference (Annex I). The Phase II team may adapt this for their in country work. Additional illustrative questions are outlined below:

Resources

- Characterizing the magnitude of USAID financial resources obligated to PHN programs over the past 30 years is an important task for Phase II. Roughly what were the annual obligations for projects during this period? Of these obligations, what proportion was committed to technical assistance contracts or cooperative agreements, how much was obligated through

PILs and ILs, how much was obligated through cash transfer or other non-project mechanisms?

Family Planning and Reproductive Health

- What factors may account for the apparent slow-down in Egypt's FP performance since 2000? Have budget allocations and shifting program priorities played a role? Might the push toward greater program integration over the past decade reduced emphasis on family planning services? With the new Family Health Model, is there evidence that family planning or other key services are given less emphasis with the integrated service delivery model? What are the specific issues or areas of concern? Are any steps being taken to address these concerns?
- In Egypt, the public sector plays an increasingly important role in providing FP and other RH services. What accounts for the dominance of the public sector? This trend runs counter to many other countries where the private sector (doctors, nurses, clinics, hospitals, and pharmacies) play an ever greater role.

Maternal and Child Health

- What interventions account for the dramatic fall in Egypt's maternal mortality rates and ratios in recent years? Where have these declines been most pronounced, have they taken place in areas with higher FP use (resulting in fewer high risk pregnancies)? To what extent might USAID's funding and technical support contributed to these declines?
- Do the nurse/midwives trained in recent decades provide mothers with significantly improved delivery outcomes? What trends can be identified in providing more Egyptian women with access to emergency obstetric care? To what extent might the new Maternal Mortality Surveillance System be utilized to assess some of these delivery outcomes during the Legacy Team's proposed visit to Egypt?
- What is the current status of diarrheal disease and ARI efforts that were previously supported by USAID? In theory, they have been incorporated into the new IMCI program, but how widespread is IMCI and how well is it functioning?

Behavior Change and Communication

- What is the current status of behavior change and communications work at CHL and SIS? Have earlier investments in these organizations (by CCP and others) proved sustainable? What elements are still functioning well and what innovations from the past might have diminished staying power?
- In addition to the DHS data which shows trends of increasing awareness of family planning and MCH issues, are there other studies or data that link USAID's program for AI prevention or HCV with improved knowledge and practice about those diseases? Are there other areas of improved knowledge and practice of health that can be attributed to efforts supported by USAID?

Health Sector Reform/Health Systems Development

- In what ways did the USAID support for various elements of health sector reform contribute to the MOHP's current health reform program? This includes National Health Accounts, DDM's early analytic work on PHC sector reform, PHR and PHR+ work on cost analysis, basic benefit packages, accreditation, equity studies, Health Sector Reform pilot projects, etc. How are the current projects like HS 20/20, Takamol and CHL contributing?

- How much of USAID’s support for Health Management Information Systems has become institutionalized in the MOHP primary care programs, HIO, CCO and hospital sectors? How reliable is the current HMIS in the MOHP?
- What has been the contribution of the two large Health Policy Reform Cash Transfer programs to health sector reform and health systems development? Were there any drawbacks or lessons learned?
- What can be concluded about the USAID-funded program with the US Department of Health and Human Services (DHHS) which has also spanned a 30 year period and covered a wide variety of health topics outside of USAID main areas of focus. (Please clarify what is the HHS program?? MOHP in efforts to address the growing importance of chronic disease prevention, control, and treatment as part of the Healthy Egyptian initiative and earlier programs? Were there any lasting health system changes (e.g., in terms of training, disease monitoring and surveillance, and clinical practice) that resulted from this effort?
- Institutional and human capacity development has been strong themes and an overall aim of USAID’s program in Egypt. To what extent have these objectives been achieved and in what areas? Large numbers of people were provided leadership and technical skills development through the participant training programs and through short-term training activities in most technical assistance contracts and cooperative agreements. Large numbers of mid-level managers were trained to develop skills in planning, health management information systems, administration, workforce development, logistics management, and financial analysis and management. How did those training investments benefit the program and to what extent has the capacity developed been institutionalized and sustained?
- Ultimately, has enough been achieved and made sustainable to talk meaningfully about USAID leaving Egypt (graduating the country) or is enough undone (or faltering) to justify a major renewed programmatic commitment? And should new forms of partnership be developed for priority needs in population and health that will continue USAID’s presence in Egypt, but with new modes of technical collaboration, project strategies, project operations, and budgetary mechanisms?
- From USAID’s long experience in Egypt, do there appear to be any specific factors that contribute to or are closely linked with achieving program or system sustainability? Have programs supported previously by USAID continued, and if so with GOE funding or simply by shifting to other donors? Has the GOE made sustainability more likely by tying performance to incentives in some way? What progress, if any, has been made to maintain health infrastructure such that continuous rebuilding is not necessary (which has been the pattern in Egypt)?

The Phase 2 team will also help develop recommendations for the work for Phase 3. This will include consulting with USAID/Egypt about the potential audiences for the Legacy dissemination in Egypt, as well as with the Near East Bureau in USAID/Washington, and making recommendations about the type of skills needed to develop the dissemination strategy and products during Phase 3.

VI. PHASE II—METHODOLOGY

The Phase II: Fieldwork team should consider a range of possible methods and approaches for collecting and analyzing the information which is required to prepare comprehensive Legacy Report. Data collection methodologies will be discussed with, and approved by, USAID at the start of phase II. Upon initiation of this phase, the team will develop a work plan including timelines for document review, meetings, interviews, and deliverables as detailed below:

Document Review

The Phase II team will review the Phase I Legacy Framework document, as well as the library of background materials compiled by GH Tech. The Research Assistant will continue to manage incoming documents, update the EndNote library, bibliography, and projectspace.com site. He/she will provide support, as requested by the Team Leader, to retrieve additional resources.

Team Planning Meeting

- A preliminary one day planning meeting will be held with US-based team members in Washington, DC to begin preparing the work plan and the methodology plan. Once the team has arrived in Egypt, a comprehensive two day team planning meeting will be held in Cairo with all team members to finalize the work plan and the methodology plan. This will be shared with USAID/Egypt prior to actual implementation. The team planning meeting agenda may include the following items:
 - Clarify team members' roles and responsibilities,
 - Establish a team atmosphere, share individual working styles, and agree on procedures for resolving differences of opinion,
 - Review and develop final evaluation questions
 - Review and finalize the assignment timeline and share with USAID,
 - Develop data collection methods, instruments, tools and guidelines,
 - Review and clarify any logistical and administrative procedures for the assignment,
 - Develop a preliminary draft outline of the team's report, and
 - Assign drafting responsibilities for the final report.
 - Interview list for Cairo?

Key Informant Interviews:

- The Phase II team will conduct selected in-depth key informant interviews with former USAID HPN staff, partners, other interested Egyptophiles, and other stakeholders in the Washington area and in Egypt in order to engage in critical discussions, to add detail to the findings of Phase I investigations, and to draw more in-depth conclusions about USAID's activities in Egypt, forming a foundation for the final Legacy report.

Site Visits

The Phase II team will coordinate with USAID/Egypt to prepare for and conduct site visits while in-country, and to interview key informants at these sites and in Cairo. While in-country, the Phase II team will also work with a financial analyst (preferably a local consultant) who will work with USAID/Egypt to reconstruct as much as feasible of USAID health program obligations in the earlier years, and a health sector reform analyst (also preferably a local consultant) who will focus on analyzing and documenting the contributions USAID made to Egyptian health sector reform efforts.

Secondary Data Analysis

At the discretion of the Team leader and USAID/Egypt, the Senior Demographer will continue to conduct analysis of secondary data (Egypt Demographic and Health Surveys, 1975 World Fertility Survey, 1983-84 Contraceptive Prevalence Survey, and other source materials as needed to support and enrich the team's findings. The team will look into developing a "Rapid" type presentation that helps non-health audiences understand the impact of Egypt's demographic and health accomplishments. The Scott Moreland paper will be a starting point for this work.

Wrap-up and Debriefing

At the conclusion of Phase II in country work, there will be debrief meetings with both USAID/Egypt and other interested parties to share findings and get final inputs before preparing the Legacy report.

Advisory Committee

The Phase II team will present its findings and seek feedback from subject experts on the Advisory Committee before completion of the final Legacy report.

VII. DELIVERABLES

The team will produce the following deliverables:

1. **Work Plan:** During the Cairo-based Team Planning Meeting, the Phase II team will prepare a detailed work plan which will include the methodologies to be used in this phase of the work. The work plan will be submitted to the Office Director at USAID/Egypt for discussion and approval.
2. **Methodology Plan:** A written methodology plan (preliminary site visit and interview schedule/operational work plan) will be prepared during the Cairo-based Team Planning Meeting and submitted to the Office Director at USAID/Egypt for review and approval. Any outstanding issues will be discussed with USAID prior to implementation.
3. **Debriefing with USAID/Egypt:** The Team will present the major findings of the Phase II fieldwork through a PowerPoint presentation. The debriefing will include a discussion of the findings, conclusions, recommendations for next steps and outline of the report. The team will consider USAID comments and incorporate those comments and changes into the draft report, if appropriate, prior to submission to USAID.
4. **Draft Legacy Report:** A draft report of the findings and recommendations should be submitted to the USAID Office Director after the team's departure from Cairo. The written report should clearly describe findings, conclusions and recommendations including next steps. USAID will provide comments on the draft report.
5. **Final Legacy Report:** The team will submit a final report that incorporates the team responses to Mission comments and suggestions no later than ten days after USAID/Egypt provides written comments on the team's draft framework report (see above) and the Advisory Committee has provided feedback. This report should not exceed 40 pages in length (not including appendices, lists of contacts, bibliography, etc.). The format will include an executive summary, table of contents, methodology, findings, and recommendations. The report will be submitted in English, electronically. The Legacy Report will be a polished document whose primary purpose is dissemination to a variety of USAID-selected audiences (TBD).

The final report will be edited/formatted by GH Tech and submitted to USAID/Egypt approximately one month after the Mission has reviewed the content and approved the final revised version of the report. This final revised version of the report can be used as a working document while final report editing/formatting is in process by GH Tech.

The team will also provide a presentation on the Legacy report to be arranged through the Near East Bureau in collaboration with the Bureau of Global Health.

VIII. PROPOSED TEAM COMPOSITION

The GH Tech team will provide the following team members (illustrative designations):

Core Team Members

1. Team Leader/Health Program Specialist- Planning Coordinator
2. Senior Demographer/Data Analyst
3. Population/FP Specialist
4. Public Health Specialist
5. Organization/Institutional/Human Resources/Capacity Building Specialist

Short Term Analysts_(local consultants preferred)

1. Financial Analyst
2. Health Sector Reform Analyst
3. In-country admin assistant for scheduling and admin support

Support Team Members:

1. Research Assistant

Advisory Committee Members

While not formal team members, Advisory Committee members will continue to provide advice and feedback to the team throughout the assignment. The Phase I Advisory Committee consisted of Bob Emrey (USAID), Dr. Sameh El Saharty (World Bank), Dr. Ann Way (Macro International), Dr. Marge Koblinsky (JSI) and Elizabeth Schoenecker, (USAID). It is anticipated that the composition of the Advisory Committee will remain unchanged for subsequent phases of the Legacy Review.

Time Line and Level of Effort

USAID/Egypt anticipates that the period of performance of this Phase II: Fieldwork to be approximately September 2009–January 2010.

The Team Leader will be responsible for the overall planning and implementation of the first task and work coordination among team members; submission of a satisfactory Legacy Report to USAID within the agreed timelines; and overall report writing coordination and the organization of the debriefing presentations.

Illustrative LOE and timeline: Core Team Members only

Task/Deliverable	Duration/LOE	
	Team Leader/Health Specialist*	Core Team Members (4)
Phase II: Fieldwork		
Prepare for fieldwork		
<ul style="list-style-type: none"> DC-based preliminary Team Planning Meeting 	1 day	1 day
<ul style="list-style-type: none"> Review Legacy Framework; detailed document review and discussion 	8 days	7 days
<ul style="list-style-type: none"> Adapt questionnaires for key informants & stakeholders 	1 day	1 day
<ul style="list-style-type: none"> Interviews w/ USAID/W & DC-based key informants 	5 days	5 days
<ul style="list-style-type: none"> Schedule in-country interviews and site visits 	3 days	3 days
Fieldwork – In country		
<ul style="list-style-type: none"> Travel to Egypt 	2 days	2 days
<ul style="list-style-type: none"> Cairo-based Team Planning Meeting 	2 days	2 days
<ul style="list-style-type: none"> In-country briefing with USAID/Egypt 	1 day	1 day
<ul style="list-style-type: none"> Conduct informant interviews and site visits 	11 days	11 days
<ul style="list-style-type: none"> Discussion, analysis and draft report writing in-country 	3 days	3 days
<ul style="list-style-type: none"> Debriefing with USAID/Egypt 	1 day	1 day
Return to Washington, DC	2 days	2 days
<ul style="list-style-type: none"> Complete analysis of all information collected to date, continue draft report writing 	10 days	10 days
<ul style="list-style-type: none"> Prepare presentation; debrief Advisory Committee 	2 days	2 days
<ul style="list-style-type: none"> Complete and submit draft report to USAID for comments and feedback 	3 days	3 days
USAID completes final review (10 working days)		
<ul style="list-style-type: none"> Incorporate Mission comments on draft report and finalize complete Legacy Report 	5 days	3 days
GH Tech edits/formats report (30 days)		
Total Estimated LOE (Core Team Members)	60 days	57 days each

*A six-day workweek is approved while in country.

In addition to the core team members, LOE will be budgeted for supplemental team members who will provide critical inputs throughout Phase II of the Review, at the discretion of USAID/Egypt and the Team Leader, as follows:

Illustrative LOE: Supplemental Team Members

Phase II: Planning the Framework	Duration/LOE
Financial Analyst (local consultant)	15 days
Health Sector Reform Analyst (local consultant)	15 days
GH Tech Research Assistant(s)	20 days
Total Estimated LOE (Supplemental Team Members)	50 days

IX. REVIEW LOGISTICS

USAID/Egypt will provide overall direction to the Phase II team, identify key documents, key informants, site visit locations, and assist in facilitating a work plan. USAID/Egypt personnel will be available to the Team for consultations regarding sources and technical issues, before and during the Legacy Review process.

GH Tech will provide support for the Phase II team when they are working in Washington, DC including work space, projectspaces.com access, set up interviews and meetings, host the Team Planning Meeting, etc. GH Tech will also prepare logistics arrangements for the team's fieldwork portion of the assignment. The GH Tech team will be responsible for all in country logistics, team meeting space and other related support services.

X. KEY DOCUMENTS

- Egypt Legacy Review Framework
- List of Key Informants from Phase I Egypt Legacy Review
- A bibliography and library of relevant program assessments and evaluations, strategic plans, studies, and other background materials has been assembled and cataloged by GH Tech as a product of document reviews in Phase I. This will serve as the Legacy Review team's primary source for reference documents.
- USAID/Egypt will provide additional key background documents to the team in advance of the assignment. As the team receives additional background documents and source material from USAID/Egypt and key informants, GH Tech will continue to collect and catalog these resources.

XI. KEY MISSION CONTACTS

- Holly Fluty Dempsey, Director, Office of Health and Population
- Vicki Stein, Deputy OD
- Lisa Childs, Population/FP/MCH Program Manager
- Shadia Attia, M&E Specialist
- Other Health Office Members as appropriate

SOW ANNEX I: QUESTIONS FOR PHASE I INTERVIEWEES

Review Legacy—Phase I objectives

Prep Questions:

- What years and in what capacity did you work in Egypt?
- What were the major HPN program areas during your tenure?
- What technical-program area did you have the greatest involvement and knowledge?

Strategic and Programmatic Questions:

- During your tenure, what were some of the key strategic themes that were of greatest importance to the program achievements? (sustainability, integration, capacity development, graduation, etc)
- Can you remember and describe any specific policy or program areas during your involvement in Egypt when USAID made a specific substantive contribution to addressing the strategic themes of greatest importance?
- Name three specific areas do you feel that USAID has made the biggest contribution in terms of achieving PHN outcomes and impact? Why would you choose those areas?
- Do you believe that there is sufficient data or qualitative information to develop a credible association between USAID's investment in those three areas and the outcomes in Egypt? What concrete evidence would you cite?
- Do you know whether the achievements we are talking about have been sustained and continued by the Egyptian government?
- Were there substantive inputs, or collaboration with USAID, from other donor organizations that contributed to achieving the outcomes we have been discussing?
- Do you have, or can you recommend any specific materials (reports, evaluations, surveys) you can share that would help the Legacy team document USAID's contribution to impact in those areas?
- In any of those specific areas, what decisions were made or action taken by the Egyptian government that helped ensure achievement of outcomes?
- Are there specific areas where you think additional secondary analysis of DHS data would help substantiate the impact of USAID's PHN assistance program in Egypt, specifically in the three areas cited earlier?
- In Egypt, USAID used many programming mechanisms such as TA contracts, direct financing through Implementation Letters, budget support tied to policy reform, the Commodity Import Program, etc. From a local ownership, capacity development, effectiveness and sustainability point of view, which mechanisms were most important, and what do you feel were the advantages and disadvantages of these mechanisms? Was the mode of assistance important to achieving program outcomes?
- Were there any decisions or programmatic actions taken by USAID that you would, in hindsight, feel were mistaken or misguided? Why?

Optional Questions (if time permits)

- What do you think about USAID's current plan to graduate out of PHN sector work in Egypt by September 2011? Why?

Any advice for the team? Any documents or data to share? Any other people we should contact? Are there other questions we should be asking?

ANNEX 2: REFERENCE LIST

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