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**COUNTRY PROGRAM
STRATEGY
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USAID/EGYPT: HEALTH STRATEGY

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HEALTH STRATEGY

I. Sector Overview

During the early 1980s USAID worked with the Government of Egypt to increase access to health services of the rural and urban poor. USAID accomplished this by providing infrastructure, strengthening service delivery systems and improving health manpower training. USAID's contributions through the Strengthening Rural Health Delivery and Urban Health Delivery projects, as well as the Suez Community Health Personnel Training Project, complemented the GOE's efforts to increase access to health care. As a result, Egypt now has one of the highest ratios of physicians, primary health centers and hospitals to population in the developing world.

Unfortunately, the Egyptian public is dissatisfied with much of the quality of care in these facilities. Consequently, government facilities are underutilized. For example, while bed occupancy may range between 80 percent and 100 percent in some large city hospitals, Ministry of Health (MOH) statistics for 1990 indicate a nationwide bed occupancy of only 48.5 percent in general and district hospitals. Very low occupancy in most regional and district hospitals is responsible for the low national average. Also, Egyptians made only 1.5 visits per person to MOH outpatient facilities in 1990. These utilization rates compare unfavorably with countries where the population has equal or more restricted access to health services. Low utilization rates, combined with the rising cost of providing almost free health care to all Egyptians, has resulted in declining cost effectiveness.

Realizing that access to care alone would not reduce the high infant mortality rates (87/1000 live births in 1983), USAID and the GOE embarked on an ambitious program to introduce more targeted, cost-effective technologies, such as oral rehydration therapy (ORT) and immunizations, into more than 3,500 outpatient clinics nationwide. In 1981, USAID initiated the National Control of Diarrheal Diseases Project (NCDDP) and in 1985 it launched the Child Survival Project, which focused on expanding immunizations, maternity care and proper case management of acute respiratory infections, (ARI). During the early and mid 1980s these projects concentrated on ORT and immunizations. Working in concert with UNICEF and WHO, the GOE and USAID mounted extensive public awareness campaigns, trained health workers and improved service delivery activities related to ORT and immunizations.

A. Description of the Health Sector

The health care system of Egypt is a vast network of public and private facilities that covers the entire country and extends care access to nearly 100 percent of the population. Although the Egyptian government has for years stated that the provision of health services to the public is a high priority, only 2.8 percent of the total government

budget is spent on health care provided through public sector supported facilities. An estimated 1.1 percent of GNP is spent on health care with private and public resources. (In comparison, the US spends approximately 12 percent of GDP on health care).

The number of hospitals, however, has grown significantly over the past few decades. According to the MOH there are 107,229 hospital beds available in both public and private facilities. Eighty percent of these beds belong to the MOH, university and teaching organizations, and provide, in theory, free care to the majority of Egypt's 56 million people. The Health Insurance Organization (HIO) and the Curative Care Organization (CCO), both autonomous bodies in the public sector, provide 9 percent of available beds; whereas non-governmental organizations provide 1 percent. The private sector claims a growing 10 percent of total beds. Eighty percent of the MOH budget currently goes to pay the costs of curative care in the public facilities.

There are now more than 3,500 primary health care facilities: Rural Health Clinics, Urban Health Clinics, and Maternal and Child Health Clinics. These facilities provide most of the preventive health services with some curative care, especially in rural areas. In addition, there are indigenous health workers still serving the population, especially dayas who assist in 80 percent of births.

B. Accomplishments and Future Challenges

Heightened public awareness, increased demand for preventive services and higher quality of care has led to dramatic increases in coverage for ORT and immunizations. The National Control of Diarrheal Diseases Project, (NCDDP) has played a major role in what has been the most spectacular success worldwide in reducing infant deaths caused by diarrhea. The NCDDP improved mothers' knowledge of ORT from 12 percent to 98 percent and the utilization of oral rehydration salts (ORS) increased from 27 percent to 68 percent between 1980 and 1990. The project has helped prevent tens of thousands of child deaths due to diarrhea each year. ORT clinics are established in 85 percent of the 3,500 MOH clinics nationwide. Before the project was implemented, diarrhea caused over 100,000 child deaths in Egypt annually. Now, less than half that number die annually from dehydration caused by diarrhea.

According to Table 1, the Child Survival Project's Expanded Program of Immunizations (EPI) boosted coverage rates for the following immunizations between 1984 and 1990: BCG (tuberculosis) from 53 percent to 88 percent; OPV (polio) from 67 percent to 87 percent; DPT (diphtheria - pertussis - tetanus) from 57 percent to 88.5 and measles from 41 percent to 86 percent.

Immunization coverage of pregnant women with tetanus toxoid rose from 19 percent in 1984 to 62 percent in 1990. These impressive achievements in utilization and coverage save approximately 80,000 children's lives per year. Moreover, the IMR dropped sharply to 44/1000 by 1990.

Table 1
Immunization Coverage Rates

	1984 percent	1990 percent
BCG	53	88
OPV (3rd dose)	67	87.5
DPT (3rd dose)	57	88.5
Measles	41	86
Tetanus toxoid (pregnant women)	19	62

Sources : 1984 coverage survey, WHO
1990 coverage survey, UNICEF

Despite these impressive accomplishments, however, Egyptian children continue to die from preventable causes. Acute respiratory infections, diarrhoea and complications during pregnancy remain the top three killers of Egyptian children. Nevertheless, since the Child Survival Project was developed in 1985, the trends in cause-specific infant and child mortality rates have shifted. IMRs for the three major causes of death--diarrheal disease, acute respiratory infection, and complications of pregnancy and delivery--have all declined in absolute terms. (See Table 2.)

Table 2
Cause-Specific Infant Mortality Rates (per 1000)

	1982	1983	1984	1985	1986	1987
Diarrhea	26	29	26	15	15	12
ARI*	17	17	18	14	13	13
Pregnancy	7	5	6	5	6	6

Source: CAPMAS, Infant and Child Mortality Rates in Egypt, 1989.

* This rate includes mortality due to two communicable diseases covered by the EPI program.

In addition to the absolute declines in cause-specific IMRs, the proportion of infant and child mortality by cause has changed. (See Table 3.)

Table 3
Proportion of Infant Deaths by Cause (in percent)

Cause	1982	1983	Year 1984	1985	1986	1987	percent Change
Diarrhea	37	45	41	31	32	27	-27
ARI	25	26	28	28	27	28	+12
Pregnancy	10	8	9	10	12	13	+30

Source: CAPMAS, Ibid.

In sum, the mortality due to ARI between 1982 and 1987 has fallen apace with that for diarrhea. This decline is probably due in part to the success of the Expanded Program of Immunization program and to improvements in socio-economic conditions. Nevertheless, even though ARI mortality has declined, the proportion of infant and child deaths attributable to ARI has increased, currently making ARI the number one killer of Egyptian children under five.

These data have several implications for the health strategy. At first glance, the recent declines in mortality seem to call into question the need for a comprehensive ARI control program. However, since the decline is probably due to the impact of the EPI program, we consider that the most easily preventable mortality has already been addressed. Most of the residual mortality is probably attributable to diseases like pneumonia which are being addressed by the ARI component. Moreover, if some of the declines are due to improved socio-economic conditions between 1980-87, then the data do not reflect any potential upward trends in mortality due to the impact of structural adjustment policies on the poor. Therefore, these factors, coupled with the increase in the proportion of deaths due to ARI, fully justify retaining this ARI component of our Child Survival strategy.

As shown in Tables 2 and 3, complications of pregnancy, including neonatal tetanus and prematurity, constitute the third leading cause of infant deaths. Unlike diarrheal disease and ARI, the cause-specific infant mortality rate for complications of pregnancy has not declined significantly over the past five years. It has hovered between 5 and 7. What is perhaps more concerning is the sharp increase in the proportion of infant deaths due to complications of pregnancy from 10 percent in 1982 to 13 percent in 1987, an increase of 30 percent.

Research by CAPMAS and results from the National Demographic and Health Survey have identified short birth intervals, mothers' age (less than 18 and greater than 34 years) and the lack of prenatal consultations during pregnancy as major risk factors of infant mortality. Infant mortality is highest when conception occurs 0-5 months after the first pregnancy and declines steadily as the interval increases to 18+ months.

Vaccine preventable diseases now account for a very small share of infant mortality but this is somewhat misleading because measles and pertussis deaths are formally included under the respiratory illness category. Moreover, in 1990 there were still 565 recorded cases of polio underscoring the need to intensify ongoing polio eradication activities if the target date of 1994 to eradicate polio is to be met.

Yet another communicable disease, which manifests itself through high mortality due to liver disease in adulthood, is hepatitis B. The World Health Organization recommends mass vaccination of infants in countries where over 2 percent of the population are chronic carriers of hepatitis B virus. As illustrated below, six different epidemiological studies place the prevalence of hepatitis B carriers in Egypt between 4 percent and 10 percent. Up to 25 percent of chronic carriers die from cancer or cirrhosis of the liver. Between 50 percent - 80 percent of the population show signs of previous infection with hepatitis B.

Table 4
Mean Prevalence of Hepatitis B Markers in Egypt

Reference	Sample Size	Hepatitis B Antibody (carriers) percent Positive	Any HBV Marker (past infect.) percent Positive
Nooman, et. al, 1973	660	5.7	-
El Alamy, et. al, 1973	18,000	4-6	49-61
Sobeslavsky, 1980	1,819	6.2	-
Sherif, et. al, 1985	1,866	10.1	88.0
Iman, et. al, 1979	3,030	5.2	47.8
Hyans, et. al, 1987	1,234	7.4	-

Research by the Naval Medical Research Unit (NAMRU 3) here in Egypt suggests that transmission of hepatitis B occurs, not vertically from mother to infant, but horizontally sometime during the first year of life. Hence, mass vaccination of infants is an effective strategy for combatting hepatitis B infection.

Maternal and adult morbidity and mortality trends are a mixture of patterns normally observed in developing and developed countries. Complications of pregnancy and domestic

accidents figure among the major causes of death among Egyptian women of childbearing age.

The four leading causes of death for male and female Egyptians of all ages are chronic heart disease, lung disease, infectious diseases and accidents. Schistosomiasis is the most prevalent cause of disease and disability among Egyptians under 40 years of age, while hypertension is the most common disease among older Egyptians.

The majority of these leading causes of death and disability result from controllable environmental factors, inappropriate diet, and personal health habits. For example, the prevalence of smoking in Egypt is 18 percent for the population as a whole. Smoking prevalence is even higher among selected groups, such as male university students, over 35 percent of whom smoke. Smoking is clearly linked to chronic lung disease. Smoking, inappropriate diet and a sedentary lifestyle are major risk factors for hypertension and heart disease.

The infectious disease schistosomiasis has been associated with irrigated agriculture in Egypt since ancient times. The schistosome parasite is harbored by snails which inhabit irrigation canals wherein water is slow moving or stagnant. Exposure occurs during agricultural work or through leisure activities like using the canals for swimming. This is a major risk factor for most young rural males. It is estimated that 25 million Egyptians (49 percent) are at risk, while 9 million (18 percent) are infected with either of the two types of this disease (*S. Haematobium*, which affects the urinary system, and *S. Mansoni*, which affects the intestines). Both forms of the disease are associated with complications of the liver and kidneys. Treating these complications requires expensive curative care, including kidney dialysis.

Both forms of schistosomiasis most often strike male children, causing anemia and reduced physical fitness. Undiagnosed infection usually results in a 5-10 percent loss of work productivity. Adult disease can lead to a 50-70 percent loss in work productivity which thereby greatly reduces the Egyptian GDP. In addition, the annual cost of treatment to the Egyptian economy is estimated at \$200 million.

C. Participation of Other Donors in the Health Sector

The principal donors in the health sector besides USAID are UNICEF and WHO. UNICEF provides technical assistance, commodities and operational expenses for child survival activities: *viz.*, the Expanded Program of Immunizations (EPI), the Acute Respiratory Infections, (ARI) program, and breastfeeding promotion. UNICEF focuses its field work on Upper Egypt.

The World Health Organization provides limited financial assistance but is a key player in health policy. WHO essentially sets the policy agenda worldwide on immunization. WHO also provides advisors in specialized areas in the public health field, such as ARI case

management. USAID, UNICEF and WHO hold quarterly meetings with the GOE to coordinate their child survival strategies and activities.

In the field of schistosomiasis research and control, donor participation is more diverse. The African Development Bank has provided the GOE a \$15 million loan for the control of schistosomiasis in three governorates in the Nile Delta. The World Bank is concluding a \$20 million program assistance loan for schistosomiasis control in the remaining five governorates in the Delta. Total project funding including the GOE cash and in-kind contributions reaches \$37 million. The Italian government is supporting \$18 million institutional strengthening project for schistosomiasis research at the Higher Institute for Public Health in Alexandria. Several European donors are active in the health sector to a lesser degree. Their contributions are usually focused on small scale activities in limited geographic areas.

D. Constraints to Improving the Health Services System

1. Policy

The policy environment which impacts on public health can be divided into two spheres. The first sphere includes public health policies, for example, the relative emphasis between curative and preventive services as determined by annual budgetary and resource allocations, and the establishment of national policy on immunization or HIV/AIDs. The second sphere is comprised of policies in sectors other than health, but which impact on the health status of the population. Examples of this include policies requiring the use of unleaded gasoline; banning of certain pesticides, the adoption of pollution control measures, elimination of subsidies on infant formula, occupational health and safety regulations, etc.

As previously stated, the morbidity and mortality patterns in Egypt are a combination of those commonly seen in developing and developed countries. This changing morbidity and mortality pattern in the Egyptian population requires the MOH, whose mandate is to improve the health of Egyptians, to periodically revise its policies and strategies on the control of diseases and the provision of health care.

Furthermore, as an increasing number of Egyptians obtain their health care from employer-financed schemes, the MOH will need to revise its role away from directly providing health care towards the establishment, enforcement and promotion of health care standards. Policies and strategies developed for the public health also need to be responsive to the epidemiology of communicable, as well as non-communicable chronic diseases, which tend to have predictive risk factors associated with particular individual behaviors or environmental conditions. In addition to these problems of transition and role redefinition, the GOE/MOH is also faced with the usual problems of developing appropriate policies, planning, management and insufficient resources.

2. Decreasing Budget and Inadequate Resource Allocation:

The sources and mechanisms used to fund health services, *i.e.*, national budgets, beneficiary payments, insurance, and donor funds, are currently limited. As a consequence of the fiscal deficit and economic reforms, the GOE is under increased pressure to reduce the budget for social sector programs, including health. These reductions have to be made for a populace which still considers health care as a constitutional right in the socialist tradition of the 1952 revolution even though this is no longer feasible.

The combination of rapid population growth and contracting government budgetary resources has made it increasingly difficult for the GOE to sustain the present level of services. The health sector has struggled to keep up with the rapidly expanding quantitative needs for its facilities, but has done so at the expense of the quality of the services provided. Problems such as drug shortage are common. In addition, there has also been a steady deterioration of the physical infrastructure due to a lack of funding for maintenance and repairs.

Private sector health care services constitute a relatively small proportion of the total health system but the GOE, faced with the high cost of maintaining an underutilized system which generates no revenue to sustain itself, now welcomes the expansion of the private sector in health. As in most countries, however, private health care practitioners are heavily concentrated in metropolitan areas and efforts have to be made to ensure that the rural population is not left unserved. Currently there are no private health maintenance organizations.

Surveys in 1985 and 1992 show that Egyptians are willing to pay and do pay for increased quality health services. Preliminary data from household and inpatient surveys conducted for the Cost Recovery for Health Project reveal that residents in a lower income area of Cairo now pay between LE 54 and LE 640 per inpatient visit for services at the MOH Embaba Hospital. This includes even the "free patients". Pilot facilities now identified as cost recovery sites plan to establish fees in line with their overall costs, and improve the quality of care to attract more clients who are willing to pay or whose employers are willing to share in the cost for such care. The net result will be to help contain hospital costs and increase revenues for maintenance and other necessary hospital needs.

It is, therefore, reasonable that the MOH attempt to recover some costs from state financed health facilities in addition to allowing the private sector to provide health care to that segment of the Egyptian population capable of paying for its health care.

3. Inefficient Resource Allocation and Management

The government is not utilizing its limited health resources in the most cost-effective manner. Public sector administrators and technical staff have not been trained to manage resources efficiently. There have been few incentives to improve management efficiency and decision making has been centralized. Since most indicators used in public health program monitoring and in planning are divorced from the financial information

systems, there are few sources of management information that allow managers to evaluate the efficiency of their activities. The HIO, for example, estimates that 50 percent of its total costs are for pharmaceuticals. USAID is currently working with HIO to put in place a good national MIS system for monitoring distribution, utilization, and/or potential abuse of such pharmaceuticals.

Some recent policy changes appear promising in improving the efficiency of public spending in the health sector. A series of decrees were issued recently by the GOE which relate to cost recovery. These include important steps to decentralize hospital management and set prices.

Cost recovery hospitals are now authorized to retain approximately 95 percent of the fees collected for use as incentive payments to medical staff and to pay recurrent costs.

These are encouraging first steps because experience in other countries has shown that, where planning, budgeting, and monitoring are decentralized and authority is given to local decision makers to manage resources, the quality of care can be dramatically improved and recurrent costs reduced.

4. Inadequate Targeting of Subsidies for Health Services

The MOH operates an extensive health care system which continues to attempt to provide free health care to all Egyptians in response to continuing expectations from the socialist era. By attempting to provide health care to all Egyptians from tax-based sources, the needs of the lowest income and highest risk populations are not addressed. If the objective is to subsidize health care for those who cannot pay, then the form of subsidy chosen is most inefficient. It has resulted in high costs, low quality of care and low utilization of services. Moreover, this policy has spread the resources of the MOH so thin that it is unable to fund the preventive services that the general population requires.

5. Inadequate Personnel Policies and a Distortion of the Labor Market for Health Professionals

Current government personnel policies still guarantee a job to every college graduate. There has been no significant reduction of the massive physician training program initiated during the socialist revolution. The result is that a large number of medical schools continue to graduate thousands of poorly trained physicians each year to join the public health service currently saturated with poorly paid doctors lacking alternative job opportunities. One consequence of this situation is that the lion's share of the MOH budget

(60 percent) goes for personnel costs with little left over for financing preventive programs. Planners for the health sectors omitted nurse training and the MOH has only recently begun to seriously address the acute shortage of nurses in Egypt.

The result of these past and continuing personnel policies is an oversupply of physicians and an undersupply of nurses and midwives -- the most cost-effective health care providers. While the World Health Organization recommends a ratio of 1 physician and 3 nurses per 1000 population, in Egypt this ratio is reversed. The eight existing baccalaureate nursing programs in Egypt graduate 248 registered nurses per year (compared with medical schools which graduate 4,594 physicians per year). To ameliorate the enormous shortage of skilled nursing care, the MOH has instituted 198 physically-inadequate, poorly staffed and poorly equipped schools generating 6,000 secondary technical nurses" (STNs) per year. In addition, the GOE has developed eight health technical institutes for training sanitarians, and laboratory, X-ray, dental, medical records, repair and maintenance technicians.

6. Subsidies for Pharmaceutical and Infant Formulas

The MOH has been controlling pharmaceutical and infant formula prices in Egypt for years. Although this policy has been popular with the public, it has drained the national budget, discouraged private producers to invest in production, encouraged physicians to over prescribe drugs, and acted as a disincentive to mothers to breastfeed their infants.

The World Bank is discussing the need to liberalize pharmaceutical pricing as part of the industrial price reform program. The government and the Bank have agreed to adopt a gradual price liberalization strategy. As a first step to implement the liberalization program, the GOE has formed relatively autonomous holding companies for managing all public sector pharmaceutical firms. These holding companies will have full autonomy to manage the companies, including budgets. Some of the planned changes have not yet been implemented, but this provides a clear indication that the GOE does intend to remove some of the indirect subsidies that it has unwittingly assumed at great cost.

7. The Lack of Model Health Care Financing Systems

Until recently, the MOH had little access to information and related technology regarding health care financing models, particularly prepaid and managed care systems and insurance schemes. The Cost Recovery for Health Project has been working with the MOH to develop models and standards by which the GOE can broaden the base of health financing through an appropriate mix of public and private systems.

Instituting cost recovery in public hospitals must be based on the ability and willingness of clients to pay. It also requires that the institution be able to cost out its services, set a fee schedule, collect fees and establish accounting and management procedures to manage these funds. These standards are being introduced now at selected pilot facilities; the methodologies, once refined, will then be available for all MOH facilities to utilize. In addition, ensuring good quality care employers and patients are willing to pay is an important facet of cost recovery which requires adequate attention by management. Such quality includes attention to the development of a certain level of facility maintenance, equipment, training and acceptable

standards of care, if one is to ensure growing client demand, confidence in the service, and increased patient satisfaction.

E. The Need for Policies/Regulations in Other Sectors to Protect and Promote Health

At Egypt's current stage of demographic and economic transition, the provision of health care and the regulation of environmental health problems is increasingly the responsibility of many different entities, many of whose primary objective is not health care. This demographic and economic transition necessitates a change in the direction of public health policy and a modification of the traditional role of the MOH from a provider of health care to a more policy-making and regulatory body. The emerging environmental conditions and lifestyle risk factors represent the major causes of chronic illness and hospitalization - e.g., these include some of the major cost components under the financial reform policy initiative with the GOE. The projected increase in the adult population signals the need for broader financial planning of insurance schemes and financing mechanisms that spread the risks of cost and rationalize the use of scarce resources to more efficiently contain such costs.

In the U.S. and western industrialized countries, major preventive campaigns are successfully reducing the familiar risk factors associated with changing life styles - dietary fat, sugar and salt consumption, smoking, sexual behavior, alcohol and the health risks associated with a sedentary life style. Excess morbidity and early mortality have major direct and indirect social and economic costs. These costs have prompted industrialized countries to undertake preventive interventions. Dietary risk factors, smoking and sedentarism remain major risk factors in urban Egypt.

In Egypt and other countries in transition, perhaps more salient than the labor force argument for early planning of preventive health policies, is the danger of a familiar pattern: that the health sector response to the changing burden of chronic disease will be purely curative and technology-driven, distorting even further the problems of resource allocation and access for vulnerable groups.

GOE/MOH policies and budgetary allocations currently consider preventive health only within the framework of infectious and communicable diseases, and relegate chronic diseases to the curative care sector. Such care is intrinsically, if not openly, technology-oriented.

Specific policies which impact on patterns of consumption in the family, environmental quality and occupational safety include:

1. The Need for Pollution Controls and Use of Unleaded Gasoline

The 1985 GOE National Report on the Egyptian Environment, highlighted not only the health problems of sanitation and human waste, but also the health aspects of

chemical air and water pollution, pesticides, fertilizers and worker safety. Lead from gasoline continues to be a major source of environmental lead pollution with worrisome consequences. The MOH needs to be in the forefront, as an example of its new role in a changing health environment, to advocate the elimination of leaded gasoline.

2. The Need for Occupational Health and Safety Regulations

Documentation of environmental and occupational health problems is universally poor, but recent studies find serious health impact in many LDCs from acute pesticide and other work-related poisonings. Workplace injuries are rapidly becoming major sources of premature death and chronic illness. Little information is available on the Egyptian situation, but it is clear that the MOH needs to make this its responsibility.

F. GOE Health Policy and Response to Current Constraints in its 1992-1997 Development Plan

President Mubarak declared 1989-1999 a decade for the protection and development of the Egyptian child. Following this declaration, the National Council for Childhood and Motherhood was formed and is co-chaired by the Prime Minister and the First Lady. The council's steering committee is composed of those ministries whose activities impinge on the well being of the mother and child. It coordinates activities between the various donors and ministries implementing programs affecting child and motherhood.

The Council has been very active in coordinating activities proposed for the current plan in support of the high priority set by the president for this activity.

The Health Section of the recently published GOE Five Year Plan for 1992-1997 enunciates some encouraging new policies and strategies that suggest that the MOH intends to resolve some of the current problems undermining its efforts. The Plan suggests a new MOH orientation, based on social justice and equity, towards targeted subsidized health care for the truly needy and the introduction of fee for service for those who can pay. The Plan identifies the following guiding parameters for MOH activities in 1992-1997:

1. Adherence to social justice in the provision of primary health care within a social solidarity framework to all citizens with an emphasis on improved medical care appropriate to the individual's level of income.
2. Increased community involvement in financing, administration and implementation of health services.
3. Expand HIO beneficiaries and introduce other types of insurance schemes that are suitable for businesses and workers and their different economic and

geographic situations, and decentralize the organization and affiliate agencies offering insurance services to better serve their beneficiaries.

4. Utilize the health card system as a tool to strengthen the referral system for specialized health services and the horizontal integration of the different services offered by the system
5. Emphasize the priority importance of MCH, family planning and community health in all health development programs and the direct impact they have on health status.
6. Make all Health Services Units, at all levels, potential resources for training, learning and medical research in coordination with other related ministries, centers and academic institutions.
7. Increase the emphasis on studies related to health economics to assist in the development of the budgets of governmental health care systems.
8. The selection criteria for new health projects and programs will be:
 - a. Primary health care, particularly MCH and FP.
 - b. Focus on underserved groups and areas.
 - c. Focus on preventive and emergency services.
 - d. Focus on the Implementation of on-going investment projects.
9. Emphasize the continual upgrading of the health information system and its use to develop health plans and policies as well in evaluating services.
10. Continually review and modify health legislation to fit the social changes and to serve the citizens.

These guidelines from the 1992-1997 Plan and the interest demonstrated in health at the presidential level provide ample evidence of the GOE/MOH concern and willingness to work towards the resolution of some of the constraints that currently dilute government efforts to provide better health care to the Egyptian people.

The guidelines also reveal a convergence of USAID and GOE/MOH views on the required approach to resolve existing constraints, thereby providing a basis to strengthen ongoing projects and to initiate new activities.

The suggestion that citizens who can pay for health care should pay (guideline No. 1), and the emphasis on objective information from studies and the health information system, as the basis for budgets, policies and plans, clearly demonstrates the desire of the MOH to rationalize management of the health services system.

II. USAID Health Strategy

USAID/Egypt's overall goal for the health sector should be to assist the country to build a health system that it can sustain with its own resources. The areas proposed for continuing assistance in the health sector are complementary to one another and conducive to achieving economic progress and building a democratic society. The gains made in child survival cannot be sustained without attention to the financing of health care, the containment of costs of both curative and preventive care, and the best possible utilization of scarce public sector resources for health. Similarly, vaccination of children against hepatitis B contributes to cost containment of adult illness by lowering the risk of liver cancer and other conditions that require expensive curative treatment later in life.

A priority area reflected in the GOE/MOH 1992-1997 Plan, and one which most closely matches Agency policy, is to continue to reduce maternal and child mortality due to preventable causes. There is still a considerable unfinished agenda in child survival, and a need to sustain past and future gains. The successes of the 80's and early 90's, particularly in diarrheal disease control and immunization, may have been with the "easy" interventions. Further reductions in the IMR will come less dramatically and much more slowly, requiring a combination of more complex interventions.

Therefore, the Mission's strategic objective for the health sector is Improved Maternal and Child Health.

The Mission will measure the achievement of this objective by means of infant, child and maternal mortality rates and the incidence of vaccine preventable diseases like polio, neonatal tetanus and hepatitis B.

The Mission's health activities in the near term are structured to yield four program outcomes. These outcomes are presented below along with the program activities that will contribute to their achievement.

Program Outcome No. 5.1: Improved Case Management of Acute Respiratory Infections (ARI)

ARI is now the number one killer of Egyptian infants and children. The World Health Organization has developed and tested simple, cost effective diagnostic and treatment

protocols which can be used by physicians or nurses to screen for serious respiratory infection and prescribe proper treatment.

This low-cost technology protocol requires only the use of a watch with a second hand or a timer to enable the care provider to count respirations. Despite its simplicity, use of the

protocol involves training health care providers to properly time respirations and physically assess the patient for other signs of serious ARI. Hence, USAID and the MOH are mounting an intensive effort to provide pre-service and in-service training regarding ARI to both public and private sector health care providers.

Also, the success of any program to combat ARI hinges on placing more responsibility on the mother as first line care giver. The WHO approach is consistent with the necessary change in health policy to place primary responsibility for good health on the family and community. Hence, USAID will help to build MOH capacity to mount a media-based education campaign for mothers to teach them to recognize signs of serious ARI and seek treatment. The success of this approach will be assessed through annual knowledge, attitude and practice surveys in the same way it did with the National Control of Diarrheal Diseases Project.

Program Outcome 5.2: Increased Access to Clean Water and Sewerage Systems in Urban Areas.

Over 47 percent of Egypt's population is urban. The population density in Cairo reaches 29,000 people per square kilometer. These crowded conditions result in sanitation problems which are deleterious to health. Clean water and proper disposal of sewage and solid waste are key factors in reducing the prevalence of diarrheal, parasitic and other communicable diseases.

The relationship between improved water supply and sanitation, and better health are well established; hence, USAID does not intend to undertake expensive studies to prove this relationship.

Program Outcome No. 5.3: Increased Immunization Coverage

USAID will continue to support the immunization program by providing technical assistance and commodities through the Child Survival Project in the areas of training, supervision, surveillance and epidemiologic case investigations. In concert with UNICEF and WHO, USAID will support efforts to sustain current coverage rates and achieve three additional activity targets: 1) raising the coverage rate for immunization of pregnant women with tetanus toxoid; 2) eradicating polio by 1994; and 3) achieving 80 percent coverage of infants with hepatitis B vaccine by 1995.

Improved effectiveness of the cold chain and the supply systems continue to be essential elements of the immunization component. USAID is assisting the MOH in its efforts to upgrade the capacity, quality and maintenance of the cold chain for handling the additional vaccines required for the hepatitis B and polio eradication initiatives. USAID is also supporting the procurement of syringes, refrigerator trucks, refrigerators, cold rooms, laboratory equipment, VACSERA support facilities and cold boxes in an ongoing effort to correct the deficiencies identified in the evaluation of the immunization support system by

UNICEF.

The key program outputs of the polio eradication activities will be: a surveillance system that provides information for an immediate response to contain new outbreaks; a laboratory system to monitor the immunological profile of the population, as well as the antigenic characteristics of the various polio viruses; and blanket immunization of all susceptible children within the immediate areas of the breakthrough cases.

In addition to supporting 3,500 vaccination sites, USAID will assist VACSERA (Egypt's only vaccine producer) by providing it with equipment to improve quality control to centrally prepare, program and distribute vaccines from its manufactured and procured stocks. Equipment and TA will also go towards improving VACSERA's current production lines and good manufacturing practices.

In support of the EPI, USAID will support the training of over 8,000 physicians, 600 nurses, 350 cold chain technicians and 2,500 sanitarians to support community outreach activities and the new initiatives in polio eradication and hepatitis B immunization.

A PASA with CDC, to strengthen the surveillance of communicable diseases and the polio eradication program, will introduce key epidemiologic techniques, systems and courses. These courses will include essential concepts in field epidemiology and biostatistics, a FAST course (Field Analysis and Summary Technology Course) intended as a refresher course for senior MOH officials, and refresher courses for laboratory technicians to strengthen their diagnostic capabilities.

Program Outcome No. 5.4: Improved access to perinatal care:

USAID will assist the MOH in focusing preventive activities on the several risk and causal factors identified so for high maternal and infant mortality due to complications of pregnancy.

Providing health education and information to mothers through the media and other channels remains an appropriate role for the MOH. Hence, USAID will support the MOH by strengthening its capacity to mount media campaigns and train its personnel to conduct outreach to the community.

Nevertheless, health service providers, in both the public and private sectors, must be able to respond to an increase in demand for quality prenatal, delivery, and child spacing services. Therefore, in order to improve maternal and child health care during pregnancy, delivery and the post partum and neonatal periods, USAID will help the MOH improve the quality of care and services in 3,500 health clinics and 227 MCH centers and district hospitals. This will require intensive training of primary health care workers and appropriate equipment for clinics, MCH centers and district hospitals.

The cornerstone of USAID's approach in promoting safe motherhood is the training of nearly 9,000 lay midwives or "dayas". Dayas currently deliver 80 percent of the babies in Egypt. Any strategy which focuses exclusively on hospital or clinic services will have negligible impact on maternal and infant mortality. Moreover, it is equally critical to involve dayas in programs that convince them of the importance of referring patients for prenatal care, identifying complicated deliveries and providing delivery of family planning services. Training of both physicians and nurses will emphasize the importance of the daya as a member of the health team and the importance of a functioning referral system.

In addition to training and media, USAID will provide low-cost delivery kits for dayas, basic laboratory and delivery equipment for clinics and MCH centers and a limited number of incubators for high risk and premature infants.

1. Health Care Financing

This focus is consistent with GOE/MOH stated intent in its 1992-1997 Plan to recover costs from citizens able to pay for their health care. Moreover, enhancement of Egypt's role as a model of stability, democracy, free markets and prosperity in the region depends on increased economic growth. Increasing macro-economic stability and market pricing (Strategic Objective No. 1) is critical to achieve the goal of economic growth. Two program outcomes correspond to this strategic objective. The first is the adoption and implementation of policy reforms in the trade, fiscal, financial and business sectors. The second is improved market pricing and increased cost recovery to reduce MOH recurrent costs, coupled with the provision of increased quality of health services delivery.

USAID's overall health financing objective is to assist the country develop a health care system that is financially sustainable from local resources; one that has a mix of private and public services, and one in which pricing of services is rationally determined. USAID will continue its dialogue on needed policies and strategies within the Cost Recovery Project, and through other non project activities as the opportunities arise, to assist the MOH develop such a system.

USAID is currently pursuing a pilot activity to recover costs for curative care in a limited number of public hospitals. This effort involves determining costs and subsequently setting standards for accounting and financing systems to enable the Ministry of Health to begin charging fees according to actual costs and ability/willingness of clients to pay. The MOH believes strongly that it must provide a limited amount of renovation for these hospitals to meet safety and health standards, and procure some new equipment in order to improve the quality of care if patients are to be expected to pay. The intention is that cross subsidization within these hospitals will permit the facility to reduce its recurrent costs by charging those patients who are willing and able to pay for increased health care services, while still offering almost free beds to its very poorest citizens. If successful, USAID is contemplating continued assistance in this area.

Initial success, expected to be modest, will be measured by the percent of operations and maintenance costs recovered in targeted health care facilities and by the percent of beds in pilot hospitals occupied by paying patients. If USAID and the GOE decide to expand this effort in a follow-on activity, they will eventually attempt to recover a major portion of the curative health care costs system-wide. One of the outcomes of this initiative would be to free up more MOH resources, currently being used to pay for high recurrent costs at mostly urban public care facilities, for preventive, public health programs in the country where cost recovery is not feasible.

USAID is pursuing two additional activities in health care financing which are expected to continue through the planning period. One activity is addressing the technological and institutional constraints to the efficient operation of Egypt's two HMO-like entities, the Health Insurance Organization and the Curative Care Organization. Our approach to institutional strengthening concentrates on improving the management information systems of these organizations in order to better control inventory and contain costs as their patient load continues to increase over the next five years.

A second initiative responds partially to the distortions in public personnel policies as they impact on the health sector, by guaranteeing loans to recent physician graduates willing to establish single or group practices in underserved areas in Egypt. The ultimate objectives of this activity are: 1) to increase access to private sector (fee-for-service) medical care in peri-urban or rural areas; and 2) offer physicians an alternative to government (MOH) employment. The result will be to reduce the proportion of the MOH budget devoted to physician salaries for doctors who are presently underutilized in curative public health care facilities.

The three component activities within the health care financing arena are ways to reduce the burden on the GOE budget: increase revenue through cost recovery, contain costs and improve efficiency within HIO and CCO, and encourage more private practices in underserved areas. USAID will monitor progress with these approaches and continue dialogue to determine if other initiatives might be practicable later on to broaden the financing base further.

2. Schistosomiasis Research

Schistosomiasis is a major health problem in Egypt, affecting the rural poor of all ages, but particularly older children and young adults. Village prevalence rates in the Nile Delta have been measured between 40 percent-72 percent with particularly high rates in children. Numerous studies have linked this disease to reduced productivity by 33 percent among working age adults, costing Egypt half a billion dollars annually in lost productivity. The costs of control are high and require spraying chemicals in irrigation canals and expensive curative drug treatment with Praziquantel. The formulation of this drug treatment is still not available for children, however. The costly nature of even preventive care is shown in the large contributions of the African Development Bank and the World Bank to

schistosomiasis control in the Nile Delta (over \$37 million).

While these prevention and control efforts stand up to the most rigorous cost-benefit analysis, the most cost effective way to prevent this ancient scourge is by developing a vaccine. Hence, USAID is supporting VACSERA in the research and development of a schistosomiasis vaccine. The Mission will also sponsor operations research to test new control and treatment measures through VACSERA. These efforts will hopefully encourage the MOH and other donors to devote more resources to the actual control of this disease until a vaccine is developed and becomes available in Egypt.

3. Nurses Training

The dearth of well-trained registered nurses and secondary technical nurses constrains the success of the Mission's Child Survival and Cost Recovery initiatives by compromising the quality of care in both preventive and curative care. This is especially true if we are to encourage patients to pay for higher quality health care services. Well-trained nurses are the key if such a fee for service strategy is ever to succeed. Hence, designing a comprehensive and realistic program to improve nurses training is a key next priority for the health sector.

Although Egypt has a plentiful supply of qualified doctors, there is a great shortage of qualified, well-trained nurses. In the past, the Mission has sponsored Project HOPE in its efforts to establish and develop baccalaureate nursing education in Upper Egypt at the Assiut University, High Institute of Nursing (HIN). The current HOPE grant establishes a HIN Consortium that will promote the development of university nursing education. The main objective is to facilitate collaborative efforts between developed and developing HINs, establish a process by which resources are shared among HINs, and faculty needs at developing HINs are met.

Among the developing HINs are Menoufia, Suez Canal, Zagazig and Tanta; all of them lack a nursing Faculty and still depend on consultants from developed HINs (Alexandria, Cairo, and Ain Shams Universities).

USAID will now turn its attention to upgrade the quality of instruction and training in the secondary technical nursing schools, which graduate the bulk of Egypt's nurses, by upgrading nursing instruction and training in all the nursing schools throughout Egypt. The Mission will work closely with Project HOPE, or a similar grantee, the nursing leaders of the HINs, and the MOH to develop a follow-on nurses training project to upgrade all categories of nurses available in the country, i.e., the technical nurse, the diploma nurse, and the university nurse. The nursing profession in Egypt depends on different levels of nurses that have to work together to improve the quality of nursing care.

4. Future Policy Dialogue

The MOH 1992-1997 Plan lays out policy guidelines that are favorable for a

USAID/MOH dialogue for reform in various areas of the MOH's activities, but much remains to be done.

USAID will conduct a variety of policy related studies through ongoing projects and through non project activities in areas of mutual interest identified in the 1992-1997 Plan. Such information will be needed to dispel popular misconceptions which tend to abound on a variety of policy issues and will provide an objective basis for carrying out serious policy reform. Policy reforms usually imply a political cost and USAID should consider the possibility of rewarding the GOE/MOH for undertaking some of these politically risky changes.

Priority areas for policy reform include the institution of fee for service for the majority of health care users, performance-based personnel policies; development of rigorous standards for health care for MOH and private sector facilities; development of safe occupational and environmental health standards; rationalizing the budget preparation process; and revising the MOH's mandate and strategies to be consistent with the changing epidemiology of disease and socioeconomic profile of the Egyptian population. When these policies are made operational at the local level, they will form the foundation for an efficient system.

5. Targets of Opportunity in the Health Sector

Infant mortality is declining and the ranks of young, middle aged, and older adults are swelling. Life expectancy, increasing in Egypt, now stands at about 61 years. While a decrease in the gross mortality rate gives further evidence of improved access to health services, education, and income, it also is an indicator of shifting priorities for children and adults. The problems are increasingly associated with urbanization, industrialization and life-style changes that accompany economic progress. The major causes of death are shifting from infectious diseases to chronic diseases that develop over longer periods of time, but also carry with them long periods of increasing illness and cost. The "emerging health issues" are now becoming visible in Egypt and include relatively new diseases like HIV/AIDS and other rapidly increasing risk factors for health, such as traffic and industry-generated accidents, injuries, pollution, lead and pesticide poisonings. Egypt is well into this epidemiologic transition, with cardiovascular disease accounting for one third of all deaths.

6. Social Marketing and Communications

The success of the Child Survival project and rising contraceptive prevalence under family planning demonstrates that social marketing is a powerful tool for sustaining public demand and attracting the GOE's attention. The importance of using the existing private media in Egypt to support and manage a coordinated social and marketing effort for health is both possible and feasible. The use of external TA should be kept at a bare minimum and

directed only at the development of local media capacity, rather than on the marketing itself. Through a NGO mechanism, USAID could possibly direct low-cost social marketing efforts toward child survival interventions, and then broaden the scope to include communications directed toward anti-smoking media campaigns, and risks associated with industrial pollution which affects everyone's health, but particularly young children. Other media programs could include warnings about dangers of industrial generated accidents, injuries, lead and pesticide poisonings. One example might be media warnings about the dangers and consequences of schistosomiasis, could be followed by the sale of the curative drug (or vaccine once one is found safe and effective), similar to the approach used now by the ORT campaign which has been so successful.

In addition, there could be a media demand for the introduction of lead-free gasoline as a child health initiative. At the same time as the epidemiologic transition, science, environment and progress are not static and it is critical for the mission to reserve some degree of flexibility to be responsive to the well-being of the people of Egypt. For example, reduction/elimination of leaded gasoline could be a major breakthrough in environment in an LDC, which could be leveraged through President Mubarak's World Summit for Children commitment. This issue has a vocal Egyptian constituency. The rapidly escalating global publicity and Egypt's specific concern about the possible mental retardation effects in children from gasoline-generated lead poisoning create a window of opportunity for USAID and the GOE to take the lead within the context of the Child Survival project.

The specific indicators and targets which are intended to measure progress toward outcomes will be contained in an auxiliary document.