

A REPORT ON HEALTH
DEVELOPMENT IN THE ARAB
REPUBLIC OF EGYPT:
A SECTOR IN TRANSITION

During the Period:
MAY 7 - JUNE 10, 1982

Supported By The:
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
(ADSS) AID/DSPE-C-0053

9363773

AUTHORIZATION:
Assgn. No. 583102

BIBLIOGRAPHIC INFORMATION

PB85-143790

Report on Health Development in the Arab Republic of Egypt:
A Sector in Transition.

10 Jun 82

PERFORMER: American Public Health Association, Washington,
DC. International Health Programs.
Contract AID/DSPE-C-0053

SPONSOR: Agency for International Development, Washington,
DC.
AIDPN-AAL-831

Although the Government of Egypt's (GOE) Ministry of Health (MOH) has adequate health facilities and personnel, its primary health care (PHC) system does not work well and public health is deteriorating. This report addresses the issues that prevent effective health care and recommends program changes. GOE health priorities are discussed and social and political events during 1952-1982 are reviewed to identify constraints to an effective PHC system. A strategy targeted at both the public and private sectors is then presented to help the GOE develop long-and short-term solutions to PHC problems. In light of the GOE's decision not to increase MOH funding, specific recommendations for USAID/E assistance are offered.

KEYWORDS: *Egypt, *Public health, *Primary health care.

Available from the National Technical Information Service,
SPRINGFIELD, VA. 22161

PRICE CODE: PC A09/MF A01

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
STATISTICAL PROFILE OF EGYPT	iv
A.0 EXECUTIVE SUMMARY	vi
A.1 Introduction	vi
A.2 Outline of the Report	viii
A.3 The Health Sector in Egypt	ix
A.4 AID Strategy as a Complementarity to ARE Policy	x
A.5 Summary of Recommendations	xii
 1.0 FOREWORD	
1.1 Introduction	1
1.2 The Tasks and the Team	2
 2.0 HEALTH PRIORITIES OF THE ARE	
2.1 Introduction	6
2.2 Development of Public Policy	7
2.3 Some Advisory Notes	8
2.3.1 Introduction	8
2.3.2 Public vs. Private Sector	10
2.3.3 Priorities	11
2.3.4 Project vs. Structural Assistance	11
2.3.5 Curative Care vs. Primary Health Care	12
2.3.6 The Ministry of Health	15
2.4.7 Health Expenditure Information	16
 3.0 STRATEGY STATEMENT	
3.1 Introduction	17
3.2 Health Policy in the Context of Economic Development	19
3.3 Resultant Tensions within the System	24
3.3.1 Curative vs. Preventive Medicine	24
3.3.2 Hospital and Clinic Facilities Construction vs. Program Improvement	25
3.3.3 Employment Policies: Universal Employment and Motivational Problems	26
3.3.4 The Medical Syndicate and the Ministry of Health ..	27
3.3.5 The Universities and the Ministry of Health	28
3.3.6 Drug Expenditures: too Low or too High?	29
3.4 AID Strategy as a Complementarity to ARE Policy ...	30

4.0 RECOMMENDATIONS

4.1	Introduction	33
4.2	Water and Sanitation	33
4.3	Health Sector Financing and Organization	34
4.3	The Organization and Financing of Health Services .	
4.4	Health Manpower	34
4.5	Public Health Practices	35
4.6	Research Recommendations	36

5.0 MAJOR FINDINGS

5.1	Introduction: Policies and Trends	37
5.2	Water and Sanitation	40
5.2.1	Summary of Findings Regarding Water and Sanitation	40
5.2.2	Findings Regarding Water and Sanitation	40
5.3	The Organization and Financing of Health Services Delivery	43
5.3.1	Summary of Findings Regarding the Organization and Financing of Health Services Delivery	43
5.3.2	Findings Regarding the Organization and Financing of Health Services Delivery	44
5.4	Health Manpower	50
5.4.1	Summary of Findings Regarding Health Manpower	50
5.4.2	Findings Regarding Health Manpower	51
5.5	Public Health Practices and Health Services Delivery	57
5.5.1	Summary of Findings Regarding Public Health Practices and Health Services Delivery	57
5.5.2	Findings Regarding Public Health Practices and Health Services Delivery	58
5.6	Research	62
5.6.1	Summary of Findings Regarding Research	62
5.6.2	Findings Regarding Research	63

ANNEXES

Annex A, Phase II Authors' Reports

Environmental Health, Glenn Wagner	A-1
Commentary on Research, Michael Katz, M.D.	A-12
Notes on Nutrition, Michael Katz, M.D.	A-16
Health Action Options, Stephen C. Joseph, M.D., M.P.H.	A-18
Health Manpower, Stephen C. Joseph, M.D., M.P.H.	
Organization and Financing of Health Care in Egypt, David Lawrence, M.D., M.P.H.	A-34

A Brief Report on the Development of Data in the Health Sector, David Lawrence, M.D., M.P.H.	A-48
Tensions within the System: Some Observations on the Health Sector, Julius Richmond, M.D.,	A-51
Rationalizing Health-Sector Financing in Egypt, Prof. Carl M. Stevens	A-59
Appendix - Some General Program Implications of Certain Phase II Recommendations Prof. Carl M. Stevens	A-86
Annex B, Bibliography	B1

SUMMARY STATISTICAL PROFILE OF EGYPT ^{1/}

Per capita GNP (U.S. \$)	\$413
Average annual growth in GNP (percent) 1960-1979	3.4
Population (May 1982)	44.8 million
Land area (thousands of sq. km.)	1,001
Agricultural land area (feddans) ^{2/}	6 million*
Arable land p/rural person	0.20 feddan
Adult literacy rate (percent) ^{3/}	44
Average annual rate of inflation (percent) 1960-1979	8.0
Average annual growth rate in GNP (percent) 1970-79	7.6
Crude birth rate per thousand population	37
Percentage change in crude birth rate since 1960	-14.7
Crude death rate per thousand population	12
Percentage change in crude death rate since 1960	-35.1
Percentage of labor force in agriculture (1979)	50
Percentage of labor force in agriculture (1960)	58
Percentage of labor force in industry (1979)	29
Percentage of labor force in industry (1960)	12
Urban population as percentage of total population	45
Infant mortality rate (1960)	109
Infant mortality rate (1978)	85
Child death rate (aged 1-4) 1960	32
Child death rate (aged 1-4) 1979	15
Life expectancy at birth, 1960	46
Life expectancy at birth, 1979	57

^{1/} * 1 feddan = 1.04 acres.

Population per physician, 1977 ^{4/}	1,050:1
Population per physician, 1960	2,560:1
Population per nursing person, 1977 ^{4/}	1,100:1
Population per nursing person, 1960	2,730:1
Daily per capita calorie supply, 1977	2,760
As percentage of requirement 1977	109

Currency Equivalents

The official unit of currency in Egypt is the Egyptian pound (L.E.). During the team's visit in May 1982, the official exchange rate was U.S. \$1.00 = .86 L.E.

- 1/. All data, except where noted, are from The World Bank's, "World Development Report, 1981", Washington, D.C., 1981.
- 2/. The Futures Group, "The Effects of Population Factors on Social and Economic Development", Washington, D.C., 1982.
- 3/. Adult literacy varies between sexes, age groups within adult population, and location, i.e., urban, rural.
- 4/. This figure varies slightly from one used in Report. Data in Report is as of May 1982.

A.0. EXECUTIVE SUMMARY

A.1 Introduction - Events of the past five years have led to AID's need to take a fresh look at what their collaborative programs have accomplished; whether USAID health assistance is focused on the right issues; whether USAID and the Arab Republic of Egypt (ARE) are dealing realistically with the constraints within both systems; and, most important, to determine what realistic opportunities exist for new health programming over the next five years that could help realize broad objectives in a health sector undergoing transition. (1)

The rapid expansion of the industrial, manufacturing, and the service sectors has, in effect, removed a growing portion of the population with disposable income from the need to seek their health coverage through the Ministry of Health. The outlines of an incipient public and a private fee-for-service health industry, oriented toward curative care in fixed based facilities, began to emerge in 1964, accelerated with the new economic policy of 1973, and continue at an increased rate today. At the same time, the purchasing power of the agrarian population, which had until recent times constituted the bulwark of the Egyptian economy, declined. In 1960, this sector accounted for 30 percent of the distribution of gross domestic product; in 1979, it had fallen to 23 percent. (2)

The ARE's health sector is now moving along two distinct tracks. One for the basically healthy, wage-based employee, largely urban, who pays for services through socially financed health insurance or fee-for-service payments. The other for the low income unskilled worker, in rural and peri-urban areas, who relies on traditional medicine, pharmacists or the Ministry of Health system for services. This distinction is quite crude: on the first track, dependents are not covered (in HIO),* and on both tracks, tertiary care is provided to all free of charge through the Ministry of Education's teaching hospitals. Still, the description is apt.

The Ministry of Health, which is charged with the promotion and protection of the health of the entire population, is underfinanced and overextended. Its current infrastructure does not permit it to conduct efficient operations to serve the group that is least able to pay for health services of any kind. Yet, in attempting to compete with the emergent public/private sector, it has opted for additional investments in high cost curative care services (hospitals and Emergency Medical Services) which offer visibility and professional satisfaction to an expanding cadre of physician personnel.

*The Health Insurance Organization (HIO) is presently experimenting with coverage for dependents.

The premises that gave impetus to MOH expansion in 1952 do not apply to 1982. The land upon which every MOH health facility was constructed in rural areas was donated by the community. Then, the population was predominantly rural in nature. By 1977, the MOH had a total of 3,500 units, 2,300 of which were located in rural areas. (3) However, with rapid urbanization, the Ministry now has most of its capital infrastructure in areas experiencing emigration and lower economic growth rates as a percent of gross domestic product. Moreover, land is at such a premium in Cairo and Alexandria as to put it out of reach both of the Ministry and of the community, given current budget decisions of the ARE.

The governmental system, as operated by the MOH, is underfunded on current account. The health portion of the national budget has decreased substantially in recent years. The ARE spent approximately 5.6 percent of its total budget on health care in 1976. By 1979, the figure fell to 4.0 percent and the estimate for 1980/81 was 3.6 percent.(4) This budget decrease must be viewed in light of the fact that the personnel side of that account is increasing at an average rate of 11.4 percent per annum. Thus, salary emoluments consume an ever increasing share of a shrinking resource base. The ARE's capacity to fund health services is determined by its decisions about the most economic allocations of its development budget; the ARE has not greatly increased allocations to the MOH delivery system at levels that are needed to sustain effective operations.

There is an inverse association between the MOH's responsibilities and the deliberate economic choice of the ARE's allocation of development funds. The Ministry is held accountable for the health and well-being of all the people, yet:*

- It has no control or authority over medical education.
- It has no control over the private sector.
- It is receiving no new funds from the government, although population is expanding, particularly in urban areas where the MOH has little capacity in outpatient clinics and polyclinics.

* The statements do not mean to state the case that the MOH should have control over these components of the health system. Rather, they are intended to convey the notion that, given the MOH's national responsibility to provide free care to all the people, it has neither control nor authority over vital elements of the health sector at large.

- It has no control over tertiary care facilities.
- It has no effective enforcement authority in matters relating to water, sanitation, industrial pollution, and other environmental matters.
- It is steadily losing influence, authority, and discipline over its staff which grows larger by the year, and has increased so disproportionately that it can no longer be managed and deployed effectively. Moreover, the lure of private sector practice concurrent with government employment is overwhelming for most physicians in the MOH system.

In terms of health facilities and personnel, Egypt has in place today a primary health care system. It does not work well. Its efficiency is at a level inconsistent with the considerable national investment; public health status is beginning to decline. This Report deals with these issues forthrightly, and the recommendations are addressed to the imperative for program interventions which offer the best opportunities to get the PHC system to work effectively throughout the entire health sector.

A.2 Outline of the Report - The Phase II report is divided into Five Sections and an Annex. In the First Section, the Phase II team members are introduced, and their scope of work is described. In the Second Section, the health priorities of the ARE are discussed, and then cast against a policy framework which attempts to develop a social strategy for both long-term and short-term resolutions to national health problems. The section ends with some Advisory Notes that the team felt were important considerations in their deliberations on an appropriate strategy for both the ARE and USAID over the next five years.

In the Third Section, the team reviews briefly social and political events in the broad context of economic development since 1952. In these thirty years, substantial progress was noted in the development of health infrastructure, particularly in rural areas, though major health problems remain for the people. The rapid rate of industrialization, of urbanization, and of the expansion of medical education, have served to increase tensions within the entire health system. These tensions are extensively described. Then, the team proposes a USAID strategy to complement existing ARE policy. The strategy includes an active role for the private and public sectors, which have been expanding with ARE and Ministry of Health support over the past decade.

Section Four consists of the recommendations to AID and the ARE. These are in summary form, and they are framed against the ARE's decision not to increase funding to the MOH. Thus, the team was mindful of the need to unburden the Ministry from some of its heavy financial liabilities, such as curative care, so that more of its budget could be freed-up for the professional conduct of public health functions.

Section Five is a compilation of major findings from the Phase I and Phase II reports. When combined, the total volume of these reports exceeds 1,200 pages. Since even the most avid of readers would not have the inclination to digest this encyclopedic work, it has been synthesized here into some 24 pages. Although we could not do justice to the extensive research of all the contributing authors, we tried to select their most salient points for inclusion in this text.

These findings formed the basis for our strategy and recommendations. They portray a governmental system caught in a bind. There is the need, then, for a transition between the past, when the MOH was the health system for all the people, and the present, when the Ministry must share this national focus with an emergent public and private sector.

The Annex contains the full report of each contributing author on the Phase II team. These reports were the direct result of their field work and of their interactions with Egyptian colleagues. Each of the authors gave a verbal debriefing to USAID during a Mission meeting on May 31, 1982.* That meeting and their individual reports comprise the essential ingredients of this consensus Report to USAID and the ARE.

A.3 The Health Sector in Egypt - The Egyptian health sector is multifaceted, complex, and not easily understood in Western terms. To simplify matters, the following descriptions will be used throughout the text to identify its major actors:

1. The Governmental Sector (Ministry of Health; Ministry of Education, etc.)
2. The Public Sector (Health Insurance Organization; Curative Care Organization, etc.)
3. The Private Sector (Medical Syndicate; traditional practitioners; religious and community groups; private practitioners, etc.)

*Dr. Michael Katz was unable to attend this meeting.

The governmental sector is overextended. The public sector is seen, and is beginning to be used, as an agent to unburden the MOH of some of its operating liabilities. At present, two main public entities act in this role. Both of these groups report to the Minister of Health (rather than to the Ministry) and hire and reimburse personnel on what may be considered, in the Egyptian context, a "private" sector competitive basis:

1. The Health Insurance Organization now has 2.7 million subscribers, with an additional 1 million to be added in the next several months.
2. The Curative Care Organization (to which the MOH turned over some of its hospitals for a guarantee of 20 percent bed space for indigent patients) serves approximately 5 percent of the total population.

In addition to these public sector groups, there are four main private sector entities in operation:

1. Private practices in urban and rural areas, though many of these practices are conducted by physicians who hold concurrent appointments with the MOH and have MOH approval to operate as private practitioners in the afternoon.
2. The Medical Syndicate which has formed a Medical Professions Corporation for Investment (MPCI) in accordance with Law 43 for development in the medical professions field. (4)
3. Traditional practitioners (some 20,000) and religious groups which operate health facilities on grounds contiguous to mosques.
4. And, privately owned and operated hospitals, mainly in Cairo, which are constructed with private funds and charge patients on a fee-for-service basis (i.e., the Arab Contractors, etc.).

A.4 AID Strategy as a Complementarity to ARE Policy - The achievements of the past have created a momentum for the future growth and development of the health sector. However, the direction of this momentum is, at present, at variance with national health policy, with particular reference to the principle of equity enunciated in 1952. This variance has placed considerable demands for adjustment in policy thinking and action among those responsible for the design and direction of U.S. assistance to the ARE's health sector. The ARE and the Ministry of Health are actively encouraging the growth of the public and the private health sector.

The MOH sees the public/private sector as the solution to its problem. Here, as elsewhere in the developing world, the pace and pattern of its growth are not well understood today. The subject raises questions:

- What is wrong with the governmental sector? Is that sufficient for USAID to promote the public/private sector?
- What is the public/private sector in Egypt and why should USAID be willing to promote it?
- The public/private sector has strengths and weaknesses. How can its strengths be used by ARE and USAID to promote the public good? How can its weaknesses and disadvantages be overcome?

Unfortunately, the questions have no easy answers. They do, however, invoke caution. The public/private sector is not a monolithic entity in this society, and it is hardly possible to separate its present share of the market from the past, considerable extant investment in governmental sector infrastructure. Every physician working in the public/private sector was trained at government expense; drugs issued to public/private patients are heavily subsidized by the government; many private physicians practice in government facilities.

The Phase II team predicated its strategy on three fundamental principles:

1. That the ARE can most effectively achieve its health development goals by reducing the widespread administrative/financial over-commitment of the governmental sector (MOH).
2. That USAID should proceed along the public/private sector route, with specific reference:
 - a. To the potentially important role of public/private sector medical care in assisting governmental sector goals.
 - b. To the recognition that public and private sector goals and development might not always be consistent with the attainment of government goals.
3. That the consumers of water supply and sanitation services must assume some of the operating costs if any progress is to be made on the overwhelming problems of environmental hygiene.

In developing the recommendations that follow in Section Four, two considerations were of import to the team:

1. That AID should continue, and increase, its health investment program in Egypt, given the diversity, pluralism, and adaptability of the governmental, public, and private health sectors.
2. That the ARE and the Ministry of Health are in the midst of formulating a new national health policy, thus complementarity was sought.

We recommend some counter-balance to USAID's current portfolio with the Ministry of Health. USAID-supported projects now being implemented should continue in selected areas of highly-focused concentration, but should not be expanded or extended unless they are restructured in the framework of overall health sector development. Our recommendations allow a potential contribution to the total health sector and to the re-examination of national policies and programs that may be required to reverse a growing trend toward an entrenched Western delivery model through the unregulated development of the private medical market. Thus, it would allow USAID to be an active investor in the whole of Egypt's health sector. Only if planning is carried out by the ARE for the whole of its health sector, public and private, will such plans have a prospect for success. (5)

The government has the authority, but the power to implement policy effectively lies in the hands of Egypt's professional medical community. That community, represented by the Medical Syndicate, is not fully in accord with the central thrust and direction of government policy.

A.5 Summary of Recommendations - The infrastructure of the Ministry of Health, both capital and human, is pervasive throughout the country, nearly meeting all of the ratios of geographic to population access articulated by the WHO, especially in rural areas. This extensive infrastructure rests on the MOH's diminishing capacity to affect health status, to manage its operations, and to compete effectively in a changing environment of personal preferences, life-styles, and rising expectations. The government is not increasing its budgetary commitment to public health; yet, the MOH is held accountable for a system that expands in direct proportion to its inability to control it.

The recommendations are drawn from the reports of individual team members (See Annex A). The first two recommendations deal with interventions through which USAID can assist the ARE make major impacts on health status, and the last one is addressed to the issue of capitalizing the public and private health sectors. The governmental system, as operated by the MOH, cannot continue to provide free health care to all the people. Essentially, there are three thrusts to these recommendations. They are meant to unburden the MOH from some of its costly curative functions, and thereby free up resources for its primary role in public health activities:

1. That the USAID assist the ARE in initiating a major program to provide Water and Sanitation services to the general population on the condition that the ARE commit itself to making the systems financially self-sustaining through user fees for the services provided to consumers. At this time, except for small demonstration projects, donors do not require the ARE to recover from consumers any recurrent costs component of Water and Sanitation investments. As a result, funds are constrained for maintenance, operation, and upkeep of the most modern water treatment plants money can buy ... at the day of opening.
2. That USAID concentrate its support in public health efforts within the MOH and other ministries (MOE) on projects that focus primarily on the provision of specific, direct, high impact preventive medical services to the population, such as oral rehydration, family planning, mass immunizations, school health, etc. Success in these activities might then form the basis for possible future support for improved broad based PHC efforts.
3. And, that USAID facilitate the availability of technical assistance and loan funds (in large part, to be administered by appropriate Egyptian banking facilities) to assist the development of public sector and private sector social financing schemes. The intention is to in this way help rationalize health sector financing, including among other important objectives, that of enabling the MOH system to conserve more of its scarce resources for those vital public health activities which are central to Egypt's current primary health care strategy. Loan funds could be used to provide capital and technical assistance to groups such as the Health Insurance Organization, the Curative Care Organization, the Medical Syndicate's Medical Professions Corporation for Investment, group HMO-type practices, private practices, agricultural cooperatives, etc.

The basic thrust of our recommendations targets issues dealing with the financing of health services through socially financed schemes, or in the case of Water and Sanitation, user charges for services provided. This particular approach has been selected because:

- In socially financed health schemes, the potential for conducting primary health care, including family planning, may well be greater when:
 - a. Leadership of public/private sector groups understand that an effective system of polyclinics staffed with varying levels of medical specialists can dampen hospital utilization, especially length of stay, and thereby decrease the cost of achieving given health status impacts.
 - b. And, when public/private sector groups seeking capitalization must conform to the public interest in the marketplace for program expansion.
- If financing can be brought under control, there is a chance to improve service delivery, logistics, management, maintenance, and operation of health delivery systems, and Water and Sanitation programs.

1.0 FOREWORD

1.1 Introduction - During the month of May 1982, a group of American experts travelled to Cairo to conduct an independent assessment of how AID resources can best be used for health development with the Arab Republic of Egypt in the period 1983-1988. Although official dialogue is the normal exchange between bilateral partners, independent citizens have the advantage of breaking through the seemingly impenetrable walls of bureaucracy and ideology. The effectiveness of unofficial communication is directly related to the credibility of participants, meaning, in this context, that they should have a detailed knowledge of both the issues and official thinking about the issues, and that they should have relative ease of access to official decision-makers.

The American Phase II team was chaired by Dr. Julius B. Richmond, former Surgeon General of the United States Public Health Service, and Assistant Secretary of Health in the Department of Health and Human Services. The Egyptian team was chaired by the Minister of Health, His Excellency Dr. M. Sabri Zaki, former Governor of Aswan, and past President of the Health Insurance Organization, Alexandria. Representation at this level assured that the subsequent conversations and meetings between respective team members would be collaborative in nature and that their substance would be conveyed to policy levels where it could make a difference in AID and the ARE.

This Report was preceded by the Phase I Health Sector Assessment, conducted during the period February - April 1982. The fieldwork consisted of a series of background studies, completed in collaboration with Egyptian experts, to synthesize data on important health issues for the Phase II Health Sector Assessment team. Phase II reviewed the Egyptian health situation to provide USAID and the ARE with expert judgement on a number of the most important health policy issues, to define policy and program options, and to make recommendations about the content of health assistance programming for the next five years.

The Phase II study was targetted around a limited number of important health issues directly related to development of a new strategy. These were:

- Health Policy
- Public Sector Primary Health Care

- Population/Family Planning
- Environmental Health
- Health Sector Financing
- Private Sector
- Medical Care Organization
- Specialist Services
- Biomedical and Health Services Research
- Impact Health Investment Opportunities

1.2 The Tasks and the Team - The specific intent of the Phase II Health Sector Assessment was to confer with officials of the Arab Republic of Egypt (ARE) and the United States Agency for International Development (USAID/Cairo) to accomplish the following objectives:

1. To provide an independent assessment of how AID resources can best be used for health development over the next five years.
2. To define policy and program options; and
3. To develop strategies and recommendations for consideration by USAID/Cairo in determining what kinds and amounts of assistance to propose for ARE health sector development between 1983 and 1988.

The first six years of USAID's involvement have generated a broader understanding of Egypt's health sector and a growing appreciation of its dynamic and heterogeneous nature. Prior to the Phase I and II undertakings, there were many indications that Egypt was in a period of critical transition during which the roles and relationships of the major actors in the health sector were changing. USAID noted a growing importance for new administrative decentralization, of the private sector in service delivery, and for experimentation with new means of financing health care. (1)

The Phase II team, in presenting this Report, is mindful of the inherent complexity surrounding external review. We could not have been better prepared, nor more ably supported, in the conduct of this task. Pamela Johnson, of AID/W's Near East Bureau, outlined with great foresight and precision the Sector

Assessment Plan of Work for Phase I in August 1981; Barbara Turner, Acting Chief, Health, Population & Nutrition Development, Near East Bureau, quickly turned that plan of work into an implementable program of action between USAID/Cairo and AID/W. The field research of the Phase I team members provided us with instant credibility and a contemporary data base. Throughout our assessment, their encyclopedic work was our security blanket. There was no way this report could have been undertaken without Phase I.

Donald Brown, USAID/Cairo Director, Owen Cylke, Deputy Director, and Keyes MacManus, Assistant Director, made themselves available to participate in our meetings and discussions. We are pleased that their interest has served to strengthen our Report.

Eugene Boostrom, M.D., Public Health Advisor, Near East Bureau, served as the Technical Coordinator for the substantial Phase I exercise, and thoughtfully stayed over to brief the Phase II team on the nuances and receptivity of those reports; William Oldham, M.D., Director, Health Division, USAID/Cairo, provided us with constant and effective technical and administrative support and participated actively in team meetings where many of the program concepts that appear in this Report were first discussed. His insights into the ARE health sector and his practical knowledge of what was "do-able" in that context proved most useful to our deliberations.

The Minister of Health, His Excellency Dr. M. Sabri Zaki, engaged us fully in the substance of Egypt's health sector, both public and private. We were pleased to have his active participation, his time and attention. He imparted to us the appreciation that Egypt's health sector is dynamic rather than static, and that its future course would portray more of the former, much as it has in the past. Dr. Almotaz B. Mobarak, First Under Secretary for Primary Health Care and Family Planning, was most helpful in making all the necessary arrangements and appointments within the Ministry of Health system, whether in Cairo, in Alexandria, or in the rural areas of Egypt. Dr. Saad Fouad, First Under Secretary, Ministry of Health, was equally generous with his time and with the personal attention he gave to all of our meetings and planning sessions at the Ministry.

In the field, the services of Dr. Nawal Nadim, a cultural anthropologist, were helpful to us in gaining insights into the Egyptian culture and its health sector. Any cultural blind spots we manifest are reflections of our limitations rather than her capacity to help us.

John Alden, former Director of AID/W's Office of Health, served as the Technical Coordinator for the entire Phase II effort, including the thankless and often onerous task of logistics, and appointments -- usually several at the same time in different government offices in different cities. Drawing on his long background in international development, he also contributed richly to the deliberations of the team in every meeting. During the preparation of the final Report in Washington, D.C., he took on the dual role of reviewer and team arbitrator.

The American Public Health Association, under whose auspices this Report has been prepared and produced, provided timely administrative and logistical support to both Phase I and Phase II team members.

The Phase II team was chaired by Julius B. Richmond, M.D., the only person to hold concurrent posts as the Surgeon General of the United States Public Health Service and as the Assistant Secretary of Health in the Department of Health and Human Services. Under Dr. Richmond's non-directive direction, Phase II was able to produce a cohesive report representative of the group's intellectual diversity and eccentricity. Under less able command, these same characteristics would have set a fatal blight on committee efforts. We are grateful for his steady, even hand throughout our field work and in the preparation of this Report. Members of the Phase II team are:

Julius B. Richmond, M.D., M.P.H., Director, Division of Health Policy, Harvard University, Boston, Massachusetts. Chairperson.

John Alden, M.P.H., Private Consultant. Technical Coordinator for Phase II.

Richard Dekmejian, Ph. D., Political Science Department, SUNY, Binghamton, New York. Political Scientist/Country Specialist.

Stephen C. Joseph, M.D., M.P.H., formerly Deputy Assistant Administrator, Health and Population, Development Support Bureau, AID/W, currently Chief Pediatrician, Grenfell Regional Health Systems, St. Anthony, Newfoundland, Canada. Health Manpower, and Public Health Practices.

Michael Katz, M.D., Reuben S. Carpentier Professor and Chairman, Department of Pediatrics, and Professor of Public Health and Tropical Medicine, College of Physicians & Surgeons of Columbia University. Biomedical and Health Services Research, and Nutrition.

David Lawrence, M.D., Vice President, Kaiser Permanente, Portland, Oregon. Health Insurance, Organization, and Administration.

Nawal Nadim, Ph.D., UNICEF/Cairo. Cultural Anthropologist.

Jeremiah Norris, Visiting Scientist, Battelle Memorial Institute, Washington, D.C. Analyst and Team Rapporteur.

Carl Stevens, Ph. D., Professor, Department of Economics, Reed College, Portland, Oregon. Economist.

Glenn Wagner, Director, Water & Air Research, Inc., Gainesville, Florida. Water and Sanitation Specialist.

2.0. HEALTH PRIORITIES OF THE ARE

2.1 Introduction - In light of the magnitude of the health problems of the ARE, long-term strategies are being developed with short-term steps toward tangible, concrete achievements. The priorities recently enunciated by President Hosni Mubarak, the Prime Minister, Dr. Fouad Mohieddin, and the Minister of Health, Dr. M. Sabri Zaki, establish the basis for tackling the long-range problems. They were reported in the May 8, 1982 edition of the Egyptian Gazette under the heading: "Ambitious Medical Care Policy".

In his historical speech before the Economic Conference, held last February, and reiterated in the May 8th article, President Mubarak called on his people "for hard work to reach a balanced relation between the number of population and the volume of gross national production". He asked the nation "to attentively consider the rate of population growth ... (and) that this consideration has to cover the expectations of the future through a clear perspective".

Prime Minister Dr. Mohieddin announced that the health policy of the government is based on:

- "Securing a good supply of drugs needed by the people, at reasonable prices.
- Developing preventive medicine and finding means to diagnose and combat infectious diseases.
- Extending the health insurance umbrella to cover the largest portion of the country's population.
- Paying particular attention to family planning."

The Minister of Health, Dr. Zaki, outlined the general strategy of the health sector as follows:

- "Considering health insurance as the cornerstone of health care and the number of beneficiaries should be increased gradually each year. The plan provides for covering all the population by 1990.
- Laying special emphasis on the need to adopting personal and effective solutions to the problem of population growth. This is aimed to secure the utmost benefit from the economic development plans, whose benefits should be felt in the services sector in general.

- Expanding and developing urgent medical care services and first aid facilities.
- Relying heavily on the public sector to ensure a large portion of drug supply needed by people. Meantime the private sector should be encouraged to contribute towards completing the Ministry's drug plan.
- Paying special attention to environmental health hazards and preventive medicine.
- Developing manpower working in the health and drug sectors."

The Minister also said that local councils in the governorates will take an active part in the implementation of this strategy in the 'interest of the nation in general."

2.2 Development of Public Policy - The attainment of these goals will require renewed efforts by all groups in the health sector. Implementation of programs will necessarily involve active participation among the MOH, the medical schools and their universities, and the private sector as reflected by the Medical Syndicate and public sector groups. There should be developed procedures whereby collaboration in problem solving is a continuing process, not in planning alone, but in implementation as well.

Because so much focus among the health professionals has been on the development of the private sector in the delivery of health services, the major public health problems as reflected in health statistics have been relatively neglected. These public health issues have been left largely to the MOH where the leadership does belong, but clearly the MOH has altogether too few resources--not only in funds, but also in professional personnel dedicated to public health.

Yet the ARE is not lacking in qualified personnel to deal more effectively with these major challenges in public health. It seems important therefore to develop institutional interventions to bring the professional talent pools of the Syndicate and the universities into a problem solving relationship with the MOH. There are a variety of organizational vehicles for accomplishing these ends: contractual relationships for specific programs nationally, or delegation of responsibility to these organizations for programs in specific areas such as governorates (The Suez Canal University program of collaboration with five governorates and the Cairo University Urban Health Project are examples). Assignment of responsibilities for training and supervision of various programs would be another possibility.

Although many changes in the health services system are needed for long term solutions, health problems in the community cannot await only such a solution. Improved motivation, greater competence, and better performance potentially can be achieved by the provision of an infusion of new professionals for training and supervision from the university and private sectors. This would require additional resources, because these groups are already constrained by limited financing. Nonetheless, an infusion of such support would signal that the major public health priorities of the ARE must be taken seriously and are not mere rhetoric.

The Phase II team considered health policy a result of the application of a knowledge base combined with a political will (the generation of resources) which a society can provide for program development. These two factors, that is the knowledge base and political will, are not sufficient however, for program development. These must be brought together to develop a social strategy for both long-term and short-term resolutions to problems, as may be noted from the accompanying diagram. (See Figure 1).

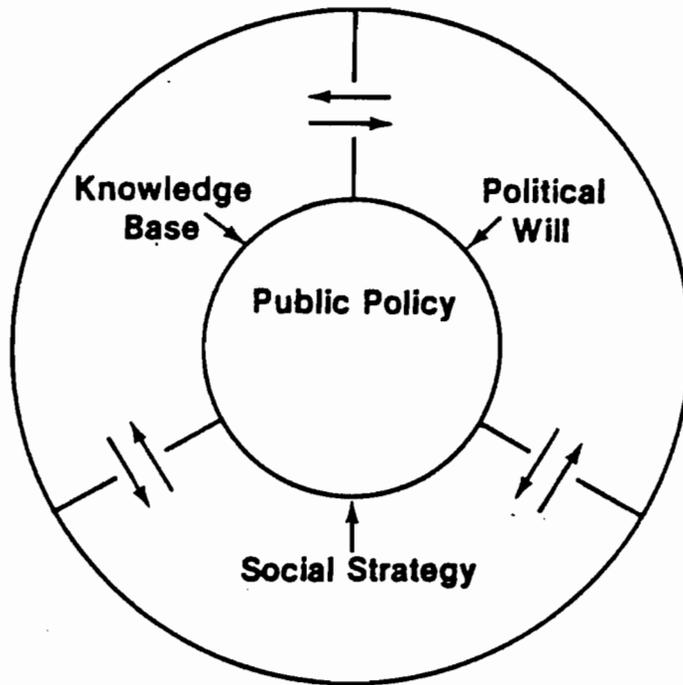
In Egypt, the very considerable knowledge base of the biomedical sciences and health services research is not being applied in full. This is evident when one recognizes that most of the morbidity and mortality in the nation results from entirely preventable diseases. The political will, although present for the improvement of the health of the Egyptian people, does not now permit an expansion of resources to the MOH. Therefore, the social strategy by which health improvements can occur is predicated on better application of the knowledge base, given existing resource constraints. However, the creativity in moving forward rests on the development and redevelopment of social strategies designed to improve the health of the Egyptian people. (6) We hope the strategy we have outlined, and the recommendations we have proposed, will serve as a useful complement to ARE health policy.

2.3 SOME ADVISORY NOTES

2.3.1 Introduction - Throughout the Phase II deliberations on strategy and recommendations for the ARE and USAID, the team had to keep in mind several important considerations that served to outline the health sector in Egypt. These considerations were used as guidelines, defining for us, whatever our personal experiences may have been in the United States and in other countries, the particular nature of the problem in a specific country setting. It should be of assistance to the reader to have some knowledge of how these guidelines shaped our thinking and framed our judgments on strategy and recommendations for the health sector, 1983-1988.

FIGURE 1

Development of Public Policy



2.3.2 Public vs. Private Sector - The Egyptian health sector has great diversity and pluralism, and it is not easily understood in Western terms. There are three main health sectors: the government, which includes primarily the Ministry of Health, the Ministry of Higher Education (which operates all of the tertiary [teaching] hospitals), and the Ministry of Interior; the public sector includes the Health Insurance Organization and the Curative Care Organizations, etc.; the private sector includes private practice, voluntary organizations, and such groups as the Medical Syndicate.

The public sector reports to the Minister of Health rather than to the Ministry of Health. The Health Insurance Organization (HIO) and the Curative Care Organization exist as somewhat autonomous groups apart from the Ministry. They operate essentially as private sector entities in the critical sense of employment practices: they can contract directly with physicians and they can reimburse MOH-assigned physicians at salary levels 100 percent above standard civil service rates. However, in another critical sense, both of these groups do not operate in a market economy made up of "buyers" and "sellers" whose transactions, in principle, are moderated by the competitive forces inherent in the system. For instance, the central government mandates that the HIO take on pensioners as beneficiaries without providing to it the concomitant resources to finance fully their coverage. The contribution rates (based on payrolls) to the HIO are set by statute, i.e., the HIO does not have private sector freedom in this domain. The MOH sets a ceiling on the price it will pay the Curative Care Organization for reserving 20 percent of their hospital bed space for indigent patients.

Some 80 percent of the physicians practicing in the governmental sector conduct concurrent practices in the private sector, (7). All of the health practitioners (excepting traditional) were trained at public expense in public institutions. Over 40 percent of the national medical bill is made up of pharmaceuticals; all are subsidized by the government.*

*This is an average. Fifty percent of the total HIO annual expenditure is on drugs, whereas this same line item accounts for 29 percent of the Curative Care Organization's expenditures.

2.3.3 **Priorities** - The issues of Water and Sanitation appear to receive the highest priority consideration in our Report. This does not mean that other health issues, such as family planning, health insurance, or public health are not equal. Nor does it mean that it is not worth doing health insurance if Water and Sanitation are unaddressed as public health issues. We regarded all of the activities we recommended as important and worthy of pursuit. While we might feel it would be better to do all of them, we probably also would feel that, if owing to resource constraints, only some of the interventions could be undertaken, there would still be a good bit to be gained thereby.

Water and Sanitation are long term capital investments, in terms of planning, execution, and delivery. It can take five years from the planning stage to the time a project is finally operating on-line. Family planning must be undertaken now, in the short term, because the technology is available for immediate application at relatively low per capita cost. In both cases, the crisis is immediate, but the long term engineering complications of one argue for appropriate, initial planning steps, whereas the social-economic costs of delay on family planning exacerbate further a national problem that already has reached a critical stage. Thus, of the range of options that might have been presented to USAID and the ARE, we limited ourselves intentionally to a small number that could be undertaken concurrently. In any case, priorities depend on what the government wants to do and on the working relationships between USAID and the ARE.

2.3.4 **Project vs. Structural Assistance** - In developing this Report, the Phase II team has sought to identify important complementarities in the health sector. Egypt's health sector has many subsectors, which complement each other but also compete with each other. The interdependency of these parts requires that AID programming consider all of them--the entire health sector.

Up 'till now, USAID/Cairo's assistance in the health sector has consisted of projects to improve health services within the existing structure of the Ministry of Health. The approach recommended by the Phase II team entails taking account of structural interdependencies and attempting to exploit them. For example, if USAID intends to improve the performance of the MOH system in providing preventive/promotive services, one point of attack on this problem might be directly on the MOH system itself. However, taking account of system-wide structural interdependencies might suggest that a better point of attack on this same problem lies outside the context of the MOH system itself, e.g., assisting the widespread extension of coverage under health insurance. This is so because the wide spread extension of coverage under health insurance may serve to relieve the MOH system of a significant proportion of its burden for curative services, thereby permitting the MOH to more effectively address resources to preventive/promotive services. This particular strategy is a structural intervention.

Inside the MOH system, a high-content focused program, i.e., oral rehydration, can improve the Ministry's efforts to impact on health status, much more so than can an AID project to strengthen health services delivery within the entire MOH system.

As with the traditional project approach, the structural intervention seeks as its ultimate goal improvements of the performance of the health services sector (e.g., impact on health status). In the traditional project approach, an attempt is made to operate directly upon the performance of the system. Under the structural intervention approach, an attempt is made to operate on elements of the structure of the system with the expectation that an improved system structure will yield improved system performance. (8)

2.3.5 Curative Care vs. Primary Health Care - Four years have passed since the endorsement of "Health for All by the Year 2000" and the Alma-Ata accords that propelled primary health care to worldwide attention as a unifying development theme. In light of the current emphasis on PHC in the world community, our recommendations may be misinterpreted as an abandonment of the concept for Egypt. This is not our intention.

The relief of pain and suffering is a legitimate demand of people everywhere. This demand should be fulfilled through the development and support of curative health services. Such curative services, properly managed and integrated with

preventive services, are supportive of and strengthen preventive health services. In fact, if curative services are perceived by the population and political leaders as inadequate, there will be neither consumer demand nor budgetary support for preventive services. (9)

However, the current international emphasis on primary health care tends to set the issue in terms of an exclusive choice to adopt primary health care services rather than high-technology systems, when it may be more useful to view PHC models as part of a process of the development of a complex and changing health system. It is likely that high-cost curative services will continue to be demanded by broad segments of the Egyptian population. (10)

In Egypt, preventive strategies have had an impact on health status, particularly that of infants and children. As development has moved forward, the disease mix (excepting schistosomiasis) has gradually changed from one with predominantly acute and infectious conditions to one with more chronic conditions and with a different mix of infectious diseases (see Table 1).

Furthermore, this development has enabled individuals to experience and survive diseases that once were commonly fatal and more children have survived to adulthood.

Our recommendations for Water and Sanitation have a direct impact on the promotion of health for all the people. However, our recommendations for the Health Insurance Organization and the Curative Care Organization, at first light, may not appear to be oriented toward PHC. Yet, both of these organizations realize that the predominant mode of hospital admission, self-referral, is a major factor on the cost structure. Therefore, if they had access to capital at competitive rates of interest, they would embark on a polyclinic construction program (in HIO's case, they would expand their present polyclinic capacity). Each organization believes that an effective system of polyclinics could serve their beneficiaries as a primary health care system, with family planning services, and both dramatically reduce length of stay (bed-days) in their respective hospitals and decrease the cost of achieving given health status impacts.

TABLE 1

PERCENTAGE DISTRIBUTION OF DEATHS BY MAJOR CAUSE OF DEATH ^{1/}

Years	Sex	Infectious and Parasitic	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Accidents, Poisoning Violence	Ill Defined Conditions	Other Diseases
1937	Male	6.7	4.6	19.2	34.0	*	7.5	27.9
	Female	5.3	3.8	17.3	36.6		10.9	26.1
1947	Male	8.6	3.1	13.2	36.7	*	7.8	30.6
	Female	6.7	2.9	12.1	40.5		10.4	27.3
1960	Male	4.3	8.5	14.1	35.1	*	13.1	14.9
	Female	3.2	7.2	14.2	40.7		14.0	20.6
1970	Male	3.2	12.6	18.4	28.4	*	17.9	19.5
	Female	2.1	10.1	19.4	31.2		21.7	15.5
1972	Total	2.4	12.3	21.5	27.1	3.4	21.8	*
1979	Male	*	18.9	17.5	25.2	5.4	*	33.0
	Female	*	15.8	18.9	28.3		*	33.4

Source: Data for 1937, 1947, 1960 and 1970 from Bothaine El-Deeb, "A Study of Mortality in Egypt with Reference to Cause of Death", paper presented at the Seminar on Mortality Trends and Differentials in Some Arab and African Countries (Cairo: Cairo Demographic Center, 1975).

Data for 1972 derived by the IOM study team from World Health Statistics Annual: Volume 1, Vital Statistics & Causes of Death, WHO, 1976.

Data for 1979 from CAPMAS reported in Basic Statistical Information of Health Services, MOH, July 1981.

^{1/} Definition of the specified conditions may differ according to source of data of the time period.

In the private sector, the Medical Syndicate's MPCI program (Medical Professions Corporation for Investment) is being organized along similar lines. The program is already capitalized at L.E. 10.0 million. The MPCI plans to establish a chain of combined hospitals/polyclinics in close proximity to university hospitals. Each unit would offer a range of primary and family health services, specialty services, and a limited range of in-patient services. The objective of the entire plan is augmentation of the governmental sector in its efforts to expand the delivery of effective health services to the population. (4)

2.3.6. The Ministry of Health - Established in 1936, the Ministry's Rural Health Department had three functions: (3)

1. Filling or drying of ponds and swamps.
2. Repair and maintenance of mosque's sanitary facilities.
3. Installation of two projects for purified water at the North Delta and Fayum.

In the interim period, the MOH passed through a tumultuous era of national history that included: World War II; independence from British colonialism; the change from monarchy to socialism in the 1952 revolution; the unraveling of a one crop cotton economy as the basis of foreign exchange; three Arab-Israeli Wars; nationalization; the 1962 National Charter, and the 1973 "El-Infitah" (The Opening) and emerged with an extensive bureaucracy in 1982. It has shown a resiliency of spirit; successive governments have demonstrated that health of the people is a national priority. The Ministry has been institutionally flexible, providing support and administrative leadership to an emergent public and private sector through the Curative Care Organization, the Health Insurance Organization, and, more recently, to private practice options for its physician personnel.

There are few, if any, ministries of health in the LDC community of nations that have been as adaptable in similar circumstances as has Egypt's. The Ministry has serious structural problems today, yet many of them are reflective more of a nation on the move, of central government developmental choices, than they are of its inability to affect health status with the resources at its disposal. For instance, Egypt became the first country to institute medical treatment and snail-control programs for schistosomiasis. But, over the past two decades, as the central government poured capital into the

construction of the Aswan High Dam, it did not take into consideration the potential health status impacts of the dam, nor provide to the MOH sufficient resources to permit serious engagement with these problems.* Perhaps two-fifths of the country's forty-four million people now harbor these parasites -- a public health burden of staggering proportion for which the Ministry is held fully accountable. (11)

Many of our recommendations depend upon active and vigorous support from the Ministry. We believe its leadership can transit this phase of national development, and that our recommendations are tailored to its past experience and institutional adaptability.

2.3.7 Health Expenditure Information - The Phase II team has relied on health expenditure data provided in the Phase I reports, and on the excellent study conducted by Dr. Ramsis Gomaa, entitled "Study on Health Financing and Expenditures in Egypt", April 1980, MOH, Cairo. Since budget data are not available after the year 1978, (the year of the Gomaa study), the 1978 MOH budget figures are used throughout this Report, for the most part.

Recent budget data has been difficult to obtain. The fiscal year was shifted in 1980. Thus 1980 and 1981 budget data are half-year estimates only. Budget data for the years 1980, 1980/81 and 1981/82 also lack indications of local government Title III investment budgets. Ministry of Finance officials say that these data and actual expenditure data are not available, due to various "technical problems". (12)

During the first week of the Phase II team's visit to Cairo (May 10-16), several meetings were held at the MOH to discuss the Phase I reports. Some of these reports stated that the MOH was overextended and underfinanced. Expenditure tables were used to support these statements. Since neither the statements nor the Tables were contested by MOH officials at that time, the Phase II team has used those same figures as the authoritative basis for the MOH's financial position in this Report. (See Tables 2, and 3, pp. 22 and 23, respectively.)

* Increases are found mainly in the newly developed irrigated areas of Middle and Upper Egypt. On the whole, there has been a decrease of S. haematobium in infections at the expense of those caused by S. mansoni. (23).

3.0 STRATEGY STATEMENT

3.1 Introduction - The 1952 revolution changed economic policy significantly; socio-economic development strategy was to be designed to achieve political objectives, such as land reform and, to accelerate industrialization, the Aswan High Dam was constructed. None of these initiatives presaged any inclination on the part of the government to restrict operation of private enterprises.

By 1960, however, the government had made a pronounced shift toward a planned economy with a dominant public sector. This shift was not abrupt, but gradual through a series of decisions founded on increasingly comprehensive attempts at economic planning and boosted by nationalization of French and British assets in 1957 and Bank Misr in 1960. The wave of nationalizations in June and July of 1961, which came to be called the "Socialist Revolution", were later justified and rationalized in the National Charter presented to the nation by President Nasser in May 1962. According to this document, the public sector should own the economic infrastructure, banks, insurance companies, the import trade, and most of the export trade; the remainder would be handled by the private sector. The Charter articulated "basic rights" of citizens to social welfare that the state would provide, including medical care, education, employment, minimum wages, and insurance benefits in sickness and old age.

The economic effects of the 1967 and 1973 wars, and the direct impact of world-wide price inflation, created serious imbalances in both Egypt's trade accounts and government budgets. The financial burden of public sector management of important sectors of the economy, some of them inefficiently run, also weighed heavily, as the external debt burden grew. These and other factors led President Sadat to announce a new economic policy, "El-Infitah" (The Opening), in his October Working Paper in 1973. The changes in strategy and directions were stated as an attempt to accelerate growth by opening up the economy to more foreign investment and greater private sector participation within a planned framework. (13) Development planning and strategy today is still based on the new economic policy of 1973, which contains these major elements:

- Acceleration of economic growth is the basic element in the modernization process, and this implies changes in the past roles of different sectors and "an outward looking" economic policy;
- "Contradictory policies" of the past which inhibited maximum production by the private sector should be eliminated;
- Social goals will not be neglected since "economic development cannot proceed soundly forth unless accompanied by a social development at compatible rates."

The implementation of this general strategy is set out in Five-Year Plans. The development goals of the current 1978-1982 plan (with particular reference to those elements that have direct impact on the health sector) prepared by the Ministry of Planning are to:

- Provide productive employment for the growing labor force;
- Improve the health and quality of life of the rural, urban, and desert population in order to increase their productive contributions to national development;
- Prevent the spread of urban slums and provide adequate housing for all the people.

Thus, since independence, economic and political policies have initiated incipient changes in Egyptian society. New criteria emerged to determine upward social mobility; the most important of these today is higher education in commerce, industry, and science. Class distinctions have been realigned within urban society, which is now composed of the three defined groups: (13)

- The new, modern elite made up of professionals in the technical, managerial, and political fields;
- The new middle class made up of government bureaucrats and mid-level managers and office workers for large parastatal organizations (including large numbers of young men and women who came to the cities for university educations), and the rural middle class;

- The lower middle class, made up of low-level civil servants, merchants, journalists, teachers, and semi-skilled workers, such as mechanics, plumbers, etc., as well as unskilled workers recently migrated from rural areas and who have no definite source of income and little stability.

Below these classes in the socio-economic spectrum are the majority of Egypt's people -- the urban poor and the rural peasantry -- most of whom have yet to benefit from the development process.

3.2 Health Policy Context of Economic Development - This series of events during a compressed period of time has brought in its wake socio-economic conditions markedly different than the life-styles and the expectations of a people committed to equity and modernization in 1952.

- The GNP per capita is averaging L.E. 480 (in 1979 L.E.) and the average annual growth of GNP has been 3.4 percent during the period 1960-79. (2)
- The population growth is now at approximately 3 percent annually. (Egypt is the only country in the world where the rate of population growth has increased by over 40 percent in the past ten years). (14)
- The average annual growth rate in the agriculture sector has decreased from 2.9 percent during the period 1960-70 to 2.2 percent in 1970-79; the population has increased by some 60 percent during this period of time. (2)
- The average annual growth rate of the industrial sector has increased from 5.3 percent to 7.8 percent; of the manufacturing sector from 4.7 percent to 8.2 percent; and of the service sector from 4.7 percent to 11.6 percent...all in the period 1960-70 to 1970-79, respectively. (2)

In charting the course of development since 1952, the government has endeavored to bring health services to the largest proportion of the population possible, given the constraints of the economy, and the changes in direction and philosophy in 1962 and 1973. Government policy has targetted improved health through: (15)

- The commitment to equity in health services and affordable medications with an emphasis on the role of the Ministry of Health.

- The construction of hospitals and rural health facilities to implement the commitment to equity.
- The commitment to renewed efforts to extend safe water supplies and to provide for proper sewage disposal.
- The expansion of educational programs for the health professions.
- The development of a high degree of pluralism in the delivery of health services, which includes an active private and public sector in the form of the Health Insurance Organization, the Curative Care Organizations (in Cairo and Alexandria), voluntary health agencies, and private fee-for-service practices.
- The development of a national pharmaceutical program.
- The initiation of a full employment policy (which has had major program and budgetary implications for the efficient operation of health programs today).

Subsequently, over the past thirty years, the ARE has implemented a governmental health infrastructure program that many countries would do well to emulate. This achievement has not been reflected in a comparable improvement in the health of the people, and it is apparent that there remain significant health problems. Among these are: (15)

- Infant, early childhood, and maternal mortality rates remain unacceptably high.
- Immunizations are either lacking or inadequately administered as reflected in the prevalence of preventable common infectious diseases.
- There remains a very heavy burden of mortality and morbidity from largely preventable diseases.
- Adequate water supply and sanitation service are unavailable to a large majority of the people.
- There is a heavy drain of trained manpower (particularly physicians and nurses) to other countries.

- The health programs for the poor in rural and urban areas are often lacking in professional skills and/or resources to carry out their missions adequately.
- The educational and training programs are largely directed at preparing health workers for the curative and private health care sector. Relatively small efforts have gone toward programs to prepare health professionals for community health programs, public health practices, and administrative and management careers in public health.

Given the health investments of the past, one might have expected a more favorable outcome on health status. The capacity of the ARE to respond to national health objectives has changed over time. As Table 2 indicates, the public sector's share of total governmental expenditures for health has remained relatively stable during the past 14 years, while the MOH's share of total expenditures has declined precipitously (see Table 3). Industrialization, urbanization, the expansion of the service sector, the decrease in agrarian income as a percent of GNP, increased population on limited arable land, and the increase in per capita income have altered expectations, both about the government's role in the provision of health services, and the public's demand for a role in seeking alternative health services. Throughout this period of changing expectations, rapid and sustained urban migration has had serious and negative impacts on the quality of urban life; local governmental authorities in urban and rural areas have been unable to keep pace with the provision of adequate public services, such as water, sewerage, and the collection of solid waste.

Little is known about the dynamic interaction of these factors, particularly in the same way it is recognized that the contributions of better housing and water and sanitation, lead to the improved health of individuals and societies. The perceptions of a people change over time. Thirty years ago, the government was widely viewed as an instrument to solve the problems of a newly emergent state; today government itself (as in the U.S.) is viewed as part of the problem. It is no wonder that potential health benefits from the considerable extant investment in a governmental health system seem constantly to recede under a "revolution of rising expectations."

Table 2

Expenditures of Government Sponsored Health Organizations and
Percentage of Total Government Expenditures (L.E. 1000)

<u>Year</u>	<u>Alexandria Curative</u>	<u>Cairo Curative</u>	<u>Bio Medical</u>	<u>GHIO</u>	<u>% of Govt. Expenditure</u>
66/67	252	231		2,279	3.8
67/68	223	220		1,259	2.3
68/69	281	524		3,529	3.6
69/70	305	659		4,163	3.6
70/71	336	567		5,772	2.5
71/72	612	758		4,961	3.2
1973	376	508	765*	6,380	3.1
1974	356	530	1,069	6,470	2.7
1975	575	644	1,002	7,073	3.9
1976	713	845	2,039	17,105	3.8
	283%	366%	266%	750%	-

*Growth over period 1973-1976 only.

Source: Loza et al, p. 144, as cited in Health Policy Review, Phase I,
James Jeffers, Ph.D., p. 48.

Table 3

MOH Expenditures by Central and Local
Levels, and Percentage of MOH Expenditures
to Total Government Spending -- 1966-1976 (L.E. 1000S)

<u>Year</u>	<u>MOH Central</u>	<u>MOH Local</u>	<u>MOH Total</u>	<u>% MOH Total Gov't</u>
66/67	3,528	27,516	31,045	9.1
67/68	3,419	29,606	33,025	4.8
68/69	3,711	33,275	36,986	6.1
69/70	4,069	34,910	38,979	5.8
70/71	4,505	36,508	41,013	5.8
71/72	7,830	58,746	66,576	5.7
1973	7,980	46,573	54,553	6.7
1974	7,003	53,343	60,347	6.7
1975	8,423	61,613	71,036	6.5
1976	10,508	77,399	87,908	5.6

Source: Loza, et. al., p. 141, as cited in Health Policy Review,
Phase I, James Jeffers, Ph.D., p. 45.

3.3 RESULTANT TENSIONS WITHIN THE SYSTEM

All of these factors have had a profound effect on the health sector, and have produced increasing tensions within the entire system. This does not mean that the tensions are inappropriate, nor that resolution is intractable. Rather, they serve to identify problems toward which AID might move in undertaking a strategy to reduce the tensions, which may be defined as follows: (6)

3.3.1 Curative vs. Preventive Medicine - In the Egyptian system of training of health professionals, the focus is on a predominantly curative approach. This characterizes both the public and the private sectors in the health care system.

There are some encouraging trends. The decision to introduce the teaching of community medicine in all years of the medical curriculum recently, is one example. Development of the new medical curriculum oriented toward community medicine and preventive medicine at the University of the Suez Canal is yet another. However, it is discouraging to note that the High Institute for Public Health in Alexandria enrolls relatively few students. Of the 2,000 students studying for Master's degrees, approximately 300 are in the field of public health. This means that the 26 governorates and the positions in the Ministry of Health are short of trained and experienced people in public health practice. It means that there is a clear shortage of epidemiologists to work throughout the country in order to provide the kind of data base and surveillance that is so necessary for the mapping of new preventive and public health oriented activities.

In a sense, what the dominance of curative medicine over prevention and health promotion suggests is the reverse of what the priorities for Egypt should be. One senior official said the inevitable question is, "Should public health be a part of medicine, or medicine a part of public health?" He went on to say that the physicians in power who dominate the curative sector would not ever permit medicine to become a part of public health.

The problem is further highlighted by the fact that approximately 65% of the hospital beds in Egypt are in facilities operated by the Ministry of Health. In these facilities, the Ministry has extensive out-patient clinic responsibilities that keep it focused heavily in the area of curative medicine. Although any society must provide

appropriate care of the sick, it seems clear that if both the public and the private sectors are heavily involved in this manner, little attention will be given to preventive activities. There are at least two options for the Ministry of Health: (1) to turn over clinical facilities gradually to other viable organizations, such as the Health Insurance Organization and/or the Curative Care Organizations, as well as other voluntary organizations, or (2) to separate within the Ministry, the curative care responsibilities from the preventive responsibilities so that the resources that should go to public health practice are not siphoned off to curative medicine.

3.3.2 Hospital and Clinic Facilities Construction vs. Program Improvement - There are inordinate demands for the completion of some 21 hospital buildings and the construction of new facilities which compete for funds directed toward the improvement of existing programs in both urban and rural areas. The bed: population ratio is not as favorable as in many other countries; however, there is reasonable access to beds (although there is some geographic maldistribution) when Egypt is compared to many other developing countries. There is evidence that both in-patient and out-patient facilities have undergone considerable deterioration and the question arises whether resources could be better employed to improve existing facilities and their programs prior to undertaking new construction.

It should be observed that there has been considerable expansion of the number of hospital beds in the private sector. Many small hospitals (mainly under the aegis of individual physicians or groups of physicians) have been expanding as have some larger ones, such as the Arab Contractors and the El Salaam Hospitals. There are considerable concerns about the extent to which the country can afford expenditures for this new and relatively high cost capital development. It would seem appropriate to defer any major construction until one sees to what extent some of these facilities are utilized.

The growing expenditures for private health services are raising questions concerning the extent to which the country can afford them. There is increasing pressure on the Ministry of Health and on the Parliament to exert some regulatory constraints on the patient charges that may be generated through these sources. The new law which requires all physicians' offices and hospitals to be registered with the Ministry of Health may well be a prelude to some kind of regulatory activity.

3.3.3 **Employment Policies: Universal Employment and Motivational Problems** - It is apparent that the 1952 revolution and the "full employment policy" have created many problems. Stipends in government health service are low and have resulted in considerable measure in an attitude anecdotally described as "the government pretends to pay us, and we pretend to work".

There are also certain inequities in assignments. Medical students, for example, with better academic records are retained for specialty training, whereas those with lower grades are assigned to rural areas and urban clinics. Apparently the less desirable assignments go to the students with lower academic records. As a consequence, there is widespread unhappiness about service with the Ministry of Health, and members of Parliament are reported to complain about the unhappiness of people who are assigned for work in their areas. The result is inadequate performance, high turnover, and what seems to be relatively low productivity. It should be added that many of the people assigned to the rural areas, in particular, are very junior and often are inadequately trained to meet the responsibilities assigned to them.

To this problem must be added the interest that physicians serving in these Ministry of Health positions develop in private practice to enhance their incomes. It is as though there is a built-in conflict of interest: the same physician is providing service in the governmental sector while concurrently trying to cultivate private practice in the same community. There are two schools of thought about this. One suggests that the combination is a good one and is the only one that will retain people in the rural areas; the other insists that working for the Ministry should be a full time position and that with the provision of apartments and other fringe benefits, the incomes are not quite as inadequate as has been generally portrayed.

Some physicians feel that the assignment to the rural areas will never be successful and that greater efforts should be made to train health workers such as the dayas and others who will remain in the community to render most of the primary care.

The recent trend for some physicians to elect to stay in rural areas because of housing and private practice opportunities may be encouraging; however, it is important to add that this is occurring because of limits in opportunity (high costs of establishing a practice) for private practice in the cities. The resentment over this seems to be widespread.

3.3.4 The Medical Syndicate and the Ministry of Health - Because of the increase in the number of medical school graduates in recent years, and the limitations on opportunities for private practice, there is considerable disenchantment among the younger members of the Medical Syndicate concerning professional opportunities. One should add to this a growing trend toward the reduction in the number of opportunities for practice abroad. As the Gulf States have developed new medical schools, the need to draw on Egyptian physicians is decreasing, as are the potentialities for practice opportunities in the United States as a consequence of Congressional legislation in recent years concerning immigration.

The President of the Syndicate has been developing a program to finance the establishment of individual and group practices, particularly outside of the major cities, in an effort to alleviate these problems. In addition, he is a very strong proponent of opening up the clinics of the Ministry of Health for private practice for the physicians who are serving in those facilities. He was blunt on this point, in the presence of a representative of the Ministry of Health, and was very emphatic in stating that this would go a long way toward solving many of the problems in the rural areas. It is difficult to evaluate objectively this approach, because there are some advantages and some potentially serious disadvantages - particularly the "conflict of interest" situation, where the physician is essentially in competition for private practice with the patients who cannot pay at Ministry of Health clinics. There will need to be some reconciliation of these problems. One possibility is the development of some contractual relationship with the Syndicate for the staffing of these facilities with a provision that those patients who cannot afford private care will not be discriminated against in the provision of services. There also should be some exploration of efforts to develop a contractual relationship with the Syndicate in relationship to staffing the district hospitals and upgrading them over time.

A general observation concerning the disenchantment of young physicians is in order. With the increase in class size of the medical schools in recent years there will be a predominance of younger physicians - in terms of numbers - in the Medical Syndicate before long. As these people reach maturity and come into positions of power, if the "opportunity system" remains rather limited, there could be some problems developing of crisis proportions, since the expectations of young physicians have been that they will in one way or another be reasonably and adequately provided for in terms of incomes. What form this discontent may take is difficult to predict; it is a real possibility sometime in the next decade.

3.3.5 The Universities and the Ministry of Health - As is true in many countries, the schools for health professionals are largely under the Ministry of Education and the health services are under the Ministry of Health. Thus, there is a basis for considerable tension. The increase in the number of students has certainly created problems for the medical schools, because it appears that they were not given adequate resources with which to accommodate the extra students. It may be that the decision made recently to reduce class size will improve morale among the faculty and students, but this would take a considerable period of time. As a result of the expansion many students have a considerable concern about the quality of their education. This is reflected in part by the development of a "para-educational system" in which students receive tutoring from the faculty for pay in order to be adequately prepared for the examinations. This provides supplementary income for faculty and is probably a difficult system to interrupt.

Part of the tension also is associated with the university's recruiting the academically highest students for training as specialists. This includes approximately 1,500 physicians out of the 5,400 who graduated this year. These students, in addition to receiving more favored house staff training, are also spared the responsibilities of serving in the rural areas. Thus, there is destined to be a significant number of graduates who feel that the training opportunities for them have been severely limited.

The recent development of the general practice specialization track through a Master's degree program, which has been accepted by the Egyptian Medical Association, may minimize this problem. There are, however, many skeptics who feel that in the Egyptian system, the general practitioners, even if they are designated specialists, will not have the status and power of other specialists.

Perhaps the greatest source of tension relates to the need of the Ministry of Health for staff to facilitate educational and training programs for health professionals in the field. The leading professionals to do the training are in the universities. The funds which the Ministry has to support these people for additional tasks are relatively limited. More significantly, the long-term qualitative improvement of services would depend upon drawing into the service system the people in the universities who have higher professional qualifications.

In the long-term, one of the most effective ways to improve the quality of services throughout the country might be to enter into some contractual relationship with the universities for the provision of services in surrounding communities. One of the models for this is developing at the University of the Suez Canal, which is cooperating with the district health officers in 5 governorates. This is 1/5 of the governorates of the nation. The numbers of medical schools and the relationships with their communities suggests that this is not difficult to expand. Another model is developing at Cairo University in relationship to an urban health center. This may have more problems than that of the University of the Suez Canal, but nonetheless would seem to be workable. Another development is at the Medical School in Assiut which has involvements with community health services.

Without such an infusion of some of the best qualified people in the country into the service system, the potential for improving performance may be low indeed. In an informal way, these relationships do exist to some extent. For example, the Health Insurance Organization has consultants from the medical schools who participate in their service program, presumably to the advantage of both. It is appropriate to indicate, however, that university faculty members in an effort to enhance income, are probably spreading themselves rather thin and it may well be that teaching and certainly research potentialities of the nation are not being fully developed as a consequence.

3.3.6 Drug Expenditures: too Low or too High? - In the publicly announced priorities by the Prime Minister and the Minister of Health in the recent months, the commitment has been made to provide drugs to the population at reasonable costs. The officials responsible for the development of policy concerning pharmaceuticals, have suggested that, on a per capita basis, expenditures for drugs are lower than in many other countries of comparable levels of development. However, it is important to note that 40% of total health expenditures are for drugs. This seems to be a relatively high figure for one segment of the health sector (in the United States, for example, 40% of all health expenditures go for hospital care, and only 10% for drugs and appliances).

Anecdotally, as one moves about the country, there seems considerably more prescribing of drugs than is appropriate or desirable. Indeed, we learned that in the Health Insurance Organization, patients have become aware of the fact that they are permitted a maximum of 4 prescriptions. As a consequence, the patients often demand 4 prescriptions from the physicians and it is not uncommon for them to trade some of the drugs so obtained for cosmetics and other desirables in pharmacies. This is a difficult public policy problem. However, instead of accepting the fact that per capita expenditures should rise for drugs, it may be more appropriate to move toward some gradual constraints. The self-medication as well as the extensiveness of prescribed medications are not good health practices.

3.4 AID Strategy as a Complementarity to ARE Policy -
The economic policies of 1952, 1962, and 1973, especially those dealing with expansion of private sector activities, may well have shaped actions and events now being played out in the health sector. One can argue, on the basis of a considerable body of evidence, that the pluralism and diversity found in the health sector today are the direct result of past policies adopted by the ARE, namely, to provide no more than modest resources to the MOH. In Egypt, as in many other countries, the response to underfunded MOH systems (which, in some cases, provide non-available free services to the people) has been the growth of social security type schemes and a vigorous private sector. These things are the result of basic underlying budget decisions rather than of policy initiatives. The MOH has responded to these budget decisions of the central government by attempting to roll with the punches by delegating, for instance, some of its hospitals to the Curative Care Organizations in return for 20 percent of their bed space for indigent patients, and through its active support for and assistance to the Health Insurance Organization. The MOH's future agenda is much more complex an undertaking. Thus, it remains to be seen if past circumstances and current realities can sustain a subtle adaptability and persistent vitality in the MOH leadership.

The achievements of the past have created a momentum for the future growth and development of the health sector. However, the direction of this momentum is currently at variance with national health policy, with particular reference to the principle of equity enunciated in 1952. This variance has placed considerable demands for adjustment in policy thinking and action among those responsible for the design and direction of U.S. assistance to the ARE's health sector. The ARE and the Ministry of Health are actively encouraging growth of the public and the private health sector. These observations have been noted:

- Capacity for health services delivery is expanding rapidly in the public sector (see Table 2).
- The governmental sector - MOH - is unable to compete; unless there is a structural improvement in their entire system, utilization of their services will continue to decline.
- Public/private sector employment is causing a continuing "brain drain" from public services.
- The current governmental response is to redress inequities through capital construction and high cost medical technology. (The potential for failure in this course of action is high.)
- The perception that quality is different and better in the public/private sector than the governmental sector is more important than the reality.
- Pressures are building up for national financing and support for non-MOH health endeavors.
- The private health services delivery systems of Egypt are large, and growing. In 1978, they averaged 30,000,000 to 43,000,000 out-patient visits per year (curative only) out of the total of 99,000,000 to 134,000,000 out-patient visits in the entire country.
(16)

The significance of growth in the public and private sectors and the decrease in government outlays to the MOH were major factors in our strategy deliberations. Total spending on health services, as presented in the 1978 Financing Survey by Dr. Goma, was L.E. 382.9 million, of which private sector spending (including grants and loans) totaled L.E. 206.7, or 54 percent of health sector spending. There is reason to believe that private sector out-of-pocket spending is underestimated; some authorities speculate that it could range from 20-50 percent. Firstly, private outlays on the services of traditional healers, practitioners, etc., were not included in the study. Secondly, estimates of outlays on private hospitals, pharmacies and clinics were based on samples of tax records, which authorities agree involve substantial underreporting of earnings in the interest of avoiding payment of income taxes. In this connection, it is observed that rural based physicians do not have to report income from private practice activities, and all physicians are exempt from income taxes for three years after graduation. Lastly, most private health services are paid for in cash by patients. (4)

On the governmental side, the size of the MOH cadre has increased; this has not been matched by comparable budget allocations. In the period 1966-1976, MOH expenditures increased by 183 percent, but the share of MOH relative to total government outlays decreased by 38.5 percent, from 9.1 percent to 5.6 percent of total government outlays in this same period (see Table 3).

Given the rapid rate of growth in the public and private sectors, and the decrease in governmental commitments to the MOH, the development assistance role of a major bilateral donor is difficult to project with clarity and specificity. The question inevitably arises whether the ARE or USAID will support policies that cannot promise to solve quickly the problems that lie ahead. Support depends on whether the short-term and long-term goals can be made clear, whether they can be achieved, whether USAID can provide the technical assistance, and on whether this assistance is appropriate in the Egyptian circumstances. Our remote and ideal objective is for USAID to initiate a process with the ARE which will harmonize its social and economic policies. It may lessen the prospect that health conditions will deteriorate and promote steady and measureable gains in the health of all the people. This is a long-term goal and the means to attain it cannot be defined with precision. At best, the Phase II team can provide a general direction for USAID. Accomplishments will be difficult to attain and details will change as the process unfolds. But having some idea of what the process could eventually achieve may make it easier to accept these recommendations with subdued expectations, for AID and the ARE will better succeed in achieving their health goals if they moderate their aspirations. (17)

There are no prizes for having done reasonably well. Our sole measurement here is our ability to contribute a sense of direction to a health sector in transition.

4.0 RECOMMENDATIONS

4.1 Introduction - The recommendations are stated in rather broad terms to facilitate rapid, comprehensive understanding by ARE and USAID staff. The Phase II team recommendations encourage the government to take advantage of the current expansion in the public and private health sectors in order to reduce central expenditures to the MOH, and to provide the people with effective alternatives for their health service needs.

Thus, although our recommendations are targeted toward the public and private sectors, the intended impact is to assist the governmental health sector, as represented by the Ministry of Health, to improve the health of all the people. All three of these sectors are interdependent. If one falters in its mission, inequity in service delivery will result to some of the people, somewhere along the line.

Given the transition that the entire health sector is in today, it makes sense to support the preferences of growing numbers of consumers who seek their health services through alternative mechanisms...and for the government to be identified with the policy of making those choices available. By 1990, the trends evident today may well be reversed, and the preferences of consumers different than they are now. If so, the health system should be flexible enough to absorb that change and to move forward without much pause.

4.2 Water and Sanitation - USAID should make a major investment in water and sanitation if the ARE moves from its current mode of operations for these services to one in which the consumer is assessed the full costs for the maintenance and operation and capital recovery. A revolving loan fund, operated through a national investment-type bank, is indispensable.

Almost the entire population of the country is dependent on one source of water for personal and industrial uses: the Nile River. Organic byproducts of industrial effluents, and the increased use of pesticides may well cause irreparable damage to future generations of Egyptians. The MOH is accountable to the government for these serious threats to the environment, but it is unable to cope with the situation. At a minimum, USAID should assist the MOH to issue a White Paper annually to the Ministry of Economy, or to the President, defining environmental and public health hazards, including the likely national consequences if the issues remain unaddressed.

4.3 Health Sector Financing and Organization - USAID should assist in the development and extension of health insurance in Egypt. This would take the form of technical and financial assistance to established groups through the establishment of a revolving loan fund, managed by a national investment-type bank, to help finance the HIO's investments in facilities. Other eligible groups would include: the Medical Syndicate's MPCCI program; group practice HMO-type operations; and, socially financed schemes in rural areas, especially those schemes targetted at the agrarian population.

In the area of health care organization, USAID should provide technical assistance to the newly created High Council on Health Insurance in the Ministry of Health. This could range from exposure to optional forms of health insurance at the macro level, and visits to selected sites in the United States, to seminars on health insurance by experts from the U.S. given in Egypt and other countries. The end product would be the creation of a Secretariat to describe requirements, and develop regulatory procedures and standards. Other technical assistance would be provided to the the public/private sector, ranging from broad health insurance policy development to more specific actuarial analysis, marketing, structuring the relationship between insuring organization(s) and delivery organizations, and structuring the management of the delivery oranzations per se.

Other eligible groups that could be capitalized from the revolving fund include: the Curative Care Organization; religious organizations, such as those who operate outpatient clinics in a mosque; community groups; private fee-for-service groups, such as the Arab Contractors, who want to establish polyclinics for primary health care services to their beneficiaries; private group practices, particularly if they are located in rural areas; and groups that do not have appropriate funding from other sources.

4.4 Health Manpower - USAID should continue assistance to the Suez Canal University; and several similar new investments should be considered. This would have two aspects: 1) the general practice master's degree, i.e., graduate clinical training and 2) the development of regional combined teaching/service activities with the Ministry of Health and the private sector. It is important that quality assurance elements be built into activities funded by AID, and that expanded and improved training in management, administration, planning, public health and epidemiology be considered.

Qualitative manpower problems are among the most serious restraints to health sector development in Egypt. Unless there is a clearly-structured educational objective, a persuasive plan for carrying out the training, a measurement of educational accomplishment, and some assessment of performance modification, USAID should refrain from support of these programs.

USAID should employ the following three criteria as a screening tool for investments in health manpower projects (in addition to standard criteria for project feasibility):

- a. The project should present an identified ARE priority.
- b. USAID should be able to identify a competent, motivated individual, or a small group that is well-placed, to implement the project. (For example, the Suez Canal University and the current Dean ... without this combination, the project would be a much higher risk investment.)
- c. The project design should be narrow and targetted enough to follow performance and progress closely and tangibly.

4.5 Public Health Practices - USAID should provide assistance in the following areas:

- a. Immunizations. Undertake both mass campaigns and sustained efforts to cover 80-90 percent of susceptibles with effective protection against diphtheria, whooping cough, tetanus, polio, and measles. It should also set up a system for the introduction of new vaccines as they become available (e.g., rotavirus vaccines).
- b. Family Planning Services. Continue vigorous support of the Egyptian family planning program, using all available means and channels of program action. The MOH should issue standards and procedures concerning the technical/medical aspects of contraceptive services, and assure training and supervision of health services personnel.
- c. Maternal and Child Primary Health Services. USAID support in Egypt for broad health service projects is not recommended at this time. Rather, a more focused approach should be used, through several high-impact categorical areas, such as oral rehydration therapy of diarrhea.

- d. Health Education and Health Promotion. AID should strongly support inclusion of this area within all the public health action options it undertakes. Public information and education are particularly important, and AID should consider a modest R&D effort in support of health education and health promotion allied with school health. Radio and TV are probably the most important media for dissemination of information to the Egyptian public, especially for the illiterates. Serious attention should immediately be focused on this range of activities.
- e. Emergency Medical Services. In Emergency Medical Services, further AID investment in the EMS system is inappropriate. USAID may wish to explore alternative forms of EMS delivery that are not so dependent on high cost, high technology services for which neither initial nor recurrent financing is available.
- f. Given possible future technological developments, the following acute and chronic disease problems may offer appropriate areas for support: tuberculosis; schistosomiasis; and infectious hepatitis.

4.6 Research Recommendations:

- 1. AID should be prepared to continue support for bio-medical and health services research, and to help the Egyptian research establishment devise a system whereby project proposals are objectively evaluated and research monitored closely. This could take the form of support for the Multi-Sector Science and Technology program or of developing a mechanism, independent of that scheme, for the fair scrutiny of projects. The technicalities of such a process would still need to be worked out, but would presumably involve the Joint Working Group on Health Cooperation, the (Egypt's) National Academy of Scientific Research, and possibly American agencies such as the National Institute of Health or Center for Disease Control.
- 2. AID should help Egypt establish a coordinated scientific information system. Such a communications network would not only link together universities, research institutes and government research units, but would also link these with advanced medical information centers and health expertise abroad.

5.0 MAJOR FINDINGS

5.1 Introduction: Policies and Trends - Over the past thirty years, the government has implemented a public health infrastructure program that has reached most of the population. There is a public health facility within 3 km of every village of 3,000 people; a physician/population ratio of 1:1090; a nurse/population ratio of 1:800 (based on provider registration figures).

However, the amount of resources being programmed into the MOH supported health sector each year, as a percentage of total ARE expenditure, is declining. This may be in response to the low utilization by MOH consumers. In addition, national investment choices among competing developmental options probably account, somewhat, for this situation. During the past decade, the government has shifted health resources from the MOH to the public and private sectors. The most important government activity in this area has been price control, plus a decision to permit the importation of pharmaceuticals and pharmaceutical materials at whatever rates are necessary to satisfy the demand for these products at the administered prices. Laws 79 and 32 provided premiums to finance health insurance of wage-based workers, including civil servants.

The decentralization process is beginning to pick up momentum across all sectors. As the process of decentralization advances, it will affect the management support needs of the publicly supported health services delivery system. In the past three years alone, the management support structures in the MOH have altered sharply. These changes arise out of the shedding of functions to governorates and the emergence of more programmatic roles for the various components of the Ministry, including planning, specifying levels of performance (i.e. measurement of utilization and cost-effectiveness), monitoring and evaluation, and the organization and analysis of information. (16)

These changes within the government operated MOH system are taking place at a time when the public's demand for alternative health services is increasing. Since 1972, the scale and diversity of health care services offered by the public/private market economy has expanded rapidly. The growth of the private non-governmental market continues to benefit from advantages conferred by the ARE's sustained efforts to expand and improve health care services.

The distribution of the private facilities, personnel, and services is distorted. The traditional practitioners, of whom there are at least some 20,000, are spread throughout the country among the lower-income rural and urban segments of the society. The professionally trained private practitioners are concentrated in the larger urban towns or villages and among the more comfortable, higher-income, neighborhoods.

In urban areas, the numbers of specialists in private facilities have always been of some magnitude, but in recent years the proliferation has been extraordinary. This private sector development does not seem confined only to the growing middle-class. In some areas such facilities increasingly draw factory-level and services industry personnel. For example, in the June 1981 Helwan Zone Study, covering an area of 600,000 people with a ceiling income of L.E. 50 monthly for a family of five, 309 physicians were found to be conducting private practice,* or a ratio of 1 physician to every 1,942 population. Rural area private practice expansion, judging by indicators such as sales of drugs and supplies, registration figures, etc., is accelerating at a high rate. (16)

In recent years, small, cooperative, and joint sponsorship arrangements have arisen between various groups -- neighbors, religious organizations, or members of a company or profession -- and selected physicians. Certain fixed fees for service are established, and the physicians are retained by the group on a salaried basis. These arrangements are said to be a growing resource in some urban areas (Cairo, Alexandria) and, in particular, among religious groups that house the health care facilities (mostly outpatient but with planned expansion to inpatient) adjacent to a mosque or church. (16)

Subsequently, the capacity of the governmental health sector to respond to national health objectives has been constrained, slowly at first and now more dramatically, by dynamic forces acting on an expanding and changing economy. Expectations on the part of the public and the central government have altered the roles of each. There is no longer a need for the governmental operated MOH health sector to provide, free of charge, health services to all the people. The MOH system, which was organized to fulfill that role, now finds itself with an enormous infrastructure that it is unable to maintain. It is overextended and underfinanced. Health

* Most of these physicians were also in government services.

resource allocation decisions by the central government favor investments targeted away from the MOH direct-service population and toward employed wage earners in socially financed health schemes (Health Insurance Organization) or those who can afford private fee-for-service health care (Curative Care Organization).

The ARE has shifted resources, through subsidies for pharmaceuticals, medical supplies, and premiums to finance health insurance for wage-based workers, to the public/private sector (HIO and the Curative Care Organization) and to those in the private sector on a fee-for-service basis. (The important government activity has been price control.) This shift in policy is meant to unburden the MOH from some of its heavy operating liabilities, particularly curative care. The MOH would then be in a position to utilize better its freed-up resources for the remaining portion of the population unable to pay for services. However, the prevailing incentive system within the Ministry continues to reward professionals for their involvement in curative care, and this is seen most vividly in the fact that 80 percent of its total physician labor force concurrently practice in the private sector.* This dual employment pattern erodes the Ministry's authority over its own staff. (7)

The Ministry of Health's extensive infrastructure was initiated in an era when all struggled together with visible advance, when there was a cause to call it forth with discipline and resolve. The Ministry, with a large staff to administer and manage, a staff that is growing disproportionately to consumer demand for its services, feels subjected to events beyond its control, though not beyond its accountability.*

Thus, the imperative to complete now 21 unfinished hospitals, some dating back to 1961, and to expand an already expensive Emergency Medical System,** takes on immediate urgency, more so than the conduct of an effective vaccination program to prevent measles which accounted for nearly two-thirds of the deaths categorized as being caused by infections and parasitic diseases in the age group one to four years. (7)

* In 1979, 51 percent of all registered physicians (30,240, excluding those overseas) were carried on the MOH personnel roster. (7)

** The EMS was funded partially by the U.S. Government.

The findings presented here in cameo fashion have been drawn from the Phase I (particularly Jeffers, Storms, Dalton) and Phase II reports. They are meant to assist the reader in understanding the basis for the Phase II health sector strategy and recommendations.

5.2 WATER AND SANITATION

5.2.1 **Summary of Findings Regarding Water and Sanitation**
Environmental health conditions are poor and deteriorating. The total lack of basic sanitary services to a large portion of the population and the precarious state of those available to the remainder cast a shadow over all aspects of public health in the country. The most alarming aspect of this situation is the growing deficit in water supply and sanitary waste disposal services. The present method of financing and administering the water and sewer utilities is completely deficitary and chaotic. The heart of the problem is the current system of grant financing from the central government. This system has inadequate user service charges to provide for proper operation and maintenance. Unless this issue is faced squarely, by putting water and sanitation on a self-supporting fiscal basis, there is no hope of significant progress, and there can be no hope for an improvement in the health status of the great majority of the people. (18) The Minister of Housing and Reconstruction told the Phase II team in an interview, "The Ministry of Health is blowing into a punctured balloon if it doesn't solve this [health] problem first".

5.2.2 Findings Regarding Water and Sanitation

- a. Basic water and sanitation services are available to only a small portion of the population. While hard statistics are not available, good estimates are:

	<u>Urban</u>	<u>Rural</u>	
Water supply within the home	61%	4%	(1976)
Sanitary sewer service	22%	2%	(1976)
Sanitary refuse disposal	N/A	N/A	

- b. Most water treatment plants are delivering water of questionable quality because of operation and maintenance problems within the plants.

- Engineers from a donor agency visited 95 percent of the regional and municipal water systems and 25 percent of the rural works. They identified "an urgent and nationwide need for rehabilitation of existing source works and distribution systems."
 - The distribution and transmission systems are in a poor state of repair. Water losses in the systems are estimated from 40 percent to over 60 percent (15 percent is an acceptable level).
- c. There have been number of advances in water treatment that can significantly reduce costs. None of these is evident in any of the current designs or in plans for the immediate future.
 - d. The Nile River is the sole source of water for Egypt. From the point of view of the Nile as a vital and strategic national resource, the pollution from human wastes, although not desirable, is the least important.* Industrial waste, a direct and normal consequence of development, is a grave danger, along with pesticides and increased salinity resulting from extensions of the irrigation systems.
 - e. Solid waste disposal is grossly inadequate, in spite of supplements to scant public services provided by private entrepreneurs in urban areas.
 - f. The distribution of water supplies is uneven. It is estimated that Cairo and Alexandria, which comprise 26 percent of the total population, receive 65 percent of the total production. The remaining urban areas use only 25 percent of the treated water produced. On the other hand, the rural population, which makes up about 58 percent of the total population, receives only 8 percent of the water produced.
 - g. The current "pipeline" of environmental health-related projects in Egypt now totals U.S. \$1,400 million in AID activities and U.S. \$580 million for projects funded by other donors.

* Schistosomiasis is caused by pollution with human wastes. This is a well-known fact. However, the dangers to health from industrial wastes are less well recognized in Egypt today.

- h. Donor agencies do not follow the same "user charge" principle when providing capital assistance to this sector. Capital assistance without assurance of good operation and maintenance is a waste of resources.
- Many of the systems constructed in the past five to seven years are in a lamentable state of repair.
 - The initial disbursement of the World Bank Loan for Beheira will be used for the rehabilitation of recently constructed works.
 - In one major treatment plant visited, constructed five years ago, the water coming in from the Nile is the same as that pumped out through the distribution system, without treatment.
- i. Primary treatment is necessary for all waste water and secondary treatment will be required for some. Consideration should be given to the use of oxidation ponds. The effluent from the ponds is rich in nutrients and can be used for irrigation of many crops.
- j. At the present time user fees for water and sanitation services are very low or non-existent, with the result that the entire system is in deficit. Agreement was reached between the Phase II team members and their counterparts on this one salient concept: if funds are to become available in the amounts necessary to make any significant improvement and expansion in providing water and sewer services, the consumer will have to pay the costs of the operation and maintenance of the system, as well as of capital recovery.
- k. There is reason to believe that consumers can and will pay for the delivery of water and sanitation services.
- The Ministry of Housing and Reconstruction has employed a firm to organize and operate a solid waste collection service for 12,000 people. The cost of collection and transport to the landfill is 0.30 L.E. per household per month.
 - The World Bank Loan to the ARE for a water and sewer program in the Governorate of Beheira is based on an agreement to disburse the funds at

incremental levels commensurate with rising customer service charges over the first five years. At the end of this time, the rate is designed to be at a level to cover all operation and maintenance costs. During the succeeding five years the rate will continue to increase in order to cover the loan amortization as well as the operation.

- About 50 percent of Cairo solid waste is collected by private individuals called "zabaline". These people receive money from the houseowner or occupant for removing the garbage, recover money from the salable items, and eat or sell the animals which feed off the garbage. The business is profitable and demonstrates that people are willing to pay for a service.
1. The population is growing rapidly while the provision of water and sanitation services is falling farther and farther behind. It will be difficult to reverse this situation because the factors involved are cultural, historical, legal, institutional and financial. Although they present formidable challenges, the social and economic consequences of not finding a solution will be far more costly to the general health and well-being of the population.

5.3 THE ORGANIZATION AND FINANCING OF HEALTH SERVICES DELIVERY

5.3.1 Summary of Findings Regarding the Organization and Financing of Health Services Delivery - The government financed Ministry of Health system delivers preventive/promotive services as well as curative services which take the major portion of its budget and personnel. Because of the high costs for curative services and reduced funding from central government, this impairs the capacity of the MOH system to adequately discharge its preventive/promotive functions and responsibilities. National health policy cannot rely upon private financing alone to secure efficient rates of resource allocation to preventive/promotive activities. Consequently, unless the MOH or other public authorities can adequately finance these activities, there is a high probability that the output of preventive/promotive activities will fall short of appropriate levels of impact on health status. (19)

The MOH system is severely underfinanced. There appears to be little or no prospect that the MOH will, in the foreseeable future, enjoy substantial increases in the funding available to it from general tax revenues. Yet, even if it were to receive adequate financing, there remains a fundamental structural problem with the system as it is now constituted. The pressures from consumers for increases in the quantity and quality of the curative services delivered by the system are powerful and difficult to resist. The curative services' claim upon scarce MOH resources tends inevitably to displace the claim of the preventive/promotive activities, particularly since it undertakes to deliver these services at zero price.

A year ago, the ARE declared that health insurance should be extended to cover the entire population. Recently the Minister of Health was quoted as having established the extension of health-insurance coverage as his number one priority. Thus, it appears opportune for a major donor to consider assistance to the ARE's socially financed health sector, which has the potential capacity to expand in curative as well as preventive services, particularly to the agrarian population.

5.3.2 Findings Regarding the Organization and Financing of Health Services Delivery

- a. The ARE is not committing adequate levels of funding sufficient to maintain and operate an essentially physician-dependent MOH health services delivery system.*
 - Of the L.E. 10 billion that was to be expended on improvements of the public sector during the 1978-82 Five-Year Plan, less than 1 percent went to improvements in the health sector. This figure drops even further in the 1980-84 Plan. When the numbers are adjusted for inflation, the health sector investment ratio to other investments drops to .85 percent.
 - In the 1978-82 Five-Year Plan an investment schedule was laid out to add 1,755 bed capacity/year to the system. A sum of L.E. 40,000,000 is allocated to accomplish this. At a time when construction costs in Egypt are

*Dependency refers to job functions. That is, physicians are expected to do both clinical and administrative functions, when their training in the Ministry of Education system has prepared them adequately for neither role.

spiraling upwards and medical equipment prices have multiplied ten-fold, it is evident that what can be obtained from such a planned sum will be a total of 1,500 beds over five years, or about 16 percent of the plan's projected need at the end of five years. (16)

- Every day, the population increases by 3,333 persons, or at an annual rate of 1,200,000. The expansion of population is not matched by comparable rates of deployment in publicly operated health care facilities, or with rising rates of efficiency in the deployed facilities and personnel.
- b. At present, there are 21 hospitals in various stages of completion, some dating back to 1961.* There is no funding in the budget to complete these facilities. The MOH is requesting donor assistance and estimates it would need \$1 billion (L.E. 860,000,000) to complete and equip these hospitals. For purposes of illustration, if all of these hospitals came on line in full operational capacity in 1982, the total annual operating costs would be approximately \$250 million.** The 1981-82 current expenditure of the governmental health sector is estimated at L.E. 149.7 million, or approximately \$129 million U.S. (see Table 4). Thus, the operating costs to the government of these 21 hospitals, if completed, would be greater than its current expenditures on the entire MOH system. Put another way, the construction and equipment costs for these hospitals are said to be at least ten times as large as all of the funds proposed for MOH improvements in the 1978-82 Five Year Plan. (16)

* Many of these hospitals are, however, operating even though they have not been fully completed.

** As a rule of thumb, annual operating costs of hospitals usually equal 25 percent of construction costs. The \$250 million operation costs is calculated only on completion of the hospitals, rather than on prior capital investments plus completion costs.

- c. The current average expenditure of the governmental supported sector is about L.E.4 Egyptian annually, about 3.8 percent of all public expenditures. The Health Insurance Organization expends L.E. 17 annually on each beneficiary, and this sum barely makes expenses meet income.
- d. The governmental operated rural health delivery system is unique and has benefited from special attention by successive governments. By contrast, the governmental operated urban primary health care system has had a different and difficult history. It has never been given the same developmental priorities as the rural system. It did not become a General Directorate at the MOH level until recent years. In 1982, the urban system provided relatively few points of access: there appears to be one health unit per 16,000 urban families, vs. one per 3,000 families in rural areas.
- e. The Ministry of Education, University Hospital Complexes, operates 10,000 tertiary beds in 21 facilities. It delivers what is reputed to be the best hospital care of any publicly financed entity in Egypt. The Hospitals report no service data to the MOH, and the MOH, which has no tertiary care facilities, has no standards for population coverage by tertiary care services.
- f. Increases in hospital bed capacity have been in the private sector. In 1976, the MOH had 69.8 percent of total bed capacity; in 1980, it had 65.3 percent. The private sector had 4.6 percent in 1976; in 1980, it had 5.8 percent. All other providers, such as University Hospital Complexes, declined relatively in hospital bed capacity.
- g. The average annual increases in health personnel salary and allowances expenditure over the decade from 1966-1976 shows a very large jump in governorate figures -- as the size of staff has expanded. Similar increases for the governorates do not appear in

categories concerning supplies and investment. This signals a possible problem in resources distribution for continuing operations, since large amounts of the MOH budget continue to be reserved for the development and operation of centrally located hospitals, research institutions, etc.

- h. The MOH collects service statistics only from MOH operations. It does not collect data from any other components of the sector, either public or private.* Thus, there is no national authority for service statistics in Egypt's health sector; nor is there in the governorates that kind of health planning system which objectively reviews differing technologies, varying costs, estimated benefits, critical health needs, and management capabilities, and then sets plans/targets with follow-up monitoring.
- i. The growing size and multiplicity of private sector providers generate new demands for management support systems -- within the private sector itself and with respect to public-private sector interaction. In addition to the usual supervisory, management, and organizational problems; the private sector must pay close attention to utilization rates, costs, establishing creditworthy feasibility proposals, and interacting with the publicly supported health services delivery system.
- j. Since 1972, the scale and diversity of health care services offered by the private market economy have expanded rapidly, and private sector services have twice as many points of entry for health consumers as the public sector. Though many of these are waiting and examination rooms, and sometimes less, these are giving way to newly equipped polyclinics, specialized clinics, and hospitals. The private medical market emphasizes curative care in facilities which are concentrated in larger urban towns or villages and among higher-income populations and neighborhoods. Its investment expansion is in terms of facilities, high technology equipment, and technician staff. The latter are drawn off from the public sector.

*The "Health Profile of Egypt", by R. Gomaa, M.D., MOH, is an exception to this statement.

- k. Although the principle of free care is a basic national policy, it will have to be realized with a decreasing portion of the national budget. The ARE was spending approximately 5.6 percent of its total budget on health care in 1976. By 1979, the figure fell to 4.0 percent and the estimate for 1979/81 was 3.6 percent.

- l. The public health sector guarantees full employment for graduates of training programs. There is little reason to believe that this policy will change, or that the MOH will have the financial capability to alter the weak salary and incentive structure that is a consequence of this policy.

- m. It is a major policy priority to explore financial schemes, bringing new populations into the HIO, and developing alternative insurance programs to the HIO. There is concern among HIO leaders that coverage will be expanded by political mandate to groups from whom financing may be inadequate if not entirely lacking. Thus, the HIO runs the risk of becoming the guarantor of health care delivery for an increasingly poor population, without the wherewithal to maintain current levels of service. Difficulties have arisen in the HIO:
 - As the "free" public health system is shifted onto the HIO in whole or in part, wage-based employees will increasingly demand that either improvements in the HIO occur or that an alternative to the HIO be provided due to the decline in service availability and the quality of services.

 - With the addition of pensioners to the system (for which HIO expenses are at a factor of 4 over government payments for their coverage) there remain virtually no means to capitalize renovations, additions, and equipment. Further, difficulties continue in the hiring and retention of physicians on a full-time rather than contract basis.

n. The confluence of several forces, then, is critical to AID assistance. Not only is it the stated policy of the ARE and the MOH to expand social insurance for health care, but the situation in the health sector indicates receptivity to the growth of health insurance. However, there are serious technical constraints: (20)

- Issues of risk pools, benefit package definition, co-payments, deductibles, beneficiary definition, the needs for adequate protection for those investing in insurance through development of reserves, the legal basis for protecting the rights of the insured, etc., -- these considerations do not now exist.
- The technical capacity to develop sound insurance is limited as is the data base on which to develop the actuarial analyses necessary to establish price or operational and investment requirements.
- The technical capabilities for linking demand to cost are limited; as are the capabilities for linking demand to supply. This becomes particularly important when insurance and health care delivery are directly linked, as in the HIO or in other HMO-like systems of the sort being considered by the Arab Contractors.
- With the exception of the HIO, there is virtually no experience with groups of physicians who can work in concert with an insuring organization to provide care to a defined population. There are virtually no group practices in Egypt. The private sector mirrors the situation in the United States prior to 1941 -- a collection of independent entrepreneurs functioning without collectivization in terms of shared patient care responsibilities and earnings.
- The ease with which the HIO has been able to grow would suggest that concern over the costs of health care outweighs the natural suspicion of investing one's earnings in impersonal institutions. The dramatic escalation in costs with the introduction of high technology medicine may serve as a stimulus for the sharing of risk through insurance.

- At the present time, organizations and lawmakers rather than consumers have made the basic HIO decisions.
- o. In the sense that there are problems and issues with health insurance, they afford also an opportunity for which USAID assistance activities might be responsive. And, there is reason to expect success in this program effort in that we vigorously should seek such success pursuant to the benefits which can accrue from a well-structured and financed health insurance system in Egypt.
 - Insurance offers budgetary predictability, not only for the individual, but for the large purchasers of health care.
 - Social insurance is also a mechanism for achieving equity in terms of financing the costs of health care.
 - There appears to be no move to create a government-run national health service for the entire population. Thus, where there is a thriving private sector, health insurance may potentially offer a mechanism for shaping the private sector for the public good without losing the benefits of private sector medicine, or having to tackle the difficult political problems that attend conversion of a mixed sector into a unitary sector.
- p. Health insurance is an area in which the United States enjoys a considerable comparative advantage in policy development, implementation, and technical expertise.

5.4 HEALTH MANPOWER

5.4.1 Summary of Findings Regarding Health Manpower - The ARE has a relatively high number of trained health providers available, as well as a high capacity for producing physicians and nurses. Since independence in 1952, there has been a policy of equity and full employment. The growth in population has led to increasing job division. Now there are more and more health workers to do parts of the same job. Every person trained is guaranteed a job, and very few are refused admission to training if they have the required academic preparation. However, once formally trained, there are few opportunities for continuing education. For those programs that do exist, the high drop-out rate signals that they may be ineffectual in meeting professional needs. (7)

Following graduation, the need for income supplementation pushes health care providers into a multiple employment pattern, through a combination of public and private sources of income. This pattern leads to divided job loyalties, minimum commitment to a place of work, and a pitting of public service against the possibility for private gain.

The government has made a substantial investment in the training of health manpower. Medical schools are producing approximately 5,000 graduates a year, while the nursing schools (including both MOH and university-operated schools) now graduate over 5,000 annually. However, the maintenance of this production level is inconsistent with the country's capacity to absorb in the economy and to manage in the governmental health sector.

Egypt's health system has nearly achieved recommended WHO standards of physician: population ratios and population coverage of health facilities. Still, with the availability of this extensive infrastructure, one to two of every ten infants die before reaching one year of age, including 2,000 deaths from tetanus neonatorum. (7)

5.4.2 Findings Regarding Health Manpower

- a. Current provider-population ratios are in the range of 1:1200 for physicians; and 1:1000 for nurses. (The ratios are even lower if one uses registration figures: 1:1000 for physicians and 1:800 for nurses.)
- b. At present, physicians number around 34,000, of whom some 18,000 are in MOH service in 1982, 10,000 are temporary migrants, and the others are on duty leave or in the military or entirely in private practice.
- c. It is estimated that 10,000 physicians and 3,800 nurses have emigrated to the Arab States and Africa.
- d. In 1978, there were 108,123 registered health personnel, an 11.44 percent increase over 1977. Since that time, a 10-11 percent increase per year is considered a fair estimate of growth. Thus, in 1981 there were some 145,000 health personnel (see Table 4).
- e. Physicians in the MOH are younger than those in other governmental or public sectoral employment. In the HIO, 58 percent of the physicians are below the age of 40; in the MOH three out of every four physicians are under age 40.

Table 4

Registered Health Personnel by Occupational Category
Egyptian Ministry of Health
December 31, 1977 and December 31, 1978*

<u>Category</u>	<u>1977</u>		<u>1978</u>		<u>% Change</u>
	<u>Number</u>	<u>per 10,000 population</u>	<u>Number</u>	<u>per 10,000 population</u>	
Physician	35,489	9.2	39,386	10.0	10.98%
Pharmacist	12,314	3.2	13,367	3.4	8.55
Dentist	4,314	1.2	5,133	1.3	10.84
Nurse Supervisor	400	0.1	504	0.1	26.00
Nurse	17,283	4.5	21,008	5.3	21.55
Asst. Midwife	19,268	5.0	19,374	5.9	0.55
Midwife	2,372	0.6	2,376	0.6	0.16
Technician	5,579	1.5	6,975	1.8	25.02
Totals	97,019		108,123		11.44%

*Source: Ministry of Health, ARE, 1982

- f. There is an uneven distribution of middle level health personnel in the MOH system, suggesting that there is an inadequate support system for health services: (7)
- In Cairo, there are 2,349 physicians, 26 chief nurses, and 8 technical nurses.
 - In Alexandria, there are 1,152 physicians, 152 chief nurses, and 47 technical nurses.
 - In Dakhaliya, there are 1,254 physicians, 3 chief nurses, and 1 technical nurse.
 - In Aswan, there are 198 physicians, no chief nurses, and no technical nurses.
- g. There has been a significant change in the numbers of female physicians practicing in the Egyptian labor force. One out of every four physicians in the public sector is a female. Nursing, however, is still considered work for females, who account for 98 percent of the nurses' work force.
- h. Recruitment to the nursing profession has suffered from poor public acceptance of the propriety of that job for young women. Once they are recruited, however, numerous problems hamper training:
- Some facilities are clearly insufficient for the needs of either classroom use or the culturally necessary "rest house" -- a place where students reside under close supervision.
 - There is a lack of teaching materials in Arabic.
 - There are too few nurse educators with clinical expertise and preparation in educational techniques.
 - English is the language of instruction for the more highly educated nurses. Unfortunately, there are relatively few opportunities to learn English at a time or place convenient to attend outside of work hours.

- It is doubtful whether the nursing leadership could garner the political clout that would be required to make the kind of sweeping changes which are necessary to improve these conditions.
- i. All applicants for training as nurses are accepted. On one field visit to Quena, for the 225 places in a secondary technical nurses school, only 62 students were registered.
- j. Two out of every five MOH nurses and physicians are employed in hospitals.
- k. Currently, approximately 350 medical officers manage the government health services delivery system at central, governorate and district levels. It has been estimated that within 5-10 years, only 70 or so senior medical officers will remain within the government system because of better income opportunities in the public and private sectors. (4)
- l. In the Alexandria HIO, 88 percent of its physicians were employed on the basis of temporary contracts rather than full-time exclusive positions. (Apparently, this is by choice of the physicians.) Physicians supplement their income from outside sources, are largely insecure with the HIO and do not have good reasons to feel loyal.
- m. There is a relatively high turnover rate among physicians and nurses. A recent study (Shehata, 1979) found that after 10 years of operation of the HIO in Alexandria, only 29 percent of the general practitioners had been practicing in the system 5 years or more, while 22 percent were employed less than 1 year.
- n. Certain of the Arab countries tend to refuse to take any Egyptian physician trained after 1976, the time when a great expansion of Egypt's medical school enrollments began to produce a negative impact on student/teacher ratios and on the relative availability of classroom and clinical practice space.

- o. There is a shortage of general management capabilities, and a lack of orientation to modern management on the part of physicians and health administrators. There is both a need and desire for managerial training on the part of physicians serving as administrators in rural health work, as well as on the part of supervising nurses in hospital settings.
- p. The MOH has made a substantial investment for continuing education of physicians. Since 1978 approximately 1000 physicians per year have been entering postgraduate specialty studies. Unfortunately, only about one in four successfully completes the two-year course.
- q. Large hospitals are complex organizations and require effective administration of personnel. A cadre of health and hospital administrators is needed. However, physicians regard this as a threat to their autonomy.
- r. In rural health units, physicians average 35.7 hours per week, of which 12.6 is in administrative work, and only 1.45 in communicable disease control, 4.8 in MCH and school health, and .15 in environmental sanitation (see Table 5).
- s. Medical school classes are often three times larger than classroom accommodations allow. There is little faculty/student contact and limited practical experience. Forty students may share one cadaver, or one microscope, and it is physically impossible for many students to observe surgical demonstrations. Clinical experience in the University Hospital is severely hampered -- as many as 30-40 students may examine one patient. Some hospitals pay the patient up to L.E. 10 to allow the students to examine him/her. (21)
- t. Qualitative manpower problems are among the most serious restraints to health sector development in Egypt.

Table 5

Distribution of Physician Hours/Weeks in Rural Health Unit

Communicable Disease Control	1.45
Vital Statistics	.75
Environmental Sanitation	.15
Administrative Work	12.6
M.C.H. and School Health	4.8
Outpatients	<u>15.95</u>
	35.7 Hours/week

Source: (Estimation of Physicians Manpower Needed in Rural Areas, Nazif + Fattah, Bulletin of HIPH, Vol. VI, 1976), as cited in Health Manpower Training, Phase I, Carlaw.

5.5 PUBLIC HEALTH PRACTICES AND HEALTH SERVICES DELIVERY

5.5.1 Summary of Findings Regarding Public Health Practices and Health Services Delivery - Preventive and public health services are likely to be, for the foreseeable future, largely within the domain of the Ministry of Health. The population most in need, and potentially most affected by these services is the rural and urban poor. Although the thrust of national health policy in Egypt is toward a shifting of personal health services away from the "free" MOH modality to the private and public sectors, the two parts of the health sector (MOH vs. all other providers) are linked and interdependent. The major problems of quality (both effectiveness and efficiency) have common roots in the manpower training system which feeds into both subsectors. The shift of population from the MOH to other elements of the health system without attention to these quality issues would only displace, rather than solve, many of the problems cited herein. (22)

Mortality and morbidity data suggest that the health status of the population worsens as one moves from lower Egypt to upper Egypt. The Physical Quality of Life Index also suggests that the well-being of the population deteriorates from lower to upper Egypt. However, there is little evidence (apart from increased employment in rural services as one moves away from upper Egypt) that the distribution of on-duty health personnel varies according to such measures of poor health and nutritional status of the population. The emphasis appears to be on equity of distribution and not on services focused on epidemiologically determined priorities. There is no coordinated system for the recording, compilation, analysis and publication of information about disease patterns in Egypt. The institutional fragmentation with the MOH and its isolation from other service providers make it barely possible to guess at the prevalence, incidence, case fatality and geographic distribution of even the most important diseases. (23)

The major public health problems are associated with the need for:

- Family Planning
- Immunizations
- Oral Rehydration
- Water and Sanitation

The prospects for substantial near-term qualitative improvements in MOH-managed health services are rather slim. This is due to resource scarcity, the lack of discipline, inadequate supervision, low pay and motivation of provider staff, and to the expanding availability of alternative health delivery systems.

5.5.2 Findings Regarding Public Health Practices and Health Services Delivery

- a. Utilization of MCH facilities is related to low income. The Helwan study suggests that the "by-pass" phenomenon is part of a broader and more complex pattern of utilizing multiple sources of care for treatment of an illness, implying also considerable cumulative expenditure for an illness and duplication of services.
- b. There is a large cohort of young nurses and physicians with training ill-fit to the epidemiology of diseases in Egypt.
- c. The health system is curative in focus, hospital-based, and physician dependent, with emphasis on specialized non-integrated services. Preventive care is the sole responsibility of the Ministry of Health.
- d. It appears that existing government facilities are underutilized and need a better focused set of treatment priorities. The Health Insurance Organization appears to be better managed, but basically offers curative care, and that only to the wage-based population and pensioners. The Organization's ability to offer preventive services to mothers and children, the urban poor, and those in rural areas is untested and uncertain.
- e. The accessibility of services is a major factor in utilization; current health practices in Egypt demonstrate that the content of services delivery (i.e., availability and acceptability in terms of quality and consumer expectations) is probably a stronger determinant of service choice. Geographic access to preventive and curative facilities is only the first step to achieving coverage and utilization. The content and form of these services have to be tailored to meet the changing needs of health services consumers.

- f. Most villagers, according to rural physicians, visit government facilities to get the free drugs and not to be examined. Since the examination is cursory and the attending physician usually prescribes a double list of drugs (those that are in the clinic pharmacy and those that must be purchased), villagers regard the free drugs as a net "gain" to them.
- g. Health consumer behavior seems to affect the demand for secondary care in two ways: those who are ill wait much too long, in general, before seeking medical care. They then feel they need or actually need more specialized care, and, go directly to the specialists and specialized clinics without first seeking guidance from General Practitioners.
- h. Urban publicly supported secondary health services are varied in distribution, content, and organization. As in the case of urban primary services, they tend to be fractionated by specialty and function. The specialized clinics of District and General Hospitals appear to be increasing in numbers, and there is increasing stress upon developing urban polyclinics.
- i. Current types of health consumer utilization seem to be curative and stabilizing for somewhat complicated and diagnostically demanding medical care. Patients are seeking more personalized care, with improved equipment and facilities, with stress on ambulatory care. In response to this growing demand, the public sector seems to be augmenting specialist staffing at hospital outpatient clinics, establishing special clinics, and developing a network of polyclinics.
- j. The private sector, at certain economic levels of the population, seems even more vigorous in expanding resources and organizational coverage for a secondary system. This is the case in larger and more middle class urban settings, but it is also said to be occurring in high volume specialized clinics in poorer neighborhoods.
- k. There is a sharpened awareness among villagers of the importance of health care. This has an economic origin because parents perceive that healthy children grow into young adults who go off to work in the Gulf States or take employment as agricultural laborers at the present very high wage rates. They are, then, potentially high earners of income. (17)

- l. Another factor contributing to this growing awareness is the more widespread presence of pharmacists in the countryside, who are viewed by physicians as a health educative force in local communities.
- m. Commensurate with the policy goal of expanding high curative technology and research, the ARE supports complexes of University Teaching Hospitals, Educational Hospitals and Institutes which constitute a large volume of personal curative services. In the absence of a controlled referral system, these are available to all who have geographic access. The enormous volume of services militates against record keeping and reporting patient revisits. (17)
- n. The eight University Hospital Complexes provide a large volume of curative outpatient and inpatient services, almost entirely to self-referred patients. More than one-half are said to travel between 40 and 100 kilometers to come from rural areas to University Hospitals. Thus self-referral also lengthens stay and creates an excessively high utilization of beds.
- o. Self-referral to secondary and tertiary facilities is clearly one of the major problems facing health services delivery. Conversely, the relatively low utilization of primary care services is rather discouraging.
- p. Traditional private sector practices are widely accepted in Egypt. They comprise a resource of some magnitude, particularly since it is estimated by some that more than 20,000 health barbers and other practitioners are still active and accepted in many villages and urban areas.
- q. Although geographic/population coverage by primary care facilities is relatively good in rural areas, nonetheless, utilization of MCH services is relatively low.
- r. The health status of people in Egypt is not in keeping with the amounts of health services available, and preventable diseases constitute the majority of all health problems.

- s. The Emergency Medical System has a high MOH priority. The MOH was unable to document the health benefits of the system currently in place through morbidity or mortality reductions. EMS represents a system that is appealing from the MOH point of view; yet, it is expensive, heavily subsidized, and, currently, does not have the capacity to generate capital or operating expenses. Moreover, for the most part, it serves an elite population group, that 30 percent of the population with telephones. Utilization of EMS is mainly for acute illnesses rather than for emergency care.
- t. Though organizationally and structurally distinct, the various services delivery organizations in the governmental, private and public sectors are interdependent, because they share resources -- e.g., manpower, facilities, beds -- and they are linked, importantly, through patient flow. Ranges and levels of services provided by these sectors are partly complementary and mostly paralleled. Patients move freely back and forth among providers, barred only from certain services (HIO, Curative Care Organization, etc.) by eligibility requirements or by economic and geographic factors. Unrestricted patient flow through and among the systems complicates assessments of coverage and utilization.
- u. The HIO is basically curative; no preventive health services are delivered to the beneficiaries. HIO leadership recognizes the importance of prevention as a potential means of limiting needs for hospitalization. HIO would undertake prevention and promotion activities if cleared to do so by the MOH.
- v. In terms of quality of care, diagnostic skills, and dependency on medical drugs for treatment, the HIO and the Curative Care Organization appear to be more like the MOH than different.
- w. Past and current AID/ARE investment in the Rural and Urban Health Services Strengthening Projects effectively demonstrated the feasibility of outreach work from the health units. The acceptance of oral rehydration (due, among other factors, to this project's activities) is a noteworthy, if preliminary, achievement.

- x. The quality of medical education appears to have deteriorated in the 1970s and this has seriously impacted on public health practices. Some of the criticisms are: (2)
- Insufficient clinical practice coupled with a curriculum top-heavy with theoretical information only cursorily related to major problems of morbidity and mortality (for example, problems of infant and child diarrhea, lower respiratory infections, and injury control).
 - Little or no exposure to public health training or methods of community health status assessment and disease prevention.
 - Inadequate preparation in a number of speciality areas (e.g. obstetrics) and in certain practical, functional areas (e.g. maternal and child immunizations).
 - Virtually no training in administration or management, despite the frequent employment of physicians as heads of health units and supervisors of the other health personnel.
 - Lack of knowledge of what other "team" members know and can do -- particularly the training and potential range of activities of nurses.
- y. The University of the Suez Canal is one of the very few examples where a medical school has instituted a new curriculum oriented toward community medicine and preventive medicine. Moreover, the medical training is conducted in collaboration with district health officers in 5 of the 26 governorates. Although this is only one medical school, with 47 future graduates, it does represent an exemplar of what can be done with institutional resolve and determination.

5.6 RESEARCH

5.6.1 Summary of Findings Regarding Research - Biomedical and health service research carried out in Egypt covers a broad range of topics. However, the significance and success of these research efforts is often checked by a number of systemic flaws. At present, there is no mechanism whereby U.S.-funded research projects are systematically and objectively scrutinized on the basis of their scientific merit

or applicability to Egypt. Further, problems of communication among researchers -- university faculty, governmental departments and research institutes -- result in unnecessary duplication of research projects. Since much of the basic investment in Egypt's scientific capacity has already been made, steps to improve the objectivity of proposal review and the communications network within the research community would greatly enhance Egypt's ability to carry out significant research successfully. (24)

5.6.2 Findings Regarding Research

- a. Aside from NIH grants, U.S.-funded research projects in Egypt are not adequately reviewed, either technically or financially. The Joint Working Group also cannot -- or at least does not, as things stand now -- assess the progress of specific proposals in detail.
- b. In developing applications for financial support from the U.S., Egyptian researchers have not learned the process of preparing a scientific proposal because these are principally written by the American counterparts.
- c. In Egypt, funding of research projects within the scientific community is largely determined by the placement of the principal investigator in the informal system of personal alliances within the academia and the government. At the present time, scientific merit, feasibility, or need is not given as high a priority on research awards as one might expect.
- d. Obstacles to internal communication and coordination among research institutes, universities and ministries result in duplication of research efforts. The need to publish among the academic community is so great that all local scientific journals have a backlog of several years. Delays in publication of research results contribute to this ongoing duplication of research efforts.
- e. In the absence of adequate financial incentives, stable career possibilities, and available advanced technological resources, Egyptian researchers are frequently motivated to emigrate abroad -- particularly to the United States (and Europe) to conduct research, or to the Arab countries to teach.

- f. Although Egypt already possesses a considerable scientific infrastructure, there is a general consensus among the research community that adequate training of scientists requires periods abroad, working and studying in technologically more advanced laboratories and institutes.
- g. The unavailability of up-to-date international scientific journals and information on current research findings is a major problem for every institute, library, university or government department concerned with research.
- h. Research institutes falling under the auspices of the Ministry of Health carry on minimal research. Instead, they act as specialized service centers for specific diseases or disorders -- e.g., diabetes, tropical diseases (viz., schistosomiasis), etc. They also serve, in conjunction with specific university departments, as degree-producing bodies. The research conducted in these institutes is encapsulated in the master and doctoral theses produced there.

A-i

Annex A
Authors' Reports

ENVIRONMENTAL HEALTH

by
Glenn Wagner
Director
Water & Air Resources, Inc.

Introduction

The matter of personal and environmental hygiene is the overwhelming problem to be overcome for improving the health of the general population. In order that hygiene may prevail there must be:

1. An ample supply of potable water within the home;
2. A sanitary means of removal and disposal of the waste water from the immediate premises and the community;
3. A sanitary means of removal and disposal of refuse and garbage from the home and community.

These basic amenities are available to only a small portion of the population of Egypt. While hard statistics are not available, good estimates are:

	<u>Urban</u>	<u>Rural</u>	
Water supply within the home*	61%	4%	(1976)
Sanitary sewer service*	22%	2%	(1976)
Sanitary refuse disposal	N/A	N/A	

These are quantitative estimates. Many water treatment plants are delivering water of questionable quality due to operation and maintenance problems within the plants.** Binnie et al. engineers visited 95% of the regional and municipal systems and 25% of the rural works. They "identified an urgent and nationwide need for rehabilitation of existing source works and distribution systems." Neither sanitary sewer nor refuse disposal service is available to the great majority of the people.

A confirmation of the general lack of good water supply and sanitation service is contained in the United Nations Demographic Yearbook of 1971.* It shows that Egypt is among the nations with the highest child (under five) and infant (under one) death rates.

The total lack of basic sanitary services to a large portion of the population and the precarious state of those available casts a shadow over all aspects of public health in the country. This matter has been documented and reported fully and it would serve no purpose to further elaborate here. The important problem is to get on with an over-all solution.

- (*) Environmental Health in Egypt - WASH Field Report #33-1982
- (**) Binnie - Taylor et al. - Provincial Water Supplies Project - 1980

The most alarming aspect of this situation is the growing deficit in water supply and sanitary waste disposal services. As clearly indicates, the population is growing rapidly while the provision of these basic services is falling farther and farther behind. A national commitment and massive effort will be required to turn this situation around. It will be difficult, slow, and costly, because the factors involved are cultural, historical, legal, institutional and financial. These things can't be changed or detoured easily or quickly. While they present formidable challenges, the social and economic consequences of not finding a solution could be far more costly.

Investment Required to Provide Water and Sewer Service

Two very extensive* reports have been made which attempt to quantify the capital investment needs and the possibilities of meeting them. The proposed solutions are based on a complete turnabout in the management and administration of water and sewer utilities, along with customer service charges which not only cover an adequate level of administration but also full debt service and routine replacement and extensions.

The macro numbers of proposed investment for the next 20-25 years by large cities and provinces are given below in million of 1979-80 Egyptian pounds.*

	Water			Sewerage			Grand Totals
	Local Source	Foreign Source	Total	Local Source	Foreign Source	Total	
Greater Cairo	1104	691	1795	2461	779	3240	5035
Greater Alexandria	288	121	409	1174	385	1559	1968
Ismailia	156	59	215	221	118	339	554
Port Said	95	31	126	152	42	194	320
Suez	198	117	315	251	36	287	485
All other Governorates	850	850	1700	1000	1000	2000	3700
	<u>2691</u>	<u>1869</u>	<u>4560</u>	<u>5259</u>	<u>2360</u>	<u>7619</u>	<u>12279</u>
	<u>Local Source</u>	<u>Foreign Source</u>	<u>Total</u>				
Water	2691	1869	4560				
Sewerage	<u>5259</u>	<u>2360</u>	<u>7619</u>				
	<u>7950</u>	<u>4229</u>	<u>12279</u>				

(*) Binnie-Taylor et al.
Black & Veater International

Generating the Resources

The heart of the problem is financing. Unless this is faced head-on there is no hope of significant progress. A firm financial base is necessary for orderly planning and project execution and for sound, responsible management.

The present method of financing and administering the water and sewer utilities is completely deficitary and chaotic. The result is a serious deterioration of the physical facilities and a precarious level of service. The only hope of generating the kind of funding required is through customer service charges. The studies of rate structures to amortize the capital and provide good operation and maintenance clearly indicate that even the people in the lowest rung of the economic ladder can meet the payments. This would amount to a maximum of 3 to 5% of their income for both water and sewer service charges. Many are paying more than this at the present time for very inadequate and inferior service. In poorly served areas members of the family spend several hours a day carrying relatively small amounts of water from distant standpipes to their homes. The more affluent, the commercial and industrial establishments, can obviously pay reasonable rates.

At the present time rates are very low or non-existent and service is bound to be poor. The rates therefore need to be raised slowly as service improves. Over a period of say three to five years the rates could rise from the deficit situation now to one which covers all costs. At the same time the increased income will allow for improved management and better salaries across the board.

Organization of Financing

The second measure, along with customer service charges, needed to turn this situation around is to put water and sewer utility financing on a loan basis. A National Water Supply and Sewerage Revolving Loan Fund should be established in a national development bank. All funds from all sources, national and international, could be channeled through this fund. Subsequently, then, capital investment in large city and provincial water and sewer systems would be obtained from the bank through loans.

In concert with ongoing government decentralization, the water and sewer systems will be the responsibility of the governorates. This will result in governorate-wide program planning, administration and operation. In order to finance their capital programs the governorates must have area-wide feasibility studies covering their long-range goals, 20 to 25 years, as well as their immediate, say five-year, plans and requirements. The feasibility studies would include not only capital needs for construction and rehabilitation but also administration, operation and maintenance plans. This would include organization, personnel levels, administrative costs, training plans and obviously the water and sewer service charges to provide the required income.

This method of programing has many salutary and beneficial effects. 1) It takes the government out of the grant business and out of a system which has never provided the general population with adequate service in any country. 2) It provides a chance for using scarce investment capital many times over. 3) If money must be repaid the loanee is apt to be more careful that it is well used. That is, the project is well-designed and constructed and will be maintained. 4) The central government gets out of the business of having to make project choices, but rather puts the burden on the governorates. 5) The governorates, at the same time, are obliged to do serious and constructive planning for which the National Revolving Loan Fund can hold them accountable. Good planning and good management will be rewarded as they should be. 6) There will be a very significant stimulant for the Egyptian engineering profession, much of which is poorly employed in the public sector.

The existing National Organization for Potable Water and Sanitary Drainage in the Ministry of Housing and Reconstruction (HR) could become the technical arm at the National Revolving Loan Fund. It would get out of the business of trying to provide services to the governorates. The National Loan Fund would review the feasibility reports, approve or disapprove, and given the normal starts and stops the individual projects of the governorate plans would be approved for final design followed by construction financing. Very poor construction practices are apparent everywhere, so serious construction supervision should be part of the National Revolving Loan Fund policy.

The Fund would finance the feasibility studies, the detailed design, construction supervision and, of course, construction of the works.

In the many interviews and discussions with people in the GOE, on the bureaucratic level, there is evidence that the required reforms could be made. On the matter of financing, funds from the central government now channel through the National Investment Bank, which finances public sector activities including water and sewer projects. The interest charged depends on the project and varies from 0 to 15%. Presently no interest is charged on the water and sewer funds. Although they are called loans they are not regarded as such by the water and sewer agencies which receive them. This could be changed by executive action but in order to be feasible would have to be accompanied by a means of charging for services so that the capital could be recovered. In this latter aspect, which is political, the bureaucrate could not answer with any degree of certainty.

There is total agreement however on one thing. That is, if funds are to become available in the amounts necessary to make any significant improvement and expansion in providing water and sewer services, the consumer will have to pay the cost--operation and maintenance as well as capital recovery.

Charging for services seems to be a touchy subject water and sewer projects are very popular among those on city fringes and in rural communities who don't have them. If a proper selling job is done it is likely that a reasonable rate would be acceptable. The gut problem has been that the great majority, with good reason, resist paying for poor or public standpipe service. The test needs to be made of their willingness to pay for good service in their homes.

Further evidence is contained in the World Bank loan to ARE for a water and sewer program in the Governorate of Beheira. The Bank has agreed to disburse their loan based on incremental raising of the customer service charge over the first five years. At the end of this time the rate is designed to be at a level to cover all operation and maintenance costs. During the succeeding five years the rate will continue to increase in order to cover the loan amortization as well as operation. At the end of the ten-year grace period the returns from revenues are designed to be at a level which will cover total cost--fixed and operational.

In Fig. 1 is a simplified graphic presentation of the operation of a revolving loan fund based on assumptions for investment and capital recovery. Obviously if the rate of investment is lower more time will be required before the returns from loans will cover the investments. Similarly with the repayments. The more lenient the terms, longer grace period for example, the more time required.

Fig. 2 shows how a loan fund could operate between the National Investment Bank and the operating agency in the governorate.

At the present time several bilateral agencies other than USAID, namely those of West Germany and Japan, are discussing assistance in this area with the GOE. It would be highly desirable that all aid agencies follow a similar policy on the matter of customer service charges. This would appear quite logical since providing a capital improvement without assistance of good operation and maintenance would be a complete waste of resources. This is not a fantasy because many of the systems constructed in the past five to seven years are in a lamentable state of repair. The initial disbursement of the World Bank Loan for Beheira will be used for rehabilitation of recently constructed works.

Technology

Protection of Egypt's Water Source

The Nile River is THE source of water for Egypt. Water is taken directly from the river or the extensive canal system for treatment or from the ground along the bank or in the Delta where infiltration has formed a ground water table. This water resource is indispensable to the nation and must be protected at all costs. At the present time most of the wastes of the people and industries of the Nile Vale find their way into the river. They go directly through surface outfalls or by leaching from the soil. From the point of view of the Nile as a vital resource the pollution from human wastes, while not desirable, is the least important. Industrial wastes, a direct and normal consequence of development, are the danger, along with pesticides and increases in salinity from the extensive irrigation systems.

The control of industrial and agricultural wastes cuts across ministerial lines but, regardless of the complexities, requires serious and continuous attention. The Ministry of Health has a clear responsibility in sampling and monitoring. Control, however, will empower those ministries involved in industrial development, natural resources, and agriculture, along with the governorates in which the industries and agricultural areas are located. Specific wastes require specific treatment which will vary, and a system must be designed for each waste problem.

Treatment from Municipal or Regional Sewer Systems

There is no question relative to the need for sewerage systems to collect the liquid wastes from the community. With the concentration of population along the Nile River and its canals in the Delta there is no alternative to collection and treatment. The only question is what kind of treatment should it receive. "There are no simple solutions--only intelligent choices."(1)

Primary treatment is necessary for all wastes, and secondary treatment will be required for some. Specific guidelines are beyond the scope of this consultation but should be high on the priority list for immediate attention. Generally speaking, however, serious consideration should be given the use of oxidation ponds even though they occupy some areas useful for agriculture. The effluent from the ponds is rich in nutrients and can be used for irrigation of many crops. Imhoff tanks will solve the problem in many places. Trickling filters will provide a solution where the volumes are beyond the range of Imhoff tanks. In some places the two in sequence will solve the problem. All sludge should be dried and used for soil conditioner.

The secondary treatment options are many but the first priority is to keep it simple⁽¹⁾ and avoid high energy intensive solutions.

Filtration of Nile Water

There are a number of advances in water treatment that can significantly reduce costs. None of these is evident in any of the present design or plans for the immediate future.

The first of these is--Direct Filtration.⁽²⁾ Many plants in the U.S. and Canada are operating in this treatment mode. Essentially the method is one of adding only enough coagulant or polymer or a combination to destabilize the colloids so that subsequent filtration is the only treatment necessary. The expense of large flocculation and settling structures can be eliminated.

Furthermore, and highly important, the amount of coagulant to attain destabilization is far less than that required to form a settleable floc. The saving in plant size is an important reduction in capital required while there is a further and larger economy in reduced chemical costs which goes on for the life of the plant. Given the high cost of importing chemicals this is significant, not only for economy but also to save foreign exchange.

- (1) Harris Seidel - Wastewater Treatment Guidelines - Jordan.
- (2) F. Montanari - Civil Engineering - March 1981
- (3) Low Dosage-High Rate Direct Filtration, E. G. Wagner and H. E. Hudson, Jr., AWWA Journal.

Furthermore, the rate of filtration probably can be increased significantly over that which is now the practice in Egypt. This will reduce the cost of the filter structures.

The Nile River water and that from the main canals, which are the sources of the surface water entering treatment plants, is quite clear and the possibilities are excellent for direct filtration. The main problem is algae which cause difficulties in filters. Egypt has bituminous coal which can serve as a filter media and which handles algae much better than sand filters.

The combination of a water source apparently amenable to direct filtration along with the high cost of chemicals and the availability of coal makes it urgent to begin utilizing the direct filtration treatment.

Plant Rehabilitation

Another urgent matter is the rehabilitation of many water treatment plants in the country which are in a very poor state of repair. These should not be given the conventional repairs to put them back to their original state. Since major work needs to be done, innovation and more effective process design should be introduced. For example, old plants with good structures can be revamped to produce two or three times as much water as the original design. This is done by introducing more efficient flocculation, high rate settling, and dual media, high rate filtration. For the same investment the old plant can be rehabilitated and upgraded to produce two or three times more water of better quality. If, for example, a dual media filter with Egyptian coal can be designed, the only part of these old plants (some not so old) which will need attention is the filtration.

Water Losses

The distribution and transmission systems are also in a poor state of repair. Water losses in the system are estimated from 40% to over 60%. These are obviously intolerable. There is simply no way that any water utility can operate effectively under these conditions. Most of these losses are in the piping system. Broken and damaged pipes, valves and fittings need to be found and repaired. Operation of the treatment plant needs tightening up to reduce wastes to a minimum. The metering system needs a complete overhaul to improve quality of the manufacture and develop a maintenance and repair system which will extend the life of the meters. It should be emphasized that in all countries everywhere--meters are the best conservation measure. Wastage on the customers premises is cut to a minimum when he must pay for it. Meters are expensive but they pay for themselves, if rates are high enough on interest.

Pressure Problems

All reports on the water systems emphasize the water losses but little is said of pressures. Since a very large investment has been made in the piping system, the capacity is vital to its function. Undoubtedly it has lost some of its capacity due to corrosion or deposition on the pipe walls. The extent of loss of flow capacity needs to be determined. If it is an important factor possibly cleaning and lining may be economical. Otherwise, a system of reinforcement will be needed. This can only be determined after careful hydraulic studies and testing.

Solid Wastes

Solid waste collection and disposal is described in the Phase I report (WASH Field Report #33). The problem in the large cities is much more acute than in the smaller towns and rural areas.

In view of the urgent need for improving agricultural production, composting of solid wastes to produce soil conditioner might be an economical method of disposal. It should be given thorough investigation.

In a country where manpower costs are low, like Egypt, a labor intensive operation like composting has a chance of succeeding. A good example is already here. About 50% of Cairo solid waste is collected by private individuals called "zabaleen." They take the waste to an area near the city landfill where they separate the valuable waste from that which goes to the disposal area. This includes glass, bottles, metals, flatware, plastics and anything

they can sell. The organic portion is fed to animals and the rest is carried to the landfill. These people receive money from the houseowner or occupant for removing the garbage, recover money from the saleable items, and eat or sell the animals which feed off the garbage. It is a profitable business for them.

Training

If the ARE should resolve to undertake a major program in improving water and sewer services an indispensable component will be training. This would cover all facets of water and sewer systems from design and planning to their operation and maintenance. It would cover not only technical aspects but managerial as well.

Most of the training would be done in the country. For those categories with large numbers of personnel, it might be best to establish one or more training centers. Those would include junior administration, meter repair, pipe system maintenance, house connections, sewer cleaning, etc. Every system both large and small has these categories. Obviously there needs to be training for senior personnel as well, but this might best be done in regular short courses put on at one or more locations throughout the country.

This whole matter should be the subject of a special study in phase with the development of the netire water and sewer program. Many international organizations might be involved along with the Egyptian agencies. These include the World Bank, WHO, USAID and other bilateral programs. The World Bank is presently cooperating with the national water and sewerage agency in developing a training center in Beheira Governorate to be followed by five more throughout the country.

Both the operating and financial agencies of the ARE would have a keen interest in training since their success depends on the systems providing good service.

Experience at AID and its predecessor agencies in Latin America can be useful in Egypt. In the early years in that area, a heavy commitment was made to training sanitary engineers in U.S. universities. In later years, many of these men surfaced in key positions to make very important contributions to the success of national sanitation programs. It could be profitable to follow a similar pattern in Egypt. It might be possible to develop special concentrated courses at a specific institution for Egyptian engineers, focused on Egyptian problems.

Latin America, especially Brazil, would be a good area for Egyptian personnel to see problem solutions more related to them and their situation. Many states in Brazil stated out 10 to 12 years ago to develop a water and sewer program. They are now over the first hurdle and developing some maturity. The problems and agonies of the beginning are still vivid however and would be useful for Egyptians to know. At the national level the Brazilian Housing Bank has been financing state programs for more than 10 years. More than 3,000 projects have been included in 22 state programs. This would be a good stop for any Egyptian offician who might become engaged in a similar work here.

Recommendations

1. That USAID assist the ARE in initiating a major program to provide water and sewer service to the general population. While this is a long-term program the important (early) beginning can establish patterns of operation which will carry on after major USAID assistance stops. Any participation however should be dependent on the ARE willingness to change its approach to the matter of financing and consumer services charges, as discussed in this report. The level of USAID financial participation would depend on negotiations with the ARE but should be substantial. The first five years would be crucial for the major investment, with a committment of an additional five depending on performance.

2. That the ARE shows no interest in implementing a program recommended in #1, no further committments should be made in the water and sewer area.

3. That USAID promote the transfer of appropriate technology (simple and economical design) in three areas where there is excellent opportunity to attain significant economies in both capital and in operating costs:

- 1 - Rehabilitation and upgrading of existing water treatment plants;
- 2 - Direct filtration in the treatment of Nile River water, using Egyptian coal as a filter media; and
- 3 - Simple primary treatment of sewage by means of Imhoff tanks, trickling filters, oxidation ponds or some combination of these methods.

These can be promoted through seminars, short courses in the country, and observation visits abroad.

Fig. 1

Population Trends and Provision
of Water Supply Service

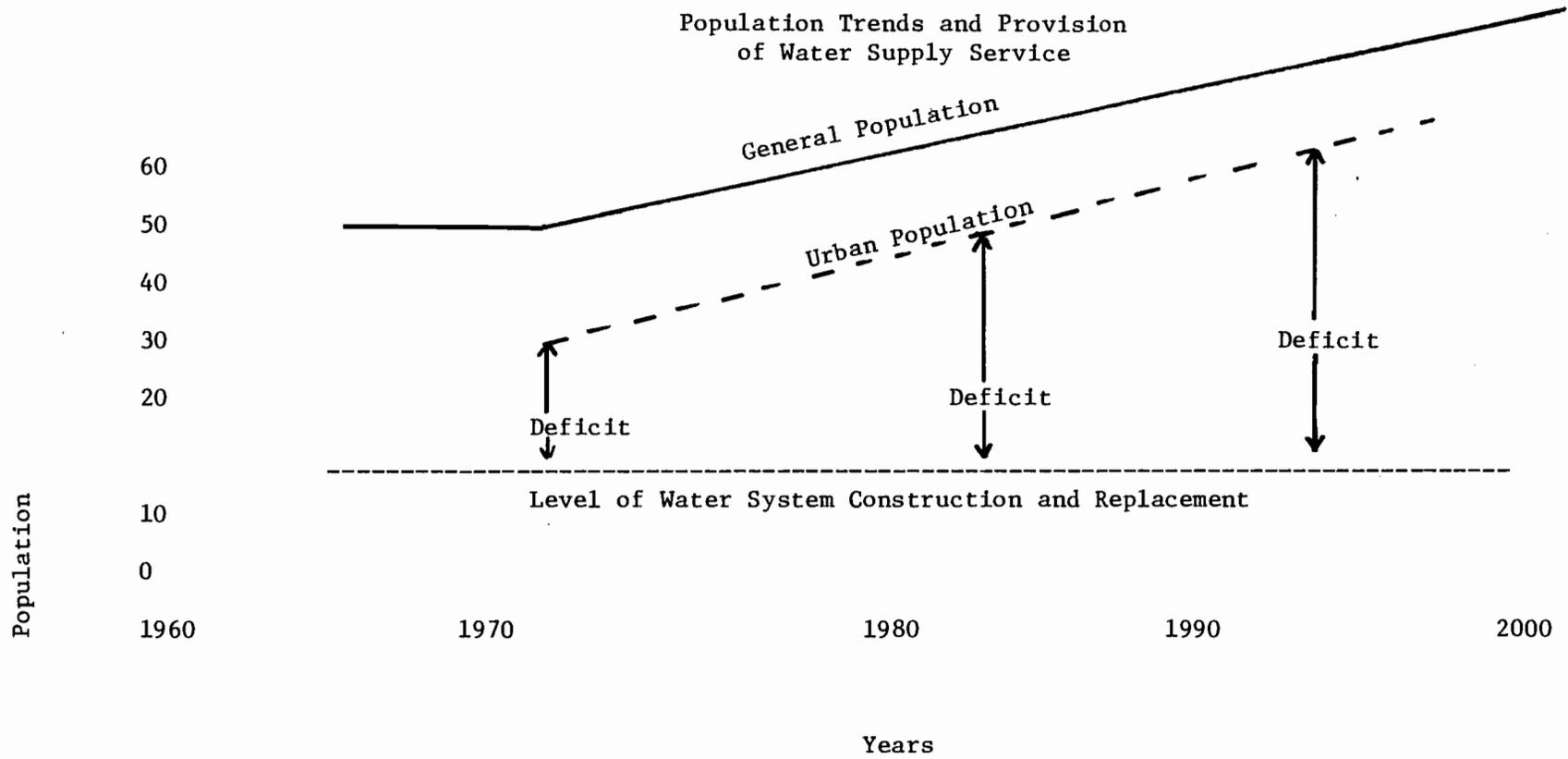


Fig. 2

Revolving Loan Fund

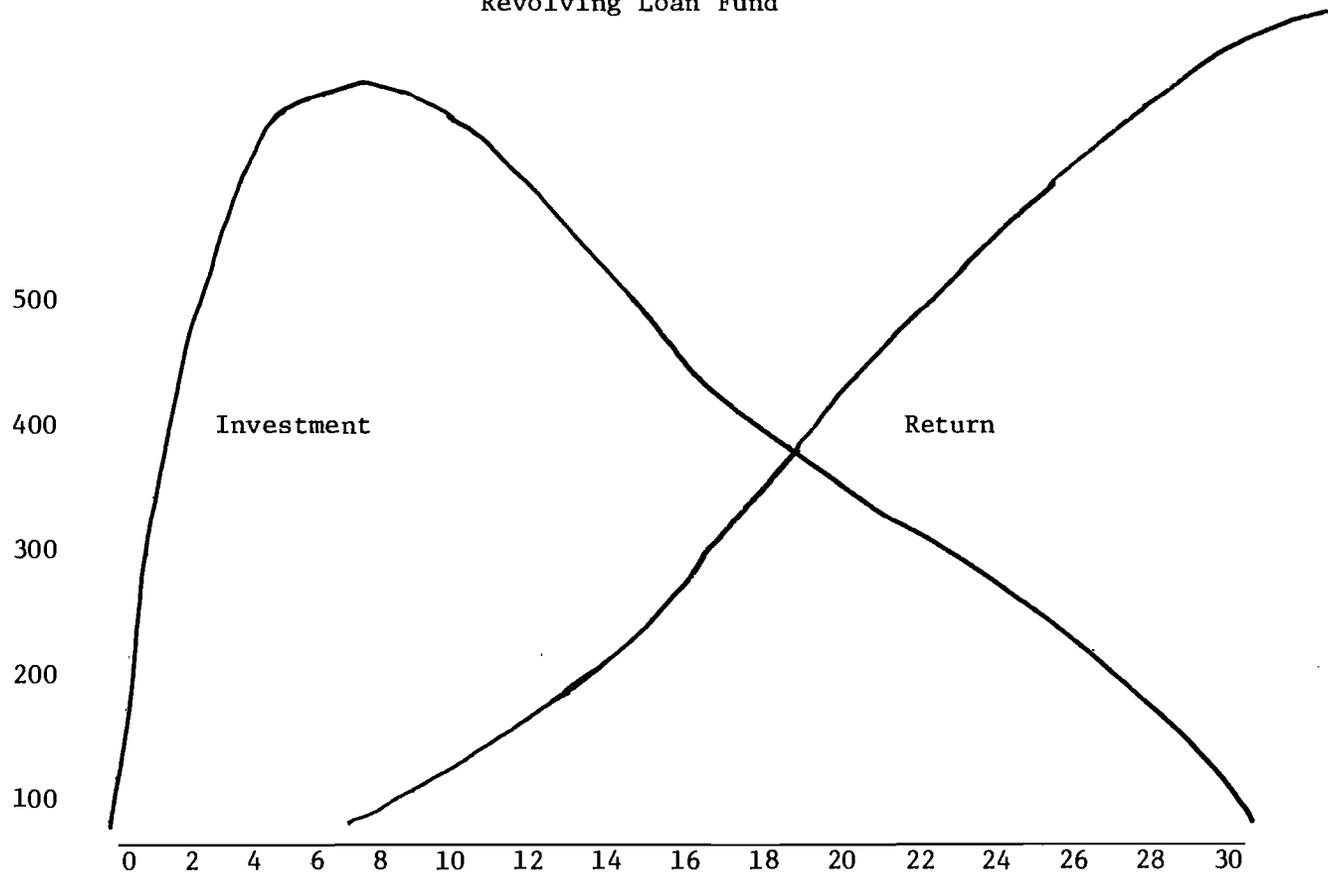
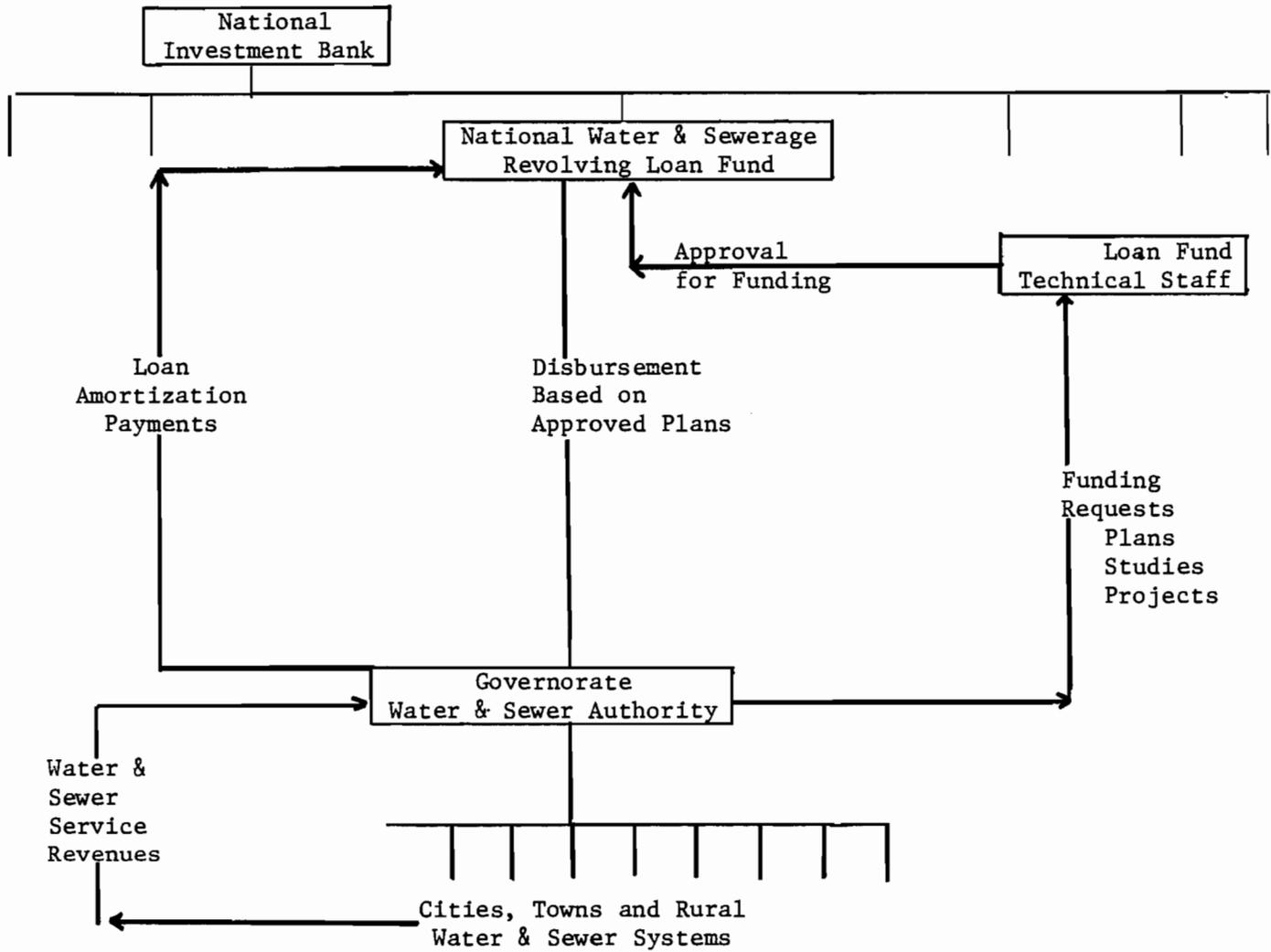


Fig. 3

National Water and Sewerage Development Program
Flow of Funds



COMMENTARY ON RESEARCH

Michael Katz, M.D.
Chairman, Department of Pediatrics
Columbia University

Introduction

It seems hardly necessary to argue the case of science, or to justify the need for supporting research. Yet at times of crises, in an era when budgetary restrictions become severe, science often is accorded a secondary position. When one fights for survival -- it would seem -- one cannot afford to explore the universe.

Such a view cannot be considered anything but shortsighted! Indeed a case for the contrary can readily be made. When there is distress, when resources are strained, when suffering must be alleviated, the need for innovative solutions becomes paramount. The old adage that necessity is mother of invention in fact recognizes that it is need that fosters research.

The reason that research has had "bad press" is that it is inherently inefficient, because it requires exploration of blind alleys before the right path is ultimately found. This sometimes gives the appearance of waste. Moreover, inventive thought does not necessarily follow a line of reasoning directly related to the problem at hand. Things discovered may not always be the ones a scientist has set out to find.

In this context it is unhelpful to attempt distinctions between applied and basic research. The borders between them are blurred and continually traversed in both directions.

A case in point, illustrating importance of research -- untargetted and without priorities set in advance -- its application to serious practical problems, and its basic nature, is the history of oral rehydration therapy (ORT).

It began with studies of permeability of colloidal membranes in vitro, more than one hundred years ago. It can be traced through these elegant studies of molecules passing inert membranes to the studies -- half a century later -- of frog skin suspended in vitro.

All of these laboratory investigations eventually resulted in our understanding of the mechanisms governing oral rehydration. We now know that the process is energy dependent and hence requires sugar; we know what the right mixture of

electrolytes should be; and we know the right concentration. Thus, so-called basic research resulted in the most useful measure that prevents mass deaths. In reciprocity, practical -- applied, if you will -- research with the ORT has taught us much about human gastrointestinal physiology through observations that had they been conducted for their own sake -- would have been labelled "basic research".

Comments and Recommendations

Biomedical and health services research carried out in Egypt has ranged through the whole gamut of subjects. Indeed a list of research projects currently extant in Egypt could just as well describe the activities almost anywhere else, including the United States. At least, this is what appears on the surface when one scrutinizes reports relating to biomedical research supported by US funds, an activity now consuming some six to eight million dollars annually. In view of the recent increases of expenditures in research relating to the pharmaceutical industry and to social sciences, this amount is likely to rise substantially. What is missing from these reports of the intent is reports of successes, or -- at least -- progress.

Of particular note is the custom of helping Egyptian scientists in developing applications and in making contact with US scientists in relevant fields. Although this is a useful activity, the practical outcome of it has been that the grant applications have been written, in the main, by the American counterparts and the Egyptians have not learned the process of preparing a scientific proposal. Moreover the system, heretofore, has not been coupled with a periodic critical supervision of progress. Such supervision as has existed has been largely limited to assessments by the US counterpart scientists, who have themselves been involved in the projects being evaluated.

Although those grants that have been submitted through the regular channels of the NIH have apparently undergone the customary evaluations, the other projects -- by far the majority -- have not. The Joint Working Group (JWG), which includes a few US scientists, reviews applications of US-sponsored projects. However the JWG has many functions of a nature larger than the detailed review of specific proposals. The JWG cannot be expected to act as a primary reviewer.

It can be anticipated that there will be a reduction in the available funds, because there are no more counterpart monies and because the NIH extramural programs are being severely compromised by budgetary cuts. Yet the need for research support continues.

There are many health problems in Egypt that demand research, without which they cannot be solved. Among them one can list, on the biomedical side, schistosomiasis, tuberculosis, malnutrition, and problems relating to the application of vaccines. On the side of health services research, there is need to develop a body of retrievable data relating to the organization, delivery, and financing of health care and about the manpower available for health care.

Moreover there is a need to provide an opportunity for the brightest and the best of the young people to have an experience of engaging in a meaningful exploration of science. These people will form the cadre of Egypt's scientists of the next generation. Although technology available may not serve this need completely, an opportunity provided can offer a beginning for such people who could then proceed abroad to complete their training in technologically more advanced laboratories and become independent investigators.

Thus there is need for training scientists. This may require special provisions, beginning early in the educational scheme, progressing through the universities and eventually -- at least for some foreseeable future -- leading to a period of a fellowship abroad that must be no less than two years.

In general, a matrix for research can be proposed. The woof of it is universal; the warp idiosyncratic to Egypt. Accordingly projects can be considered to fall into the following categories:

- A. Projects that are innovative and open new fields
- B. Projects that confirm original important findings
- C. Projects that expand a base of established knowledge
- D. Projects that duplicate -- unnecessarily, or in an insignificant manner -- knowledge already established.
- I. Projects that can be carried out only in Egypt
- II. Projects that can be done better in Egypt than elsewhere
- III. Projects that can be done in Egypt or elsewhere with equal success
- IV. Projects that can be done elsewhere with better success
- V. Projects that have little chance of success in Egypt.

Guidelines will have to be developed on the basis of these criteria for an initial assessment of the proposed research projects. Projects that are acceptable after such a review will then have to be judged on the basis of other criteria such as economic feasibility, priority in the sense of national need, etc.

The anticipated stricture of funds must be used constructively to devise a system of evaluation of new projects and monitoring of the ones in progress that will assure quality of scientific effort. Currently AID is potentially in the unique position of being the major provider of US funds that could be used for research. It ought to exploit this opportunity to the fullest by providing a mechanism for a fair scrutiny of the projects. The process could be coordinated by the JWG cooperating with the National Academy. At the same time help should be requested from US agencies such as NIH and CDC, as well as from individual US scientists at the universities, for objective reviews of the proposals. Such reviews could be conducted by mail. In addition, Egyptian scientists should be invited to take part in such reviews. The reviewing body could be required to report to the JWG, which would have the essential function of setting priorities and assessing trends, somewhat analogously to the functions performed by the NIH councils.

It is of interest that the Multi-Sector Science and Technology Project Paper, 363-0140 proposes an objective review. We should encourage that.

NOTES ON NUTRITION

Michael Katz, M.D.

Problem

The 1978 survey of the nutritional status of Egyptian children, conducted by the CDC and GOE, established prevalence of PCM in nine geographical areas, examining data obtained from 11,677 children. The standard of comparison used was US growth curves. On this basis, the surveyors noted stunting in an average of 21% of children, with the prevalence being somewhat higher in upper Egypt than in the urban areas. By extrapolation, about a million children are stunted in Egypt.

Wasting, on the other hand, was noted in only 0.6% of children. (Incidentally 3% of children were noted to be overweight.)

Anemia, with Hgb level of 11 gm% being the acceptable lower limit of normality, was noted in 38% of children. However, these data were derived from a sample of only 1900 children and therefore they may not be reliable.

In 1980, the same team of surveyors proceeded to examine the areas previously surveyed and found very little difference. Although there was some definite variation from the previous data, the changes were minor. For example, there was a little less stunting, the change being accounted for by some increase in the mean height of the children, but a little more wasting. Thus one might be tempted to conclude -- as the surveyors cautiously did -- that the short term problems increased as the long term problems diminished. A cold look at those numbers would suggest that the conclusion of variance was not justified.

In 1980 an MIT team also conducted a survey and found that only 40% of children did not have some growth failure, with 5% being in the 3rd degree of malnutrition on the Gomez scale. According to their analysis ht/age comparison revealed 40% of children being stunted, with 20% being seriously stunted. Wt/ht comparison revealed 6% to be acutely malnourished. Using Waterlow's criteria applied to the same data, they concluded that 39% of the children were stunted, 4% were wasted, and 1% were both stunted and wasted.

Other relevant studies have revealed that adults take in about 2500 kcal/day. 90% of calories are accounted for by plant sources, with grain being the major component. Average intake of protein is 79 g/d.

Deficiency of trace elements and minor deficiencies of other nutrients have been suggested to exist in pregnant women, but there are no data relating to this matter.

Food supplementation programs have not generally worked well, because they tended to provide supplements in single pulses, instead of distributing them on daily basis. At times of food shortages supplementation did not always reach the targeted populations.

Evidence

The above surveys point to the existence of malnutrition. There are perhaps insufficient number of data to offer a precise definition of the problem. Particularly important would be search for subtle effects of malnutrition. These would be expressed in small degrees of failure of host defense, in intellectual impairment, minor growth retardation, and impaired work performance.

Approach

Two types of effort seem appropriate. On the assumption that information already available points to existence of clinically important malnutrition, one should target rehabilitative programs. An inventive approach to food supplementation should be developed that would be directed to pre-school children and that would continue in the form of school lunches. Unless the former is established effectively, the latter will come too late to do much good.

The other effort would be to evaluate small defined populations for presence of subtle signs of malnutrition.

Potential Contribution of AID

Any studies of malnutrition may be effective if they are well designed and executed. However, their potential yield of information applicable beyond the immediate region would be very low. Provision of well-executed food supplementation programs, targeted to pre-school children, would seem to demand the highest priority.

Related Issues

All issues of health as pertaining to children relate to this.

Complications

Getting bogged down with definitions, norms, and food values.

HEALTH ACTION OPTIONS

Stephen C. Joseph, M.D., M.P.H.
Chief Pediatrician
Grenfell Regional Health Services
St. Anthony, New Foundland, Canada

The discussion that follows examines a series of options for program activities in the health sector. These have been chosen either as activities which are likely to have a significant impact on improving health status or as activities in which the GOE has shown interest in collaboration with AID. This list is not intended to be exhaustive; the items are not mutually exclusive, and there is overlap among several items. Nevertheless, the range of health action options described covers the broad range of public health and primary clinical care activities. It emphasizes activities that appear to have relevance for the Egyptian context, and which might be included in any blueprint for public health practice.

Other sections of this report deal with analysis and recommendations concerning systemic issues of the Egyptian health sector, such as financing, the organization and delivery of health services, and the training and utilization of health manpower. Other major factors that need to be considered in the analysis of any health system include the attitudes and behaviors of the society under consideration, and the political appeal (or lack of appeal) of measures under consideration.

Thus, the report faces the problem of needing to merge two dimensions of discussion: the systemic and the health program elements. In this section, the emphasis is on the health program elements. However, the integral relationship between the two dimensions must be kept in mind.

In this section, the health action options presented are framed largely in the context of services provided by the traditional public sector, i.e., the Ministry of Health (MOH). The reader will note that other sections of the report, particularly those dealing with the "systemic" issues of the health sector, are aimed more directly at the non-MOH public sector and at the private sectors (e.g., the Health Insurance Organization, the Curative Care Organization, the private medical sector, etc.). The reason for the emphasis on the MOH

in this section of the report has to do with the twin facts that 1) the preventive and public health services that form the bulk of the options chosen for discussion are, and are likely to be for the foreseeable future, largely within the domain of the MOH, and 2) the populations most in need and potentially most affected by these services are the rural and urban poor, who are also most likely to be reached by MOH services, at least over the 5-10 year horizon of this report.

Our Phase II report notes the trend in Egypt for the shifting of personal health services away from the "free" MOH towards the other providers mentioned above. It must be remembered, however, that the two parts of the health system (MOH vs. all other providers) are linked and interdependent. The major problems of quality (both effectiveness and efficiency) have common roots in the manpower training system which feeds both. Shift of population from the MOH to other elements of the health care system without attention to these quality issues would only displace, rather than solve, many of the problems. It is important to be wary of a too-facile acceptance of the HIO or the "private sector" as a panacea for addressing the efficiency and effectiveness problems of Egyptian health care.

The thrust of the options presented below is that of targeted options, i.e., of categorical or content-area focused activities rather than of broad health services support. In large part this is because the Phase II team felt that the systemic and qualitative problems of the health system (and of the MOH services in particular) are such that categorically-focused activities, with attempts at stringent quality improvement, were more likely to be successful in Egypt than broad "strengthening of health services" approaches, and that, reciprocally, improvements in the focused areas recommended would themselves be a real contribution and stimulus to the more general improvement of health services in their broader context. This statement should not be taken as a rejection of the value of past and current AID investment in the Rural and Urban Health Services Strengthening Projects; our feeling is that these, especially the Rural project, serve useful purposes. In particular, the Rural project's apparent demonstration of the feasibility of effective outreach work from the health units, and what seems to be a major impact of acceptance of oral rehydration (due, among other factors, to this project's activities), are noteworthy, if preliminary, achievements. It is our feeling that support for these projects should be continued through the original schedule, but that future AID health program support over the next five years should tend towards the more categorical approach presented in the following pages.

As a final note before turning to a discussion of the individual options, the reader should keep in mind that, though we are stressing MOH-linked options, we propose a new and broader coalition approach at the end of the options discussion. To briefly outline this approach in advance, it involves a coalition of MOH, university, and private sector expertise in the support of the health campaigns described below.

The following analysis of each health action option has been based upon a consideration of a number of elements, including:

Option: The specific health program or activity.

Evidence: A few of the main indicators that highlight the importance of the activity, or the health problem that it represents. This report will not attempt to restate the wealth of material and detail that can be found in the Phase I papers and in the concurrent Population Sector Assessment; these can be consulted by the reader who is interested in more than the summary information given in this section of the Phase II report.

Approach: A program approach to the option was suggested, or several alternative approaches explored. The perspective here is that of the Egyptian health sector (public and private), and should not be confused with the more limited question of AID's potential involvement (see two following items).

Constraints: Major obstacles to the achievement of the option, whether financial, social, political, etc.

Potential Contributions of USAID: This segment of the option analysis concerned the role that AID might meaningfully play, if any, in assisting the GOE in pursuing the option under consideration.

Related Issues: Important links with other options or constraints were noted.

Option: Water and Sanitation ... To provide major improvements in water supply and sanitation for urban and rural populations.

Option: Immunization ... To undertake both mass campaigns and sustained efforts to cover 80-90% of susceptibles with effective protection against diphtheria, whooping cough, tetanus, polio, and measles. Very possibly, MMR vaccine should be employed, to give coverage against mumps and rubella as well as against measles. The Phase II team does not know enough of the Egyptian epidemiology of these other two diseases to make a firm recommendation on this score.

There is ample evidence that morbidity and mortality from diseases susceptible to prevention by immunization remain high in Egypt. Included among this evidence is discussion in the Phase I report (especially Dr. Al Buck), persistent high infant and early childhood mortality, and direct clinical observation by Phase II team members.

Egyptian health authorities point out that DPT and polio immunization is "compulsory" for infants, but the existing program obviously has its shortcomings. There seems to be no organized program of follow-up or surveillance, nor any organized protection via tetanus immunization of pregnant women (one injection in final trimester offers full protection against neonatal tetanus, a significant cause of infant mortality in Egypt). Careful control of timing of immunization appears lacking, and logistic problems abound (i.e., refrigeration of heat-labile vaccines; use of sterilized or disposable equipment, etc.). The Egyptian health system places little or no emphasis on outreach or home visiting, which could increase immunization rates significantly.

Though there is some disagreement as to the actual contribution of measles to early childhood mortality in Egypt, we feel that, given significant rates of second degree malnutrition, the contribution of measles to early childhood mortality is probably substantial. Measles is clearly a major cause of significant morbidity. A program that ensured immunization at proper ages, with active vaccine, would have a most significant impact upon measles, as it would upon polio, pertussis, and tetanus. One other major advantage of the "immunization option" is that an effective and efficient program in place could be a springboard for two other vaccines likely to become available within the next 10 years -- rotavirus (principal cause of childhood diarrhea -- perhaps 60% of cases in Egypt) and infectious hepatitis (a major disease of Egypt).

A major step-up in immunization programs in Egypt would be consistent with the World Health Organization goal of providing immunization protection to all the world's children by 1990.

Since significant resources are now invested in less-than-optimal immunization activities in Egypt, the financing problems posed by this option are not overwhelming. Similarly, the organization and delivery and manpower changes are more moderate than for other options, though the stress on case-finding, outreach, and proper technical and logistic discipline would require significant alteration of attitudes and behavior among both professionals and the general community.

The proposed approach to be followed with this option is to mount both mass campaigns and sustained immunization activities, delivered through all available health services and

facilities, though the major direct programmatic responsibility would fall under the MOH. There would need to be significant training and supervision improvements in immunization-associated services in such areas as outreach, surveillance, logistics and cold chain, immunization technique, and health information and record-keeping systems. A high-quality immunization emphasis might well provide a base from which to build an improved health information and epidemiologic system within Egypt.

The proposed health impact of this action option is extremely high, lying behind only water/sanitation and family planning. The benefit/cost ratio may be highest of all, at least in the short term. The feasibility of AID involvement is very high, both in terms of financial support and the availability of technical assistance through the Centers for Disease Control, which could facilitate the linkage with the building of epidemiologic capacity in Egypt. Technical assistance from an institution such as the CDC could be sought not only for operational support for the immunization (and other campaigns---see below) program, but also for the development of improved health information and disease-reporting systems.

Constraints to this option are the ones common to all options under consideration, namely the qualitative ability of manpower and managerial resources to carry out the program substantively. These constraints are probably relatively low for this option compared with the others under consideration. (Please refer to the section following the two succeeding options for a discussion of the combined proposal for three categorical campaigns: immunization, family planning, and oral rehydration. Efforts in all these areas are, of course, already underway in Egypt; the proposed options represent a major qualitative and quantitative step-up.)

Option: Family Planning Services...This activity is discussed here primarily because of its overwhelming importance to health and development in Egypt. A proposed option target might be set at a contraceptive prevalence of 50% or more of sexually-active couples within the next 5 years. This would represent an approximate doubling of current national prevalence, and an ambitious objective, but there are a number of current signs that should encourage boldness.

AID/Egypt has recently done a sector assessment in the population area. We will not repeat the data and arguments of that analysis except to underscore the highest priority that we give to work in this field for both health and development objectives.

There is recent evidence of heightened commitment to family planning programs on the part of the GOE (CF statements by President Mobarak and Minister of Health Zaki). Both this commitment and rumors of the development of a new High Council for Population as a coordinating body for interministerial efforts are encouraging, especially in light of the significant constraints posed by community and (some) persistent professional resistance and/or disinterest.

Our proposed option here, not spelled out in detail, is that AID continue vigorous support of the Egyptian family planning program, using all available channels of program action, on both the demand-creation and supply side. Activities should not be limited to the MOH or the health sector at large, though this sector forms an important part of the delivery system, along with the Ministry of Social Affairs, the PDP Program, and the private sector (including physicians and pharmacists). In general, we support the recommendations of the Population Sector report. We do not, however, agree with the Population Sector Assessment's proposal of giving contraceptive supplies at no cost to provider individuals or organizations and then having them keep the proceeds of sales to patients or clients, as a feasible system of incentives. Our expectation is that such a system is too open to financial and administrative abuse to be effective.

We especially endorse the Population Sector Assessment's stress on the need for expanded general education, especially of females.

We would recommend, in addition, the very important need for the MOH to issue standards and procedures concerning the technical/medical aspects of contraceptive services and to assure training and supervision of health service personnel in these matters. In Egypt, it has been and will remain the personnel of the MOH who provide the largest bulk of contraceptive services; they require effective back-up and supervision from the Ministry.

We see the feasibility of AID support here as very high; this option takes the highest priority among our recommendations for health action options.

Option: Maternal and Child Primary Health Services...By this option we mean the spectrum of public health and clinical services that would have significant impact in decreasing morbidity and mortality among mothers, infants, and young children. Two important aspects of these services, immunization and family planning, have already been discussed. As stated in the early pages of this section of the report, our recommendations are tending away from AID support of projects

designed to develop or strengthen broad primary health care systems; though we believe that this ought to be, ultimately, the highest priority of the Egyptian health care system, we feel, as described earlier, that the most appropriate and effective way for AID to support this future development at present in Egypt is via a more focused approach. Therefore, we are not recommending AID support on a broad front, but rather through several focused high-impact categorical areas. This should not be construed, however, as any effort to dissuade the GOE from doing all that it can to improve and extend its primary health care services, whether delivered via the MOH, other public sector, or private sector.

The link between early childhood mortality and morbidity and undernutrition is important in Egypt, though the degree and prevalence of protein-energy malnutrition is not so extreme as in many other developing countries. The Phase II team has not studied in depth the various food subsidy and feeding programs in place in Egypt, and makes no recommendations at this time for health/nutrition programs for AID support, except that any nutrition-related research proposed for AID funding (see Research section of this report) be operationally and action-oriented, rather than nutrition surveys or food-value studies. A short appendix on nutrition is attached to this section of the report. (NB attach M. Katz nutrition paper).

An important note should be entered here with regard to breast feeding. Egypt is, fortunately, a country that is dependent upon breast milk for infant nutrition. The child health and survival benefits of breast feeding are accompanied by the important contribution that lactation makes to reduced fertility among Egyptian women, most of whom do not have access to other forms of contraception. The GOE should make every effort within its health policy and health services to maintain breast feeding at as high a prevalence as possible. A significant drop in breast feeding in Egypt, particularly among the rural and urban poor, would have grievous consequences with regard to increased child mortality and with regard to an increased fertility rate.

Within the broad area of Maternal and Child Primary Health Services, we have selected another area for recommendation as a focused campaign-type option for emphasis. This is the area of oral therapy of diarrhea. It is selected because of its potential very high impact on a (the) major disease problem of Egypt, and because of the efforts already rather successfully underway by the GOE, with AID support.

As will be described in more detail below, we are proposing three topics for campaign-type emphasis: immunization, family planning, and oral rehydration. These three program areas, if successfully implemented, would make a major contribution to health in Egypt. They could build a strong base for the qualitative and quantitative improvement for broader-based primary care efforts. They are areas that are already given high priority by the Egyptian government. They are areas in which various AID-related US institutions have significant experience and expertise to offer. They are areas in which major improvements can be achieved at relatively moderate costs.

Reinforcing our proposed option is the belief that these focused campaign efforts can be utilized for an important secondary objective as well, the objective of increased cooperation and coordination between various segments of the Egyptian health sector. In particular, we propose that a program of campaigns aimed at immunization, family planning, and oral rehydration involve an advisory and monitoring structure(s) that brings together high-level personnel of the MOH, the University system, and the private sector (Medical Syndicate). These groups are all necessary for purposes of effective planning, training, operation and evaluation of the proposed campaigns, and for extension of achievements to other topics of public health and clinical significance.

The forms taken by such coalitions could be diverse, ranging from central planning and oversight committees to cooperative efforts of training and service provision in the field. We feel that the latter type of arrangements are likely to be more important, and would urge as much stress as possible on the development of functional relationships (in research, training, and/or service) at the local service delivery level, with a clear definition of the operating role each of the parties would play. The coalition process should be more than a discussion or planning process; it should have many of the elements of a contractual relationship, with each party having clearly-defined responsibilities. AID should be willing to finance the small costs needed to bring inter-institutional collaboration about.

Option: Health Education and Health Promotion...In any society such as Egypt, where the combination of scarce resources, massive burdens of classical public health problems, and widespread clinical demands exist, it is obvious that health-promoting behaviour stimulated by mass media promotion and health education through all available institutions can be very cost-effectively productive, if it is successful. Unfortunately, in all societies the health sector is not very often rewarded with resounding success for efforts in this domain. Analyzing the potential for program options in this

area is made very much more difficult when one is dealing across complex cultural and linguistic barriers. However, the potential power of this form of health action in Egypt should not be discounted. At the very least, AID should support strong inclusion of this area of action within all the action options it undertakes from the list in this report, or any others under consideration. Public information and education is particularly important in the three campaigns proposed in the discussion on the foregoing pages.

Further, we are suggesting that AID consider modest research and development support in the area of health education and health promotion, allied with school health, as discussed under the option below.

Beyond these general remarks, and with a repeated alert to the potentially very high yield in this difficult area, the Phase II team, with its very limited grasp of Egyptian culture and society, hesitates to tread, except to note that as Egypt moves rapidly into even greater impact of the disease patterns of industrialized countries, the issues of health promotion via education and life style modification will continue to be of as great importance as they are in the circumstances of more traditional public health problems such as water and sanitation.

Option: School Health... School health services exist in Egypt, not only as ambulatory clinical and preventive services, but also with a network of special purpose hospitals, the necessity for which may well decrease when and as hospital facilities for children improve in Egypt, in either general or pediatric facilities. School health services in Egypt provide an important investment in the future. It is probable that, given the unmet nutritional needs of many Egyptian school-age children and the undiagnosed and untreated minor and major acute and especially chronic health problems, that the school health area is an important part of the health sector. Congruent with our recommendations' tendencies away from broad health system support at this time in Egypt, the Phase II team chooses to suggest only the area of health education and disease prevention as a possible area for AID involvement in school health. This is particularly true because of the inadequate state of sanitation at many school facilities. It might be useful for AID to consider a small research and development effort in support of health education through the Egyptian school system. If successful, this effort could be extended on a wider scale, and might provide a good learning base for health education and health promotion efforts aimed at the wider population through both mass media and via other

community institutions in addition to the schools. The team was impressed with current demonstrations being carried on by the School Health Service, in particular with the attempts to improve sanitation and hygiene in some schools, and with the health education experiments being carried out in collaboration with Dr. Charles Lewis of UCLA.

Option: Emergency Medical Services...The MOH places a high priority on the expansion and further development of Emergency Medical Services, by which is meant ambulance and air transport equipment, training of EMT personnel, and improvement of emergency/casualty reception facilities at hospitals. The JWG has in the past been involved in supporting the development of this system. Strong GOE representations have been made to the Phase II team in favor of AID support in this area. In our discussions with MOH, we were unable to unearth evidence documenting the health benefits of the system currently in place such as utilization data, morbidity or mortality reduction, etc. Though upgrading training activities were observed during our visits to the system, informal observations suggest that existing vehicles may not be intensively in use as emergency or critical care transport. We saw little evidence of a comprehensive program plan for emergency care or trauma prevention, such as traffic safety, widespread first aid training, optimal blood banking, etc.

The MOH appears to regard it necessary to operate the EMS system as a "free" service (of course it is not free; "free" in this report refers to services provided by the MOH for which the beneficiaries pay no out-of-pocket or insurance expenses). The EMS represents a system that, while politically very appealing from the GOE point of view, is an expensive, heavily-subsidized system without the capacity to generate capital or running expenses. There is no evident plan for recovery of costs for maintenance, expansion, or upgrading.

The service itself has a high response time because of traffic congestion, especially in the major cities, and to limited effective emergency departments in the clinical facilities.

Though the data is not currently available, it seems unlikely that the EMS system as currently constituted provides for more than marginal reductions in morbidity or mortality reduction, at very high unit cost of investment and operation. It is possible that a more comprehensively conceived and modestly equipped EMS might be a useful part of the MOH system. Strong consideration should be given by the GOE to some method for financing investment and recurrent costs.

We do not believe that further AID investment in the EMS system as currently requested is appropriate.

Option: Acute and Chronic Disease Treatment and Control... It should be clear to the reader by now that the Phase II team is unlikely to recommend for consideration, for near-future AID funding, diagnostic and treatment activities for the broad scope of acute and chronic, infectious and non-infectious diseases that flow through the public and private clinical health services, with the exception of the three campaign initiatives described at the outset of these action options. Nevertheless, it seems useful here to briefly discuss a few of the other major morbidity/mortality producing conditions, because some of them may offer appropriate areas for support given possible future developments, some will need to be considered if and when AID is involved in broader health services support, and some have important impacts on more general development questions.

Tuberculosis: Remains a very major public health and clinical problem in Egypt. BCG vaccination in early infancy is a compulsory health measure in Egypt, but it is unclear what percentage of infants are actually vaccinated. It is also unclear (based on recent studies in India) whether BCG vaccination is effective in reducing the incidence of the disease in the population. A well-controlled research study of this question in Egypt could yield real benefits and perhaps significant cost savings to the MOH.

Schistosomiasis: This is another situation where a potential medical advance now on the horizon may make it possible to rapidly increase health benefits by appropriate AID support. Current drug trials give strong evidence that a single-dose drug of relatively low toxicity may soon be available. Cost is currently more than one dollar per dose, but this could fall rapidly if widespread applicability in the tropical world proves feasible. AID should watch this situation closely because of the importance of this disease in Egypt.

Infectious Hepatitis: Though probably over-diagnosed, this entity is clearly a very major health problem in Egypt. Its control is, of course, closely dependent on improvements in water supplies and sanitation. A vaccine could well become available in the next several years; as stated earlier (and as analogous to rotavirus gastroenteritis), the on-line availability of an effectively immunization structure in Egypt could pave the way for a relatively low-cost and rapid set of major health benefits.

Typhoid and Paratyphoid Fevers and other Bacterial Gastrointestinal Infections: These bear a similar dependent relationship to the water-and-health issues in Egypt, though they are not susceptible to control by vaccination alone.

Environmental and Occupational Health: The Phase II team did not have the opportunity to delve deeply into this area, beyond the water and sanitation issues. It is clear that there are already health problems of major magnitude in Egypt in the environmental, industrial, and occupational areas and that these problems will grow rapidly in the years ahead. Examples here are (foremost) pesticide toxicity (acute and chronic) and health problems of pollution (water, air, noise, etc.). It might be judicious for AID to consider, in the near future, a comprehensive assessment for its own and the GOE's use of needs and program opportunities in the environmental health area.

HEALTH MANPOWER

Stephen C. Joseph, M.D.

The Phase II team pursued questions of health manpower principally in terms of physician-related issues. While, in the discussion that follows, issues related to other health professionals are discussed briefly, a more appropriate title for this section might be "medical manpower." The team is, of course, fully aware of the importance of other professionals in the health sector, but chose to concentrate on physician-based issues because of the predominance of physicians (and of problems related to physicians) in the Egyptian health sector. The omissions are reflections of time and "available effort" constraints.

Numerous contemporary accounts, among them the Phase I Health Sector Assessment papers, emphasize the many and severe problems of health manpower as significant restraints on health services development in Egypt. With regard to physician manpower, these problems can be classified into two major categories: 1) inadequate quality of education, training, and performance, and 2) inadequate incentives for improvements at either the individual or institutional level, especially with regard to public sector services. Some examples of specific problems within these categories include: overcrowding of medical students and associated inadequate basic science and clinical teaching in the medical schools; inadequate clinical training at the bedside, in ambulatory care facilities, and in the public health/preventive setting -- at undergraduate, graduate, and continuing medical education levels; low standards of quality of care in clinical facilities; inadequate supervision at all professional and hierarchical levels of the health sector; ineffective management and administrative skills; compensation and other incentives which are inadequate to lead to improvements in the situation; consequent underutilization in some parts of the system (e.g., the "free care" public sector, especially in primary care units) and overutilization in some other parts (e.g., university hospital facilities) ... the list goes on and on.

The Phase II team finds itself in agreement with most of these criticisms and with other criticisms of the health manpower situation in Egypt, and in general the team feels that

the QUALITY CONSTRAINTS (both competence and motivational) create some of the most severe problems within the Egyptian health sector. We find there is little purpose in restating here in detail these generally accurate negative findings. Rather, we wish to focus our summary remarks in two major areas:

1. There are a number of positive elements and developments that are important to identify.
2. There are a number of actions that aid could take to reinforce these positive elements.

Current Positive Elements

1. The anatomy of the health sector in Egypt is such that, in contradistinction to many developing countries, the numbers and distribution of physicians do not reflect significant shortages. Indeed, a good case can be made that the physician/population ratio in Egypt is a relatively favorable one. Potential appropriate structure and function of a health system in Egypt is not handcuffed by this common constraint.

2. The great diversity of the Egyptian health sector offers, again potentially, room for flexibility in attempts to design quality-improved health services.

3. Recently-announced revisions of the medical curriculum, especially with regard to earlier and more exposure to community medicine, are another significant potential on the horizon. These efforts, of course, will require a long-term horizon for effect, and also the follow-up of the curriculum revision plans needs to be assured.

4. The new medical school at Suez Canal University, with AID support, is making an impressive effort at education which a) directly offers one model for addressing the major qualitative medical manpower problems sketched above and b) seeks to link physician training with the delivery of health services. This model, while it is experiencing all the developmental difficulties that one would expect, is also making very considerable progress. It represents a promising relationship between the University and five governorates (almost one-fifth of all the Egyptian governorates). If this experiment is successful in upgrading medical care regionally while simultaneously improving medical education, the model should be replicable and could have far-reaching implications for the rest of the country. The Suez model appears to be being watched carefully and taken very seriously by other universities and by the health service providers, both public

and private. Its potential for positive influence in the sector is judged, by the Phase II team, as very high. One may expect to see other experiments and models appearing elsewhere in Egypt in the near future; there are already somewhat analagous activities in the urban health demonstration at Cairo Univeristy and in the rural outreach efforts at Assiut University Medical School.

5. The GOE is apparently preparing to re-integrate traditional birth attendants, who perform the majority of deliveries in Egypt, into "legal" status, with a view to appropriate support/supervision of their practice.

6. The current plans by the GOE to reduce the size of the entering medical student body to approximately 3,100 annually seems to us to be highly appropriate. It will be important to accompany this reduction by qualitative improvements in education and training, and also to be careful not to overshoot on manpower reductions and lose the (potential) advantage which Egypt has in terms of its physician/population ratio.

Recommended Aid Actions

1. While the Phase II team is not recommending large new health manpower initiatives for AID funding, we are recommending that existing areas of support (especially that of Suez Canal University) be continued, and that several small new investments be considered. There are, of course, manpower considerations (training, supervision and support) involved in all the recommendations made in other sections of this report.

2. With regard to continued support of the medical education program at Suez, two areas of activity that seem to us to be of high importance and a) the general practice "Masters" -- i.e., graduate clinical training -- program and b) the attempts to develop regional combined teaching/service activities with the MOH and the private sector. Support by AID of the latter activities in particular may include the need for small sums available to the MOH to permit its personnel to participate in Suez-based meetings and related activities. We view the efforts underway at Suez and other universities to provide a Master's credential for general practitoners as a very important development, not only to raise the status of general practitioners, but also, more importantly, to provide for quality upgrading and improved standards of general practice, much as happened in the USA in the past 15 years with the development of family practice as a specialty.

3. With regard to all the options proposed in this report, whether in the area of financing, organization, or public health practice, it is important that quality assurance elements be built into whatever activities are funded by AID and that they be adequately supported. This is especially true with regard to training and supervision of health manpower, as well as with financing and organizational options. The state-of-the-art of quality assurance and upgrading is rapidly advancing and it should be adaptable to Egypt.

4. There is a major need in Egypt for expanded and improved training in management, administration, planning, and public health and epidemiologic capacity -- both centrally and at the governorate levels. The Phase II team is not sufficiently familiar with the opportunities and constraints in Egypt to recommend a specific program at this time, beyond the very important support of training related to the program options we are recommending in other sections of the report. For example, there may be institutes of management training outside the health sector which could be well-utilized. The technical staff of the AID mission may wish to follow up this line of inquiry for possible future program development.

A Note On Nursing

While the Phase II team did not perform a detailed study of the nursing situation, we offer the following summary of items that seem to use to be of special significance.

The quality issues discussed above with regard to physicians are also applicable to nursing in Egypt, and they are compounded by what has traditionally been a low status for that profession. This has led to difficulty (quantitative and qualitative) in recruitment and to low nurse/physician ratios. These status, income, education, and professional role issues regarding nursing in Egypt have their analogues in other countries, including the United States.

Recent GOE policy is evidently aimed at attempting to remedy the situation. Measures are being considered and/or underway to improve the numbers and quality of nurses. curriculum revision in the nursing schools is in its early stages. Stipends for nursing students have been raised, as have salaries, in twin attempts to improve recruitment and retention.

The MOH is undertaking an expansion of nursing roles to include some primary care functions in several demonstration projects, and the MOH reports less physician resistance than was expected. These developments should be followed carefully by AID/Egypt.

Organization and Financing
of
Health Care in Egypt

David Lawrence, M.D., M.P.H.
Vice President
Kaiser Permanente
Portland, Oregon

INTRODUCTION

The following report is prepared with USAID as its primary audience. It is based on three assumptions: (1) USAID has multiple entry points into the health sector, of which the Ministry of Health is one; (2) the USAID role in the health sector at least is to support systemic and long-term development, though the need for visible, short term products is recognized; and (3) the health sector can contribute both to the productivity of the country and to the capital formation potential of the country; it is, therefore, a productive as well as consumption sector.

As will be described in greater detail in later sections, the Egyptian health sector is complex. The private sector is growing and changing, and, moreover, is providing care to a substantial portion of the population. The quasi-private sector, which includes the private voluntary and curative care organizations, is equally vibrant and diverse. And finally, the government, primarily through the Ministries of Health and Education, finances and delivers a wide range of both curative and preventive health services. Though entry for the Phase II team into the health sector has been provided by the Ministry of Health, an argument basic to this report is that USAID should seek a variety of opportunities for involvement in the health sector in addition to the MOH itself.

The focus of USAID with regards the organization and financing of health care must be long-range and focused on fundamental systemic change. While an argument can be made for selected demonstration projects with high visibility and potential incorporation into the on-going delivery system, the very diversity of the health sector requires a longer, more comprehensive view. The challenge to USAID, of course, is to anticipate shifts in policies and politics, and to focus efforts on those areas that appear to provide the greatest long-term opportunities for growth and development of the sector as a whole.

Finally, it is assumed that in addition to the humanitarian goals of improved quality of life through decreased morbidity and mortality, improved control over reproduction, and equity in the distribution of medical and dental services, an equally compelling argument can be made for investing in the health sector as part of an economic development strategy. Not only can enhanced health sector functions contribute to improved productivity of the work force, but equally significant from a developmental perspective at least, the health sector is an industry. Capital formation, jobs, products are contributed by the sector to the industrial base of the economy. The conclusion is that judicious investment in the health sector may contribute to economic development as directly as investments in industrialization, or agriculture.

In this report, a separation has been made between what might be considered good or bad, necessary or unnecessary for the Government of Egypt on the one hand, and what might be considered sound policy for USAID on the other. It is tempting for the consultant to offer counsel across a wide range of issues, but this is not the task at hand. Except where specifically relevant to proposed USAID strategies, then, GOE policies are not evaluated (an overview of GOE health policies can be found in the Phase I report by Jeffers).

The paper is organized in two sections. First are observations about the health sector, divided into those related to public policy, those related to the private and quasi-public sectors, and those related to the Ministry of Health. Next, a general agenda for USAID is described that grows from the observations.

A final note: the report is a product of reviews of the Phase I papers, discussions with individuals in the public and private sectors, and debates within the Phase II team. No summary of data or ideas already presented in Phase I is included, the assumption being that the reader is already familiar with them. Two weeks in country, armed with a wealth of written material and a series of anecdotes about health care in Egypt creates a potentially dangerous beast whose comments and advice may be quite misdirected. Further analysis of the options must occur before they are accepted. They are intended primarily to stimulate and provoke, although they are prescriptive to a degree as well. Should they prove accurate, credit should go to those who participated in Phase I of the analysis, to those interviewed during the course of my visit, and to the collective wisdom of the Phase II team.

OBSERVATIONS ON THE HEALTH SECTOR IN EGYPT:

1. Public Policy: Culled from the extensive analysis of health policy developed by Jeffers, and corroborated during our interviews are several important public policies related to the organization and financing of health care. First and perhaps most significant is the continued position on the part of the GOE that health care is a right; those lacking the means to pay should be accorded health care "free" through the government. Combined with this imperative are diminishing proportionate allocations to the public health care systems operated by the Ministries of Health and Education. One must conclude that while the principle of free care is basic national policy, the expectation is that it will be realized with a decreasing portion of the national budget.*

*According to the data in Jeffers' Phase I paper, the GOE spent approximately 5.0% of its total budget on health care in 1976. By 1979 the figure fell to 4.0% and the estimate for 1980/1981 was 3.6%. This does not include expenditures through the Ministry of Education for health care, but one assumes that these have not increased out of proportion to the remaining expenditures in that area. (Jeffers; Health Policy Review; Phase I paper, April 1982; p. 6, Table 1.2.3.1)

A second policy, albeit implicit in the allocation levels during the past several years, and implied in statements by ministerial officials both in the MOH and elsewhere, is that the health sector is a consuming, essentially non-productive sector. There does appear to be some recognition that marginal gains in productivity may occur with improved health status, but the overriding perception of the health sector is that of a dependent, marginally contributing if not non-contributory sector in the economic development strategy of the country.

A third policy area that affects health care organization and finance is that of full employment, with the public sector being the employer of last resort. There is little reason to believe that changes are forthcoming in this area; nor does there appear to be the political will or the financial capability in the MOH to alter the weak salary and incentive structure that is a consequence of the full employment policy. There also appears to be little interest in altering the policies regarding those wishing to work abroad; and, we have heard no discussion regarding the period of payback required for physicians and other providers in order for the GOE to realize a return on its investment for professional training.

A recent and encouraging development, still in the talking stages, is the recognition that the numbers of physicians being trained is excessive, the quality of medical education has suffered, and the post-graduate training positions are insufficient in number to provide opportunities for individuals to receive further training, or to assure the public that those entering public service are qualified to serve. Both the Minister of Health and the President of the Medical Syndicate are working on the issue. It deserves careful scrutiny, because if modified it could signal important changes in post-graduate education and the quality of services available in the rural and urban public clinic system.

Finally, and perhaps most important for USAID, is the policy to expand social insurance for health care by extending coverage of the Health Insurance Organization and by encouraging the development of alternative insurance schemes. The experiment with GHIO beneficiary dependents coverage is one example; the creation of the High Council on Health Insurance another. The discussions of alternative financing schemes for extension of GHIO coverage to the rural areas already underway in the MOH are also evidence of interest.

2. The Private and Quasi-Private Systems (private physicians, other providers, the private, voluntary organizations, the curative care organizations): The situation is volatile. Although precise figures are not available, there appears to be a rapid expansion of hospital capacity in urban Cairo, at least. Moreover, the investment in high technology medicine is substantial. Physician supply is growing, yet available evidence suggests that private sector physicians' incomes continue to rise more rapidly than the rate of inflation because entry into the private sector is constrained by high initial investment costs, primarily for space. Expenditures for drugs are large, and medical drug consumption is among the highest in the world.

At the same time there are attempts to segment the market...the curative care organizations are discussing possible contractual arrangements with some employers. Similarly, the Arab Contractors Hospital medical group is experimenting with adding dependents to their coverage in what is described as the first step in developing a health insurance program to market to other employers. The Medical Professionals Investment Corporation is talking, albeit vaguely, about constructing a system of clinics and hospitals throughout the country for the "middle class".

3. Ministry of Health: The MOH is the provider of last resort for that portion of the population unable to finance care in the private sector or ineligible for employment-related or retirement-related health insurance under Laws 32 and 79. In this role, the Ministry has become increasingly trapped by escalating costs of and demands for more and better curative care capacity. Consequently, the MOH has steadily robbed its funds and talents in Public Health to feed a voracious appetite for curative care.

As noted earlier, while the absolute budgetary allocations to the MOH have risen somewhat over the past five years, their value relative to inflation and other sectors has diminished. The consequences of chronic underfunding run deeply through the entire system: hospitals and clinics are in disrepair; equipment is often outdated, inadequate or unusable; new construction is stalled; and program innovations cannot be financed. Finally, with some notable exceptions to be sure, the delivery system itself is seriously compromised...salaries are low; loyalties are divided between the MOH and private practice; services are restricted by supply and equipment availability, as well as by the training of the providers; many services are under-utilized; time spent with patients is limited; the predominant treatment is multiple drugs; medical diagnosis is superficial; and medical records are poor to non-existent. Similar to many large bureaucracies, the MOH is ponderous, slow to change. There is little evidence that major changes in the delivery of health care are produced or led by the MOH; it is in essence the conservative, reactionary element in the health sector.

Two bright spots in health care delivery and finance with the MOH deserve mention: substantial coverage of the country by the clinics and hospitals has been provided, representing an important skeleton on which to build. Also important is the continuing effort to address the delivery of services to various populations through the Health Insurance Organization thereby freeing the MOH from a large part of its curative care burden. As noted, there continues to be considerable interest in exploring financing schemes, bringing new populations into the HIO, and developing alternative insurance programs to the HIO. But the HIO is not a healthy organization.

Although created as an economic authority under Egyptian law, the HIO is a creature of the public sector and the MOH. Even as discussions occur concerning the development of financing mechanisms for expanded coverage, there is concern among HIO leaders that coverage will be expanded by political mandate to groups for whom financing may be inadequate if not entirely lacking. The HIO runs the very serious risk of becoming the guarantor of care delivery for an increasingly poor population without the financial wherewithall to maintain current levels of service. The inevitable result will be that as the free care system is shifted onto the HIO in whole or in part, the paying employed will increasingly demand that either improvements in the HIO occur or that an alternative to HIO be provided due to the decline in service availability and quality in HIO. Thus far HIO managers have successfully slowed attempts to add beneficiaries, although adding pensioners to the beneficiaries has severely crippled the system. There remains virtually no means to capitalize renovations, additions, and equipment, and difficulties continue due to the hiring and retention of physicians on a contract rather than full-time basis. The GHIO is in a precarious fiscal state.

In summary, there is a large supply...quite probably an oversupply...of high cost, high technology services relative to the ability of the bulk of the Egyptian public to pay. There continues to be no clear signal that the GOE will move to nationalize the health industry. The GHIO, as noted, is precarious financially, and importune shifts in public policy could devastate it, leading to a shift of beneficiaries into the private sector. Physician entry into the private sector is constrained by up-front capital requirements for space and equipment. (This situation may be changed as a result of discussions now underway between the MOH and the Syndicate. The proposal is to permit new physicians to use MOH facilities for private practice during hours that such facilities aren't open.)

Whatever the specific directions, it can be argued that the experience with social non-medical insurance and pension systems of various sorts, the nearly twenty-year history with the HIO, the coverage of nearly two million workers by employer-provided health care programs in addition to the 2-2.5 million covered through HIO, the uncertainty about the availability of demand to meet costs of supplies on the provider side and the escalating costs of care that place high technology medicine beyond the range of all but the most wealthy, is a climate receptive to the development of health

insurance. To be sure, there is little more than superficial discussion of this alternative now, but the situation is not entirely dissimilar to that in the United States at the time of the introduction of concepts of health insurance. In the 1930s, during the depression to be sure, supply was greater than demand, uncertainty was high, and health insurance was introduced as a means of protecting the provider community.

The confluence of several forces, then, is critical. Not only is the stated policy of the GOE and the MOH to expand social insurance for health care, but the situation in the health care sector appears to be one that suggests receptivity to the growth of health insurance. It is also an area in which the U.S. has considerable policy and technical experience.

The problems with the developing interest in health insurance are several: there is no substantive experience in this country with health insurance policy. Issues of risk pools, benefit package definition, copayments and deductibles, beneficiary definition, the needs for adequate protection for those investing in the insurance through development of reserves, the legal basis for protecting the rights of the insured, etc., are non-existent.

Moreover, the technical capacity to develop sound insurance is limited. HIO, though certainly the leader in health services data collection and analysis, admits to flying blind in their projections of risks either as demand or cost. There is a limited data base on which to develop the actuarial analysis necessary to establish price or operational and investment requirements.

Finally, just as the technical capabilities for linking demand to cost are limited, so are the capabilities for linking demand to supply. This becomes particularly important when insurance and health care delivery are directly linked, as in the HIO, or other HMO-like systems of the sort being considered by the Arab Contractors. It is also important to note that with the exception of HIO, there is virtually no experience with groups of physicians who can work in concert with an insuring organization to provide care to a defined population, although we know from our experience in the United States that such systems offer the greatest promise for cost containment, and to some extent quality of service. There are no group practices to speak of in Egypt; the Egyptian private sector mirrors the situation in the United States prior to WW II...a collection of independent entrepreneurs functioning without collectivization in terms of shared patient care responsibilities, earnings, etc.

In considering the potential for the development of health insurance, it is well to ask a series of related questions. Is there a strong professional ethic that defines the boundaries of acceptable practice? This is important if incentives are structured as in the prepaid, capitation-based systems of insurance, in which the physicians benefit by limiting service. It is an equally important question if the provider payment scheme rewards those who provide more services, as in the indemnity or fee for service approach.

Is the concept of peer review developed and acceptable? Control of abuses is a cornerstone of effective insurance programs...this depends entirely on the willingness of the profession to police itself, that is to say on the willingness of peers to criticize, if not censor one another regarding accuracy of diagnosis, appropriateness of treatment, use of resources, or charges.

How sophisticated are the referral practices of physicians? Stated differently, to what extent do physicians continue to diagnose and treat patients outside of the range of their competence? Or at the other extreme, has the practice of multiple referrals developed here? In either case, attention needs to be given to the incentive structures, though the particular solution is distinct in each case.

One last consideration regarding the development of health insurance: It is not clear that there is a demand from health care consumers for insurance. The ease with which the HIO has been able to grow suggests that concern over the costs of health care outweigh the natural suspicion of investing one's earnings in impersonal institutions. Perhaps the dramatic escalation in costs that have occurred in Egypt with the introduction of high technology medicine will serve as stimulus for the sharing of risk through insurance. What forms will be most attractive in this market, if any, remains unclear, as is the income threshold that makes insurance an attractive alternative to dealing with uncertainty and the high costs of the results of illness through out-of-pocket payment.

Quite apart from the primary benefit of seeing an MOH develop that is more involved in preventive and promotive care, as well as health policy development, a number of potential benefits can accrue from a well-structured and financed insurance system in Egypt, in spite of the potential concerns

just raised.. Pooling of risk is in and of itself positive, as the financial and personal consequences of devastating illness can be catastrophic. The collectivization of demand through the insurance mechanism, if properly channeled, can be an important mechanism for shaping supply for the benefit of the consumer as well as the provider. The manner in which incentives are built into the insurance packages can shape provider function as well as consumer behavior. Insurance offers budgetary predictability, not only for the individual, but for the large purchasers of health care. Social insurance is also a mechanism for achieving equity in terms of financing the costs of care. In the specific context of Egypt, where there appears to be no move to create a government-run national health service for the entire population, and where there is a thriving private sector, health insurance offers a mechanism for shaping the private sector for the public good without losing the benefits of private sector medicine, or having to tackle the difficult political problems that attend conversion of a mixed sector into a unitary sector.

RECOMMENDATIONS FOR USAID

For the reasons cited in the foregoing section, the potential expansion of health insurance coverage in Egypt offers an unusual opportunity for USAID involvement, and the author or the team recommend that USAID consider it as one cornerstone of its health-related investment strategy. USAID can be involved by titering contributions against developments in the Egyptian health sector, without massive infusions of front-end capital or long-term programmatic commitments dealing with supply side issues. It is also an area in which the U.S. has considerable experience, affording opportunities for training in the U.S. and for technical assistance in Egypt. The risks are minimal both in terms of inappropriate expenditures of U.S. funds and of political exposure.

The scope of health insurance development is necessarily broad and includes: the relationship of consumers to insuring organizations; the manner in which the insuring organizations conduct business; the relationship between insuring organizations and suppliers of care; the organization of suppliers; and, finally, the link between the consumers and providers of care exclusive of insuring organizations. In each area there is a wide range of experience and opportunity that USAID, in pursuing this option, is advised to include.

Assistance can take several forms, as noted in the following paragraphs. Technical collaboration, investment support, and institutional development are the cornerstones. The entry points include the Ministry of Health, the private and quasi-public organizations, and the Health Insurance Organization. Because Dr. Stevens has developed the assistance recommendations for the HIO, they have been included only in passing here. It should be clear, nonetheless, that the HIO is a major actor in the social financing and delivery capacity of the health sector.

1) Technical Assistance to the Ministry of Health: The newly created High Council on Health Insurance affords an opportunity for technical assistance that might include several activities. First would be exposure to the optional forms of health insurance at the macro-level, in essence policy analysis and option development, as well as exposure to the alternative ways in which the insurance regulatory functions can be carried out. This could take the form of visits to selected sites in the United States, seminars on health insurance by experts from the United States given in country, and, depending on the willingness of the Ministry of Health to create a Secretariat with resources, the establishment of a technical assistance team working with the Secretariat to develop requirements, regulatory procedures, and so on.

To the extent the Secretariat becomes the center for technical assistance for the development of insurance schemes, either governmental or otherwise, then USAID technical assistance may take the form of more specific actuarial analysis, and the development of actuarial capacity. If the form of insurance chosen supports the linkage of financing capacity and delivery system, as for example the HIO or other HMO-like organizations, the range of technical assistance is equally broad. It can take the form of assistance in exploring alternative contractual relationships between financing organization and delivery system, the structure and management of the delivery system, and the structure of the physician group, to name three.

2) Technical Assistance to the Private Sector and the Quasi-Public Sector: With or without a TA effort in the Ministry of Health, a variety of efforts can begin outside the MOH. Similar to the preceding description, the assistance ranges from broad health insurance policy development to more specific actuarial analysis, marketing, structuring the relationship between insuring and delivery organizations, and

structuring the management of the delivery organizations per se. The kinds of TA, again similar to the MOH description, might include visits to the United States to selected insuring and delivery organizations, technical guidance in country through seminars, or specific assignments of longer term technical assistance teams to a group or groups interested in exploring health insurance.

Two key policy questions must be addressed by USAID prior to entering this field. The first, as mentioned, is whether or not entry into the health insurance technical assistance business will be predicated on the existence of a governmental or independent authority that is leading the health insurance development of the country at the policy level, if not at the technical and regulatory level. The track record of the MOH in undertaking central coordination and development is not outstanding, though creation of the High Council on Health Insurance is a step in the right direction. Nonetheless, one must remain skeptical. To peg USAID involvement on public sector action alone would, in my view, increase the likelihood that USAID will lose an unusual opportunity to provide needed assistance in the health sector that can have substantial payoffs in terms of shaping health care delivery, decreasing the public sector burden for curative health care delivery, and contributing to economic development.

A second question relates to the kinds of health insurance systems USAID might encourage. There are many, as current debate in the United States attests. We can support a laissez faire approach and provide whatever assistance seems appropriate for development of a wide range of health insurance options...essentially this approach is to let the market differentiate without policy guidance. In such case, our focus would be on the technical aspects of developing insurance policies and insuring organizations that meet minimal standards for solvency. At the other extreme, we can take the approach that health insurance is an important lever for public policy; the minimum benefit package, the construction of payment approaches, the relationship between insuring and delivering organization should all reflect governmental or USAID policies that appear to be in the best interests of the country. There are, of course, a number of intermediate alternatives. The important point is that USAID must decide on its stance before engaging the issue.

This author recommends that USAID encourage a directive approach, recognizing that health financing and the packages translating finance into entitlements should be consistent with the interests of the government as a whole, rather than a particular party in the sector. For reasons of costs and provider incentives, This author favors the development of HMO-like relationships between supplier and financing organization. Furthermore, anything other than comprehensive insurance schemes should be discouraged (e.g., by restricting entry into the market of scare insurance, catastrophic insurance alone, etc.), because the equity and income distribution problems are so substantial in Egypt; a fairly hard policy and regulatory line requiring community rather than experience rating systems to establish price should be favored.

A series of arguments can be made that counter this recommendation. Just as the fee-for-service system can be criticized for encouraging over-treatment, so the HMO approach can be accused of withholding treatment. Depending on the contractual relationship between insuring and delivering organizations, the incentives may be stronger or weaker to do so. What appears to constrain both fee-for-service and the HMO provider from falling prey entirely to these incentives is professional training and ethics and peer pressure. Absent these factors, abuses could be substantial. In Egypt withholding services is more likely to take the form of queueing, limits on equipment or hospital beds, and delays in referral, than it will individual decisions by individual clinicians to withhold treatment, delay care, or otherwise mistreat the beneficiary. Thus while HMO-like arrangements should still be developed, considerable care must be exercised to insure that the consumer is protected.

Several in the United States have made the argument that the consumer benefits most in terms of coverage and cost if benefits and price are allowed to "float" with the market. It is the purest form of the competition argument enlivening health policy debate in the United States during the past three to four years. Perhaps such arguments obtain in our country (though this author does not think so) on the basis of a reasonably sophisticated group of medical and insurance consumers. Moreover, the growing interest of the employers in the cost of care, indeed in the very structure of insurance packages and health care delivery, argues that insuring organizations must exercise some prudence in order to remain competitive. One cannot make the same argument in Egypt; there is no prior experience with commercial health insurance, professional dominance of health care policy and consumer behavior is substantial, and the price to the employer has not yet reached the point that employers are grouping as insurance purchasers to function in their collective interest.

3) Financial Assistance to the Health Sector: Although this recommendation is being developed more fully by Dr. Stevens, this author underscores the importance of the policy that any assistance for program or capital development in the curative delivery system be based insofar as possible on a pay-as-you-go basis. USAID, I would recommend, should channel its assistance through appropriate lending institutions. Support for the program and/or capital costs of non-paying systems should be limited to specific activities in the preventive and health promotive areas, if at all.

Working through lending institutions has at least three advantages: the responsibility for assuring that the proposal is sound is moved from USAID to the institution; the expectation is that terms of agreements will be taken seriously and that consequences are understood if terms are not met; and third, the expectation of USAID is that the health sector can and should be largely a productive sector to be treated in like manner to any other economic growth sector in which a major limiting factor is start-up or revitalization capital.

An important decision must also be made concerning the constraints on the funds beyond those dictated by the lending institution itself. Should, for example, the funds be limited to use in the rural areas? Should there be guarantees regarding provision of services to the poor, as the Hill-Burton program? Should the funds be restricted to quasi-governmental and private sector institutions? Should the funds be restricted to ambulatory care services? And so on. This author recommends a restrictive stance with regard to use of the funds, emphasizing concerns for equity, insurance coverage, ambulatory services, preventive and promotive services and the like. Lending funds for continued expansion of high cost, hospital-based care, and its accompanying high technology would not be warranted. Funds should be used to underwrite start-up costs of insuring or health care delivery organizations, similar to the HMO act in the United States.

4) Demonstrations for Alternative Financing and Delivery Approaches: Again, Dr. Stevens is developing the recommendations in this regard. Suffice to say that although major interest at this juncture is the rural, largely agricultural community, GOE population projections suggest a growing urbanization, and the creation of what Rex Fendall calls "septic fringes" around the urban centers. Financing the social insurance for such individuals and experimenting with alternative delivery mechanisms that relate to such insurance will become increasingly critical during the decade. While our initial focus is correctly on rural populations, we should remain aware of growing problems of providing services to the urban poor.

It is important to highlight what recommendations have not been made in this report. Preventive services, and public health actions are dealt with separately, as are manpower development suggestions. No support is recommended for expansion or upgrading of the direct care delivery capability of Ministry of Health except preventive services. Investing funds in the construction of new hospitals or clinics, in the completion of facilities already under construction, or in the purchase and maintenance of equipment for these facilities is inappropriate, given the capacity already extant and the overall importance of seeing responsibility for delivery of curative services moved out of the MOH. Demonstrations regarding delivery through the MOH direct delivery system are not advised, again with the exception of those directed to preventive services. Continued underwriting of the Emergency Medical Services system in its current form is not advised, as neither the traffic control systems nor the Stationary trauma capabilities exist to permit rapid access and transport that completes the support system. Both are necessary for the high technology EMS system now in pilot form to be effective in reducing morbidity and mortality. In terms of overall impact on morbidity and mortality, EMS is an exceedingly costly approach for the marginal gains that accrue. Should access to a system as now conceived be considered important enough by the populace or the government, funding should be developed internally to pay for the services either through special taxes or insurance. On the other hand, USAID may wish to explore alternative forms of EMS delivery that are not so dependent on high cost, high technology services for which neither initial nor recurrent financing is available.

A BRIEF REPORT ON THE DEVELOPMENT OF DATA
IN THE HEALTH SECTOR

David Lawrence, M.D., M.P.H.

At the request of the chairman of the Phase II team, I have briefly explored current activities which regard data collection and integration in the health sector. My sources of information are anecdotes obtained from Phase I reports and interviews with Egyptian counterparts; information provided by various members of the team; and a long and fruitful discussion with Stephanie Sagebiel of the Science Advisor's Office in the U.S. Embassy. I have also reviewed the project documents of three agreements between the U.S. Government and the GOE that pertain directly to data collection and integration.

Three projects deserve mention. A fourth is under discussion and will be mentioned only briefly.

1. Strengthening the MOH capacity to gather and process health statistics

Actors: Dr. A. M. Fouad, Director General for Health Statistics, MOH

Dr. A. Sarate, Asst. Director of International Statistics, NCHS

Dr. Robert Israel, Consultant to NCHS

Funding: U.S. contribution 100,000 Egyptian pounds

Duration: Extended beyond two year life, through remainder of 1982.
(Not absolutely certain of this)

Purpose: (See attached for more detail)

1) Standardize registration materials, including indices for program priority areas:

- maternal and child health and family planning
- infant, neonatal, child, and maternal mortality
- immunization
- emergency services
- hospital services

- 2) Central computerized analytical facility
- 3) Trained team of computer operators, statisticians and systems analysts
- 4) Computer software and/or hand processing procedures
- 5) Manuals for data sets construction and use
- 6) Maintenance system for computers
- 7) Modularized training programs for all levels
- 8) Recommendations for implementation of system in governorates

2. Development of Health Resources Information Unit (Attached)

Actors: Dr. R. Gomaa

Dr. Frank Morrone, Bureau of Health Planning, HRA

Funding: 53,108 Egyptian pounds

Duration: 11/1/78 to 11/1/81

Purpose: Design and implement a health resources information unit in the MOH

Comments: I reviewed the consultation report of Dr. Morrone at the project's end. Reading between the lines, and listening to Stephanie Sagebiel's perception, I think the project failed in its purpose, although the unit has been created. It sits peripheral to the power base within the ministry and is understaffed to collect the information for which it was intended.

3. Health Profile of Egypt

Actors: R. Gomaa

Drs. Earl Bryant and Leslie Schaible of NCHS

Funding: 1,857,205 Egyptian Pounds

Duration: Began in 1980 and is scheduled through 1983, I think

Purpose:

- 1) Obtain basic information from a representative sample of the Egyptian population about health care use and expenditure.
 - 2) Obtain, from a more select sub-set of the population, data about health status, gleaned from history and physical examination findings, as well as selected laboratory and screening examinations.
 - 3) Develop an inventory of health facilities and resources in Egypt.
4. Proposal for a Regional Health Information Systems Project (Attached)

Only in the talking stages. Attached document is self-explanatory.

Recommendation:

At this juncture, the posture for USAID seems most appropriately one of watching and waiting. The NCHS work with Dr. Fouad appears to be moving well, and much of the integrative, demand-driven data synthesis in which we have an interest appears to be occurring at that level. Should the project need additional funding, assuming more needs to be done, or more time is needed, it is likely that such funds will not be forthcoming through the U.S. Government except from USAID. In such case, I would recommend USAID support to bring the project to completion. Further additions to data development should await specific proposals, and should be funded only if they reflect USAID need to know, or improved management decision-making within the health sector.

TENSIONS WITHIN THE SYSTEM: SOME OBSERVATIONS
ON THE HEALTH SECTOR

Julius Richmond, M.D.
Director
Division of Health Policy, Harvard University

During the course of the work of the Phase II Assessment Team, some observations on the health sector in Egypt were made which, although they do not lead to specific recommendations to USAID, are significant for the formulation of policies concerning assistance to the government of Egypt. While these are labeled "tensions within the system" this is not intended to imply that the tensions are inappropriate and that approaches to their resolution are intactable. Rather, it is to identify problems toward which USAID might move in effecting constructive resolution of the tensions.

A general word of introduction concerning the formulation of health policy is in order. We view health policy as resulting from the application of our knowledge base combined with a political will (which generates the resources) which a society can provide for a program development. These two factors, that is the knowledge base and political will, are not sufficient however, for program development. There must be brought together to develop a social strategy for both long-term and short-term resolutions to problems.

It is clear that in Egypt the very considerable knowledge base of the biomedical sciences and health services research is not being applied in full. This is evident when one recognizes that most of the morbidity and mortality observed in the nation results from entirely preventable diseases. It also is clear that the political will, while present for the improvement of the health of the Egyptian people, does not at present permit an expansion of resources. Therefore, the social strategy by which health improvements may occur is predicated on improved application of the knowledge base with existing resource constraints. However, the creativity in moving forward rests in the development and redevelopment of social strategies designed to improve the health of the Egyptian people. We hope the recommendations of the Phase II team are helpful in this connection.

What then are the tensions within the system? These may be defined as follows:

Curative vs. Preventive Medicine - In the Egyptian system of training of health professionals, the focus is on a predominantly curative approach. This characterizes both the public and the private sectors in the health care system.

There are some encouraging trends. The decision to introduce the teaching of community medicine in all years of the medical curriculum recently, is one example. Development of the new medical curriculum oriented toward community medicine and preventive medicine at the University of the Suez Canal is yet another. However, it is discouraging to note that the High Institute for Public Health in Alexandria enrolls relatively few students. Of the 2,000 students studying for Master's degrees, approximately 300 are in the field of public health. This means that the 26 governorates and the positions in the Ministry of Health are short of trained and experienced people in public health practice. It means that there is a clear shortage of epidemiologists to work throughout the country in order to provide the kind of data base and surveillance that is so necessary for the mapping of new preventive and public health oriented activities.

In a sense, what the dominance of curative medicine over prevention and health promotion suggests is the reverse of what the priorities for Egypt should be. One senior official said the inevitable question is, "Should public health be a part of medicine, or medicine a part of public health?" He went on to say that the physicians in power who dominate the curative sector would not ever permit medicine to become a part of public health.

The problem is further highlighted by the fact that approximately 65% of the hospital beds in Egypt are in facilities operated by the Ministry of Health. In these facilities, the Ministry has extensive out-patient clinic responsibilities that keep it focused heavily in the area of curative medicine. Although any society must provide appropriate care of the sick, it seems clear that if both the public and the private sectors are heavily involved in this manner, little attention will be given to preventive activities. There are at least two options for the Ministry of Health: (1) to turnover clinical facilities gradually to other viable organizations, such as the Health Insurance Organization and/or the Curative Care Organizations, as well as other voluntary organizations, or (2) to separate within the Ministry, the curative care responsibilities from the preventive responsibilities so that the resources that should go to public health practice are not siphoned off to curative medicine.

Hospital and Clinic Facilities Construction vs. Program Improvement - There are inordinate demands for the completion of some 21 hospital buildings and the construction of new facilities which compete for funds directed toward the improvement of existing programs in both urban and rural areas. The bed: population ratio is not as favorable as in many other countries; however, there is reasonable access to beds (although there is some geographic maldistribution) when Egypt is compared to many other developing countries. There is evidence that both in-patient and out-patient facilities have undergone considerable deterioration and the question arises whether resources could be better employed to improve existing facilities and their programs prior to undertaking new construction.

It should be observed that there has been considerable expansion of the number of hospital beds in the private sector. Many small hospitals (mainly under the aegis of individual physicians or groups of physicians) have been expanding as have some larger ones, such as the Arab Contractors and the El Salaam Hospitals. There are considerable concerns about the extent to which the country can afford expenditures for this new and relatively high cost capital development. It would seem appropriate to defer any major construction until one sees to what extent some of these facilities are utilized.

The growing expenditures for private health services are raising questions concerning the extent to which the country can afford them. There is increasing pressure on the Ministry of Health and on the Parliament to exert some regulatory constraints on the patient charges that may be generated through these sources. The new law which requires all physicians' offices and hospitals to be registered with the Ministry of Health may well be a prelude to some kind of regulatory activity.

Employment Policies: Universal Employment and Motivational Problems - It is apparent that the 1952 revolution and the "full employment policy" have created many problems. Stipends in government health service are low and have resulted in considerable measure in an attitude anecdotally described as "the government pretends to pay us, and we pretend to work".

There are also certain inequities in assignments. Medical students, for example, with better academic records are retained for specialty training, whereas those with lower grades are assigned to rural areas and urban clinics. Apparently the less desirable assignments go to the students with lower academic records. As a consequence, there is widespread unhappiness about service with the Ministry of Health, and members of Parliament are reported to complain about the unhappiness of people who are assigned for work in their areas. The result is inadequate performance, high turnover, and what seems to be relatively low productivity. It should be added that many of the people assigned to the rural areas, in particular, are very junior and often are inadequately trained to meet the responsibilities assigned to them.

To this problem must be added the interest that physicians serving in these Ministry of Health positions develop in private practice to enhance their incomes. It is as though there is a built-in conflict of interest: the same physician is providing service in the governmental sector while concurrently trying to cultivate private practice in the same community. There are two schools of thought about this. One suggests that the combination is a good one and is the only one that will retain people in the rural areas; the other insists that working for the Ministry should be a full time position and that with the provision of apartments and other fringe benefits, the incomes are not quite as inadequate as has been generally portrayed.

Some physicians feel that the assignment to the rural areas will never be successful and that greater efforts should be made to train health workers such as the dayas and others who will remain in the community to render most of the primary care.

The recent trend for some physicians to elect to stay in rural areas because of housing and private practice opportunities may be encouraging; however, it is important to add that this is occurring because of limits in opportunity (high costs of establishing a practice) for private practice in the cities. The resentment over this seems to be widespread.

The Medical Syndicate and the Ministry of Health - Because of the increase in the number of medical school graduates in recent years, and the limitations on opportunities for private practice, there is considerable disenchantment among the younger members of the Medical Syndicate concerning professional opportunities. One should add to this a growing

trend toward the reduction in the number of opportunities for practice abroad. As the Gulf States have developed new medical schools, the need to draw on Egyptian physicians is decreasing, as are the potentialities for practice opportunities in the United States as a consequence of Congressional legislation in recent years concerning immigration.

The President of the Syndicate has been developing a program to finance the establishment of individual and group practices, particularly outside of the major cities, in an effort to alleviate these problems. In addition, he is a very strong proponent of opening up the clinics of the Ministry of Health for private practice for the physicians who are serving in those facilities. He was blunt on this point, in the presence of a representative of the Ministry of Health, and was very emphatic in stating that this would go a long way toward solving many of the problems in the rural areas. It is difficult to evaluate objectively this approach, because there are some advantages and some potentially serious disadvantages - particularly the "conflict of interest" situation, where the physician is essentially in competition for private practice with the patients who cannot pay at Ministry of Health clinics. There will need to be some reconciliation of these problems. One possibility is the development of some contractual relationship with the Syndicate for the staffing of these facilities with a provision that those patients who cannot afford private care will not be discriminated against in the provision of services. There also should be some exploration of efforts to develop a contractual relationship with the Syndicate in relationship to staffing the district hospitals and upgrading them over time.

A general observation concerning the disenchantment of young physicians is in order. With the increase in class size of the medical schools in recent years there will be a predominance of younger physicians - in terms of numbers - in the Medical Syndicate before long. As these people reach maturity and come into positions of power, if the "opportunity system" remains rather limited, there could be some problems developing of crisis proportions, since the expectations of young physicians have been that they will in one way or another be reasonably and adequately provided for in terms of incomes. What form this discontent may take is difficult to predict; it is a real possibility sometime in the next decade.

The Universities and the Ministry of Health - As is true in many countries, the schools for health professionals are largely under the Ministry of Education and the health services are under the Ministry of Health. Thus, there is a basis for considerable tension. The increase in the number of students has certainly created problems for the medical schools, because it appears that they were not given adequate resources with which to accommodate the extra students. It may be that the decision made recently to reduce class size will improve morale among the faculty and students, but this would take a considerable period of time. As a result of the expansion many students have a considerable concern about the quality of their education. This is reflected in part by the development of a "para-educational system" in which students receive tutoring from the faculty for pay in order to be adequately prepared for the examinations. This provides supplementary income for faculty and is probably a difficult system to interrupt.

Part of the tension also is associated with the university's recruiting the academically highest students for training as specialists. This includes approximately 1,500 physicians out of the 5,400 who graduated this year. These students, in addition to receiving more favored house staff training, are also spared the responsibilities of serving in the rural areas. Thus, there is destined to be a significant number of graduates who feel that the training opportunities for them have been severely limited.

The recent development of the general practice specialization track through a Master's degree program, which has been accepted by the Egyptian Medical Association, may minimize this problem. There are, however, many skeptics who feel that in the Egyptian system, the general practitioners, even if they are designated specialists, will not have the status and power of other specialists.

Perhaps the greatest source of tension relates to the need of the Ministry of Health for staff to facilitate educational and training programs for health professionals in the field. The leading professionals to do the training are in the universities. The funds which the Ministry has to support these people for additional tasks are relatively limited. More significant, the long-term qualitative improvement of services would depend upon drawing into the service system the people in the universities who have higher professional qualifications.

In the long-term, one of the most effective ways to improve the quality of services throughout the country might be to enter into some contractual relationship with the universities for the provision of services in surrounding communities. One of the models for this is developing at the University of the Suez Canal, which is cooperating with the district health officers in 5 governorates. This is 1/5 of the governorates of the nation. The numbers of medical schools and the relationships with their communities suggests that this is not difficult to expand. Another model is developing at Cairo University in relationship to an urban health center. This may have more problems than that of the University of the Suez Canal, but nonetheless would seem to be workable. Another development is at the Medical School in Assiut which has involvements with community health services.

Without such an infusion of some of the best qualified people in the country into the service system, the potential for improving performance may be low indeed. In an informal way, these relationships do exist to some extent. For example, the Health Insurance Organization has consultants from the medical schools who participate in their service program, presumably to the advantage of both. It is appropriate to indicate, however, that university faculty members in an effort to enhance income, are probably spreading themselves rather thin and it may well be that teaching and certainly research potentialities of the nation are not being fully developed as a consequence.

Drug Expenditures: too Low or too High? - In the publicly announced priorities by the Prime Minister and the Minister of Health in the recent months, the commitment has been made to provide drugs to the population at reasonable costs. The officials responsible for the development of policy concerning pharmaceuticals, have suggested that, on a per capita basis, expenditures for drugs are lower than in many other countries of comparable levels of development. However, it is important to note that 40% of total health expenditures are for drugs. This seems to be a relatively high figure for one segment of the health sector (in the United States, for example, 40% of all health expenditures go for hospital care, and only 10% for drugs and appliances).

Anecdotally, as one moves about the country, there seems considerably more prescribing of drugs than is appropriate or desirable. Indeed, we learned that in the Health Insurance Organization, patients have become aware of the fact that they are permitted a maximum of 4 prescriptions. As a consequence, the patients often demand 4 prescriptions from the physicians

and it is not uncommon for them to trade some of the drugs so obtained for cosmetics and other desirables in pharmacies. This is a difficult public policy problem. However, instead of accepting the fact that per capita expenditures should rise for drugs, it may be more appropriate to move toward some gradual constraints. The self-medication as well as the extensiveness of prescribed medications are not good health practice.

RATIONALIZING HEALTH-SECTOR FINANCING IN EGYPT

Prof. Carl M. Stevens
Department of Economics
Reed College, Oregon

Introduction

The primary objective of the HSA Phase II exercise is to produce reports and recommendations to inform the design of USAID's health-sector-assistance portfolio over the coming years such that such assistance will be responsive to ARE and USAID priorities. Pursuant to this, the Phase II team has been asked to speak to the matter of health-sector priorities and to the matter of assistance strategies to serve these priorities. This author argues that assistance to help rationalize health-sector financing in Egypt will be responsive to a number of high priority problems and objectives in the health sector. */

In Egypt, as elsewhere, in recent years, efforts are underway to implement the "Primary Health Care" (PHC) concept -- entailing increased emphasis upon preventive/promotive programs and activities, to be operated in the context of enhanced local and community involvement. In the view of this author, rationalizing overall health-sector financing should be regarded as an integral component of PHC strategy.

SOME GENERAL PRINCIPLES

It will be helpful at the outset to have in mind a few general principles to inform the approach to rationalizing overall health-sector financing.

*/ There has been much discussion in USAID about the general strategy its health-sector assistance should adopt. The range of concerns on this score includes such questions as how the goals of the USAID assistance program should be defined and whether, in light of the goals, the portfolio should feature "project" assistance, "program" assistance, "sector" assistance, or some combination of these approaches. The recommendations herein, although addressed particularly to rationalizing health-sector financing, reflect a more general, underlying view on these kinds of questions. To this report affords brief discussion of these matters.

Health Services are Never Free

Health-services systems which deliver services without a charge to the consumer (e.g., MOH systems) frequently are characterized as providing "free" services. This characterization can, however, be misleading since health services are never really free. Health services are never free in an economic sense since the resources used to produce them pay an opportunity cost in terms of those foregone other goods and services which might have been produced had the resources allocated the health-services sector been allocated to other economic activities. And such services are never free in a financing sense since (neglecting here contributions from outside donors) consumers in the aggregate must necessarily pick up the tab for the nation's health services bill. They will do so by paying some combination of taxes of various kinds, health insurance premiums and contributions, out-of-pocket expenditures and, perhaps, by experiencing the price consequences (for other goods and services) of deficit-financing induced inflation. Thus, the question for national health-sector financing policy is never whether consumers shall pay for their health services but rather how consumers shall pay for their health services.

Distributing the Financing Burden

Although consumers in the aggregate must necessarily pay for their health services, different financing schemes will differently distribute the financing burden among the various consumers. In many countries, national health-sector financing policy seeks to impose a lesser financing burden upon low-income consumers than upon high-income consumers.

Social Financing vs. Out-of-Pocket Payments

These approaches to health-sector financing are to be distinguished. Although they may entail some consumer cost sharing (i.e., out-of-pocket payments by consumers for services), social-financing schemes rely in the main upon collective pre-payment, being based upon some contributory insurance principle or upon general taxes. A great advantage of social financing is that consumers can in this way be insured against the risk of having episodically to make extraordinarily large expenditures for health care and hence against the risk of being unable to obtain needed care because of inability to finance such expenditures. On the other hand, health-sector financing schemes which rely solely or in the main upon out-of-pocket payments afford no insurance against such risks and tend to exacerbate income-related inequalities in the distribution of care. Social-financing schemes also lend themselves more readily than do out-of-pocket pay schemes to distributing the total financing burden to put a lesser burden upon low income consumers.

Cost-Containment Objectives

Different financing schemes will have different implications for cost-containment in the health services sector, i.e., different implications for the rate of inflation of health-services prices and different implications for the rate of increase in total expenditures for health care. National health-sector financing policy may want to take some account of the cost-containment implications of different schemes.

"Public" vs. "Private" Goods and Services

Economists make this distinction which is, perhaps, familiar such that it need not be rehearsed here. The importance of the distinction for health-sector financing policy is that private financing of public goods and services tends to result in inefficiently low rates of resource allocation to the activities producing such goods and services. Thus, public financing is peculiarly appropriate for public goods and services. In the domain of health services, preventive/premitive services tend to have public-good properties and curative services tend to have private-good properties. */

These principles will be referred to in the discussion to follow.

EGYPT'S HEALTH-SERVICES SECTOR: SOME PROBLEMS TO WHICH HEALTH-FINANCING POLICY SHOULD BE RESPONSIVE

The MOH System and the Delivery of Preventive/Promotive Services

As has been pointed out, in the domain of health-services, preventive/promotive services tend to have public-good properties such that public financing of such services can be regarded as peculiarly appropriate. In Egypt, the publicly financed MOH system is the logical provider of various such services. */ And, as matters stand, the MOH system delivers preventive/promotive services as well as curative. The curative

*/ As applied to each of the various health services, this distinction is not water-tight, i.e., some services exhibit both public-good and private-good properties. It is not necessary to explore this matter in detail for purposes of this discussion.

*/ It should be remarked that public financing of preventive/promotive services does not necessarily entail public-system delivery of such services. Thus, in some instances, public authorities may, in effect, contract with

private parties for the delivery of such services. Also, some preventive/promotive services, e.g., environmental surveillance, may be pursuant to regulatory programs which will mandate corrective action by private parties such that, in this sense, the preventive/promotive impact is a product of both public and private delivery of services.

services, however, take the lion's share of the budget, personnel and attention of the MOH system, a circumstance which impairs the capacity of the MOH system adequately to discharge its preventive/promotive functions and responsibilities. This is a problem of central importance. National health policy cannot rely upon (and, generally speaking, ought not to attempt to rely upon) private financing alone to secure efficient rates of resource allocation to preventive/promotive activities. Consequently, unless the MOH (or other public authority) can adequately finance these activities (and otherwise attend adequately to the provision of the outputs of these activities), there is a high probability that the output of preventive/promotive activities will fall far short of appropriate levels (from the point of view of impact on health status).

A part of the problem derives from the overall level of funding available to the MOH system from its share of general tax revenues. All recent evaluations and assessments of the Egyptian health-services sector have been in agreement that, given the program responsibilities assigned to it, the MOH system is severely underfinanced, thus impairing the capacity of the system to discharge both its curative and preventive/promotive functions. A significant increase in the level of funding for the MOH might permit the system to allocate more resources to preventive/promotive activities. As a practical matter, and whether or not it would afford some remedy for the position, this approach does not appear to be available. There appears to be little or no prospect that the MOH system will, in the foreseeable future, enjoy substantial increases in the funding available to it from general tax revenues. */

*/ It appears that some financing is available to the MOH system from locally generated resources. At present, however, MOH officials characterize the contribution made by local sources as "negligible." The extent to which in the future local resources will make a more substantial contribution remains an open question.

Whatever the prospects for substantial increases in the funding available to the MOH system (i.e., even if the prospects on this score were good), it is important to recognize that simply increasing the level of funding for the system is unlikely to solve the problem of resource availability for preventive/promotive activities. There is a fundamental structural problem with the system as it is now constituted. The MOH system is supposed to deliver curative services to the population generally without charge. The pressures from consumers (both directly and via the political process) for increases in the quantity and quality of the curative services delivered by the system are powerful and difficult to resist such that the curative-services claim upon scarce MOH resources tends inevitably to displace the claim of the preventive/promotive activities. Indeed, for any system which undertakes to deliver these services at zero price, the curative-services domain tends to be a bottomless pit. Simply increasing the level of funding for the MOH system, even if it could be accomplished, is not apt to prove a remedy for the position. What is required is to relieve the MOH system of its major responsibility for financing curative services, to take the curative monkey off the MOH's back, so to speak. If a socially acceptable way can be found to do this, there is the prospect that the MOH system could move in the direction of becoming more nearly a Ministry of Public Health with its major program emphasis upon preventive/promotive activities. Unless such a transformation can be achieved, the prospects for efficient rates of resource allocation to important public-health-type preventive/promotive activities are remote and, hence, the prospects for effectively implementing the Primary Health Care concept are likewise remote.

The MOH System and Curative Services: Resource Constraints

As explained in the previous section, a strategy is needed to relieve the MOH system of enough responsibility in the curative domain to permit a major redirection of program emphasis in favor of prevention/promotion. However, as will be explained in what follows, under likely configurations for the health-services sector in Egypt for the foreseeable future, the MOH system probably will continue to be responsible for financing some curative services--particularly, for some proportion of the population which cannot be included as contributing beneficiaries in alternative social-financing schemes. As matters stand, the MOH system is supposed to deliver curative (and other) services to the population as a whole without any user charge. The MOH system simply does not have the resources to discharge this responsibility in an

effective way, nor is there a realistic prospect that the MOH will have such resources in the foreseeable future. In 1978, total (current and investment) MOH system expenditure came to LE 3.6 per capita (for Egypt's population as a whole). And in 1978, current account expenditures per capita were only LE 2.5, of which only LE 0.26 was provided for medications. */ On the matter of rural-urban balance in access to and utilization of MOH services, FINANCING STUDY reports that, in 1978, MOH system expenditures per person were LE 7.20 for urban areas and LE 0.99 for rural areas. */ By contrast, in 1978, HIO expenditure per beneficiary for Law 79 beneficiaries were LE 14.9 (LE 7.63 for drugs) and for Law 32 beneficiaries LE 6.3 (LE 3.56 for drugs). */

Obviously, the foregoing numbers do not speak to such matters as the cost effectiveness of these delivery systems and the like. They are intended only to be exemplary in a general way of the point that the MOH system is too severely resource constrained to respond adequately to its responsibility to provide curative and other services to the population generally without user charge. If, however, the MOH system could concentrate its curative efforts upon a smaller proportion of the population, say 20 percent, its resources would be more nearly adequate to the task, e.g., in this (20 percent) case, the current account budget would have provided in 1978 about LE 12.5 per person served.

*/ Summarized from Arab Republic of Egypt, Ministry of Health, Health Profile of Egypt, Publication No. 10, Study on Health Financing & Expenditure in Egypt, April 1980 (henceforth FINANCING STUDY). The data reported are for 1978. Provisional estimates (Michigan study) suggest that total MOH system expenditures were about one-third higher in 1980 than in 1978. Taking account of inflation and of population growth in the interim, this probably yields about the same per capita rates of expenditure in 1980 in constant (1978) LE.

*/ FINANCING STUDY comments (p. 29): "This does not mean that the individual's share from the medical services of the rural areas is that low, because many medical services are rendered to the rural areas population in the nearby towns."

*/ By 1980, these expenditure rates (which vary somewhat by HIO district) were up to about LE 18.0 and 9.0 respectively, probably representing little or no increase in real terms (i.e., taking account of inflation).

Out-of-Pocket Payments in the Private Sector

In Egypt, the private health-services sector is large (larger in terms of total expenditure than the public sector) and growing rapidly. There is nothing inherently amiss in having a large and flourishing private sector. Indeed, there would seem to be no persuasive prima facie case that public agencies have a comparative advantage in the management and administration of health-services delivery systems such that governments should be impelled on these grounds to go into the health-services delivery business. */ How the demand for health services (however provided) is financed, however, it is quite another matter. In Egypt, as matters now stand, health-services provided in the private sector are for the most part financed by out-of-pocket payments by consumers. The disadvantages, from both the social point of view and from the consumers' point of view, of this financing scheme as compared with social-financing schemes were discussed foregoing. It may be argued that governments do have a comparative advantage in arranging social-financing schemes and that they can make an important contribution to the welfare of health-care consumers by so doing, both by giving consumers an opportunity to insure against the risks inherent in these markets and by serving appropriate distributional objectives. The extent of out-of-pocket financing of the demand for health services is a major problem in the Egyptian health-services sector to which an alternative financing scheme should be responsive.

EXTENDING HEALTH-INSURANCE COVERAGE

More than a year ago it became the declared policy of the ARE that health insurance should be extended to cover the entire population. And recently, the Minister of Health was quoted as having established the extension of health-insurance coverage as his number one priority. Generally speaking, this financing strategy is responsive to the three major problems

*/ The propensity of governments to go into the health-services delivery business (e.g., as by constituting MOH systems) appears to be motivated more by distributional considerations than by comparative-advantage considerations. In the health-services domain, distributional considerations are, of course, of prime importance. However, it may be possible to achieve acceptable distributional objectives without resort to large-scale public delivery of curative services.

identified in the foregoing discussion. As health insurance coverage is extended, social financing will be substituted for what otherwise would have been out-of-pocket financing. And, as health insurance is extended, health services which would have been financed by the general tax revenues available to the MOH system will instead be financed by insurance funds. Thus more of the MOH's share of scarce fiscal capacity can be conserved for the financing of those preventive/promotive activities which, if not financed in this way, are unlikely to be financed and delivered at all. */ This assumes that the ARE's response to these developments will not include a major reduction in the general tax revenues available to the MOH. The issue of whether some compensating reduction in these revenues might be in order is not considered here. */ Unless, however, great care is exercised in this domain, the ARE's entire Primary Health Care strategy could be subverted.

Finally, as has been pointed out, these developments would mean more adequate MOH resources for curative services to, say, some 20 percent of the population.

Extending coverage under health insurance also helps to rationalize health-sector financing in another important way. One of the big problems in the economics of the health-services sector is how to bring an appropriate willingness-to-pay test to bear upon the demand for health services (and hence upon the rate of resource allocation to the health services sector) while at the same time giving consumers access to an otherwise acceptable scheme for financing their demand for these services.

*/ For every government, fiscal capacity is of course scarce in the sense that competing claims for financing from this source always add up to more than availabilities. Consequently, there is a general case for conserving fiscal capacity for those activities for which this kind of financing is peculiarly appropriate (e.g., public goods) rather than draining this capacity for the financing of activities which might more appropriately be assigned to private financing.

*/ To engage this issue, it would be necessary to spell out in detail the programs of curative and preventive services to be assigned to the MOH system in light of the role it will play in the overall health-services sector. It would then be necessary to determine what it would cost to deliver this package if it were produced in a cost effective way.

Contributory insurance schemes, particularly if they incorporate modest consumer cost sharing, are responsive to this problem. Under such schemes, if the beneficiaries want to consume more services they must contribute more (i.e., must be willing to pay). At the same time, such schemes spare consumers the financing burdens they would experience were they constrained simply to "go bare" in the out-of-pocket payment market. */

Thus, from the point of view of the prospect for implementation of the ARE's primary health care strategy, as well as from those other points of view entailed by the concept of rationalizing health-sector financing, the ARE's health-sector financing strategy of extending coverage under health insurance is an important policy that moves in the right direction. Consequently, the question of the feasibility of implementing this strategy becomes a central question for health-sector policy.

*/ To avoid misunderstanding, we may remark that, however the demand for health services is financed, there is, of course, always some kind of willingness-to-pay test. Thus, the government's fiscal capacity is constrained by the willingness of consumers, in their role as tax payers, to pay taxes. There might be agreement that this kind of collective-political (public financing) willingness-to-pay test is the appropriate one for certain kinds of services, e.g., public-good-type preventive/promotive services. Beyond this, some may be of the view that this is the appropriate test for services generally, i.e., that the overall rate of resource allocation to the health services sector ought to be determined by central budget decision. Where (virtually) all services are delivered by some kind of National Health System (e.g., MOH), this kind of control is fairly straightforward. Where, however, as in Egypt, there is a large and flourishing private sector, this kind of control must be less direct and precise. In any event, this is not the place to engage these issues in detail. The foregoing discussion in the text assumes that some kind of modified market-type test is the appropriate one for curative services. Needless to say, if we are to rely upon this kind of test, careful attention must be given to modifications to insure that the financing scheme complies with distributional (equity) norms (e.g., that health services should be distributed more equally among consumers than they would be if the distribution were left solely to unmodified market mechanisms).

THE HEALTH INSURANCE ORGANIZATION (HIO)

Extensive discussion of the HIO is readily available (e.g., Phase I Reports/Jeffers and Dalton, et al., also USAID files/Stevens) such that there is no need to supply a general description of the HIO here. However, given the already major (and what will be a rapidly growing) role played by the HIO in Egypt's health-services sector, it will be well to remark upon a few properties of this organization which are relevant to the issue of the probable efficiency and effectiveness of its performance.

Generally speaking, the structure of the organization and the environment in which it operates afford strong incentives for efficient and effective performance. And also, generally speaking, the structure of the organization affords management some opportunity to achieve such performance.

More particularly speaking on the first point, the HIO serves a clientele which is well aware of the fact that it is paying for services provided (the direct contributions of all beneficiaries and the added copayments for Law 32 beneficiaries) and is thus naturally motivated to demand of the organization (what it regards as) satisfactory performance. Moreover, owing to the fact that the beneficiaries are enrolled (for the most part) as employed groups, they are able to represent their interests in the performance of the HIO not only individually but also collectively. The collective representation of beneficiary interests is achieved in part when syndicates (unions) to which the beneficiaries belong seek to represent their members' (qua beneficiaries) interests to the HIO. Beyond this, the collective representation of beneficiaries' interests has been formally institutionalized in the form of beneficiary councils (organized on a district basis within HIO regions). Each participating firm or enterprise delegates (elects, it is understood) an employee-beneficiary member to its district council. The council hears beneficiary grievances, among other functions. Thus owing to its relationship to its clientele, the HIO is under effective pressure to maintain and improve the quality (as the beneficiaries see this) and quantity of services provided. At the same time, the HIO confronts a tight constraint on the financing side--namely, the known revenue per beneficiary available to it from the contribution rates set by law.

Attempting within its budget constraint to satisfy its clientele, the HIO naturally is motivated to achieve efficient performance, e.g., to contain costs, including control of utilization rates. It is not surprising, therefore, that the HIO has had a long-standing and genuine interest in the development of effective management-information systems. */

More particularly speaking on the second point (opportunity to achieve efficient performance), owing to the fact that the HIO is financed from sources other than general tax revenues, it enjoys under the law advantages not enjoyed by civil service agencies generally, including here the MOH system. For example, the HIO is allowed by law to supplement the salaries of its salaried staff physicians up to 100 percent over the rates which the law allows the MOH system to pay. Moreover, the HIO secures much of its physician manpower by contracting with physicians to provide services on a per-session basis (2-3 hours per session, output norms stipulated, bonuses paid for output above norms). This arrangement facilitates personnel administration in that if the physician under contract does not perform satisfactorily, the monthly contract is not renewed. */

*/ USAID is at present developing with the HIO some assistance to computerize and otherwise upgrade its management-information system in Alexandria. It is important that this activity vigorously be prosecuted.

*/ Contracting for services in this way is, of course, a mixed bag. Although it has the advantage adduced, it also has disadvantages. For example, the HIO has for long been concerned with the problem of developing "organizational loyalty" among the contracted physicians, pursuant to developing a sense of discipline and common purpose in the medical staff. Over the longer run, it may be possible to develop more advantageous relationships between the HIO (qua health-plan management) and the physicians, e.g., contracting with full-time physicians organized as medical groups (along the lines of the K-P system).

To summarize the implications of the foregoing, in my view, owing to organization-structure considerations as these relate to incentives and opportunities, the HIO has the motivation, opportunity and capacity to manage and administer an efficient and effective delivery system. */ The HIO appears to be an effective, robust organization--exhibiting high organization morale and great seriousness of purpose. The probability is high that health-care resources utilized by the HIO will be utilized efficiently. */

It appears generally to be assumed that a major part of the extension of health-insurance coverage will be accomplished by increasing enrollments in the HIO program. At present, this program enrolls about 2.3 million beneficiaries. */

*/ This is not, of course, to imply a claim that the HIO now runs a shop with no room for improvement with respect to either medical practice standards, per se, or cost effectiveness (for whatever is delivered). HIO management is aware that there is room for improvement on these scores and actively seeks such improvement.

*/ In Egypt (as elsewhere), to the extent that health-service delivery systems exhibit efficient performance (including quality assurance), this will be in the main a product of the intra-and extra-organization environments in which these systems operate, particularly as these relate to incentives and opportunities. As the other side of this coin, regulation (in whatever guise) has, generally speaking, little to offer in this domain, in Egypt as elsewhere.

*/ This is the enrollment of "regular" beneficiaries under Laws 79 and 32. In addition, the HIO enrolls pensioners (now about 55,000) and provides various medical services, including those for work-related injuries, to all employees as part of Egypt's workmens' compensation program. In the discussion to follow, where there are special problems or features relating to each of the classes of beneficiaries, these will be distinguished.

Although the point is usually overlooked, it is important to recognize at the outset in considering the HIO program, that social-financing of the demand for health services is much more widespread than would be suggested from simply looking at utilization of the MOH system and at the number of HIO beneficiaries. This is for the reason that Law 79 provides that all employers of 100 or more employees (one or more in Alexandria Governorate) must either join the HIO program or provide an alternative health plan for their employees which meets stipulated standards. In the event an employer elects to "opt out" of the HIO program by providing an alternative scheme, he must still make a 1.0 percent of wages contribution to the Law 79 insurance fund, this in the name of social solidarity. */ Assuming that the alternative plans can be monitored and brought into compliance with standards (doing this appears to be a serious problem at the present time), this is a valuable feature of Law 79.

To the extent that employers respond with acceptable alternative plans, it means that Law 79 can accomplish its objective -- namely, that all employees be enrolled as beneficiaries in health insurance schemes (assuming that the employer-size cut-off point were eliminated as in Alexandria), while at the same time eliminating the considerable financing, management and administrative problems that would be entailed by increasing the size of the HIO program to the extent necessary to itself cover all employees. The extent of relief on this score is considerable. HIO officials estimate that, at present, about half of their eligible beneficiaries are enrolled in alternative employer-provided plans.

It does not appear that definite targets have been set for the rate of expansion of HIO enrollments. HIO officials have suggested that it might be feasible for the program to cover about 50 percent of the population by the end of the next twenty years. Whatever the precise rate of expansion, if it is to be quite rapid and on a large scale, it will encounter formidable difficulties.

*/ Some of these alternative plans are quite elaborate, including, e.g., employer provision of hospital facilities. Other such plans appear to be much more modest. A systematic canvass of these alternative company plans was not possible.

Investment Requirements

HIO enrollments are, at the present time, straining the capacity of the delivery system. For example, hospital bed to population served ratios now stand at considerably less than 2.0/1,000 (the HIO standard has been 4.0/1,000). And polyclinics may serve as many as 40,000 beneficiaries (the HIO standard has been 20,000 - 30,000 beneficiaries). */

The issue of whether the HIO's own operating standards (facilities and manpower to population-served ratios) are to be regarded as appropriate in light of various external norms which might be brought to the judgment on this score is not considered here.

It is not entirely clear what rate of investment will be required for adding beneficiaries to the HIO system. It has been suggested by HIO officials that if investment takes the form of new construction and if the facilities/beneficiaries ratios are maintained at the historical standards, it would require an investment of about LE 1.0 million for each additional 2,000 beneficiaries. However, it may well be possible to adopt more modest standards (especially for the beds/beneficiaries ratio) without an adverse impact on the beneficiaries, and HIO thinking appears to be in this direction. Also, the current thinking of the HIO seems to be that it may be possible to resort less to new construction and more to renting and renovation of existing facilities. Even so, the required rates of investment will be substantial.

HIO officials have declared that, if they had access to loan funds on favorable terms, they anticipate being able to finance such loans out of current receipts. As matters stand, the HIO appears to be about breaking even. Receipts for Law 79 and Law 32 beneficiaries just about cover current account expenses for these beneficiaries. The HIO realizes a loss on current account of about LE 2.2 million on its enrollment of pensioners (see next section). At present, this loss is financed from net revenues realized by the HIO from its

*/ There are also problems with the quantity and quality of physician and other health manpower. That the capacity of the system is being strained is evident not only from these kinds of numbers but also from the testimony of beneficiaries. Among the complaints beneficiaries have about the performance of the system, complains about crowding, waiting time and too brief a time to consult with their physicians are prominent.

participation in the workmen's compensation program. If the financing burden for the pensioners could be shifted from the HIO (e.g., to the pension funds, the HIO has been urging this and feels that there is a good chance of success), there would be made available in this way substantial funds for financing loans. Another possibility would be to achieve some reduction in current account expenses, e.g., for Law 79 and 32 beneficiaries. Another possibility, at least in principle, would be to raise employer/employee contributions under these programs. Whether this approach would be available in practice is not known. Beneficiary testimony elicited on this point (in a not altogether clear group-discussion situation) appears, on balance, to be that, for a good number of beneficiaries at least, if they felt sure that the increased contribution rates would be matched by an increase in the services available to them, they would be willing to go this route. There is also the possibility, again at least in principle, of adding consumer cost-sharing provisions to the Law 79 program, e.g., similar to those now featured under the Law 32 program. Again, whether this approach would be available in practice is not known.

The Pensioner

Pensioners and widows may enroll in the HIO system for a payment of 1.0 and 2.0 percent of their pensions respectively, and they make no copayments. The revenue yield is about LE 4.4 per pensioner. Average cost to the HIO for the pensioners is about LE 44.0, i.e., ten times the revenue yield. At present, the 55,000 pensioners enrolled entail an operating loss of about LE 2.2 million. At present, this loss is financed from net revenues realized by the HIO from its participation in the workmen's compensation program (the HIO receives 1.0 percent of the wages of all covered workers under this program and provides various medical services, principally those for work-related injuries). There is a prospect for a very considerable increase in the number of enrolled pensioners, which event, if it transpires, would entail large-scale losses for the HIO which cannot be financed out of present current revenues. This problem, which repeatedly has been pointed out by HIO officials, obviously warrants serious attention. Public policy may wish to subsidize the consumption of health services by the pensioners and to subsidize them at the current rate. However, this decision must be accompanied by a decision about some workable way to finance this subsidy.

Adding the Dependents of Employee Beneficiaries

Until recently, the HIO program had not enrolled the dependents of any of its employee beneficiaries. Pursuant, however, to the ARE's policy to extend health-insurance coverage to the population generally, about a year ago the HIO

launched a pilot program in Alexandria to test the feasibility of extending coverage to dependents. This program required additional employer/employee contributions (0.5 percent of wages per dependent from each) and substantial copayments. The program has not been an unqualified success. Under the program, a number of employers collectively employing 30,000 employee beneficiaries were obligated to make the additional contributions to enroll the dependents of these beneficiaries, about 120,000 dependents in all. However, to date, only 10,000 employee beneficiaries have been in this way signed up for dependent coverage such that only about 40,000 dependents have been covered under the program. Of these, only about 3,000 dependents have sought services of any kind from HIO facilities; admissions of dependents for inpatient hospital services have been virtually zero.

The failure of employee beneficiaries and their dependents to accept and participate in this pilot program appears to be owing in the main to the fact that they regarded the additional contributions and copayments as too high a price to pay for the benefits to be in this way realized. */ The original pilot-program payment schedule for the dependents should be restudied to determine if a feasible, more attractive scheme for dependent coverage can be devised. */ In addition to simply extending coverage under health insurance per se,

*/ In a group discussion of this program with beneficiaries, some of them indicated that, as compared with the deal offered by HIO, they had more attractive alternatives for their dependents, e.g., relying on the school-health program of the MOH or upon supplementary benefits afforded by their employers. No systematic canvas of employer supplementary plans of this kind has been made.

*/ The dependent-coverage pilot program raises an important policy issue--namely, the extent to which and the way in which coverage under this kind (or other kinds) of social insurance programs in Egypt should be compulsory or voluntary. In a social-financing scheme such as that represented by the MOH system, participation is of course compulsory in the sense that everyone is obligated to pay the taxes which finance the program. Under contributory insurance schemes, on the other hand, there is more room for choice on this score. The general question for public policy is whether the government should be regarded as discharging its social responsibilities in this domain if it offers to consumers a fair and equitable social-financing scheme to finance their demand for health services--on a voluntary basis and whether or not consumers enroll in the program in large numbers.

it has been recognized here that including dependents (these would be for the most part women and their children) as beneficiaries in the HIO program would afford that program an opportunity to give more attention to a wider range of preventive/promotive services (e.g., MCH, family planning). The HIO has declared its intention and capacity to deliver family planning and preventive/promotive services. This intention was unclear and controversial in Phase I.

In this section, the author has briefly reviewed some (but not all) of the problems which will be encountered by the HIO program as it seeks to increase the number of its beneficiaries over the coming years. The author will have occasion subsequently to refer to these problems in the context of some discussion of ways in which USAID might assist the expansion of coverage under the HIO program. First, however, attention must be paid to what is in many ways the most difficult obstacle to implementation of the ARE's policy to extend coverage under health insurance to the population generally.

EXTENDING COVERAGE UNDER HEALTH INSURANCE TO BENEFICIARIES IN THE RURAL, AGRICULTURE ECONOMY

Social-security-type schemes, such as the HIO, traditionally have operated in the modern, urban economy where they are financed by payroll taxes (the contributions set as a percent of wages). This format is ill suited to the agriculture economy where the majority of the agriculture work force consists of self-employed farmers. Nevertheless, the basic principle embodied in urban-based social-security schemes might, if certain conditions are met, be extended to rural areas. That principle is that the parties to economic transactions are to be eligible for health-services benefits to be financed by contributions based on these transactions. In the agriculture economy, the principal transactions to serve as a base for generating insurance funds are the sale and purchase of agriculture commodities (inputs and outputs). The basic question, of course, relates to the feasibility of actually implementing such schemes in rural areas.

Before turning to some consideration of this basic question, a few general observations are in order. As previously remarked, the general assumption has seemed to be that a major part of the extension of health-insurance coverage to the population generally is to be accomplished by increasing enrollments in the HIO program. It does not, however, appear that the ARE regards this as the only strategy for extending coverage under health insurance. Indeed, it is anticipated that a variety of different kinds of insurance schemes will

evolve over the coming years, e.g., schemes to finance the demand for services provided by the private sector (under any of various kinds of remuneration schemes for the providers), or schemes to finance the demand for services provided by various public or quasi-public provider systems. Pursuant to the policy of extending coverage under health insurance, the kind of pluralistic approach which now appears to be contemplated has much to recommend it. This approach encourages individual and community initiative to evolve social-financing schemes peculiarly suited to the different situations in which (prospective) beneficiary groups find themselves and it helps to insure that the medical marketplace will feature alternatives among which consumers can choose, thereby helping to provide incentives for more effective performance by provider systems. */

Turning now to the agriculture economy, it seems likely that extending insurance coverage to include farmers will be accomplished by mechanisms in addition to (perhaps, in the main, other than) enrolling them as beneficiaries in the HIO program. */ Generally speaking, the feasibility of developing alternative social financing schemes for farmers depends upon

*/ As in other markets, monopoly in the market for medical services can have untoward implications for the welfare of consumers, and this is apt to be true whether the monopoly is privately contrived or publicly sponsored.

*/ Although the large majority of the rural labor force in Egypt is employed in agriculture, there are also a substantial number of non-agriculturalists. In 1975, there were 1,159,800 such workers distributed among manufacturing and energy (23 percent), construction (6 percent), trade (19 percent), services (38 percent), transport (9 percent) and unknown (6 percent). (See Iliya Harik, Distribution of Land, Employment and Income in Rural Egypt, Rural Development Committee, Cornell University, December 1979, p. 60). For many of these non-agriculturalists, insurance would be provided by those programs now in operation under Laws 79 and 32--including those programs resulting from employers "opting out" in favor of their own schemes.

the organization of agriculture markets (and upon the political and social organization of rural communities). Thus, for example, to the extent that agriculture markets are in some way centralized (on the input side or output side), developing such schemes will be administratively more feasible than if these markets are highly decentralized. No attempt is made here to spell out in detail the organization structure for insurance schemes which would have farmers and their dependents as beneficiaries. Rather, attention is drawn to certain institutional features of agriculture markets and of rural social and political organization which suggest some of the organization components of such schemes.

In many countries, the agriculture cooperative movement is well-developed and affords a promising base for developing health-insurance schemes. In Egypt, the picture on this score is mixed. Although the agriculture cooperative movement began here many decades ago and initially was operated along conventional lines with control of the cooperative societies by their members, in more recent years this traditional kind of cooperative movement appears to have gone into a decline such that relatively few such cooperatives now function as effective organizations in the rural areas. */

The "cooperatives" have now effectively become public agencies, their functions being in various ways to facilitate state planning of and control of the agriculture sector. Under the system of cooperative marketing in Egypt, farmers deliver cotton, rice, sugar cane and other major crops to state procurement agencies at administered prices (the announced cooperative purchase prices) generally less than the free market prices for these commodities, the difference representing

*/ It appears to be the intention of the recent Agricultural Cooperative Law (Law No. 122 of 1980, Official Gazette, No. 27, Annex A, July 3, 1980) to revive the private agricultural cooperative movement and to assign to it a significant role in rural social and economic development. USAID now has projects underway addressed to these same objectives. To the extent that these efforts succeed, the prospects for effective implementation of social-financing schemes to finance the demand for health services will be enhanced.

a tax or surplus transferred in part to the non-agricultural economy. The ARE's crop procurement program affords one possible base for generating "indirect" contributions to insurance funds for farmer beneficiaries.*/ The crop procurement program is a device for taxing farmers to help finance development of the non-agriculture economy.

Egypt's price policies in agriculture also include various input subsidies (for fertilizers, pesticides, feeds, seeds, etc.). The net burden of these price policies on agriculture has been calculated as LE 580 million, or about LE 141 for each of the 4,000,000 or so farm households. (Cf. 1984 CDSS Annex). Since rural incomes are low relative to urban incomes, a case may be made for managing a scheme of "indirect" contributions based on the commodity procurement program at the expense of the profits of the state cooperatives or otherwise at the expense of the non-agriculture economy (i.e., rather than at the expense of the agriculture economy).

Social-security-type contributory insurance schemes which operate in the urban areas (e.g., such as the HIO in Egypt) typically include so-called "direct" as well as "indirect" contributions. The collection and management of such direct contributions under social-security schemes in urban areas is facilitated by the circumstance that the employer can collect these contributions (set as a percent of wages) at the source. Some alternative institutional mechanism is required to facilitate the management of direct contributions in insurance schemes for rural areas. In Egypt, such a mechanism is afforded by the Principal Bank for Agriculture Development. This bank has some 4,500 branches or agencies (sometimes called "cooperatives") scattered throughout the rural areas. All farmers in Egypt purchase inputs from these bank agencies (fertilizer, seeds, etc.) because they are supplied on credit and at prices lower than those obtaining in the open market.

*/ For 1980, the value of commodities procured under the fixed price procurement program was about \$834 million. (Cf. 1984 CDSS Annex). A, say, 3.0 percent contribution based on this value would have yielded an insurance fund revenue of about \$6 per agriculture household.

Thus, all farmers do business with the agencies of the Principal Bank for Agriculture Development such that, were a health-insurance scheme developed and implemented, the Bank could serve as a collection agent for direct contributions. The Bank might also discharge other functions to facilitate the implementation of insurance schemes; some of these will be alluded to in the section addressed to recommendations. */

The total financing package for health-insurance schemes in rural areas would probably include additional elements not discussed here (e.g., some consumer cost sharing). The foregoing discussion has been intended as exemplary of the general point that resources and institutional mechanisms are found in rural areas which might facilitate the financing of insurance funds.

Insurance funds do not deliver services: delivery systems do that. The question arises whether there are additional elements in the institutional picture in the rural areas which might facilitate group enrollment of farmers in insurance schemes and which might manage and administer relationships between the beneficiaries, the insurance fund and provider systems. */ The picture on this score is not altogether clear and will, in any event, differ somewhat from area to area.

*/ The Bank agencies also purchase crops delivered under the commodity procurement program (see discussion foregoing) and hence would be in a position to collect and manage "indirect" contributions from this source for health-insurance funds.

*/ One possibility would be an extension of the HIO management and administrative machinery to enroll self-employed farmers. Where the HIO is already operating in any given rural area to serve its traditional classes of beneficiaries, such an approach might be feasible. Whatever the prospect on this score, it is anticipated that additional institutional mechanisms will be involved in extension of health-insurance coverage to the agriculture work force. This discussion in the text is directed to such additional mechanisms.

In some areas it appears that membership agriculture producers coops do exist and function fairly effectively (USAID has developed a project with some fruit and vegetable coops of this kind, intended generally to upgrade their performance). Where such organizations exist, they are natural candidates to represent the interests of their members in health-insurance schemes. Where such organizations are not functioning, it may be possible to rely upon units of local government, e.g., the elected village councils, to play an organizational role in the implementation of insurance schemes. Yet additional possibilities are afforded by the program operated under the aegis of the Ministry of Social Affairs. This program has two major categories of activities. One entails the registration and to some extent the regulation of various kinds of private voluntary organizations (PVOs, e.g., friendly societies and the like) engaged in various kinds of social amelioration activities, including the provision of health services. The Ministry of Social Affairs (MOSA) makes small contributions to the PVOs, which themselves raise most of the funds necessary to finance their activities, and in effect "manages" a large system of thousands of PVOs throughout the country. Under the other major category of its activities, the MOSA operates some 1,276 "social units" in villages around the country. These units employ "organizers" whose job it is to assist the villagers to organize "Community Development Societies" and "Social Welfare Societies." According to the MOSA, many of these societies have been organized and function effectively. Prima facie, it would appear that the programs operated by the MOSA might well afford an institutional base for implementing health-insurance schemes in the rural areas. This possibility warrants systematic field investigation (for which we have not had time as a part of this exercise).

Whatever the precise organization format of each of various health-insurance schemes in rural areas, these schemes will reflect certain general principles. There will be, of course, the substitution of social-financing of the demand for health care for what otherwise might have been out-of-pocket payments for services. */ And there is a more general kind of principle. Social-financing schemes facilitate the organization

*/ It appears from what data are available that substantial out-of-pocket payments are made for health services in rural areas. For example, a recent survey revealed that the average "cost of the last illness" for consumers in the rural areas surveyed was about LE 5.4 (rural areas with health center) and LE 5.8 (rural areas without health center). (See HEALTH PROFILE OF EGYPT, Newsletter, Vol. 1, No. 9, September 1980.) These findings presumably imply substantially higher out-of-pocket payments per household per year. Also, survey research done as part of USAID's SRHD project also revealed substantial out-of-pocket payments by consumers in rural areas.

of consumers such that they can bring their collective purchasing power to the market place and in this way improve their relative bargaining power vis-a-vis the providers, e.g., as by securing services upon favorable terms under contract.

RELATIONSHIPS OF THE HIO AND OTHER INSURANCE SCHEMES TO THE MOH SYSTEM

One general aspect of this matter has already been discussed--namely, the intention that the insurance schemes would finance much of the demand for curative services heretofore regarded as the financing responsibility of the MOH system such that the MOH system could concentrate its scarce resources on public-health-type preventive/promotive activities.

Without more detailed study, it is not possible precisely to estimate how many consumers in rural areas it will prove feasible to include as contributing members of health-insurance schemes. It seems likely, however, that a considerable number of consumers cannot be so included (e.g., for organizational reasons) or should not be included (e.g., income-related equity considerations, the burden imposed by contributions). These consumers will remain the financing responsibility of the MOH system, such that they obtain their services from the MOH system or such that the MOH system uses some of the resources available to it to "buy them into" alternative delivery systems. In any event, if the MOH system has responsibility for financing the demand for curative health services for only some small proportion of the population, its resources should prove much more adequate to the task.

In addition to the foregoing, there are additional problems involved with the relationship of insurance schemes to the MOH system. Some of these relate to the supply side of the market. Most of the real resources (facilities, physician and other health manpower) available for provision of services in rural areas are part of the MOH system such that the insurance schemes will to a considerable extent depend upon these same resources for the delivery of services. Various arrangements are possible, e.g., the insurance schemes might contract with MOH physicians for the provision of services after regular MOH hours, they might contract for the use of all or part of facilities on a full-time or part-time basis, they might reimburse the MOH system for services provided by that system to beneficiaries,--these various possibilities cannot be canvassed in detail here.

SUMMARY

An attempt has been made in the foregoing discussion to:

- 1) Identify a number of important problems with the system for health-sector financing as it now operates in Egypt.
- 2) Explain why the ARE's stated policy of extending coverage under health insurance to the population generally should be regarded as responsive to these problems.
- 3) Discuss some of the problems and difficulties that implementation of this policy will confront, particularly with reference to the HIO.
- 4) Briefly outline some economic, social and political features of organization in the rural areas which suggest the kinds of institutional ingredients which may be available for the implementation of health-insurance schemes in rural areas.

The implications of the foregoing discussion for USAID's health-sector assistance portfolio over the coming years must now be considered.

RECOMMENDATIONS

Generally speaking, this author recommends that USAID assist the development and extension of health insurance in Egypt. More particularly, this assistance should take the forms outlined in general terms below (i.e., these are not spelled out in detail). The rationale for this recommendation--notably, that the ARE's policy to extend coverage under health insurance is indeed responsive to major problems in the performance of Egypt's health-services sector and hence should be encouraged, is set forth in the preceding discussion.

Technical Assistance for the Health Insurance Organization (HIO)

This might take various forms, viz: Visits by consultants to Egypt, as requested by the HIO. Visits by HIO officials to the U.S. to familiarize themselves with the management and administration of somewhat similar large-scale group-practice delivery systems, e.g., Kaiser-Permanente.

Discussion:

The HIO is a large, complex organization, the successful management of which entails coping with various difficult problems, e.g., the design and use of an effective management-information system, the design of benefit packages and payment schedules (particularly for new classes of beneficiaries, e.g., the dependents of employee beneficiaries), utilization review and control (particularly with respect to drugs and impatient hospital services), and others. There has been substantial experience with these related problems in U.S. delivery systems from which the HIO could benefit. Given the role that the HIO now plays in Egypt's health-services sector, and the yet larger role it will play in the future, it is important that the resources used by this organization be used in a cost-effective way. Technical assistance can make an important contribution on this score where, as in the case of the HIO, the organization seeking to benefit from such assistance features an intra- and extra-organization incentive structure which tends to motivate efficient performance.

Technical Assistance for Other Organizations Seeking to Implement Health-Insurance and Health-Services Schemes

Such other organizations might include any of various PVOs (registered with the Ministry of Social Affairs), the Medical Syndicate (or organization components of it), large private or public companies, and others.

Discussion: The development of health insurance coverage in Egypt will take place along various organizational lines. As matters now stand, a variety of organizations in Egypt are seeking to represent the interests of their members in the medical market place by implementing social-financing schemes to finance demand for services which otherwise would be financed by out-of-pocket payments. The forms these schemes will take will depend in part upon how familiar their proponents are with various organizational possibilities, e.g., relationships between beneficiaries, plan management and the providers. More particularly, and for example, this would seem to be a strategic time in the evolution of Egypt's health-services financing system for the parties to become familiar with the advantages of the pre-paid group practice format. Technical assistance can help to afford this sort of institutional familiarity and can help to conserve the interests of beneficiaries in a market in which the providers will also be seeking to represent their interests in the design of financing schemes.

A Loan Fund to Help Finance HIO Investment in Facilities

This would be in effect a revolving loan fund to be managed by the recently constituted National Investment Bank. That is, USAID would capitalize the fund by a grant to the Bank. The Bank would process HIO's applications for loans and otherwise manage these loans. USAID and the Bank would stipulate certain conditions for the use of this loan fund, e.g., low interest rates, long payback period, and the like. The Bank would need to earn enough on this operation to make it feasible to take on this role.

Discussion: A major problem confronted by the HIO in seeking to increase the number of its beneficiaries (pursuant to the national policy to extend coverage under health insurance and the pressures upon the HIO entailed by this policy) is that of how to finance investment in required additional facilities. Putting USAID assistance in this domain on a loan (rather than a grant to the HIO) basis has much to recommend it, e.g., encouraging the financing discipline required to cover capital as well as current-account expense out of operating revenue. HIO officials have declared the capacity of the organization to repay loans, provided that these are available on favorable terms.

From USAID's point of view, managing this program through the National Investment Bank has much to recommend it. This avoids the necessity of USAID professional staff having to roll up their sleeves and play banker (a technical and frequently onerous and contentious job for which bankers are much better suited). At the same time, it tends to insure responsible management of the loan program.

The National Investment Bank is a recently constituted organization capitalized in large part by the reserves generated by the pension program component of the national social-security system. According to an official of the Bank, the Bank has the legal authority to participate in an arrangement of this kind and would find it attractive. It is also the case, however, that historically these kinds of arrangements would be handled through the Ministry of Economy. Whether there would be political problems in going the route suggested herein would need to be explored.

HMO-Act-Type Assistance for Developing Social-Financing Schemes in Rural Areas

It is not possible at this writing to indicate precisely what form these schemes will take. An effort was made in the foregoing text discussions to identify what some of the major organization ingredients are apt to be, e.g., the Principal

Bank for Agriculture Development and its 4,500 local agencies, agriculture coops, PVO's registered with the Ministry of Social Affairs, and perhaps local government units. What is required at this juncture to facilitate the evolution of these schemes is assistance along the lines afforded to emerging HMO's in the U.S. under the 1972 HMO Act. This Act provided grants for planning purposes and grants and loans to underwrite the early years of operation of the emerging HMOs. (In the nature of the HMO business, even for well-conceived and well-managed schemes, substantial operating losses can be anticipated in the early years. Once the HMO becomes established, however, it can be expected to compete successfully in the medical market place and, in the view of many, can be expected to deliver services in a more cost-effective way than do conventional financing/delivery systems. Consequently, there is a kind of "infant industry" argument in favor of providing some subsidy for evolving HMOs).

Under the program contemplated, grants would be provided to the promoters of health-insurance schemes in rural areas to finance the design and organization of such schemes. As under the HMO Act in the U.S., there would be stipulations with respect to the general outlines of proposed schemes to be eligible for assistance under the program. Once a scheme had been designed and was ready to start operation, assistance would be provided under the program to underwrite the early years of operation (e.g., to defray operating losses of some magnitude for some period of time).

In addition to the general merits of assistance of this kind, there is an important general principle which informs the proposed program. In Egypt, particularly in rural areas, people are not used to thinking in terms of health insurance (or insurance of any kind, for that matter). The developing health-insurance schemes would feature novel organization arrangements--skepticism among the prospective beneficiaries would be a natural response. More particularly, there will be reluctance on the part of prospective beneficiaries to participate in such schemes, as by making direct contributions, until they feel absolutely sure that the benefits to be obtained in this way will be worth the cost. Moreover, where the financing of these schemes would entail decisions at higher levels of fiscal authority (e.g., indirect contribution from the profits of state cooperatives under the commodity procurement program) there may be political reluctance to authorize such participation in advance of convincing evidence that the schemes to which such contributions would be made would in fact prove viable. In a situation of this kind, USAID assistance can serve a crucial function by underwriting, for some limited period of time, the operation of the emerging schemes such that the parties to them can have actual experience with the performance and benefits of them to in this way inform their decisions about the advisability of themselves making the expenditures necessary to operate such schemes over the long run.

Appendix

SOME GENERAL PROGRAM IMPLICATIONS OF CERTAIN PHASE II RECOMMENDATIONS

Prof. Carl M. Stevens.
Department of Economics
Reed College, Oregon

The performance of the health-services sector is manifest in various ways -- notably, impact on health status. We may begin with the assumption that, whatever the overall strategy pursued, USAID assistance is intended to improve the performance of the health-services sector. There are, however, in terms of the overall strategy pursued, (at least) two quite different ways to go about this.

Traditionally and for the most part, USAID health-sector assistance has been cast in the format of health-program design and direct implementation -- as by fielding projects. The typical project in this domain specifies the desired outputs of some health activity, the inputs to be used (various categories of health manpower, facilities, supplies) to produce the desired outputs, and how these are to be organized, managed and administered. A budget is specified, funds are provided, and a contractor is hired directly to implement the project (working in conjunction with USAID and the host country). Although projects differ in various ways, the project approach tends to exhibit certain features, viz:

- (1) Although the content of projects is negotiated with the host country, a good bit (frequently, most) of the initiative for project design, etc. is supplied by USAID (often with the assistance of a consultant hired for the purpose).
- (2) Although contractors are hired to implement projects, USAID's own project-administration role consumes virtually all of its professional staff time. Professional staffers, as project officers "backstopping" projects, become involved on a day-to-day basis with the details of project implementation, a task which frequently entails mediating conflicts between the contractor, the host country, and both of these and USAID.

It is owing largely to the circumstance that USAID health-sector assistance has typically been in the context of the centrally-planned (in principle), centrally-budgeted and centrally managed MOH system that the health-program design and direct implementation approach has seemed the natural way to go. More recently, however, there has been recognition that the health-services sector in Egypt is comprised of a number of mutually interdependent subsectors which feature complementary (as well as competitive) relationships such that AID's purview in this domain logically must extend to comprehend the health-services sector as whole, i.e., not only the MOH system, but also quasi-public (semi-autonomous) organizations and activities and private organizations and activities. A USAID health-sector assistance program to engage this wider domain of events probably will want to include assistance activities in addition to those based on the traditional project approach.

In developing its report, the Phase II team has sought to identify important complementarities among the subsectors and to frame recommendations for USAID assistance to build upon such complementarities in improving the performance of the health-services sector as a whole, including the MOH system components. This approach entails taking account of structural interdependencies and attempting to exploit them. For example, suppose that USAID wishes to improve the performance of the MOH system in providing preventive/promotive services (this pursuant to implementation of Egypt's Primary Health Care Program). One point of attack on this problem might be directly on the MOH system itself, e.g., to field projects within the context of this system. However, taking account of system-wide structural interdependencies might suggest that a better point of attack on this same problem might be outside the context of the MOH system itself, e.g., to assist the widespread extension of coverage under health insurance. This particular strategy, which is discussed at some length in the Phase II report, is exemplary of what we may term a structural intervention.

As with the traditional project approach, the structural-intervention approach seeks as its ultimate goal to improve the performance of the health-services sector (e.g., impact on health status). Under the traditional project approach, an attempt is made to operate directly upon the performance of the system. Under the structural-intervention approach, on the other hand, an attempt is made to operate on

elements of the structure of the system with the expectation (based on analysis) that improved system structure will yield improved system performance. It is likely that, as USAID recognizes and seeks to exploit interdependencies in the health services sector, various kinds of structural intervention will appear attractive.

It is of relevance in this context to remark that, in the U.S., public policy seeking to improve the performance of the health-services sector has relied in important part upon the structural-intervention approach rather than upon attempts to operate directly upon system performance.*/

*/ The same has been true with policy seeking to improve the performance of the economy generally. Thus, the major policy response to market failure in, say, the industrial sector has been the antitrust approach with attempts to operate on market structure -- notably, to make it more competitive. That is, this approach does not attempt directly to regulate market performance. Rather, it attempts to modify market structure based on analysis which suggests that competitive markets will perform better, from the consumers point of view, than will monopolistic markets.

A good example of this is the 1972 HMO Act (as variously amended). The general rationale for this act was that the interests of consumers in health-services markets would be better served if HMOs claimed a larger share of the market, both because these delivery systems could be expected to perform more efficiently than the fee-for-service sector and because they would bring competition to bear upon the latter, thereby improving its performance. Pursuant to this, the Act sought in various ways to facilitate the emergence and proliferation of HMOs.

The structural-intervention approach has certain more particular implications for USAID assistance programs. For example, as previously remarked, under the traditional project approach, the initiative tends to be with USAID. Under the structural-intervention approach, on the other hand, the initiative will be much more largely with the Egyptians. Take the Phase II recommendation that USAID capitalize a loan fund (to be managed by, say, the National Investment Bank) to help finance investment expenditures by the HIO. The extent to which investment events result from this program would depend upon the extent to which HIO officials come forward to convince

the Bank's loan officers that they can in fact repay loans for these purposes. Under this kind of program, USAID affords an opportunity, its up to Egyptian initiative to exploit that opportunity. The vexed subject of technical assistance (TA) affords another example. In the context of the traditional project, TA is put in, usually at the initiative and insistence of USAID, in the attempt better to control the outcomes under the project. And frequently, TA of this kind is resisted and resented by the host country (they tend to regard it as a full-employment program for U.S. consultants). The TA recommended by the Phase II team to facilitate the development of health-insurance schemes in Egypt is of a very different kind. Under this recommendation, TA does not appear as a line item in a project budget. Indeed, there is no "project" in the usual sense. Rather, the program calls for establishing a fund to finance technical assistance with might (or might not) be requested by various parties. Thus, the initiative is with the Egyptians. If the promoters of health-insurance schemes feel that they would benefit from TA they can come forward and request it. Again, the TA funds affords an opportunity, it is up to Egyptian initiative to exploit that opportunity.

The structural-intervention approach entails a longer time horizon than is usually entertained under the traditional project approach. It may take (some unknown number of) years before the fruits of structural interventions are manifest in the form of improved system performance. Moreover, it usually will not be feasible to state in precise terms what impact on health status (e.g., change in some vital-events rate) is to be anticipated. By contrast, under the traditional project approach, we frequently venture a precise statement about the outcome of the project, e.g., a reduction in the infant mortality rate of "x" percent.*

In the health-services sector, the traditional project approach, cast in a central-planning-type framework addressed to specific performance targets, has been encouraged by the belief that this approach is somehow more "scientific" (or "rational") than other approaches and also exhibits an

*/ Frequently, the analysis which supports the conclusion that such a performance target will be achieved in not very convincing such that the stipulated target appears more in the nature of a pro forma attempt to comply with supposedly acceptable planning methodology than in the nature of a genuine expectation about the outcome of the project.

appropriate sense of stewardship for the tax payer's dollar. However, the structural-intervention approach is not properly regarded as in some sense less "scientific" than performance-target planning incorporating program design and direct program implementation. Rather, it is a different approach based upon a different perception of what intervention strategies are most apt to in fact result in improved health-sector performance. Nor would it be correct to suppose that the structural-intervention approach somehow exhibits a less delicate sense of stewardship for the tax payer's dollar. Indeed, if analysis suggests that the structural-intervention approach is more apt, under given circumstances, than is the traditional project approach to yield improvements in health-sector performance, than both rationality and our sense of stewardship for the tax payer's dollar would urge that we adopt the structural-intervention strategy.*/

*/ We may remark that since the typical project engages but a small subset of the events comprising the health-services sector of which it is a part, is usually if provided that, if successful, the project will "be replicated nation wide" -- as the argot of the project community would have it. However, the analysis (especially the economic and financial analysis) supporting the expectation of such replication is usually not very convincing. This consideration, plus the notable failure of health projects to in fact be "replicated nation wide" raise questions about the extent to which the traditional project approach itself may be regarded as in fact "rational".

In Egypt (as elsewhere), in economic sectors other than the health services sector, USAID is continually urging the government to abandon central-planning approaches (administered prices, performance targets, etc.) in favor of greater reliance upon properly structured markets and market-type incentives. And, vis-a-vis these other economic sectors, this approach and the assistance activities which seek to encourage such structural changes, are regarded as entirely appropriate and rational. In light of this, the extent to which, vis-a-vis the health-services sector, we appear to have become wedded to the notion that the central-planning approach represents rationality appears as something of an anomaly. It is true, of course, that the health-services sector differs from other economic sectors in important ways. However, in the design of USAID's health-sector assistance portfolio, there may well be room for greater reliance upon structural-interventions -- an approach which would be very much in line with AID's general approach to development assistance.

B-i

Annex B
Bibliography

BIBLIOGRAPHY

1. Johnson, Pamela, "Sector Assessment Plan of Work", Reference Document No. 1, AID/Washington, August 16, 1981.
2. The World Bank, World Development Report 1981, Washington, D.C., August 1981.
3. Ministry of Health, "Egyptian Experience in Primary Health Care". Arab Republic of Egypt, Cairo, Egypt. (Undated)
4. Jeffers, James, "Health Policy Review", Health Sector Assessment, Cairo, Egypt, April 1982.
5. Abel-Smith, Brian, Value for Money in Health Services, New York: St. Martin's Press, 1976.
6. Richmond, Julius, "Tensions in the Egyptian Health System", Boston, Massachusetts, Health Sector Assessment, Phase II, June 1982.
7. Storms, Doris, "Health Manpower Report", 1982 Health Sector Assessment, Cairo, Egypt, March 1982.
8. Stevens, Carl, "Some General Program Implications of Certain Phase II Recommendations", Cairo, Egypt, June 1982.
9. Bicknell, William, et. al. Health and Development in Southern Africa, Volume X., Family Health Care, Inc., Washington, D.C., January 1979.
10. Bossert, Thomas, "Health Policies in Africa and Latin America: Adopting the Primary Care Approach", Social Science & Medicine, Volume 13C, Number 2, June 1979.
11. Eckholm, Erik P., The Picture of Health: Environmental Sources of Disease, Worldwatch Institute, New York, 1977.
12. Eldahry, A. K., "Determinants of Capital Flow in the Egyptian Public Health Sector", Health Sector Assessment Report, Phase I, Cairo, Egypt, April 1982.
13. Bicknell, William, Alan Fairbank, "Health Development in Egypt: A Proposal", Boston University, Boston, Massachusetts, August 1981.
14. Mauldin, Parker, "Population Sector Evaluation", Cairo, Egypt, May 1982.
15. Richmond, Julius, "Preamble to Phase II Health Sector Assessment", Cairo, Egypt, May 1982.