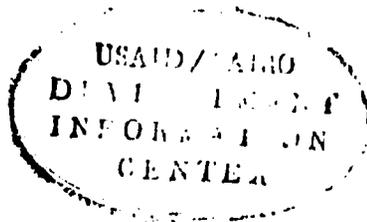


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**PERCEPTION AND UTILIZATION OF  
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GREATER CAIRO AREA :**

**A PRELIMINARY INVESTIGATION**



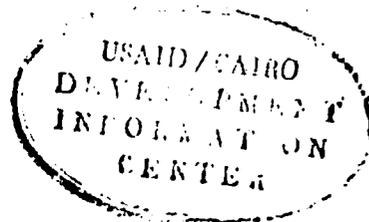
**CAIRO, EGYPT**

**JANUARY 1978**

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**TABLE OF CONTENTS**

I.	INTRODUCTION.....	1
II.	OBJECTIVES.....	3
III.	DEMOGRAPHIC OVERVIEW OF THE CAIRO AREA.....	5
IV.	METHODOLOGY.....	29
V.	DISCUSSION OF RESULTS.....	41
VI.	SUMMARY AND RECOMMENDATIONS.....	66

**APPENDICES:**

A.	HEALTH SERVICE MAP OF GREATER CAIRO AREA.....	72
B.	SOCIAL PROFILE OF HEALTH ZONES BY ADMINISTRATIVE DISTRICTS.....	74
C.	ORGANOGRAM OF MOH SERVICES.....	86
D.	LISTING OF TOP-LEVEL HEALTH-SERVICES DIRECTORS INTERVIEWED FOR RECOMMENDATIONS.....	88

## LISTING OF TABLES

1. Population Distribution in the Greater Cairo Region -- By City/Markaz and Sex.....	7
2. Population in Each Kism of Cairo Governorate By Sex and Population Density, 1976.....	8
3. Population Distribution by Marital Status, Sex (1976).....	10
4. Population Distribution by Educational Attainment, Sex (1976).....	11
5. Distribution of Economically Active in Cairo, By Sex (1960, 1976).....	13
6. Household Characteristics in Cairo by Electric and Water Facilities (1976).....	14
7. Vital Statistics for Cairo Governorate -- Comparison with National Average (1969-1972).....	16
8. Evolution of Cairo Population (1907-1976).....	18
9. Population Projections for Cairo Governorate, 1977-1982.....	19
10. Health-Service Coverage in the Greater Cairo Planning Region by Number and Type of Facility.....	21
11. Projected Health Needs for the Greater Cairo Planning Region (1970-1990).....	23
12. Costing Requirement for the Greater Cairo Planning Region (1970-1990).....	28
13. Percentage Distribution of Population by Social Status for Greater Cairo Health Zones (1977).....	31
14. Percentage Distribution of Population by Occupational Groupings for Greater Cairo Health Zones (1977).....	32
15. Greater Cairo Population -- Demographic Profile by Health-Service Zone.....	33
16. Distribution of Health-Service Respondents by Health Zone and Major Personnel Category.....	35
17. Distribution of Household Respondents by Health Zone and Sex.....	37

18.	Distribution of Outpatient Respondents By Health-Service Sector.....	40
19.	Distribution of Health-Care Facilities (1977).....	42
20.	Distribution of Manpower Resources by Health- Service Zone and Personnel Category (1977).....	43
21.	Health-Service Personnel Perceptions of Major Factors Affecting Service Delivery in the Greater Cairo Region.....	46
22.	Health-Service Personnel Perceptions of Resource Deficiencies in the Greater Cairo Region.....	47
23.	Perceived Reasons for Public Criticism of Present Health-Care Services in the Greater Cairo Region.....	49
24.	Health-Service Personnel Suggestions for Improving Service Delivery in the Greater Cairo Region.....	50
25.	Utilization Preferences in Cases Involving Non-Emergency Illness.....	52
26.	Source of Treatment Sought for Night Emergency Cases.....	53
27.	Assistance Sought in Cases Involving Labor and Fractures.....	55
28.	Distribution of Health-Service User by Sex of Client.....	57
29.	Distribution of Health-Service Users by Age of Client.....	58
30.	Occupational Status of Clients Surveyed.....	59
31.	Utilization Patterns by Health-Service Sector.....	61
32.	Consumer Evaluations of Unit & Service by Health-Service Sector.....	63
33.	Health-Service User Evaluation by Area of Utilization.....	65

## I. INTRODUCTION

Cairo is more fortunate than many capital cities in the developing countries, in that it possesses a substantial number of health-care resources in the way of both facilities and personnel. There are, for example a total of 44 government hospital facilities alone in Greater Cairo plus a considerable number of peripheral treatment facilities offering ambulatory health care in many different areas.

In spite of the existence of numerous facilities and personnel, however, there is a problem involving utilization of health care services. It appears that, although many peripheral health facilities are available, utilization patterns seem to indicate a preference for and over-reliance upon central hospital facilities which has resulted in overcrowding of hospital outpatient facilities. Central hospitals are now operating at maximum caseload capacity and are being forced to turn away patients within one or two hours after opening time (e.g., 4000 outpatients are being processed daily at the University of Cairo Paediatric Facility). Such overcrowding has not only placed a tremendous strain on medical personnel and facilities, thus leading to reduced scope and quantity of services offered to health consumers, but it has placed a considerable burden on hospital management as well and consequently has inhibited the development of solutions to the present problem.

Uneven utilization of available services can stem from a variety of factors. First of all, failure to utilize peripheral facilities can, and often does, result from a lack of public knowledge and awareness regarding the existence of such facilities. In many cases, patients may travel considerable distances to well-known hospital facilities when a clinic facility -- the existence and/or reputation of which they may be totally unaware -- may be available within only a few blocks of their place of residence. In such cases, the obvious need would be for the development of an adequate referral system and for the establishment of informational campaigns and outreach efforts directed toward rechanneling the present flow of patients to the various facilities.

Another factor which may be affecting utilization patterns of health consumers may be a maldistribution of health services themselves, either with respect to over- or under-allocation of specific services in various areas or with respect to a possible failure to match facilities with specific health care needs of a given area. In such cases, patients may be aware of the existence of peripheral facilities in their area but feel that they do not adequately meet their basic health-care needs. Such facilities, for example, may offer highly specialized services in an area characterized by more general health-care needs or by health needs in a different area of specialization.

A third major set of factors affecting utilization of health-service facilities is that involving health consumer perceptions of various facilities. Patients seeking health care at central hospitals rather than local clinics may be doing so as a result of the perception that services offered by peripheral facilities are limited and/or inferior to those found in the larger

central facilities. This perception may be based on the belief that the larger facilities are more prestigious, are staffed with more competent personnel, and offer a broader range of services. These beliefs, in turn, may engender the notion that services in central hospital facilities are more intensive and of a better quality than those in peripheral facilities. Also the fact that the central hospitals are more widely known and enjoy a relatively good reputation only serves to further reinforce such beliefs and does little to enhance the patients acceptance of services offered by local neighbourhood clinics.

Many of the perceptions held by clients may be based on misinformation or on lack of information regarding existing facilities, but a large number may be based on rational observation and/or past experience. The belief, for example, that smaller neighbourhood health facilities are less adequately staffed or equipped or provide a poorer range of services may be well-grounded in the patients' previous experience with such facilities. Given this possibility, it is, therefore, necessary to determine which perceptions are erroneous and which reflect the reality of the situation. Thus, any study involving an assessment of utilization patterns of health consumers must not only take into consideration the actual patterns involved and client perceptions associated with such patterns but must also provide a general assessment of existing services and facilities, together with opinions on the part of health-service professionals themselves. Hence, the primary focus of the present study will be on these three areas of investigation.

## II. OBJECTIVES

In an effort to overcome problems associated with utilization of existing health services and facilities and to promote improvements in the efficiency and cost-effectiveness of the service-delivery system, the Ministry of Health, supported by financial and technical assistance provided by AID, has decided to develop a comprehensive health demonstration project within the Greater Cairo Area <sup>1/</sup>. The project will be slanted toward meeting the needs of the urban poor majority, with the major focus centered on the improvement of peripheral facilities. The thesis underlying this approach is that development of peripheral facilities will not only relieve pressure on overcrowded hospital outpatient facilities but will have the greatest impact within a shorter period of time and would require fewer alterations in the overall system.

Many health service implementors and most of the higher-level officials within the public health system are aware of the present paradox with respect to the utilization of existing health services, i.e., that ample facilities are available but are not being effectively utilized due to unbalanced utilization of the various facilities. In spite of a general knowledge or awareness of the existence of problems associated with the present system, there are still considerable gaps with respect to an actual understanding of Egypt's urban health care system at all levels, including a lack of sufficient information concerning specific problems associated with the present delivery-system, health-consumer utilization patterns, and consumer perceptions of health-care services in Egypt. Also, there appears to be considerable confusion and uncertainty in the area of health-care management and supervision, which manifests itself in a lack of inter- and intra-agency coordination of efforts, a lack of clear program directives, and a failure to share resources even within individual agencies and facilities.

Given the above situation, in order for the Government of Egypt to effectively plan, implement, and evaluate a comprehensive urban health demonstration project, it will be necessary to secure basic preliminary data with respect to the above areas. Thus, the efforts of the present study will be directed toward supplying the necessary background information and identifying the various factors contributing to unbalanced utilization subsequently responsible for the deterioration, inadequacy, and reduced cost-effectiveness of the present delivery system.

The primary objective of this study is to collect basic data on the types and locations of various health facilities and personnel involved, service allocation, utilization patterns of health consumers, and consumer perceptions regarding the adequacy of present services. Special emphasis will be placed on ascertaining the flow of patients from one area to another, especially in terms of the following factors:

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<sup>1/</sup> Project No.263-0063 (Urban Health Care Delivery System)

- types of facilities utilized;
- major types of services sought;
- degree of utilization, i.e., how often and under what circumstances do patients utilize various facilities;
- reasons patient is seeking services outside his immediate area, e.g. lack of knowledge regarding the existence of other facilities, perceptions regarding the facilities involved, referrals, etc.;
- consumer evaluation of services;
- major socio-economic-cultural characteristics of each of the main districts and the extent to which they may affect the degree and pattern of utilization;
- program factors which may be affecting utilization of services, e.g., absence of adequate referral system, lack of coordination, clear directives, etc.

PART III. DEMOGRAPHIC OVERVIEW  
OF THE CAIRO AREA

A. POPULATION SIZE AND DENSITY

In order to derive a better understanding or appreciation of the results obtained in this preliminary study and to provide an overall framework within which to determine present and future health planning criteria it is necessary at this point to present a demographic profile of the overall area involved.

First of all, it is necessary to begin by distinguishing between three different terms that are frequently used to refer to the area designated as Cairo: Cairo, Agglomeration of Cairo, and Greater Cairo. Each of the terms covers a different population area and geographical boundaries. There is often considerable confusion, however, regarding the actual areas involved and, thus, population figures for these areas are frequently interchanged or used erroneously.

The term Cairo is used to refer to the governorate of Cairo with its established administrative boundaries. These boundaries encompass an area of 214.2 square kilometers and, according to the preliminary results of the population and housing census of 22 November 1976, contain a population of 5,084,463 persons.

The second term, agglomeration of Cairo, is used to refer to the Cairo "metropolitan" area which comprises, in addition to the governorate of Cairo, the cities of Giza and Shubra el-Kheima. This structural expansion west of the Nile represents a large proportion of the population influx to Cairo governorate and covers such areas as el-Awkaf, el-Mohandesin, el-Haram, Imbaba, el-Omrania, and Boulak el-Dakrour. The total population contained within the agglomerate or "metropolitan" area is estimated at 6,724,217 persons.

The third term, Greater Cairo, designates the area defined by the Cairo Urban Planning Organization as its planning region. This region includes the agglomeration of Cairo plus areas which are economically or socially integrated with the main agglomeration. It also includes within its boundaries all areas to which settlement expansion is expected to extend during the next fifty years, in order that such expansion might be controlled and prevented from encroaching upon cultivated lands.

The total area of the Greater Cairo region comes to about 2900 square kilometers, 58.4% of which is desert land, 30.7% of which is cultivated land, and 8.9% of which constitutes populated areas; the remaining 2% represents water areas. Specific settlements contained within the region include:

1. All the districts of Cairo Governorate.
2. Some districts and villages of Giza Governorate -- the cities of Giza and Hawamdeya and some villages of Giza, Imbaba, el-Badrasheen, and el-Suff Districts.
3. Some districts and villages of Qalubeya Governorate -- the city of Shubra el-Kheima and some villages of Qalyub, Shebeen el-Kanater, el-Khanka, and el-Khaireya Districts.

The total population contained within the Greater Cairo planning region comes to a little over 8 million or over one and half times that of Cairo proper. A breakdown of the population of Greater Cairo by individual cities and districts and by sex is provided in Table 1 on the following page 1/. It will be observed from a study of this table that 79% of the total population is concentrated, however, in the cities of Cairo and Giza, with the remainder being scattered over adjacent areas.

Insofar as population density is concerned, the preliminary results of the population and housing census of 1976 do not yield detailed information on the population of Greater Cairo. This is due to the fact that the data are usually tabulated according to administrative units and are thus available on the governorate and lower levels only.

In Table 2, a breakdown of the population by sex is provided for each governorate in the region, along with population density figures for each kism (township) within the governorate. An examination of this table reveals a population density of 23,737 per square kilometer for the total region (compared with 15,634 in 1960 and 19,594 in 1966), with density figures soaring to over 100,000/sq. km. 2/ for some of the older districts of Cairo, especially those of Rod el-Farag, Mousky, and Bab el-Sharia. Other areas such as Boulaq, Shoubra, el-Sharabia, and Sayeda-Zeinab are also characterized by unusually high density figures in the range of 70-79 thousand per square kilometer. What is most alarming in terms of health implications is that these high-density areas are predominantly characterized by low-level structures, poor quality housing conditions, and inadequate sanitation measures and facilities. It is also in these areas that health facilities are the most needed but tend to be the least adequate.

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1/ Maps showing a breakdown of the Greater Cairo region by major districts and health service facilities are provided in Appendix A of this report.

2/ Reported to be among the highest density figures in the world.

TABLE 1

**POPULATION DISTRIBUTION IN THE GREATER CAIRO  
REGION -- BY CITY/MARKAZ <sup>1/</sup> AND SEX**

	Male	Female	Total
Cairo City	2606999	2477464	3084463
Giza City	639212	606842	1246054
Shubra-el-Kheima	205180	188520	393700
Markaz El-Giza	48466	45635	94101
Markaz Imbaba <sup>2/</sup>	209951	197478	407429
Markaz El-Badrasheen	102559	95059	197618
Villages from Markaz El-Saff	16780	15568	32348
Markaz El-Kanater El-Khairia	73548	67861	141409
Markaz El-Khanka	80906	72225	153131
Markaz Shebin El-Kanater	33907	31010	64927
Markaz Qalyub	95169	89184	184953
Total	4113287	3886846	8000133

1/ Administrative District.

2/ Except some villages.

SOURCE: CAPMAS; Preliminary Results of the General  
Population and Housing Census, Cairo, 1976

**TABLE 2**  
**POPULATION IN EACH KISM OF CAIRO GOVERNORATE**  
**BY SEX AND POPULATION DENSITY AS OF NOVEMBER, 1976**

Kism	Sex			Area Km <sup>2</sup>	Population Density <sup>2</sup> (Person/Km <sup>2</sup> )
	Male	Female	Total		
Azbakia	32153	27514	59667	1.7	35098
Rod el-Farag	138657	133791	272448	2.7	100907
Gamalia	86077	80622	166699	4.8	34729
Khalifa	94034	92929	186963	8.6	21740
Darb el-Ahmar	74913	71676	146589	2.8	52353
Zaytoun	137002	130660	267662	4.2	63729
El-Sahel	224575	214178	438753	6.5	67500
Sayeda Zeinab	127833	124427	252260	3.5	72074
El-Zaher	52833	51320	104153	2.0	52077
Mataria	275220	259392	534672	67.8	7885
Maadi	138468	128588	267050	25.1	10640
Mousky	30520	27882	58402	0.6	97337
Old Cairo	138827	134843	273680	10.1	27096
Wayli	74437	67771	1422087}	16.5	27692
Hadayek El-Kubba	161987	152718	314705}		
Boulak	91213	86716	177929	2.7	65900
Bab El-Shareya	56191	54056	110247	1.1	100225
Helwan	148221	134376	282597}	6.4	49405
El-Tebein	17721	15872	33593}		
Shoubra	65421	63361	128782}	7.2	79511
Sharabeya	229713	214028	443741}		
Kasr-el-Nil	20179	19163	39342	6.0	6557
Nasr City	32515	32832	65347}	32.3	9105
Heliopolis	63140	63991	127131}		
Nozha	49903	51722	101625}	1.6	55176
Abdin	45246	43036	88282}		
<b>Total</b>	<b>2606999</b>	<b>2477464</b>	<b>5084463</b>	<b>214.2</b>	<b>23737</b>

SOURCE: Ibid.

## B. POPULATION CHARACTERISTICS

### 1. Marital Status

An analysis of population composition by marital status is of considerable importance because of the effect of marital status on fertility levels as well as on various aspects of the economy. The results of the 1976 census show a significant change in population composition in terms of this variable, particularly in Cairo due to expansion of educational opportunities and to various social and economic factors in the area. The cost of living, for example, is substantially higher in the Cairo area and housing facilities more difficult to come by. This has created a situation in which it has become increasingly more difficult for individuals to marry and begin their families at the earlier age levels they were formerly accustomed to. Many couples in Cairo are now forced to wait several years past the time when they would have normally married merely in order to accumulate enough capital to purchase housing facilities for the couple.

Table 3 shows the distribution of the population of Cairo Governorate by marital status in 1976. In general, percentages of never-married individuals are higher for Cairo than for the country as a whole. The percentage of females 16 years of age and over who have never married is 26.9% in Cairo, as compared with a national figure of 19.7%. For males, there is a comparable difference, with the percentage never-married in Cairo being 37.0%, compared with a figure of 30.5% for the nation as a whole. It is also important to note that there has been a considerable increase in the number of never-married individuals since 1960, both in Cairo and on the national level. This has probably been due largely to economic conditions prevailing over the past decade.

### 2. Educational Composition

The illiteracy rate for Cairo in 1976 dropped to only 34.6% of the population compared to 56.5% for the nation as a whole. Rates are much lower for males than females, however, with a figure of 24.2% for the former compared to 45.6% for the latter. (See Table 4). The percentage of the population holding a higher education is also substantially higher for Cairo than on the national level. Those possessing a higher education in Cairo constitute 8% of the male population and 3.4% of the female population against national figures of 3.2% and 1.2% respectively.

### 3. Economically Active Population

The results of the 1976 census indicate that the economically active, age six years and over, constitute about one-third of the Cairo population. The present figure of 31.1% is comparable to that for the nation as a whole (31.5%).

Since 1960 there has been a considerable decline in the number of economically active males, both on the national level and in Cairo. The decline has been more pronounced for the Cairo area, however, with a

TABLE 3

POPULATION DISTRIBUTION BY MARITAL STATUS, 1976  
(MALES 18 YEARS AND OVER, FEMALES 16 YEARS AND OVER)

Marital Status	Males		Females	
	Number	%	Number	%
Married	544467	37.0	410136	26.9
Never Married	891807	60.5	918622	60.4
Widowed/Divorced	37384	2.5	193375	12.7

SOURCE: CAPMAS - Preliminary Results of the General Population and Housing Census, Cairo, 1976.

TABLE 4

POPULATION DISTRIBUTION BY EDUCATIONAL  
ATTAINMENT -- BY SEX, 1976

Educational Status	Males		Females	
	Number	%	Number	%
Illiterate	505705	24.2	887032	45.6
Read and Write	701936	33.7	477661	24.6
Below High Qualification	710666	34.1	513332	26.4
Higher Education	167143	8.0	65504	3.4
Total	2085450	100.0	1943529	100.0

SOURCE: Ibid.

decrease from 60.5% in 1960 to 50.1% in 1976. (see Table 5.) The percentage of economically active females, on the other hand, has increased since 1960, from 8.9% to 11.0% in 1976 for Cairo and from 4.8% in 1960 to 9.2% in 1976 on the national level. The decreased participation of males in the labour force, along with the increase for females, is in all likelihood the result of the expansion of primary education and an increase in the percentage of females attaining higher educational levels.

#### 4. Household Characteristics

The number of households in Cairo totalled, 1,065,354 in November 1976, with an average household size of 4.8 persons. The majority of these households have both electricity (82.1%) and sources of purified water (98.4%). It should be noted, however, that there are still areas in Cairo, such as el-Sharabeya and el-Zawia el-Hamra, which are characterized by poor housing conditions. Also, these figures (Table 6) are applicable to the Cairo Governorate area only and thus do not include many of the poorer villages and townships within the Greater Cairo planning area. It should also be noted that many of the poorer areas of Cairo are characterized by inadequate sanitation measures and facilities, along with refuse and pollution problems, all of which constitute a health hazard to individuals living in these areas.

TABLE 5

DISTRIBUTION OF ECONOMICALLY ACTIVE  
IN CAIRO -- BY SEX (1960, 1976)

Sex	Year	
	1960	1976
Male	60.5	50.1
Female	8.9	11.0
Total	35.2	31.1

SOURCE: Ibid.

TABLE 6

HOUSEHOLD CHARACTERISTICS IN CAIRO BY  
ELECTRIC AND WATER FACILITIES (1976)

Source	Electricity		Purified Water Source <sup>1/</sup>	
	November	%	November	%
With	874811	82.1	1048317	98.4
Without	190543	17.9	17037	1.6
Total	1065354	100.0	1065354	100.0

1/ Includes both internal (within household)  
and external sources of water supply

SOURCE: Ibid.

C. MORTALITY AND FERTILITY PROFILE <sup>1/</sup>

On the national level there has been a considerable decline in mortality rates since the 1940s due to significant medical advances achieved during that decade, especially in the area of infant and early childhood mortality. In urban areas, and particularly in Cairo, this trend has been paralleled insofar as the crude death rate is concerned, but in the area of infant mortality, the decline has been less noticeable and figures have consistently run higher than the national average (see Table 7). Since 1962, for example, the crude death rate for Cairo declined from 16.3 to 14.5 by 1972, whereas the infant mortality figure has continued to fluctuate around the 150 mark.

Part of the reason for Cairo's high infant mortality rate is undoubtedly due to health and sanitation problems engendered by conditions of overcrowding. Also, nutritional standards in urban areas tend to be poorer than those in rural areas, especially for the 0-2 age group, this situation being most likely a function of differences in breastfeeding and weaning practices for the two areas. It should be noted, however, that the discrepancy between infant mortality figures for Cairo and on the national level may not be as great as the figures indicate, due to differences in registration of vital events in different areas. In Cairo, registration of vital events is virtually complete, whereas in many other areas of the country infant deaths frequently go unreported. Local surveys in some rural areas, in fact, have turned up infant mortality rates as high as 200 per thousand live births, even in the governorate of Giza which lies immediately adjacent to Cairo.

Birth rates for Cairo, as for the nation as a whole, have shown a gradual but steady decline since 1962. The rate of decline has been greater for the Cairo area, however, than on the national level, with a decrease from 43.8 per thousand in 1962 to 30.1 by 1972. What is even more interesting is that there is considerable evidence that the birth rate for the nation as a whole has reversed its downward trend and since 1973 has begun to show a slight increase. This increase has been much more marked for rural areas than for urban, with an estimated figure of 43.8 per thousand for rural areas and an estimate of 34.0 per thousand for the urban sector. Furthermore, some areas, such as Cairo, have continued to show a decline in birth rate, in spite of the overall reversal in the downward trend of the last decade.

Although the significant decrease in the birth rate for Cairo can be partially attributed to adverse economic conditions which have prevailed since 1963, a certain portion of the decline can be attributed to family planning program efforts, which have been particularly intensive in the Cairo area.<sup>2/</sup> In fact, family planning services are in greater demand in Cairo than elsewhere, as evidenced by the fact that Cairo's share of pill distributions in 1976 amounted to approximately 26% of the total and her share of IUD insertions, to about 30% of the program's total insertions.

---

<sup>1/</sup> Figures presented in this section pertain to the Cairo governorate area only and not to the Greater Cairo region.

<sup>2/</sup> There are, at present, a total of roughly 247 units providing such services in Cairo.

TABLE 7

VITAL STATISTICS FOR CAIRO GOVERNORATE  
COMPARISON WITH NATIONAL AVERAGE  
(1962-1972)

	Crude Birth Rate		Crude Death Rate		Infant Mortality Rate	
	National	Cairo	National	Cairo	National	Cairo
1962	31.5	43.8	17.9	16.3	134	161
1963	43.0	43.5	15.5	14.6	119	152
1964	42.3	40.6	15.7	15.6	117	157
1965	41.7	38.3	14.1	14.8	113	154
1966	41.2	35.9	15.9	13.9	127	157
1967	39.2	33.4	14.2	11.5	116	139
1968	38.2	33.9	16.1	14.1	131	160
1969	37.0	32.4	14.5	12.1	119	151
1970	35.1	31.2	15.1	13.2	118	144
1971	35.1	31.6	13.2	11.4	103	125
1972	34.4	30.1	14.5	13.0	116	151

SOURCE: CAPMAS; Compiled from Vital Statistics Yearbooks for the various years.

#### D. CAIRO POPULATION PROJECTION

Cairo's population has grown at an alarmingly high rate since the census of 1907. The population has increased from 654476 persons in 1907 to 5084463 persons in 1976, or by over seven-fold since the beginning of the century. The speed of population growth has declined considerably, however, since the midway point. From 1907 to 1947, the population increased by 220%, whereas during the period 1947 to 1976 the increase amounted to 143%. Furthermore, the annual growth rate declined from 4.1% during the period 1960-1966 to a figure of only 1.8% for the period 1966-1976. An examination of the figures in Table 8 also reveal that Cairo's share of the total population has remained almost constant over the past decade.

The alarming increase in Cairo's population prior to the 1960's can be attributed largely to in-migration from rural areas prompted by increased industrialization and a parallel decrease in per capita cropped area due to overall population growth. On the other hand, the slowdown in population growth since that time is probably due, to a considerable extent, to adverse economic conditions <sup>1/</sup> in urban areas which, in turn, may have considerably reduced the flow of in-migration and prompted those individuals remaining within the city to turn to family planning measures in an effort to deal with the economic situation.

Table 9 provides population projections for the Cairo governorate area for the period 1977-1982. These figures are based on the assumption that the percentage of Cairo's population to the total population will remain constant over the next six years.

#### E. EXPECTED POPULATION GROWTH AND SETTLEMENT <sup>2/</sup> EXPANSION IN THE GREATER CAIRO REGION

The Supreme Committee for Greater Cairo Planning has set its planning period at 20 years, ending with the year 1990.

On the basis of statistical data assembled by the Central Agency for the Mobilization of Statistics (CAPMAS), the annual natural increase of the region's population within the period 1960-1966 was found to be about 2.4%. That portion due to net migration during the same period came to about 2.2% or roughly 92% of the total increase. Accordingly, the planning committee has decided to deal with the population growth for the region on the probability of stabilizing the natural increase rate within the planning period and reducing the net migration rate to one-half by the year 1985 (taking into consideration the various policies and projects required for implementing a decrease in internal migration to the region. On the basis of this scenario, it has been estimated that the region's population will reach about 14.8 million by the year 1990 or 2.5 times the region's population in 1966 (estimated at about 6 million persons).

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<sup>1/</sup> A sharp increase in the cost of living, especially in the area of housing, which has become scarce due to overcrowding.

<sup>2/</sup> SOURCE: The General Preliminary Planning Report of the Greater Cairo Region, CAIRO, March 1970

TABLE 8  
EVOLUTION OF CAIRO POPULATION  
1907 TO 1976

Census Year	Population Size	Percentage of Total Population
1907	654476	5.8
1917	790939	6.2
1927	1,064567	7.5
1937	1,512096	8.2
1947	2,090654	10.9
1960	3,348779	12.9
1966	4,219853	14.0
1976	5,084453	13.9

TABLE 9

POPULATION PROJECTIONS FOR CAIRO GOVERNORATE  
1977 - 1982 (in 000's)

Year	Projected Population Size
1977	5,151
1978	5,233
1979	5,327
1980	5,415
1981	5,503
1982	5,591

On investigating the potentialities of the present settlement agglomeration with regard to its capacity for absorbing new population, the Committee took into consideration the need to decrease the high population densities of some districts while raising the low densities of others, along with the need to populate and reconstruct nonutilized areas within the region. Accordingly, it was found that the maximum population which could be absorbed within the main settlement agglomeration in the region is about 9.5 million, while the maximum population which could be accommodated within the surrounding settlement areas (both rural and urban) is 1.2 million. This means that 4.1 million of the region's population in 1990 will have to be settled outside the present settlement area; otherwise, population density for the region would increase to more than 1.5 times the present level, which would lead to a disastrous deterioration of activities and services in the region.

The excess population to be settled within the next 20 years requires a settlement area of about 40,000 feddans (on the basis of a population density of 100 persons/feddan). After intensive study, the Committee has decided to establish the new settlement areas as self-centered cities having independent economic structures. Consequently, it was decided to complement populating of the Helwan district in order to absorb about 750,000 persons, along with the establishment of four new satellite-cities in the region. Each of these new cities are being designed to accommodate approximately 130,000 persons.

On the basis of the above expectations and projections for growth and settlement expansion of the Greater Cairo Region, the Committee has prepared its project for general preliminary planning for the region, which is laid out graphically in the enclosed map.<sup>1/</sup> The map provides an indication of future land-use in the region and the network of transportation involved. It is important to note that land areas allocated to housing include the land areas required for basic services (educational, health, etc.). These service areas do not appear within the general preliminary planning overview; however, they will need to be elaborately laid out in the stage of detailed planning which has not yet been reached.

#### F. HEALTH SERVICE OVERVIEW AND PROJECTED<sup>2/</sup> NEEDS FOR THE GREATER CAIRO REGION

Although there is a considerable number of health facilities available in the Greater Cairo region, there are some administrative districts almost totally lacking in health services despite their high population densities (e.g. Mataryah, Daher, Mouski, and Gamaleyah Districts). Some districts and quarters, for example, have no comprehensive clinics thus forcing patients to utilize already overcrowded outpatient units in general hospitals. To make matters even worse, locations of new hospitals and health units are being determined on the basis of available nonutilized lands regardless of locations and needs of people using these services. (A summary of existing health facilities, along with population coverage, is provided in Table 10).

Present health-service problems are further compounded by the fact that supervision of health services is dispersed among different authorities (Ministry of Health, the Therapeutic Corporation, the Ministry of Higher Education and

1/ See Appendix A.

2/ SOURCE: The General Preliminary Report, op. cit.

TABLE 10

HEALTH SERVICE COVERAGE IN THE GREATER CAIRO PLANNING  
REGION BY NUMBER AND TYPE OF FACILITY

Type of Unit	Number of beds	Coverage
General & Obstetrical Hospitals	24,000	3.3 beds/1000
Clinics for Pectoral Diseases	11	1/633 thousand
Collective check-units for Pectoral Diseases	4	1/1.8 million
Child-care Units	24	1/166 thousand
Comprehensive Clinics	41	1/180 thousand
Health Bureaux	78	1/94 thousand
School Health Units	43	1/166 thousand

governmental hospitals, in addition to private health services) which leads to service overlap in some areas and to the non-existence of services in other areas. In addition, lack of coordination between public and private sector activities in the health field has only served to heighten the imbalance in the distribution of services.

In an effort to establish a basis for determining future health needs, the Planning Committee has drawn up a set of projections for the period 1970-1990 defining the coverage that will be needed and the number of units in each service area required to achieve the designated coverage. These figures are provided on a five-year interval basis in Table 11. Estimates of the costs involved are also included, these costs being based on 1969 price indices.

TABLE 11

PROJECTED HEALTH NEEDS FOR THE GREATER  
CAIRO PLANNING REGION, 1970-1990

A. July 1970

Health-Service Area	Rate in July 1970	Beds or Units in July 1970
General & Obstetrical Hospitals <u>1/</u>	3.27 beds per 1000 persons	23899
Pectoral Diseases: Dispensaries	1 unit per 605 thousand persons	12
Collective Check-Units	1 unit per 1815 thousand persons	4
Child Care	1 unit per 165 thousand persons	44
Comprehensive Clinics <u>2/</u>	1 unit per 172.80 thousand persons	42
Health Bureaux	1 unit per 95.5 thousand persons	86
School Health Units	1 unit per 168.8 thousand persons	43
Health Information Units	1 unit per 1210 thousand persons	6
Food Check Units	1 unit per 300 thousand persons	8
Rural Health Units	1 unit per 11.7 thousand persons	77

1/ These figures include private hospitals

2/ External clinics in hospitals are included  
within the comprehensive clinics.

SOURCE: The General Preliminary Planning Report, op. cit.

TABLE 11 (cont'd)

B. July 1970 - July 1975

Health Service Area	Rate in July 1975	Beds or Units in July 1970	Beds or Units in July 1975	Required Increase
General & Obstetrical Hospitals <sup>1/</sup>	4 beds per 1000 persons	23899	35200	11301
Pectoral Diseases: Dispensaries	1 unit per 500 thousand persons	12	18	6
Collective Check-Units	1 unit per 500 thousand persons	4	18	14
Child Care	1 unit per 100 thousand persons	44	88	44
Comprehensive Clinics <sup>2/</sup>	1 unit per 100 thousand persons	42	88	46
Health Bureaux	1 unit per 70 thousand persons	76	125	49
School Health Units	1 unit per 125 thousand persons	43	70	27
Health Information	1 unit per 500 thousand persons	6	17	11
Foods Check Units	1 unit per 450 thousand persons	11	17	6
Rural Health Units	1 unit per 6 thousand persons	77	165	88

1/ These figures include private hospitals.

2/ External clinics in hospitals are included within the comprehensive clinics.

**TABLE 11 (cont'd)**

**C. July 1975 - July 1980**

Health Service Area	Rate in July 1980	Beds or Units in July 1975	Beds or Units in July 1980	Required Increase
General & Obstetrical Hospitals <u>1/</u>	4.5 beds per 1000 persons	35200	47700	12500
Pectoral Diseases: Dispensaries	1 unit per 500 thousand persons	18	22	4
Collective Check-Units	1 unit per 400 thousand persons	18	27	9
Child Care	1 unit per 70 thousand persons	88	150	62
Comprehensive Clinics <u>2/</u>	1 unit per 70 thousand persons	88	150	62
Health Bureaux	1 unit per 60 thousand persons	125	180	55
School Health Units	1 unit per 100 thousand persons	70	06	36
Health Information	1 unit per 300 thousand persons	17	32	15
Foods Check Units	1 unit per 300 thousand persons	17	32	15
Rural Health Units	1 unit per 5 thousand persons	165	215	50

1/ These figures include private hospitals.

2/ External clinics in hospitals are included within the comprehensive clinics.

TABLE 11 (cont'd)

D. July 1980 - July 1985

Health Service Area	Rate in July 1985	Beds or Units in July 1980	Beds or Units in July 1985	Required Increase
General & Obstetrical Hospitals <u>1/</u>	5 beds per 1000 persons	47700	63000	15300
Pectoral Diseases: Dispensaries	1 unit per 600 thousand persons	22	22	-
Collective Check-Units	1 unit per 300 thousand persons	27	40	13
Child Care	1 unit per 50 thousand persons	150	252	102
Comprehensive Clinics <u>2/</u>	1 unit per 50 thousand persons	150	25	102
Health Bureaux	1 unit per 50 thousand persons	180	21	72
School Health Units	1 unit per 80 thousand persons	106	157	51
Health Information	1 unit per 250 thousand persons	32	50	18
Foods Check Units	1 unit per 250 thousand persons	32	46	14
Rural Health Units	1 unit per 5 thousand persons	215	233	18

1/ These figures include private hospitals.

2/ External clinics in hospitals are included within the comprehensive clinics.

**TABLE 11 (cont'd)**

**E. July 1985 - July 1990**

Health Service Area	Rate in July 1990	Beds or Units in July 1985	Beds or Units in July 1990	Required Increase
General & Obstetrical Hospitals <u>1/</u>	5.5 beds per 1000 persons	63000	81400	18400
Pectoral Diseases: Dispensaries	1 unit per 700 thousand persons	22	22	-
Collective Check-Units	1 unit per 250 thousand persons	40	50	10
Child Care	1 unit per 30 thousand persons	252	500	248
Comprehensive Clinics <u>2/</u>	1 unit per 30 thousand persons	252	500	248
Health Bureaux	1 unit per 30 thousand persons	252	500	248
School Health Units	1 unit per 60 thousand persons	1570	247	90
Health Information	1 unit per 200 thousand persons	50	75	25
Foods Check Units	1 unit per 200 thousand persons	50	68	18
Rural Health Units	1 unit per 5 thousand persons	233	250	17

1/ These figures include private hospitals.

2/ External clinics in hospitals are included within the comprehensive clinics.

TABLE 12

COSTING REQUIREMENTS FOR THE GREATER  
CAIRO PLANNING REGION, 1970-1990

Health Service Area	Unit Costs in 1970 in LE.1000	1970-1975	1975-1980	1980-1985	1985-1990	Total Costs in (LE million)
General & Obstet- rical Hospitals <u>1/</u>	2	22.602	25.000	30.600	36.300	114.502
Pectoral Diseases: Dispensaries	50	0.300	0.200	-	-	0.500
Collective Check- Units	25	0.350	0.225	0.325	0.250	1.150
Child care	15	0.660	0.930	1.530	3.720	6.840
Comprehensive Clinics <u>2/</u>	100	4.600	6.200	10.200	24.800	45.800
Health Bureaux	5	0.245	0.275	0.360	1.240	2.120
School Health Units	5	0.135	0.180	0.255	0.450	1.020
Health Information Units	10	0.110	0.150	0.180	0.250	0.690
Foods Check Units	25	0.150	0.375	0.350	0.450	1.325
Rural Health Units	7	0.616	0.350	0.126	0.119	1.211
<b>Total Cost</b>		29.768	33.885	43.926	67.579	175.158

1/ These figures include private hospitals.

2/ External clinics in hospitals are included within the comprehensive clinics.

SOURCE: The General Preliminary Planning Report, op. cit.

#### IV. METHODOLOGY

##### A. INTRODUCTION

For purposes of obtaining a diversified sampling of health-service personnel and consumers in the Greater Cairo region, the area was divided into nine major health districts or zones, each of these zones encompassing several administrative districts within its general boundaries. These zones have been categorized as follows:

1. North Cairo, including the districts of el-Sahel, Rod el-Farag, and Shoubra.
2. South Cairo, including Masr el-Kadima, Sayeda Zeinab,<sup>1/</sup> and el-Khalifa.
3. East Cairo, including Mataria, el-Sharrabia, Zeitun, and Hadaik el-Koba.
4. West Cairo, including Boulaq, Mouski, Sayeda Zeinab, Azbakeya, Kasr-el-Nil, and Bab-el-Sharia.<sup>1/</sup>
5. Central Cairo, including Darb Ahmar, Wayli and Abasseya, Bab-el-Sharia, el-Dahir, and Gamaleya.
6. Giza, including Embaba, Dokki, North Agouza, Boulaq-el-Dakrur, the city of Giza, and el-Haram.
7. Heliopolis (Masr el-Gedida), including el-Nozha, Nasr City, and the city of Heliopolis.
8. Helwan, including Dar-el-Salam, Basateen, Maadi and Torah, el-Masaraa, el-Tebeen, Helwan Ezab, and the city of Helwan.
9. Shoubra el-Kheima (in the governorate of Qalubeya), including Shoura-el-Balad, Masakan Nobar, Minshia el-Horeya, Begam, el-Sharakwia, Bahteem, Mostorod, Nobar, and Kablat.

The above health-service areas vary considerably, both in terms of health-care resources and delivery and in terms of overall demographic and social characteristics. Some areas such as Middle Cairo and Helwan, for example, are characterized by a high percentage of poor populations (figures run as high as 80-90% in some districts of these two zones), while other areas such as Giza and Heliopolis enjoy a larger percentage of middle and upper social class inhabitants. Similar differences can be noted in terms of occupational groupings, with a high concentration of laborers and casual workers in the poorer

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<sup>1/</sup> These districts are split up over two adjacent health zones.

districts and of employees, merchants and estate owners in the more affluent districts.<sup>1/</sup> A summary profile of social characteristics by each of the health-service zones in question is provided in Tables 13 and 14.

There is also considerable variation among the nine zones with respect to overall demographic indicators (see Table 15). The largest population concentrations, especially within zones,<sup>2/</sup> tend to be in those areas characterized by a large percentage of poor inhabitants. In addition, such areas tend to be characterized by extremely high population densities. The districts of Bab-el-Sharia and Darb-el-Ahmar, for example, are reported to possess population densities of over 100,000 per square kilometer which is among the highest in the world. In contrast, more affluent regions such as Nasr City, Maadi, and Kasr-el-Nil, enjoy a much smaller share of the population and correspondingly low population densities. Similar variations among zones may be noted for birth and death rates, with poorer areas being more generally characterized by high birth rates and more affluent areas, by relatively low birth and death rates.

Insofar as health-care resources and services are concerned, considerable variation may be expected both between zones and within zones. In an effort to determine the overall status of health-service delivery systems in the Greater Cairo region, data was collected from each of the major health zones discussed above. Four basic sets of data were gathered:

1. Survey of existing physical facilities and manpower resources, along with an overall social profile for each of the districts within the various health zones.
2. Survey of health-service personnel perceptions regarding major shortcomings and needs with respect to the present health-care system.
3. Survey of health-service utilization patterns of household occupants within each health zone.
4. Survey of health-consumer utilization patterns, preferences, and overall evaluations of health-care delivery within various health-service sectors (public, private, etc.).

Due to lack of sufficient time and to the exploratory nature of the present study, questionnaires and interviews were kept short and were designed to elicit information capable of providing an overall picture of current resources, utilization patterns, and evaluations of health care services in the Greater Cairo region.

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<sup>1/</sup> Social and demographic data for each of the districts is provided in Appendix B of this report.

<sup>2/</sup> See Appendix B.

**TABLE 13**

**PERCENTAGE DISTRIBUTION OF POPULATION BY SOCIAL STATUS FOR GREATER CAIRO HEALTH ZONES <sup>1/</sup> (1977)**

Health Zone <sup>2/</sup>	Lower	Middle	Upper	Total
Giza	37.6	51.2	11.2	100
Masr el-Gedida (Heliopolis)	12.0	36.0	51.9	100
Helwan	68.9	27.6	3.7	100
Shoubra el-Kheima) <sup>3/</sup>	67.9	22.1	10.0	100
North Cairo	55.8	26.6	17.6	100
South Cairo	72.8	26.2	-	100
West Cairo <sup>3/</sup>	47.5	40.8	11.7	100
East Cairo	50.3	35.2	14.5	100
Middle Cairo	71.0	21.8	7.2	100

<sup>1/</sup> Averages weighted by proportionate population sizes of districts within each zone.

<sup>2/</sup> Breakdown of zones by individual districts is provided in Appendix B.

<sup>3/</sup> Non-weighted average used due to missing data.

TABLE 14

PERCENTAGE DISTRIBUTION OF POPULATION BY OCCUPATIONAL  
GROUPINGS FOR GREATER CAIRO HEALTH ZONES <sup>1/</sup> (1977)

Health Service Zone <sup>2/</sup>	Employee	Laborer	Merchant	Farmer	Casual Worker <sup>3/</sup>	Estate Owner	Total
Giza	33.3	26.7	19.0	6.7	6.0	8.3	100.0
Heliopolis	40.3	13.3	19.0	3.0	1.7	22.7	100.0
Helwan	17.5	35.8	13.0	10.8	17.9	5.0	100.0
Shoubra el-Kheima	15.2	52.5	7.2	4.0	15.4	5.7	100.0
North Cairo	10.0	30.0	10.0	8.3	35.7	6.0	100.0
South Cairo	25.0	35.0	18.3	-	16.7	5.0	100.0
West Cairo	23.3	43.3	10.0	-	15.0	8.3	100.0
East Cairo	29.5	27.0	16.0	0.5	18.8	8.2	100.0
Middle Cairo	48.0	17.6	23.8	-	3.2	7.4	100.0

<sup>1/</sup> Non-weighted; average concentration per zone district.

<sup>2/</sup> A breakdown of zones by individual administrative districts is provided in Appendix B.

<sup>3/</sup> Individuals who seek out available work on a daily basis (e.g. laborers, tradesmen, domestic help etc.).

TABLE 15  
GREATER CAIRO POPULATION  
DEMOGRAPHIC PROFILE BY HEALTH-SERVICE ZONE

Health Service Zone	Population		Vital Statistics	
	Size	Percentage of Total Region	Crude Birth Rate	Crude Death Rate
Giza	1,747,584	24.3	42.7	12.7
Heliopolis	294,103	4.1	25.8	14.7
Helwan	549,653	7.6	37.5	11.2
Shoubra el-Kheima	393,700	5.5	27.0	11.0
North Cairo	839,983	11.7	26.8	9.0
South Cairo	544,720	7.6	27.9	12.3
West Cairo	665,293	9.2	38.5	15.4
East Cairo	1,560,720	21.7	34.3	8.4
Middle Cairo	596,398	8.3	32.4	12.8
Total	7,192,154	100.0		

**B. SURVEY OF EXISTING FACILITIES AND  
MANPOWER RESOURCES**

This data was obtained through interviews with the director of each of the health zones involved. The health-service director was asked to provide a breakdown of both physical facilities by the various types of units present and of manpower resources by specific personnel categories. In addition, directors were asked to furnish an overall social profile for each of the administrative districts within their area. They were also encouraged to talk about specific problems associated with health-care delivery in their areas and to suggest possible alternatives for dealing with these problems.

**C. SURVEY OF HEALTH-SERVICE PERSONNEL**

Interviews were conducted with a total of 157 health-service personnel, 90 of which were physicians and senior health personnel and 67 of which were supportive health service personnel (See Table 16). Interviewers were asked to indicate in general the major problems involved in health-care delivery in Cairo, the reasons for the existence of such problems (i.e. lack of resources, inadequate supervision of services, lack of sufficient incentives, etc.) and possible alternatives for dealing with shortcomings in the present system. They were also asked to indicate the major factors they felt to be responsible for consumer dissatisfaction with present health-care delivery in Cairo.

**D. SURVEY OF HOUSEHOLD OCCUPANTS**

A household survey was conducted in each of the major health-service zones in an effort to obtain some idea regarding general utilization patterns in the Greater Cairo region. A total of 1200 respondents were questioned regarding the source of treatment which they seek out under various medical conditions. They were asked to indicate the course of action that they would take in each of the following situations:

- emergency situations;
- labor or childbirth situation;
- orthopedic injury (fractures, severe sprains, etc.);
- general (non-emergency illness).

A breakdown of these respondents by health service district and by sex is provided in Table 17.

TABLE 16

DISTRIBUTION OF HEALTH SERVICE RESPONDENTS  
BY HEALTH ZONE AND MAJOR PERSONNEL CATEGORY

Health Service Zone <u>1/</u>	A. Physicians and Senior Health Personnel								Total
	Director General	Public Health	MCH	School Health <sup>2/</sup>	Infectious Diseases	Curative Services	Hospital Directors <sup>3/</sup>	Statistics	
Giza	-	-	-	-	-	-	-	-	-
Heliopolis	1	4	1	1	-	3	1	-	11
Helwan	1	2	2	1	1	1	1	-	9
Shoubra el- Kheima	-	10	1	1	-	-	-	-	12
North Cairo	1	1	1	1	1	-	2 <sup>3/</sup>	-	7
South Cairo	1	1	1	1	1	1	4 <sup>3/</sup>	-	10
West Cairo	1	2	3	3	1	1	1	-	12
East Cairo	1	3	1	2	2	2	1	-	12
Middle Cairo	1	-	2	3 <sup>2/</sup>	1	1	-	-	8
Central Admin	1 <sup>4/</sup>	1	1	1	1	-	3	1	9
<b>Total</b>	<b>8</b>	<b>24</b>	<b>13</b>	<b>14</b>	<b>8</b>	<b>9</b>	<b>13</b>	<b>1</b>	<b>90</b>

1/ A listing of Administrative Districts within each zone is provided in Appendix B of this report.

2/ Includes one Health Education Specialist.

3/ Includes two Health Compound Directors.

4/ Undersecretary of Health.

TABLE 16 (Cont'd)

Health Service Zone	B. Supportive Health Service Personnel							(A+B)
	Dentists	Pharmacists	Nurses	Medical Technicians	Social Workers	Administrators	Total	Grand Total <sup>5/</sup>
Giza	-	-	-	-	-	-	-	-
Heliopolis	1	2	1	5	1	-	10	21
Helwan	-	1	1	-	-	5	7	16
Shoubra el-Kheima	1	-	4	-	-	-	5	17
North Cairo	-	-	-	-	-	-	-	7
South Cairo	1	2	1	-	1	5	10	20
West Cairo	1	1	2	-	-	3	7	19
East Cairo	1	1	1	-	1	4	8	20
Middle Cairo	1	2	-	-	-	9	12	20
Central Admin.	1	1	-	-	-	6	8	17
Total	7	10	10	5	3	32	67	157 <sup>5/</sup>

<sup>5/</sup> A total of only 148 interviews was utilized due to lateness of arrival of data for the remaining 9.

TABLE 17

DISTRIBUTION OF HOUSEHOLD RESPONDENTS  
BY HEALTH ZONE AND SEX

Health Service Zones	Male	Female	Total	Percentage of Total Respondents
Helwan	50	85	135	11.3
Shoubra el-Kheima	31	20	51	4.3
Giza	50	115	165	13.8
Heliopolis	2	48	50	4.2
North Cairo	71	164	235	19.6
Middle Cairo	64	168	232	19.4
East Cairo	25	68	93	7.8
West Cairo	20	96	116	9.7
South Cairo	47	73	120	10.0
Total	360 (30.0%)	837 (70.0%)	1,197 (100.0%)	100.0

## E. SURVEY OF HEALTH-SERVICE USERS

Health-care services in Cairo are distributed over six separate and parallel, but loosely integrated, service sectors. Each caters to certain categories of clients and has its own organizational structure, although the Supreme Council for Health Services has the responsibility for overseeing activities in all six sectors. The six sectors involved are:

1. The government sector which covers all units coming under the jurisdiction of the Ministry of Health.
2. The private sector.
3. The National Insurance Sector, which covers government workers and is semi-private.
4. Medical care organizations which are also semi-private and operate primarily on a contractual basis.
5. University Health facilities, under the Ministry of Education.
6. Health facilities run by special organizations (police, Ministry of Transport, etc.).

The largest sector, and the one providing the bulk of community health services is the government sector. Ministry of Health facilities cater predominantly to non-paying patients, although there is a special economic treatment section within the MOH delivery system which provides more personalized care in the form of private or semi-private accommodations, special attendants, etc., all at a predetermined cost for the patient. Facilities operated by the MOH generally serve residents of the Greater Cairo region only, although patients may be referred to non-governmental (and to university) medical facilities for more specialized treatment.

The private health sector in Cairo is relatively small and physicians engaged in private practice are usually employed in other health sectors as well. The typical private practitioner may devote only a limited number of hours per day or week to his own practice and spend the remainder of his time divided among university and other health-sector activities. Due to cost of private care, those patients frequenting such facilities tend to come from more economically advantaged groups and from the foreign segment of the population. There are some individuals from lower-income groups, however, who feel that free health care is inferior and therefore patronize private facilities, not realizing that the same physician is frequently available in both sectors.

The National Insurance Sector provides health-care coverage for governmental employees. Unlike the other health-service sectors, insurance organizations usually have their own distinct clients and physicians, although some of their physicians may conduct a limited private practice on the side or take on limited professional responsibilities in university facilities.

Medical care organizations have their own hospital base but employ their physicians on a contractual basis from other health sectors, especially the university sector. These facilities are semi-governmental but behave like private organizations. They cater to paying patients who come directly to the facility or who have been referred from other sectors. They also provide care to those coming from outside Egypt, especially from other Arab countries. Two different fee schedules are utilized within these facilities, depending on whether the patient reports to the facility directly or comes through a physician. For those patients referred to medical care organizations by the government or university sector who cannot afford to pay the fees involved, a "free-service" section is provided which is, in fact, prepaid by the MOH.

The fifth health-service sector is the university sector, under the supervision of the Ministry of Education. University health-facilities cater to both non-paying clients plus clients referred from the private sector and from outside the Greater Cairo area. They also make referrals to private practitioners and to medical care organizations, as well as to MOH facilities in the case of those patients unable to pay for private treatment and who are in need of referral.

The sixth and final sector is comprised of those facilities operated by special organizations -- usually within the civil service sector, such as the Police, Sporting Federations, and the Ministry of Transport.

In order to ascertain general utilization patterns and preferences of health-service users, along with their overall perception and evaluation of health-care services in Cairo, a total of some 3500 individuals from selected outpatient facilities within various health-service sectors were questioned regarding the unit which they were attending. Those patients utilizing facilities lying outside their residence area were asked to evaluate both the unit per se and the services delivered by that unit and to indicate whether they intended to use the same facility in the future.

The bulk of the respondents (66.8%) were drawn from government hospitals and general health units in the public health sector. Another 24.5% of the respondents were drawn from maternal and child health (MCH) centers and from paediatric facilities in government health units. The remaining 8.7% of the respondents were distributed among private health units (5.4%) the health-insurance sector (2.3%) and a medical care organization (1.0%). For a distribution of both units and respondents by service sectors, see Table 18.

**TABLE 18**  
**DISTRIBUTION OF OUTPATIENT RESPONDENTS**  
**BY HEALTH-SERVICE SECTOR**

Health-Service Sector	No. of Units Surveyed	No. of Respondents	Percentage of Total Respondents
Government Hospitals and Units	28	2284	66.8
MCH Centres and Paediatric Units <sup>1/</sup>	31	839	24.5
Private Health Sector <sup>2/</sup>	16	184	5.4
Health Insurance Sector	1	79	2.3
Medical Care Organization	1	33	1.0
Total	77	3419	100.0

1/ Government health facilities.

2/ In this case, units run by social organizations and therefore not strictly under private ownership of individual physicians

## V. DISCUSSION OF RESULTS

### A. EXISTING FACILITIES AND RESOURCES

Interviews with the directors of the various health-service zones revealed a maldistribution of both physical facilities and manpower resources in the Greater Cairo region.

Insofar as physical facilities are concerned, facilities in the government sector are fairly evenly distributed over the different health zones without any apparent regard for population size or specific health needs within various areas (See Table 19). There is a slightly higher concentration of government health facilities in the Giza and East Cairo zones which represent the most populated areas but the difference is not enough to offset the imbalance which currently exists with respect to the various health zones, both in terms in public health needs and overall population distribution.

University hospital facilities which come under the jurisdiction of the Ministry of Education, are likewise poorly distributed. Although there are fourteen such facilities, thirteen of them are concentrated in two health zones (South and Middle Cairo), neither of which are among the more highly populated areas. These two areas do represent the poorest health zones in the Cairo area, with over 70% of the population in each of the two zones falling into the lower social status grouping.

In the private sector, facilities are concentrated in the areas of Giza (150 hospitals) and West Cairo (26 hospitals), followed by Heliopolis with a total of 12 hospital facilities. Although Giza represents the most populated area, West Cairo is only moderately populated and Heliopolis the least populated of the nine health zones. What all three areas do have in common, however, is a high concentration of middle and upper class inhabitants who are both willing and able to pay for private services.

Within the various health zones, the problem of distribution becomes even more accentuated. In many administrative districts, public health facilities are either nonexistent or located far from heavily concentrated and/or poorer residential areas. Areas such as Zeitun in East Cairo, Dar-el-Salam in Helwan, and Embaba in Giza complain heavily about an absence of facilities and have made urgent requests for public facilities in their area. In some of these areas, such as Embaba, residents are considering the possibility of constructing their own health unit by means of community self-development financing. What is even more disturbing, in such areas is that residents are unable even to avail themselves of emergency facilities due to a lack of telecommunication facilities and to transportation problems which also exist in these areas.

Insofar as manpower resources are concerned, similar problems exist with respect to distribution over the various health zones (See Table 20). In the case of manpower resources, distribution is even more unbalanced than

TABLE 19

## DISTRIBUTION OF HEALTH-CARE FACILITIES (1977)

Health Service Zone	Ministry of Health Facilities						Private Sector			Univer- sity Hosp.	Health Insur. Org.	Medical Care Org.
	Gen. Hosp.	Spec. Hosp.	Child- ren Hosp. <sup>1/</sup>	School Health	Health Bureau	MCH Center	Hosp.	Dispen/ Clinic	Phar- macy			
East Cairo	1	-	-	7	11	8	6	20	265	-	1	-
West Cairo	2	1	-	5	9	5	26	35	144	-	1	2
North Cairo	3	1	-	3	9	5	7	43	177	-	-	3
South Cairo	1	2	1	5	10	4	7	27	102	6	-	1
Middle Cairo	1	4	1	6	8	5	2	18	107	7	-	2
Heliopolis	1	1	-	3	3	3	12	11	143	-	-	1
Helwan	1	1	-	3	6	5	8	40	92	-	1	1
Shoubra el- Kheima	1	1	-	1	4	4	1	-	43	-	1	-
Giza	4	2	1	7	14	5	150	100	300	1	2	2
Total	15	12	3	40	74	44	219	294	1372	14	6	12

<sup>1/</sup> For student youth.

TABLE 20

DISTRIBUTION OF MANPOWER RESOURCES BY HEALTH-  
SERVICE ZONE AND PERSONNEL CATEGORY (1977)

Health Service Zone	General Practitioners	Specialists	Pharmacists	Dentists	Nurse <sup>1/</sup> Midwife	Medical Technicians	Health Supervisors	Social Workers	Clerical Administ.	Office Assts <sup>2/</sup>
Central Admin.	7	27	1	1	6	-	25	16	19	30
East Cairo	41	44	-	8	63	10	25	5	7	331
West Cairo	184	94	38	18	95	36	39	30	34	496
North Cairo	247	103	55	50	398	68	37	34	73	448
South Cairo	143	35	37	30	109	23	32	17	33	364
Middle Cairo	85	141	67	44	780	34	34	41	65	1110
Heliopolis	350	28	50	-	250	-	50	30	63	81
Helwan	92	38	17	8	235	16	20	13	35	459
Shoubra el-Kheima	50	<u>3/</u>	20	40	200	20	<u>3/</u>	<u>3/</u>	<u>3/</u>	170
Giza	385	<u>3/</u>	44	56	759	111	<u>3/</u>	<u>3/</u>	<u>-3/</u>	818
Total	1584	510	329	255	2895	318	262	186	329	4307

1/ Includes nursing assistants.

2/ Includes janitorial staff, drivers, porters, etc.

3/ Data not available at present.

in the case of physical facilities. The highest concentration of physicians, for example, is in the areas of Giza (385) and Heliopolis (350), both of which contain the highest proportion of middle and upper-class residents. Also, the two areas represent opposite extremes in terms of population distribution, with Giza containing the largest share of the regional population (24.3%) and Heliopolis, the smallest (only 4.1%).

A similar discrepancy exists with respect to the other end of the manpower distribution continuum as well, with Shoubra el-Kheima which possesses only 5.5% of the regional population, reporting a total of only 50 general practitioners and East Cairo, which ranks second in population size (21.7%), reporting a total of only 41 general practitioners for the entire area!

Distribution of medical specialists and nursing personnel shows a pattern different from that of general practitioners. Both categories of personnel tend to be concentrated in the areas of Middle Cairo, North Cairo, and Giza. These areas contain a large number of hospitals, especially specialized hospital facilities, medical care organizations, and university hospitals. Middle Cairo, for example, has a total of four specialized hospitals, one children's hospital, seven university hospitals and two medical care organizations, all of which make considerable use of specialized physicians and nursing personnel. Poorer areas of Cairo, such as Helwan and South Cairo, possess both limited physical facilities and very few specialized medical personnel, including supportive medical staff (dentists, medical technicians, social workers and administrative assistants. It is disturbing to note, for example, that an affluent area like Heliopolis which comprises only 5.5% of the region's population possesses a total of 30 social workers, whereas an area like East Cairo which is less affluent and ranks second in population size (21.7%) lays claim to a total of only 5 social workers for the area!

In those areas where health facilities and manpower resources are available, considerable problems are still encountered. Facilities are frequently inadequate due to deteriorating and/or antiquated conditions, shortages of equipment and supplies, and overcrowding, all of which tend to result in inefficiency and poor quality service-delivery. Such conditions can be found in all health zone areas. Overcrowding, for example, has resulted in long waiting lines <sup>1/</sup> (especially at dispensary facilities), in rerouting of emergency cases to other facilities inaccessible to local residents, and in calloused and indifferent attitudes on the part of health-service personnel. Consequently, many patients in public facilities come to have little faith in the services offered and frequently complain that doctors give the same diagnosis and prescribe the same medications for all medical complaints. They feel, and

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<sup>1/</sup> In many facilities, patients are turned away as early as 9 a.m. due to overloading of cases.

possibly quite rightly so, that health personnel have little concern for or any interest in the patient's welfare. Thus, it becomes apparent that the issue becomes one not only of providing additional facilities and manpower resources in areas characterized by deficiencies but also of improving present service-delivery through upgrading of existing facilities, increasing employee motivation and morale, and improving efficiency of ongoing operations and procedures.

#### B. PERSONNEL PERCEPTIONS OF HEALTH-CARE SERVICES IN THE GREATER CAIRO AREA

The perceptions of the various health-service personnel interviewed in this survey tended to parallel the findings cited above. First of all, 92.5 per cent of the respondents affirmed the existence of problems associated with present health-care delivery, with over two-thirds (68.2%) stating the problems to be very clear ones.

The majority of respondents cited lack of resources as the major factor contributing to inadequate service delivery in the Greater Cairo Area. There was virtually unanimous agreement (95.3%) regarding lack of physical resources, confirming the presence of such shortages in all health zones. Over two-thirds of the respondents stated the need for additional health units and one-half expressed a need for additional equipment. (See Tables 21 and 22).

In the area of human resources, three-fourths of the respondents indicated shortages in this area, with the highest percentage of responses coming from health zones containing the highest percentages of the population (North, East and West Cairo) and from the poorest health zones (South Cairo, Helwan, and Shoubra-el-Kheima). Respondents in Heliopolis also expressed a strong need for additional manpower but placed emphasis primarily on the need for auxiliary medical personnel, as did the other health zones. Some areas such as Helwan, West Cairo, and Middle Cairo also cited a shortage of nursing personnel, and one area (Middle Cairo) indicated a shortage of physicians as well. (See Tables 21 and 22). In general, however, emphasis in the area of human resources is placed on a lack of auxiliary personnel (64.9%) and nursing staff (47.3%).

Personnel perceptions of resource deficiencies are further reinforced by their attribution of present problems to high caseload levels and maldistribution of resources. With respect to caseload size, 60.8% of the respondents felt that caseloads were far too heavy thus placing considerable strain on medical personnel and leading to deterioration of services. Apparently, the majority feel that the problem could be alleviated considerably by an increase in auxiliary personnel. As for maldistribution of resources, 59.5% felt that existing physical facilities were poorly distributed over the various health zones.

Other major factors contributing to poor health-service delivery cited by the respondents included low level of health awareness on the part of the public (65.5%), administrative shortcomings in the present system (60.8%),

TABLE 21

HEALTH-SERVICE PERSONNEL PERCEPTIONS OF MAJOR  
FACTORS AFFECTING SERVICE DELIVERY IN THE  
GREATER CAIRO REGION

Health Service Zone	Number of Respondents	Shortage of material Resources	Shortage of Human Resources	Low level Health Awareness <sup>1/</sup>	Heavy Case-load levels	Administrative Shortcomings <sup>2/</sup>	Maldistribution of Resources	Lack of Service Integration	Lack of Popular Participation	Other Factors
Central Administration	9	8	8	5	6	7	6	6	2	3
Giza	0	-	-	-	-	-	-	-	-	-
Heliopolis	20	19	14	13	13	12	13	10	10	0
Helwan	16	16	12	10	9	10	10	9	12	6
Shoubra-el-Kheima	17	17	16	17	17	16	17	10	4	1
North Cairo	6	6	6	4	2	3	1	3	3	0
South Cairo	20	20	17	14	13	11	13	11	10	0
West Cairo	19	18	17	10	12	10	10	8	7	0
East Cairo	21	18	13	12	10	6	8	10	12	2
Middle Cairo	20	19	9	12	8	15	10	8	11	1
Total	148	141	112	97	90	90	88	75	71	13
%	100.0	95.3	75.7	65.5	60.8	60.8	59.5	50.7	48.0	8.9

<sup>1/</sup> Low level awareness of public with respect to health and sanitation issues.

<sup>2/</sup> Lack of supervision, inconsistent administrative directives.

TABLE 22

HEALTH-SERVICE PERSONNEL PERCEPTIONS  
OF RESOURCE DEFICIENCIES IN THE  
GREATER CAIRO REGION

Health Service Zones	Number of Respondents	Material Resources		Human Resources				
		Additional Units	Additional Equipment	Physicians	Pharmacists	Dentists	Nursing	Auxiliary
Central Administration	9	8	7	5	0	0	5	7
Giza	0	-	-	-	-	-	-	-
Heliopolis	20	13	9	0	0	0	7	13
Helwan	16	12	11	3	2	0	15	12
Shoubra el-Kheima	17	16	16	1	10	0	6	14
North Cairo	6	3	3	4	0	0	3	6
South Cairo	20	12	8	3	0	0	6	8
West Cairo	19	14	10	6	3	3	11	14
East Cairo	21	8	10	3	0	2	7	11
Middle Cairo	20	13	10	16	1	0	10	11
Total	148	99	74	41	14	5	70	96
%	100.0	66.9	50.0	27.7	9.5	3.4	47.3	64.9

lack of service integration (50.7%), and lack of popular support and participation (48.0%). Factors cited in connection with administrative shortcomings centered primarily on: lack of supervision and monitoring of program efforts; inconsistent, and sometimes contradictory, administrative directives; and a multiplicity of responsibilities, including clerical and administrative responsibilities on top of service-delivery activities.

When health personnel were asked to cite reasons for public criticism of health-care services in Cairo, the majority gave reasons associated with personnel factors (See Table 23). The overwhelming majority (82.4%) cited lack of adequate personnel incentives as a major reason for public criticism. Presumably, though, this is tied into their perception of health personnel as being indifferent (i.e., lacking in motivation) and a lack of punishment with respect to negligence (i.e., a failure to control or eliminate carelessness which can result from a lack of concern for the patient's welfare). Other factors which they cited as being responsible for or leading to adverse public criticism were: (1) lack of confidence in free health services (68.2%) and (2) poor quality of existing services (65.4%).

When respondents were asked to provide suggestions for improving health-care services in Cairo, the majority placed the greatest emphasis on the need for increased resources (See Table 24). There was virtually a unanimous agreement (99.3%) with respect to a perceived need for increased financial resources, while over 60% of the respondents also recommended an increase in physical facilities and health personnel. Along the same line, 60% of the personnel interviewed also recommended a redistribution of existing resources.

The other major area of improvement or change which was recommended was the area of administration. Over two-thirds (70.3%) of the respondents expressed a need for greater organizational efficiency, especially in the area of monitoring and supervision of services. Additional recommendations put forth include: the provision of personnel incentives, the development of adequate training programs, and promotion of public awareness of health issues, among other factors.

In summary, the major concerns of health-service personnel interviewed in this survey have centered around issues relating to perceived resource shortages and a maldistribution of existing resources, both in the area of physical facilities and manpower resources, but especially with respect to the former. At this point it is, therefore, fitting to turn our attention to the results of the health-consumer surveys conducted in this study, in an effort to ascertain whether basic perceptions on the part of health-service personnel tend to be substantiated by users themselves.

**TABLE 23**

**PERCEIVED REASONS FOR PUBLIC CRITICISM  
OF PRESENT HEALTH-CARE SERVICES  
IN THE GREATER CAIRO REGION**

Health-Service Zones	Number of Respondents	Poor Quality Service	Lack of Confidence in Free Services	Personnel Factors		
				Indifference of Health Personnel	Lack of Adequate Incentives	No Punishment For Negligence
Central Administration	9	5	2	6	4	6
Giza	0	-	-	-	-	-
Heliopolis	20	15	8	10	20	14
Helwan	16	11	11	9	14	7
Shoubra el-Kheima	17	11	16	5	15	2
North Cairo	6	4	6	3	5	2
South Cairo	20	12	18	9	10	10
West Cairo	19	12	16	11	17	12
East Cairo	21	12	13	9	19	10
Middle Cairo	20	15	11	12	18	12
<b>Total</b>	<b>148</b>	<b>97</b>	<b>101</b>	<b>74</b>	<b>122</b>	<b>75</b>
<b>%</b>	<b>100.0</b>	<b>65.4</b>	<b>68.2</b>	<b>50.0</b>	<b>82.4</b>	<b>50.7</b>

TABLE 24

HEALTH-SERVICE PERSONNEL SUGGESTIONS  
FOR IMPROVING SERVICE DELIVERY  
IN THE GREATER CAIRO REGION

Health Service Zone	Number of Respondents	Increased Financial Resources	Additional Service Units	Additional Health Personnel	Redistribution of Resources	Improved Organization/ Administration	Other <sup>1/</sup>
Central Administration	9	8	6	7	6	7	3
Giza	0	-	-	-	-	-	-
Heliopolis	20	20	12	9	10	12	10
Helwan	16	16	10	14	12	13	11
Shoubra el-Kheima	17	17	17	16	17	15	10
North Cairo	6	6	1	4	1	3	4
South Cairo	20	20	13	13	12	16	15
West Cairo	19	19	10	14	12	13	11
East Cairo	21	21	10	12	7	10	13
Middle Cairo	20	20	12	14	12	15	8
<b>Total</b>	<b>148</b>	<b>147</b>	<b>91</b>	<b>103</b>	<b>89</b>	<b>104</b>	<b>85</b>
<b>%</b>	<b>100.0</b>	<b>99.3</b>	<b>61.5</b>	<b>69.6</b>	<b>60.1</b>	<b>70.3</b>	<b>57.4</b>

<sup>1/</sup> Includes such things as improved incentive systems, training, punishment for negligence, development of alternative health-delivery systems, etc...

### C. UTILIZATION PREFERENCES OF HOUSEHOLD OCCUPANTS

A survey of utilization preferences of 1200 household occupants in the various health zone areas yielded a number of interesting findings. Differences were noted both with respect to the type of medical situation involved and with respect to area of residence.

First of all, in cases involving non-emergency illnesses, a little over one-half (51.8%) of the total respondents indicated that they seek out treatment at government hospital outpatient facilities when such illnesses arise, while another 26.6% utilize private physicians (See Table 25). The use of clinic facilities was cited very seldom, with only 4.8% of the total respondents making use of such facilities. Only in one area was appreciable use made of clinic facilities and that area was Heliopolis. Even for this area, however, only 28.0% of the respondents reported preferences for clinic treatment. In the poorest health zones (Helwan, Shoubra-el-Kheima, and South Cairo), virtually no use whatever of clinic facilities was reported. Whether failure to utilize such facilities is due primarily to a shortage or absence of clinics in these areas or to a lack of knowledge regarding their existence or whereabouts remains yet to be determined, but it is apparent that, if some of the load is to be taken off the shoulders of hospital facilities, then greater utilization of peripheral units will need to be promoted.

With respect to utilization of private practitioners in the treatment of non-emergency cases, such usage appears to be greater in some health zones than in others. In South Cairo, a very poor area, there is virtually no use of private physicians (3.3%), with 75.8% of the respondents in this zone relying on government hospitals for treatment. The same situation prevails in East Cairo (a somewhat more affluent area), with 80.6% of the respondents for this area utilizing government hospital facilities. It is interesting to note, with respect to these two health zones, that in the case of South Cairo there is a large number of government facilities available (6 university hospitals, 1 general and 1 specialized hospital) to serve a relatively moderate-sized population (544,720), whereas in East Cairo, with a population of over one and a half million, there is only one government hospital available to serve the entire area. Those health zones reporting the greatest use of private physicians in non-emergency cases include: Shoubra-el-Kheima (56.9%), Helwan (46.7%), and Giza (44.2%). In the case of Giza, such usage may be accountable for in terms of the high number of private practitioners in the area, but in the other two cases, especially Shoubra el-Kheima, such utilization preferences are difficult to account for, in light of the local poverty and of the severe shortage of physicians in these two areas.

When it comes to seeking treatment in the case of night emergencies, there was less variation in utilization preferences (See Table 26). The majority of the total respondents (60.6%) stated that they report to the nearest hospital facility in such cases. Another 20.9% stated that they call an ambulance in emergency situations, while 12.9% reported that they try to do the best that they can until morning. The latter situation prevails more in some areas than in others (Middle Cairo, 23.3%; Helwan, 22.2%; and Shoubra-el-Kheima, 15.7%)

**TABLE 25**  
**UTILIZATION PREFERENCES IN CASES**  
**INVOLVING NON-EMERGENCY ILLNESS**

Health Service Districts	SOURCE OF TREATMENT/ASSISTANCE IN CASE OF ILLNESS (NON-EMERGENCY)									Total
	Nearest clinic	Pharmacy	Private Hospital	Govemnt. Hospital	Private Physician	Traditional Medical Practitioner	Ask Neighbour	Treat Self	Other	
North Cairo	12 ( 5.1)	8 ( 3.4)	6 (2.6)	125 (53.2)	51 (21.7)	6 (2.6)	7 (3.0)	13 ( 5.5)	7 ( 3.0)	335 ( 19.0)
Middle Cairo	14 ( 6.0)	3 ( 1.3)	7 (3.0)	119 (51.3)	51 (22.0)	14 (6.0)	9 (3.9)	12 ( 5.2)	3 ( 1.3)	232 ( 19.4)
East Cairo	2 ( 2.2)	1 ( 1.1)	0 (0)	75 (80.6)	10 (10.8)	4 (4.3)	0 (0)	0 (0)	1 ( 1.1)	93 ( 7.8)
West Cairo	9 ( 7.8)	1 ( 0.9)	3 (2.6)	62 (53.4)	26 (22.4)	2 (1.7)	0 (0)	13 (11.2)	0 (0)	116 ( 9.7)
South Cairo	2 ( 1.7)	0 (0)	4 (3.3)	91 (75.8)	4 ( 3.3)	5 (4.2)	2 (1.7)	11 ( 9.2)	1 ( 0.8)	120 ( 10.0)
Heliopolis	14 (28.0)	6 (12.0)	0 (0)	18 (36.0)	11 (22.0)	0 (0)	1 (2.0)	0 (0)	0 (0)	50 ( 4.2)
Shoubra el-Kheima	0 (0)	0 (0)	4 (7.8)	13 (25.5)	29 (56.9)	0 (0)	0 (0)	0 (0)	5 ( 9.8)	51 ( 4.3)
Giza	4 ( 2.4)	5 ( 3.0)	6 (3.6)	69 (41.8)	73 (44.2)	3 (1.8)	0 (0)	5 ( 3.0)	0 (0)	165 ( 13.8)
Helwan	1 ( 0.7)	0 (0)	0 (0)	48 (35.6)	63 (46.7)	0 (0)	2 (1.5)	1 ( 0.7)	20 (14.8)	135 ( 11.3)
Total	58 ( 4.8)	24 ( 2.0)	30 (2.5)	620 (51.8)	318 (26.6)	34 (2.8)	21 (1.8)	55 ( 4.6)	37 ( 3.1)	1197 (100.0)

TABLE 26

SOURCE OF TREATMENT SOUGHT  
FOR NIGHT EMERGENCY CASES

Health Service Districts	Total	Source of Treatment for Night Emergency				
		Ambulance	Emergency Police	Nearest Pharmacy	Nearest Hospital	Other
North Cairo	335	59 (25.1)	6 (2.6)	10 ( 4.3)	136 (57.9)	24 (10.21)
Middle Cairo	232	23 ( 9.9)	1 (0.4)	6 ( 2.6)	148 (63.8)	54 (23.28)
East Cairo	93	18 (19.9)	0 (0)	0 (0)	73 (78.5)	2 ( 2.15)
West Cairo	116	48 (41.4)	0 (0)	3 ( 2.6)	52 (44.8)	13 (11.21)
South Cairo	120	34 (28.3)	0 (0)	3 ( 2.5)	75 (62.5)	8 ( 6.67)
Heliopolis	50	1 ( 2.0)	2 (4.0)	7 (14.0)	35 (70.0)	5 (10.00)
Shoubra el-Kheima	51	4 ( 7.8)	1 (2.0)	6 (11.8)	32 (62.8)	8 (15.69)
Giza	165	24 (14.6)	1 (0.6)	15 ( 9.1)	115 (69.7)	10 ( 6.06)
Helwan	135	39 (28.9)	3 (2.2)	4 ( 3.0)	59 (43.7)	30 (22.22)
<b>Total</b>	<b>1197</b>	<b>250 (20.9)</b>	<b>14 (1.2)</b>	<b>54 ( 4.5)</b>	<b>725 (60.6)</b>	<b>154 (12.87)</b>

and is frequently attributed to a lack of physical facilities and/or communication and transport facilities within certain districts of the various health zones.

In medical situations involving labor and childbirth, 56.9% of the respondents stated that they utilize hospitals or MCH facilities, while another 36.3% reported use of the local dayas for deliveries (See Table 27). Over one-third of the respondents in all zones except North Cairo and Helwan, utilize dayas in cases of labor, with usage being greater in some areas than in others. In Shoubra-el-Kheima, for example, 52.9% reported utilization of dayas and another 19.6% reported medically unattended deliveries. In South and Middle Cairo, both very poor areas, nearly half of the respondents reported use of dayas for deliveries (44.2% and 48.3% respectively). The most unexpected finding for this medical situation was for utilization patterns in Heliopolis, with 50.0% of the respondents reporting utilization of dayas for childbirth; this result is most likely attributable, however, to the fact that respondents in this health zone were drawn from low-income public housing areas and were comprised largely of an immigrant population coming from areas outside the Greater Cairo Region.

In the remaining emergency-type situation involving fractures, the majority of the household occupants interviewed utilize hospital facilities (74.5), while only 19.0% reported usage of private physicians and chiropractors in such cases. The major exception involved the health zone of Shoubra-el-Kheima which relied much more heavily on the use of private practitioners (31.4%), a finding consistent with high usage of private physicians in general for this area.

In short, in this household survey, the general picture presented is one of high utilization preferences for government hospital outpatient facilities in virtually all health zones, with the exception of Shoubra-el-Kheima which, for some as yet unknown reason, tends to rely more heavily on private facilities. Reliance on hospital facilities is especially strong in the heavily populated zone of East Cairo and in the poorest health zone of the region, South Cairo. In addition, use of peripheral facilities, especially in the poorer areas of the region, is virtually non-existent. As was noted before, it still remains to be ascertained whether failure to utilize such facilities is primarily a function of lack of availability or lack of knowledge concerning their whereabouts. This is one of the areas of investigation that will need to be explored more fully in subsequent appraisals of health-care utilization in Greater Cairo.

At this point it is now beneficial to turn our attention to health-care utilization patterns and preferences of health consumers themselves, in an effort to ascertain both the flow of utilization and health-consumer perceptions of existing services and facilities.

**TABLE 27**  
**ASSISTANCE SOUGHT IN CASES INVOLVING**  
**LABOR AND FRACTURES**

Health Service Districts	Total	Assistance in Labor			Source of Treatment for Fractures			
		Hospital and clinic (MCH)	Days	Other	Hospital	Private Physician	Chiropractor	Other
North Cairo	335	153 (65.1)	61 (26.0)	21 ( 8.9)	173 (73.6)	33 (14.0)	24 (10.2)	5 ( 2.1)
Middle Cairo	232	105 (45.3)	112 (48.3)	15 ( 6.5)	172 (74.1)	10 ( 4.3)	17 ( 7.3)	33 (14.2)
East Cairo	93	59 (63.4)	34 (36.6)	0 (0)	73 (78.5)	0 (0)	18 (19.4)	2 ( 2.2)
West Cairo	116	62 (53.4)	46 (39.7)	7 ( 6.0)	87 (75.0)	8 ( 6.9)	17 (14.7)	4 ( 3.4)
South Cairo	120	63 (52.5)	53 (44.2)	3 ( 2.5)	93 (77.5)	3 ( 2.5)	24 (20.0)	0 (0)
Heliopolis	50	22 (44.0)	25 (50.0)	3 ( 6.0)	41 (82.0)	2 ( 4.0)	0 (0)	7 (14.0)
Shoubra el-Kheima	51	14 (27.4)	27 (52.9)	10 (19.6)	30 (58.8)	16 (31.4)	1 ( 2.0)	4 ( 7.8)
Giza	165	101 (61.2)	55 (33.3)	9 ( 5.4)	120 (72.7)	28 (17.0)	17 (10.3)	0 (0)
Helwan	135	102 (75.6)	21 (15.6)	12 ( 8.9)	103 (76.3)	9 ( 6.7)	0 (0)	23 (17.0)
Total	1197	681 (56.9)	434 (36.3)	80 ( 6.7)	892 (74.5)	109 ( 9.1)	118 ( 9.9)	78 ( 6.5)

**D. CONSUMER UTILIZATION PATTERNS AND EVALUATION  
OF HEALTH-CARE SERVICES IN GREATER CAIRO**

Data was collected on some 3500 clients <sup>1/</sup> drawn from various out-patient facilities in the Greater Cairo Area. The majority of the clients surveyed were taken from government hospital facilities (66.8%), with an additional 24.5% drawn from MCH Centers and Paediatric Units of government facilities. The remaining 8.7% of the clients were distributed over "private" units <sup>2/</sup>, a national health insurance center (the Coptic Hospital), and a medical care organization (El-Agouza Hospital).

Clients surveyed in government hospital facilities and in the private sector were fairly evenly distributed by sex (44-47% males and 53-56% females), whereas in MCH Centers and in the medical care organization unit, the majority (71.6% and 69.7% respectively) were women (See Table 28). Those surveyed in the national insurance unit were predominantly males (79.7%), which is to be expected given the fact that such centers cater to government employees, most of whom are men.

In terms of age distribution of the clients surveyed, 51.8% fell into the 15-45 year age group (See Table 29), this percentage being primarily representative of those clients drawn from government hospital facilities. Higher percentages for this age group were recorded, however, in the national insurance unit (71.1%), the medical care organization center (63.6%) and for those drawn from the private sector (61.1%). As was to be expected, clients sampled from MCH Centers and paediatric units clustered in the under-fifteen age group, most of them being in the five-year and under category (47.8%).

Distribution of clients by occupational groupings reveals clustering in two major areas (See Table 30). Clients tended to fall into the laborer category<sup>3/</sup>(37.2%) or into the uncategorized worker category<sup>4/</sup>(33.0%). Employed workers made up only 19.3% of the total clients surveyed, although percentages for this group were significantly higher for those drawn from the national insurance unit (33.8%) and from private units (34.5) than for other units.

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1/ Only 3419 of which was utilizable due to missing information and waste-filled questionnaires for the remaining 81.

2/ In this case, units run by social organizations. Access was not permitted to strictly private units.

3/ Includes manual workers, drivers, porters, janitors etc.

4/ Includes small merchants, street vendors, service providers (trashmen, etc.), as well as those who seek work on an available daily basis.

**TABLE 28**

**DISTRIBUTION OF HEALTH-SERVICE USERS**  
**BY SEX OF CLIENT**

Health Service Sector	Sex of Respondent		Total
	Male	Female	
Government Hospitals and Units	996 (43.7%)	1279 (56.0%)	2275 (100.0%)
MCH Centers and Paediatric Units	238 (28.4%)	601 (71.6%)	839 (100.0%)
Private Units (run by Social Organizations)	85 (47.2%)	95 (52.8%)	180 (100.0%)
National Insurance Unit	63 (79.7%)	16 (20.3%)	79 (100.0%)
Medical Care Organization	10 (30.3%)	23 (69.7%)	33 (100.0%)
<b>Total</b>	<b>1392 (40.9%)</b>	<b>2014 (59.1%)</b>	<b>3406 (100.0)</b>

TABLE 29

DISTRIBUTION OF HEALTH-SERVICE USERS  
BY AGE OF CLIENT

Health Service Sector	Age of Respondents						Total
	< 1 yr	1-5yrs	5-15yrs	15-45yrs	45-60yrs	> 60 yr	
Government Hospitals and Units	65 ( 2.8)	245 (10.7)	321 (14.1)	1199 (52.5)	347 (15.2)	98 (4.3)	2275 (100.0)
MCH Centres and Paediatric Units <sup>1/</sup>	189 (23.5)	191 (23.8)	50 ( 6.2)	359 (44.7)	15 ( 1.8)	0 (0)	804 (100.0)
Private Health Sector <sup>2/</sup>	3 ( 1.6)	16 ( 8.9)	16 ( 8.9)	110 (61.1)	26 (14.4)	9 (5.0)	180 (100.0)
Health Insurance Sector	1 ( 1.3)	0 (0)	8 (10.5)	54 (71.1)	13 (17.1)	0 (0)	76 (100.0)
Medical Care Organization	0 (0)	1 ( 3.0)	3 ( 9.1)	21 (63.6)	8 (24.2)	0 (0)	33 (100.0)
Total	258 ( 7.5)	453 (13.4)	398 (11.8)	1743 (51.8)	409 (12.1)	107 (3.2)	3368 (100.0)

1/ Public Health Sector facilities.

2/ In this case, units run by social organizations and therefore not strictly under private ownership of individual physicians.

TABLE 30

OCCUPATIONAL STATUS OF CLIENTS SURVEYED

Health Service Sector	Farmers	Laborers <sup>1/</sup>	Employees	Military	Pension	Uncategor- <sup>2/</sup> ized Workers	Total
Government Hos- pitals & Units	69 (3.2)	744 (35.0)	413 (19.4)	88 (4.1)	87 (4.1)	726 (34.1)	2127
MCH Centres and Paediatric Units <sup>3/</sup>	24 (2.9)	364 (44.1)	120 (14.5)	41 (4.9)	7 (0.8)	270 ( 8.7)	826
Private Health Sector <sup>4/</sup>	2 (1.1)	55 (31.0)	61 (34.5)	4 (2.2)	13 (7.3)	42 (23.7)	177
Health Insurance Sector	1 (1.3)	23 (31.1)	25 (33.8)	2 (2.7)	0 (0)	23 (31.1)	74
Medical Care Organization	3 (10.0)	17 (56.7)	4 (13.3)	0 (0)	0 (0)	6 (20.0)	30
Total	99 (3.1)	1203 (37.2)	623 (19.3)	135 (4.2)	107 (3.3)	1067 (33.0)	3234

1/ Includes manual workers, drivers, porters, janitors, etc.

2/ Vendors, craftsmen, service providers (e.g. trashmen, etc.); also includes workers who accept jobs on daily basis when available.

3/ Government Health Sector Facilities.

4/ In this case, units run by social organizations and therefore not strictly under private ownership of individual physicians.

In an effort to ascertain utilization flow of patients in the various facilities surveyed, respondents were grouped into two categories, those whose residence was located in the same area as the unit they were attending and those who were utilizing facilities outside their area of residence. A little over one-half (54.6%) of the clients fell into the former category, while the remaining 45.4% represented flow from one area to another (See Table 31).

When those clients in units outside their area of residence were asked to state major reasons for such utilization preferences, 38.1% gave non-availability of service in their area as the major reason, while 27.0% cited poor quality service as the major factor. Another 18.2% gave other reasons for their choice, the most common of these being:

- referral to the unit in question;
- need for emergency treatment;
- lack of knowledge regarding units in area of residence (new residence and utilizing facility in former area of residence);
- reputation of unit;
- low opinion of free health service, in the case of private sector and medical care organization usage;
- member of health insurance program.

A breakdown of utilization patterns and preferences by the various health-service sectors reveals considerable variation with respect to flow of utilization. Clients utilizing government hospital facilities were fairly evenly divided among the two area-usage groups (47.6% in area of residence, 52.4% outside area of residence). Those attending such facilities outside their area of residence cited nonavailability of service (37.0%) and poor service in area of residence (28.5%) as the major reasons for such preferences.

Those clients drawn from private units showed a similar distribution pattern, but with a higher percentage (59.2) utilizing units within their area of residence. Reasons given for utilization of facilities outside their area for this group were focused more on poor quality service (32.0%), rather than on lack of availability, and on other<sup>1</sup> factors (25.3%), most notably referrals, reputation of the unit in question<sup>1</sup>, and lack of knowledge regarding units in area of residence.

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<sup>1</sup>/ Unit is often recommended by friends or relatives living in another area.

**TABLE 31**

**UTILIZATION PATTERNS BY  
HEALTH-SERVICE SECTOR**

Health Service Sector	Total Clients Surveyed	Health Unit in Area of Residence		Reason for Leaving Area				Future Use of Facility
		Yes	No	Service Not Available	Poor Service	Relatives in Unit	Other	
Government Hospital and Units	2284	1088 (47.6)	1196 (52.4)	443 (37.0)	341 (28.5)	74 (6.2)	206 (17.2)	2053 (89.9)
MCH Centres and Paediatric Units	839	660 (78.7)	179 (21.3)	114 (63.7)	37 (20.7)	2 (1.1)	4 (2.2)	805 (95.9)
Private Health Sector	184	109 (59.2)	75 (40.8)	12 (16.0)	24 (32.0)	6 (8.0)	19 (25.3)	178 (96.7)
Health Insurance Sector	79	4 (5.1)	75 (94.9)	18 (24.0)	8 (10.7)	3 (4.0)	42 (56.0)	68 (90.7)
Medical Care Organization	33	5 (15.2)	28 (84.8)	5 (17.9)	9 (32.1)	2 (7.1)	11 (39.3)	30 (90.9)
<b>Total</b>	<b>3419</b>	<b>1866 (54.6)</b>	<b>1553 (45.4)</b>	<b>592 (38.1)</b>	<b>419 (27.0)</b>	<b>87 (5.6)</b>	<b>282 (18.2)</b>	<b>3134 (91.7)</b>

The overwhelming majority of clients utilizing the national health insurance unit and the medical care organization unit came from outside areas of residence (94.9% and 84.8% respectively). In the case of the national insurance unit, this is readily understandable due to the need for health-insurance members to utilize their own facilities regardless of area of residence. Since such units are not located in all health zones, this means that many enrollees will have to travel to units at considerable distances from their area of residence. When asked to state their reason for utilizing a unit outside their residence area, health insurance clients' responses fell predominantly into the "other" category (56.0%)<sup>1</sup>, most of these reasons relating to membership and lack of availability in area of residence. Poor quality service was cited as a factor by only 10.7% of the clients surveyed in this unit.

For clients in the medical care organization unit, the pattern of responses was somewhat different. Those utilizing facilities outside their area of residence cited poor quality service (32.1%) and "other factors" (39.3%) as the major reasons for such utilization preferences. A good portion of the clients in the latter case indicated that they held low opinions of free health services and thus quite possibly are resorting to use of medical care organization units as a halfway measure between government and private care, the costs being less in medical care units than in private units. A substantial number of these clients, however, also represent referrals from both government and private facilities.

The most interesting findings which were obtained with respect to utilization patterns was for those clients utilizing MCH Centers. Over three-fourths (78.7%) of the clients surveyed in these facilities were residents of the facility area. Of the remaining clients (179), nearly two-thirds stated lack of availability of service as the major factor prompting them to utilize units in other areas. Very few clients (37) left their area of residence due to poor quality of service in their area. This is an important finding, in that it indicates that clients, on the whole, are satisfied with such facilities and are making use of them in their own areas, where available.

Clients in the various health-service sectors were asked to give their evaluation of both the unit they were attending and of the services which the unit provided. On the whole, the majority of respondents gave good ratings in both areas (85.7% for the unit, 81.6% for services). Only a handful of respondents (5-7%) gave ratings of bad or very bad to the two areas, while the remaining 9-11% rated them as fair (See Table 32). Distribution of ratings over the various health-service sectors disclosed a variation in high ratings<sup>2</sup> for units from 80.4% of respondents in private centers to 96.9% in the MCO<sup>2</sup> Center. Service ratings, however, showed an opposite trend, with 92.3% of the clients from the private unit giving high ratings down to only 63.6% of the clients for the MCO Center giving such ratings. To put it yet

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<sup>1/</sup> Of unit; another 24.0% cited lack of availability of service in their area of residence.

<sup>2/</sup> MCO = Medical Care Organization.

**TABLE 32**

**CONSUMER EVALUATIONS OF UNIT AND SERVICES BY HEALTH-SERVICE SECTOR**

Health-Service Sector	Evaluation of Unit			Evaluation of Service				
	Total No. Respondents	Good	Fair	Bad	Total No. Respondents	Good	Fair	Bad
Government Hospital and Units	2210 (100.0)	1852 (83.8)	255 (11.5)	103 (4.7)	2158 (100.0)	1724 (79.9)	283 (13.2)	151 (7.0)
MCH Centers and Paediatric Units	829 (100.0)	759 (91.6)	25 (3.0)	45 (5.4)	828 (100.0)	698 (84.3)	58 (7.0)	72 (8.7)
Private Health Sector	184 (100.0)	148 (80.4)	19 (10.3)	17 (9.2)	181 (100.0)	167 (92.3)	9 (5.0)	5 (2.8)
Health Insurance Sector	77 (100.0)	65 (84.4)	10 (13.0)	2 (2.3)	74 (100.0)	63 (85.1)	10 (13.5)	1 (1.4)
Medical Care Organization	32 (100.0)	31 (96.9)	1 (3.1)	0 (0)	33 (100.0)	21 (63.6)	8 (24.2)	4 (12.1)
Total	3332 (100.0)	2855 (85.7)	310 (9.3)	167 (5.0)	3274 (100.0)	2673 (81.6)	368 (11.2)	233 (7.1)

120

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another way, private units were rated highest on service but lowest on units, while the MCO Center received a high unit rating but the most unfavorable service ratings. With respect to the remaining three health-service sectors surveyed (MCH Centers, NHI Center<sup>1</sup>, and government hospital units), the former two received a higher percentage of favorable ratings in terms of both unit and service evaluations.

When evaluations were broken down by usage-area (inside or outside area of residence), no noticeable differences emerged with respect to either unit evaluation or evaluation of services (See Table 33). The only significant difference appearing between the two groups was in the mode of transport utilized in travelling to the facility. Of those clients utilizing facilities within their residence area, 96.5% travelled to the unit on foot, whereas 66.9% of those utilizing facilities in other areas made use of public transportation. It is important to note, however, that for the latter group, one-fourth are travelling to the unit on foot, leaving only 7.7% travelling by car. With this factor in mind, it is important to ensure that future facilities are in areas accessible to the majority of inhabitants in each district. This is especially true for emergency medical services, as many night emergency cases are often stranded due to lack of facilities in their area, lack of public transportation after certain hours (usually midnight) and lack of telephone facilities as well.

When clients were questioned regarding their intention to utilize the facility they were attending in future medical situations, the overwhelming majority (93.6%) indicated that they would continue to utilize the unit on future occasions. As in the case of evaluations, no major differences were noted between those clients surveyed within their area of residence and those surveyed in outside areas.

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1/ NHI = National Health Insurance.

**TABLE 33**

**HEALTH-SERVICE USER EVALUATIONS  
BY AREA OF UTILIZATION**

Health Unit Location	Total	Mode of Transport			Evaluation of Unit			Evaluation of Service			Future Use of Facility
		Foot	PT	Car	Good	Fair	Bad	Good	Fair	Bad	
In Patient's Area of Residence	1848 (100.0)	1784 (96.5)	47 ( 2.5)	17 (0.9)	1566 (84.7)	170 (9.2)	90 (4.9)	1457 (78.8)	221 (12.0)	133 (7.2)	1744 (94.4)
Out of Patient's Area of Residence	1503 (100.0)	381 (25.3)	1006 (66.9)	116 (7.7)	1289 (85.8)	140 (9.3)	77 (5.1)	1216 (80.9)	147 ( 9.8)	100 (6.7)	1390 (92.6)
Total	3351 (100.0)	2165 (64.6)	1053 (31.4)	133 (4.0)	2855 (85.1)	310 (9.3)	167 (5.0)	2673 (79.8)	368 (11.0)	233 (7.0)	3134 (93.5)

## VI. SUMMARY AND RECOMMENDATIONS

### A. SUMMARY OF MAJOR FINDINGS

In looking back over the results of this preliminary investigation, we arrive at three major findings:

1. An apparent shortage and maldistribution of health-service resources in the Greater Cairo Area.
2. An over-reliance on government hospital outpatient facilities, with minimal usage of peripheral facilities and private practitioners; and
3. An overall favourable rating of health-care facilities and services on the part of health consumers, with those consumers seeking services outside their area doing so primarily due to lack of availability or to referrals.

With respect to shortages and maldistribution of resources, it appears that distribution of resources is unbalanced both with respect to population size and density and with respect to specific health needs within various areas of the region. In the case of physical resources, government facilities tend to be concentrated in two major health zones (South and Middle Cairo), while private facilities tend to be concentrated in the areas of Giza, West Cairo, and Heliopolis, all of which represent more affluent areas of the region. Some zones, such as the heavily populated area of East Cairo (1 1/2 million population) which has only one government hospital for the entire area, suffer from a severe shortage of facilities.

Similar problems exist with respect to quantity and distribution of manpower resources. The highest concentration of physicians is found in the more affluent areas of Heliopolis and Giza, the former which possesses the smallest share of the region's population and the latter the largest. In addition, medical specialists and nursing personnel tend to cluster primarily in those areas where university hospital facilities are located. The poorest areas, such as Helwan, South Cairo, and Shoubra el-Kheima, have very limited numbers of personnel in all manpower categories.

In those areas possessing physical and manpowers resources, there are still problems encountered, in that such resources tend to be woefully inadequate. Units tend to be of poor quality and are characterized by shortages of equipment and supplies, lack of specialized and emergency treatment facilities, and lack of overall supervision. In addition, overcrowding of facilities, lack of adequate personnel incentives, and failure to punish negligence have all tended to lead to attitudes of indifference and resulting carelessness on the part of health service personnel. It is for this reason, perhaps, that a strong need was expressed for additional auxiliary personnel, especially in the poorer and more overpopulated areas, as an increase in such personnel would relieve the extreme pressure placed on professional personnel in these areas.

Insofar as utilization patterns and preferences were concerned, the majority of health-consumers in most areas rely primarily on the use of government hospital facilities. Utilization of peripheral facilities is virtually non-existent in many areas, especially in the poorer health zones (Helwan, Shoubra-el-Kheima, and South Cairo). Due to cost and availability factors, utilization of private facilities is concentrated in the more affluent areas of Giza and Heliopolis.

One of the most important factors to point out with respect to utilization is that in those areas lacking in facilities, individuals are confronted with the problem of obtaining assistance in emergency situations, especially late at night. Due to lack of telephone facilities and to scarcity of public transportation after midnight, most residents in these areas are forced to wait until morning to seek out treatment. So serious is this situation that residents in such areas have literally pleaded for the construction of local facilities and some have even offered to try to get together the resources for constructing their own health unit.

In general, consumer ratings of existing units and services are pretty favorable. Those clients seeking assistance from units outside their area of residence generally did so, not from a dissatisfaction with local units but due to a lack of availability of services within their area. In the case of clients utilizing the health insurance unit and the MCO unit, the majority did so because of referrals or because they were health insurance enrollees and no unit was available in their area. What is most encouraging though is that those clients utilizing MCH Centers tend to remain within their area of residence and leave primarily only when such facilities are not available. Also, these units received a higher percentage of favourable ratings than did government hospital facilities and services, thus indicating that this might be a potentially good health-service sector to concentrate on in terms of developing additional facilities.

#### B. MAJOR AREAS OF NEED

On the basis of the above findings, it would appear that the greatest areas of need would include the following:

- the construction of additional facilities, especially peripheral units;
- the improvement of emergency medical services, especially in areas lacking medical facilities;
- upgrading of existing facilities;
- an increase in manpower resources, especially in the area of auxiliary personnel;
- redistribution of existing facilities and personnel;

- the provision of adequate personnel incentives, supervision, and training programs;
- rechanneling the flow of patients, both through referrals and through raising the level of public awareness regarding the existence and whereabouts of existing facilities;
- the need for planning of health-care services so that facilities and personnel are allocated where needed most rather than where most convenient;
- a need for more unified control of health services in the Greater Cairo Area, rather than maintaining six independently functioning and parallel systems.

In an effort to develop a set of recommendations directed towards meeting the above needs, a number of top level health-service directors and chairmen were asked to offer their suggestions for improving health-care delivery in the Greater Cairo Area.<sup>1/</sup>The following and final section provides five major sets of recommendations based both on their responses and on the findings contained in this report.

C. MAJOR AREAS OF RECOMMENDATION FOR DEVELOPING MORE EFFICIENT AND COST-EFFECTIVE HEALTH-CARE SERVICES IN GREATER CAIRO

All persons interviewed emphasized the need for undertaking health sector analysis of the Greater Cairo Region, as a means for better planning of service delivery systems. Such activity could be undertaken during the first year of the Health Demonstration Project simultaneously with implementation of one or more of the following alternative suggestions:

1. One recommendation is to establish an overall organization responsible for planning and guidance of the development of health services in Greater Cairo. This body could be given full control over regional health services and full integration of the present six components of the health system in Greater Cairo should be undertaken as well. This would mean that each of the six systems should provide free services, prepaid services, and contractual services in their facilities. This will help to maximize the utilization of physicians time and save dead time lost as a result of travelling back and forth between facilities. The huge managerial problems involved in undertaking such an endeavour, however, and the organizational disturbances which would arise as a result appear to be the main reasons for objecting to the establishment of such a system.

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<sup>1/</sup> A listing of names of the individuals is provided in Appendix D.

2. Another suggestion is to allow the six health-service systems to remain independent but to establish a planning body for Greater Cairo health services to guide the development of the six systems in response to market needs and demands. The underlying philosophy, in addition, views the expansion of direct paid, prepaid, and contractual services as the only practical way to alleviate undue pressure on free services by those financially able to pay but who are forced to utilize free services due to lack of suitable alternative facilities.

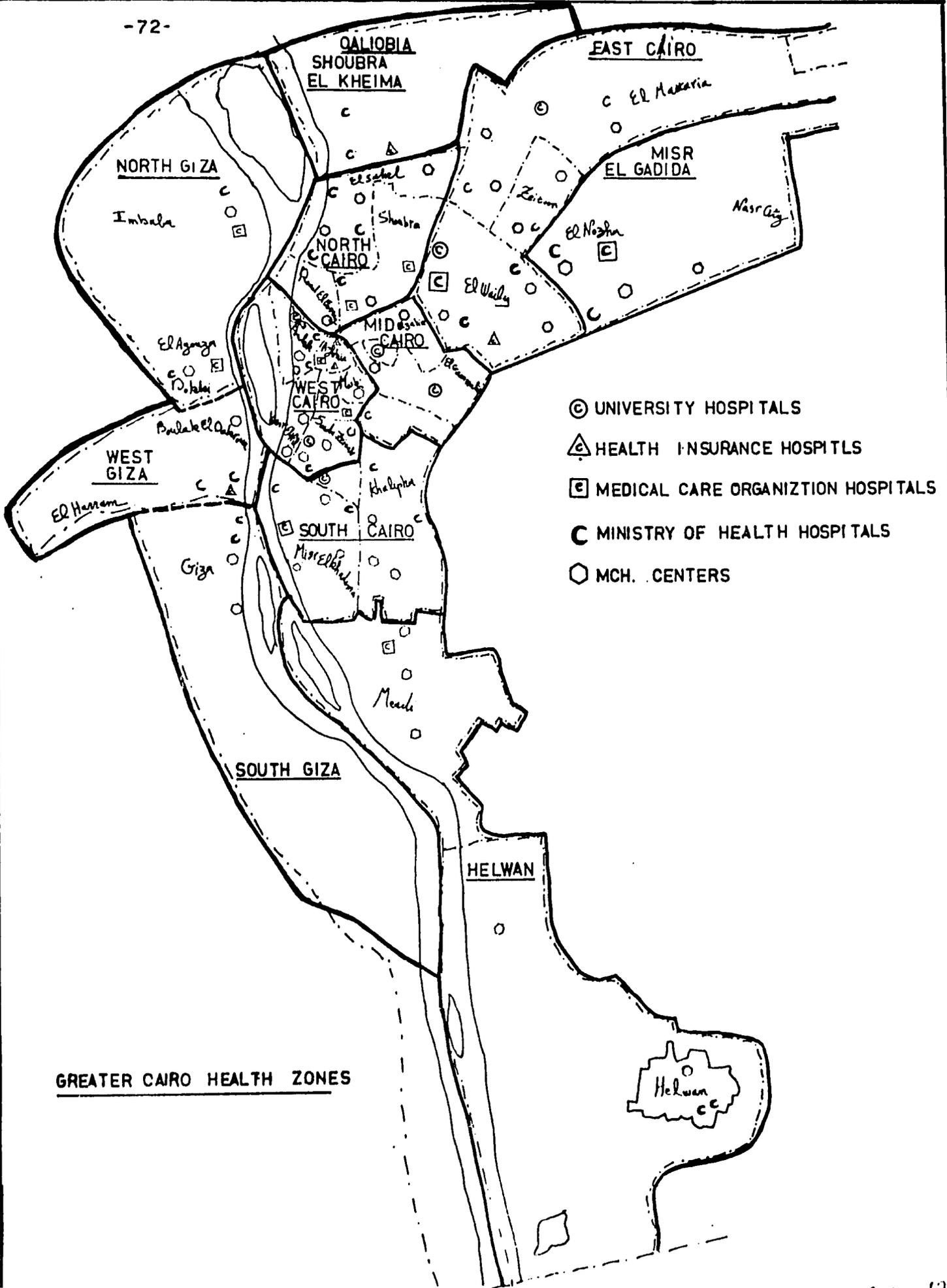
3. A third possibility involves setting up a demonstration or pilot project in one or more districts with university hospital facilities. The major idea would center around integration of MOH services with university health services in such a way that alleviates university hospitals from the tremendous pressure resulting from overloading of cases, especially those cases requiring simple treatment. This would save both personnel time and bed space for treatment of more difficult cases. This would necessitate the development of a good referral system between the two health-service sectors. Implementation of such a project may create political problems and conflict resulting from the present uncomfortable relationship existing between university personnel and MOH personnel. Another drawback would involve an increased demand on the improved districts from other districts lacking in service.

4. Several people have recommended a functional rather than a sectoral approach. This approach would involve the upgrading of MCH/FP and school health peripheral facilities and would include additional staffing, equipment, supplies and the provision of incentives. This would relieve hospital outpatient clinics from undue pressure and create a good sieve for handling ambulatory cases. If this is reinforced with health education programs and improved environmental sanitation, maximum advantage could be gained with this approach. Another plus factor in utilizing this approach is that it would involve the least disturbances of organizational structure and produce the least conflict, while having a widespread impact on areas in the greatest need of improved health care.

5. A final recommendation is to provide the Greater Cairo Region with a chain of small polyclinics, one for each 100,000 citizens in which specialized services would be offered in addition to generalized health care services. This would have an impact on a larger grouping of citizens and ensure a greater area of coverage with respect to all forms of medical treatment. Such polyclinics would alleviate undue pressure on outpatient clinics in hospital facilities. This approach, however, would prove to be extremely costly, as it would require the construction of approximately eight such centers in the Greater Cairo Area. Consequently, an approach such as the one indicated above and based on a comprehensive health-sector analysis of the region would appear to be the best strategy to employ under present circumstances and constraints.

**A P P E N D I C E S**

**A. HEALTH-SERVICE MAP  
OF THE  
GREATER CAIRO REGION**



GREATER CAIRO HEALTH ZONES

**B. SOCIAL PROFILE OF HEALTH ZONES  
BY ADMINISTRATIVE DISTRICTS**

DISTRIBUTION OF HEALTH ZONE POPULATIONS  
BY ADMINISTRATIVE DISTRICTS

<u>Health Administrative</u> <u>Zone/District</u>	<u>1976</u> <u>Population</u>	<u>Percentage</u> <u>of Total</u>
1. <u>GIZA</u>	<u>1,747,584</u>	<u>100.0</u>
Embaba, Attaba, North Agouza	407,429	23.3
Dokki, Giza City	1,246,054	71.3
Bulaq-el-Dakrou, El-Haram	94,101	5.4
2. <u>MASR EL GEDIDA (HELIOPOLIS)</u>	<u>294,103</u>	<u>100.0</u>
El-Nozha	101,625	34.6
Heliopolis	127,131	43.2
Nasr City	65,347	22.2
3. <u>HELWAN</u>	<u>549,653</u>	<u>100.0</u>
Dar-el-Salam, Basateen, Maadi, Torah	267,056	48.6
El-Masaraa	}	}
Helwan, Hadaik, Masaken		
El-Teheen		
Helwan Ezab		
4. <u>SHOUBRA EL-KHEIMA</u> <sup>1/</sup>	<u>393,700</u>	<u>100.0</u>
5. <u>NORTH CAIRO</u>	<u>839,983</u>	<u>100.0</u>
El-Sahel	438,753	52.2
Rod el-Parag	272,448	32.4
Shoubra	128,782	15.3
6. <u>SOUTH CAIRO</u>	<u>544,720</u>	<u>100.0</u>
Masr el-Kadima <sup>2/</sup>	273,670	50.2
Sayeda Zeinab <sup>2/</sup>	84,087	15.5
El-Khalifa	186,963	34.3

1/ Figures for administrative districts not available at present.

2/ This district is divided over two adjacent health zones.

<u>Health Administrative Zone/District</u>	<u>1976 Population</u>	<u>Percentage of Total</u>
<b>7. <u>WEST CAIRO</u></b>	<b>665,293</b>	<b>100.0</b>
Bulaq	177,929	26.7
Sayeda Zeinab <sup>1/</sup>	168,173	25.3
Mouski	58,402	8.8
Azbakia	59,667	9.0
Kasr-el-Nil	39,343	5.9
Bab-el-Sharia <sup>1/</sup>	73,498	11.0
Abdin	88,282	13.3
<b>8. <u>EAST CAIRO</u></b>	<b>1,560,720</b>	<b>100.0</b>
Mataria	534,612	34.2
El-Sharabia	443,741	28.4
Zaytoun	267,662	17.2
Hadaik el-Koba	314,705	20.2
<b>9. <u>MIDDLE CAIRO</u></b>	<b>596,398</b>	<b>100.0</b>
Wayli	142,208	23.8
El-Dahir	104,153	17.5
Bab-el-Sharia <sup>1/</sup>	36,749	6.2
Darb Ahmar	146,589	24.6
Gamalia	166,699	28.0

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<sup>1/</sup> These districts are divided over two adjacent health zones.

1. GIZA (CAIRO PORTION) HEALTH ZONE

Table 1a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative District	Lower	Middle	Upper	Total
Embaba, Attaba, North Agouza	45	40	15	100
Dokki, Giza	35	55	10	100
Bulaq-el-Dakrour, el-Haram	40	50	10	100

Table 1b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Embaba, Attaba, North Agouza	35	30	20	5	5	5	100
Dokki, Giza	40	25	17	5	5	8	100
Bulaq-el-Dakrour, el-Haram	25	25	20	10	8	12	100

2. MASR EL-GEDIDA (HELIOPOLIS) HEALTH ZONE

Table 2a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative District	Lower	Middle	Upper	Total
El-Nozha	13	31	56	100
Heliopolis	18	33	49	100
Nasr City	4	43	53	100

Table 2b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
El-Nozha	40	18	20	3	3	16	100
Heliopolis	44	15	17	4	1	19	100
Nasr City	37	7	20	2	1	33	100

3. HELWAN HEALTH ZONE

Table 3a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
Dar-el-Salam, Basateen	65	35	-	100
Maadi, Torah	60	30	10	100
El-Masaraa	80	20	-	100
Helwan, Hadaik, Masaken	50	40	10	100
El-Teheen	80	20	-	100
Helwan Ezab	90	10	-	100

Table 3b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Dar-el-Salam, Basateen	20	35	10	-	30	5	100
Maadi, Torah	25	30	10	10	20	5	100
El-Masaraa	15	40	10	-	35	-	100
Helwan, Hadaik, Masaken	20	40	10	10	10	10	100
El-Teheen	20	60	20	-	-	-	100
Helwan Ezab	5	10	10	55	10	10	100

4. SHOUBRA-EL-KHEIMA HEALTH ZONE

Table 4a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
Shoubra el-Balad	70	18	12	100
Masaken Nobar	68	20	12	100
Minshia El-Horia	75	16	9	100
Begam	65	25	10	100
El-Shirkawia	72	27	1	100
Bhateem	60	28	12	100
Mostorod	65	25	10	100
Nobar	71	20	9	100
El-Kablat	65	20	15	100

Table 4b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Shoubra el-Balad	15	30	7	4	36	8	100
Masaken Nobar	18	35	5	5	27	10	100
Minshia El-Horia	9	40	8	6	31	6	100
Begam	15	60	12	3	3	7	100
El-Shirkawia	20	55	7	5	7	0	100
Bahteem	25	55	8	2	6	4	100
Mostorod	8	65	7	6	10	4	100
Nobar	12	60	5	3	14	6	100
El-Kablat	15	70	6	2	5	2	100

5. NORTH CAIRO HEALTH ZONE

Table 5a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
El-Sahel	55	25	20	100
Rod-el-Farag	55	30	15	100
Shoubra	60	25	15	100

Table 5b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Merchant	Farmer	Casual Worker	Estate Owner	Total
El-Sahel	5	30	15	10	35	5	100
Rod-el-Farag	10	35	10	10	30	5	100
Shoubra	15	25	5	5	40	10	100

6. SOUTH CAIRO HEALTH ZONE

Table 6a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
Masr-el-Kadima	75	25	-	100
Sayeda Zeinab <sup>1/</sup>	65	35	-	100
El-Khalifa	75	25	-	100

Table 6b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Masr-el-Kadima	20	35	20	-	20	5	100
Sayeda Zeinab <sup>1/</sup>	30	30	15	-	20	5	100
El-Khalifa	25	40	20	-	10	5	100

1/ Split up over two health zones.

**7. WEST CAIRO HEALTH ZONE**

**Table 7a**

**PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS**

Administrative Districts	Lower	Middle	Upper	Total
Boulaq	75	20	5	100
Sayeda Zeinab <sup>1/</sup>	65	25	10	100
Mouski	45	40	15	100
Azbakia	45	50	5	100
Kasr-el-Nil	20	60	20	100
Bab-el-Sharia <sup>1/</sup>	35	50	15	100
Abdin <sup>2/</sup>	-	-	-	-

**Table 7b**

**PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS**

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Boulaq	5	60	10	-	20	5	100
Sayeda Zeinab <sup>1/</sup>	15	45	15	-	10	15	100
Mouski	15	60	5	-	15	5	100
Azbakia	25	35	10	-	20	10	100
Kasr-el-Nil	60	10	10	-	15	5	100
Bab el-Sharia <sup>1/</sup>	20	50	10	-	10	10	100
Abdin <sup>2/</sup>	-	-	-	-	-	-	-

1/ Split up over two health zones.

2/ Data not available.

8. EAST CAIRO HEALTH ZONE

Table 8a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
Mataria	60	30	10	100
El-Sharabia	70	28	2	100
Zaytun	40	40	20	100
Hadaik el-Koba	15	50	35	100

Table 8b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Mataria	15	40	8	2	30	5	100
El-Sharabia	3	40	16	-	40	1	100
Zaytun	50	10	30	-	3	7	100
Hadaik el-Koba	50	18	10	-	2	20	100

9. MIDDLE CAIRO HEALTH ZONE

Table 9a

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND SOCIAL STATUS

Administrative Districts	Lower	Middle	Upper	Total
Wayli, Abbasiya	70	23	7	100
El-Dahir	65	20	15	100
Bab-el-Sharia <sup>1/</sup>	80	15	5	100
Darb el-Ahmar	75	20	5	100
Gamaleya	70	25	5	100

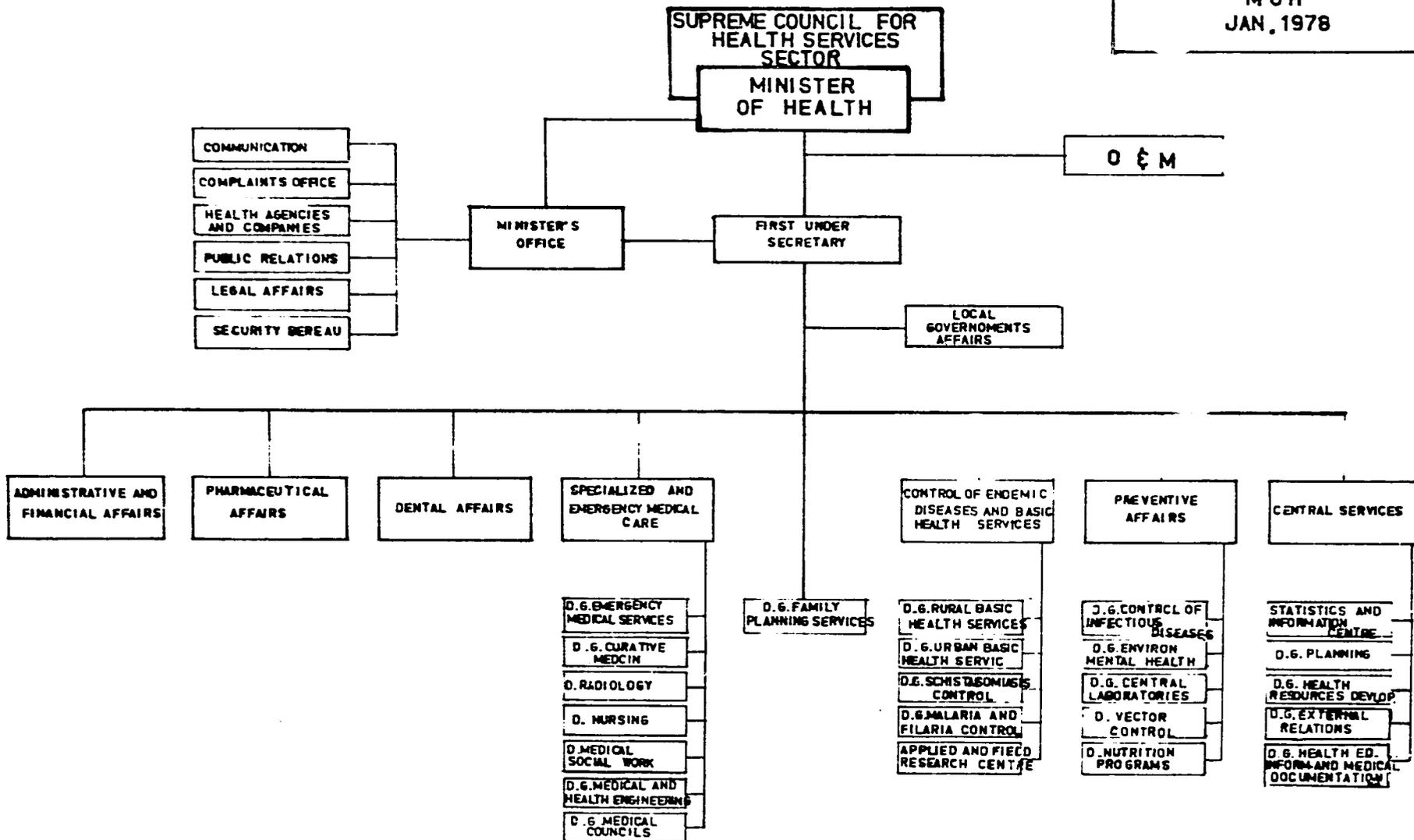
Table 9b

PERCENTAGE DISTRIBUTION OF POPULATION  
BY DISTRICT AND OCCUPATIONAL STATUS

Administrative Districts	Employee	Labourer	Mer- chant	Farmer	Casual Worker	Estate Owner	Total
Wayli, Abbasiya	55	23	10	-	7	5	100
El-Dahir	60	10	19	-	1	10	100
Bab el-Sharia <sup>1/</sup>	40	30	20	-	4	6	100
Darb el-Ahmar	45	15	30	-	3	7	100
Gamaliya	40	10	40	-	1	9	100

<sup>1/</sup> Split up over two health zones.

**C. SUGGESTED ORGANOGAM  
FOR THE  
MINISTRY OF HEALTH**



*A. Z. H.*

*ns*

**D. LISTING OF HEALTH-SERVICE  
DIRECTORS INTERVIEWED  
FOR RECOMMENDATIONS**

HIGHER-LEVEL HEALTH ADMINISTRATORS  
AND DIRECTORS INTERVIEWED  
IN THE STUDY

CAIRO UNIVERSITY HOSPITALS

DR. AHMED HANAFI

DIRECTOR GENERAL CAIRO UNIVERSITY  
HOSPITALS

AIN SHAMS UNIVERSITY HOSPITALS

DR. MOHAMED IKRAM SHOUKRI

DIRECTOR GENERAL AIN SHAMS UNIVER-  
SITY HOSPITALS

DR. FAROUK EL-ALFI

DIRECTOR OUT-PATIENT CLINICS AND  
EMERGENCY HOSPITAL AIN SHAM  
UNIVERSITY

DR. ALI MASSOUD

PROFESSOR & CHAIRMAN DEPARTMENT OF  
PUBLIC HEALTH AIN SHAMS UNIVERSITY  
AND CONSULTANT TO AIN SHAMS  
UNIVERSITY HOSPITALS

DR. GAMAL-EL-DIN EL-TORAIGI

DIRECTOR AL-DEMERDASH HOSPITAL AIN  
SHAMS UNIVERSITY

MR. MOHAMED ABDEL-HADI

DIRECTOR OF STATISTICS AIN SHAMS  
UNIVERSITY HOSPITALS

MEDICAL CARE ORGANIZATION

DR. MOHAMED RAGHEB DEWIDAR

CHAIRMAN OF GOVERNING BOARD

HEALTH INSURANCE ORGANIZATION

DR. MOHAMED SABRI ZAKI

CHAIRMAN GOVERNING COUNCIL

MR. ALI EL-AROUSHI

DIRECTOR OF STATISTICS

MINISTRY OF HEALTH

DR. AHMED NEGM EL-DIN SERRY

FIRST UNDER-SECRETARY

DR. MOHAMED SAAD-EL-DIN FOUAD

UNDER-SECRETARY CURATIVE SECTOR

DR. AMIN EL-GAMAL

UNDER-SECRETARY LABORATORY SERVICES

DR. KAMAL HAFEZ ATTIA

DIRECTOR GENERAL FAMILY PLANNING  
DEPARTMENT

DR. ALIA AYOUB

DIRECTOR GENERAL SCHOOL HEALTH  
DEPARTMENT

DR. MOHAMED EL-SAYAD

DIRECTOR GENERAL MCH DEPARTMENT