EMERGENCY MEDICAL SERVICES

SYSTEM PLAN

Prepared by: Public Health & Social Services

A. ORGANIZATION INFORMATION

I. Introduction

A. Federal involvement with Emergency Medical Services System development began in 1973 when the Department of Public Works, applied for highway safety funds from the Department of Transportation. Initially, small amounts of money were spent on the EMS component of the Highway Safety Plan, administered by the Office of Highway Safety (OHS). The first few years saw activity in the area of EMT-A training and the purchase of training aids to conduct the 81 hour approved EMT-A course. OHS funding involvement expanded several years later into the purchase of Federally conforming ambulances. Initially five (5) Type II ambulances were purchased in 1975. These replaced existing non-conforming and deteriorating Department of Public Safety (DPS) ambulances. Since then, three additional ambulances were purchased two (2) in 1980 and one forthcoming. OHS funding has also assisted in the purchase of various automobile extrication devices.

B. The Department of Public Health and Social Services began its involvement with EMS development in 1975. At that time, our EMS EMS Coordinator whose salary was funded by OHS, continued to evaluate EMT-A training programs and applied to OHS for funding to continue the EMT-A courses. About that same time, the Office of Comprehensive Health Planning applied for a planning grant from the Department of Education and Welfare, to develop the Comprehensive Emergency Medical Service plan. This plan was completed in 1976. The 100 per cent federal grant was $45,000.

Since that time there has been minimal involvement with the DHHS relative to EMS system development. DPH&SS has continued to apply for and sub-grant DOT/NHSTA funds for EMT-A training, First Responder Training and Radio Communications development.

C. In 1977, the Governor of Guam signed Public Law 14-11, an Act relative to Emergency Medical Services. This act created an office of Emergency Medical Services (OEMS) within the Department of Public Health and Social Services. It was not until April of 1978 however, that a permanent administrator for that Office was recruited. The law is similar to many model pieces of legislation, prescribing a broad range of authority for the OEMS and its fourteen member EMS Commission. The office is responsible for development and regulation of the EMS system. Specific authorities can be seen in APPENDIX A (see particularly, Sections 49252-1 f.f. and 49253)

D. This project narrative will describe the current state of the system and propose development and/or changes in selected components of the system. While the major focus of this application is on sound Basic Life Support development, there are aspects of the system that may well apply to Advanced Life Support (ALS) development. The areas of the system identified for assistance are what we feel are the minimum required for a sound progression to a total system of emergency care. Guam has lagged behind in its relationship to federal funding for EMS development (7 years for DOT, 2 years for HHS). However, this must not be seen as an indication of lack of commitment to EMS system development, indeed, this may be one case where waiting has proved beneficial. We are now in a position to learn from the experiences of other states and territories, and to select those approaches to development that have proven to be effective. Our approach to EMSS development however, must be viewed in light of our relative isolation, geographicial distance and limited resources (money manpower and facilities). We are commited to the development of a system that will meet our needs and resources. The final result will be an Advanced Life Support System that reflects the realities of our island.

II. Description of the EMS Planning Area

The objective of this section is to provide an overview of the EMS planning area. The overview will be presented through a discussion of the EMS area's characteristics organized into the following major categories:

A. GEO GRAPHIC
B. POPULATION

The characteristics to be discussed were selected based on their relevance to the development of an EMS system, and to the system's subsequent implementation.

A. GEOGRAPHIC CHARACTERISTICS

The section will describe the geographic characteristics of Guam through a discussion of the island's location, topography and climate. The objective is to identify geographic constraints and other natural phenomenon which may affect the quality and/or delivery of emergency medical services.

1. LOCATION

The Island of Guam lies at the southern-most end of the Marianas approximately 4116 miles west of Honolulu, 1500 miles east of the Philippines and 1550 miles south of Japan. It is approximately 30 miles long and from 4 to 8 miles wide, with an area of 212 square miles. Guam's isolated location is significant to the development of the EMS system for the following reasons:

- -The transportation of critically ill or injured patients to special facilities off-island
- -Establishment of mutual aid agreements
- -Difficulties in obtaining assistance in the event of mass casualties
- -Access to training facilities and personnel

2. TOPOGRAPHY

Guam is the largest of the 15 Marianas Islands. It is an island characterized by two distinct topographical features,uplifted coral terraces in the north and hills of volcanic origin in the south.

The physical features impact upon the patterns of health care utilization because of the natural harbors significant to the island and the focus of the popluation in the central region of the island. Further, the topographical features of the southern portion of the island with its mountainous characteristics have not been able to support a sufficient number of people; consequently, medical resources have not developed to a significant level in this region. Travel time for these small population clusters in the south are also impeded by the terrain and consequently affect ambulance response time.

3. CLIMATE

The climate on Guam is typically characterized by warm weather, with temperatures ranging from 72° to 80°F. This appealing climate has created seasonal visitors. Whether tourists or temporary residents, the potential is the same, these individuals can place and added, unforseen burden on the Islands emergency medical care system.

The usual temperate climate of Guam is frequently interrupted with typhoons and heavy rainfall. The most alarming evidence of the traumatic impact typhoons can have on Guam and its EMS system was in 1976 when Typhoon Pamela swept directly over the island. The typhoon caused extensive damage to the island. The consequence for a short period being the medical service system was rendered practically inoperable, many raods became impassable, and communication were practically eliminated. Since this experience, the Government of Guam has established a formal disaster planning and operations system under the purview of the Office of Civil Defense.

4. SUMMARY

In summary, it is important that the island's location, topography and climate be considered in the development of an EMS system. If these geographic characteristics were not accurately reflected in EMS planning it is unlikely that a viable EMS system could develop.

B. POPULATION CHARACTERISTICS

This section discusses those population characteristics of the island that are relevant to the development of an EMS plan. The characteristics that will be discussed include the total population of Guam; projected growth figures; income; education; employment composition; and accident and death statistics. Much of the data presented in this narrative is from the Guam Health Plan prepared by the Guam Health Planning and Development Agency.

1. POPULATION SIZE, AGE, AND SEX

a. POPULATION DATA BASE

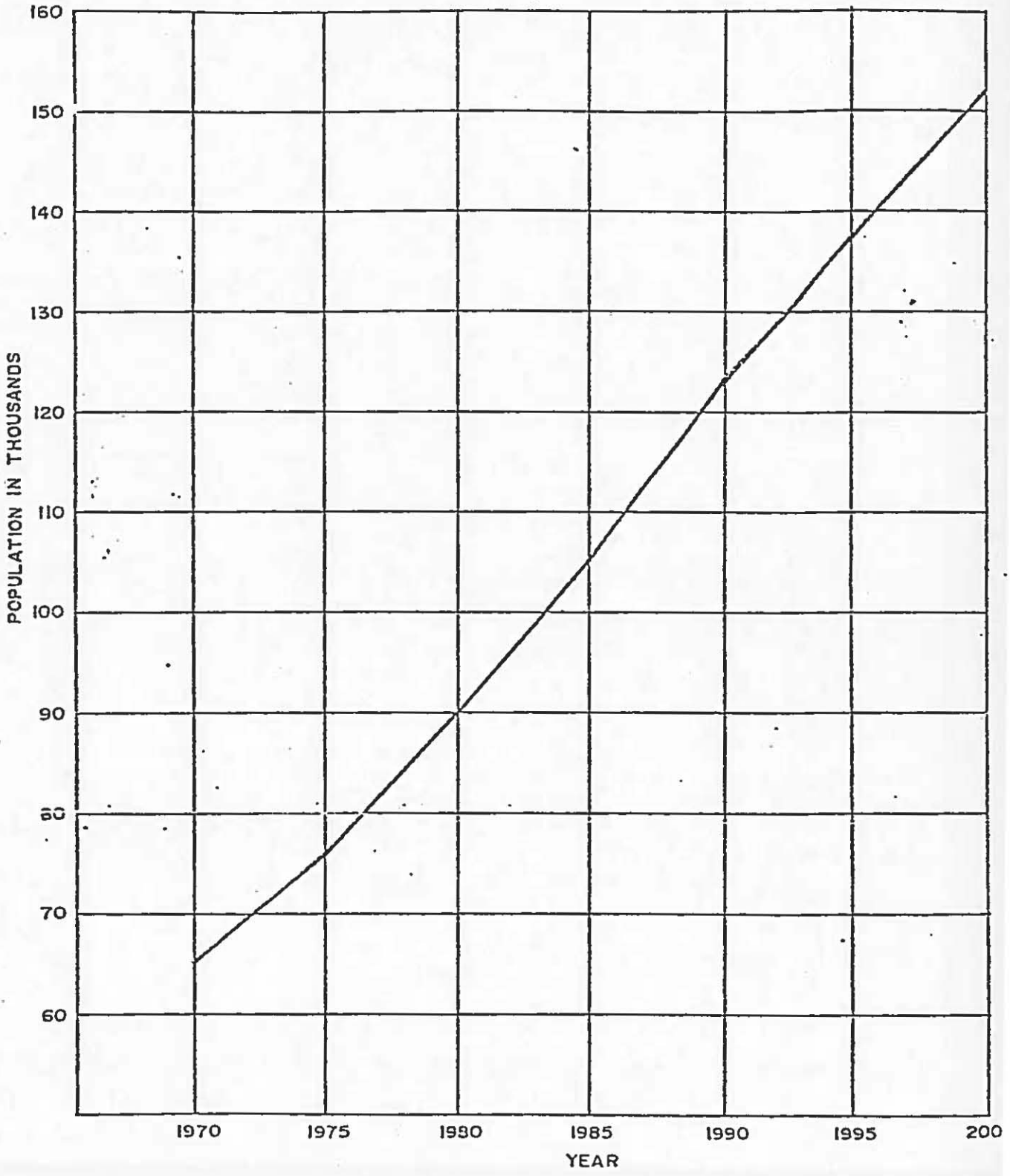
Although several population projections have been developed over the last several years, the Quinton. Budlong (Series A) population estimates (EXHIBIT, II-1), developed in 1973 and verified by the Guam Bureau of Planning in 1977, will be used in this plan as a basis for population trends and projections. For certain years however, notably 1975, the more accurate population data derived from a survey conducted by the Guam Bureau of Labor Statistics will be used for age, sex and village population breakdowns.

It should be noted that more accurate and consistent population data are needed in order to improve planning capabilities. The absence of an adequate data base, federal immigration policies independent of local considerations, fluctuation in military personnel and their dependents, the seasonality of tourist traffic and levels, all contribute to the variation to be found in current population estimates and projections for Guam.

b. CIVILIAN POPULATION 1970-75

Between April 1970 and September 1975, the civilian population increased from 64,510 to 76,089 for an annual growth rate of 3-4 percent (EXHIBIT II.2). If this rate of growth is maintained, the civilian population will double by the year 1995. Between 1970 and 1974, 10,377 immigrants were admitted to establish

EXHIBIT II - 1
GUAM ESTIMATED AND PROJECTED POPULATION
1970–2000



NOTE: 1990–2000 EXTENSION OF QUINTON-BUDLONG USING POPULATION PROJECTION METHOD.

SOURCE: QUINTON-BUDLONG POPULATION ESTIMATES, 1970–1990.

EXHIBIT II - 2
POPULATION
1970 — 1985

YEAR	POPULATION *	CHANGE - %
1970	64,510	
1971	66,838	3.6
1972	69,166	3.5
1973	71,494	3.4
1974	73,822	3.2
1975	76,089	3.1
1976	78,868	3.6
1977	81,647	3.5
1978	84,426	3.4
1979	87,205	3.3
1980	89,938	3.1
1981	93,102	3.5
1982	96,266	3.4
1983	99,430	3.3
1984	102,594	3.2
1985	105,706	3.0

AVERAGE ANNUAL GROWTH RATE 1970 – 1975 = 3.4 %

* CIVILIAN POPULATION ONLY

SOURCE: QUINTON – BUDLONG SERIES "A" POPULATION ESTIMATES

permanent residency on Guam. As in the period 1960 to 1970 more than 50% of the population increase that occurred between 1970 and 1975 was due to net in-migration. The median age of the civilian population increased from 16.1 to 18.9 years reflecting a young population. The upward swing of the median age of the population was due to a declining birth rate on out-migration of an intermediate age population.

c. TRANSIENT POPULATION 1970-1977

The growth of tourism and the military as Guam's largest industries make it necessary to consider the transient population in planning since visitors can become ill or injured during their stay on the island.

Guam's yearly tourist population has been steadily increasing from 73,723 to 240,267 between 1970 and 1977 (EXHIBIT II.3). The majority of Guam's visitors are tourists from Japan. The seasonal fluctuations of tourist arrivals increase the difficulty of determining the actual daily population and affects the ability to program emergency medical services for that specific group. However, during the peak tourist season (March thru August), there is an average daily tourist population of 3,000 and approximately 1,000 tourists per day during the off-season months. Generally these tourists are young married couples or young single persons. It may be assumed that their impact on the EMS system would predominantly be in the areas of vehicles and recreational (water) accidents.

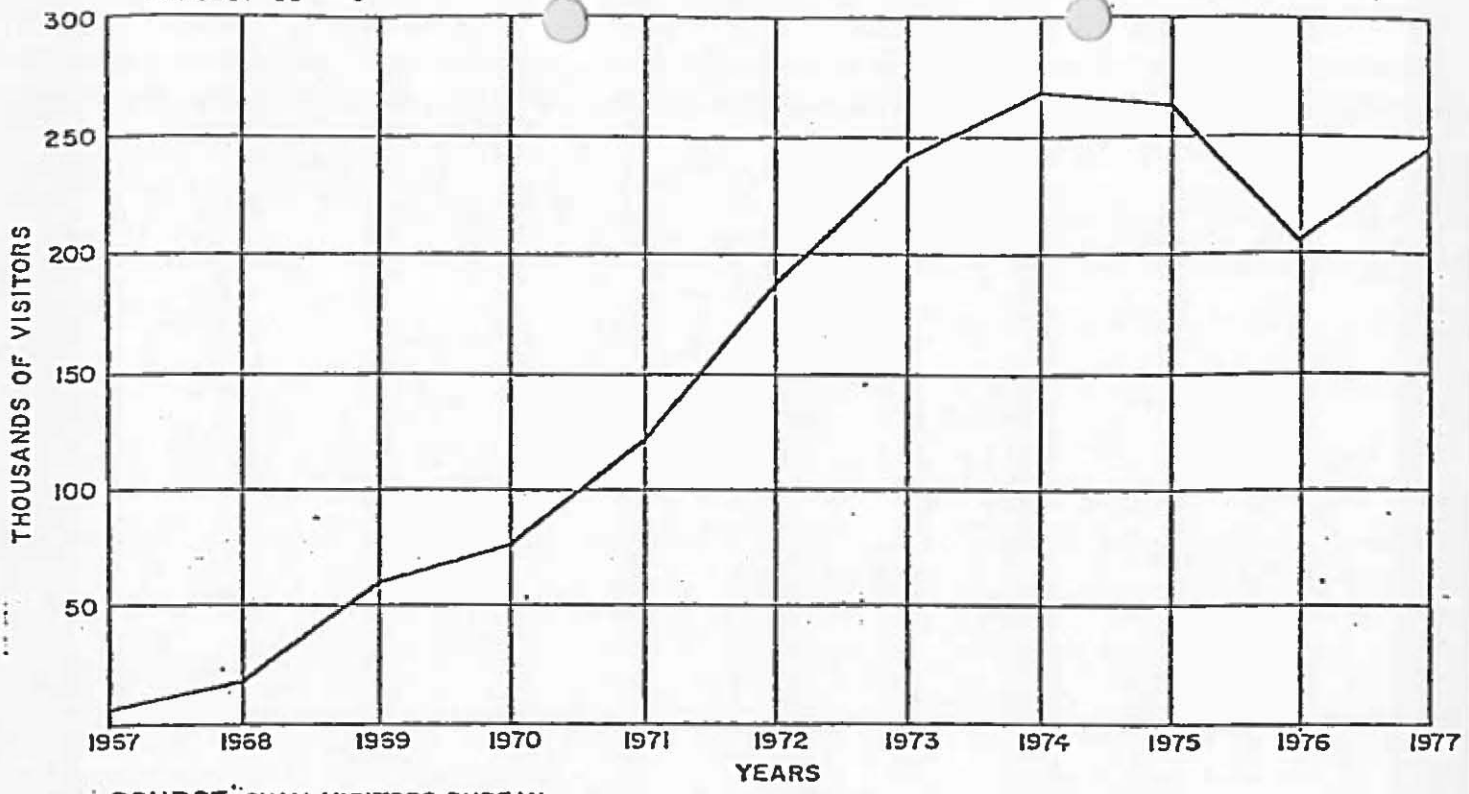
In the interest of national defense, the military has been reluctant to provide information regarding its population. For planning purposes, the Government of Guam has assumed that the military population is kept constant at 22,000 active and dependent personnel.

d. POPULATION DISTRIBUTION

As noted previously, the topography of the island has influenced the distribution of the population. Roughly, 80 percent of the civilian households are located in the northern and central districts of Guam. In 1969, the population was loosely arranged around communities in the south and more densely situated in central and northern communities (EXHIBIT II-4). Between 1970 and 1975, a major redistribution of population took place with northern municipalities accounting for much of the population growth during this period (EXHIBITS .II.5-II.6). In particular, the municipal districts of Dededo, Tamuning, Mangilao and Yona significantly increased their share of island population. Indeed, this trend continues as provisional figures from the U.S. Bureau of the Census show continuing growth in the above mentioned municipalities (EXHIBIT II.7).

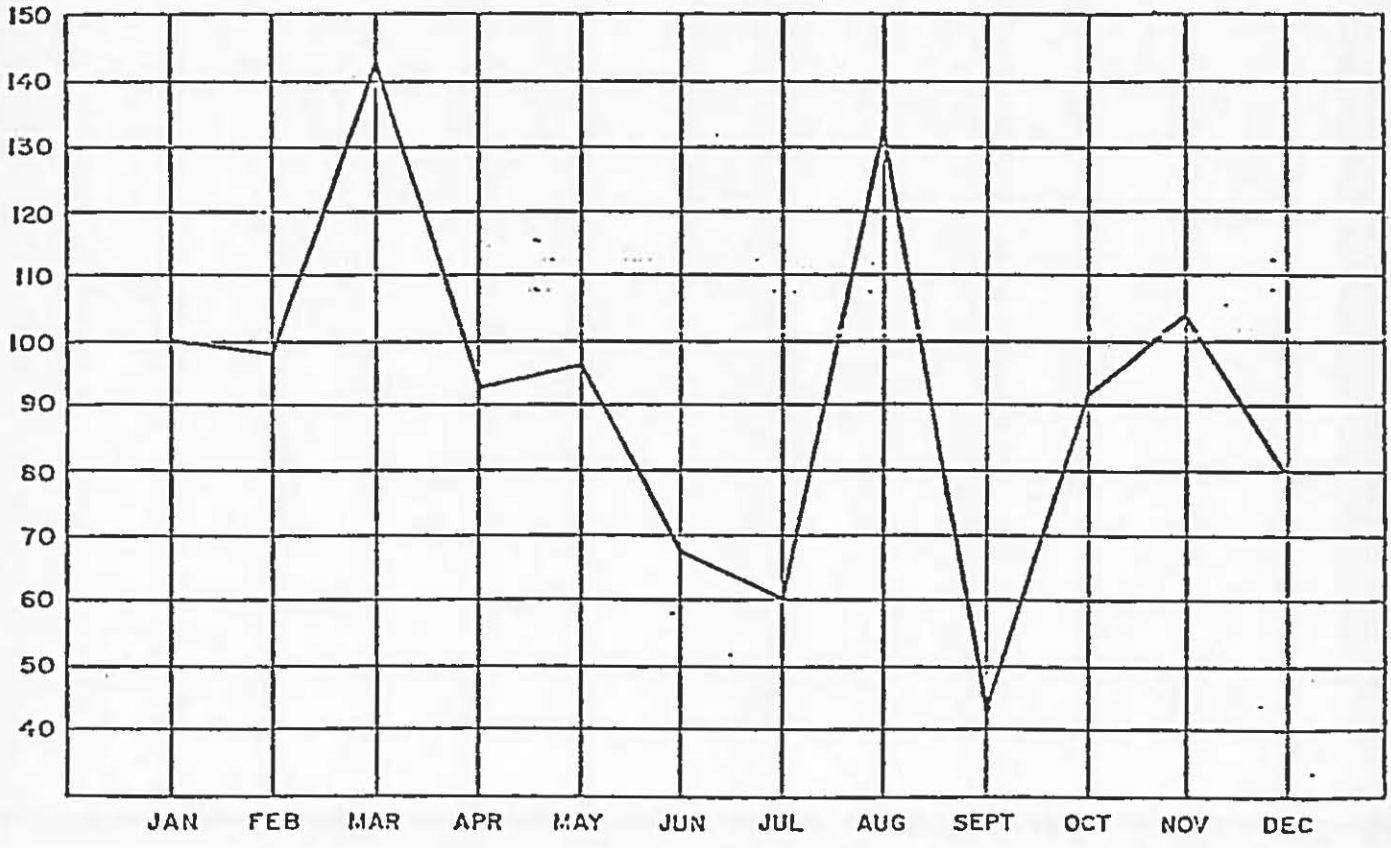
EXHIBIT II - 3

1967–1977



SOURCE: GUAM VISITORS BUREAU

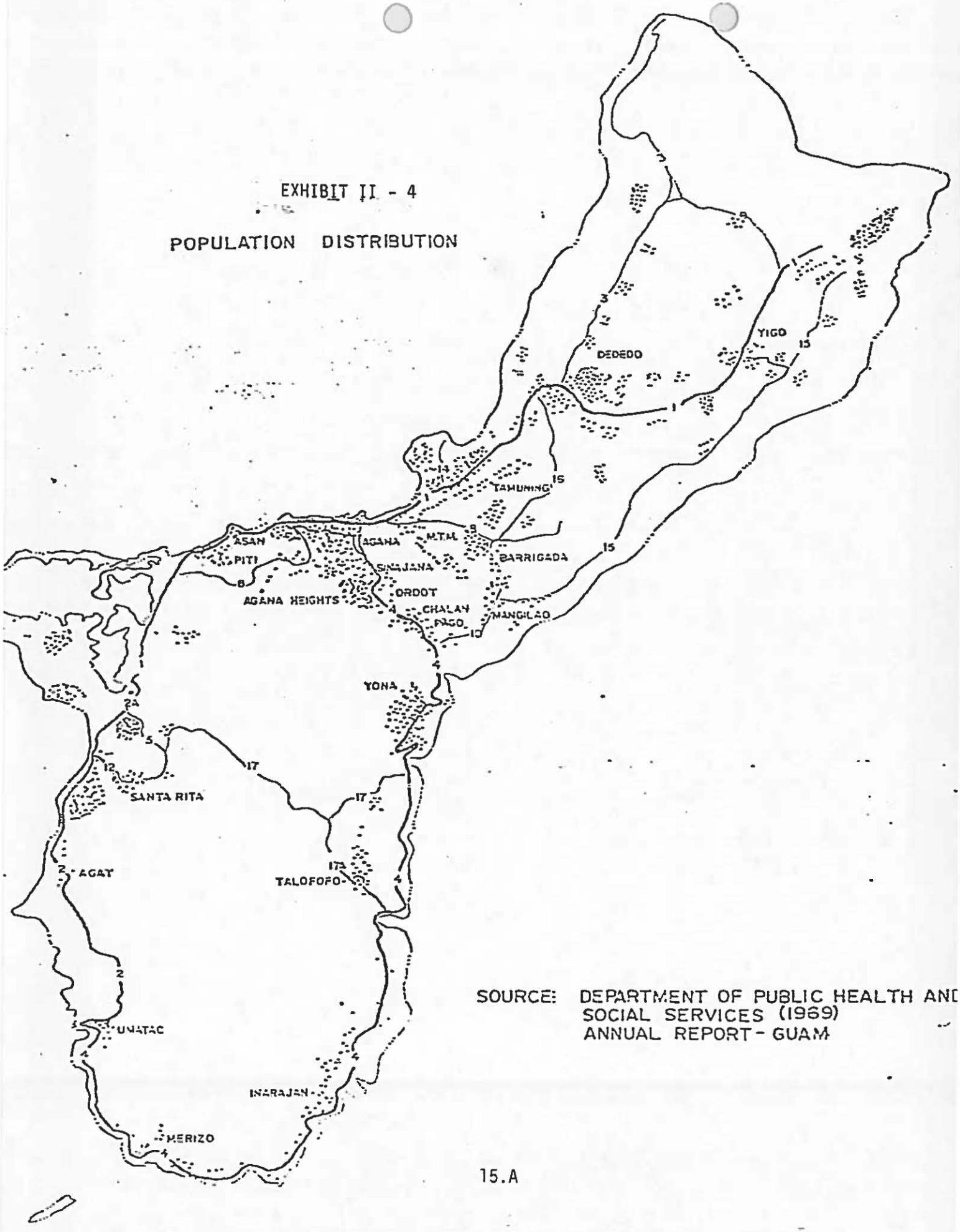
SEASONAL INDEX OF TOURIST ARRIVAL TO GUAM
(JANUARY=100)



SOURCE: GUAM'S VISITOR INDUSTRY, AN ECONOMIC ASSESSMENT
BUREAU OF PLANNING, GOVERNMENT OF GUAM, 1977.

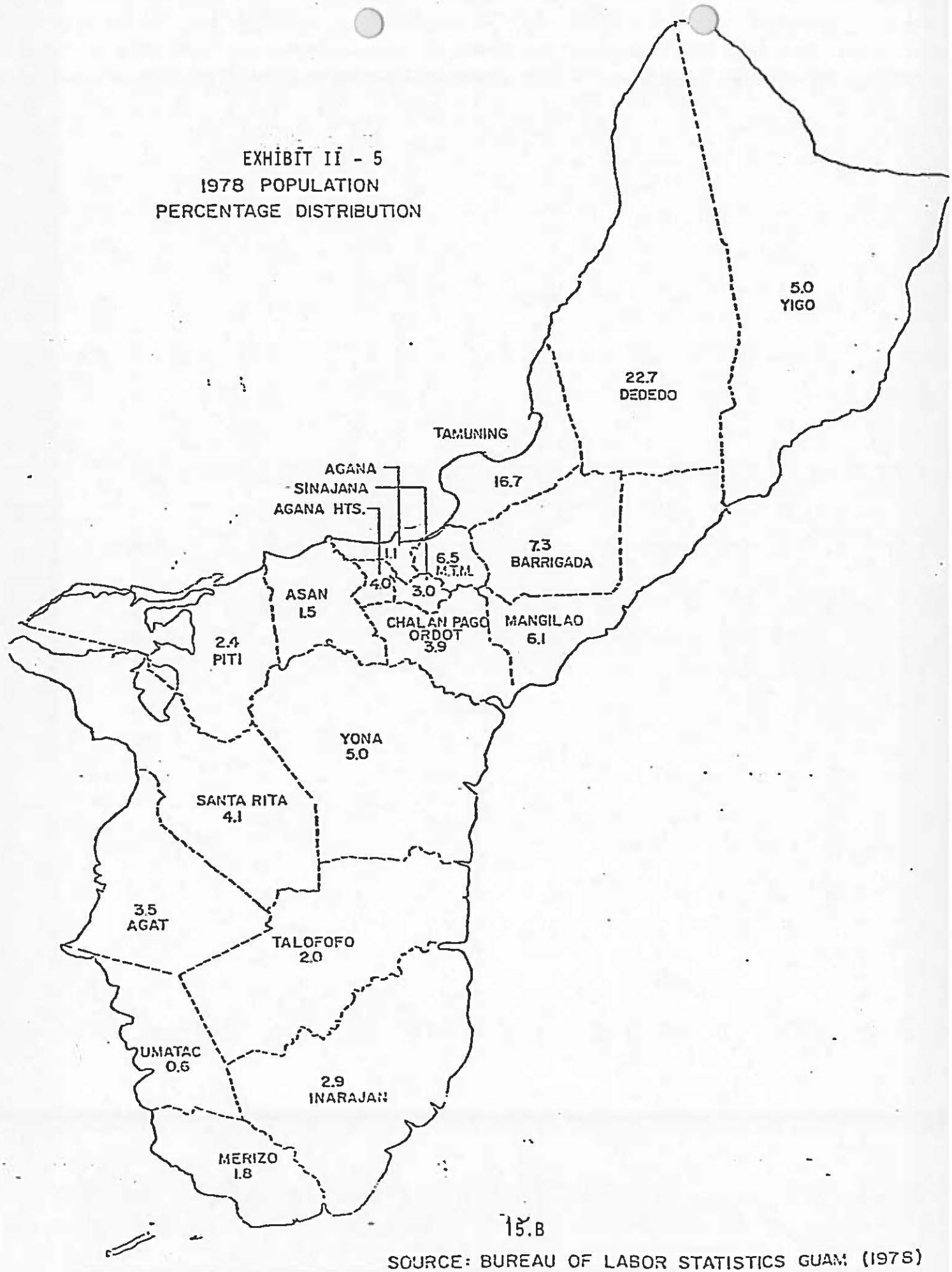
EXHIBIT II - 4

POPULATION DISTRIBUTION



SOURCE: DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES (1969) ANNUAL REPORT - GUAM

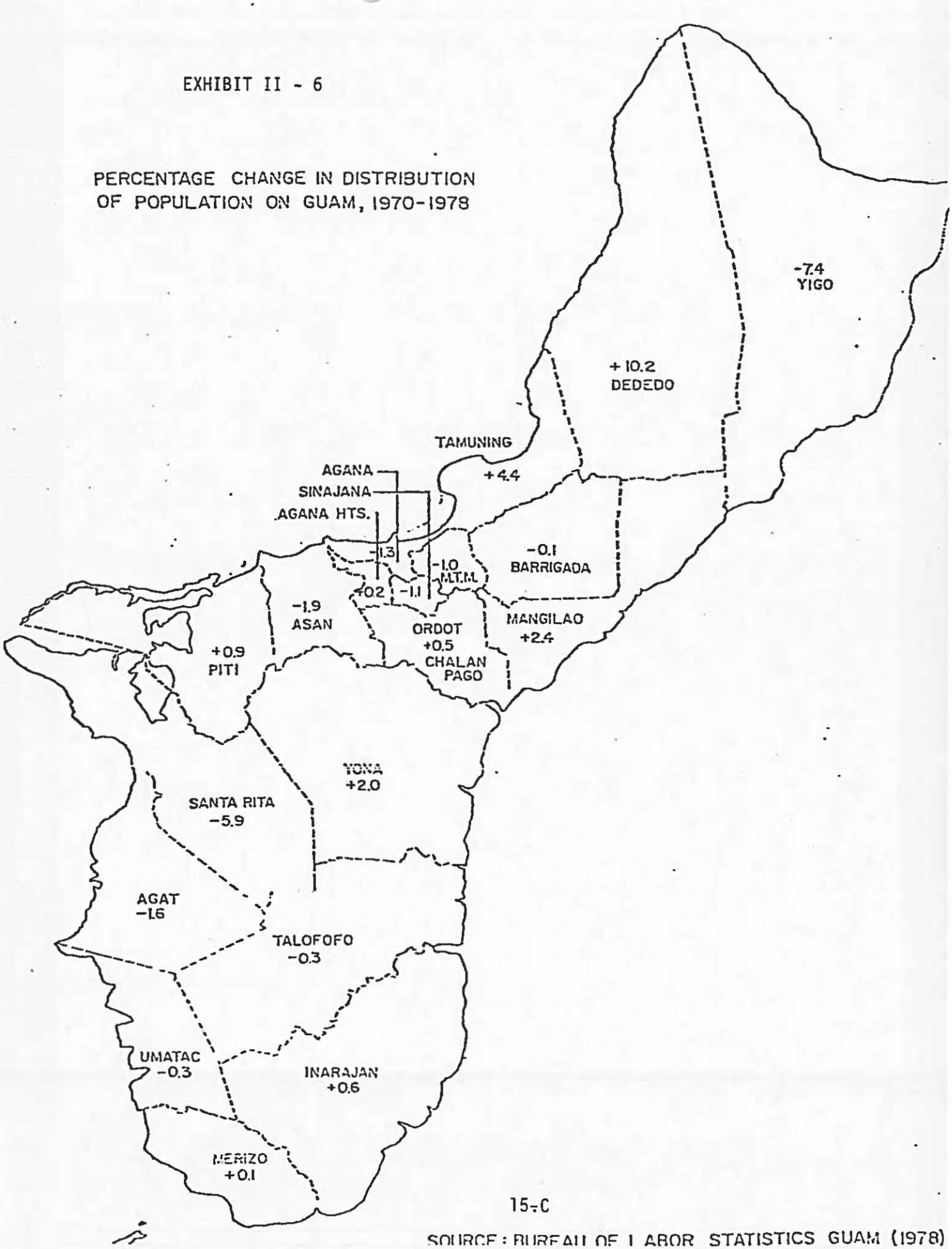
EXHIBIT II - 5
1978 POPULATION
PERCENTAGE DISTRIBUTION



SOURCE: BUREAU OF LABOR STATISTICS GUAM (1978)

EXHIBIT II - 6

PERCENTAGE CHANGE IN DISTRIBUTION OF POPULATION ON GUAM, 1970-1978



SOURCE: BUREAU OF LABOR STATISTICS GUAM (1978)

EXHIBIT II - 7

PRELIMINARY 1980 HOUSING AND POPULATION ESTIMATES BY 19 ELECTION DISTRICTS

ELECTION DISTRICTS	POPULATION			Percentage Change		HOUSING			Percentage Change	
	1960	1970	1980	1960-1970	1970-1980	1960	1970	1980	1960-1970	1970-1980
Yigo	7,682	11,542	10,424	50 %	-10%	1,539	2,056	2,892	34%	41%
Dededo	5,126	10,780	23,659	110	120	1,176	2,295	5,555	95	142
Tamuning	5,944	10,218	13,527	72	32	1,390	2,208	4,778	59	116
Barrigada	5,430	6,356	7,762	17	22	1,110	1,307	1,927	18	47
Mangilao	1,765	3,228	6,822	64	111	355	740	2,062	108	179
Chalan Pago-Ordot	1,835	2,931	3,135	60	7	304	526	736	73	40
Mongmong-Toto-Maite	3,015	6,057	5,230	101	-14	667	896	1,483	34	66
Sinajana	3,862	3,506	2,471	-9	-30	696	680	616	-2	-9
Agana	1,642	2,119	881	29	-58	331	515	376	56	-27
Agana Heights	3,210	3,156	3,284	-2	4	689	569	970	-3	45
Asan	3,053	2,629	2,012	-14	-23	602	581	591	-3	2
Piti	1,467	1,284	1,521	-12	18	275	239	502	-13	110
Santa Rita	12,126	8,109	10,408	-33	28	1,356	1,610	2,259	19	40
Yona	2,356	2,599	4,233	10	63	475	467	1,031	-2	121
Talofofo	1,352	1,935	2,016	43	4	208	350	447	68	28
Agat	3,107	4,308	3,979	39	-8	587	819	990	40	21
Umatac	744	813	732	9	-10	110	130	146	18	12
Inarajan	1,730	1,897	2,062	10	9	269	321	455	19	42
Merizo	1,398	1,529	1,658	9	8	234	271	396	16	46
TOTALS	67,044	84,996	105,816	27%	24%	12,373	16,680	28,212	35%	69%

Note: Includes non-immigrant aliens and members of the U. S. Armed Forces and their dependents living on post.

Source: U. S. Bureau of the Census; Department of Commerce, Government of Guam.

2. PROFILE OF THE CIVILIAN POPULATION

a. SIZE, AGE AND SEX

The civilian population, estimated by the Bureau of Labor Statistics to be 79,800 in 1975, is by demographic standards, a young population. The median age was 18.9 years; 19.6 years for females and 18.1 for males. Forty-one (41) percent (32,800) of the population was under fifteen years of age. The child dependency ratio of 79 children 0-14 years old per 100 persons aged 15+ is relatively high in comparison to many developed countries. People 65 years and over comprised three percent (2,400) of the population (EXHIBIT II.8).

Overall, the sex ratio of the population was one to one. However, this ratio does not hold constant throughout all age groups. Under the age of 5 years there were 81 male per 100 females. Between 5 and 19, 45 to 54 and 60-64 years, there were more males than females.

b. The three major ethnic groups in the population are Chamorros (native Guamanians), Filipinos, and Caucasions. Chamorros comprise 55 percent (44,300) of the population with a median age of 18.1 years, followed by Filipinos at 19.3% (15,400) with a median age of 25.8 years and Caucasians at 9 percent (7,200) with a median age of 26.1 years. The remainder of the population (12,900) is composed of mixture of Chamorro, Filipino, Caucasian and the other major ethnic groups is indicative of the fact that the latter groups are primarily immigrants to the island (EXHIBIT II.10).

c. EDUCATIONAL STATUS

Thirteen percent (5,830) of the population 16 years and above have completed at least four years of College. Eleven percent (4890) have completed high school. Sixteen percent (7,240) have completed certain levels of elementary schooling and eight percent (3,550) have completed the seventh or eighth grades.

During the 1976-1977 school year, there were 30,991 students enrolled in the island's school system (public and private), 57 percent (17,804) were in elementary level; 23 percent (7,175) in junior high schools, and 20 percent (6,012) in high school. The public school system enrolled 82 percent (27,272) of the total school population in 1976-1977.

AGE-SEX CHARACTERISTICS
CIVILIAN POPULATION ESTIMATES *
(AS OF SEPTEMBER 1975)

EXHIBIT II - 8

AGE GROUP	MALE NUMBER	PERCENT	FEMALE NUMBER	PERCENT	TOTAL
NDER 5	4,800	46.6	5,500	53.4	10,300
-9	5,600	52.8	5,000	47.2	10,600
)-14	6,400	53.8	5,500	46.2	11,900
5-19	4,700	52.8	4,200	47.2	8,900
0-24	3,200	47.1	3,600	52.9	6,800
5-29	3,000	50.0	3,000	50.0	6,000
0-34	1,700	43.6	2,200	56.4	3,900
5-39	1,900	47.5	2,100	52.5	4,000
0-44	1,900	46.3	2,200	53.7	4,100
5-49	2,200	53.7	1,900	46.3	4,100
0-54	1,600	53.3	1,400	46.7	3,000
5-59	1,100	50.0	1,100	50.0	2,000
0-64	900	56.2	700	43.8	1,600
5 & OVER	900	38.0	1,500	62.0	2,400
TOTAL	39,900	50	39,900	50	79,800
NDER 15	16,800		16,000		32,600
% TOTAL	42.1		40.1		41.1
5 & OVER	900		1,500		2,400
% TOTAL	2.2		3.7		3
EDIAN AGE	18.1		19.6		18.9

* EXCLUDING NON-IMMIGRANT ALIENS AND MILITARY DEPENDENTS STAYING ON MILITARY BASES.

SOURCE: BUREAU OF LABOR STATISTICS , GOVGUAM DEPT. OF LABOR

TABLE IV. 2

MORTALITY RATES: GUAM-U.S. 1970-77

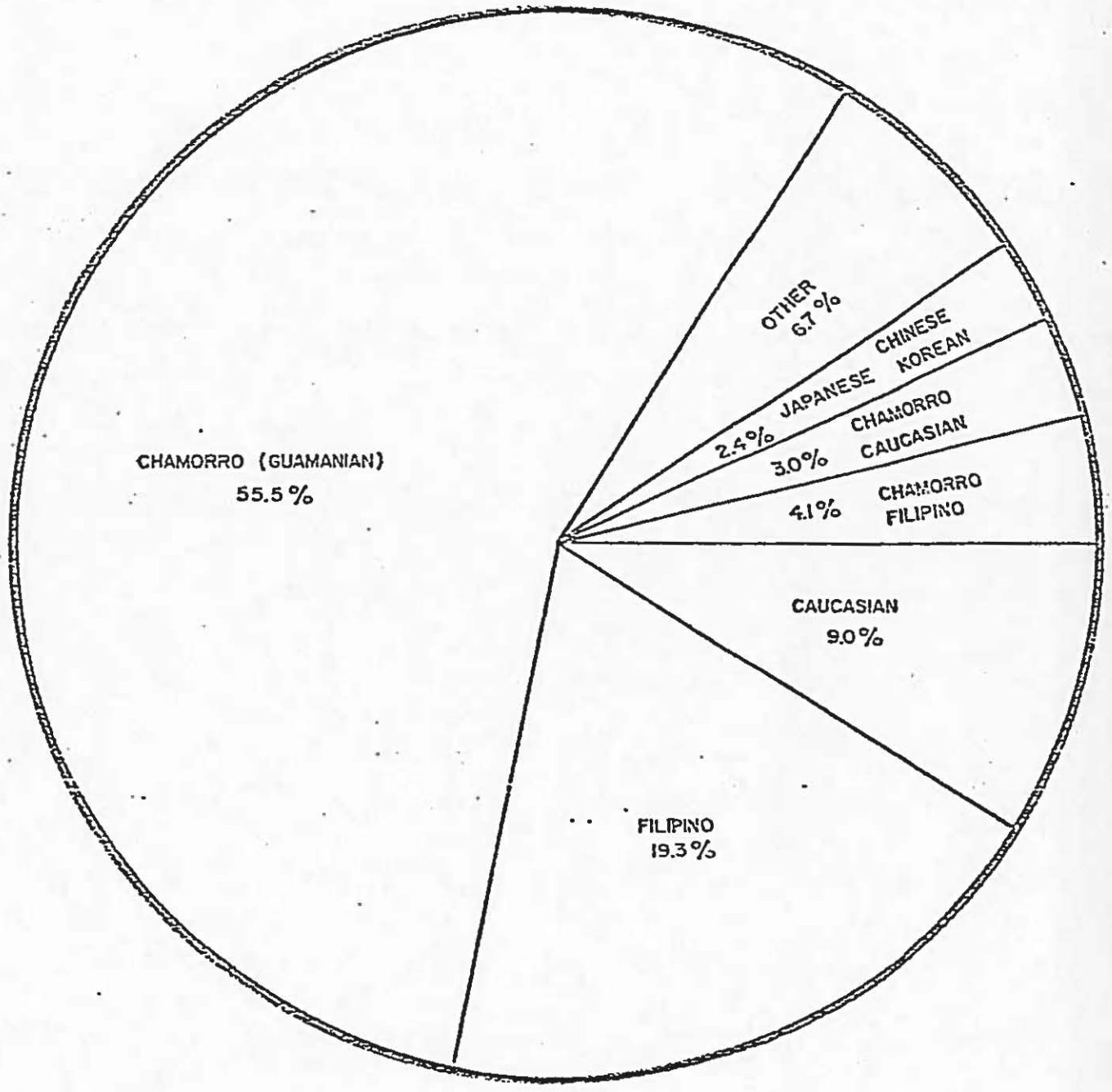
GUAM				U.S.			
EARS	CRUDE DEATH RATES	MALE	FEMALE	YEARS	TOTAL	MALE	FEMALE
970	5.5	6.9	3.9	1970	9.5	10.9	8.1
971	5.4	6.8	3.9	1971	9.3	10.7	8.0
972	5.9	6.6	5.2	1972	9.4	10.8	8.1
973	6.1	7.0	5.0	1973	9.4	10.7	8.1
974	6.1	6.8	5.2	1974	9.2	10.4	8.0
1975	5.8	7.2	4.2	1975	8.9	10.1	7.7
976	5.3	6.7	3.8				
77	4.7	5.6	3.6	AVERAGES	9.3	10.6	8.0
RAGES	5.6	6.6	4.3				

URCE: STATISTICAL REPORTS 1970-77, OFFICE OF VITAL STATISTICS; DPHSS

SOURCE: STATISTICAL ABSTRACT OF THE U.S.; 1977; U.S. DEPT. OF COMMERCE

EXHIBIT II - 9

ETHNIC COMPOSITION OF CIVILIAN POPULATION OF GUAM



SOURCE: 1975 BUREAU OF LABOR STATISTICS, GOVERNMENT OF GUAM.

EXHIBIT II - 10

ETHNIC PROFILE OF THE CIVILIAN POPULATION (AS OF SEPTEMBER 1975)

ETHNIC COMPOSITION			AGE DISTRIBUTION OF THREE MAJOR ETHNIC GROUPS			
ETHNICITY	NUMBER	PERCENT OF POPULATION	AGE	ETHNICITY		
				CHAMORRO	FILIPINO	CAUCASIAN
. GROUPS	79,800	100.0	ALL AGES	44,300	15,400	7,200
\MORRO (GUAM)	44,300	55.	0 - 15	19,700	5,500	2,000
PINO	15,400	19.3	16 - 19	4,300	900	400
ICASIAN	7,200	9.0	20 - 24	3,900	1,000	1,000
\MORRO-FILIPINO	3,300	4.1	25 - 34	4,700	2,600	1,400
\MORRO-CAUCASIAN	2,400	3.01	35 - 44	4,400	1,900	1,100
\MORRO-OTHER	1,400	1.8	45 - 54	3,500	2,200	700
HER MIXTURE	2,000	1.8	55 +	3,800	1,300	600
RONESIAN	1,100	1.4	MEDIAN AGE	18.1	25.8	26.1
'ANESE	900	1.1				
NESE/KOREAN	1,000	1.3				
IER	800	1.0				

IRCE: BUREAU OF LABOR STATISTICS, GOVGUAM 1975

3. POPULATION PROJECTION

The Quinton - Budlong Series A population estimates projected yearly from 1970 to 1990 serve as the basis for estimating shifts in the age and sex distribution of the population for the foreseeable future. This population series has been selected less for the validity of its assumptions than for its comparability to 'known' population levels computed by the U.S. Bureau of Census and Guam's Bureau of Labor Statistics. The population projections for the period 1980-1990 represent a conservative estimate of population increase, based on anticipated immigration levels economic conditions, and demographic trends. Should there be a major difference between the 1980 projections and the provisional 1980 Census data, the extant projections will be used. (EXHIBITS II.11 - II.14).

4. EMPLOYMENT

The member of employees on payrolls as of September 1977 was 32,600 with 55 percent employed by the private sector, 20 percent by the federal government and 25 percent by the local government (EXHIBIT II.15). As of December 1977, the total unemployment rate was 6.9 percent with an average duration of 11.5 weeks (EXHIBIT II.16).

5. INCOME

Personal and family income on Guam are substantially less than the U.S. average. In 1976 the mean family income totalled $14,111 on Guam compared with $16,870 in the U.S. or 15 percent less than the U.S. mean. Over 11 percent of the families on Guam have an income under $3,000 (EXHIBIT II.17). Based on the poverty index for the U.S. developed by the U.S. Office of Economic Opportunity, about 25 percent of Guam's families with seven members or less were below the poverty level. (EXHIBIT II.18). Meanwhile, the price of consumer goods and services has increased on Guam by 7.1 percent 1.4 percent and 5.3 percent in 1975, 1976 and 1977 respectively (EXHIBIT II.19). Guam's inflation rate is in part externally generated. Most commodities are imported. Presently, the purchasing power of the consumer dollar is $0.66 relative to FY 1973 dollars. Salaries have not increased to meet the double digit inflation of the past two years.

III. FACTORS WHICH IMPACT THE EMS SYSTEM

A. TRANSPORTATION

Guam's transportation links to the world are aircraft and ships. Unlike the continental U.S. Guam's off-island transportation is affected by the Jones Act which prohibits foreign ships or airplanes from travelling between two U.S. ports. Exceptions can be made on a case by case basis. For example, foreign airlines with routes to the U.S. can apply on a yearly basis to refuel on Guam.

EXHIBIT II - 11

PROJECTED POPULATION BY AGE GROUP AND PERCENTAGE DISRIBIUTION ON GUAM, 1975-1990

AGE GROUP	TOTAL CIVILIAN POPULATION				PERCENTAGE OF POPULATION			
	1975	1980	1985	1990	1975	1980	1985	1990
0-4	10,277	17,358	19,787	22,113	12.90	19.30	18.70	18.00
5-9	10,617	14,110	16,751	19,094	13.30	15.70	15.80	15.50
10-14	11,894	8,554	14,067	16,700	14.90	9.50	13.30	13.60
15-19	8,940	8,836	8,435	13,870	11.20	9.80	8.00	11.30
20-24	6,785	7,559	8,712	8,316	8.50	8.40	8.20	6.80
25 29	5,987	5,883	7,454	8,590	7.50	6.50	7.10	7.0(
30 34	3,911	7,345	5,730	7,260	4.90	8.20	5.40	5.9(
35 39	3,991	4,455	7,154	5,581	5.00	5.00	6.80	4.5(
40-44	4,071	4,285	4,340	6,968	5.10	4.80	4.10	5.7(
45-49	4,071	3,554	3,925	3,976	5.10	4.00	3.70	3.2(
50-54	3,033	2,905	3,256	3,595	3.80	3.20	3.10	2.9(
55-59	2,235	2,096	2,661	2,982	2.80	2.30	2.50	2.4(
60-64	1,596	1,085	1,459	1,852	2.00	1.20	1.40	1.5(
65-+	2,396	1,913	1,975	2,260	3.00	2.1	1.90	1.8(
TOTAL	79,824	89,938	105,706	123,157	100.00	100.00	100.00	100.0(

SOURCE: 1975, BUREAU OF LABOR STATISTICS, GOVERNMENT OF GUAM.
1980-99, QUINTON-BUDLONG.

EXHIBIT II - 12

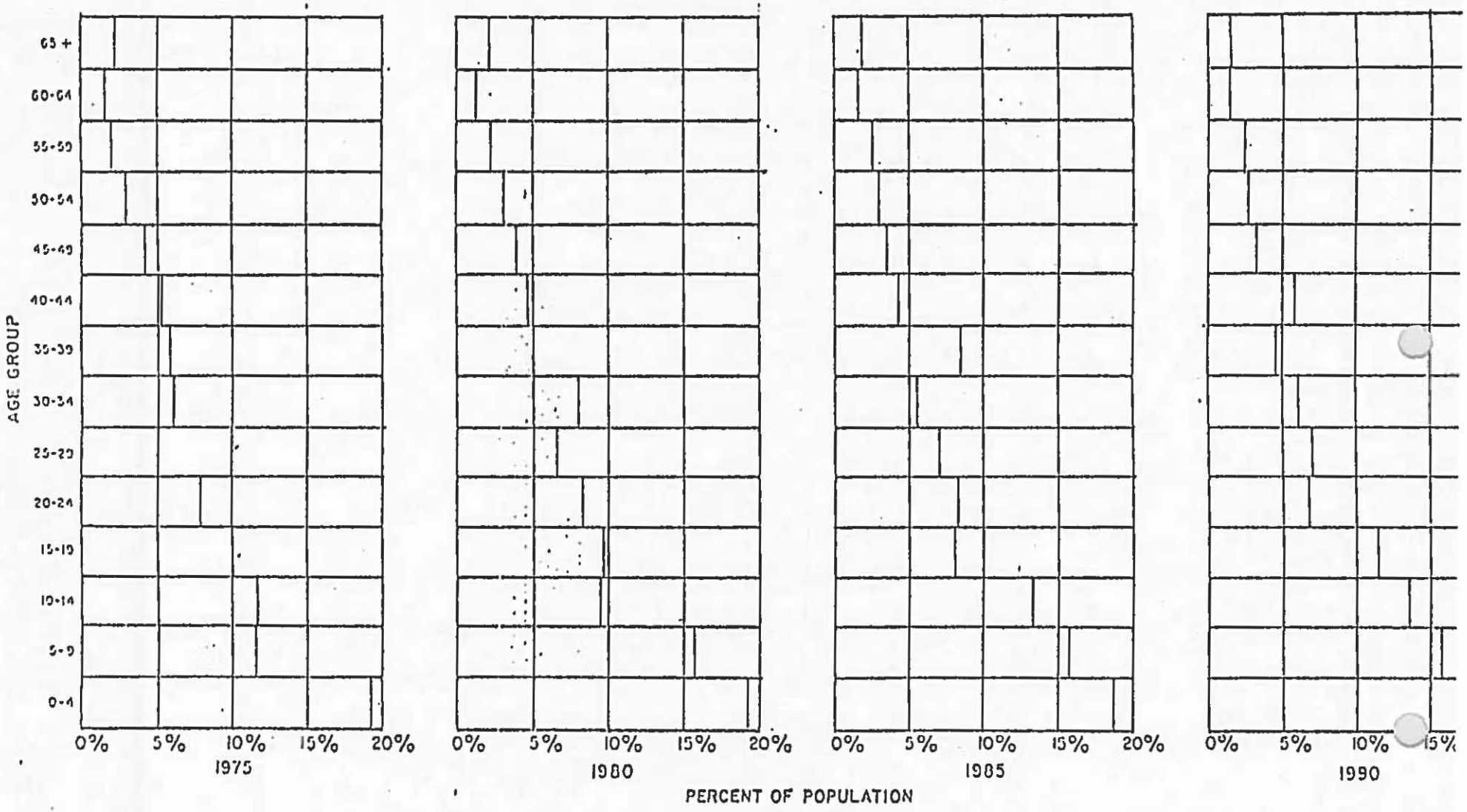
PROJECTED POPULATION BY SEX AND AGE GROUP
15-44 ON GUAM, 1975-90

AGE GROUP	1975			1980			1985			1990		
	MALE	FEMALE	SEX RATIO	MALE	FEMALE	SEX RATIO	MALE	FEMALE	SEX RATIO	MALE	FEMALE	SEX RATIO
15-19	4,381	4,559	49:51	4,548	4,268	51:49	4,323	4,112	51:49	7,101	6,769	51:49
20-24	3,325	3,460	49:51	3,887	3,672	51:49	4,484	4,228	51:49	4,262	4,054	51:49
25-29	2,934	3,053	49:51	2,985	2,898	50:50	3,833	3,621	51:49	4,421	4,169	51:49
30-34	1,916	1,995	48:51	4,108	3,237	56:44	2,907	2,823	50:50	3,733	3,527	51:49
35-39	1,956	2,035	49:51	2,398	2,057	54:46	4,001	3,153	56:44	2,831	2,750	51:49
40-44	1,995	2,076	49:51	2,376	1,909	55:45	2,336	2,004	54:46	3,897	3,071	56:44
TOTAL	16,507	17,178	49:51	20,302	18,051	53:47	21,884	19,941	52:48	26,245	24,340	52:48

NOTE: SEX RATIO PER 100 IN AGE GROUP.

SOURCE: 1975, BUREAU OF LABOR STATISTICS, GOVERNMENT OF GUAM.
1980-99, QUINTON-BUDLONG.

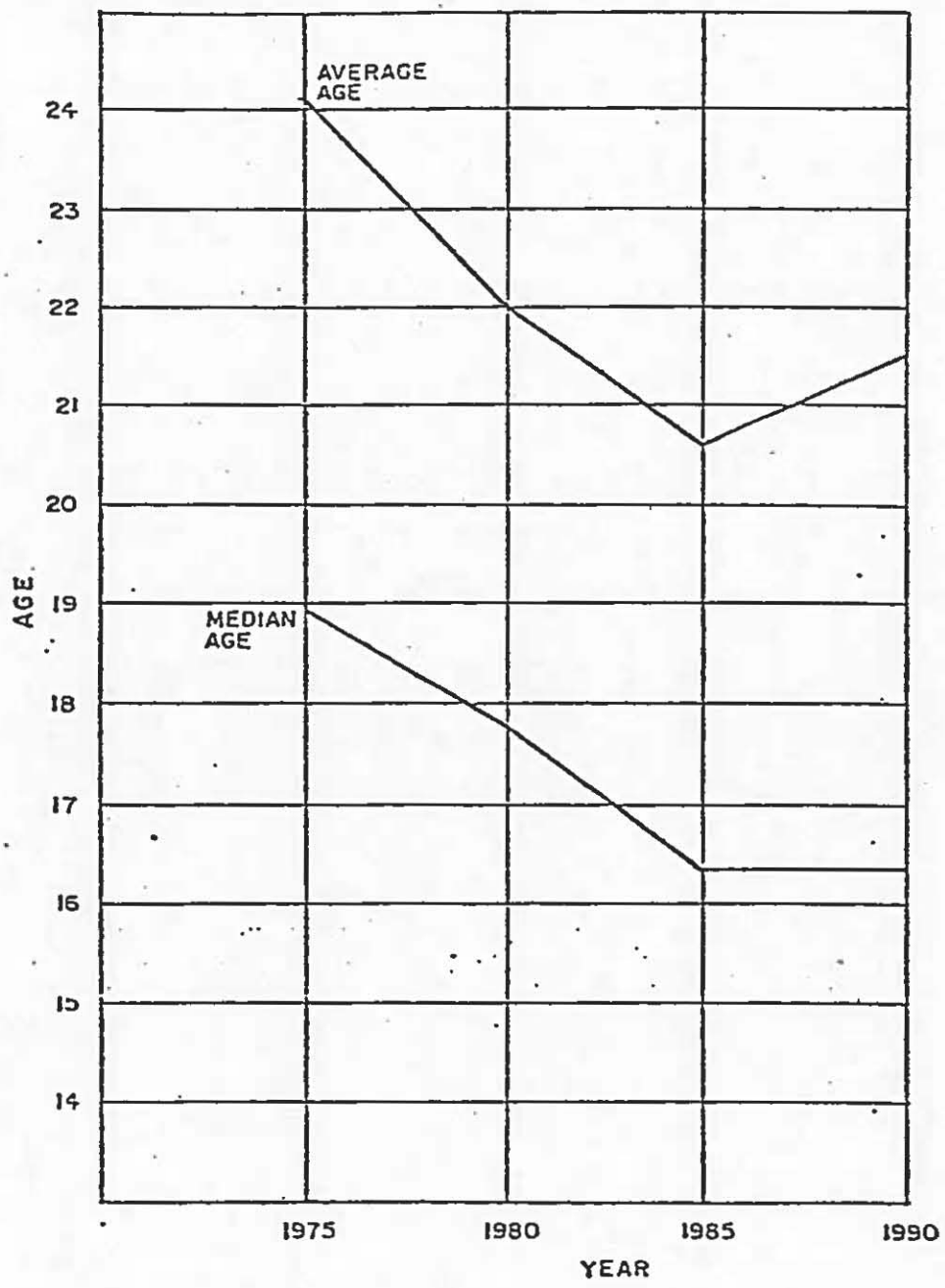
PERCENT DISTRIBUTION OF PROJECTED POPULATION ON GUAM BY AGE GROUP



SOURCES: 1975, BUREAU OF LABOR STATISTICS, GOVERNMENT OF GUAM.
1980-1990, QUINTON-BUDLONG.

EXHIBIT II - 14

PROJECTIONS FOR MEDIAN AND AVERAGE AGE OF POULATIONS ON GUAM, 1975-1990



SOURCE: 1975, BUREAU OF LABOR STATISTICS, GOVERNMENT OF GUAM.
1980-1990, QUINTON-BUDLONG.

IIBIT II.15

EMPLOYEES ON PAYROLLS ON GUAM, BY INDUSTRY 1971 — 1977

INDUSTRY DIVISION	NUMBER (IN THOUSANDS) 71 SEPT.	72 SEPT.	73 SEPT.	74 SEPT.	75 SEPT.	76 SEPT.	77 SEPT.
TOTAL	26.8	30.4	38.0	37.0	33.8	29.5	32.6
TOTAL PRIVATE	14.3	17.0	22.6	21.1	18.4	15.6	18.0
FEDERAL	5.9	6.1	7.4	7.2	6.2	6.4	6.5
TERRITORIAL	6.6	7.3	8.0	8.7	9.2	7.5	8.1

SOURCE: BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, GOVERNMENT OF GUAM

EXHIBIT II.16

HIGHLIGHTS OF THE EMPLOYMENT AND UNEMPLOYMENT SITUATION ON GUAM - 9/75 to 12/77

	SEPT. 1975	SEPT. 1976	DEC. 1977
CIVILIAN LABOR FORCE	28,090	26,910	28,420
TOTAL EMPLOYMENT	25,390	24,600	26,460
TOTAL UNEMPLOYMENT	2,700	2,320	1,960
UNEMPLOYMENT RATES (% OF LABOR FORCE)	9.6	8.6	6.9
AVERAGE DURATION OF UNEMPLOYMENT (WEEKS)	6.7	7.1	11.5

TE: SUM OF INDIVIDUAL ITEMS MAY NOT EQUAL TOTALS DUE TO ROUNDING. DATA ON UNEMPLOYMENT AND LABOR FORCE DOES NOT INCLUDE NON-IMMIGRANT ALIENS.

JRCE: BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, GOVERNMENT OF GUAM

TABLE III.12

ENROLLMENT PROJECTIONS BY GRADE LEVELS

SENIOR HIGH SCHOOLS									
ACTUAL		PROJECTED							
1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
2,085	2,220	2,085	2,007	1,924	2,007	1,917	1,890	1,993	1,960
1,761	1,715	1,776	1,668	1,605	1,539	1,605	1,534	1,512	1,594
1,285	1,307	1,320	1,367	1,284	1,236	1,185	1,236	1,181	1,164
5,131	5,242	5,181	5,042	4,813	4,782	4,707	4,660	4,686	4,718

STATISTICAL SERVICES UNIT, DIVISION OF CURRICULUM & INSTRUCTION, DEPARTMENT OF EDUCATION, 1976

EXHIBIT II.17

FAMILIES ON GUAM BY MONEY INCOME LEVEL
1976

INCOME LEVEL	NUMBER OF FAMILIES 1/	PER CENT
UNDER $3,000	1,700	11.3
$3,000–$4,999	1,000	6.8
$5,000–$6,999	1,000	6.6
$7,000–$10,999	3,300	21.6
$11,000–$14,999	2,100	13.8
$15,000–$19,999	2,600	17.0
$20,000–$29,999	2,200	14.5
$30,000 AND OVER	1,300	8.4
TOTAL	15,400	100.0
MEDIAN FAMILY INCOME[2]	$11,961	($14,958–U.S.)
MEAN FAMILY INCOME[2]	$14,411	($16,870–U.S.)

1/ EXCLUDES NON-RESIDENT ALIEN FAMILIES, AND FAMILIES LIVING ON MILITARY BASES.

2 UNWEIGHTED AVERAGE.

SOURCE: BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, GOVERNMENT OF GUAM. STATISTICAL ABSTRACT OF THE U.S., 1977, U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS.

EXHIBIT II.18

NUMBER AND PERCENT OF FAMILIES
BELOW POVERTY LEVEL BY FAMILY SIZE
1975

FAMILY SIZE	ALL FAMILIES[1]	FAMILIES BELOW POVERTY LEVEL	
		NUMBER	PERCENT OF ALL FAMILIES
TOTAL	16,560	4,140	25.0
2	2,510	570	22.7
3	2,640	500	18.9
4	3,100	600	19.4
5	2,290	660	28.8
6	1,900	530	27.9
7	1,320	350	26.5
8	1,170	360	30.8
9	530	170	32.1
10+	1,000	400	36.4

[1] EXCLUDES NON-RESIDENT ALIEN FAMILIES AND FAMILIES LIVING ON MILITARY BASES.

SOURCE: NEWS, GUAM DEPARTMENT OF LABOR, AUGUST 30.1975

EXHIBIT II.19

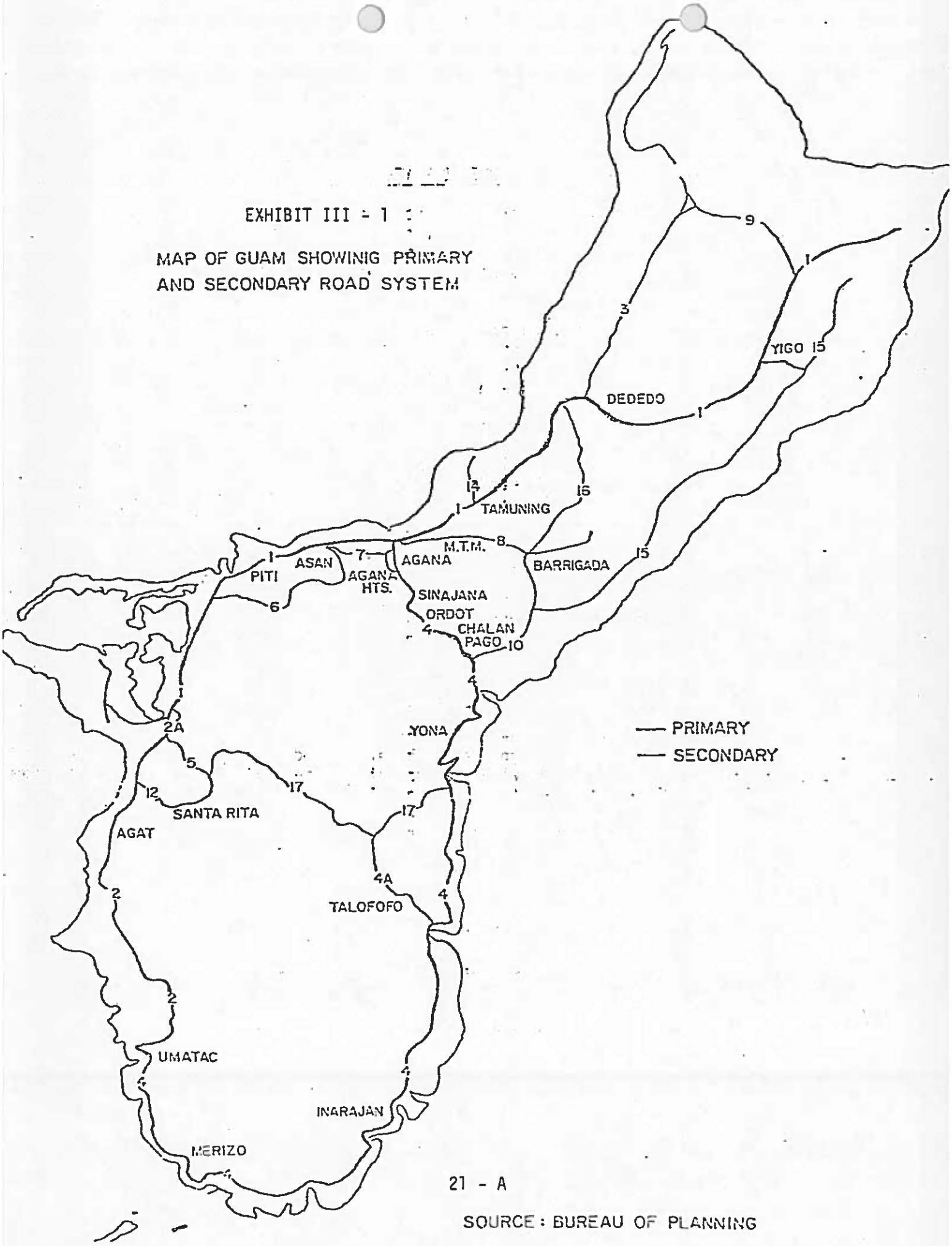
GUAM CONSUMER PRICE INDEX
SEPTEMBER 1972 = 100)

	1974	1975	1976	1977
ALL ITEMS	130.0	139.2	141.1	148.6
FOOD	141.3	152.2	157.3	163.8
HOUSING	126.9	132.4	131.7	141.3
APPAREL & UPKEEP	107.4	133.2	141.1	152.0
TRANSPORTATION	131.2	139.6	140.6	148.7
HEALTH & REC.	121.0	127.7	128.3	132.2

SOURCE: COST OF LIVING OFFICE, ECONOMIC RESEARCH CENTER, DEPARTMENT OF COMMERCE, GOVERNMENT OF GUAM

EXHIBIT III - 1

MAP OF GUAM SHOWINIG PRIMARY AND SECONDARY ROAD SYSTEM



SOURCE : BUREAU OF PLANNING

c. MINOR HIGHWAYS: There are 56 miles of road which connect smaller communities and lesser traffic generators to higher volume roadways. Minor highways also provide access to adjacent land. Volumes are generally less than 10,000 vehicles per day.

d. COLLECTOR ROADS: There are 24 miles of road which funnel traffic to the higher order highways from surrounding-level users such as residential areas, industrial and institutional areas. Volumes are generally equal to or greater than 3,000 vehicles per day.

e. LOCAL ROADS: There are 103 miles of paved roads and 17 miles of unpaved roads. Primarily, they provide access to abutting residential land, both in urban and rural areas. Volume is generally less than 3,000 vehicles per day.

Although roads are being widened and resurfaced, much of the road system is currently in poor physical condition. Many of the roads exhibit frequent surface and foundation failures or have inadequate drainage and shoulders. There are also few guard rails in those areas needing them. In rainy weather the roads are very slippery due to the coral base in the paving material. There are few pedestrian walks and no separate bike lanes. Compared to Hawaii which has 134 registered vehicle per mile of road, Guam has 260 vehicles per mile of road As a result of these and other factors, Guam has a high rate of motor vehicle related accidents. In 1976 alone, Guam had a total of 4,222 reported accidents of which 54 involved pedestrians, 670 resulted in injuries and 20 in fatalities. Locally, Guam's major form of transportation is the personal automobile. Although there are privately owned taxi cabs, there is no mass transit system to meet the needs of these who are disabled, aged or poor. This impacts on the ambulance service since many non-emergent "transportation only" runs are made in order to provide transport for patients who need medical service, but have no means of transportation. This problem will be addressed in the system goals section.

B. HIGHWAY SAFETY IMPACT PROBLEM AREAS

The Office of Highway Safety (OHS) of the Department of Public Works administers, Department of Transportation National Highway Traffice Safety Administration (DOT/NHTSA) funds. In their 1981 Highway Safety Plan, OHS had identified the following problem areas:

1. Speed and Alcohol Involvement

Speed and alcohol were found to be significant contributing factors when examining Guam's fatal and injury experiences. For the time period from January 1978 through December 1979, 30.2% of the 10,010 total traffic accidents that occurred on the island were attributed to the driver violation classification, "speed-imprudent driving." As such, speed was the number one identifiable violation causing those traffic accidents. Speed involvement takes on an added significance when considering only those traffic accidents resulting in death or injury. Of the 1,618 fatal and/or injury traffic accidents occuring during the same time period, 43.8% were related to speed.

The significance of alcohol in relation to the island's traffic accident experience is evident. For the time period from January, 1978 through December, 1979, only 4% of all traffic accidents resulted in "driving under the influence" citations, whereas, 13.0% of all fatal traffic accidents were cited in that manner. Although neither of these percentages indicate a highway safety problem per se when analyzed separately, the large disparity between the two percentages indicates that the incidence of drinking driver accidents not involving death has been under reported. An increased enforcement effort during 1980, directed towards citing the drinking driver supports this opinion.

2. YOUNG DRIVER INVOLVEMENT

Young drivers were identified in several of the problem areas. Not only did they experience a high level of involvement in the total accident experience, but they also were over-represented in driver at fault traffic accidents, speed related and alcohol related fataltraffic accidents, motorcycle accidents and pedestrian accidents. For the time period from January 1978 through December 1979, drivers between the ages of 15 and 24 were cited as the drivers at fault in 31.8% of all traffic accidents; and in 40.6% of the speed-related fatal traffic accidents. Furthermore it was found that 65.3% of the motorcyclists and their passengers involved in traffic accidents were between the ages of 15 and 24, as were 37.5% of the drivers who were involved in pedestrian accidents.

During that same period of time, drivers between the ages of 25 and 34 were cited as the driver-at-fault in 25.5% of all traffic accidents; and in 28.1% of all speed related and in 66.7% all alcohol related fatal traffic accidents. It was also found that 20.8% of the motorcyclists and their passenger involved in traffic accidents and 25.5% of the drivers, involved in pedestrian accidents were between the ages of 25 and 34.

3. PEDESTRIAN AND BICYCLE INVOLVEMENT

Guam's pedestrian accident experience is not only on the increase but the severity rate associated with those types of traffic accidents is disproportionately high. Of the 10,010 traffic accidents that occurred in the 12 month period ending December 1979, 1.0% were classified as pedestrian accidents. However, it was found that 5.8% of the fatal and injury traffic accidents during that same time period were pedestrian accidents. Of all the pedestrians killed or injured in 1979, 52.9% were 14 years old or younger.

It was also found that the severity rate associated with bicycle accidents is disproportionately high. Although .1% of the total traffic accident experience from January, 1978 to December, 1979 involved bicyclists, .7% of the injury accidents were of this classification. Furthermore, 45.5% of the injured bycyclists were between the ages of 0 and 10 years of age, with another 27.3% being between 11 and 14 years of age.

4. MOTORCYCLE AND MOPED INVOLVEMENT

Motorcycle and moped involvement in Guam's traffic accident experience were identified as a problem due to their high severity rate. Of the 10,010 traffic accidents reported in the 12 month period, 1.3% involved motorcycles. However, motorcycles were involved in 5.1% of the fatal and injury traffic accidents occurring during the same period.

Although the island's experience with mopeds accidents does not appear to be overwhelming, the growth potential for this mode of travel suggests that an increase in moped accidents may occur over the next few years. Mopeds are particularly popular with Japanese tourists who are unfamiliar with Guam's roads, traffic laws, etc. During 1979, the moped operators and their passengers sustained injuries in each of the moped accidents that occurred.

5. PICKUP TRUCK INVOLVEMENT

The pickup truck plays a major role in the lifestyle of Guam, being a common means of transportation and an inherent part of family life. This type of vehicle was identified as a problem area due to its high level of involvement in traffic accidents. For the period January, 1978 to December 1979, pickup trucks were involved in 20.2% of the traffic accidents that occurred on the island, and in 22.2% of the fatal and injury traffic accidents. It is estimated that only 12% of the registered motor vehicle are classified as pickup trucks.

SUMMARY ON HIGHWAY SAFETY PROBLEMS

Since the inception of Guam's Highway Safety Program, the island's traffic accident trends have revealed that the diverse efforts aimed at reducing deaths, injuries and economic loss attributed to traffic accidents must be continued if the traffic problem on the island is to be corrected.

Three principal indicators that reflect Guam's traffic accident trends are the accident rate, injury rate and death rate per mile, each of which is based on the number of vehicle miles traveled on the island in relation to the incidence of total traffic accidents, and their resulting injuries and death. The accident rate has declined from 979.4 per 100 million vehicle miles of travel in 1974 to 923.8 accidents per 100 million vehicle miles in 1979. Likewise, the injury rate has declined from 259.9 to 251.3 per 100 million miles during that same period. In spite of those favorable trends toward decrease, the death rate has increased from 5.9 in 1974 to 6.4 in 1979 (EXHIBIT III.2).

An average of three years of traffic accident, driver license and vehicle mileage data have been computed and compared to like figures for 1979. Those comparisons show that the incidence of fatal traffic accidents remained unchanged, personal injury accidents increased 4.9% the number of licensed drivers increased 1.0% and the number of vehicle miles of travel decreased 4.5% (EXHIBITS III.3 - III.7).

C. MORTALITY AND MORBIDITY INDICATORS IMPACTING EMS

While it is true that ideally every Emergency Medical Services System must be capable of responding to and meeting the needs of all potential emergent situations; it is more practical, given limited resources for a developing system to concentrate on those health status conditions that are most prevalent and can potentially be alleviated by pre-hospital care. For this reason, the following selected health status indicators were chosen:

1. Leading Causes of Death

Mortality data by cause of death has long been recognized as an essential informational component for health status assessment. The indicators below are particularly important to EMS development since it is known that early intervention via pre-hospital, i.e., Emergency Medical Care can reduce the mortality and lessen the severity of the aftermath of certain conditions.

EXHIBIT III - 3

Accidents by Severity

	1977	1978	1979	3 Year Average	1979 % of Change
Fatal Accidents	36	19	27	27	.0
Injury Accidents	717	770	802	763	+ 5.1
TOTAL	753	789	829	790	+ 4.9

Comments: Table 3 displays the 1977 through 1979 accidents by severity. A trend analysis is included, based on a three year average of the 1977 through 1979 data as compared to the last year, 1979.

EXHIBIT III - 4

Accident Severity Rate Index

	1977	1978	1979	3 Year Average	1979 % of Change
Fatalities	38	20	34	31	+ 9.7
Injuries	1,031	1,158	1,276	1,155	-10.5
TOTAL	1,069	1,178	1,310	1,186	-10.5
TOTAL ACCIDENTS	3,724	5,195	4,815	4,578	+ 5.2
INDEX	28.7%	22.7%	27.2%	25.9%	+ .5

Comments: Table 4 displays the 1977 through 1979 accident severity rate index, which is defined as the composite number of traffic fatalities and injuries as compared to the total number of traffic accidents. A trend analysis is included, based on a three year average of the 1977 through 1979 data as compared to the last year, 1979.

EXHIBIT III - 5

Licensed Guam Drivers

Age of Driver	Male	Female	Total	% of Total
Under 20	5,045	3,526	8,571	15.5
20 - 24	4,988	4,851	9,839	17.8
25 - 29	4,930	4,786	9,716	17.6
30 - 34	3,914	3,458	7,372	13.4
35 - 39	3,314	2,415	5,729	10.4
40 - 44	2,807	1,721	4,528	8.2
45 - 49	2,635	1,091	3,726	6.7
50 - 54	2,110	628	2,738	5.0
55 - 59	1,206	294	1,500	2.7
60 - 64	715	135	850	1.5
65 - 69	312	50	362	.7
69 & Older	245	35	280	.5
TOTAL	32,221	22,990	55,211	100.0

Comments: Table 5 displays the age and sex of Guam's resident license driving population. This table is based on all drivers who were actively licensed with the Department of Revenue and Taxation as of December 31, 1979. The driver licensing data originally included age classification data on 6,002 drivers for which sex was not recorded. The figures indicated above were adjusted to incorporate those persons by adjusting the occurrence of male and female drivers in each age group based on their known representation in each age group.

EXHIBIT III - 6

Licensed Guam Drivers

1977	1978	1979	3 Year Average	1979 % Of Change
52,059	56,743	55,211	54,671	+ 1.0

Comments: Table 6 contains the island's driver licensing levels for the years 1977 through 1979. A trend analysis is included based upon a three year average of the data as compared to the last year, 1979.

EXHIBIT III - 7

Miles Traveled in Guam

1977	1978	1979	3 Year Average	1979 % Of Change
549,000,000	565,200,000	521,200,000	545,133,000	- 4.5

Comments: Table 7 contains the island's number of vehicle miles traveled for the years 1977 through 1979. A trend analysis is included based upon a three year average of the data as compared to the last year, 1979.

The time period of this presentation of indicators is the six year period from 1971 to 1977. This period was selected by the Guam Health Planning and Development Agency to reflect long term trends, if any were to be identified, and to provide an adequate range of data from which to derive average rates where desired (EXHIBIT III.8).

The five leading causes of death over this time period were:

.Heart Disease
.Cancer
.Motor Vehicle Accidents
.Diseases of Early Infancy
.Non-motor Vehicle Accidents

They accounted for just over 50 percent of the average total number of deaths from 1971 to 1977. Heart Disease alone accounted for 18% of deaths during this period.

There was very little variance in the rankings of the ten leading causes of death throughout the period. However, diabetes, congenital anomalies, homicide, and suicide did fluctuate from year to year as the tenth leading cause.

a. INFANT MORTALITY

The infant mortality rate has been widely used as an indicator of the health condition of a community. Many infant deaths on Guam have been attributed to congenital anomalies and diseases of early infancy.

The U.S. infant mortality rate has been steadily declining each year since 1962. Guam infant mortality rates have also shown a downward trend from 1973 to 1977. From 1972 to 1975 Guam's infant mortality rates were higher than the U.S. in 1975 was 16.1 per 1000 live births in comparison to Guam's 21 per 1000. Guam's infant mortality rate in 1975 was the third highest in the nation (EXHIBIT III.9).

Guam's infant mortality rates have shown a downward trend since 1973 (EXHIBIT III.10). The Guam rate is 2/1000 more than the national health goal of 12/1000 or less.

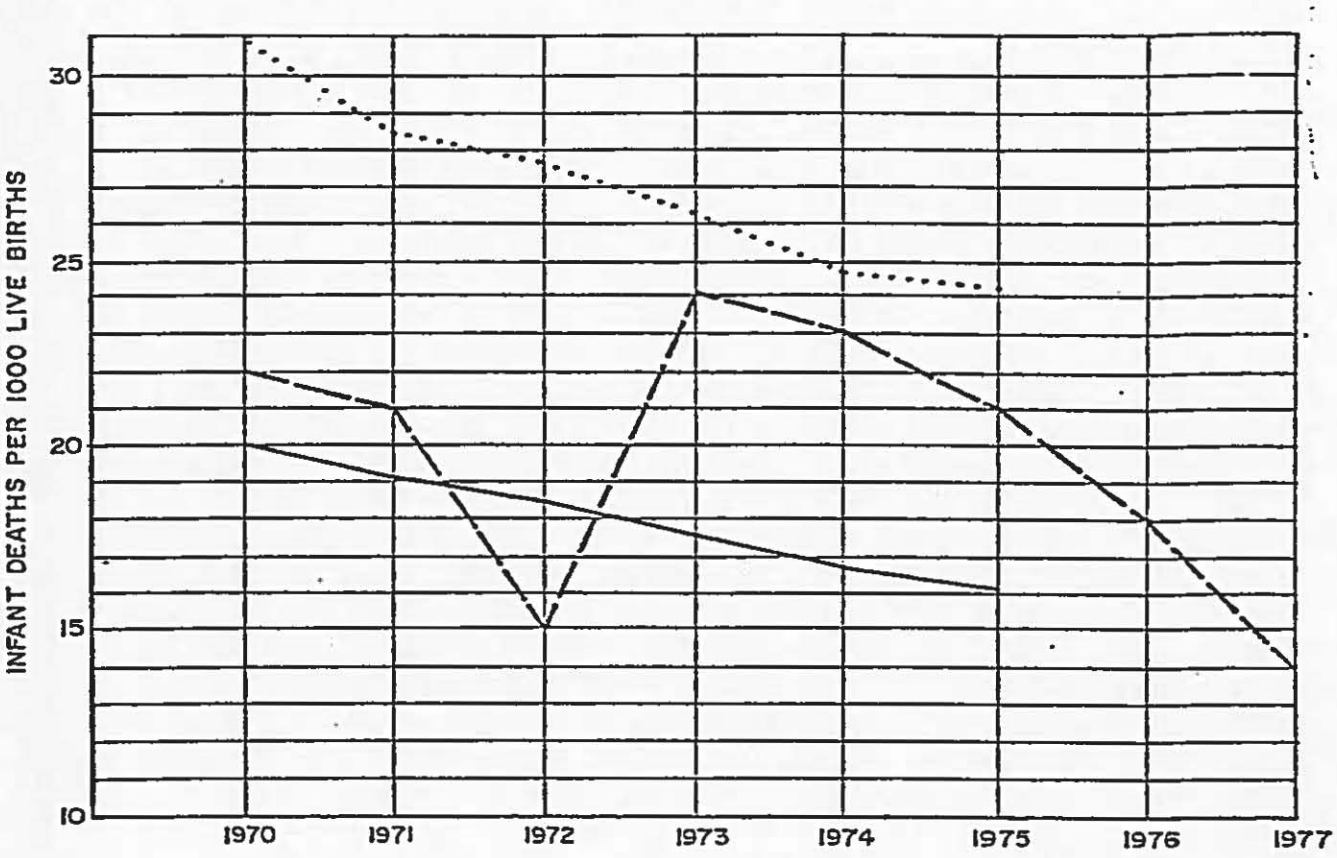
On the average, there were 63 infant deaths yearly from 1970 to 1977. Males accounted for 58% of the average yearly infant deaths. Municipalities with infant mortality rates above 20 percent per 1000 live births include Inarajan, Umatac, Santa Rita, Agat, Dededo, Agana Heights, Mangilao, Sinajana and Yona or almost half of the 19 designated municipalities of Guam.

SUMMARY TABLE OF LEADING CAUSES
OF DEATH AVERAGED OVER 1971—1977

RANK	CAUSE OF DEATH	AVERAGE NO. OF DEATHS	RATE/1000	% OF TOTAL AVG. DEATHS
1	HEART DISEASE	75.3	1.02	17.9
2	MALIGNANT NEOPLASMS	37.7	0.51	9.0
3	MOTOR VEHICLE ACCIDENTS	34.3	0.46	8.1
4	DISEASES OF EARLY INFANCY	31.6	0.43	7.5
5	NON-MOTOR VEHICLE ACCIDENTS	29.1	0.39	6.9
6	CEREBROVASCULAR DISEASE	26.8	0.36	6.4
7	PNEUMONIA	21.0	0.28	5.0
8	OTHER DISEASE OF CNS(ALS/PD)	18.4	0.25	4.4
9	CIRRHOSIS OF THE LIVER	13.3	0.18	3.1
10	DIABETES	11.1	0.15	2.6
11	CONGENITAL ANORMALIES	10.8	0.15	2.6
12	HOMICIDE	8.7	0.12	2.1
13	SUICIDE	7.4	0.10	1.8
	ALL OTHER CAUSES	95.1	1.28	22.6
	ALL CAUSES	420.6	5.68	100.0

SOURCE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS.

INFANT MORTALITY RATES :1970-1977



..... = U.S., ALL OTHERS EXCEPT WHITE.

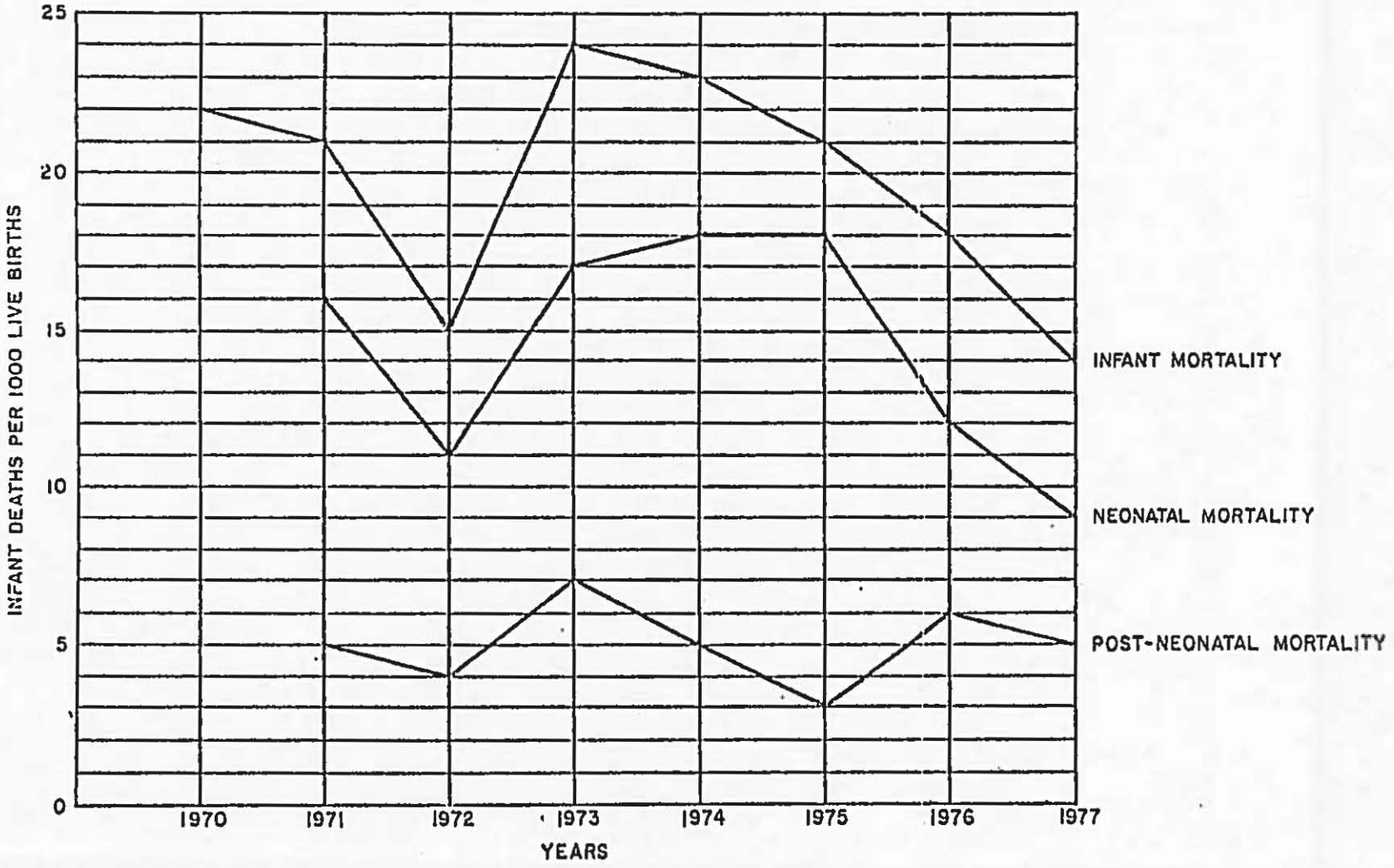
———— = GUAM.

———— = U.S., ALL RACES.

SOURCE: HEALTH UNITED STATES 1976-1977, U.S. DHEW.
STATISTICAL REPORTS 1970-77, OFFICE OF VITAL STATISTICS, DPHSS.

EXHIBIT III - 10

GUAM INFANT MORTALITY RATES: 1970-77
NEONATAL AND POST-NEONATAL



SOURCE: STATISTICAL REPORTS 1970-77, OFFICE OF VITAL STATISTICS, DPHSS.

Due to the higher risk of dying in the first few weeks of life and the difference in the causes accounting for infant death at the earlier and later stages of infancy, the infant mortality may be broken down into neonatal and post-neonatal rates. Causes of very early infancy (neonatal) deaths tend to be congenital anomalies, injuries at birth, prematurity and other causes which are not easily prevented by modern medical and health measures. On the other hand, causes of later (post-neonatal) infant deaths such as infectuous disease and nutritional problems are more easily corrected by modern health approaches.

(1.) NEONATAL MORTALITY

Most of Guam's infant deaths occur during the first 28 days of birth. On the average, 75% of the yearly infant deaths occur during this period. However, the neonatal mortality rates, which increased between 1972 and 1974, have been decreasing since 1975. Although no data is readily available, the addition of a neonatal intensive care unit at Guam Memorial Hospital and the targeting of high incidence rate areas for increased prenatal care by DPH&SS, have had an impact on reducing these rates.

(2.) POST-NEONATAL MORTALITY

The post-neonatal mortality rates have been fluctuating between 1971 to 1977 (EXHIBIT III.11). On the average 25 percent of the yearly infant deaths occur during this period.

b. ACCIDENTS

(1.) MOTOR VEHICLE ACCIDENTS

From the period 1971-1977 motor vehicle accidents averaged third among the ten leading causes of death on Guam, and except for the year 1974, it has been in the top five leading causes.

(a) MORTALITY

Overall, the average mortality rate for motor vehicle accidents between 1971 and 1977 was less than 0.5/1000. The average mortality rate for motor vehicle accidents almost doubles the average for the U.S., except for 1974. U.S. rates show a decline in mortality rates for the years 1972 to 1975; whereas Guam's rates show no definite pattern. The rates for 1976 and 1977 were .330 and .465/1000 respectively.

EXHIBIT III - 11

FREQUENCY DISTRIBUTION OF INFANT MORTALITY
1970-1977

YEAR	BOTH SEXES	DISTRIBUTION BY ETHNICITY				TOTAL	MALE		TOTAL	FEMALE	
		GUAMANIAN	FILIPINO	CAUCASIAN	OTHERS		NEONATAL	POST NEONATAL		NEONATAL	POST NEONATAL
1970	62	36	8	11	7	38	N/A	N/A	24	N/A	N/A
1971	63	34	9	12	8	42	31	11	21	17	4
1972	49	22	4	16	7	25	19	6	24	17	7
1973	76	70	1	4	1	43	29	14	33	25	8
1974	75	42	12	14	7	43	34	9	32	25	7
1975	65	26	12	11	15	35	30	5	30	26	4
1976	55	30	11	11	3	30	20	10	25	17	8
1977	46	N/A	N/A	N/A	N/A	24	N/A	N/A	22	N/A	N/A
YEARLY AVERAGE	61	37	8	11	7	35	27	9	26	21	6

NOTES: 1. N/A = NOT AVAILABLE.
2. NEONATAL = 0-28 DAYS.
3. POST NEONATAL = 29 DAYS - UNDER 1 YEAR.
4. AVERAGE COLUMN MAY NOT ADD UP TO TOTAL AVERAGE.

SOURCE: STATISTICAL REPORTS 1970-77, OFFICE OF VITAL STATISTICS, DPHSS

According to information in a recent Highway Safety Plan, accidents, fatalities and injuries on Guam are rising at rates proportional and higher than that of the motor vehicle population. In Guam most accidents occur during daylight hours but most fatalities occur at night. The pedestrian death rate is 30% higher than in the U.S., with most fatalities occurring at night among males.

(2) NON-MOTOR VEHICLE ACCIDENTS

On the average, for the years 1971 through 1977, non-motor vehicle accidental deaths ranked fifth among the ten leading causes of death on Guam. Except for motor vehicle accidents, all other types of accidents are dealt with in this section. (this includes water and air transportation, poisoning, falls, fire and flames, drowning, suffocation, mechanical suffocation, hit by object, firearm missles, electric current, machinery, nature, etc.).

(a.) MORTALITY FROM NON-MOTOR VEHICLE ACCIDENTS

There was an average of 29 accidental deaths per year from 1971 to 1977. The highest number of deaths (38) occurred in 1974 and the lowest (21) in 1977. When expressed in rates per 1000. Guam averaged .4 deaths/1000 during this period. Although apparently low, Guam's rates exceed U.S. rates (EXHIBIT III.12 - III.15).

Guam's average for the three years (1973-1975) exceeds the U.S. average. In comparison to U.S. rates, which appear to be declining for that period, Guam's rates appear to be unpredictable.

The incidence of cases of occupational injury in Guam, expressed as a rate per 100 employees covering all private sector industries has declined from 6.8 in 1974 to 6.0 in 1975 and to 4.7 in 1977.

During the same period, the incidence rate of injury in the construction industry fell from 13-1 cases to 12.2 per 100 employees. In 1976 of 31.4/100 was recorded for residential construction. Two of the total of 5 fatalities in that year were registered in the Construction sector. The occupational injury incidence rate in the private sector on Guam is less than the U.S. rate for these years.

EXHIBIT III - 12

FREQUENCY DISTRIBUTION OF ACCIDENTAL ACCIDENTS MORTALITY 1971 - 1977 [a]

YEAR	TOTAL	SEX		AGE GROUP													
				0 - 4		5 - 14		15 - 24		25 - 44		45 - 64		65 - 74		75/OVER	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
71	25	22	3	2	0	1	0	10	0	6	0	3	2	0	0	0	1
72	36	28	8	0	2	2	2	9	1	12	0	5	2	0	0	0	1
73	34	32	2	7	1	0	0	6	0	8	1	7	0	1	0	3	0
74	38	25	13	4	5	1	3	8	1	9	3	2	0	0	1	1	0
75	25	19	6	1	1	1	0	3	0	7	2	3	1	1	0	2	2
76 [b]	25	23	2	0	0	0	0	9	0	5	2	7	0	0	0	2	0
77	21	14	7	1	3	1	0	3	1	6	3	1	0	2	0	0	0
RAGE	29	23	6	2	2	1	1	7	.5	7	1	4	1	.5	.0	1	.5

) EXCLUDES ACCIDENTAL DEATHS DUE TO MOTOR VEHICLES, HOMICIDE, SUICIDE, AND OTHER EXTERNAL CAUSES.

) EXCLUDES AIRPLANE CRASH VICTIMS (46)

SOURCE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS

EXHIBIT III - 13

ACCIDENTAL ACCIDENTS MORTALITY RATIO BY AGE GROUP PER 100 TOTAL DEATHS BY AGE 1971-1977 [a]

YEAR	AGE GROUP													
	0 - 4		5 - 14		15 - 24		25 - 44		45 - 64		65 - 74		75/OVER	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
971	4.26	0	20	0	25	0	18.75	0	4.76	6.25	0	0	0	4
972	0	6.9	25	40	33.33	9.09	23.53	0	6.25	5	0	0	0	2.7
973	14.8	2.78	0	0	19.35	0	20	6.25	7.61	0	3.45	0	12.5	0
974	8.7	12.82	25	75	30.77	10	18.75	17.64	2.6	0	0	3.85	3.7	0
975	2.56	2.86	25	0	9.37	0	17.07	16.67	3.57	2.56	3.03	0	7.14	5.88
3 [b]	0	0	0	0	30	0	10.42	20	8.33	0	0	0	6.9	0
977	4.17	12	20	0	8.57	14.28	15	15.79	1.15	0	6.25	0	0	0
ERAGE	4.93	5.34	16.43	16.43	22.34	4.77	17.65	10.9	4.9	1.26	1.82	.55	4.32	1.8

EXCLUDES ACCIDENTAL DEATHS DUE TO MOTOR VEHICLES, HOMICIDE, SUICIDE AND OTHER EXTERNAL CAUSES.

EXCLUDES PLANE CRASH VICTIMS ([illegible] IN ACCIDENT RATE & PER 100 CALCULATIONS.

IRCE: STATISTICAL REPORTS, 1971-77; OFFICE OF VITAL STATISTICS, DPHSS

EXHIBIT III - 14

ACCIDENTAL ACCIDENTS MORTALITY RATIO PER 100 TOTAL DEATHS[a]

1971 - 1977

YEARS	TOTAL	SEX	
		MALE	FEMALE
1971	6.87	9.02	2.5
1972	8.8	11.52	4.82
1973	7.81	11.98	1.2
1974	8.46	9.29	7.22
1975	5.67	6.55	3.97
1976[b]	5.95	7.64	1.44
1977	5.53	5.76	5.10
AVERAGE	7	9	4

a. EXCLUDES ACCIDENTAL DEATHS DUE TO MOTOR VEHICLES, HOMICIDE, SUICIDE AND ALL OTHER EXTERNAL CAUSES.

b. EXCLUDES AIRPLANE CRASH VICTIMS (46)

SOURCE: STATISTICAL REPORTS, 1971 - 1977; OFFICE OF VITAL STATISTICS, DPHSS

TABLE IX. 10

FREQUENCY DISTRIBUTION OF MOTOR VEHICLE ACCIDENT MORTALITY 1971-1977

YEAR	TOTAL	SEX		AGE GROUP													
				0 - 4		5 - 14		15 - 24		25 - 44		45 - 64		65 - 74		75/OVER	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1971	39	33	6	1	0	3	2	20	3	6	1	2	0	0	0	1	0
1972	36	29	7	0	0	1	1	10	3	14	3	4	0	0	0	0	0
1973	43	38	5	1	0	0	2	15	1	12	2	9	0	1	0	0	0
1974	25	20	5	0	1	2	0	4	1	10	3	3	0	1	0	1	0
1975	33	27	6	2	0	1	0	9	2	7	1	8	3	0	0	0	0
1976	26	25	1	0	0	2	0	6	0	16	1	1	0	0	0	0	0
1977	38	27	11	1	3	1	0	11	2	11	4	1	3	1	0	0	0
AVERAGE	34	28	6	1	.50	1.50	1	11	2	11	2	4	1	.50	0	.28	0

SOURCE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS

EXHIBIT III - 15

ACCIDENTAL ACCIDENTS MORTALITY RATE PER 1,000 POPULATION 1971-1977[a]

YEAR	TOTAL	SEX		AGE GROUP													
				0 - 4		5 - 14		15 - 24		25 - 44		45 - 64		65 - 74		75/OVER	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1971	.37	.61	.1	.39	0	.11	0	1.37	0	.61	0	.71	.65	0	0	0	3.85
1972	.52	.76	.25	0	.37	.23	.24	1.25	.15	1.17	0	1.14	.64	0	0	0	3.88
1973	.48	.84	.06	1.12	.11	0	0	.84	0	.75	.12	1.54	0	1.75	0	15.62	0
1974	.51	.63	.38	.58	.56	.11	.35	1.13	.15	.82	.35	.42	0	0	1.69	5.1	0
1975	.33	.47	.17	.13	.14	.11	0	.43	0	.62	.22	.82	.3	1.59	0	10.36	8.1
1976[b]	.32	.55	.05	0	0	0	0	1.24	0	.44	.22	1.39	0	0	0	9.76	0
1977	.26	.32	.18	.12	.13	.1	0	.4	.14	.52	.32	.19	0	2.91	0	0	0
AVERAGE	.4	.6	.27	.33	.19	.09	.08	.95	.06	.7	.18	.89	.23	.79	.24	5.85	2.25

[a] EXCLUDES ACCIDENTAL DEATHS DUE TO MOTOR VEHICLES, HOMICIDE, SUICIDE AND OTHER EXTERNAL CAUSES. RATIO ROUNDED TO NEAREST 1/100.

[b] EXCLUDES AIRPLANE CRASH VICTIMS (46)

SOURCE: STATISTICAL RECORDS, 1971-77; OFFICE OF VITAL STATISTICS, DPHSS

c. CHRONIC DISEASES

(1) HEART DISEASE

Disease of the heart is the leading cause of death in Guam as well as in the nation. Initially, Guam's death rates from heart disease appear to be lower than the national rates (EXHIBIT III.16) and most states. Much of this is explained by Guam's relatively young population. If the age distribution of Guam's population were similar to the U.S., the Guam rates would be higher. As an example, the U.S. Crude death rate was 8.9 per 1000 in 1975. Guam's was 5-8/1000. However, age adjusted rates, using the U.S. population as the standard were 12.7/1000 for Guam.

Guam's death rates from heart disease for the years 1972-1975 were lower than the national rates. The nation's rates were 3-6, 3-5 and 3-4 per 1000 population. For the same period, Guam's rates were 1.0, 0.9 and 1.1. Guam's death rates were consistently higher than the national rates if compared by age group. The 1975 national death rates from heart disease for those 25-44 years of age were .42/1000 for males and .13/1000 for females. Comparatively, Guam's rates were .1/1000 for males and .2/1000 for females. In the 45 to 64 age groups U.S. Rates were 5.66 per 1000 males and 1.87/1000 for females. For the same age group on Guam, the rates were 7/1000 for males and 2.7/1000 for females.

(a) MORTALITY

There is a demonstrable decrease in observed death rates from heart disease from 1971-1977 (EXHIBIT III.17). The highest recorded death rate 1.26/1000 occurred in 1975. This rate has declined in a two year period to .87 per 1000. Most of the deaths were related to ischemic heart disease. This form of heart disease accounted for almost 80% of the total heart disease deaths between 1972-76.

(b) AGE DIFFERENCES

In terms of risk of dying from heart disease, those below .45 years of age were generally at low risk. On the average, the yearly death rate for persons under 45 years was less than .50/1000. In terms of frequency this age group accounts for about 13 percent of the average yearly deaths from 1971-77.

EXHIBIT III - 16

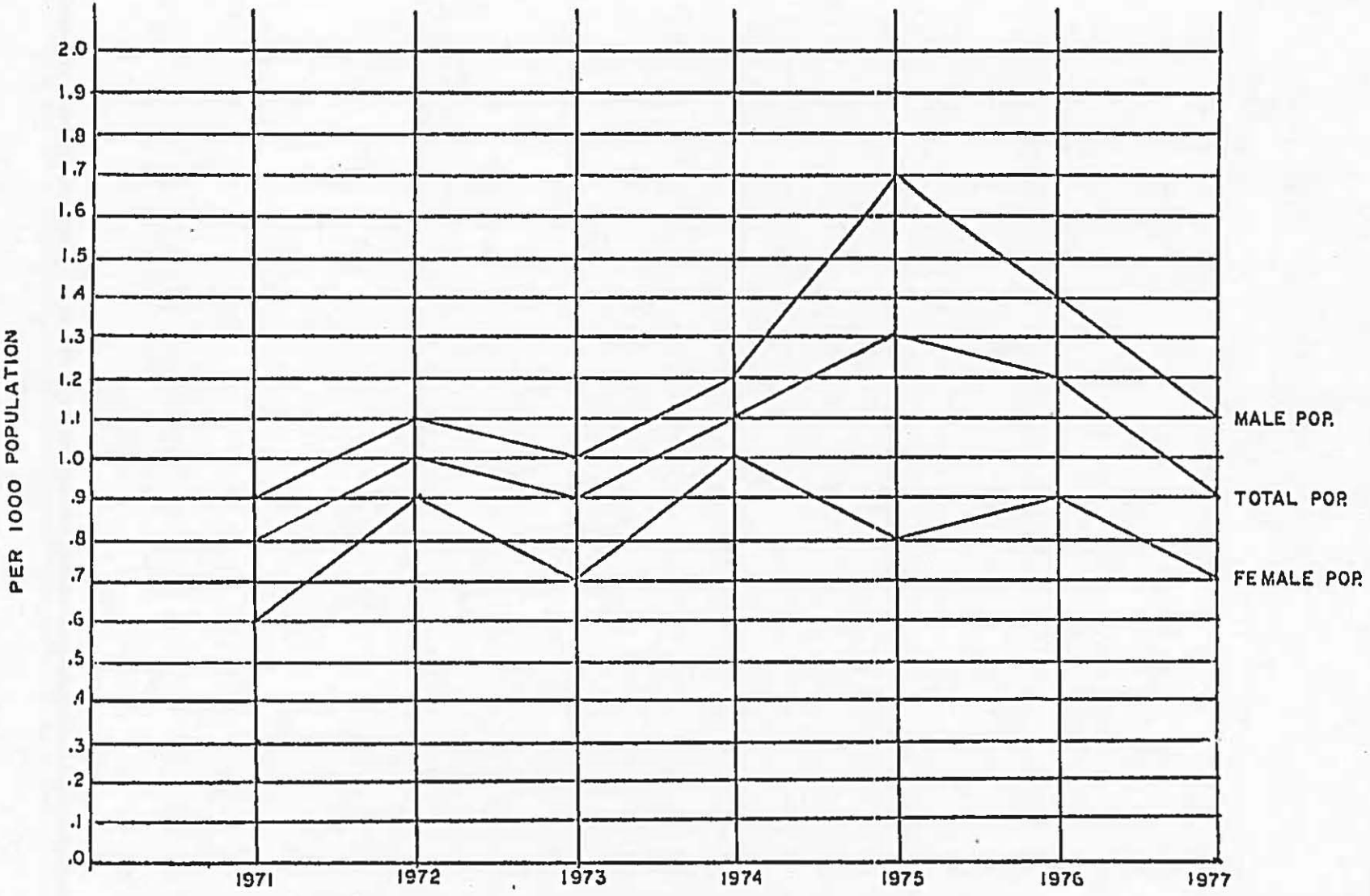
HEART DISEASE MORTALITY RATES, GUAM - U.S.
1971 - 1977

YEARS	GUAM	U.S.
1971	.77	3.6
1972	1	3.6
1973	.9	3.6
1974	1.1	3.5
1975	1.3	3.3
1976	1.2	N/A
1977	.9	N/A

SOURCE: STATISTICAL REPORT 1971-77, OFFICE OF VITAL STATISTICS, DPHSS

SOURCE: STATISTICAL ABSTRACT OF THE U.S. 1977, U.S. DEPT. OF COMMERCE

GUAM HEART DISEASE MORTALITY RATES: 1971-1977



SOURCE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS

Persons 45 years and over are definitely at greater risk of dying from heart disease. 87% of the average yearly death rate from heart disease per every 100 total deaths in this age group was 69 per 100.

(c) MORBIDITY 1973-1976

Guam has limited morbidity data. The following discussion is based on Guam Memorial Hospital data. The heart disease hospitalization rate increased from 10/1000 in 1973 to 13/1000 in 1976. During the four year period, the female population experienced the most significant increase in rates, from 10/1000 to 15/1000.

There were 3,555 cases of hospitalization for heart disease between 1973-1976 or an average of 889 yearly. 51% of those hospitalized were females. People were most frequently hospitalized for ischemic heart disease. It accounted for 40% of the total number of hospitalization during the four year period, followed by hypertensive heart disease with 28 per cent.

(2) CEREBROVASCULAR DISEASE

Nationally, 'stroke' or cerbrovascular disease is the third leading cause of death. However, it is the sixth leading cause of death on Guam. During the period 1971-1977, there was an average of 0.37 deaths/1000 on Guam. Nationally, the rate was .099/1000 (EXHIBIT III.18).

(3) END-STAGE RENAL DISEASE

In 1978 there were 28 patients receiving maintenance dialysis for a rate of 0.34/1000. In Hawaii the rate was 0.25/1000, in the U.S. mainland, 0.20/1000. The Guam rate is then 36% higher than the U.S. rate.

(4) DIABETES

During the period, 1971-1976 there was an average rate of 0.16 deaths/1000 on Guam compared to an average rate of 0.18/1000 in the U.S. (EXHIBIT III.20). The U.S. death rates appear to be decreasing, there is no similar detectable trend on Guam.

EXHIBIT III - 18

CEREBROVASCULAR MORALITY RATES PER 1000 POPULATION:
1971 - 1977

RS	TOTAL	MALE	FEMALE	UNDER 14		15 - 24		25 - 44		45 - 64		65 - 74		75 - OVER	
				M	F	M	F	M	F	M	F	M	F	M	F
,	.45	.47	.42	0	.08	.14	0	.31	0	1.43	.33	9.75	10.60	10.87	19.31
2	.36	.27	.47	0	0	.14	.15	.20	.25	.69	1.28	0	1.74	21.28	23.26
3	.52	.50	.54	0	0	0	0	.38	.24	2.20	1.56	3.50	5.12	15.63	31.13
'4	.35	.36	.35	0	.07	0	0	0	.12	1.70	1.22	3.33	3.36	20.41	15.63
'5	.30	.27	.34	0	0	0	0	.09	0	1.02	.89	4.78	6.70	10.36	20.24
'6	.27	.21	.32	0	0	0	0	.09	.11	.40	1.44	6.09	1.68	9.76	19.38
'7	.32	.30	.34	0	0	0	0	.09	0	2.11	1.67	0	6.70	4.61	11.15
3. '77	.36	.33	.40	0	.02	.04	.02	.17	.10	1.36	1.20	3.92	5.13	13.27	20.01

CE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS

TABLE IV.26

FREQUENCY DISTRIBUTION OF CEREBROVASCULAR MORTALITY
1971-1977

RS	TOTAL	SEX		UNDER 14		15 - 24		25 - 44		45 - 64		65 - 74		75 - OVER	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F
71	30	17	13	0	1	1	0	3	0	6	1	5	6	2	5
72	25	10	15	0	0	1	1	2	2	3	4	0	1	4	6
73	37	19	18	0	0	0	0	4	2	10	5	2	3	3	8
74	26	14	12	0	1	0	0	0	1	8	4	2	2	4	4
75	23	11	12	0	0	0	0	1	0	5	3	3	4	2	5
76	21	9	12	0	0	0	0	1	1	2	5	4	1	2	5
77	26	13	13	0	0	0	0	1	0	11	6	0	4	1	3
G. -77	26.86	13.29	13.57	0	.29	.29	.14	1.71	.86	6.43	4.00	2.29	3.00	2.57	5.14

RCE: STATISTICAL REPORTS: 1971-1977, OFFICE OF VITAL STATISTICS, DPHSS

When all causes of death were taken into account, Guam had a lower ratio of deaths due to diabetes than the U.S. per 100 total deaths. Guam had an average of 0.26/100 deaths attributed to diabetes whereas the U.S. had a 3.7/100 death experience.

Both nationally and on Guam, females were slightly more inclined to die from diabetes (EXHIBITS III.21 - III.22). On Guam there was an average of 0.12 male compared to 0.19 female deaths per 1000 population.

D. INFECTIOUS DISEASES

(1) PNEUMONIA - MORTALITY

During the period 1971-1977 pneumonia has averaged 8th among the ten leading causes of death on Guam. For the same period, there was an average of 21 deaths yearly from pneumonia or an average rate of 0.28/1000 (EXHIBIT III.23).

Although seemingly insignificant, Guam's average mortality rate for the four years presented in EXHIBIT III.23 is higher than U.S. rate. U.S. rates show a consistent decline whereas Guam's rates follow no discernable pattern.

Of the average 21 deaths yearly from 1971-77, 52% were males (EXHIBIT III.24). Sixty-six percent of the average yearly deaths occurred in the age group 45 years and above. 19 percent were infants lest than a year old.

Between 1971-77 the pneumonia death rate for males has been fluctuating between 2-4 or an average rat of .3/1000 male population. On the average, there were 5 pneumonia deaths yearly per 100 total deaths between 1971-1977.

(2) MORBIDITY

For the period 1972 to 1975, there was an average of 215 cases of pneumonia infection recorded, for an incidence rate of 2.97 per 1000.

E. LIFESTYLE INDICATORS

(1) SUICIDE AND HOMICIDE

(a) SUICIDE

The seven year average annual rate of suicide deaths for Guam between 1971-1977 was determined to be 0.10/1000 compared to 0.126/1000 for the U.S. The incidence of deaths due to suicide has been increasing in recent years in the U.S., especially among young adults. Conversely there is no

GUAM-U.S. DIABETES MORTALITY RATES:
1971-1975

YEAR	U.S.	GUAM
1971	.19	.10
1972	.19	.23
1973	.18	.22
1974	.18	.11
1975	.17	.08
YEARLY AVERAGES	.18	.15

SOURCE: STATISTICAL REPORTS 1971-75, OFFICE OF VITAL STATISTICS, DPHSS
"PROVISIONAL STATISTICS: ANNUAL SUMMARY FOR THE U.S. 1975"

EXHIBIT III - 21

DIABETES MORTALITY RATES
1971-1977

YEARS	TOTAL	SEX	
		MALE	FEMALE
1971	.10	.11	.10
1972	.23	.19	.28
1973	.22	.16	.30
1974	.11	.08	.15
1975	.08	.12	.03
1976	.23	.12	.35
1977	.09	.05	.13
YEARLY AVERAGES	.15	.12	.19

SOURCE: STATISTICAL REPORTS, 1971-77; OFFICE OF VITAL STATISTICS; DPHSS.

EXHIBIT III - 22

DIABETES MORTALITY RATIO

1971-1977

YEARS	TOTAL DEATHS	MALE	FEMALE
1971	1.92	1.64	2.50
1972	3.91	2.88	5.42
1973	3.68	2.25	5.99
1974	1.78	1.12	2.78
1975	1.36	1.72	.66
1976	4.30	1.80	9.22
1977	1.84	.82	3.65
YEARLY AVERAGES	2.6	1.7	4.3

SOURCE: STATISTICAL REPORTS, 1971-77; OFFICE OF VITAL STATISTICS, DPHSS.

EXHIBIT III - 23

GUAM AND U.S. PNEUMONIA MORTALITY RATE
1971—1977

	YEARS							YEARLY AVERAGES
	1971	1972	1973	1974	1975	1976	1977	
GUAM	0.36	0.32	0.28	0.28	0.26	0.29	0.21	0.28
U.S.	0.27	0.28	0.27	0.25	0.25	N.A.	N.A.	0.26

SOURCE: STATISTICAL REPORTS 1971-77 OFFICE OF VITAL STATISTICS, DPHSS.
STATISTICAL ABSTRACT OF THE U.S. 1977, U.S. DEPT. OF COMMERCE.

EXHIBIT III - 24

FREQUENCY DISTRIBUTION OF PNEUMONIA MORTALITY
1971–1977

YEARS	TOTAL	SEX		UNDER – 1		1 — 4		5 — 14		15 — 24		25 — 44		45 — 64		65 — 74		75/OVER	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1971	24	13	11	2	3	1	1	0	0	0	0	1	0	3	1	4	4	2	2
1972	22	8	14	2	2	0	0	0	0	0	0	1	0	3	3	1	1	1	8
1973	20	11	9	3	1	0	1	0	0	1	0	1	0	1	2	3	1	2	4
1974	21	11	10	1	1	0	0	0	0	0	1	2	1	1	0	5	1	2	6
1975	20	10	10	0	4	0	0	0	0	0	0	1	0	3	0	4	2	2	4
1976	23	15	8	3	2	0	0	0	0	1	0	2	0	3	0	3	2	3	4
1977	17	10	7	1	2	0	0	1	0	1	0	2	0	1	1	1	1	3	3
YEARLY AVERAGES	21	11	10	2	2	0	0	0	0	0	0	1	0	2	1	3	2	2	4

SOURCE: STATISTICAL REPORTS 1971-77, OFFICE OF VITAL STATISTICS, DPHSS.

demonstrable increasing trend for Guam's suicide death rate. This is supported by the fact that the 1976 rate of 0.038/1000 was the lowest for the seven year period and the 1977 rate of 0.18/1000 was the highest.

(b) HOMICIDE

There is a general increase in the number of homicides on Guam. Between 1971-1977 the rate was 0.12/1000 compared to 0.09 per 1000 in the U.S. (1975). The male population has a significantly higher rate, .10/1000. This differential is similar to the U.S. 1975 experience.

(2) DRUG ABUSE

The Substance Abuse Treatment Service (Commonly referred to as the Methadone Clinic) of the Guam Community Mental Health Center is the main provider of federally assisted substance abuse treatment. A total of 128 admissions and 197 discharges were recorded by the clinic during Fiscal Year 1978. A majority of the clients treated for drug abuse in Guam and the U.S. were for heroin addiction. It appears though that the percentage of admissions for heroin addiction on Guam are higher, because other commonly abused drugs are not readily available, except for alcohol which is legally dispersed. Both Guam and the U.S. reported a majority of admissions for heroin addiction as being males. In Guam the 21-25 age group reported the highest percent of admissions followed by the group aged 26-30. This is the reverse of the U.S. experience.

During FY 1978, 98% of the clients seen on Guam were heroin addicts in comparison to 51 percent of clients seen in the U.S. A high proportion of clients (76%) were male, with 69 percent of them between the ages of 21-30. Forty-one percent of Methadone Clinic clients began using heroin between the ages of 18 and 21. Both Guam and the U.S. reported a majority of admissions as being self-referral, with Guam's percentage of self referrals higher than the U.S.

Local admissions showed a substantially higher percentage using heroin more than three times a day. Due to the purity of the drug on Guam, local addicts would experience more severe withdrawal symptoms.

Comparative data based on the Heroin Problem Index (HPI) between Guam and 4 major U.S. cities ranks Guam sixth highest in drug treatment with a rate of 139.8 admissions/100,000 for 1976. In terms of emergency room drug related cases, Guam outranks all 24 cities in the sample with an estimated 325-8/100,000. Guam's drug related death rate for 1976 was 7.3/100,000, or third highest of the 24 cities.

(3) ALCOHOL ABUSE

Although statistics relating to alcohol abuse on the island are scarce, an analysis of alcohol related traffic fatalities will provide, to some degree, a sense of the extent of alcohol abuse related mortality on Guam. Between 1968 and 1972, Laennec's Cirrhosis, a form of Cirrhosis almost always caused by extended alcohol abuse, was found to be responsible for 10-2 percent of all Cirrhosis deaths in the age group 45-54 during this period. The proportionate mortality from this disease was highest among Caucasians accounting for 23.7% of all Caucasian deaths in the 45-54 year age group. Cirrhosis of the liver was reported as the tenth leading cause of death on Guam in 1976. Cirrhosis accounted for 3.9 percent of all deaths that year, the highest proportionate mortality from this cause recorded by any state in the U.S. Another indicator of alcohol abuse is alcohol-related traffic deaths. Department of Public Safety statitistics indicate that 15.3 percent of all traffic fatalities during the period January 1, 1976 to July 1, 1978 were the direct result of drunken driving.

Legislative Characteristics

The Organic Act of Guam, signed by President Truman in 1950 created a unicameral legislature for Guam. The legislature as the primary policy maker for the island has passed several laws which relate directly or indirectly to the EMS system.

Listed below are a number of laws which impact upon EMSS development.

Declaration of Policy	
Declares that it is the Territory's policy to promote safety for persons and property with the use, operation and equipment of vessels	Title IX Department of Public Safety, Chapter XVI, Territorial Boating Act, Section 8995.1
Collisions, Accidents and Casualties	
Require the operator of a vessel involved in an accident, collison or other casualty to assist those injured----and to provide in writing to the person injured and to the owner of any property damaged, his name, address and identification of his vessel.	Title IX, DPS, Chapter XVI Territorial Boating Act, Section 8995.10
Conduct of Operators and Pedestrians on Approach of Authorized Emergency Vehicles	
Requires the operators of all vehicles to yield the right of way and to remain as close as possible to the right hand edge or curb of the highway upon approach of an authorized emergency vehicle sounding a siren or exhibiting a red or blue light.	Title XXIV, Vehicle Code Chapter II, General Provisions Section 23128

Agency Responsible for Occupational Safety and Health	
Designates the Department of Labor as the agency responsible for developing and administering a plan in accordance with the provisions of 18(c) of the Occupational Safety Act of 1970.	Title XLVI Department of Labor Chapter II, Occupational Safety and Health Act of Guam Section 48203
Division of Occupational Safety and Health	
Establishes within the Department of Labor a Division of Occupational Safety and Health responsible for investigating and inquiring into the causes of injuries or sickness arising out of and in the course of employment and to assist in the preparations of such occupational safety and health programs as needed to aid in the prevention of such inquiries or sickness.	Title XLVI, Department of Labor, Chapter II, Occupational Safety Act of Guam, Section 48204
Civil Defense, Purpose	
Provides for the creation of an Office of Civil Defense for the Territory to assure that the Territory will be adequately prepared to deal with disasters or emergencies of unprecedented size and destructiveness resulting from enemy attack, sabotage etc., as well as from the vicissitudes of nature, to protect the peace, health and safety or the public and to preserve their lives and property.	Title IX Department of Public Safety, Civil Defense Sections 8500, 8519. Governor's Executive Order 78-10
Accidents	
Requires the operator of any	Title XXIV, Vehicle Code,

vehicle in any accident causing injury or death to any person or damage to any real or personal property to stop such vehicle at the scene of such accident.	Chapter II General Provisions Section 23136
Commission on Licensure	
Provides for the creation of a "Commission on licensure to Practice the Healing Art on Guam" consisting of five members appointed by the Governor of Guam. The Commission shall appoint boards of examiners in...medicine osteopathy, in chiropractic, in dentistry in midwifery and such others...as are necessary."	Title XXVIII, Medical Practices, Chapter II General Provisions Section 27101
Nurse Practice Act	
Requires that any person practicing professional or practical nursing shall be licensed under the provisions of this Act.	Title XXVIII, Chapter III
Policy Statement	
No person shall be denied complete medical care and services by reason of his ability to pay therefor. People shall be required in accordance with their means. Abatements and discounts will be allowed from the established schedule under rules and policies established by the GMH Administrator and approved by the Board of Trustees.	Title XLVII, Guam Memorial Hospital Chapter, I Section 49008

Mentally Ill	
Provides for hospitalization on medical certification in an emergency situation and provides for hospitalization without endorsement or medical certification in an emergency situation.	Title XLVII, Chapter III Section 49206 Section 49207
Liability for Rendering Emergency Care	
An Act to amend Section 3284 of the Civil Code of Guam to provide that any person who renders emergency care shall only be liable for damages resulting from his gross negligence or wanton act or wanton omissions.	Guam P.L. 12-92
Emergency Medical Services Commission	
Establishes the Guam Emergency Medical Services Commission to provde the technical and advisory support to the administrator (OEMS).	Title XLVII, Chapter 6 Section 49253 49253.3
Guam Emergency Medical Services Administrative Office	
Established within the Department of Public Health and Social Services and Administrative Office for Emergency Medical Services. The Office has regulatory and certification responsibility for EMSS development to include manpower, facilities, communications and equipment.	Title XLVII, Chapter 6 Section 49252.0 49252.2

Access to Care/Protection from Liability

No persons shall be denied treatment at any designated emergency medical services facility. "...a hospital, its employees or any physician or dentist providing emergency medical services shall not be liable in any action arising out of a refusal to render such treatment it reasonable care is exercised in determining the appropriateness of the faculties...(and) availability of personnel to render care.

Title XLVIII, Chapter 6
Section 492255.0

Consent to Care

No providers of emergency medical services...shall be subject to civil liability based solely upon failure to obtain consent in rendering...services... when the patient is unable to give his consent for any reason and there is no other person reasonably available...authorized to consent to the providing of such care.

Title XLVII, Chapter 6
Section 49255.1

Health Care Delivery System Characteristics

This section will describe the health care delivery system characteristics of Guam through a discussion of the island's two major health care systems, the civilian system and the military system. The areas in each system to be discussed include manpower, financing, facilities, and services.

The objective in describing the current health care system is to understand the geographic distribution of the system's resources necessary to suppliment existing deficiencies. This will assure an EMS system capable of being effective when implemented.

Overview

Guam has a pluralistic health care delivery system containing public, private and military medical services. The public services are generally delivered by Guam Memorial Hospital, the Fire Division's ambulance service and the Department of Public Health and Social Services. The private services consist of physicians, dentists, optometrists, multi-specialty medical groups and pharmacies. The military services consist of the NRMC, outpatient facilities, ambulances, specialist services and clinics.

The two components are designed to serve two distinct population groups. This situation obviously has an impact on any attempt to standardize emergency medical care components.

The Civilian System

The civilian population is served by a public health system and a private health system. The two systems operate interdependently on several levels. Two levels will be reviewed; manpower and financing.

Manpower

The 1980 survey of health manpower conducted by the Guam Health Planning and Development Agency (GHPDA) showed that Guam had 70 physicians practicing medicine. GMH has at least one staff physician one duty during all shifts at the Emergency Room. In addition to the on duty emergency room physician, the specialist 'on call' list provides consultation when specialist services are needed. 'On call' specialists are now linked to the EMS radio system, as each one is equipped with a two way handi-talkie radio. None of the physicians has specialized in Emergency Care.

According to the health manpower survey conducted in October, 1980, Guam had a total of 320 Registered Nurses (RN's) and 58 Licensed Practical Nurses (LPN's). Of a total of 288 RN's and LPN's, 10 are instructional nurses and 39 are Department of Education School Health Counselors and Administrators. DOE School Health Counselors do provide limited care to students.

Naval Regional Medical Center Emergency Room is staffed after hours by an on-call physician.

Financing

The Government of Guam finances medical services through revenue taxes, fees for service or third party reimbursement arrangements.

There are many established programs that qualified patients may use to pay for health care services. These programs include:

.Private indemnity health insurance

.prepaid health programs (HMO's)

.Medicaid

.Workmen's Compensation

.special government programs providing care for Tuberculosis, Parkinson's disease ALS and diabetes.

In addition, the Government provides free services through the DPH&SS for those who cannot pay for their own health care, or do not qualify for any of the supplementary income programs.

Facilities and Services

The Government of Guam provides the necessary services to the civilian population through Guam Memorial Hospital. Acute and Intensive Care services are provided in the recently purchased 148 bed facility. Skilled nursing, Long Term Care and Hemodialysis Care provided in the old GMH facility nearby. These two facilities provide a full range of acute care services in addition to inpatient and outpatient mental health services, medical outpatient services, and extended care services.

Through the Department of Public Health and Social Services, the Government provides preventive medical and dental care, health education, large scale diagnosis and treatment programs in the areas of communicable disease, maternal and child health, chronic diseases and crippled children's services.

The Department conducts its programs through two diagnostic and treatment centers and four village health centers. An additional village service is operated out of the Central Diagnostic and Treatment Center in Mangilao.

Additionally, the University of Guam and the Department of Education operate a school nurse program and provide nurse training programs.

Private Sector

The private sector provides primary and specialty medical services typically through outpatient medical practices and hospital services. The private sector confines itself to the Agana, Tamuning, Harmon "medical care corridor." The result: relatively less populated areas in the southern portion of the island remain isolated from the 'hub' of medical care on Guam.

Priorities

The objectives listed in this application (Part B) and in the revised EMS Plan have been prioritized based upon what OEMS and the Commission deem the most urgent system needs. In addition, those objectives prioritized for funding have the potential for 'high payoff', that is, funding of these objectives should produce:

1. Noticeable change in the system
2. measurable results
3. better quality and in some cases quantity of services
4. meaningful data for future system evaluation/improvement.

The following objectives, if funded should be implemented and/or completed prior to 30 September 1982.

Components

3. Communications

   a. Objective - To provide base stations to each of the fire stations to include tone encoding capability from the Central Dispatch in order that the dispatch order be received by only one station.

   b. Objective - To provide GMH on call physician specialists with paging units in order to alert them to the need to communicate with GMH ER or DPS Medics.

   c. Objective - To provide each Medic with a radio installed in the driver compartment for more effective/efficient communication enroute to the ER.

   d. Objective - To establish protocols for medical control of the EMT's in the field.

4. Transportation

   a. Objective - To replace five (5) DPS ambulances to meet current GSA specifications and regulatory requirements of OEMS.

   b. Objective - To identify a continuing source of funding for ambulance repair, maintenance and replacement.

11. Coordinated Patient Record Keeping

   a. Objective - To develop a uniform ambulance and dispatch form containing the minimum data sets recommended by DHHS. DOT funds will be used initially in FY 1981 to begin this system.

14. Disaster Linkage

a. Objective - To determine roles and responsibilities for each medical service with linkage to the Office of Civil Defense. A medical care plan should be developed which details triage and care procedures, medical control, manpower required, and military involvement.

16. EMS System Management

a. Objective
Recruit a medical director (part-time).

b. Objective - Establish a local registry of EMT's both DPS and volunteer. Maintain monitor of training and continuing education required for re-certification.

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

OBJECTIVE# 3.a.

COMPONENTS - #3 - COMMUNICATIONS

Objective - To provide Base Stations to each of the Fire Stations to include tone encoding capability from the Central Dispatch in order that the Dispatch order be received by only one station.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
1. Develop Specifications for Bid. Specifications will include objectives 3.b and c	x												10-1-81	10-31-81			Contract specification
2. Assure funds are available, prepare financial documents to Department of Administration	x												10-1-81	10-31-81			Work Request, Requisition
3. Advertise for Bids		x											11-1-81	11-15-81			Advertisement
4. Review Bids			x											12-15-81			
5. Award Contract			x	x									12-30-81	1-15-82			Notice of Award, Evaluation of Bids
6. Equipment on island							x							4-15-82			
7. Install Equipment								x						5-30-82			
8. Test Equipment, Accept/ Reject									x	x			6-1-82	7-15-82			Test, Adjust/ Modify Notice of Acceptance

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981

OBJECTIVE# 3.d

COMPONENT - COMMUNICATION

Objective - To establish protocols for medical control of the EMT's in the field

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
1. Meet with Chief of Clinics GMH, Medical Director, GMH Fire Chief/and or representative, discuss respective roles, list areas where direct ER control is necessary-						x								3-15-81			Meeting
Develop schdule and time tables for following protocols																	
a. ER Staff responsibility re Medical Director																	
b. Standardized method of reporting patient info																	
c. Others as necessary														as necessary			Protocols
2. Protocol for transmission of EKG's						x								3-31-81			Protocol
a. Field test							x							4-2-81			Test
b. Evaluate							x							4-5-81			Evaluate
c. Recommend changes, status quo							x							4-5-81			Written Report

[X] ORIGINAL

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES Objective - FY 1982

OBJECTIVE# 4.a.

COMPONENT 4. TRANSPORTATION

To replace five (5) DPS ambulances to meet current GSA specifications and regulation requirements of OEMS.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
1. Prepare bid documents for Department of Administration	x												10-1-81	10-15-81			
2. Advertise locally		x											11-1-81	11-7-81			
3. Accept/reject local bid			x											12-31-81			
4. If accept - 180 days for delivery									x				1-1-82	6-30-82			Delivery
5. If no local bid, advertise off island			x											12-8-81			Advertisement
6. 30 days for bid				x										1-8-82			Bid
7. Accept/reject bid					x									1-31-82			Accept/reject
8. 180 days for delivery										x				7-30-82			Delivery

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981

Objective -

OBJECTIVE# 4 b

COMPONENT - TRANSPORTATION

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
1. Evaluate existing maintenance program for DPS ambulances						——	x						15 Mar	15 April			Evaluation
2. Report Recommendations							x							30 April			Report
3. If fund are required to assure, maintenance, repair and replacement-identify possible sources								x					1 May	31 May			List of Sources
4. Secure necessary legislative authority for funds ·Direct appropriation ·Special funds -Vehicle registration gasoline tax -fees for ambulance service								——	——	——	x		1 Jun	31 Aug			Legislative hearings, testimony
5. Develop collection procedures, accounts controls												—— x	1 Sept	30 Sept			funding system in place for fy 82

[x] ORIGINAL

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981

OBJECTIVE# 11.a

Objective - To develop a uniform ambulance and dispatch form containing the minimum data sets recommended by DHSS

COMPONENT - COORDINATED PATIENT RECORD KEEPING

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
1. Prepare application to office of Highway Safety for initial information system						x							1 Mar	31 Mar			Application
2. Meet with Department of Administration or Traffic Records INformation Management System personnel to orient them on minimum Data elements, uses of data; reports								x					15 Apr	31 May			
3. Meet with GMH Medical Records staff-orientation							x						17 Apr	30 Apr			
4. Meet with DPS-amublance staff to develop outline for dispatch, ambulance form								x					25 Apr	31 May			
5. Develop initial form ·test ·evaluate ·refine											x		15 Jun	31 Aug			Initial form Initial form
6. Request GMH to adopt form for inclusion into patient's medical records												x		15 Sept			Acceptance notice
7. Plan for continuing funding for information system												x	1 Aug	30 Sept			Funding sources identified, related to objective 4.b

[x] ORIGINAL

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES FY 1981

OBJECTIVE# 14.a.

COMPONENT - DISASTER LINKAGE

Objective - To determine roles and responsibilities for each medical service linkage to the Office of Civil Defense. A medical care plan should be developed which details triage and care procedures, medical control, manpower required and military involvement

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
Convene meeting with Civil Defense, military, GMH, NRMC, Red Cross, DPS to review previous disaster plans relative to medical services								x						15 May			Initial meetings
.Evaluate previous 'plans' .Develop disaster triage procedures .Determine Resources required										x			1 Jun	31 July			Meetings/rep recommendatitions
.Obtain written commitments from key agencies -Civil Defense -GMH -NRMC -DPS														by 31 Aug			Written Agreements
.Test disaster/triage Plan												x		mid-Sept			
.Evaluate												x		mid-Sept			Report
.Refine	FY1982 x												31Oct.81				Report
.Obtain required funding if necessary .equipment .communications .supplies														Ongoing			Funding

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

OBJECTIVE# 16a and 16.b.

16. EMS SYSTEM MANAGEMENT

OBJECTIVE - Recruit Medical Director
Objective - Establish a local registry of EMT's both DPS and volunteer. Maintain monitor of training and continuing education required for recertification.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 16.a																	
1. Prepare description of duties	x												1 Oct'81	30 Oct'81			Job Specifications
2. Advertise locally		x											1 Nov'81	5 Nov'81			Advertisement
3. Recruit			x										5 Dec'81	10 Dec '81			Recruitment
OBJECTIVE 16.b.																	
1. Verify employment of personnel at DPS having completed basic EMT-A course	x													15 Oct '81			List of DPS staff
2. Request list of volunteers in DPS 'ride along program' GMH volunteers	x													15 Oct '81			List
3. Written notice to each of recertification requirements. Application form for certification		x												30 Nov '81			Written notice
4. Prepare certificates and I.D. cards			x										1 Dec	15 Dec'81			Certificates, ID
5. Advise all continuing education sources of reporting requirements for crediting EMT's with continuing education units				x										1 Jan '82			Notices, Red Cross, Heart Association, G.C.C., GMH, NRMC

IMPLEMENTATION

The following work program identifies the acitivities related to those objectives not considered PRIORITY ONE.

The completion of all of the objectives however is deemed important to EMS development.

It should be noted that some of these objevtives may not be met within the timeline established.

The environment (that is, political, economic, etc.) is crucial to the success of the program described in this application.

Since practically all of the objectives require cooperation between agencies, coordination and commitment will be the key elements for program success. OEMS plans to evaluate the work program at least quarterly.

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981

OBJECTIVE# Develop a module within the EMT-A course which will concentrate on the Basic Sciences

COMPONENT - MANPOWER

OBJECTIVE - Develop job specifications and classification schemes for EMT-A's relative to their level of training.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1-EMT-A TRAINING Meet with GCC Staff responsible for EMT-A training. Review course content-make changes as necessary insur provision of tutorials for students in need						———	———	x					1 Mar'81	30 Apr '81			Description of desireable EMTA course content
OBJECTIVE 2 a. Develop with DPS Personnel Officer job specs for Fire Fighter/EMT Basic; Fire Fighter/EMT intermediate; Fire Fighter/EMT-Paramedic									———	———	x		1 Jun'81	31 Jul '81			Job Specificatications
b. Submit to Department of Administration and Civil Service Commission for approval											———	——— x	1 Aug	30 Sept'81			Approval
c. Anticipate disapproval develop alternative compensation scheme, e.g., professional pay in addition to base salary									———	———	———	——— x		30 Sept'81		.	'pro-pay' schedule

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981-82

COMPONENT - TRAINING

OBJECTIVE# To establish a training and continuing education program for all Public Safety employees

OBJECTIVE 2. To survey existing emergency care related programs on Guam to determine their ability to accomodate the continuing education needs of emergemcy care personnel.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
Meeting with Director DPS Fire Chief, training officer for orientation and commitment												x		Mid Sept'81			Meeting, written Agreement/endorsement
									FY1982								
OBJECTIVE 2																	
a. Prepare a catalog of C.E. courses related to EMS .GMH .NRMC .Red Cross .Heart Association .UOG .GCC					x								1 Nov'81	15 Feb'82			Catalog
b. Disseminate to DPS EMT's						x								Mid Mar'82			Publish-provide to to DPS
c. Secure agreement that DPS personnel will be accomodated in these courses and that reports/certification of training will be made available to OEMS					x								1 Nov'81	15 Feb'82			Agreements

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981-82

COMPONENT - TRAINING

OBJECTIVE# 3. First aid, advanced first aid CPR are part of school health curriculum.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 3																	
Meet with DOE consultant on Health Curriculum Development to assess present curriculum-ensure that first aid, advanced, and CPR are included. Obtain a description of how these elements will be operationlized.								x					1 Oct'81	31 May '82			Present curriculum description of operational plan Assurances from Director, DOE Board of Education

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981-82

COMPONENT - COMMUNICATIONS

OBJECTIVE# 1. To designate either the central DPS communication center or the the Tamuning Central Fire Station as the EMS Dispatch Center.

OBJECTIVE 2 - Train EMS dispatchers and instructors.

OBJECTIVE 3 - Establish emergency telephone number

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
Meet with the Director, DPS Fire Chief, Chief of Communications (DPS) Aircall Guam Inc. To determine location of EMS control console-decision should be made in light of OBJECTIVE 3-below							x							30 April'81			Policy Statement by Director,DPS
OBJECTIVE 2																	
Train EMS Dispatchers and instructors																	
a. Advertise for instructors						x								15 Mar'81			Advertisement
b. Award Contract							x							15 Apr'81			Contract
c. Locate training site							x							30 Apr'81			Training site
d. Conduct training								x						May'81			Courses conducted
e. Final Report to OHS									x					31 Jul'81			Final Report
OBJECTIVE 3								FY 1982									
.Determine service agency requirements																	Agency reports
.Determine costs																	GTA cost proposal
.Identify funding																	Request appropriations
.Install equipment																	
.Test/evaluate						x								March '82			

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1981

5. COMPONENT - FACILITIES

OBJECTIVE #1. Develop categorization plan for services offered at GMH and to assess the feasibility of inclusion of services listed in federal EMS guidelines as-critical care units.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
a. Obtain standards relative to categorization of care units from appropriate agencies, (DHHS, professional groups)														April '81			
b. Convene meeting with GMH, NRMC to set program for evaluation of services in light of a. above														May '81			Work Program
c. Elicit recommendations for establishment of critical care units, emergency services-develop action plan for implementing recommendations (determine funding sources)													Jun '81	Sept 30'81			Implementation plan

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES 5. COMPONENT - FACILITIES
FY 1982

OBJECTIVE# 2. Explore the possibility of GMH and NMRC developing emergency services to avoid duplication.

OBJECTIVE 3 - Explore the possibility of Guam becoming a regional referral center for emergency care for Pacific Basin communities

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 2																	
a. In light of categorization scheme developed in Objective 1 - seek to obtain agreement from NRMC and GMH to avoid duplication of services.				x									Oct'81	Jan '82			Agreement
b. Agreement should list services to be deleted by each facility - new services to be developed by each.							x						Feb'82	April '82			Services to be provided, developed
c. Seek GHPDA involvement and endorsement							x							April '82			Endorsement
OBJECTIVE 3																	
a. Request GHPDA to convene a conference of Pacific Basin planning groups to determine interest in reorganization plan.																	Meeting
b. Evaluate data on patient load, type of need, existing care system (i.e.NRMC) transportation requirements.																	
c. Request Pacific Basin Government to approve emergency care concept. Agree to commit funds.												x					Related plan of operations, referral procedures, transport and payment schemes

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

COMPONENT - CRITICAL CARE UNITS

OBJECTIVE# 1. Evaluate present critical care services against professionally accepted standards.

OBJECTIVE 2 - Establish formal mutual aid agreements between GMH, NRMC and Pacific Basin facilities to assure critical patient care during disasters and to fill in identified gaps in care where they cannot be provided on island.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVES 1 and 2 to be accomplished within the time frames established relative to the FACILITIES Component - SEE PREVIOUS PAGE				x			x										
							x										
												x					

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES 7. COMPONENT - PUBLIC SAFETY AGENCIES
FY 1981

OBJECTIVE 1, To establish a formal agreement between GMH and DPS to meet regularly to coordinate medical transportation issues.

OBJECTIVE 2 -Establish emergency care (EMT) reivew process

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
a. Meet with Administrator GMH, Fire Chief, Medical Director to establish parameters for regular meetings between DPS ambulance personnel and ER staff.						—								March'81			Parameters
b. Establish membership on GMH/DPS committee						—								March'81			List
c. Appoint members							—							April 15 '81			Appointment memorandum (join
d. Convene meeting .Establish meeting schedule .establish purpose of committee							——	x						May 15 '81			1st meeting Meeting schedule
OBJECTIVE 2																	
Utilize joint committee to establish review topics critique schedules identify physician/RN reviewers									——	——	——	—— x		Sept '81			.Outline of review procedures .Physician/RN Reviewer

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES 8. COMPONENT - CONSUMER PARTICIPATION
FY 1982

OBJECTIVE# 1. Utilize review procedures of GHPDA for any EMS Plan revisions

OBJECTIVE 2 - Hold public hearings on PUFF for EMS development

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
a. Review EMS Plan														31 Oct'81			
b. Update date														31 Oct '81			
c. Add new elements														31 Oct '81			
d. Submit to GHPDA, SHCC EMS Commission for reivew and comment														31 Oct '81			Draft, comments
e. Advertise availability of plan for review by public														31 Oct' 81			Revision
f. Finalize draft		x												30 Nov'81			
OBJECTIVE 2																	
a. Prepare 1203 funding grant			x														
b. Submit to GHPDA request PUFF review				x										15 Jan'82			Application Hearings
c. Submit to A-95				x										15 Jan'82			Application
d. Submit revised application to grants management HHS				x										26 Feb'82			Final application

[X] ORIGINAL

[ ] REVISION

WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES 10. COMPONENT- PATIENT TRANSFER
FY 1982

OBJECTIVE 3-

OBJECTIVE# 1-Assess the Critical Care Capabilities of each hospital.
OBJECTIVE 2 - Eliminate duplication of critical services.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVES 1 and 2 The requirements of these objective may be satisfied by the work planned relative to COMPONENT 4. FACILITIES OBJECTIVE 3 Determine the number and types of patients presently being transferred off-island for care-enter into written agreements with off-island facilities where services cannot reasonably be provided on island.												x		30 Sept.'82			Written agreements

[X] ORIGINAL

[ ] REVISION

WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES 11. COMPONENT-COORDINATED PATIENT RECORD KEEPING
FY 1982

OBJECTIVE# 3 To evaluate and upgrade emergent patient care audits

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 3																	
Determine whether emergent patient care audits are being performed														30 Oct '81			
Evaluate			X											31 Dec'81			Evaluation Recommendations
Upgrade-determine required resources to do so-may require add on to OHS FY'81 Grant							X							30 Apr			Resources required
Apply to OHS or HHS if necessary																	

[X] ORIGINAL

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WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

OBJECTIVE# 1. To develop information for visitors and residents which describes the EMS system.

12. COMPONENT - PUBLIC INFORMATION AND EDUCATION

OBJECTIVE 2-To develop, in conjunction wit Red Cross and the Guam Heart Association a list of courses offered in various levels of self help.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
a. Develop brochures describing EMS system, location of Facilities, Telephone access. Advice on how to handle emergency situation			x														Brochures
Brochures printed in Japanese, English, Chamorro and Tagalog (Filipino)																	
b. Print Brochures				x													
c. Distribute .Public Facilities .Hotels .Airlines					x												
OBJECTIVE 2																	
a. Develop list of courses with dates, times and locations			x														Brochures
b. Print Brochure				x													
c. Distribute .Schools .GMH .GCC .DPS .NRMC					x												

[X] ORIGINAL

[ ] REVISION

WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

12. COMPONENT - PUBLIC INFORMATION AND EDUCATION (cont'd)

OBJECTIVE 3 - Evaluate pile program by measuring increased EMS system utilization, increase in persons trained.

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 3																	
Evaluate Increases system use Increased enrollment in courses												x		30 Sept'82			Evaluation

[X] ORIGINAL

[ ] REVISION

WORK PROGRAM OFFICE OF EMERGENCY MEDICAL SERVICES
FY 1982

13. COMPONENT - EVALUATION

OBJECTIVE# 1- Establish Evaluation Committee

TASK/MILESTONE DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	START	COMPLETE	ACTUAL START	ACTUAL COMPLETE	PRODUCT/EXPLANATION FOR REVISION
OBJECTIVE 1																	
a. Establish committee at Oct. EMS Commission meeting-membership should include one member from GHPDA	x													15 Oct'81			Establish Committee
b. Hold first meeting		x												15 Nov'81			First meeting
Develop reporting schedule to monitor oEMS work program			x	x	x	x	x	x	x	x	x	x					Review schedule