HEALTH NEEDS ASSESSMENT

OF NORTHERN GUAM

By

Lawrence F. Kasperbauer

Professor of Sociology and Director

Community Development Institute

University of Guam

College of Agriculture and Life Sciences

in cooperation with

Guam Health Planning and Development Agency

Agana, Guam

Project No. GHPDA 79-304

Community Development, Report No. 9

Community Development Institute

College of Agriculture and Life Sciences

University of Guam

July 25, 1980

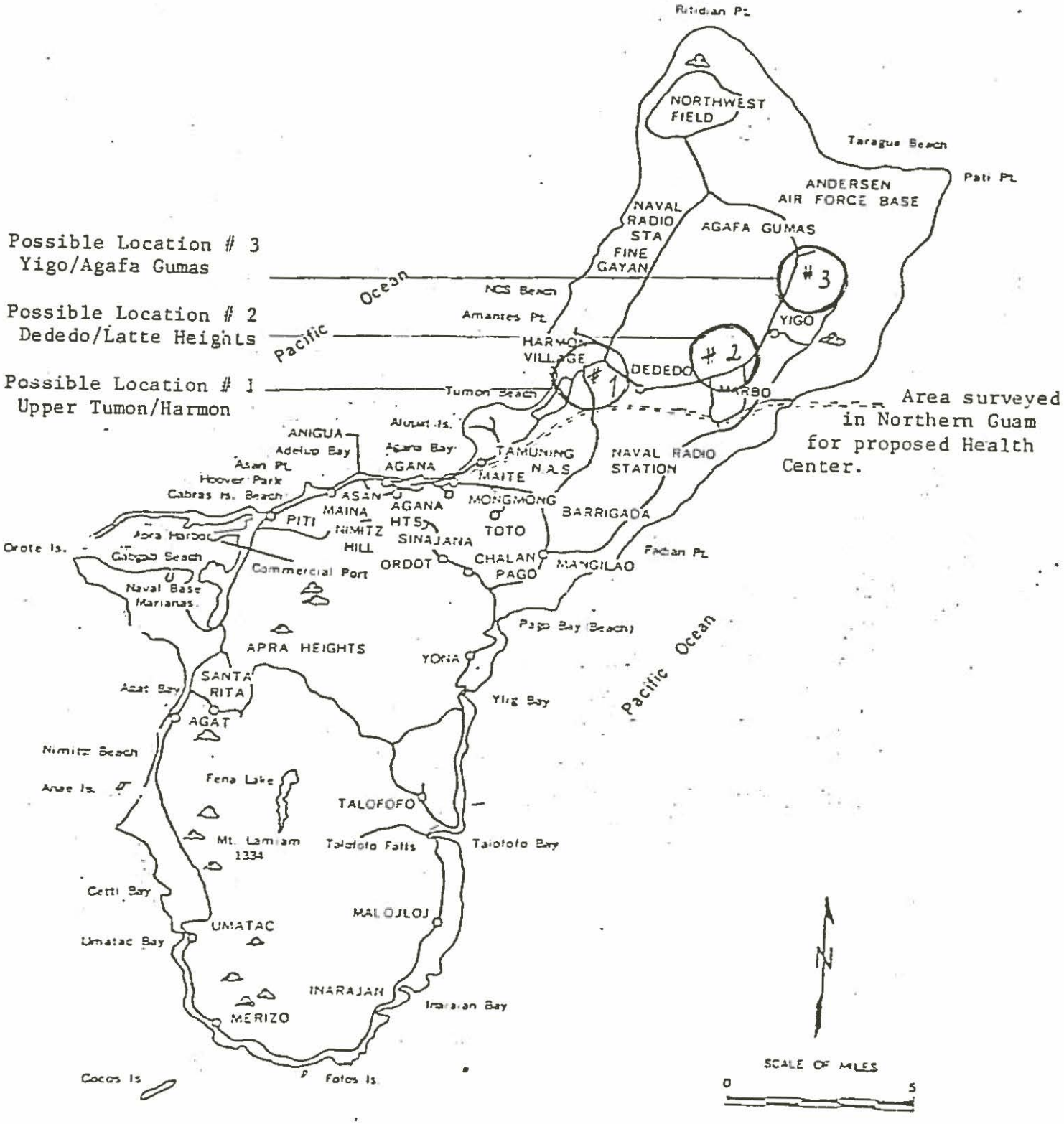
TABLE OF CONTENTS

Page

LIST OF TABLES

MAP OF SAMPLE AREA AND POSSIBLE LOCATIONS
FOR PROPOSED HEALTH CARE CENTER

(Figure 1)



TERRITORY OF GUAM

HEALTH NEEDS ASSESSMENT OF NORTHERN GUAM

By Lawrence F. Kasperbauer[1]

Introduction

It has often been suggested that those who have the greatest need for a service, tangible object, or special message of some sort, probably are the last to receive it. The health care and services in a state or county seems to fit this model too well.

It is an established fact that the concentration of medical professionals and facilities in the urban centers in contrast to the rural areas results in a disproportionate physician-patient ratio as well as a difference in the quality of services available. The constraints of time, availability of transport and general health awareness could logically become an even greater problem in the future for ruralites in view of limited energy resources.

With the increasing cost of travel, the already established difference between urban and rural living could become even more pronounced if the concept of having to travel to the populated urban areas for medical care continues. Proponents for improved rural health care have

---

1/ The author is the Director of the Community Development Institute, Cooperative Extension Service and Professor of Sociology at the University of Guam. The data for this study were gathered by the Institute's Social Research Survey Team of which the author is the leader. Dr. Randy Workman, Assistant Professor of Sociology at the University of Guam and Research Affiliate of the Community Development Institute was primarily responsible for developing the interview schedule and the analysis of the data including the writing of the computer instruction for using the SPSS Program. Ulla-Katrina Craig served as Project Assistant and was responsible for coordinating the field interviews and assembling of the data from which this report was written.

continued to lobby for a redistribution of medical facilities and personnel from cities to the lesser populated agricultural areas. Those who believe that every resident of the state and nation is entitled to at least a minimum level of health care have also made special efforts to bring improved medical help to the hinterlands. Although there are no cities on Guam, the central region of Agana and Tamuning serve as the primary center of private business and governmental services. This includes the medical clinics and hospitals. Without a mass transportation system, many of the 48,610[1] residents of the northern portion of the island, no doubt like those from the other outlying municipalities, find themselves in a situation similar to rural America or distant suburbia. That is, needed health care may be dismissed due to the time and additional travel expense and hardship required to obtain it.

The Problem

The villages of Dededo and Tamuning ranked first and third respectively among the twelve that showed a growth in population since the 1970 Census count.[2] Dededo, which is reported to contain 22.4 percent of the total island population, gained 120 percent over the past 10 years while in Tamuning there was a 32 percent increase. Yigo, with 10,424 persons counted in 1980, lost approximately 1,160, or 10 percent,

1/ United States Department of Commerce, Bureau of Census. Preliminary 1980 count of Dededo, Tamuning and Yigo. An additional 1,000 persons were estimated to be residing in the Latte Heights area at that time.

2/ Ibid

from the time of the 1970 count. Because this geographical area contains the major portion of the U. S. Air Force personnel on the island, the loss in population was most likely a function of the reduction in military forces on the island over the past 10 years. There does not appear to be any reason for the shift in the population from various villages to the northern part of Guam to cease in the forseeable future, nor for any change in the rapid increase in this region due to immigration.

Various reports including a recent immunization level survey[1] showed that preventive health care, as reflected in the lack of complete immunization against childhood diseases, was obviously needed among residents in the Dededo-Yigo area. It was also learned that certain families were without means of transportation and therefore were unable or considerably limited in their ability to obtain health care. Through general conversation with the village commissioners, other leaders, and residents of northern Guam, a need for a medical facility in the areas has been expressed.

To determine the actual need for a health facility and the type of health services it might offer, the Guam Health Planning and Development Agency contracted the Community Development Institute to conduct an in-depth survey of a sample of the population of northern Guam. The findings of such research would provide data for a reassessment of the need for such a facility. The Guam Health Planning and Development Agency and other organization would therefore have an up-to-date

---

1/ Immunization of Guam Children Under Ten Years of Age: A Statistical Report, Kasperbauer, L. F., Community Development Institute Report No. 2, University of Guam, March 31, 1979.

set of data upon which to make further recommendation concerning means for the improvement of the quality of life of the people of northern Guam.

Objectives

This report concerns the health needs of the people of northern Guam. The village areas to be studied were Yigo, Dededo, Latte Heights, Tamuning, and Agafa Gumas.

The specific objectives were to determine:

1. The health status of the residents;
2. The types of health services/facilities currently available;
3. The acceptability, accessibility, cost, quality, continuity of health services which are currently available in the five specified areas;
4. The types of health services and/or facilities which are needed in the five specified areas;
5. The types of resources (manpower, equipment, facilities, services), which are currently available and are needed in the five specific areas, or combined areas under a given facility within the next five years;
6. The types of funding resources available to the government and the resources of such funding; and
7. The alternative and/or option available for the delivery of health care services.

In addition, the objectives of the study called for:

8. The proposing of recommendations/action plan; and

9. The summarizing of the findings and the recommendations.

The research instrument was designed to gather as much pertinent information as possible to satisfy these objectives.

SAMPLE AND METHODOLOGY

Sample

The health needs survey was designed to represent the northern part of Guam. The village areas were Tamuning, Dededo/Latte Heights, and Yigo including Agafa Gumas (Figure 1).

The basic sample unit in this study was the household. According to a Labor Department Quarterly Survey[1] there were a total of 8,590 households in the Dededo, Tamuning, and Yigo areas during March of 1979. However, the number of housing units shown on the September 1979 Labor Department maps[2] of these three village areas numbered 7,741. Descrepancies between the two sources were noted in Tamuning and Yigo. Due to the large number of multiple housing units in Tamuning, the map figures underrepresented households. In the case of Yigo, an increase in GHURA and other housing developments more than likely accounted for the larger number of housing units on the map as compared with the Labor survey conducted six months earlier. An additional 200 units were added to the Dededo and total figures for the Latte Heights area. Since Agafa Gumas is considered to be within the Yigo area, no additional adjustments were necessary.

1/ Guam Department of Labor, Government of Guam, "Tenure of Housing Unit by District, March 1979."

2/ The Guam Department of Labor has developed structure location maps of each village for use during their quarterly employment surveys.

The Confidence Interval[1] method was utilized to determine the minimum required sample size for the survey. When estimating the total number of households to be 8,845[2] for northern Guam, the required sample size was calculated to be 341 or 3.85 percent of all households. However, at the request of the Guam Health Planning and Development Agency, a larger sample 455 or 5.14 percent was obtained to ensure a greater degree of confidence in the survey findings (Table 1).

Methodology

Twenty interviewers received intensive training by the Community Development Institute staff. Both male and female interviewers were utilized, ranging in age from 18 to the mid-50's. The ethnicity of the interviewers was as follows: three Chamorro/Guamanians, seven Filipinos, four Statesiders, three Chamorro-Statesiders, one Chamorro-Japanese, one Chamorro-Spanish, and one Japanese-Statesider. Languages spoken by the interviewers included all the major languages used on the island.

Copy of survey instrument appears in Appendix B.

1/ The equation used was $n = \frac{n_o}{1 + \frac{n_o}{N}}$ A detailed explanation of the equation appears in Appendix A.

2/ The largest figures per village were used. Included were 4,460 for Dededo/Latte Heights, 3,050 for Tamuning, and 1,335 for Yigo.

The training period for the interviewers began on December 8, 1979 and was followed immediately with field interviewing which continued through February 15, 1980. Interviewing was done all seven days of the week, during the mornings, afternoons and evenings. Length of interviews ranged from forty minutes to two hours and thirty minutes with an hour and 26 minutes being the average time required. The longest interview was necessary in the household that contained 17 members. This was the largest among the 455 surveyed. Little difficulty was encountered in obtaining interviews. Excellent cooperation on the part of the interviewees was obtained. Little difficulty, if any, was experienced with dogs, hostilities of any nature or inclement weather.

The greatest difficulty encountered centered primarily on locating the designated sample households. This was particularly the case in the rural parts of Dededo and Yigo where roads are not named and houses do not carry numbers. This, coupled with inaccuracies of the maps, resulted in considerable additional time needed to locate the persons to be interviewed. Locating persons at home tended to be more difficult during the weeks prior to Christmas and during Christmas week itself.

Interviewers were paid $4.50 an hour without compensation for mileage. Due to the need for several call back attempts, difficulty was experienced in retaining interviewers who were required to travel the interior roads and trails of the agricultural regions. A minimum of

two call back attempts was required before a predetermined substitution in the sample could be allowed.

The survey procedure called for the interview to be conducted with an adult member of the household. This was achieved in most of the cases. The exceptions being when an adult requested a teenager from the household to serve as an interpreter or translator on the interviewee's behalf. An attempt was made to utilize computer scanner sheets in the data analysis process. In addition to being extremely time consuming, other difficulties were encountered and this method was abandoned. Other problems were encountered in preparing the data for analysis. However, the Statistical Package for Social Sciences (SPSS) was utilized.

A total of 455 households with 2,236 individuals were studied. Data obtained during the interviews are presented in the Findings section of this report.

DISCLAIMER

The views and interpretations presented in this report are those of the writer and do not necessarily represent the views of the Guam Health Planning and Development Agency.

TABLE 1

DETERMINATION OF NORTHERN GUAM HEALTH NEEDS SURVEY SAMPLE

Village Area	(A) Housing Units from Labor Statistics (March 1979)	(B) Housing Units on Maps (September 1979)	(C) Estimated Housing Units (December 1979)	(D) Number of Household (Interviews)	(E) % (D) of (A)	(F) % (D) of (B)	(G) % (D) of (C)
Dededo/Latte Heights	4,460	4,423	-	255	5.72	5.77	
Tamuning/Upper Tumon	3,050	1,983	-	124	4.07	6.25	
Yigo including Agafa Gumas	1,080	1,335	-	76	7.04	5.69	
TOTAL	8,590	7,741	8,845	455	5.30	5.88	5.14

SOCIAL-ECONOMIC CHARACTERISTICS

Introduction

This report contains health care needs and other personal-social information about 2,236 individuals from 455 randomly selected households in northern Guam. The northern area contained nearly half, 45.94 percent of the entire island's population.[1]

Certain data reported herein pertains to the entire 2,236 members of the research survey, while in other instances it specifically describes the 455 persons interviewed (one from each household sampled).

The survey data are presented in table form. Categorical frequencies and percentages are given. Each section of this report contains a narrative presentation and summary of the findings. To facilitate reading and comprehension, the tables pertaining to the discussion have been placed immediately following the discussion at the end of each Sections rather than in the Appendices.

The sex ratio and age distribution of the 2,236 persons in the study are presented first. This information is followed by a description of the geographical distribution of the 455 sample units (households) and various personal-social data of the 455 persons interviewed. This includes the sex ratio, age, ethnicity, education level, average annual income, marital status, relationship to head of household,

1/ United States Department of Commerce, Bureau of Census, 47,610 plus estimated 1,000 in the Latte Heights area out of the total island total of 105,816.

family size, and the number of dependent children.

Sex Ratio of Total Count

As is found throughout the world, the known sex ratios of young populations are very similar to that found on the island of Guam. In this study, a slightly larger percentage were males (52.1) than females (47.9). The reason for this difference in the sex ratio has been well established throughout the history of man. The chances of a male being born is approximately 105 for every 100 females (Table 2). The impact on these ratio data from the predominantly male alien labor force and military personnel would be minimum since the sampling design included only household dwellings located in the civilian community.

Age of Total Count

The median age of the 2,236 individuals studied was found to be 19 years. This figure tended to be consistent with the overall median age of the population of the entire island.

As reported in Table 3 , slightly under two-thirds, 63.9 percent, were under 30 years of age and about three-fourths were under 40. A closer review of the table reveals that about five percent were 60 years of age or older. This figure, too, is in agreement with the island as a whole. These findings support the assumption that the population of Guam is a very young population, being nearly 11 years below the median figure for the United States as a whole.

Geographic Distribution

Presented in Table 4 is the geographic distribution of the households involved in the study. As may be noted, approximately half, or 52.5 percent, resided in the municipality of Dededo. The next largest percentage of sample members were from Tamuning. Twenty-seven percent of the respondents came from that geographical area. The number of persons interviewed in the Yigo/Agafa Gumas area represented 17.2 percent of the total. The remaining 3.3 percent of those surveyed were from Latte Heights.

The actual number of households in the Tamuning area would justify a slightly larger percentage of respondents. However, the households not included in the survey from the Tamuning area were in multiple-unit dwellings, such as the major condominiums where difficulty was encountered in gaining entrance to the apartments or in finding persons at home. In view of the transient nature of many of the occupants of such dwellings and the physical location in Tamuning where the island hospital and most physician's offices are located, it was decided to allow the sample to be slightly under represented in the Tamuning area. As a result, a somewhat larger proportion of those surveyed came from Dededo and Yigo/Agafa Gumas area. In view of the population growth trend in northern Guam, the sample distribution will probably coincide with the actual distribution within the next few years.

Sex Ratio of Respondents

Upon analyzing the information obtained from the 455 respondents, it was found that 192, or 42.2 percent, were males. A slightly larger number of those interviewed, 263 or 57.8 percent, were females. The somewhat similar percentages are of interest in themselves. The fact that the interviewers were allowed to select as their respondent any adult in the household who chose to answer the questions when called upon, and further the possibility of the interview taking place at any time during the day or the evening, it was somewhat of a surprise to find the sample including such a large proportion of males. This might suggest that there is little difference in the availability of males and femlaes when contacted at their home. In view of the large percentage of women on Guam who are employed, this finding should not have been unanticipated. The sex ratio of the respondents differs only slightly from that of the actual adult population of the island. For the island as a whole, 48 percent are males 18 years of age or older, while 52 percent are females (Table 5).

Age of Respondents

The persons interviewed were also asked to report how old they were. The eldest person interviewed was 78 years of age, while the youngest was 13. Several children under 18 years were interviewed in cases where the adults of the household requested to have the younger persons respond to the questions on their behalf due to a language or

other difficulty involved in being interviewed. As shown in Table 6 more than half, 53.7 percent, were under 40 years of age. The largest proportion, 27.3 percent, were in the 30 to 39 age bracket. The average age of all 455 persons interviewed was 39.7 years. As is also shown in Table 6 , 8.7 percent of the respondents were 60 years or older. This percentage initially may seem larger than anticipated when comparing the sample to the total portion of elderly in the Guam population. In 1978 about 5 percent were age 55 or older. However, those interviewed in this study were to be adults. Therefore, the proportion of older persons from the total interviewed would be greater than the number found in the population at large.

Ethnicity

The persons interviewed were asked to identify themselves with different ethnic-racial categories. The categories were printed on a five inch by eight inch card that had been handed to them. The categories on the card were: Chamorro/Guamanian, Trust Territory Islander, Filipino, Caucasian/Statesider, Japanese, Korean, Chinese, and other. If they considered themselves to be "other," they were further instructed to specify their ethnic origin. The ethnicity of the 455 interviewees is presented in Table 7. As may be observed upon inspecting this table, residents of northern Guam identify with a large range of ethnic groups. Of the 13 different categories mentioned, approximately the same proportions were Chamorro and Filipino. A slightly large number, 39.8 percent, called themselves Filipino, while 38.1 percent said they were

Chamorro-Filipino, 0.9 percent or 4 persons, said they were Chamorro-Japanese, and 2 others indicated that they were of mixed Chamorro and other blood. The next largest single category of subjects in the study was that of Caucasian/Statesiders. This group comprised a total of 11.6 percent of all of those surveyed. The majority of these were located in Tamuning, Yigo, and Latte Heights. Other ethnic representation included Trust Territory Islanders, Japanese, Korean, Chinese, Vietnamese, Hawaiian, Spanish, English, German, and Italian. The larger proportion of Filipinos and Caucasians in this survey approximates the geographical concentrations of these two ethnic bodies on the island as a whole.

Educational Level

The average number of years of school completed by the persons included in this study was 11.7, or slightly short of a high school degree. This figure was found to be consistent with the high average level of education for the people of the island as a whole. This would be particularly true for the villages of Tamuning, parts of Yigo, Latte Heights, and part of Dededo, which are heavily populated with persons in the professional trades that require higher levels of education. Information about the education level of the respondents is included in Table 8. Only about 6 percent of the sample had less than 6 years of formal schooling, while approximately the same percentage, 5.1, had more than 16 years of education. This would be equivalent to two years beyond a college bachelor's degree. More than

one-third, 36.3 percent of the respondents had completed school beyond the high school level, while 80.5 percent had finished at least 10 to 12 years of school. These findings would quite clearly show that most households in northern Guam have at least one person with a relatively high level of education. This information should be of particular value for anyone planning an educational type program designed to meet particular needsof the northern population.

Average Annual Income

The income level of the sample members was also determined. In an attempt to obtain a valid response, the question pertaining to income was included near the end of the interview after rapport should have been more than adequately established with the interviewee. In addition, the persons being interviewed were presented a flash card* which had income categories on it, ranging from $1 to $3,000, the lowest category, to the highest category of $35,000 per year or more. The annual income categories were also broken down on the card presented to the respondent into equivalent bi-weekly pay classifications. The interviewees were then asked to indicate which categories their annual income corresponded with. Because of this approach it is believed that a relatively high response rate was obtained to this generally sensitive question. Four hundred and five out of the total of 455 subjects provided information about their earnings. This included 117 individuals who did not have any income at all. The income categories, number of respondents in each and the percentage that each

* Presented in Appendix C.

category is of the total, is reported in Table 9 . As may be noted, the average income of the 288 respondents who reported having an income was $12,938. However, when including the 117 persons with no income at all with those who did report an income, the average annual income was $9,200 for the 405 persons involved. It was observed when reviewing the interview schedules that most of the persons who reported having no income were women who more than likely were housewives in a household where their spouse or some other member of the household were earning a salary. These data include only the income of the person being interviewed and do not provide information about income received by all members of the household combined.

Marital Status

Those being interviewed were also asked to indicate their marital status. On reviewing the results of the survey, it was found that 13.9 percent stated that they were single. Approximately three-fourths, 75.8 percent, were married, either for the first or second time, or more often. An additional 5.5 percent were either separated or divorced, and the remaining 4.8 percent indicated that they were widowed. When combining this information as shown in Table 10 , one may find that three-fourths of the respondents were married at the time of the interview and one-fourth were without a marriage partner.

Relationship to Head of Household

As may be observed upon inspecting Table 11 , slightly under half of those surveyed, 46.4 percent, indicated that they were the head of household. Of these, 41 were females, or in other words, 19.4 percent of all households were headed by females. An additional 40 percent, with the exception of one person, said that they were the wife of the head of the household. An additional 9.1 percent were either sons or daughters of the head of the house, while the remaining approximately 4.5 percent were either son- or daughter-in-laws, brother- or sister-in-laws, mothers or mother-in-laws, brothers, cousins, granddaughters, nieces, or roommates of the household head. Only one or a few individuals were in each of theses categories.

Family Size

Although it is commonly believed that the average family size of persons living on Guam is quite large compared to stateside standards, surveys seem to prove otherwise.[1] This study is no exception as may be noted upon inspecting the data presented in Table 12 . The average family size of the 455 households was 4.86. In 5.3 percent of the cases, there was only one person in the household, while in the largest

---

1/ The preliminary 1980 Census population counts for Guam showed the average household size to be 3.75 for the island as a whole. For the northern area of Tamuning, 2.83, Dededo, 4.26, and Yigo, 3.60, the average figure was 3.6. Military housing was included. These Census figures differed, however, from the March 1979 Guam Department of Labor Employment Survey. It found the average household size in Tamuning to be 4.1, in Dededo 4.9, and in Yigo 4.2.

household there were 17 members. A slightly larger number of persons per household might be expected in this survey of the northern part of Guam because it excluded military housing and the high concentration of sample members in the Dededo area. In this particular section of the island a larger number of extended families is known to exist, where in many cases adult children are living with their parents and grandparents in the same residence; 16.3 percent of the households contained three persons. This was the single largest category.

Dependent Children

Contained in Table 13 is a statistical breakdown of the number and proportion of households studied with or without dependent children. As may be observed, almost one-fourth, 22.6 percent, of the households were without dependent children at the time of the interview. This included those cases where the children had left the home, those who were expecting their first child and others who had remained childless. It may also be noted that 29.5 percent of the households had only small children under 10 years of age while 16.7 percent contained children only in the age range of 10 to 18.

Nearly one-third, 31.2 percent,of the households had two or more dependent children with at least one age nine and under and at least one 10 years or older.

When viewed from another perspective it is of interest to find that there were children under age 10 in 60.7 percent of the cases. Almost half, 47.9 percent,of the households contained at least one child between the ages of 10 and 18.

Summary

This report contains information about 2,236 persons from 455 randomly selected households in northern Guam. More than half, 52.1 percent were males. This Sample of Guam residents were on the average 19 years old. This, too, is the median age of all persons on Guam but considerably less than the median age of nearly 30 found in the States.

When reviewing the basic social-economic data of the 455 respondents included in this survey of the northern part of Guam, it was found that slightly more than half were from the Dededo area, and approximately one-fourth was from Tamuning, with the remainder from the Yigo/Agafa Gumas and Latte Heights areas.

Nearly an equal number of males and females were interviewed, with females being slightly in excess of the males. The average age was 40 years. Because of the higher concentration of Filipinos and Caucasian/Statesiders in the northern part of the island, these two categories made up larger proportions of the respondents than one would find when analyzing the island as a whole. The sample contained slightly more Filipinos than Chamorro/Guamanians, and 11.6 percent were Caucasian/Statesiders. A long list of ethnic categories were represented by the persons interviewed.

It was not surprising to find that the average number of years of school completed was approximately equal to a high school education. This was not different from expected in view of the composition of the population in the northern part of the island. The annual income

of the 282 respondents who reported an income was $12,938. However, as noted above, the annual incomes reported were for the respondents and not the combined earnings for all members of a household. Approximately three out of every four persons interviewed were married, while of the remaining one-fourth approximately half were single, while the remainder were separated, divorced or widowed. In slightly less than half, 46.4 percent of the cases, the person interviewed indicated that he was the head of the household. And, an additional forty percent mentioned that they were the spouse of the household head. The remainder in nearly all cases were consanguine family members. From these data it would show that nearly one-fifth of all household heads were females.

Family sizes varied by household from one person to as many as 17. The average of 4.86 was found to be slightly greater than the 1980 preliminary census figures but similar to the Guam Department of Labor findings. However, due to the number of extended families in the Dededo area and the omission of military housing units from the sample, the figures seem appropriate for this part of the island. In addition, the slightly smaller proportion of single household representations, 5.3 percent, could be a function of the type of dwelling actually included in the sample. As mentioned earlier, an underrepresentation in the apartments, the condominiums and large multiple dwelling complexes, where one might expect to find single persons, were least likely to be included in the study.

More than one of every five households did not have dependent children. Out of the 455 households studied there were children under 10 years of age in six of every ten. Nearly half of the households contained children in the 10 to 18 age range.

TABLE 2

SEX RATIO OF TOTAL COUNT (Q. 1c)

SEX	NUMBER	PERCENT
Male	1,164	52.1
Female	1,072	47.9
TOTAL	2,236	100.0

TABLE 3

AGE DISTRIBUTION OF TOTAL COUNT (Q. 1b)

AGE	NUMBER	PERCENT
Under 10	529	23.6
10 - 19	594	26.6
20 - 29	306	13.7
30 - 39	260	11.6
40 - 49	227	10.2
50 - 59	215	9.6
60 - 69	76	3.4
70 - 79	24	1.1
Over 80	5	0.2
TOTAL	2,236	100.0

TABLE 4

GEOGRAPHIC DISTRIBUTION OF SAMPLE

AREA	NUMBER OF HOUSEHOLDS	PERCENT
Dededo	239	52.5
Latte Heights	15	3.3
Tamuning	123	27.0
Yigo/Agafa Gumas	78	17.2
TOTAL	455	100.0

TABLE 5

SEX RATIO (Q.1c)

SEX	NUMBER	PERCENT
Male	192	42.2
Female	263	57.8
TOTAL	455	100.0

TABLE 6

AGE (Q. 1b)

AGE	NUMBER	PERCENT
Under 20	28	6.2
20 - 29	92	20.2
30 - 39	124	27.3
40 - 49	87	19.1
50 - 59	84	18.5
60 - 69	33	7.2
Over 70	7	1.5
TOTAL	455	100.0

$\overline{X}$ Age - 39.7 years

Age Range - 13-78

TABLE 7

ETHNICITY (Q. 52)

ETHNICITY	NUMBER	PERCENT
Chamorro/Guamanian	173	38.1
Filipino	181	39.8
Caucasian/Statesider	53	11.6
Trust Territory Islander	11	2.4
Japanese	8	1.8
Korean	4	0.9
Chinese	2	0.4
Vietnamese	3	0.6
Hawaiian	2	0.5
Chamorro/Filipino	8	1.8
Chamorro/Japanese	4	0.9
Chamorro/Spanish	1	0.2
Chamorro/Spanish/English	1	0.2
German	2	0.4
Italian	1	0.2
English	1	0.2
TOTAL	455	100.0

TABLE 8

EDUCATION (Q. 50)

YEARS OF EDUCATION	NUMBER	PERCENT
Under 6 years	26	5.8
6- 9 years	62	13.7
10 -12 years	200	44.2
13 -16 years	141	31.2
Over 16 years	23	5.1
TOTAL	452	100.0
Insufficient Data	3	

$\bar{X}$ number of years of school attended was 11.7

TABLE 9

INCOME (Q. 48)

INCOME	NUMBER	PERCENT
No income at all (0)	117	28.9
$1- $3,000	15	3.7
$3,001 - $7,830	62	15.3
$7,831 - $11,130	60	14.8
$11,131 - $14,430	59	14.6
$14,431 - $17,730	37	9.1
$17,731 - $25,000	33	8.1
$25,001 - $35,000	12	3.0
More than $35,000	10	2.5
TOTAL	405	100.0

$\overline{X}$ income of those having an income (N=282) - $12,938.

$\overline{X}$ income of those answering question (N=405)- $ 9,200.

TABLE 10

MARITAL STATUS (Q.44a)

MARITAL STATUS	NUMBER	PERCENT
Single	63	13.9
Married once	305	67.2
Married more than once	39	8.6
Separated	11	2.4
Divorced	14	3.1
Widowed	22	4.8
TOTAL	454	100.0
Insufficient Data	1	

TABLE 11

RELATIONSHIP TO HEAD OF HOUSEHOLD (Q. 2)

RELATIONSHIP	NUMBER	PERCENT
Head	211	46.4
Wife/Husband	182	40.0
Son	18	4.0
Daughter	23	5.1
Son-in-law	1	0.2
Daughter-in-law	7	1.6
Mother	3	0.7
Mother-in-law	2	0.4
Brother	2	0.4
Cousin	1	0.2
Sister-in-law	1	0.2
Granddaughter	1	0.2
Niece	1	0.2
Room-mate	2	0.4
TOTAL	455	100.00

TABLE 12

FAMILY SIZE (Q.1)

MEMBERS PER HOUSEHOLD	NUMBER OF HOUSEHOLD	PERCENT
1	24	5.3
2	49	10.8
3	74	16.3
4	72	15.8
5	67	14.7
6	60	13.2
7	51	11.2
8	21	4.6
9	14	3.1
10	8	1.8
11	5	1.1
13	4	0.9
14	4	0.9
16	1	0.2
17	1	0.2
TOTAL	455	100.1

$\bar{X}$ (Average) 4.86

TABLE 13

DEPENDENT CHILDREN (Q. 1b)

AGES	NUMBER	PERCENT	
Only under 10 Years -- One or more child	134	29.5	
One or more child under 10 years and one or more child in 10-18 age range	142	31.2	60.7
Only in 10-18 years age range -- One or more child in	76	16.7	
No dependent children age 18 or less in household	103	22.6	39.3
TOTAL	455	100.0	

HEALTH STATUS

Introduction

This section of the report includes an analysis of the responses to the various questions which pertained to the general health status of the population of northern Guam. The 455 persons interviewed were asked about visits to doctors and illnesses in the family. Questions concerning other health related matters were also asked.

To determine the current health condition or status of the people in this survey, the information obtained during the interviews was for the time period which included the day of the interview and the 13 days immediately preceeding it.

Health status data were obtained on the entire study population of 2,236 individuals who were members of the 455 households surveyed.

A narrative discussion of the health status findings follows in this section of the report. It concludes with a series of tables that contain the frequencies of responses and their respective percentages.

Included in the discussion is the extent to which hospitalization was necessary. If it was not necessary for the persons to go the the hospital, questions were asked about the severity of their illnesses and the extent to which it was necessary for them to stay at home to remain in bed, or to reduce their normal activities, such as work or to attend school. Questions were also asked to determine the causes of the types of illnesses the subjects of the survey had had. Along with the

cause of the illness, it was also determined if the condition causing the illness still persisted. To determine the level of difficulty involved in obtaining medical attention, the 455 persons interviewed were to indicate where their doctos were located and the number of required doctor visits.

Other questions to determine the health status of the population of northern Guam pertained to visits to the doctors' office for preventive health care.

Immediate Past Hospital Care

The 455 persons interviewed, one from each household, were asked if anybody in their household had stayed in the hospital during the immediate prior two weeks. As shown in Table 14, information was received for 2,236 individuals. Of these, 21 had been in the hospital. This was approximately one percent of the total.

The follow-up question concerning the hospital that they had stayed in showed that nearly three-fourths, or 15 of the 21, had been placed in care of the Guam Memorial Hospital. The remaining 28.6 percent were in the Navy Regional Medical Center. (Table 15).

The number of days that the persons were hospitalized ranged from one to fourteen during the two weeks immediately before the interviews were taken. As shown in Table 16, 28.6 percent only stayed one day, while approximately half required from one to five days. About one-fourth, or five out of the 21, were hospitalized for more than ten days. When multiplying the number of days that a person stayed in a hospital times the number of persons who had been hospitalized, the total number of mandays in the hospitals was found to be 126. The avagerage length of hospital confinement during this specific two week period was six days.

Bed Care at Home

Included in Table 17 are the data pertaining to the number of persons in the survey who were required to stay in bed due to illness at sometime during the two weeks prior to the survey. Of the 2,231 persons for which data were obtained, 2.6 percent fell into the category of requiring sick bed care. When asked how many days these 58 persons were required to remain in bed, the responses varied from one to fourteen days. The median number of days was between two and three. Approximately 14 percent required bed care for more than a week, and of these 5.2 percent were in bed for the entire two weeks prior of the survey. This information is included in Table 18.

Reduced Activities

The 455 persons interviewed were also asked to indicate the number of days the persons in their household had been required to cut down on their normal activity during the two weeks just prior to the interview. As noted in Table 19 , 73 persons, or 3.3 percent had to reduce their activity due to illness.

These 73 persons had to reduce their activities for a range of one to fourteen days during the specified two-week period. Slightly more than one-fourth reduced their usual behavior only during one day, while an additional 23.3 percent did so for two days. This made up just slightly more than half of all the persons who found it necessary to reduce their normal activity. The number of mandays affected by reduced activity was calculated. It was found that the

Total was 266 for the two-week period (Table 20).

Table 21 contains a composite of the 152 persons who, during the two-week period prior to the survey, were either sick in the hospital, sick in bed at home, or had to reduce their activities due to illness. As may be noted, the percentage breakdown was 13.8 percent for those requiring hospitalization and 38.2 percent for those who had to stay in bed. Nearly half, or 48 percent of the 152, had to reduce their activities due to illness.

Work Days Lost

In this survey of northern Guam it was found that 64 persons were unable to report to work one or more days during the two weeks prior to the survey. This information is shown in Table 22. Approximately half missed work from one to four days, while the remaining portion missed from five to ten days of work during the two-week period. It may be further observed that 4.7 percent, or three out of 64, were not at work during the entire two weeks prior to the survey. A further inspection of the tables would indicate that 25 percent, or one out of four of these persons, was absent from work for six or more days out of the two weeks. A total of 254 mandays of work absenteeism was experienced by these 64 people over the two-week period for an average of four days each. Upon inspecting the distribution of frequencies in the table it may be concluded that chronic illness may be rather extensive. As is reported, only 10.9 percent of those who missed work missed only one day.

School Days Lost

Shown in Table 23 are the number of persons and the number of days that they missed school due to illness during the two weeks prior to the survey. About one-third missed one day, while slightly under one-half missed one or two days. Approximately 24 percent did not attend school more than half the time out of the two-week period. A total of 167 school days were lost due to illness.

Persons Sick Who Were Not Employed Or Going to School

Of those who do not normally work or attend school, 42 were unable to continue their normal activity at sometime during the two-week period. This primarily included pre-schoolers, unemployed housewives, and retired persons.

Causes of Illness

The list of causes of illnesses of the 152 people in this study who reported a condition is presented in Table 24. Clearly the leading cause of illness was listed as common infections. This was listed as the cause of illness by nearly two-thirds of those who reported having a problem. The next most frequently mentioned causes of health problems were heart difficulties, high blood pressure and related diseases. Ten persons, or 6.5 percent of the 152 people gave this as their reason for being ill. A like number and percentage mentioned that they had not felt well, but were unable to give specific reasons

or causes for the illness. The fourth largest category, 5.3 percent, mentioned respiratory, nose and throat ailments as the causes of their illness. All of the remaining causes that were identified total 17.2 percent.

Duration of Illness

The 152 persons who indicated that they had been ill were further asked how many months had elapsed since their condition had appeared. Their answers to this question are reported in Table 25. Approximately four out of five, 79.6 percent answered the question by indicating that their condition had developed only during the prior month. An additional two percent said that theirs had developed during a period of one to four months earlier, and 15.1 percent, stated that their condition had developed eight months or more prior to the survey.
When the respondents who indicated that they had had an illness during the prior two-week or the foregoing year were asked if their illness still persisted, slightly more than one-fourth, 26.8 percent indicated that they still had the condition. The remaining 73 percent gave an answer of "no" (Table 26).

Consulted Physician

The 152 persons who had been ill were also asked if they had consulted a doctor for their illness. More than one-third, 36.2 percent, had indeed contacted a doctor. The remaining 63.8 percent gave a negative response. These findings are shown in Table 27.

Geographical Location of Doctor

The 54 persons who indicated that they had consulted a doctor for their illness were asked where their doctor was located. More than 16 different clinics and offices were mentioned. These, along with the number of persons who mentioned each, and the percentage each is of the total, is shown in Table 28. As may be observed from inspecting the table, ten of the 54 persons, or 18.5 percent listed FHP Medical Center as the location of their doctor. Another 16.7 percent gave the Trade Center Medical Clinic as the location for theirs. The Guam Memorial Hospital was mentioned by 13 percent and the same percent stated that they saw a physician at the International Medical Group offices.

Number of Visits to Doctor

The 54 persons who had consulted a doctor were also asked how many times they had made doctor visits during their illness. The response to this question is presented in Table 29. As may be noted, more than half, or 55.6 percent, mentioned that they had consulted with the doctor only once, an additional 24.1 percent had contacted their doctor twice, and the remaining approximately 25 percent had been to see their doctor three or more times. Of these, 9.3 percent had consulted their doctor eight or more times during this time period.

Other Household Members Visits With Doctor

The 455 subjects interviewed in this study were asked, in the cases where they had indicated illness in the family, whether any other members of the family besides the ones already discussed had visited a doctor during the previous two weeks. As shown in Table 30, an analysis of the responses showed that 173 well persons out of the total study had indeed visited a doctor for routine examinations, check-ups, consultation, x-rays or immunization. The information shown in Table 31 reveals that these persons who had also consulted a doctor tended to go to the same offices as previously reported. This would suggest the possibility of a family doctor or the prevalence of clinics. FHP doctors were consulted in 17.9 percent of the cases and 17.3 percent went to see a doctor at the Trade Center Medical Clinic. A doctor was consulted at the Guam Memorial Hospital by 8.7 percent of these 173 persons, and 7.5 percent had visited a doctor at the SDA clinic. A much larger percentage in this case, 9.8 percent, had consulted doctors at the Navy Regional Medical Center.

When asked how many times these additional 173 persons had consulted a doctor during the last two weeks, it was reported that 78.4 percent had done so once, while an additional 13.5 percent had contacted their physician twice. This made a total of 91.9 percent. The remaining 8.1 percent had consulted a doctor during this two-week period as many as three or more times. Some had done so as many as eight times (Table 32).

Summary

The current health status of the 2,236 persons included in this study was determined by means of a series of questions posed to the 455 household survey representatives. The two week period just prior to the interview was utilized as the time frame for defining the current health status of the subjects.

Determined was the extent to which a person's normal life was affected by required hospitalization, confinement to bed at home or reduction in usual activities due to illness or injury. Also reported in this section are the number of days of work or school lost due to poor health. Causes and persistence of illness were also studied, as were the number of doctor visits and the location of doctor's offices and medical clinics.

Hospitalization, Home Bed Care and Reduction in Activities

Only 21, or about one percent, of the 2,236 persons studied required hospitalization during the two week period. A rather larger percentage of these patients (28.6 percent) than expected were admitted to the Navy Regional Medical Center, while the remainder, of course, were taken care off in the only other available facility, the Guam Memorial Hospital. The average hospital stay during the two week period was six days.

In addition to those who were hospitalized, it was found that 58 persons, or 2.6 percent, were in bed at home due to illness for an average of 4.5 days. This represented an additional 258 person days "lost" due to illness.

Seventy-three individuals were reported to have had to "slow down" or reduce their normal activity due to illness. They were not confined to bed at home or in a hospital.

All totaled, 152 of the 2,236 persons studied required hospitalization, bed care at home, or had their normal daily activities affected by illness or injury during the two period prior to the interview. Although this number may at first appear small, it represents 14.7 percent or one out of every seven individuals.

Work and School Days Lost.

It was found that 64 persons were absent from work an average of four days each during the 10 work days before the survey was taken. Upon inspecting the frequency distribution, it would appear that if a person misses work he tends to do so for a rather extensive number of days. Only about one of every 10 who missed work, missed only one day. These data might suggest that chronic illnesses are somewhat extensive.

The situation was slightly different for those who lost school days due to illness or injury. In this situation about a third of those who missed school during the 10 school day survey period missed only one day. The average number of days of school missed by these individuals, however, was 3.6.

Causes of Illness

By far the most common cause of illness reported was "common infections". Nearly two-thirds of those who were reported to have been ill reported it. Although a much smaller percentage, 6.5, "heart, high bloodpressure" was mentioned next most frequently. In view of the

tests, examinations and immunization. This represented 7.7 percent of the total group studied.

The FHP Medical Center and the Trade Center Medical Clinic were utilized by about one-third of the persons who had obtained preventive medical care. The Navy Regional Medical Center (hospital) and other military clinics ranked third, while the Guam Memorial Hospital was fourth.

As could be expected, in nearly eight of ten cases preventive medical care was received only one time during the two weeks prior to the survey by those who had received such attention. Approximately eight percent had consulted a doctor more than twice.

TABLE 14

HOSPITALIZED DURING THE PAST TWO WEEKS (Q.11)

HOSPITALIZED	NUMBER	PERCENT
YES	21	0.9
NO	2,215	99.1
TOTAL	2,236	100.0

TABLE 15

HOSPITAL OF CONFINEMENT (Q. 11b)

HOSPITAL	NUMBER	PERCENT
Guam Memorial Hospital	15	71.4
Military Hospital	6	28.6
TOTAL	21	100.0

TABLE 16

NUMBER OF DAYS HOSPITALIZED DURING PAST TWO WEEKS (Q.11a)

DAYS	NUMBER	PERCENT	MANDAYS
1	6	28.6	6
2	2	9.6	4
3	1	4.8	3
4	1	4.7	4
5	1	4.8	5
6	1	4.7	6
7	2	9.5	14
8	1	4.8	8
9	-	-	-
10	1	4.7	10
11	-	-	-
12	1	4.8	12
13	2	9.5	26
14	2	9.5	28
TOTAL	21	100.0	126

TABLE 17

BED CARE DURING PAST TWO WEEKS (Q. 12,a)

SICK IN BED	NUMBER	PERCENT
YES	58	2.6
NO	2,173	97.4
TOTAL	2,231	100.0
Insufficient data	5	

TABLE 18

EXTENT OF BED CARE DURING PAST TWO WEEKS (Q. 13a)

DAYS	NUMBER	PERCENT	MANDAYS
1	9	15.5	9
2	11	19.0	22
3	13	22.4	39
4	7	12.1	28
5	4	6.9	20
6	-	-	-
7	6	10.4	42
8	-	-	-
9	-	-	-
10	2	3.4	20
11	1	1.7	11
12	1	1.7	12
13	1	1.7	13
14	3	5.2	42
TOTAL	58	100.0	258
Insufficient data	5		

TABLE 19

REDUCTION IN NORMAL ACTIVITIES DURING PAST TWO WEEKS
DUE TO ILLNESS (Q. 13,a)

ACTIVITY REDUCED	NUMBER	PERCENT
YES	73	3.3
NO	2,157	96.7
TOTAL	2,230	100.0

TABLE 20

NUMBER OF DAYS ACTIVITY REDUCED DURING PAST TWO WEEKS (Q.14)

DAYS	NUMBER	PERCENT	MANDAYS
1	20	27.4	20
2	17	23.3	34
3	12	16.4	36
4	6	8.2	24
5	2	2.7	10
6	1	1.4	6
7	9	12.3	63
8	1	1.4	10
10	1	1.4	10
13	1	1.4	13
14	3	4.1	42
TOTAL	73	100.0	266

TABLE 21

COMPOSITE OF PEOPLE SICK IN THE HOSPITAL, BED OR REQUIRED TO REDUCE NORMAL ACTIVITY (Q. 11, 12a, 13a)

CONDITION	NUMBER OF PERSONS	PERCENT
Sick in Hospital	21	13.8
Sick in Bed at Home	58	38.2
Reduced Normal Activity Due to Illness	73	48.00
TOTAL	152	100.0

TABLE 22

DAYS OF WORK LOST DUE TO ILLNESS DURING LAST TWO WEEKS (Q. 14a)

DAYS	NUMBER OF PERSONS	PERCENT	% ACCUMU-LATIVE TOTAL	TOTAL MANDAYS
1	7	10.9	100.0	7
2	19	29.7	89.1	38
3	9	14.1	59.4	27
4	7	10.9	45.3	7
5	6	9.4	34.4	30
6	4	6.3	25.0	24
7	4	6.2	18.7	28
8	3	4.7	12.5	24
9	2	3.1	7.8	18
10	3	4.7	4.7	30
TOTAL	64	100.0		254

TABLE 23

DAYS OF SCHOOL LOST DUE TO ILLNESS

DURING THE LAST TWO WEEKS (Q.14b)

DAYS	NUMBER OF PERSONS	PERCENT	% ACCUMULATIVE TOTAL	TOTAL MANDAYS
1	15	32.6	100.0	15
2	7	15.2	67.4	14
3	6	13.1	52.2	18
4	4	8.7	39.1	16
5	3	6.5	30.4	15
6	3	6.5	23.9	18
7	2	4.3	17.4	14
8	1	2.2	13.1	8
9	1	2.2	10.9	8
10	4	8.7	8.7	40
TOTAL	46	100.0		167

TABLE 24

CAUSES OF ILLNESS (Q. 15a)

CAUSE	NUMBER	PERCENT
Tumor, cancer, etc	2	1.3
Heart, high blood pressure	10	6.5
Endocrine, Thyroid	2	1.3
Stomach, Ulcer, Appendicitis	2	1.3
Muscle, bone, arthritis	3	2.0
Mental, brain, migraines	2	1.3
Respiratory, throat, tonsilitis	8	5.3
Common infection (flu, cold, etc.)	98	64.5
Mouth, tongue, canker sore	1	0.7
Skin diseases	1	0.7
Kidney and Bladder Diseases	2	1.3
Complications of Pregnancy	3	2.0
Injury, Accident	2	1.3
Complications of birth, premature birth	1	0.7
Felt unwell, but no specific complaint	10	6.5
Other miscellaneous conditions	3	3.3
TOTAL	152	100.0

TABLE 25

NUMBER OF MONTHS SINCE CONDITION APPEARED (Q. 15b)

MONTHS	NUMBER OF PERSONS	PERCENT
Less than 1 month	121	79.6
1 month	2	1.3
4 months	1	0.7
8 or more months	23	15.1
Unknown when illness first appeared	5	3.3
TOTAL	152	100.0

TABLE 26

HEALTH CONDITION PERSISTS (Q. 15c)

CONDITION PERSISTS	NUMBER	PERCENT
YES	40	26.8
NO	109	73.2
TOTAL	149	100.0
Insufficient Data	3	

TABLE 27

DOCTOR CONSULTED FOR ILLNESS (Q. 16a)

	NUMBER	PERCENT
YES	54	36.2
NO	95	63.8
TOTAL	149	100.0
Insufficient Data	3	

TABLE 28

LOCATIONS OF DOCTOR'S OFFICE (Q. 16b)

LOCATION	NUMBER	PERCENT
Family Clinic - Asan	1	1.8
FHP Guam Medical Center	10	18.5
Good Samaritan Clinic	2	3.7
Guam Medical Clinic	1	1.9
Guam Memorial Hospital	7	13.0
Guam Polyclinic	4	7.3
International Medical Group	7	13.0
Julale Medical Clinic	1	1.8
Public Health Clinic	1	1.9
Sagisi and Batoyon Clinic	1	1.8
St. Anthony's Clinic	3	5.6
Seventh Day Adventist Clinic	2	3.7
Trade Center Medical Clinic	9	16.7
Other Medical Facility	3	5.6
Navy or Military Hospital/Clinic	1	1.8
TOTAL	54	100.0

TABLE 29

NUMBER OF DOCTOR VISITS (Q. 16c)

VISITS	NUMBER	PERCENT
Once	30	55.6
Twice	13	24.1
Thrice	4	7.4
Four times	1	1.8
Seven times	1	1.8
Eight or more times	5	9.3
TOTAL	54	100.0

TABLE 30

DOCTOR VISITS BY OTHER FAMILY MEMBERS (Q. 17a)

	NUMBER	PERCENT
YES	173	7.7
NO	2,063	92.3
TOTAL	2,236	100.0

TABLE 31

WHERE OTHER FAMILY MEMBERS RECEIVE

MEDICAL CONSULTATION (Q. 17b)

LOCATION	NUMBER	PERCENT
Doctor's Clinic	1	0.6
Family Clinic	2	1.1
FHP Guam Medical Center	31	17.9
Good Samaritan Clinic	11	6.4
Guam Medical Clinic	6	3.3
Guam Memorial Hospital	15	8.7
Guam Polyclinic	5	2.9
International Medical Group	11	6.4
Marianas Medical Clinic	2	1.1
Public Health Clinic	8	4.8
Sablan's Clinic	1	0.6
Sagisi and Batoyon Clinic	2	1.1
St. Anthony's Clinic	5	2.9
Seventh Day Adventist Clinic	13	7.5
Tamuning Medical Clinic	2	1.2
Trade Center Medical Clinic	30	17.3
Other Medical Facilities	11	6.4
Navy and Military Hospital/Clinic	17	9.8
TOTAL	173	100.0

TABLE 32

FREQUENCY OF MEDICAL CONSULTATION BY OTHER FAMILY MEMBERS (Q. 17c)

DOCTOR'S VISITS	NUMBER OF PEOPLE	PERCENT
Once	134	78.4
Twice	23	13.5
Three times	5	2.9
Four times	6	3.5
Eight times	3	1.7
TOTAL	171	100.0
Insufficient Data	2	

USE OF HEALTH SERVICES/FACILITIES

Introduction

This section of the report contains information obtained from the 455 interviewees about themselves and all other members of their household. It, therefore, pertains to the 2,236 individuals included in the study.

The extent of use of various existing health services and facilities was determined for the entire 12-month period preceding the interview. This in effect was for the 1979 calendar year since most interviews were obtained as the year 1979 was ending and during January of 1980.

The validity of the data obtained was dependent upon the accuracy of recall of the subjects since they obviously were not required to document dental and medical care received throughout the year. It could be assumed that the extent of underreporting in certain cases was offset by overreporting in others. However, it is probable that for certain types of information an underreporting occurred.

There are seven major topics contained in this section. They are: Dental Needs and Care; Diagnosis and Treatment of Illness or Injury; Preventive Medical Care; Therapy, Habilitation, and Rehabilitation; Pregnancy Care; Total Health Care Visits; and Health Maintenance Organization.

The discussion of the dental and medical services information includes data noting the extent to which household members received such services,

the doctors or medical facility they visited and the number of visits that were made for consultation or treatment. The related tables containing survey findings on these topics appear at the end of this section following the narrative discussion.

Dental Needs and Care

The 455 persons interviewed in this survey were asked a series of questions concerning the dental needs and care of the members living in their households. They were asked to recall the dental services received during the 12-month period prior to the interview. In order for a person to have received complete dental care, it is possible that he had to be cared for by more than one dentist, located in different offices at different locations on the island. Therefore, when the interviews were being conducted, the persons were first asked if anyone in the household had visited a dentist during the previous year. If they gave an affirmative answer, they were further asked where the dentist's office was located and the number of the times the person had visited that particular dentist. In addition, the interviewees were asked if other dentists had also been consulted, where they were located and the number of times visited. The responses to these questions are presented in Table 33.

Out of the 2,229 persons for whom an answer to these questions were obtained, 670, or nearly one-third, 33.1 percent, were found to have visited their dentist during the prior year at least one time (Table 34). In total, 2,134 dental visits were made during the year by

the 670 persons, for an average of three and one-third visits per person. Of these visits, nearly all, 90.5 percent, were made by the individuals at the same location; that is, if the persons in question were required to see a dentist more than once, they returned to the same dental location each time. The number of visits to the dentist during the year varied considerably. The range was from one to as many as 52 times (equivalent to about one visit per week). Sixty persons out of the 670 who required dental attention needed to also go to a second dentist at another location in the case where specialized services not available at the first location were required. A third dentist, at a third location, was required for three out of the 670 persons who needed care.

As may be observed by inspecting these tables, thirty different dental locations were mentioned as having been visited by the 670 persons who received dental services. The Public Health Service was by far the most frequently used dental location. Of the 670 persons who received dental care, 210 obtained such services from the Public Health Dental Facilities. This was 31.4 percent of the total number involved. Eighty persons out of the 670 had gone to the FHP dentists, while SDA dentists were third most frequently visited. Sixty-six persons were reported as having gone to the SDA clinic for dental care.

Diagnosis or Treatment of Illness or Injury

The 455 persons in this survey were also asked questions about the number of individual members of their households who had visited a doctor during the prior twelve months for diagnosis or treatment of an illness or injury. They were asked to exclude from the answers any visits related to concerns with pregnancy. Information on pregnancy is treated separately later in this section.

Besides the number of individuals who visited doctors, the survey also determined where the doctors' offices were located and the number of visits made. Probe questions were also included to determine if the persons needing treatment had to go to a second or even a third location to consult a physician in order to be further treated for their illness. These data are presented in Table 35.

It is of particular interest to note that 2,337 doctor visits were made by 577 persons for diagnosis or medical treatment of illness or injury. This represented about one-fourth or 26 percent of the 2,236 subjects included in this study. They averaged nearly four visits for this type of health care. As also reported in the Table 36 most of the visits were made to the same locations. However, 86 out of 577 individuals needed to go to a second doctor and of these, 16 were reported to have gone to a third doctor in order to be treated.

By far the most popular used location for diagnosis and treatment was the FHP Guam Medical Center. Slightly more than 22 percent of

the 577 persons who were reported to have visited a doctor had gone to the FHP clinic one or more times. The next most commonly used clinic was the Trade Center Medical Clinic in the ITC Building. Twelve percent of the subjects went there one or more times for medical services. Third in frequency of use, was the Guam Memorial Hospital, while the Guam Polyclinic was fourth and the SDA Clinic fifth.

It may be further observed that those who needed to go to a second location tended to, in the largest number of cases go to the Doctor's Clinic in Harmon, while the second largest number went to the Family Clinic in Asan.

Sixteen of the 577 individuals who had received diagnostic and medical treatment for illness or injury were reported to have gone to doctors one or more times at three different locations. Of these, the largest number, five, had gone to the St. Anthony's Clinic.

The number of office visits per person made to a given doctor's office or clinic for diagnostic or treatment of an illness or injury during the year covered in the study ranged from one to as high as 52. Slightly more than one-third, 36.3 percent, made one call while an additional 20.5 percent made two. The average number of visits in this case was 3.6.

The 85 individuals who had made one or more office call to a second doctor, in another location, for medical diagnosis or treatment averaged 3.5 visits each. The range in number of visits was from one to 24. As shown in the table, 42.3 percent had made one visit and an additional 20 percent had gone twice.

The three persons who had gone to a third doctor had each gone one time. This information is also presented in Table 36.

Preventive Medical Care

An attempt was made in this study to determine the degree to which preventive medical care was received by the people of northern Guam. Preventive care included those visits to a doctor by a person in good health for immunization, an x-ray or medical advice, unrelated to pregnancy during the twelve months immediately prior to the survey.

Three kinds of information were obtained. It included the number of persons out of the total of 2,236 in the study who had availed themselves of preventive medical care, the specific medical clinics or doctors' offices they had visited and the number of visits made. These data are presented in Table 37.

Four hundred and twenty-seven persons, 19.2 percent, were reported to have made 846 office calls for preventive medical care for the specifid 12-month period. Of these 427 individuals, 33 had also gone to a second doctor while three found it necessary to receive preventive medical care from even a third medical location.

Shown in Table 37 are the various medical clinics that were visited. Also shown are the number and proportion who visited each clinic and if it was the first, second or third locations that they had gone to for preventive medical attention. As may be observed upon inspecting the table, 20 different clinics or medical centers were utilized. The FHP Guam Medical Center was most frequently utilized while the Trade

Center Medical Clinic in the ITC Building and the Guam Memorial Hospital ranked second and third, respectively.

The Good Samaritan Clinic and the Public Health Center in Mangilao were each mentioned by 37 persons as the first location for receiving preventive health care and, therefore, ranked fourth in frequency of use. Twenty-one persons were reported to have gone off-island for their preventive medical care.

Ten of the 33 persons who had gone to two different medical clinics for preventive health care had gone to the Guam Memorial Hospital. Six more were reported to have gone to the International Medical Group located in the GITC Building.

The number of visits made by each person to each of the medical clinics was also determined. This information is included in Table 38.

The number of visits a given person had made to the medical clinic mentioned first ranged from one to eleven. Nearly 92 percent of the 427 persons had made only one medical clinic for preventive care during the twelve month period. Two visits had been made by 7.7 percent and an additional 0.3 percent had gone three times.

For those who had also gone to a second location, 60 percent had gone only one time. Information in this instance was available on 30 of the 33 persons.

Therapy, Habilitation, and Rehabilitation

Still referring to the twelve months immediately prior to the survey, the 455 subjects were asked to also provide data on the extent to which long-term impairment or disability among members of their family had been cared for by means of visits to health facilities for therapy, habilitation or rehabilitation. Treatment in this case focused on hearing, speech and physical therapy and was in addition to medical care or treatment previously discussed in this section under Diagnosis or Treatment and Preventive Health Care.

As reported in Tables 39 and 40 , a very small percentage, 1.3 percent, of the 2,236 in the study were reported to have received therapy or rehabilitation during the twelve-month period. Of these 29, seven needed to go to a second medical location and of these, three had to go to a third facility.

Twelve of the 29 persons reported here received their treatment at Guam Memorial Hospital. An additional five indicated that they had gone to a military hospitals or military clinical facility on the island.

The range in number of times that the persons had received therapy rehabilitation treatment during the year ranged from one to as frequently as 72 times. The total number of visits was 468 by the 29 individuals. The average per person was approximately 16.

Pregnancy Care

Specific information on the number of women who needed physician care due to pregnancy was also obtained. The 455 persons interviewed were asked if any female of their household had visited a doctor or clinic to test for or consult about a pregnancy during the prior twelve months.

Residing in these 455 homes were an estimated 545 women in the child-bearing age range of 15 to 49. Among them, 79 or 14.5 percent were reported to have visited a doctor or clinic regarding pregnancy. Of these 56 were reported to be pregnant (see Section IV, pp. 130). Seventeen different doctors' offices, clinics or hospitals were visited for pregnancy consultation or care. This included at least one location off-island. The prime location for the 79 women was the Guam Polyclinic on Ipao Road. It was the first choice location for 15.2 percent. Nearly 14 percent were reported to have gone to the Guam Medical Clinic on Hospital Road while 11.4 percent each had selected the FHP Medical Center and the Seventh Day Adventist Clinic on Ipao Road. St. Anthony's clinic ranked fifth with 10.1 percent while 7.6 percent more chose to go to the Drs. Sagisi and Batoyon Clinic in the Frank Cruz Building in Maite. All totaled, these six locations accounted for nearly 70 percent of the doctors' offices, clinics and hospitals that the women went to first for pregnancy test.

Ten of the 56 women under discussion here also went to a second doctor, clinic or hospital for advice or care regarding pregnancy. Six of these ten were reported to have required to go to even a third doctor, or medical facility (Table 41).

The 79 women made a total of 652 visits to doctors for pregnancy advice or care. This was an average in excess of eight times for each. The number of time was found to range from one to as many as 28. These data are presented in Table 42.

Total Health Care Visits

Upon combining the total visits for dental, medical diagnosis and injury, preventive care, therapy and rehabilitation, and pregnancy care, it was determined that a grand total of 6,516 visits were reported to have been made to doctors' offices or medical facilities during the twelve months immediately prior to the survey. Using the total number 2,236 persons included in this study, it was determined that on the average each person received such care 2.9, or almost three times during the year (Table 43).

The number of visits to a doctor for diagnosis or usual care of injury ranked first (36.1 percent) but of nearly equal frequency (33.6) percent) were the dental visits. Considerably less and of approximately equal number were the visits for preventive health care (13 percent) and for visits related to pregnancy (10.1 percent). Visits to doctors' offices and clinics for therapy, habilitation and rehabilitation were the least. They accounted for 7.2 percent of all visits.

As noted in the section of this report on the Sample, the 455 households surveyed represented approximately one of twenty in the northern Guam civilian community. When generalizing to this total population one, therefore, would predict that the total number of doctor visits during 1979 was approximated 130,000. Medical attention when quantified in this manner would appear to involve considerable tangible costs in terms of expenses, time and transporation.

Health Maintenance Organization

The 455 sample members were asked what kind of health insurance they carried, if any. Upon examining the data it was found that on an average more than four out of every five (83.8 percent) claimed to be insured.

Two health insurance plans were mentioned most frequently by the subjects. They were the FHP and the GMHP which were mentioned by 23.8 percent and 23.2 percent, respectively. When considering only the 1,825 persons in this study who were known to be covered by health insurance, 56 percent were under these two programs.

As may be further observed upon inspecting the data presented in Table 44 , 6.4 percent mentioned HML, 6.7 percent were covered through the military, and an additional 6.4 percent mentioned other group plans than those already listed. Slightly over 15.4 percent also listed other private insurance companies not mentioned above. Slightly less than one percent knew that they were covered by insurance, but did not know what kind it was.

Summary

Health services and facilities information reported on this section pertained to the 2,236 individuals included in the study. The information was obtained from 455 persons who answered health related questions about themselves and all other members of their respective households for the year immediately preceding the interview. In many cases this was for the 1979 calendar year.

Five general categories of health services were discussed. Included were: Dental Needs and Care; Diagnosis and Treatment of Illness or Injury; Preventive Medical Care; Therapy, Habilitation, and Rehabilitation; and Pregnancy Care.

A brief discussion of the health services received and the extent to which household members were covered by health insurance, was also presented.

Dental Needs and Care

Nearly one-third of the 2,236 persons involved in this study were reported to have obtained dental services one or more time from one or more location. These 670 persons received dental care an average of three and one-third times during the year. In total, 2,184 dental visits were made. The number of visits that a given individual made to a dentist's office ranged from one to as high as 52 times during the year.

Dental care was obtained from a total of thirty different dentists or dental clinics. Public Health Dental Clinic was utilized by nearly

a third of all persons, or 210 out of the 670. The next most popularly used dental care facilities were FHP and SDA where 80 and 66 persons respectively have obtained services.

Diagnosis or Treatment

A total of 2,337 doctor visits were made by 577 persons for diagnostic or medical treatment of illness or injury. They, therefore, averaged nearly four visits each during the year. The largest number of visits made by any one person was 52.

Although in some cases it was necessary to recieve services from two or even three different doctors, a majority were reported to have gone to only one. The FHP Guam Medical Center was mentioned by more than one out of every five as the location from which they had received diagnostic or medical treatment for illness or injury. Other medical facilities that were most frequently used were the Trade Medical Clinic in the ITC Building, Guam Memorial Hospital, Guam Polyclinic and the Seventh Day Adventist Clinic.

Preventive Medical Care

Preventive medical care was defined to include those persons who were in good health who had visited a doctor for immunization, x-ray or medical advice. Medical concerns related to pregnancy were not included.

Slightly over 19 percent of the entire sample, 427 persons, made a total of 846 office calls for preventive medical care. This was an average of about two. The number of visits ranged from one to eleven.

Only a small number of those who had received preventive medical care found it necessary to go to more than one office or medical facility.

Therapy and Rehabilitation

In addition to medical care for dental, diagnosis or treatment, and preventive needs, 29 of the 2,236 persons went to doctors' offices or medical facilities for therapy, habilitation or rehabilitation. This represented 1.3 percent of all persons.

The number of doctor visits ranged from one to 72 for a total of 468. The average number of times was about 16 per person. The Guam Memorial Hospital was the most commonly utilized facility for this type of medical care.

Pregnancy Care

The 455 households surveyed were found to contain 545 women in the childbearing age range of 15 to 49. Of these, 79 (14.5 percent) had visited a doctor to test for or consult about pregnancy. Fifty-six of these women were reported to have been pregnant at some time during the twelve months prior to the survey.

The 79 women made an average of more than eight doctor visits. The total number of visits was 652. The number of doctor visits made ranged from one to as many as 28 per individual.

Seventy percent of the 79 women had their pregnancy tests or care at six clinics or offices. They were the Guam Polyclinic, Guam Medical Clinic, FHP Medical Center, the Seventh Day Adventist Clinic, St. Anthony's Clinic, and the clinic of Drs. Sagisi and Batoyon.

A grand total of 6,516 visits to doctors or medical facilities were reported to have been made by the 2,236 persons in this study. The office visits for medical care were made during the 12-month period preceding the survey. This was an average of about three for each person.

The largest numbers of visits were made for diagnosis or treatment of illness or injury (36 percent) and a similar percentage (33.7) were for dental care visits.

Health Maintenance Organization

The members of more than four out of every five households (83.8 percent) were found to be covered by some type of medical insurance. The FHP and GMHP were mentioned by 23.8 percent and 23.2 percent respectively. An additional 6.4 percent mentioned HML while 6.7 percent were covered through the military.

TABLE 33

DENTAL CARE FACILITIES VISITED ONE OR MORE TIMES (Q. 18b,d,f)

DENTAL CARE FACILITY	FIRST LOCATION		SECOND LOCATION		THIRD LOCATION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Doctor's Clinic	2	0.3	1	1.7		
Family Clinic	2	0.3				
FHP Dental Clinic	80	11.9	9	15.0		
Good Samaritan Clinic	22	3.3	2	3.3		
Guam Medical Clinic	5	0.7	3	5.0		
Guam Memorial Hospital	4	0.6				
Guam Polyclinic	25	3.7	3	5.0		
International Medical Group	4	0.6	2	3.3		
Marianas Medical Clinic	3	0.4	1	1.7	1	33.3
Public Health Dental Clinic	210	31.4	8	13.3		
SDA Dental Clinic	66	9.9	2	3.3	1	33.3
Tamuning Medical Clinic	2	0.3	1	1.7		
Trade Center Medical Clinic	13	1.9	1	1.7		
Dededo Dental Clinic	33	4.9	3	5.0		
Guam Dental Clinic	16	2.4				
GITC Dental Clinic	16	2.4				
Dr. Madarang's Clinic	25	3.7				
Ordot Dental Clinic	19	2.9	1	1.7		
Orthodontic's clinic (Drs. Camacho and Hoffman)	6	0.9	7	11.7		
Drs. Reynolds, Milligan, VanderPyle Dental Clinic	27	4.0	4	6.7	1	33.3
Other Dental Facility	59	8.8	6	10.0		
Navy Hospital Dental Clinic	22	3.3	3	5.0		
Off-Island Dental Facility	9	1.3	3	5.0		
TOTAL	670	99.9	60	100.0	3	99.9

TABLE 34

TIMES AND LOCATIONS WHERE DENTISTS WERE CONSULTED (Q. 18c,e,g)

NUMBER OF VISITS	FIRST LOCATION			SECOND LOCATION			THIRD LOCATION		
	NUMBER OF PERSONS	PERCENT	TOTAL VISITS	NUMBER OF PERSONS	PERCENT	TOTAL VISITS	NUMBER OF PERSONS	PERCENT	TOTAL VISITS
1	257	38.6	257	26	45.6	26	3	100.0	3
2	193	29.0	386	6	10.5	12			
3	74	11.1	222	9	15.8	27			
4	38	5.7	152	4	7.0	16			
5	20	3.0	100	3	5.3	15			
6	28	4.2	168						
7	2	0.3	14	2	3.5	14			
8	11	1.7	88	1	1.8	8			
9									
10	16	2.4	160	2	3.5	20			
11	7	1.0	77						
12	10	1.5	120						
13				1	1.7	13			
14	1	0.2	14						
15				1	1.8	15			
18	4	0.6	72	1	1.7	18			
24	1	0.2	24						
26				1	1.8	26			
30	1	0.2	38						
52	1	0.2	52						
TOTAL	665	100.0	1,974	57	100.0	210	3	100.0	3

TABLE 35

DOCTORS' OFFICES OR MEDICAL FACILITIES VISITED ONE OR MORE TIMES
FOR DIAGNOSIS OR TREATMENT OF ILLNESS OR INJURY (Q. 19b,d,f)

MEDICAL CARE FACILITY	FIRST LOCATION		SECOND LOCATION		THIRD LOCATION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Doctor's Clinic	15	2.6	1	1.2	1	6.3
Family Clinic	5	0.9	1	1.2	1	6.2
FHP Medical Clinic	128	22.2	12	14.1	1	6.3
Dr. Garrett's Clinic	3	0.5	1	1.2		
Good Samaritan Clinic	39	6.8	3	3.5	1	6.2
Guam Medical Clinic	16	2.8	5	5.9		
Guam Memorial Hospital	59	10.2	14	16.5	2	12.5
Guam Polyclinic	49	8.5	3	3.5		
International Medical Group	26	4.5	7	8.2	1	6.3
Julale Medical Clinic	1	0.2				
Marianas Medical Clinic	2	0.3	3	3.5		
Medical Arts Clinic			1	1.2		
Public Health Clinic	15	2.6	1	1.2		
Dr. Sablan's Clinic	6	1.0			1	6.2
Drs. Sagisi & Batoyon Clinic	3	0.5	1	1.2		
St. Anthony's Clinic	16	2.8	2	2.4	5	31.3
SDA Clinic	46	8.0	6	7.1	1	6.3
Tamuning Medical Clinic	7	1.2				
Trade Center Medical Clinic	69	12.0	8	9.4		
Other General Facility	35	6.0	7	8.2	2	12.5
Panes Optical			1	1.2		
Guam Acapuncture			3	3.5		
Navy	23	4.0	3	3.5		
Off-Island Medical Facility	12	2.1	2	2.4		
Dr. was consulted, but location unknown	2	0.3				
TOTAL	577	100.0	85	100.0	16	100.0

TABLE 36

TIMES AND LOCATION WHERE DOCTORS WERE VISITED FOR

DIAGNOSIS OR TREATMENT OF ILLNESS OR INJURY (Q.19c,e)

NUMBER OF VISITS	FIRST LOCATION			SECOND LOCATION			THIRD LOCATION		
	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS
1	207	36.3	207	36	42.4	36	16	100.0	16
2	117	20.5	234	17	20.0	34			
3	84	14.6	252	7	8.2	21			
4	54	9.5	216	4	4.7	16			
5	19	3.3	95	6	7.0	30			
6	21	3.7	126	1	1.2	6			
7	6	1.1	42	5	5.9	35			
8	5	0.9	40	1	1.2	8			
9	3	0.5	27	1	1.2	9			
10	18	3.2	180	3	3.5	30			
11	2	0.3	22						
12	20	3.5	240						
13	1	0.2	13						
14	1	0.2	14	1	1.2	14			
15	2	0.3	30	1	1.2	15			
17	2	0.3	34						
18	1	0.2	18	1	1.2	18			
19	1	0.2	19						
22	1	0.2	22						
24	1	0.2	24	1	1.2	24			
29	1	0.2	29						
30	2	0.3	60						
45	1	0.2	45						
52	1	0.2	52						
TOTAL	571	100.1	2,041	85	100.1	296	16	100.0	16

TABLE 37

PREVENTIVE HEALTH CARE FACILITIES VISITED ONE OR MORE TIMES (Q. 20b,d,f)

MEDICAL CARE FACILITY	FIRST LOCATION		SECOND LOCATION		THIRD LOCATION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
The Doctor's Clinic	10	2.3	1	3		
Family Clinic	4	0.9				
FHP Guam Medical Center	64	15.0				
Dr. Garrett's Clinic	1	0.2	1	3		
Good Samaritan Clinic	37	8.7				
Guam Medical Clinic	11	2.6	1	3		
Guam Memorial Hospital	51	11.9	10	30.3		
Guam Polyclinic	13	3.1	2	6.1	1	33.3
International Medical Group	21	4.9	6	18.2		
Public Health Clinic	37	8.7	2	6.1		
Dr. Sagisi & Batoyon Clinic	3	0.7				
St. Anthony Clinic	21	4.9				
Seventh Day Adventist Clinic	26	6.1	1	3.0		
Tamuning Medical Clinic	1	0.2	1	3.0		
Trade Center Medical Clinic	53	12.4	3	9.1		
Other General Facility	20	4.7	3	9.1	1	33.3
P. A. Acosta Optical	1	0.2				
Military Hospital or Clinic	29	6.8	1	3.0		
Off-Island Medical Facility	21	4.9			1	33.3
Other Medical, dental, optical facility	3	0.7	1	3.0		
TOTAL	427	99.9	33	99.9	3	99.9

TABLE 38

TIMES AND LOCATIONS WHERE PREVENTIVE HEALTH CARE WAS RECEIVED (Q. 20c,e)

NUMBER OF VISITS	FIRST LOCATION			SECOND LOCATION			THIRD LOCATION		
	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS
1	271	63.5	271	18	60.0	18	3	100.0	3
2	71	16.6	142	4	13.3	8			
3	38	8.9	114	6	20.0	18			
4	17	4.0	68						
5	9	2.1	45	1	3.3	5			
6	15	3.5	90						
8	3	0.7	24						
10	2	0.5	20						
11	1	0.2	11						
12				1	3.3	12			
TOTAL	427	100.0	785	30	99.9	61	3	100.0	3

TABLE 39

DOCTORS' OFFICE OR MEDICAL FACILITY VISITS ONE OF MORE TIMES FOR THERAPY, HABILITATION OR REHABILITATION (Q. 21c, e)

MEDICAL CARE FACILITY	FIRST LOCATION		SECOND LOCATION		THIRD LOCATION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
FHP	3	10.3			1	33.3
Dr. Garrett's Clinic	1	3.5				
Guam Memorial Hospital	12	41.4	2	28.6	2	66.6
Guam Polyclinic	3	10.3				
International Medical Group			1	14.3		
Public Health Clinic	3	10.3	2	28.6		
Other Medical Facility	1	3.5	2	28.6		
Navy Hospital	5	17.2				
Off-Island Facility	1	3.5				
TOTAL	29	100.0	7	100.0	3	99.9

TABLE 40

TIMES AND LOCATION WHERE THERAPY, HABILITATION AND REHABILITATION WAS RECEIVED (Q. 21 b, d, f)

NUMBER OF VISITS	FIRST LOCATION			SECOND LOCATION			THIRD LOCATION		
	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS
1	8	27.6	8	1	14.3	1	3	100.0	3
2	2	6.9	4	1	14.3	2			
3	3	10.3	9	1	14.3	3			
4	4	13.8	16						
5				1	14.3	5			
6	1	3.4	6						
7	1	3.5	7						
8	2	6.9	16	2	28.6	16			
14	1	3.4	14						
15	1	3.5	15						
23	1	3.4	23						
30				1	14.3	30			
42	1	3.5	42						
48	1	3.4	48						
61	1	3.5	61						
70	1	3.4	70						
72	1	3.5	72						
TOTAL	29	100.0	411	7	100.0	57	3	100.0	3

TABLE 41

DOCTORS' OFFICE OR MEDICAL FACILITY VISITED ONE OR MORE TIMES TO TEST OR CONSULT ABOUT PREGNANCY (Q. 22c,e)

MEDICAL CARE FACILITY	FIRST LOCATION		SECOND LOCATION		THIRD LOCATION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Doctor's Clinic	1	1.3				
FHP	9	11.4				
Good Samaritan	1	1.3	1	10.0		
Guam Medical Clinic	11	13.9	1	10.0		
Guam Memorial Hospital	5	6.3			3	50.0
Guam Polyclinic	12	15.2	1	10.0	2	33.3
International Medical Group	2	2.5	1	10.0		
Marianas Medical Clinic	1	1.3				
Public Health Services	1	1.3				
Sagisi and Batoyon Clinic	6	7.6	1	10.0	1	16.6
St. Anthony's Clinic	8	10.1				
Seventh Day Adventist	9	11.4	1	10.0		
Tamuning Medical Clinic	3	3.8				
Trade Center Medical Clinic	3	3.8				
Other Facility	5	6.3	3	30.0		
Navy Facility	2	2.5	1	10.0		
TOTAL	79	100.0	10	100.0	6	99.9

TABLE 42

TIMES AND LOCATION WHERE PREGNANCY TEST OR CONSULTATION WERE RECEIVED (Q.22b,d,f)

NUMBER OF VISITS	FIRST LOCATION			SECOND LOCATION			THIRD LOCATION		
	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS	NO. OF PERSONS	PERCENT	TOTAL VISITS
1	7	8.9	7	2	20.0	2	6	100.0	6
2	10	12.5	20	2	20.0	4			
3	6	7.6	18	2	20.0	6			
4	3	3.8	12	1	10.0	4			
5	5	6.3	25						
6	7	8.9	42						
7	4	5.1	28						
8	7	8.9	56	3	30.0	24			
9	2	2.5	18						
10	7	8.9	70						
11	1	1.3	11						
12	10	12.6	120						
14	1	1.3	14						
15	3	3.8	45						
17	1	1.3	17						
18	2	2.5	36						
21	1	1.3	21						
24	1	1.3	24						
28	1	1.3	28						
TOTAL	79	100.0	612	10	100.0	40	6	100.0	6

TABLE 43

TOTAL VISITS TO DENTISTS, DOCTORS, AND FOR THERAPY AND PREGNANCY CARE

TYPE OF DENTAL/MEDICAL CARE	TOTAL VISITS	PERCENT
Dental	2,187	33.6
Diagnosis or Injury	2,353	36.1
Preventive	847	13.0
Therapy and Rehabilitation	471	7.2
Pregnancy	658	10.1
TOTAL	6,516	100.0

TABLE 44

KIND OF HEALTH INSURANCE (Q. 37)

KIND OF HEALTH INSURANCE	NUMBER	PERCENT
FHP	518	23.8
GMHP	505	23.2
HML	139	6.4
Military	146	6.7
Other Group Plan	139	6.4
Commercial, self-paid insurance plan	26	1.2
Other insurance, not listed above	337	15.4
Has insurance, but does not know what kind	15	0.7
TOTAL	2,177	100.0
Insufficient Data	59	

QUALITY AND ACCEPTABILITY OF HEALTH CARE SERVICES

Introduction

The information presented in this part of the report pertains to the respondents who represented the 455 households included in the survey. The subjects were asked to indicate their feelings and opinions about the health services available on Guam. By means of a flash card, they were asked to indicate their degree of satisfaction or dissatisfaction with a particular type of health service (Appendix C).

Information About Health Conditions

When asked to indicate the extent to which they were satisfied with the information health professionals had given them about their particular health conditions, 64 or 14.5 percent of those who responded, indicated that they were "very satisfied." About two-thirds, or 65.2 percent, stated that they were "satisfied" with the information provided to them, while 14.2 percent expressed that they were "somewhat dissatisfied." The remaining 6.8 percent, or 30 of those who answered the question, stated that they were "dissatisfied" with the information that the health professionals had given them about their health conditions. When combining the two satisfactory categories and the two dissatisfied categories, it may be further observed upon inspecting Table 45 , that 79.7 percent, or eight of 10 persons were satisfied with the information provided to them, while the remaining 20.2 percent, two out of every 10, were dissatisfied.

Information About Medical Treatment

The 455 persons interviewed were instructed to continue to use the flash card which showed degrees of satisfaction and to indicate to the interviewer the extent to which they were satisfied with the information health professionals had given them about medical treatment they had received. Their responses to this question are shown in Table 46 . As may be observed, the responses in this situation were only slightly different in the extent of satisfaction and dissatisfaction when compared with the information provided about their general health conditions. In this situation, 79.8 percent expressed varying degrees of satisfaction with the health information about treatment that the professionals in the field had given them, while 20.2 percent noted that they were either "dissatisfied" or "somewhat dissatisfied" with the information they had received.

Overall Quality of Health Care

The extent to which health care maintenance organizations wish to satisfy their clients is a decision which they themselves no doubt struggle with and eventually make. Many factors are, of course, involved in such a decision including individual personalities of the clients, whether they would ever be satisfied with a service, and whether they would ever express their degree of satisfaction or dissatisfaction with the overall quality of health care that they had received. Again, as in the prior two situations, eight out of

10 or 79.8 percent indicated that they were either "satisfied" or "very satisfied" with the overall quality of health care, while the remaining 20.2 percent indicated varying levels of dissatisfaction. (Table 47).

Quality of Health Care Received From Medical Personnel

Table 48 contains a composite of the responses by the interviewees to the question concerning their degree of satisfaction or dissatisfaction with the quality of health care they received from doctors, nurses, and medical aides and technicians. The respondents continued to use flash cards while expressing their feelings about these health care personnel. As may be observed, doctors, technicians, and aides rank somewhat higher than did nurses. More than eight out of ten, or 82.7 percent and 82.8 percent, respectively, were "satisfied" or "very satisfied" with the services received from doctors and the technicians and aides, while the figure was five percent lower or 77.6 percent for the nurses. Conversely, a larger percentage, 22.4 percent, were "dissatisfied" or "somewhat dissatisfied" with the health care received from the nurses, while the percentage was approximately 17.2 percent for the doctors and the technicians and aides. Although the level of satisfaction was almost identical, for the doctors and the technicians and aides, some differences were expressed in the specific degree of satisfaction. More specifically, it may be observed from the table that 15.1 percent were "very satisfied" with the doctors, while 10.8 percent were "very satisfied" with the technicians and aides.

Valued Source of Information

It is well known that individuals seek and receive information which makes them aware of a given practice or idea as well as facilitates them in making a personal decision regarding some particular course of action. Through research it has also been revealed that the population tends to become aware of a new idea or practice primarily through less personal sources, such as books, magazines, newspapers, pamphlets and electronic media, while as they come closer to accepting the new idea or practice in the decision-making process the tendency is to rely on personal sources such as experts in the field, relatives, neighbors and friends. The various sources of information, and the extent to which the persons included in this survey valued these sources of information, are presented in Table 49 . The specific question asked of the respondents was as follows: "Which of these sources from whom you have gotten information do you feel has been the most helpful to you?" The various potential sources of information have been ranked in the table from one to nine, based on the largest number that indicated the source was most helpful to the least. The number of persons mentioning each and the percentages of the total are also shown.

Upon observing the data presented in the table, it is obvious that the respondents clearly and without a doubt find that medical doctors are the most helpful source of information to them. Nearly three out of four, or 74.7 percent indicated that medical doctors had been the most helpful. Ranked second were members of the household. About

twelve percent indicated that household members had been the "most helpful" in their case. Books, magazines, newspapers and pamphlets combined ranked third, 5.1 percent, while the electronic media of television and radio programs and advertisements ranked fourth, 2.6 percent. Nine persons, or 2 percent mentioned that relatives not living in their households had been "most helpful." This category ranked fifth out of nine. In sixth place were nurses or medical aides. Only 1.8 percent stated that these types of medical personnel had been "most helpful" to them as a source of information concerning medical care. A friend had been "most helpful" to slightly over one percent, while only 0.6 percent mentioned traditional healers, such as a suruhanu, hilot or medical healers. Priests or clergymen ranked last in this case, with no one indicating that they were the most valuable source of information about medical care.

It may be of interest to note that while doctors, nurses and medical aides have all been trained in modern medicine from a scientific approach, the extent to which these categories differed as a valued source of information was most marked. Reference to the impersonal printed media of magazines, books, newspapers and pamphlets, with the rank of three, was also of particular interest. As noted above, these types of information sources are generally considered of prime value in assisting the population in becoming aware of a new idea or practice while of limited value in actually helping them in making decisions. Although examples are often reported of persons seeking out traditional healers in particular medical cases, the results of this survey would seem to indicate that persons living in the northern part

of Guam have not found them to be of an exceptional helpful nature in providing them with information about their health care needs. The fact that no one indicated that priests or clergymen were the most helpful source of information was also revealing but understandable since they, by professional training, would only be able to offer referral information.

Summary

As was noted in this section of the report, the population of northern Guam is generally satisfied with the information they are given about health conditions and treatment. Approximately 80 percent or four out of every five respondents were satisfied, while the remaining 20 percent, or one out of five, were dissatisfied. Likewise, they tended to express similar feelings about the overall quality of the health care they received, but did indicate some differences as to their satisfaction with particular types of health care personnel. Overall they were more satisfied with the health care they received from doctors, technicians and aides, and least satisfied with the quality of care received from the nurses.

Without a doubt, doctors are viewed as the most valuable source of medical care information. About three out of every four respondents felt that way. Household members ranked next, but far down the scale in the percentage who gave them as their most valued source. Ranked third was the impersonal sources of books, magazines, newspapers and pamphlets. No one in the study indicated that a priest or clergyman was the "most helpful" source of medical care information, while traditional

healers were only indicated as being the most helpful source by three persons out of 455. Friends and nurses or medical aides were next to the bottom of the list of most valued sources.

TABLE 45

DEGREE OF SATISFACTION WITH HEALTH
CONDITIONS INFORMATION RECEIVED (Q.27a)

DEGREE OF SATISFACTION	NUMBER	PERCENT	
Very Satisfied	64	14.5	79.7
Satisfied	287	65.2	
Somewhat Dissatisfied	59	13.4	20.2
Dissatisfied	30	6.8	
TOTAL	440	99.9	
Insufficient Data	15		

TABLE 46

DEGREE OF SATISFACTION WITH HEALTH
TREATMENT INFORMATION RECEIVED (Q. 27b)

DEGREE OF SATISFACTION	NUMBER	PERCENT	
Very Satisfied	51	11.6	79.8
Satisfied	300	68.2	
Somewhat Dissatisfied	65	14.8	20.2
Dissatisfied	24	5.4	
TOTAL	440	100.0	
Insufficient Data	15		

TABLE 47

DEGREE OF SATISFACTION WITH OVERALL
QUALITY OF HEALTH CARE RECEIVED (Q. 27c)

DEGREE OF SATISFACTION	NUMBER	PERCENT	
Very Satisfied	57	13.0	79.8
Satisfied	294	66.8	
Somewhat Dissatisfied	60	13.6	20.2
Dissatisfied	29	6.6	
TOTAL	440	100.0	
Insufficient Data	15		

TABLE 48

DEGREE OF SATISFACTION WITH QUALITY OF HEALTH CARE RECEIVED FROM MEDICAL PERSONNEL (Q.27d)

DEGREE OF SATISFACTION	DOCTORS			NURSES			TECHNICIANS & AIDES		
	#	%		#	%		#	%	
Very Satisfied	67	15.1		44	10.0		47	10.7	
			82.7			77.6			82.8
Satisfied	300	67.6		298	67.6		318	72.1	
Somewhat Dissatisfied	48	10.8		64	14.5		48	10.9	
			17.3			22.4			17.2
Dissatisfied	29	6.5		35	7.9		28	6.3	
TOTAL	444	100.0		441	100.0		441	100.0	
Insufficient Data	11			14			14		

TABLE 49

MOST VALUED SOURCE OF MEDICAL CARE INFORMATION (Q.29)

SOURCE OF INFORMATION	NUMBER	PERCENT	RANK
A Medical Doctor	340	74.7	1
Member of Household	55	12.1	2
Books, Magazines, Newspapers, Pamphlet	23	5.1	3
TV or Radio Programs/Advertisements	12	2.6	4
Relative, Not Living in the Household	9	2.0	5
A Nurse or Medical Aide	8	1.8	6
A Friend, not a Relative	5	1.1	7
A Suruhanu, Hilot, Traditional Healer	3	0.6	8
A Priest or Clergyman	-	-	9
TOTAL	455	100.0	

ACCESSIBILITY OF SERVICES

Introduction

How accessible a given service may be is dependent upon a number of factors. In this study, the factors considered included the length of time it takes to travel from one's home to the medical facility; the distance in miles between the home and the health care center; the type of transportation available, as well as the difficulty in having access to a form of transportation. Also considered was the day of week and time of day the medical facilities were open for serving clients. The extent to which medical services were unobtainable due to lack of transportation, preferred opening and closing hours for medical centers and preferred days for a center to be open were also studied.

Distance to Health Care Service

The extent to which individuals are able to accurately perceive distance in miles, length of time required to travel between two somewhat distant points, and directions is not fully understood. How people from various cultures differ in this regard is even less understood, although there seems to be preliminary data indicating that those of island cultures may not have been socialized to the same extent as those of major continents to perceive directions, time and distances. It may be assumed, however, that inaccurate estimations of direction, time, and distance may be in excess in some cases, while in other

cases one would find underestimates.

The information provided by the subjects in this study would appear to be fairly accurate as determined by actual distances, times and length of time normally required to travel between known points in the northern part of the island to the major medical facilities. The 455 persons interviewed were asked (Question 33): "About how many miles by car is it from this residence to your usual place of health care service?" The responses to this question are reported in Table 50. The actual number of miles traveled ranged from less than one mile to 15 miles, with the average being 6.03.

Length of Time Required To Reach Health Care Facility

Because most of the medical facilities on Guam are located in Tamuning, one of the municipalities included in the sample, the length of time required to travel from one's home to reach a medical care center would be relatively short for those living in the Tamuning village area. Likewise, those living in the more distant places, such as Yigo and Agafa Guams, would require a much longer time to travel from their homes to receive medical care. As reported in Table 51, the length of time was found to range from one minute to as high as 35 minutes for one-way travel by car. The average length of time required for the entire sample was 17 minutes. With an average distance of 6.03 miles, this would suggest an average driving speed of about 21 miles per hour.

The right-hand column within the table is an accumulation of the percentages of respondents for the various categories. It may be noted that the one-way travel time is 15 minutes or more for 68 percent of the persons. For 42 percent, the travel time is 20 minutes or more, and for slightly more than one-fourth, 25.8 percent, the travel time from home to the medical facility is 25 minutes or more. Slightly over 17 percent require one-half hour or more in travel time.
It would be expected that if no major progress is made in the improvements of the roads in northern Guam and the number of vehicles on the roads continues to increase, the amount of travel time by car would correspondingly increase. Coupled with the increase in costs of fuel for operating the vehicles, it could be concluded that the residents of northern Guam will find it increasingly difficult to receive medical services due to the time and costs involved in traveling to the health centers that presently are located primarily in the Tamuning area.

Mode of Transportation

The form of transportation used by the people of northern Guam to travel to their health care facility was also determined. In view of the fact that no form of mass transportation exists, the alternative methods of travel to the hospital or a clinic are limited. When asked "When you or any other person from this household need to go to a health care facility, in what kind of transportation do you usually go?" (Question 34), approximately nine out of every 10 indicated that they used either their own car or truck. An additional 6 percent rely on

their relatives' car or truck. The remaining 3.1 percent depend on cars or trucks of non-relatives or social service agencies, taxis, or they simply walk. This information is presented in Table 52.

Difficulty in Obtaining Transportation

When asked how difficult it was to obtain necessary transportation to get to a health care facility, 84 percent indicated that it was not difficult at all for them, while 10.4 percent noted that it was "somewhat difficult," and 5.6 percent said that it was "very difficult." These responses seem to correspond closely to the mode of transportation reported to be available. No doubt those who found no difficulty in getting to the health care facility where those who owned their own vehicles or lived within a short walking distance from the centers. These responses and the percentages of the total are included in Table 53.

Lack of Transportation

Upon inspecting Table 54 , it may be noted that 14.2 percent of those interviewed mentioned that they or some other member of their household had at one time or another decided not to go to a doctor or health facility because transportation was not readily available. This would suggest that even though a given family may own transportation in the form of a car or truck, the family car may be used by certain members of the family to go to work. In such cases it would be unavailable for use by those remaining at home and they obviously would have

difficulty in reaching a medical facility in case of need. Distance from one's home to place of work might also preclude the alternative of returning to one's home in order to transport a family member to the health care facility in case of need.

Satisfaction with Travel Time, Length of Visit and Day and Time of Available Services

In addition to determining the distance from one's home to their usual medical care facility, the length of travel time and the mode of transportation generally used, an effort was made in this study to also find out the level or degree of satisfaction that the 455 respondents felt with regard to the length of travel time, how long they had to wait before being treated, as well as the days of the week and the times of the day that the medical services were available to them. During the interview, they were presented with a flash card which contained various categories of satisfaction and dissatisfaction. The number of responses and the percentages of the total number are presented in Table 55 . While approximately eight out of 10 persons were either "satisfied" or "very satisfied" with the time of day and days of week that the medical services were available, only slightly more than half, 56.4 percent were "satisfied" or "very satisfied" with the time it generally took to complete a visit at a doctor's office or health care facility from the time of arrival until leaving. About three-fourth were "satisfied" or "very satisfied" with the length of travel time required to reach the doctor's office or medical facility. The proportion of sample members who were dissatisfied ranged from 19.9 percent

for the times of the day that the services were available to as high as 43.6 percent with the length of time required to be treated or receive medical care after arriving at the health care center or facility. No attempt was made in this study to find out the amount of waiting time required to receive medical attention.

Days of Operation

To determine the extent of agreement among the sample members regarding any particular day of the week when having a health center closed would be considered least harmful to them, they were asked to respond to the following question: "It is possible that such a proposed health center in this area could be open all seven days of the week, but this would be very expensive and increases the cost of health care. If the proposed health center was to be closed one day each week, which day do you think would be the least and second least harmful days?" (Question 43). Upon inspecting Table 56 , it may be observed that having such a medical facility closed on Monday would be considered "Least harmful" by more than four out of every 10 persons, 43.2 percent. An additional 7.4 percent listed Monday as the "second least harmful" day for the center to be closed. When combining these two figures, slightly more than half of all the people felt that if the proposed health care facility would have to be closed one day a week, it would not be harmful to them if it would be on Monday.

By inference the findings of this study would suggest that the three most important days for a health center in northern Guam to be opened

would be on Fridays, Saturdays and Wednesdays. Thursdays would rank a close fourth, while Tuesdays and Sundays would be fifth and sixth, respectively. One cannot necessarily assume from these data, however, that if the center needed to be closed on Tuesdays that the least harmful days would still be Sundays and Mondays, because the question specifically asked for the least harmful day and the second least harmful day only in the case where the center had to be closed one out of seven days a week. The inferred high preference for having a health care facility available on Saturdays is of particular interest in view of the practice of one facility currently in operation which is closed on that day.

Preferred Opening Times

As reported earlier there seems to be general satisfaction with the length of time that the present health facilities are open for service. In further considering a health center that may be built in the northern part of Guam, the persons interviewed were queried about the time of morning that they would want such a center to open. In an effort to determine an optimum opening time, they were asked to indicate the earliest that they felt such a center might open to meet their needs, as well as the latest that they would like to see it stay open. Their answers are reported in Table 57.

Most everyone in the survey had a preferred opening time. As many as 36 percent wanted the center to open by 7:00 o'clock in the morning, while an additional 43.4 percent preferred that it opened at 8:00 in the morning. Combining these proportions, approximately eight out of

ten indicated a preference for having the medical facility opened by 8:00 in the morning or earlier.

A rather surprising 7.2 percent of those interviewed indicated that the center would not have to open until 12:00 noon or later to meet their medical needs. However, 20.1 percent felt that the latest it should open would be 10:00 a.m. and an additional 34.2 percent felt 9:00 a.m. would be the latest time to open. Nearly 21 percent indicated that they would not like to see the center opened any later than 8:00 o'clock in the morning. Generally, therefore, it would appear that if the preferences of potential clients are to be met, a new health facility in the northern part of Guam would satisfy most everyone if it opened its doors around 7:00 a.m. or shortly thereafter. A majority would still be satisfied if it opened later such as 8:00 a.m. or 8:15 a.m.

Preferred Closing Time

The preferred closing time of the proposed northern Guam health facility as reported by the 455 sample members varied considerably. While 3.6 percent felt the earliest closing time could be 3:00 o'clock in the afternoon or earlier, 8.3 percent felt that the latest closing hour should be 10:00 or even later in the evening. About one-fourth indicated that the earliest closing time of the facility could be 8:00 p.m. or even later. The data presented in Table 58 further reveals that two-thirds of the population would desire the new health facility to be open in the evening until at least 6:00 o'clock.

With reference to the subjects' preference for a given time to close for the health care center each day, nearly half, 48.5 percent specified 8:00 p.m. or later. An additional 17.4 percent mentioned 7:00 p.m. and one out of five interviewees preferred a closing time of 6:00 p.m.

Summary

In this section of the report it was found that accessibility of health care is a relative concept. The major portion of medical facilities currently available on the island are located in one segment of the study area. Therefore, it was reasonable to find that the average one-way travel distance from household to the usual health care facility was approximately 6 miles. This, of course, assumes an accurate perception of distance on the part of those interviewed. It was also reported that on the average it requires 17 minutes to travel to the health care facility, while the range in minutes was from one to 35. This would be approximately a travel speed of 21 miles per hour.

In 91 percent of all the cases, it was reported that the mode of transportation used to go to the medical facility was a car or truck which was owned by the members of the household. In a few cases, individuals walked, used taxis or vehicles from non-relatives or social service agencies. No mass transportation was available on the island for the subjects to use. Although a majority of those interviewed reported not having difficulty in obtaining transportation to go seek medical attention, about one out of every eight stated that they did

experience difficulties to some degree. A similar proportion, 14.2 percent, reported that they or other members of their household had been unable to receive needed medical care or attention due to the unavailability of transportation.

The survey revealed that the respondents were more dissatisfied with the length of time that it required to be attended to after reaching a medical facility of care than they were with the time required to reach the facility, or the day of week, or the time of day that the facilities were available. The level of dissatisfaction ranged from approximately 20 percent to as high as 43.6 percent for these four components of availability of medical service.

Since the proposed new health facility was required to be closed one day out of the seven day week, clearly the day considered to be the least harmful for such a closing would be Monday. Sunday would be a distant second, and Tuesday third.

Although the preferred opening time of such a center varied, it was found in this study that the majority would like to see it opened between 7:00 and 8:00 o'clock in the morning, but not to open any later than 8:00 or 9:00 a.m. The preferred closing time for such a medical facility also varied considerably, with a majority indicating their preference for the earliest closing time at approximately 6:00 o'clock in the evening, with the latest closing time being at about 8:00 p.m.

TABLE 50

MILES FROM HOME TO HEALTH CARE FACILITY (Q. 33)

MILES	NUMBER	PERCENT
Less than 1	3	0.6
1	53	11.8
2	19	4.2
3	35	7.8
4	65	14.4
5	61	13.6
6	20	4.4
7	36	8.0
8	26	5.8
9	61	13.6
10	35	7.8
11	4	0.9
12	11	2.5
13	7	1.5
14	3	0.6
15	11	2.5
TOTAL	450	100.0
Insufficient Data	5*	

Average number of miles travel per person (one-way) - 6.03 miles

*Includes one person who travels off-island for medical care.

TABLE 51

LENGTH OF TIME TO REACH A HEALTH CARE FACILITY (Q.32)

MINUTES	NUMBER	PERCENT	ACCUMULATED PERCENTAGES
1	5	1.1	100.0
2	1	0.2	98.9
3	5	1.1	98.7
4	1	0.2	97.6
5	53	11.9	97.4
6	1	0.2	85.5
7	4	0.9	85.3
8	4	0.9	85.4
9	1	0.2	85.5
10	67	14.9	83.3
12	2	0.4	68.4
15	117	26.0	68.0
19	1	0.2	42.0
20	72	16.0	41.8
25	39	8.7	25.8
30	76	16.9	17.1
35	1	0.2	0.2
TOTAL	450	100.0	

Insufficient Data 5*

Average length of time needed to travel to health facility was 17 minutes.

*Includes one person who travels off-island for medical care.

TABLE 52

MODE OF TRANSPORTATION (Q.34)

MODE OF TRANSPORTATION	NUMBER	PERCENT
Own car or truck	408	90.9
Relative's car or truck	27	6.0
Non-relative's car or truck	3	0.7
Social Service Agency's car or truck	2	0.4
Taxi	3	0.7
Walk	6	1.3
TOTAL	449	100.0
Insufficient Data	6	

TABLE 53

DIFFICULTY IN OBTAINING TRANSPORTATION (Q.35)

DEGREE OF DIFFICULTY	NUMBER	PERCENT
Very Difficult	25	5.6
Somewhat Difficult	47	10.4
Not Difficult	377	84.0
TOTAL	449	100.0
Insufficient Data	6	

TABLE 54

UNAVAILABILITY OF MEDICAL CARE DUE TO
LACK OF TRANSPORTATION (Q.36)

	NUMBER	PERCENT
Yes	63	14.2
No	380	85.8
TOTAL	443	100.0
Insufficient Data	12	

TABLE 55

DEGREE OF SATISFACTION WITH TRAVEL TIME, LENGTH OF VISIT, AND DAY AND TIME OF AVAILABLE SERVICES (Q'S. 27h,i,j,k)

DEGREE OF SATISFACTION	TRAVEL TIME			LENGTH OF VISIT			DAYS AVAILABLE			TIME AVAILABLE		
	#	%		#	%		#	%		#	%	
Very Satisfied	58	13.1		34	7.6		45	10.2		44	10.0	
			75.7			56.4			77.8			80.1
Satisfied	276	62.6		217	48.8		298	67.6		309	70.1	
Somewhat Satisfied	59	13.4		91	20.5		65	14.7		53	12.0	
			24.3			43.6			22.2			19.9
Dissatisfied	48	10.9		103	23.1		33	7.5		35	7.9	
TOTAL	441	100.0		445	100.0		441	100.0		441	100.0	
Insufficient Data	14			10			14			14		

TABLE 56

LEAST HARMFUL DAY FOR CLOSING HEALTH FACILITY (Q. 43)

DAY	LEAST HARMFUL #	LEAST HARMFUL %	SECOND LEAST HARMFUL #	SECOND LEAST HARMFUL %	COMBINED PERCENTAGE
Monday	193	43.2	33	7.4	50.6
Tuesday	65	14.5	64	14.3	28.8
Wednesday	16	3.6	46	10.3	13.9
Thursday	34	7.6	50	11.2	18.8
Friday	17	3.8	42	9.4	13.2
Saturday	17	3.8	43	9.7	13.5
Sunday	58	13.0	91	20.3	33.3
No preferences	47	10.5	78	17.4	27.9
TOTAL	447	100.0	447	100.0	
Insufficient Data	8		8		

TABLE 57

PREFERRED MEDICAL FACILITY OPENING TIME (Q.42b)

OPENING TIME	EARLIEST #	EARLIEST %	LATEST #	LATEST %
6 a.m. or earlier	58	13.0	12	2.7
7:00 a.m.	103	23.0	41	9.2
8:00 a.m.	194	43.4	92	20.6
9:00 a.m.	66	14.8	153	34.2
10:00 a.m.	13	2.9	90	20.1
11:00 a.m.	3	0.7	16	3.6
12:00 noon or later	2	0.4	32	7.2
No Preference	8	1.8	11	2.4
TOTAL	447	100.0	447	100.0
Insufficient Data	8		8	

TABLE 58

PREFERRED MEDICAL FACILITY CLOSING TIME (Q. 42c,d)

CLOSING TIME	EARLIEST #	EARLIEST %	LATEST #	LATEST %
3:00 p.m. or earlier	16	3.6	7	1.6
4:00 p.m.	42	9.4	18	4.0
5:00 p.m.	105	23.5	24	5.4
6:00 p.m.	112	25.0	85	19.1
7:00 p.m.	48	10.7	78	17.4
8:00 p.m.	37	8.3	71	15.9
9:00 p.m.	41	9.2	65	14.5
10:00 p.m. or later	37	8.3	81	18.1
No preference	9	2.0	18	4.0
TOTAL	447	100.0	447	100.0
Insufficient Data	8		8	

COST OF MEDICAL SERVICES

Introduction

This section of the report contains information on the actual out-of-pocket costs the 455 subjects reported to have paid for medical care during the prior year. In addition, it includes their level of satisfaction with the amount of out-of-pocket costs. Finally, this section contains information on the acceptability of a specific form of taxation to help support the costs of a medical facility in the northern part of the island.

Out-of-Pocket Expenses

Previously mentioned in this report was the fact that a very large percentage, 83.8 percent of the household representatives, reported that they subscribed to some form of medical health insurance to assist them with their bills for medical care. A person's out-of-pocket medical expenses certainly are affected by whether or not he carries medical insurance.

In this survey, the subjects were asked: "In the past 12 months, about how much money has your household directly paid not counting health insurance premiums, in out-of-pocket costs for health related needs. This would include medicine or anything not covered by health insurance, including dental or optical costs?" To assist them in answering the question they were presented with a flash card, which contained various categories of amounts spent. The specific categories are shown in the interview schedule, which appears in the

Appendix of this report.

A total of $131,790.00 was reported to have been spent for out-of-pocket medical costs by 382 members of the survey. This was an average of $345.00 per household during the prior 12-month period.

As is shown in Table 59 , 12.6 percent of those interviewed indicated that they did not have any out-of-pocket expenses, while 0.5 percent reported such yearly costs in excess of $4,000. Over 47 percent had medical costs of $150 or less, while more than one-fourth, 26.6 percent, said they had spent on the average between $150 to $500 for the year.

Degree of Satisfaction With Out-Of-Pocket Costs of Medical Care

Those interviewed were also asked to indicate their level of satisfaction with their out-of-pocket expenses for medical care. As reported in Table 60 , two-thirds were either "satisfied" or "very satisfied," while one-third of the subjects were either "dissatisfied," or "somewhat dissatisfied" with medical care costs.

Additional Property Taxes to Fund Health Care Center

The extent to which the 455 persons interviewed would be willing to pay additional property taxes specifically to support a new health center in the northern part of Guam was also determined in the survey. They were asked to respond to the following statement: "The proposed Northern Area Health Center would be built with federal funds, but

the funds for the upkeep and maintenance of the facility and for most employees would have to come from local sources. What are your feelings about having your property taxes increased if such a proposed new health center would provide improved preventive health services only, or both improved acute (emergency) and preventive (immunization, etc.) health services?" The interviewees were also presented a flash card which contained the following four responses: (1) A good project and I would be willing to have my tax increased to the extent necessary; (2) Would not mind if taxes were increased a little bit; (3) Thinks the project is good but feel uncomfortable about tax increase; and (4) Would not like a tax increase at all. The responses to this overall question are shown in Table 61 .

As may be noted, there was a somewhat greater willingness to accept the concept of having to pay additional taxes to support a Northern Area Health Center if it would provide both acute and preventive care as opposed to providing only preventive medical care. In the case where only preventive care would be offered, 31.7 percent gave a favorable response of being willing to pay a larger tax. About 46 percent were against having an increase, and 22.2 percent mentioned that they were uncomfortable about a tax increase. When the question referred to a medical facility that would provide both acute and preventive medical care, the proportion that were willing to pay additional taxes was about equal to the percentage of people who would not like to see any tax increase at all. The figures were 37.1 percent and 39.6 percent, respectively. Approximately 23 percent would be

be uncomfortable about a tax increase for this purpose.

Summary

A very large majority, more than four out of every five households were covered by medical insurance. Of those who had out-of-pocket medical expenses, the average amount per household was $351.58 for the year. Two-thirds of the household representatives were satisfied with their out-of-pocket costs for medical expenses, while the remaining one-third indicated that they were dissatisfied with the amount they paid.

In order to support a federally funded medical facility in the northern part of Guam, the subjects were more in favor of having their property taxes increased if the facility contained both acute and preventive care facilities, as in contrast to having only preventive medical care available. However, a larger percentage in both cases were not in favor of a tax increase while an additional one out of five indicated that they were uncomfortable about a tax increase for this purpose.

TABLE 59

OUT-OF-POCKET EXPENSES FOR MEDICAL CARE (Q.38)

DOLLARS	# OF PEOPLE	TOTAL OUT-OF-POCKET EXPENSES	PERCENT
0 - None	55	0	12.6
$1 - $50	89	$ 2,269.50	20.4
$51 - $150	118	11,859.00	27.0
$151 - $300	69	15,559.50	15.8
$301 - $500	47	18,823.50	10.8
$501 - $1,000	33	24,766.50	7.5
$1,001 - $2,000	15	22,507.50	3.4
$2,001 - $4,000	9	27,004.50	2.0
$4,001 or more	2	9,000.00	0.5
TOTAL	437	$131,790.00	100.0
Insufficient Data	18		

Average out-of-pocket cost for those answering the question - $301.50

Average of those claiming out-of-pocket expenses - $345.00

TABLE 60

DEGREE OF SATISFACTION WITH OUT-OF-POCKET COSTS OF MEDICAL CARE (Q.27g)

DEGREE OF SATISFACTION	NUMBER	PERCENT	
Very Satisfied	48	10.9	66.7
Satisfied	246	55.8	
Somewhat Dissatisfied	69	15.6	33.3
Dissatisfied	78	17.7	
TOTAL	441	100.0	
Insufficient Data	14		

TABLE 61

WILLINGNESS TO PAY TAXES FOR OPERATION OF HEALTH CARE CENTER (Q.53a)

WILLINGNESS TO PAY TAXES	PREVENTIVE		ACUTE AND PREVENTIVE	
	#	%	#	%
Yes, willing to pay taxes	45	10.2	59	13.3
Wouldn't mind small amount of tax	95	21.5	105	23.8
Uncomfortable about tax	98	22.2	101	22.9
Would not like tax increase	202	45.7	175	39.6
Use only military hospitals	2	0.4	2	0.4
TOTAL	442	100.0	442	100.0
Insufficient Data	13		13	

TYPES OF SERVICES/FACILITY NEEDS

Immunizations and Tetanus Shots

Young children must be immunized to prevent the hardship and danger to life that may be caused by known childhood diseases. This is particularly significant on this island in view of unanticipated situations that arise, such as the rapid influx of refugees, where the chances of youngsters arriving without adequate immunizations for protection are very likely to be high.

Because rusty nail puncture wounds, cuts from broken glass, lawnmowers, machettes, tin roofing and so forth frequently occur on Guam, protection provided by a Tetanus shot is necessary. All children 10 years and older and adults need a Tetanus shot every 10 years for adequate protection.

Several questions were included in the interview schedule of this study to determine the extent to which children under 10 years of age were immunized against various childhood diseases. In addition, for all those 10 years and older, an effort was made to find out if they had the necessary tetanus shot within the immediate past 10 years.

Records

The persons interviewed were asked if they had immunizations or shot records for their children. As noted in Table 63, records were available for 87.7 percent or nearly nine of every 10 children. Interviewers asked the subjects to locate the shot records for use during the interviews.

Children Under 10 Years

In the 276 households where there were children under age 10, the persons interviewed were asked if these children had received shots for the following childhood diseases: Measles, Rubella, DPT, Oral Polio, Mumps, and a PPD test for Tuberculosis. As presented in Table 62, 89.4 percent of the 529 young children had received their DPT shots, while a slightly smaller percentage, 86.9 percent had had Oral Polio protection. Only about three-fourths, 74.5 percent, were reported to have had shots for Mumps. The relatively low percentages of young children who were known to have had their shots for Rubella and Measles was an important finding. The figures were 76.6 and 79.2 percent, respectively. As also reported in Table 62 , 80.1 percent were known to have had a PPD test. Although these percentages may appear satisfactory initially, it should be pointed out that all children must have their immunizations up-to-date. Basically, therefore, any figure short of 100 percent is considered inadequate because of the potential epidemic situation. These data were found to be similar to the results of a survey conducted in February to March of 1978 on the immunization level of children in Guam.[1]

Persons 10 Years and Older

There were 1,707 children and adults 10 years and older included in the northern Guam survey. The respondents were asked to indicate if these

1/ Immunization of Guam Children Under Ten Years of Age: A Statistical Report, Kasperbauer, L. F., Community Development Institute Report No. 2, University of Guam, March 31, 1978.

persons had had a Tetanus shot within the last 10 years. As reported in Table 64 , 702, or 41.1 percent, were reported to have had a Tetanus shot while 652, or 38.2 percent, did not. For the remaining 353, or about one out of five, the respondent were not certain whether those individuals had had their necessary Tetanus shot to be adequately protected.

Pregnancy Care

Among the 2,236 individuals included in this study of northern Guam, 545 were considered to be in the childbearing age range. Of these women, 56 or about 10 percent were currently pregnant or had been pregnant sometime during the 12 months prior to the survey.

Complications

During the interviews, the respondents from the 56 households in which pregnancies had been reported were asked if any of the women had experienced complications during their pregnancies. As reported in Table 65 , 10 of the 56, or 17.8 percent were reported to have had complications. As shown in Table 66 , in each case a doctor had been consulted about the complications. The persons being interviewed were further asked if the pregnancies had ended with live births. As shown in Table 67 , 70 percent, or 39 of the 56, gave a "yes" response to this question, while 10.7 percent, or 6 of the pregnancies terminated with a miscarriage or stillbirth, and about one out of five, 19.7 percent were reported as currently being pregnant.

Sex Ratio

It may be of interest to note that of the 39 pregnancies which had ended with a live birth, two involved sets of twins. This information, and the sex ratio of the 41 children that were born to the 56 women is presented in Table 68 . As shown, 48.8 percent of the babies were males and 51.2 percent were females. Although this sample is relatively small, the sex ratio in this case was the reverse of what normally would be expected.

Health Status and Infant Mortality

The interviewees were further asked about the health condition of the newborn infants. As shown in Table 69 , of the 41 babies that had been born, nine out of every 10, or 92.7 percent were reported as being well and healthy and 4.9 percent were termed as being sick. One baby was no longer living.

Health Services Desired

The persons interviewed were to indicate to what extent they would expect a member of their household to use a particular kind of health service if it was offered by the proposed health facility at any one of the three suggested locations. They were asked to indicate: (1) if they would never, or not likely use it, (2) sometimes or occasionally use it, and (3) very likely or frequently use it. The specific services and the extent to which the sample members felt that members of their household would go to the center to receive the particular

services are presented in Table 70 . These services were in addition to the major health services of dental care, physicals and check-ups, emergency health care, pediatrics care, and laboratory tests, x-rays, and pharmacy services.

A positive response was received from the 455 interviewees. About two-thirds to more than three-fourths stated that they or other members of their households would use the proposed health facility at least sometimes or frequently for the nine different services. The percentages corresponding to the various services are listed below in descending order of projected use:

78.4- Communicable disease control (immunization, etc)

78.2- Physical disability and therapy needs

75.1- Nutrition and diet counseling

72.6- Obstetric services (pregnancy care)

71.3- Social welfare (food stamps, family counseling, etc.)

67.9- General Mental Health needs (psychologists, etc.)

64.5- Drug or alcohol counseling

The high, favorable response to communicable disease control services would appear to be encouraging in view of the relatively sizeable proportion of young children in this region who were reported as not being fully immunized against the primary childhood diseases. The high ranking of physical disability and therapy, nutrition and diet counseling, and speech or hearing disability services was enlightening. Obviously, the need for obstetric care and social welfare program would not be needed in all households and, therefore, would not be expected to rank on the top of the list.

In addition to these services, others were specifically requested to be made available through the proposed health center to be constructed in northern Guam. These specific kinds of services are listed below Table 70 . The services, as may be observed, included emergency care, a clinic for dermatology work, dental and orthodontal services, special help for the blind and other handicapped, and programs for the elderly. Others requested family planning and birth control information, and still others asked for education and cures of venereal diseases. The concept of an attached mobile clinic with a nurse and doctor was also recommended. It was further suggested that a mobile dental clinic to visit the schools be also attached to the new health care center.

Summary

Nearly nine of every 10 households have immunization records or shot cards on hand. In this survey, they were asked to use them during the interview in order to reduce the need for recall responses to the question asked. There were 529 children under nine years or younger in the sample population of 2,236. From 10 to 25 percent of the young children were reported to not being adequately immunized against the major childhood diseases. This was believed to present a potential epidemic situation.

A Tetanus shot is required every 10 years as a safety precaution for those 10 years and older. More than one-third, 38.2 percent, in this survey were reported to be in need of a Tetanus shot. In view of the high risk situation involving cuts and puncture wounds after typhoons,

around construction projects and along the beaches, such a large proportion of the persons residing in the northern part of the island who need the protection of a Tetanus shot was considered most unfortunate.

About 24 percent of 2,236 persons in this study were females in the childbearing age range. Of these 545 girls and women, about 10 percent were or had been pregnant during the year prior to the survey. One-fifth of them were reported to have had complications during their pregnancies. Miscarriage or stillbirths resulted in about 13 percent of the cases. Of the live births there were two sets of twins. Nearly 93 percent of the babies were considered to have been well and healthy. Infant mortality occurred in 2.4 percent of the case.

An extensive list of health services that could be offered in a health care facility in northern Guam was suggested to the persons being interviewed. Not only did very favorable responses result, but an additional list of services desired was also generated by the sample members.

Generally speaking, the sample divided itself as follows: approximately half indicated that they would very frequently or most likely use the various services mentioned, while approximately one-fourth to one-fifth more said that they would sometimes or occasionally use the center for those particular health services. Although favorably rated, drug and alcohol counseling and mental health services were given the lowest ratings. Based on these findings, it would appear that the people in northern Guam would respond very favorably to a new health

facility, whether it offered a select number of medical services, or an expanded or more complete number of these alternatives services.

TABLE 62

EXTENT OF IMMUNIZATIONS FOR CHILDREN UNDER 10 YEARS
(Q. 25 b,c,d,e,f)

KIND OF IMMUNIZATION	YES	%	NO	%	DK*	%	TOTAL
Measles	419	79.2	72	13.6	38	7.2	529
Rubella	405	76.6	85	16.1	39	7.3	529
DPT	473	89.4	27	5.1	29	5.5	529
Oral Polio	460	86.9	51	9.6	18	3.5	529
Mumps	394	74.5	92	17.4	43	8.1	529
PPD Test	424	80.1	69	13.1	36	6.8	529

* Don't know

TABLE 63

RECORDS OF IMMUNIZATIONS (Q. 25a)

RECORDS	NUMBER	PERCENT
YES	464	87.7
NO	65	12.3
TOTAL	529	100.0

TABLE 64

EXTENT OF TETANUS SHOTS FOR PERSONS 10 YEARS OR OLDER (Q.26)

TETANUS SHOTS	NUMBER	PERCENT
YES	702	41.1
NO	652	38.2
NOT CERTAIN	353	20.7
TOTAL	1,707	100.0

TABLE 65

EXTENT OF COMPLICATIONS DURING PREGNANCY (Q. 23b)

PREGNANCY COMPLICATIONS	NUMBER	PERCENT
YES	10	17.8
NO	45	80.4
NOT CERTAIN	1	1.8
TOTAL	56	100.0

TABLE 66

DOCTOR CONSULTED CONCERNING PREGNANCY COMPLICATIONS (Q.23c)

DOCTOR CONSULTED	NUMBER	PERCENT
YES	10	100.0
NO	0	0.0
TOTAL	10	100.0

TABLE 67

PREGNANCY TERMINATIONS (Q. 23d)

LIVE BIRTHS	NUMBER	PERCENT
YES	39	69.6
NO (miscarriage stillbirth)	6	10.7
STILL PREGNANT	11	19.7
TOTAL	56	100.0

TABLE 68

SEX RATIO OF BABIES (Q.23e)

SEX	NUMBER	PERCENT
MALE	20	48.8
FEMALE	21	51.2
TOTAL	41	100.0

TABLE 69

HEALTH STATUS AND INFANT MORTALITY

STATUS	NUMBER	PERCENT
Well Babies	38	92.7
Sick Babies	2	4.9
Baby died (female)	1	2.4
TOTAL	41	100.0

TABLE 70

PROJECTED USAGE OF HEALTH FACILITY BY SERVICE OFFERED (Q. 41a-j)

TYPE OF SERVICE	FREQUENCIES OF USE NEVER #	NEVER %	SOMETIMES #	SOMETIMES %	FREQUENTLY #	FREQUENTLY %	TOTAL #	TOTAL %	ID*
Physical Therapy	88	21.8	99	24.5	217	53.7	404	100.0	51
Drug alcohol counseling	129	35.5	81	22.3	153	42.2	363	100.0	92
Speech, hearing needs	106	27.4	91	23.5	190	49.1	387	100.0	68
Health information education	87	21.8	101	25.2	212	53.0	400	100.0	55
Social Welfare	111	28.7	76	19.6	200	51.7	387	100.0	68
Mental Health	121	32.1	83	22.0	173	45.9	377	100.0	78
Pregnancy Care	106	28.4	85	22.8	182	48.8	373	100.0	82
Immunization, etc.	88	21.6	85	20.8	235	57.6	408	100.0	47
Nutrition and diet counseling	97	24.9	85	21.8	208	53.3	390	100.0	65
Other**	396	90.0	6	1.4	38	8.6	440	100.0	15

* Insufficient data

** Other kinds of health care services requested:

	No. Requesting
Emergency Care	10
Dermatology Clinic	3
Dentist	9
Orthodontist	2
Special advice and facility for the blind	1
Prosthetic services for the handicapped	1
Special program for the elderly	2
Family planning and birth control information	6
Education and cures for VD	5
An attached mobile clinic with nurse and doctor	3
An attached mobile dental clinic to visit schools	2
Total	44

PROPOSED MEDICAL FACILITY; PREFERENCE OF TYPES OF SERVICES, LOCATION, AND ADMINISTRATIVE ORGANIZATION

Introduction

Each of the following five tables focuses on a specific type of health service that a particular facility might offer. They are: (1) Dental Care; (2) Physicals and Check-ups; (3) Emergency Health Care (accidents); (4) Pediatric (child) health care; and (5) Lab tests, x-rays or Pharmacy Needs. Shown in each table are frequency and percentage distributions of the total sample's degree of certainty of use or non-use of the proposed medical facility if located in three different village areas. Also included in the table is their preference for health maintenance operated organization (HMO) versus privately operated facility.

The following discussion, therefore, will concentrate on three types of data. First, the variations in the responses of the 455 persons interviewed when making a comparison of the five different types of health services. This will be followed by a discussion of their preferences of each of the three potential locations for the facility and lastly, this section will include an overview of the differences in the responses to the choice of the type of administrative structure HMO versus Private, for operating the health facility.

Type of Health Care Services

When interviewed the 455 subjects were asked if they thought that their family would start using the proposed new health facility for each of the five types of health care services as outlined immediately above. As shown in the tables 71-75 there was a relatively strong favorable response to the question. Depending upon the location of the facility and the type of administration organization that it would have, those who indicated that they were "somewhat sure" or "very sure" that they would use the health facility range from 47 percent to 73 percent. With the exception of pediatric health care, there was very little difference in their responses to the question when comparing emergency health care with physical check-ups, dental care and lab tests, x-rays or pharmacy needs. The certainty of use of the facility for these particular services was slightly more favorable than for pediatric care. It may be further observed when reviewing Table 74 (Pediatric Care) that a slightly larger percentage of the individuals in this case indicated that they or their family had never used this particular kind of service. The percentages in each cell of the table were approximately three percent, while for the other tables the correspondding percentages were less than one.

Also shown in the tablesare the responses of those who felt that they would not use such a facility. It may be noted upon careful inspection that only a slightly larger percentage indicated that they would not use the service for pediatric care, or dental care as in contrast to emergency care, physicals and check-ups, and lab tests, x-rays or

pharmacy needs.

Preferred Location

Three general site locations were suggested for the proposed new health care center. Location One was specified to be between Upper Tumon and the Harmon Area, Location Two would be between Dededo and the Latte Heights, and Location Three in the Agafa Gumas-Yigo area. As may be observed, the data presented in these five tables suggest that Location Two (Dededo/Latte Heights area) would be the preferred site for this facility. It was only slightly preferred over Location One (the Upper Tumon/Harmon area). Both Locations One and Two were definitely preferred over Location Three. The certainty of use responses of "somewhat sure" to "very sure" ranged from the 60's to the 70's in percentages for all the services except pediatric care for Locations One and Two, while for Location Three the range was in the 40's and 50's for all five services. For Locations One and Two the positive, certainty of use responses ranged in the 50's and 60's for pediatric care. It may be of further interest to note that when comparing Locations One and Two, that although Location Two had the more favorable response in terms of certainty of use, it also had a slightly larger percentage who indicated that they definitely would not use the facility at that location as compared with Location One. A possible explanation for this is that the facility already existing in Tamuning may be so conveniently located, within walking distance, that a number of persons saw no personal need for a facility located between the Dededo and

Latte Heights area. More than twice as many persons in this survey indicated that they would not use a facility located in the Yigo/Agafa Gumas area as compared with the other two possible site locations.

Type of Administrative Organization

The results of this survey would tend to suggest that the sample members preferred a privately administered organization as compared to a clinic operated by a health maintenance organization such as HML, FHP, GMHP, etc. For all three locations and all five services, those who indicated that they would be very sure to use such a facility was greater in each case where the private doctor offices would be available as compared with a HMO operated clinic. The differences were substantial, ranging from five percent to as much as 11 percent. Approximately half of the subjects interviewed said that they would be very sure to use such a facility if operated by private physicians, whereas the percentages dropped to the lower 40's when it was suggested that it might be administered through a HMO.

In each of the corresponding tables a dotted line links the largest percentages of degree of certainty of use for each site location. Some differences in the type of administration preferred appear to exist among the three site locations when comparing services. These differences, however, tended to be consistent within a given location for the various types of services offered. For example, in Location Two (Dededo/Latte Heights) the respondents tended to react more favorably to private administrative organizations by indicating that they would

be "very sure" or "somewhat sure" that they would use it, while at the same time a large percentage said that they would not use it if it was under a HMO administration. In contrast to this, in Location One the largest percentage of those who were "somewhat sure" that they would use it appears under the HMO column, while the largest percentage also appears under the "no, would not use" column for the facility if it was operated by private physicians.

Summary

Concerning the type of medical services that the proposed new health center might offer, where it should be located and the type of administrative organization that it should have, was examined in this section. All five services seemed to have received a very favorable rating by the respondents, although making pediatric care available was of less interest to a larger portion of the sample. Site Location Two tended to be favored only slightly over Location One, while both Locations One and Two were definitely preferred over Location Three.

A slightly larger percentage of respondents indicated that they would not use the facility at Location Two as compared with Location One. However, nearly twice as many individuals indicated that they would not use it if it was located in the Yigo/Agafa Gumas area. The slightly larger percentage of those who would not use it if located in the site Two area as compared to site One was possibly a function of the current location and concentration of medical facilities in Location One. As noted earlier, some of the sample members lived within walking

distance of the health centers located in the Tamuning/Tumon area. It is questionable whether these persons would want to go to another village for medical care or show an interest in the need for another facility.

These date would suggest more conclusively that a proposed new health facility would be more likely used if it provided the health services via private medical practioners as opposed to having these services provided by a major health maintenance organization.

TABLE 71

DENTAL CARE, LOCATION AND TYPE OF ADMINISTRATIVE ORGANIZATION (Q.39/40 a,b,c/1)

CERTAINTY OF USE	LOCATION 1*				LOCATION 2**				LOCATION 3***			
	HMO		PRIVATE		HMO		PRIVATE		HMO		PRIVATE	
	#	%	#	%	#	%	#	%	#	%	#	%
Very sure I would	181	41.1	234	52.7	203	45.6	237	53.0	155	35.2	204	46.4
		59.5		69.6		65.2		72.0		47.0		57.5
Somewhat sure I would	81	18.4	75	16.9	87	19.6	85	19.0	52	11.8	49	11.1
Not sure I would	79	18.0	47	10.6	57	12.8	42	9.4	64	14.5	52	11.8
No, would not	60	13.6	57	12.8	74	16.6	69	15.4	127	28.9	109	24.8
Don't know	36	8.2	29	6.5	21	4.7	12	2.7	38	8.6	23	5.3
Family has never used such service	3	0.7	2	0.5	3	0.7	2	0.5	4	0.9	3	0.7
TOTAL	440	100.0	444	100.0	445	100.0	447	100.0	440	99.9	440	100.1
Insufficient Data	15		11		10		8		15		15	

* Location 1 - Upper Tumon/Harmon Area
** Location 2 - Between Dededo and the Latte Heights Area
*** Location 3 - Between Yigo and Agafa Gumas Area (AAFB)

TABLE 72

PHYSICALS AND CHECK-UPS, LOCATION AND TYPE OF ADMINISTRATIVE ORGANIZATION (Q.39/40 a,b,c/2)

CERTAINTY OF USE	LOCATION 1*				LOCATION 2**				LOCATION 3***			
	HMO		PRIVATE		HMO		PRIVATE		HMO		PRIVATE	
	#	%	#	%	#	%	#	%	#	%	#	%
Very sure I would	176	40.0	228	51.4	206	46.3	237	53.1	154	35.0	202	45.9
		61.4		69.9		66.1		73.5		48.2		57.7
Somewhat sure I would	94	21.4	82	18.5	88	19.8	90	20.2	58	13.2	52	11.8
Not sure I would	77	17.5	48	10.8	58	13.0	43	9.6	63	14.3	53	12.0
No, would not	55	12.5	56	12.6	68	15.3	64	14.3	124	28.2	107	24.3
Don't know	35	8.0	28	6.3	22	4.9	10	2.2	37	8.4	23	5.2
Family has never used such service	3	0.7	2	0.4	3	0.7	2	0.5	4	0.9	3	0.7
TOTAL	440	100.1	444	100.0	445	100.0	446	99.9	440	100.0	440	99.9
Insufficient Data	15		11		10		9		15		15	

* Location 1 - Upper Tumon/Harmon Area
** Location 2 - Between Dededo and the Latte Heights Area
*** Location 3 - Between Yigo and Agafa Gumas Area (AAFB)

TABLE 73

EMERGENCY HEALTH CARE (ACCIDENT), LOCATION AND TYPE OF ADMINISTRATIVE ORGANIZATION (Q. 39/40 a,b,c/3)

CERTAINTY OF USE	LOCATION 1*				LOCATION 2**				LOCATION 3***			
	HMO		PRIVATE		HMO		PRIVATE		HMO		PRIVATE	
	#	%	#	%	#	%	#	%	#	%	#	%
Very sure I would	192	43.6	235	52.9	212	47.6	236	52.9	163	37.0	206	46.8
		63.6		69.7		66.9		73.1		49.5		57.9
Somewhat sure I would	88	20.0	75	16.9	86	19.3	90	20.2	55	12.5	49	11.1
Not sure I would	68	15.5	48	10.8	55	12.4	41	9.2	60	13.6	52	11.8
No, would not	54	12.3	57	12.8	67	15.1	67	15.0	123	28.0	108	24.5
Don't know	35	7.9	27	6.1	22	4.9	10	2.2	35	8.0	22	5.0
Family has never used such service	3	0.7	2	0.5	3	0.7	2	0.4	4	0.9	3	0.7
TOTAL	440	100.0	444	100.0	445	100.0	446	99.9	440	100.0	440	99.9
Insufficient Data	15		11		10		9		15		15	

* Location 1 - Upper Tumon/Harmon Area
** Location 2 - Between Dededo and the Latte Heights Area
*** Location 3 - Between Yigo and Agafa Gumas Area (AAFB)

TABLE 74

PEDIATRIC (CHILD) HEALTH CARE, LOCATION AND TYPE OF ADMINISTRATIVE ORGANIZATION (Q.39/40 a,b,c/4)

CERTAINTY OF USE	LOCATION 1*				LOCATION 2**				LOCATION 3***			
	HMO		PRIVATE		HMO		PRIVATE		HMO		PRIVATE	
	#	%	#	%	#	%	#	%	#	%	#	%
Very sure I would	161	36.6	208	46.8	188	42.2	218	48.9	146	33.2	187	42.5
		56.8		63.9		59.7		66.8		46.4		52.5
Somewhat sure I would	89	20.2	76	17.1	78	17.5	80	17.9	58	13.2	44	10.0
Not sure I would	76	17.3	58	13.1	66	14.8	53	11.9	65	14.8	66	15.0
No, would not	59	13.4	62	14.0	76	17.1	69	15.4	121	27.5	107	24.3
Don't know	39	8.9	28	6.3	23	5.2	14	3.1	36	8.2	24	5.5
Family has never used such service	16	3.6	12	2.7	14	3.1	12	2.7	14	3.2	12	2.7
TOTAL	440	100.0	444	100.0	445	99.9	446	99.9	440	100.1	440	100.0
Insufficient Data	15		11		10		9		15		15	

* Location 1 - Upper Tumon/Harmon Area
** Location 2 - Between Dededo and the Latte Heights Area
*** Location 3 - Between Yigo and Agafa Gumas Area (AAFB)

TABLE 71

LAB-TESTS, X-RAYS, OR PHARMACY NEEDS, LOCATION AND TYPE OF ADMINISTRATIVE ORGANIZATION (Q.39/40 a,b,c/5)

CERTAINTY OF USE	LOCATION 1*				LOCATION 2**				LOCATION 3***			
	HMO		PRIVATE		HMO		PRIVATE		HMO		PRIVATE	
	#	%	#	%	#	%	#	%	#	%	#	%
Very sure I would	182	41.4	226	50.9	206	46.3	23	51.6	156	35.5	198	45.0
		62.5		68.7		65.8		72.2		47.8		57.0
Somewhat sure I would	93	21.1	79	17.8	87	19.5	92	20.6	54	12.3	53	12.0
Not sure I would	69	15.7	49	11.0	60	13.5	43	9.6	63	14.3	53	12.0
No, would not	56	12.7	60	13.5	66	14.8	69	15.5	125	28.4	108	24.5
Don't know	36	8.2	28	6.3	23	5.2	10	2.2	38	8.6	25	5.7
Family has never used such service	4	0.9	2	0.5	3	0.7	2	0.4	4	0.9	3	0.7
TOTAL	440	100.0	444	100.0	445	100.0	446	99.9	440	100.0	440	99.9
Insufficient Data	15		11		10		9		15		15	

* Location 1 - Upper Tumon/Harmon Area
** Location 2 - Between Dededo and the Latte Heights Area
*** Location 3 - Between Yigo and Agafa Gumas Area (AAFB)

INFORMATION SOURCES FOR DIAGNOSIS AND TREATMENT OF MEDICAL CONDITION

Introduction

When a person thinks that he is ill, has a health problem or a concern about pregnancy or family planning, there are a relatively large number of alternative sources of information that he may avail himself of to determine what his ailment is and the necessary treatment for it. These information sources range from persons trained in the scientific field of medicine to persons with experience in traditional practices of treating pains and illnesses. Other general categories involve persons who are not considered to be necessarily professionally trained in the medical field are family members, relatives and friends. A third general category, or information source, is the impersonal mass-media of the printed page and electronic media.

As mentioned earlier, research has clearly demonstrated that individuals rely on different sources of information during the various "stages" of the decision making process. Generally, impersonal mass media are used most frequently in acquainting individuals with a new product or idea, while personal sources such a friends and neighbors, or experts in the area of concern, are relied on when it comes to making a decision about what to do.

Diagnosis and Treatment

In this study the 455 persons interviewed were asked to indicate where they most often received advice or information about their own health problems and needs. They were provided with a flash card which con-

tained various levels of frequency. They were: 1) very often, 2) sometimes, 3) rarely, and 4) never. The interviewees were asked to respond to the frequency of use depending on whether the information was needed for diagnostic purposes or for treatment of an illness or health problem. The sources of information that they responded to were as follows: a) a member of this household, b) a relative not living in this household, c) a friend who is not a relative, d) a priest or clergyman, e) a suruhanu, hilot or or other traditional healer, f) a nurse or medical aide, g) a medical doctor, h) books, magazines, newspapers, pamphlets, etc., and finally, i) TV or radio programs/announcements. The information obtained from these questions is presented in Table 76. Upon reviewing this table, it may be observed that medical doctors clerly stand out as the most frequently used source of information concerning both diagnosis and treatment of health problems or illnesses. Only about 2.0 percent of those interviewed said that they never utilized a medical doctor for information or diagnosis of their illness or health problem, or for advice and/or information about treatment of their problem. Members of one's household ranked second for both diagnosis and treatment advice or information. According to the data, household members are very likely called upon for information about diagnosing illnesses or health problems. This would seem to be quite logical in that household members no doubt feel that they can trust other members and because they are physically convenient for seeking such information. The more impersonal sources of such information, such as magazines, books, newspapers, pamphlets and so forth ranked next.

Apparently, people residing in Guam find the information and advice included in the printed page to be relatively helpful to them, as well as finding information on diagnosing or treating their illness or health problems. Next in rank order were relatives, nurses or medical aides, and the electronic media of TV and radio. Perceived of lesser importance for information and advice would be friends, and of considerably lesser importance the suruhanu, hilot or traditional healers. Priest and clergymen were not viewed, in a large majority of cases (more than 80 percent), as a source of information or advice that is ever used concerning illness or treatment of medical problems. In a separate analysis it was found that priests and other clergymen are only occasionally sought for information concerning family planning. Apparently, when responding to this question concerning diagnosis or treatment of an illness or health problem, the whole concept of family planning was generally not considered to be a part of it (Table 77).

Rank order of importance of the various sources of information were derived from the questions asked in this survey. They appear in Table 78. In Question 29 the subjects were asked: "Which of the sources from whom you have gotten information do you feel has been the most helpful to you?" This question immediately followed the general question which was: "When you have some kind of illness or health problem, how frequently do you get information about what is wrong with you (a diagnosis) from the following information sources:" Later in the questionnaire they were asked the same question, but in this case it focused on information about treatment of their health problem. Information was also obtained on pregnancy and family planning. Rankings in terms of

of use appear in the table. The rank of one (1) indicates the most frequently used source, while nine (9) is the least.

Summary

Based on the findings of this study, when people wanted to obtain information about diagnosing an illness or health problem, and also treatment, they relied most heavily on medical doctors. Household members were considered next most important, but ranked considerably below that of doctors. However, the household members ranked much higher for diagnostic information as compared with information about treatment. Likewise, for all the sources, except the doctors, the source of information was considered to be slightly more important for information on diagnosis as compared with treatment information. There was a high degree of agreement which would suggest high reliability in the answers of the people being questioned when comparing their responses to the general question about which of these sources (the nine information souces previously discussed) they felt was the most helpful to them, and the question about how frequently they used the various sources of information. Priests and clergymen apparently were not viewed as a source of such information, or only a very minor source of information concerning medical and health problems. Traditional healers were very seldom relied upon for information about medical concerns by the people of northern Guam. The more impersonal sources of information such as the printed page, was viewed as a very favorable source of information for diagnostic purposes. They ranked third among the list of nine sources.

Generally, the nine sources of information could be placed into four categories of importance. They are as follows: Doctors, in a category by themselves, are most heavily trusted and relied upon; in the second category would be members of one's household, while one's relatives, friends, magazines and other forms of the printed page, nurses and technical aides and radio and television would all be in the third category. The fourth and least relied upon category would include the traditional healers such as the suruhanu and hilot, as well as priests and other members of the clergy.

TABLE 76

USEFULNESS AS INFORMATION SOURCES FOR DIAGNOSIS AND TREATMENT OF ILLNESS OR HEALTH PROBLEM (Q. 28,30)

SOURCE OF INFORMATION	D & T*	NEVER #	NEVER %	RARELY #	RARELY %	SOMETIMES #	SOMETIMES %	VERY OFTEN #	VERY OFTEN %	TOTALS #	TOTALS %	ID**
A member of this household	D	51	13.4	41	10.7	122	31.9	168	44.0	382	100.0	73
	T	74	22.6	52	15.9	113	34.5	88	26.9	327	99.9	128
A relative not living in this household	D	98	28.5	61	17.7	131	38.1	54	15.7	344	100.0	111
	T	138	44.1	47	15.0	103	32.9	25	8.0	313	100.0	140
A friend who is not a relative	D	114	33.1	74	21.5	122	35.5	34	9.9	344	100.0	111
	T	158	50.2	58	18.4	85	27.0	14	4.4	315	100.0	140
A priest or a clergyman	D	246	81.2	21	6.9	30	9.9	6	2.0	303	100.0	152
	T	259	86.2	10	6.3	21	7.0	2	0.7	301	100.0	154
A suruhanu, hilot or other traditional healer	D	216	61.9	29	9.0	59	18.3	19	5.9	323	100.1	132
	T	224	71.3	24	7.6	51	16.2	15	4.8	314	99.9	141
A nurse or medical aide	D	105	30.3	47	13.5	147	42.3	48	13.8	347	99.9	108
	T	106	32.9	25	7.8	142	44.1	49	15.2	322	100.0	133
A medical doctor	D	8	1.8	12	2.7	92	20.6	335	74.9	447	100.0	8
	T	11	2.5	7	1.6	73	16.6	348	79.3	430	100.0	16
Books, magazines, newspapers, pamphlets, etc.	D	119	30.8	55	14.2	138	35.8	74	19.2	386	100.0	69
	T	138	41.4	53	15.9	99	29.7	43	12.9	333	100.0	122
TV or radio programs/ announcements	D	121	31.8	66	17.3	135	35.4	59	15.5	381	100.0	74
	T	145	44.7	59	18.2	90	27.8	30	9.3	324	100.0	131

* D - Diagnosis, T- Treatment

** Insufficient Data

TABLE 77

USEFULNESS AS INFORMATION SOURCE FOR PREGNANCY OR FAMILY PLANNING (Q. 31)

SOURCE OF INFORMATION	NEVER		RARELY		SOMETIMES		VERY OFTEN		TOTALS		ID*
	#	%	#	%	#	%	#	%	#	%	
Member of this household	66	27.5	23	9.6	61	25.4	90	37.5	240	100.0	215
A relative not living in this household	92	41.6	32	14.5	75	33.8	22	10.0	221	99.9	234
A friend who is not a relative	99	45.6	29	13.4	69	31.8	20	9.2	217	100.0	238
A priest or clergyman	166	79.0	14	6.7	27	12.9	3	1.4	210	100.0	245
A suruhanu, hilot, or other traditional healer	157	73.7	20	9.4	30	14.1	6	2.8	213	100.0	242
A nurse or medical aide	75	33.2	29	12.8	87	38.5	35	15.5	226	100.0	229
A medical doctor	21	7.0	4	1.3	59	19.6	217	72.1	301	100.0	154
Books, magazines, newspapers, pamphlets	89	38.7	29	12.6	72	31.3	40	17.4	230	100.0	225
TV or radio programs/ announcements	103	45.0	36	15.7	63	27.5	27	11.8	229	100.0	226

* Insufficient Data

TABLE 78

USEFULNESS AS INFORMATION SOURCES FOR DIAGNOSIS, TREATMENT, AND PREGNANCY/FAMILY PLANNING (Q. 28,29,30,31)

INFORMATION SOURCES	DIAGNOSIS			TREATMENT		PREGNANCY/FAMILY PLANNING	
	Rank Order (Q. 29)	Index Score (Q. 28)	Rank Order (Q. 28)	Index Score (Q. 30)	Rank Order (Q.30)	Index Score (Q.31)	Rank Order (Q.31)
A Medical doctor	1	268.6	1	272.7	1	276.4	1
A member of this household	2	206.5	2	165.6	2	172.9	2
Books, Magazines, Newspapers, pamphlets, etc.	3	143.4	3	114.0	4	127.4	4
TV or radio programs/announcement	4	134.6	6	101.7	6	106.1	6
A relative not living in this household	5	141.0	4	104.8	5	112.1	5
Nurse or medical Aide	6	139.5	5	126.4	3	136.3	3
A Friend who is not a relative	7	122.2	7	85.6	7	104.6	7
A Suruhanu, hilot or other traditional healer	8	63.3	8	54.4	8	43.2	9
A Priest or Clergyman	9	32.7	9	22.4	9	43.4	8

FOLK REMEDIES FOR WATERY DIARRHEA

Introduction

The extent to which a population accepts new ideas and practices based on research and other scientific findings is highly related to the stage in the technological development process that the society is in. How readily persons set aside traditions and other folk remedies for scientific cures for their medical ailments is no doubt further related to the effectiveness and cost, as well as availability, of the modern prescription remedies.

Occasionally, when accepted modern means of treatment seem to fail, persons tend to revert to the use of traditional methods of cure for satisfaction. In cases were folk remedies are still used to treat health problems, there are probably as many recommended cures as there are people who offer solutions. Whatever such proposed folk remedies might be, many, after careful study, may be found to effectively ameliorate or even cure the ailment, while others might be found to be totally ineffective.

In this survey of a representative sample of persons residing in northern Guam, the subjects were asked to share what they thought was the most effective home treatment for someone who was having watery diarrhea. Their responses are presented in Table 79 .

Treatment for Watery Diarrhea

More than half, 53.6 percent of the 455 persons interviewed, offered a home remedy or folk cure for the ailment of watery diarrhea. Of the

remaining 46.4 percent, slightly more than half or 26.6 percent of all those surveyed, stated that they would consult a doctor or take the patient to a clinic or hospital for treatment if he was suffering from a case of watery diarrhea. Approximately one out of every five persons interviewed indicated that they did not know, or did not believe in a folk remedy for solving this particular health problem. These findings, along with the specific home remedies mentioned by the subjects, are listed in Table 79.
The specific home remedies and the number of persons who mentioned them, have been organized into eight major groups. The proportion that each group is of the total sample is also shown in the table.

Two percent of those interviewed provided answers that have been placed into Group one. This group included home cures such as taking in plenty of fluids, fruit juices, jello water, gatorade, and certain types of soft drinks. A much larger proportion, 14.0 percent, suggested that the best home cure was to drink the water from rice, either brown or white, that had been boiled. There were labeled Group two. Group three contains a like proportion of responses (14.9 percent). In this group are over-the-counter remedies such a peptobismol, kaopectate and other preparations like these. A similar number of persons gave answers to the question that have been included in Group four. In this category are teas or infusions made from various leafs, roots and grasses, with the subsequent liquid being drunk over a period of time. The liquid from boiled guava(abos) leaves was mentioned by 13 persons out of the 61 that were included in this category. As may be noted, tea (black of green) was suggested by 41 persons.

Only a small portion of the home cures were included in Group five. Those remedies consisted primarily of the intake of fruit, either raw or cooked, such a green bananas or cooking bananas, guava (abos), green apples, or drinking the water in which various fruits were boiled.

Eight persons suggested that the best way to treat watery diarrhea was to avoid all solid foods. These have been categorized as Group six. Four other persons said they cure watery diarrhea by taking medicine obtained from a foreign country (Japan, the Phillipines, Korea or Taiwan). These responses make up Group seven. The eight and final category included miscellaneous remedies such as eating peanut butter and rubbing coconut oil on certain parts of the body while drinking the water from boiled rice, guava leaves or tea. Several responses in this miscellaneous category were virtually the opposite of those mentioned in other categories. To drink water in which toasted corn had been boiled was also believed to be the best cure for this ailment. This particular remedy has also been suggested for alleviating kidney ailments.

Summary

Based on the responses of the sample of 455 persons, it would seem that no satisfactory cure for treating watery diarrhea has been found. If such a cure had been found, it apparently is not adequately known or may not, to any great extent, be more effective than various suggested home cures. As was reported, more than half the persons surveyed offered home remedies or folk cures for treating watery diarrhea. Their

responses were placed into eight different general categories. Generally, they involve increasing one's intake of fluids. Some of these fluids were obtained from boiling rice, various leaves, roots, fruits or grasses. Some of the proposed remedies would seem to not be consistent with others that were also recommended.

The validity of the home remedies suggested no doubt warrant further study. It is possible that there may be greater similarities among the recommended home cures than may at first be perceived. In addition, the entire matter of using home remedies while at the same time taking internally prescription medication, may also require careful study to determine the interaction effect, if any.

TABLE 79

FOLK REMEDIES FOR WATERY DIARRHEA (Q. 59)

	SPECIFIC HOME REMEDIES		NUMBER	PERCENT
Group 1	Plenty of liquid; fruitjuices, jello water; gatorade; coke; pepsi or 7-Up; still carbonated		9	2.0
2	Rice, brown or white, boiled; rice water		64	14.0
3	Over-the-counter remedies, such as Peptobismol, Kapectate, also Lomotile was mentioned (believed to be a prescription drug)		68	14.9
4	Tea (black or green), or an infusion made by boiling leaves or other parts of a plant in water, then drinking the liquid	41		
	Besides the black and green teas, the following were mentioned:			
	Boiling leaves from guava, alfo, avocado, and sour leaves, then drink the liquid	16		
	Wild yams dried and ground into powder, then boiled, drink the liquid	1		
	Mixes own medicines from herbs not specified	2		
	Boiling main root of papaya tree, then drink the liquid	1	61	13.4
5	Fruits, raw or cooked; green bananas, or cooking bananas; boil apples in water, then drink the liquid	9		
	Guavas	2		
	Green Apples	1	12	2.6
6	Avoidance of all solid food		8	1.8

TABLE 79 (cont'd.)

	SPECIFIC HOME REMEDIES		NUMBER	PERCENT
Group 7	Medicines from Japan	1		
	Medicines from the Philippines	1		
	Medicine from Korea	1		
	Medicine from Taiwan	1	4	0.9
8	Miscellaneous unusual remedies were mentioned, such as:			
	Eat peanut butter	1		
	Eat solid only	1		
	Rub coconut oil on tummy and drink rice water	1		
	Rub coconut oil on bottom and drink tea made from Guava leaves	1		
	Rub Vick's Vaporub on tummy	1		
	Avoid all fruit and fruit juices	1		
	Avoid drinking milk	1		
	Bed rest and soft food only	1		
	Toast corn, then boil it in water, then drink water	1		
	Roast rice, then boil it in water, then drink the water	1		
	Boiled milk	1		
	Milk and toast	1		
	Coke mixed with cornstarch	1		
	Vanilla extract mixed with water	1		
	De-carbonated drinks and crackers	1		
	Boil sugar and cocoa in water, then drink	1		
	Hot salt water	1		
	Eat only fibruous food, such as taro or yams or pototoes	1	18	4.0
Would consult a doctor, or take the patient to a clinic, hospital, etc.			121	26.6
Do not know about any folk remedy			90	19.8
TOTAL			455	100.0

CONCLUSION AND RECOMMENDATION

Introduction

A general summary of the entire study is presented below. It brings together the highlights of the more detailed summaries that follow the narrative discussion of findings in each section of the report.

Sample and Method

This empirical study of the health care needs of the people of northern Guam contained a random sample of 455 households located in the municipalities of Dededo, Tamuning, Yigo, and the Latte Heights area. It was estimated that this size of sample represented about five percent of all the households. Therefore, the findings presented in this report were obtained from one of every twenty households and are believed to represent the entire population excluding those residing in military housing of the northern Guam. There was a total of 2,236 individuals or 4.9 per household studied.

Personal interviews were conducted over approximately a two-month period beginning the second week of December 1979 and ending in early February 1980. Little difficulty was encountered in interviewing. More concern focused on locating people at home. The better times for interviewing were found to be late afternoons and early evenings during the week, Saturday mornings and Sunday afternoons. During the one week period immediately before, and again following Christmas the subjects seemed to be unavailable for interviews more so than at other times.

Observations

Demographic Data

More than half, 52.1 percent, of the 2,236 persons studied were males. Such a sex ratio prevails in young populations. The average age of the entire survey group was nineteen years. This was found to be eleven years below the average for the United States as a whole.

A profile of the 455 persons interviewed was also established. Their average age was forty years and 58 percent were famels. Fourty percent identified themselves as Filipino, 38 percent as Chamorro-Filipino, and 12 percent as Statesiders. The remaining ten percent represented more than ten additional national or ethnic groups as well as combinations of the three largest groups. Their average education level was nearly that of a high school degree and the average annual income for the 63 percent of those who reported having any was $12,938.

Three-fourths of the respondents were married and 46 percent were heads of households. The average household size was 4.9. About 23 percent were without dependent children in the household.

Current Health Status

Current health status was defined to include the two-week period immediately preceding the survey. During this time period, 152 of the 2,236 persons surveyed were hospitalized, remained in bed at home or reduced their normal activity because of illness. This was 14.7 percent of the total group or about one out of every seven individuals.

Work and school days lost due to illness during the two-week period also occurred. Of those who missed work they tended to be absent for more than one day while one-third of the youth missed school for just one day.

Common infections was by far the major cause of illnesses, although heart and high blood pressure problems ranked second. In twenty percent of the cases the health condition had persisted for a month or more.

Doctors were reported to have been consulted in one-third of the cases and the FHP Guam Medical Center and the Trade Center Medical Clinic were mentioned most often as the location of the doctors consulted. Generally, only one doctor visit was made.

"Well" persons also received medical care. Preventive care such as x-rays, tests, examinationsand immunizations were received by nearly one out of every 13 persons during the two weeks.

Use of Health Services/Facilities

To determine the status of health services information was gathered for the year preceding the interviews. Data were obtained on dental needs and care, diagnosis and treatment, preventive care, therapy and rehabilitation and pregnancy care. Other information was also obtained regarding the extent to which families were covered by health insurance.

A total of 2,184 dental visits were made by 670, or one-third, of all the persons studied. The number of visits ranged from one to 52 while the average was between three and four. The Public Health Service was

utilized by the most persons (31.4 percent).

Twenty-six percent of all persons involved in this study made visits to their doctors an average of four times for diagnosis or treatment of illness or injury. This totaled 2,337 doctor visits. The FHP Guam Medical Center was used by the largest proportion of the individuals who needed this type of health care. Over 22 percent used it. An average of 3.6 doctor visits were made per person who was reported to have received diagnostic or treatment care.

Nearly one out of every five persons also received preventive medical care. This included doctor or clinic visits for immunization, x-ray or medical advice. These individuals averaged two visits to their doctors for a total of 846 office calls. The three most commonly used medical facilities were the FHP Guam Medical Center, the Trade Center Medical Clinic in the ITC Building and the Guam Memorial Hospital. It may be of interest to note the FHP Guam Medical Center and the Trade Center Medical Clinic are located near each other. They are both on Marine Drive but separated by a major four-way intersection.

Although only 1.3 percent of the individuals studied received therapy, habilitation or rehabilitation during the year, the number of doctor or clinic visits totaled 468 and ranged from one visit to as many as 72. The average number of visits was 16 and the Guam Memorial Hospital was the most commonly used facility for this type of medical care.

Treated separately was the medical care received due to pregnancy. Of the 545 women in the childbearing age range 79 or 14.5 percent had made doctor or clinic calls. Of these women, 56 were pregnant.

A total of 652 office visits were made for an average of more than eight. Nearly 70 percent of the office visits were made at six locations. They were as follows: Guam Polyclinic, Guam Medical Clinic, FHP Medical Center, Seventh Day Adventist Clinic, St. Anthony's Clinic, and the clinic of Drs. Sagisi and Batoyon.

All totaled the 2,236 persons surveyed made an average of about three office calls during the year for dental or other medical attention. While some may not have gone at all, others could have required in excess of a hundred trips to see a doctor.

A total of 6,516 visits were made during the 12-month research period. Treatment of illness or injury and dental care visits were the most prevalent. Approximately 36 percent of all persons were reported to have made doctor visits for these types of medical needs. When generalizing to the total population, these findings would suggest that at least 130,000 doctor visits were made in 1979 by the people of northern Guam.

Depending on the type of medical service, certain facilities were most commonly utilized. The Public Health facility in Mangilao ranked highest for dental care while the Guam Polyclinic was for pregnancy care. More individuals needing therapy and rehabilitation treatment went to the Guam Memorial Hospital than to any of the other medical facilities. The FHP Guam Medical Center was the most frequently utilized medical facility for diagnostic or treatment of illness or injury as well as for preventive medical attention.

A high percentage, 83.8, of all households reported having health maintenance coverage. The FHP and GMHP were mentioned by about 24

and 23 percent respectively. Nearly seven percent were covered through the military (retired and active personnel) while an additional 6.4 percent mentioned HML coverage.

Quality and Acceptability of Health Care Services

The extent to which the respondents were satisfied with the information they received about health conditions and treatment was also determined. Approximately 80 percent indicated that they were "satisfied" or "very satisfied" with the information they had received about their health condition (diagnosis) and medical treatment. A like percentage also expressed the same degree of satisfaction with the overall quality of health care received. Although 80 percent may be considered relatively high, it should be further noted that about 13.5 percent were "somewhat dissatisfied" while an additional 6.5 percent indicated that they were "dissatisfied" with the information and quality of health care they had received. These two categories represented one out of every five persons.

The degree of satisfaction and dissatisfaction was found to vary depending on the type of medical personnel involved. Overall the 455 respondents were more satisfied with the health care received from doctors,(82.7 percent) and technicians and medical aides (82.8 percent), than from nurses (77.6 percent). Although the response to the doctors could have been expected, the similar feeling about the quality of care received from the medical technicians and aides was certainly revealing.

Three out of every four persons indicated that doctors were the most valued source of information about medical care. Although this is a high percentage it is also revealing that it was not greater. Of particular interest was the third place ranking of the impersonal sources of books, magazines, newspapers, and pamphlets. Also to be noted was the low rankings of nurses and medical aides. The very lowest ranking of the traditional healer, suruhanu and hilot was a surprise in view of common talk about their importance. Apparently priests and other clergymen are not considered to be a very valuable source of medical information.

Accessibility of Medical Services

Accessibility of medical services was measured in a number of different ways. It included the length of time and distance required to get to a doctor's office or medical facility and the accessibility of transportation. Also taken into consideration was the day of the week and time of days that the people preferred to have medical services available.

On the average the 455 persons interviewed travelled six miles from their homes to reach a medical facility for care or treatment. This took approximately 17 minutes. In nine out of ten cases travel was made possible by a car or truck owned by the family. Without a mass transportation system available on the island others outside the family had to be relied upon for assistance in cases where a car or truck was not available at home.

Nearly one out of every eight persons reported that they or other members of their families had experienced difficulty to some degree in obtaining transportation to go seek medical care. An equal proportion further indicated that they or members of their households had not been able to receive necessary medical attention due to the unavailability of transportation.

The degree of dissatisfaction was most extensive among the sample members (43.6 percent) in regard to the length of time they were required to wait for medical attention after they had reached the office of the doctor. The day of week and time of day that the medical facilities offered services was less of a dissatisfaction.

If the people of northern Guam could decide which days and times a medical facility would be available for their use they would mind least if it were closed on Mondays. From the information provided, most subjects would be satisfied if the proposed medical facility would open between 7:00 and 8:00 a.m. and close at approximately six o'clock in the evening.

Cost of Medical Services

In addition to the degree of accessibility of medical services, the matter of costs of medical care and willingness to pay for it was also investigated in this study. As mentioned earlier, over 80 percent of the households had medical insurance coverage of some form. This, therefore, most likely affected their total medical expenses as well as their attitudes towards different sources of funds for supporting

medical facilities and personnel.

In this study out-of-pocket medical expenses averaged $351.58 per year per household for those who had such costs. While two out of every three persons were "satisfied" with the out-of-pocket medical costs, one of three was not.

As for other sources of funding to support the proposed northern Guam health facility, there appeared to be a greater willingness to have property taxes increased for this purpose if the facility offered both acute and preventive medical care as in contrast to only preventive care. In either case, however, more were not in favor of increasing property taxes than were in favor.

Types of Services/Facility Needs

A potential epidemic situation could be considered to exist as long as all children have not been immunized against the primary childhood diseases. This situation may be considered critical in view of past experiences when large numbers of persons from countries of lower health standards were landed on Guam for emergency reasons. In addition, the high rate of international travel between Guam and other countries certainly must increase the chances for diseases being introduced to the island.

In this study as many as 25 percent of the children under ten years of age were found to be inadequately immunized. Although a slightly different type of concern, it was also found that at least one-third of those ten years or older needed a Tetanus shot.

Of the pregnancies that had occurred during the year that this research covered, miscarriages or stillbirths resulted in nearly 13 percent of the cases. In ten out of 65 pregnancies (17.8 percent) complications were reported to have existed. Medical doctors were consulted in each case.

A very positive response was received from the subjects when asked if they and their family members would utilize various types of medical services if made available through the proposed health center. The proportion who indicated that they would at least "sometime" or "frequently" use the facility were as follows:

78.4 - Communicable disease control (immunization, etc.)

78.2 - Physical disability and therapy needs

75.1 - Nutrition and diet counseling

72.6 - Obstetric services (pregnancy care)

71.3 - Social Welfare (food stamps, family counseling, etc.)

67.9 - General Mental Health needs (psychologists, etc.)

64.5 - Drug or alcohol counseling

Other services specifically requested included emergency care, a clinic for dermatology work, dental and orthodontal service, special help for the blind and other handicapped, and program for the elderly. Others asked for family planning and birth control information. A mobile dental clinic attached to the health care center to service the schools was also suggested.

Based on these positive ratings of health services it would seem that a health facility built in the survey area would be very favorably received if it made available a large range of medical services.

Preferred Services, Location and Administrative Organization of Proposed Medical Facility

As mentioned earlier in this report, there are no data at the present time that suggest the shift to and growth in population of northern Guam will not continue for the forseeable future. Dededo was reported to have increased 120 percent over the past ten years while Tamuning experienced about a 37 percent growth rate. Although the rates of growth may slow down somewhat, continued growth is virtually certain. It would seem that the specific village within northern Guam should be considered when planning for capital improvements. Of course, the energy situation and water supply are among other ciritical factors that affect decision-making as it relates to medical and other services required of a population.

The extent to which the people would utilize the proposed new medical facility varied depending on its location, the type of services it would offer, the type of administrative organization that prevailed. Generally it appeared that Location Two (Dededo-Latte Heights area) was preferred just slightly over Location One (Uppon Tumon-Harmon area). Both were clearly favored over Location Three (Yigo-Agafa Gumas area). A slightly larger percentage, however, were not in favor of Location Two than Location One. As previously mentioned, either Location One or Two

would probably be well received if a full range of services were available.

Although no attempt was made to determine specific reasons for their responses, it was clear from this study that the people preferred the medical services be available from private doctors as compared with a specific health maintenance organization. This finding prevailed at all three proposed locations and for all five types of services mentioned.

Once again in this part of the survey it was found that the people indicated their interest in a wide range of service. A majority indicated that they would use the facility if it offered dental care, physical check-ups, emergency care, pediatrics care, and lab-tests, x-rays and pharmacy needs.

Information Sources (Alternative Health Information Providers)

There are various sources that provide information about health matters. They range from personal, scientifically trained individuals in the profession to the impersonal forms of the mass media. In this research it was found that medical doctors were considered by far the most useful source of information for diagnosing and treating medical problems as well as for pregnancies and family planning. Members of the household ranked second although to a much lesser degree than did the doctors. Although the printed page ranked third for diagnosis, as expected it was considered to be of lesser importance for treatment or in pregnancy or family planning matters. In these instances nurses and medical aides were given a more favorable ranking.

The traditional healers as well as priest or other clergymen continued to not be looked upon as very valuable sources for medical information. For pregnancy and family planning information, however, clergymen were found to be relied upon for information to a somewhat greater extent than for diagnosis or treatment. Even in this particular instance it may be noted that they still ranked far below the other sources except the traditional healers.

Folk Remedies for Watery Diarrhea

Upon the specific request of the funding agency, information was also obtained in this study to determine what folk cures the population of northern Guam would suggest for a case of watery diarrhea. The validity of the proposed remedies as well as the interaction effect of such remedies with medically prescribed treatment is unknown. These findings may offer guidance in this area of concern.

Over half of all persons interviewed offered a home remedy or folk cure for the ailment of watery diarrhea. This large a percentage would tend to suggest that there is apparently limited success, if any, in using treatment prescribed by the medical profession. The suggested home cures ranged from drinking the fluids from boiled rice, different types of leaves, roots, fruits and grasses to eating fruits or avoiding all solid foods. Others apparently treat this ailment by using medications obtained from their country of origin. A very extensive list of the suggested remedies was included in the final table of this report.

Recommendations

It would seem that any major capital improvement project such as the construction of a health facility would need to take into account a number of salient factors. Among these would be the anticipated availability of future energy sources not only for operation of such a center but also for transporting clients to the facility. Another would be the availability of mass transportation. Still another would be the anticipated population shifts and growth of the area. Although this study was not specifically charged to research these concerns it does not seem at this time that there will be any drastic changes within the next five years at least in the current energy and transportation situations nor in the growth trends of northern Guam. If this were the case then the cost to receive medical care from current sites will be more expensive and difficult to obtain as costs and time involved in travel continue to rise. At what point an individual foregoes needed medical attention due to costs and time involvement is no doubt complex. However, the number who would do so would certainly increase as costs and time involved increase.

In this study it was found that a rather sizeable proportion of people in northern Guam were unable to receive medical care due to lack of transportation to reach the available facilities. Also pointed out was the sizeable number of children who have not been fully immunized against the primary childhood diseases and thus creating an epidemic situation. This situation is further threatened in view of the island's

past experience with being required in a crisis situation to accept large numbers of individuals who may not have had adequate health clearances before arriving on Guam.

This study has also clearly shown the interest of the people of northern Guam in a new health facility that would offer a wide range of services. During the interviews they specifically indicated that they and their families would use the facility. These research data certainly seem to validate the extent of the need.

The wide range of services requested was found to be consistent with the needs of a young population as prevails on the island. As previously noted, the mean age in northern Guam was found to be 19 years. A population with a large proportion being infants and of school age would require extensive preventive, diagnostic and treatment medical services. There would also be a greater demand for maternity care and all the other services required of an older population including those for the elderly.

In recent years, including the period just prior to and following this survey a number of housing development projects have been built in northern Guam. The Guam Housing and Urban Renewal Authority (GHURA) program in particular has brought four major developments into the Dededo and Yigo area. These, for example, involve over several thousand new residents in the area. In view of the fact they met specific requirements to be eligible for such housing, they, therefore, have certain characteristics in common that have ramifications for health care and all other services. These similarities would include income

level, property ownership, age to a certain extent, likelihood of families with younger children and so forth. With regard to funding, although it was less than a majority who expressed a willingness to have property taxes increased to help finance a new health facility, the response was considered to be rather positive. In recent years at least no program has been suggested that would specifically require an increase in property taxes although the tax rate has been increased.

A finer analysis of the data might reveal a greater difference in the preferred location for the proposed medical center than was found in this case. In this instance, and in view of anticipated growth trends and energy concerns it would appear that a facility at Location Two, (Dededo-Latte Heights) would be utilized somewhat more extensively than Location One (Upper Tumon-Harmon). It appeared quite clear that either of these sites were preferred over Location Three (Yigo-Agafa Gumas). The final decision certainly would have to be based on a composite of factors as suggested above.

The subjects of this study also tended to prefer that the proposed medical facility be available for private doctors as opposed to being under the management of a health maintenance organization. This finding was observed for all three proposed sites as well as for all types of services that could be offered.

Finally, if resources have currently been identified, it is recommended that the facility be constructed as soon as is feasible in view of rising building costs and an apparent increase in the need. The design of the structure even if not required should take into account the

various alternative energy sources anticipated for the future. Of course, various energy conservation measures such as landscaping, insulation and design for energy conservation should be built into the plan.

APPENDICES

APPENDIX A

APPENDIX A

Confidence Interval method for Determining Required Sample Size when

$$n = \frac{n_o}{1 + \frac{n_o}{N}}$$

n = required Sample Size, $n_o = \frac{s^2\ t^2}{d^2}$, and N = the known universe or total number of households in northern Guam.

An explicit solution for n cannot be obtained directly, however, n is needed to supply the t value. As a first approximation to n it is sufficient to use two significant digits of the t value corresponding to an infinite number of degrees of freedom. For a confidence coefficient of 95, d = 5 and for larger numbers t = 2.0. Since the n was larger in this survey, over 20, no further adjustment was necessary since variation of t is small for a large number of degrees of freedom. Furthr, $s^2 = N\ pq$, and the maximum probability of 0.5 x 0.5 was utilized.

The fitness of the universe (fct) made possible the reduction of the necessary sample size from 355 to 341.

Therefore, $n_o = \frac{(8845)\ (0.25)\ x\ 4}{25}$ or $\frac{8845}{25} = 354.2$, and

$$n = \frac{354.2}{1 + \frac{354.2}{8845}} = \frac{354.2}{1.04} = 340.4 = 341 \text{ minimum required}$$

Sample size for northern Guam when the Universe (number of households) is known to be 8845 and the 95 percent confidence level is accepted.

APPENDIX B

Questionnaire I.D. #_____

Interviewer's Number:_____

Village Area:_____

Date: _____

Coder's Name:_____

A SURVEY TO DETERMINE THE HEALTH NEEDS FOR THE NORTHERN PART OF GUAM

A COOPERATIVE PROJECT SPONSORED BY THE
GUAM HEALTH PLANNING AGENCY

and

COMMUNITY DEVELOPMENT INSTITUTE
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
COOPERATIVE EXTENSION SERVICES
UNIVERSITY OF GUAM

NOVEMBER 1979

HOUSEHOLD ROSTER CARD

Questionnaire I.D. #_____

NOTE TO INTERVIEWER: Fill out household roster card by asking questions 1 and 2, then skip to question 7 and continue the interview.

To begin with, we need a complete listing of all the people who usually live here, eat together and sleep in this place, counting all adults, children and infants.

1. First, who is the head of the household?

   (a) What is his/her name?

   (b) What is the age of ---?

   (c) Is --- (1) = male, or (2) = female?

2. Would you please tell me who are the other household members? Let's start with the spouse of the household head (husband/wife), then the unmarried children, the married children, other family members, and finally, any unrelated members who live in this house.
(Start with the spouse of the HOUSEHOLD HEAD, repeat questions 1 (a), 1 (b) and 1 (c), and then ask question 2. REPEAT THIS FOR EACH PERSON!)

2. What is the relationship of this person --- to the head of the household? (write description on the Roster Card)*

PERSON NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name: (a)															
(b)															
(c)															
Relationship: 2.															

PROBES: Just to make sure I have a complete listing of everyone...

(a) Are there any persons who usually lived here and ate with you during the past YEAR, but are now away for some reason? (If YES, continue roster listing by asking questions 1 and2)

(b) Are there any other persons, such as an unrelated lodger, who lived here during most of the past year that we have not included? (If YES, continue roster listing by asking questions 1 and 2).

GO ON TO QUESTION 7. The coders will fill in questions 3 to 6 later.

3. (for coders) Residence GRID CODE NUMBER_____

4. (for coders) Family Group Number_____

5. (for coders) Total number of household members_____

6. (for coders) Type of housing_____

*Relation to heads of household will need special instructions listed on the ROSTER CARD.

1. 4.

Beginning with the first person on the list, ask questions 7, 8 and 9 of same person before proceeding to the next person.

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

7. How long has --- lived continuously at this residence?
   Record (9) = all his/her life (proceed to next person)
   (0) = less than one (1) year
   (Actual number, 1 up to 7)
   (8) = 8 years or more, but not always

8. Where did --- live before moving to Guam?
   Record (1) = this same village on Guam
   (2) = a different village (which? _____)
   (3) = Saipan, Rota, Tinian (which? _____)
   (4) = a Trust Territory district (which? _____)
   (5) = mainland US, Hawaii, Alaska (which? _____)
   (6) = Phillipines (Luzon, Visayan Is., Mindanoa, etc. (which? _____)
   (7) = Japan, Korea, Taiwan (which? _____)
   (8) = other - SPECIFY: _____
   (9) = Don't know, or NO ANSWER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

9. How long did --- live in that place or country before moving here?
   Record same codes as in question 7 above. If DON'T KNOW, leave blank.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

10. (a) Do you or anybody else in this household plan to move away from this residence? (permanently)
    Record (1) = yes, within the next 5 years
    (2) = yes, after five years
    (3) = no, never

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

10. (b) If answer to question 10.(a) is (1) or (2), where do you or --- (ask for each member of the household that has the answer (1) or (2)) think that you will be moving to?
    Record same codes as in question 8 above.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

This survey is being conducted to collect information on the health status of people in this part of Guam. So now I would like to ask you about visits to doctors and illnesses in the family and other health related matters.
(HAND CARD A TO SUBJECT - use it for questions 11 - 17).

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

11. During the last 2 weeks, did any member of this household stay in a hospital because of illness or injury?
Record (1) = Yes
(2) = No (continue with question 12)

11. (a) If YES, who was this and HOW MANY DAYS during these last 2 weeks was she/he in the hospital?
Record number of days under person's number!

11. (b) In which hospital did --- stay?
Record (1) = Guam Memorial Hospital
(2) = Military Hospital Facility
(3) = Other - SPECIFY:_____

PROBE: Did any other members of this household stay in a hospital during these last 2 weeks? - REPEAT questions 11, 11.(a) and 11.(b) for all listed persons.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

12. During these last 2 weeks, did any member of this household stay in bed at home because of illness or injury (NOT COUNTING days in the hospital, if any)?
Record (1) = Yes
(2) = No (continue with question 13)

12. (a) If YES, who was this and HOW MANY DAYS during these last 2 weeks was she/he in bed?
Record number of days under person's number.

PROBE: Did any other member of this household stay in bed at home during these last 2 weeks? - REPEAT questions 12 and 12.(a) for all listed persons.

13. During these last 2 weeks (NOT COUNTING days in hospital or in bed at home) did any member of this household CUT DOWN on his/her usual activities for any given length of time because of illness or injury?
Record (1) = Yes
(2) = No (If NO to items 11, 12 & 13, proceed to item 17!)

13. (a) If YES, who was this and HOW MANY DAYS during these last 2 weeks did --- CUT DOWN on his/her regular activities?
Record number of days under person's number.

PROBE: Did any other member of this household cut down on his/her usual activities during the last 2 weeks? - REPEAT questions 13 and 13. (a) for all listed persons.

14. During the last 2 weeks, for each person who was in the hospital, stayed in bed, or cut down on his/her usual activities (start with person having the lowest roster number)

(a) How many DAYS did illness or injury keep --- from going to work for which pay is received? (Record actual days under person's number!) (a)

(b) How many DAYS from going to school? Record actual days under person's number!) (b)

(c) Does not work for pay or does not go to school. Record with a check mark under person's number!) (c)

15. During these last 2 weeks
(a) What was the primary causal illness or injury that --- had? (Start with person having the lowest roster number and repeat for each appropriate person identified in questions 11, 12 and 13). (a)

(SHOW RESPONDENT HEALTH CONDITION LISTEN - CARD B if they need help with recall!)

(b) How many months ago did --- first notice or get this condition?
Record (0) = less than 1
(actual number up to 7)
(8) = 8 or more months
(9) = Unknown, don't know, or NO ANSWER

15. continued on next page!

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(a)															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(c)															

15. continued
(c) Does --- still have this condition at this time?
Record (1) = Yes
(2) = No

BE SURE TO ASK questions 15. (a), (b) & (c) for each person identified in questions 11,12 and 13!)

16. Again, for persons identified under 11, 12, 13 and 15,

(a) Was a doctor consulted, either by a visit or phone during these last 2 weeks for ---'s condition?
Record (1) = Yes (ask 16. (b) and (c)!)
(2) = No (repeat for next listed person).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															

(b) Where was the doctor located? (CARD C, code listing of all health facilities on Guam)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(b)															

(c) During these last 2 weeks, how many times did --- consult a doctor (or someone consulted a doctor for him?)
Record (0) = No, never
(actual number up to 7)
(8) = 8 or more times
(9) = Unknown, don't know, or NO ANSWER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(c)															

>17. NOT COUNTING THE VISITS to a doctor by the person(s) mentioned above, during these last 2 weeks has any other household member been to a doctor's office or clinic for an examination, shots, x-rays, tests, etc.?

(a) Record (1) Yes (ask 17. (b) & (c)!)
(2) = No (Proceed to item 18).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															

(b) If YES, where was the doctor located?
Record same code as in 16 (b) above!)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(b)															

(c) How many times during these last 2 weeks did --- go to this doctor's office or clinic?
Record actual number under person's name!

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(c)															

Again, I want to ask you about illness in the family and visits to the doctor or clinic, but this time the questions refer to the PAST 12 MONTHS (the last year) and this includes the last 2 weeks refered to already. (NOTE: Questions 18 through 23 refer to the last months!)

18. During the past 12 months, (including the last 2 weeks we just talked about) did anyone in the household visit a DENTIST for any kind of reason? If NO - go to question 19.

(a) If YES - who went?
Record check mark under person's number!

(b) Where did --- visit the dentist? (use same code as 16. (b) --CARD C, and record under person's number)

(c) How many times did --- go there?
Record actual number under person's number.

(d) Did --- go anyplace else (another dentist at another location)? If NO, continue with question 19.
If YES - where? (use CARD C for code and record under peron's number.)

(e) How many times did --- go there?
Record actual number under person's number.

(f) Did --- go anyplace else? (different dentist at different location from those mentioned above?) If NO, continue with question 19.
If YES - Where? (use CARD C for code and record under person's number.)

PROBE: Did any other person from this household visit a DENTIST during the PAST 12 MONTHS? If YES - REPEAT questions 18. (a) through (f) for each person!

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															

19. During the past 12 months, (including the last 2 weeks we just talked about), did anyone in this household visit a DOCTOR for the diagnosis and treatment of an illness or injury, EXCLUDING any visits related to concerns with PREGNANCY?
If NO - continue with question 20.

(a) If YES - Who went?

(b) Where did---visit the doctor? (use CARD C for code)

(c) How many times did --- go there?

(d) Did --- go anyplace else (to another doctor at another location) If YES - Where? (use CARD C for code)

(e) How many times did --- go there?

(f) Did --- go anyplace else? (different doctor at different location) If YES - Where? (use CARD C for code)

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															

PROBE: Did any other person from this household visit a DOCTOR for treatment of illness or injury NOT RELATED to PREGANCY? If so, repeat questions 19. (a) through (f).

20. Not counting those already mentioned in question 19, during the past 12 months (including the last 2 weeks already mentioned), did anyone in this household who was in GOOD HEALTH and WITH NO INJURY AT THE TIME visit a DOCTOR for IMMUNIZATION, X-RAYS, or ADVISE, excluding any visits related to concerns with PREGNANCY and NOT COUNTING those for DENTISTS?
If NO - continue with question 21.

(a) If YES - Who went?

(b) Where did --- visit the doctor? (CARD C for code)

(c) How many times did --- go there?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															

20. continued on next page.

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(d)															
(e)															
(f)															

20. continued!
(d) Did --- go anyplace else (another doctor at another location)? If YES - Where? (Use CARD C for code)

(e) How many times did --- go there?

(f) Did --- go anyplace else? (different doctor at different location)? If YES - Where? (Use CARD C for code)

PROBE: Did any other person from this household visit a DOCTOR for IMMUNIZATION, X-RAYS, or ADVICE, not counting those already mentioned in questions 18 or 19, and excluding any visits related to concerns with PREGNANCY? If YES - repeat 20 . (a) through (f).

21. During the past 12 months did anyone in this household having a long-term impairment or disability (hearing, speech, physical) visit a health facility for THERAPY? HABILITATION OR REHABILITATION? (Not counting those already listed under questions 19 and 20).
If NO - continue with question 22.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															

(a) If Yes - Who went?

(b) Where did --go for this treatment? (use CARD C for code)

(c) How many times did --- go there?

(d) Did --- go anyplace else (for therapy or rehabilitation?) (Use CARD C for code.)

(e) How many times did --- go there?

(f) Did --- go anyplace else? (for therapy or rehabilitation at a different place)? (Use CARD C for code)
If YES - Where?

PROBE: Did any other person from this household visit a health facility for THERAPY, HABILITATION or REHABILITATION during the last 12 months?
If YES - repat 21. (a) through (f).

22. Not counting those members already mentioned, during the past 12 months did any female of this household visit a doctor or clinic to test for or consult about PREGNANCY? If NO, go to question 24.

(a) Yes - Who went?

(b) Where did --- visit the doctor? (use CARD C for code)

(c) How many times did --- go there?

(d) Did --- go anyplace else? (to see a doctor or consult about pregnancy)? If YES - Where? (use CARD C for code)

(e) How many times did --- go there?

(f) Did --- go anyplace else (to see a different doctor at a different location about pregnancy)? If YES - where? (Use CARD C for code)

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															

PROBE: Has any other female in this household consulted a doctor because of pregnancy? -- If so, repeat questions 22 (a) through (f)!

23. If YES to question 22, was --- consulting a doctor or clinic because she was confirmed as being PREGNANT?

(a) Record (1) = No (continue with question 24)
(2) = Yes
(3) = Don't know or NO ANSWER

(b) Was --- having any complication or trouble with her pregnancy?
Record (1) = No (continue with question 23 (d)!)
(2) = Yes
(3) = Don't know, or NO ANSWER

(c) Did --- seek medical advice for treatment for this difficulty?
Record (1) = No
(2) = Yes
(3) = Don't know, or NO ANSWER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															

23. continues on next page!

23. continued!

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(d)															
(e)															
(f)															
(g)															

(d) Did ---'s pregnancy end with a live birth?
Record (1) = No, MISCARRIAGE or STILLBIRTH
(2) = Yes, BABY BORN
(3) = --- is STILL PREGNANT

(e) If ---'s baby was born alive, how many babies? (In case of twins, triplets)
Record (1) = Boy(s)
(2) = Girl(s)

(f) Tell me again about these babies: Are they all healthy today other than for normal childhood diseases and illnesses?
Record (1) = Yes, ALL HEALTHY
(2) = No, SEVERE ILLNESS
(3) = BABY IS DEATH
(4) = Don't know, or NO ANSWER

(g) If death of an infant was mentioned,
Record (1) = number of MALE INFANT DEATHS
(2) = number of FEMALE INFANT DEATHS

PROBE: Was there another female in this household confirmed as being pregnant during the last 12 months? — If so, repeat questions 23. (a) through (g).

24. ASK THIS QUESTION OF THE RESPONDENT ONLY! and mark answers under his/her personal number!
In your opinion, against what diseases should children here on Guam under the age of 10 be vaccinated?
Record (0) = If respondent does not know, refusal, or no answer
(1) = If this vaccination was mentioned.
DO NOT READ LIST OF VACCINATIONS TO RESPONDENT!

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															

(a) Measles (Rubeola)

(b) Mumps

(c) German Measles (Rubella)

(d) DPT (Diphteria, Pertussis (Whooping Cough) and Tetanus)

(e) Polio

25. The next question concerns immunization shots. Do you have written records (or shot cards) of the shots your children received?

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a) Record (0) = no such records available (1) = yes, has such a record (or shot card) (a)															

(If such a written record (or shot card) is available) - could you please get it (them) to help you in answering the next questions?

ASK 25. (b) through (f) ONLY FOR CHILDREN 9 YEARS OF AGE AND UNDER!

Record (1) = Yes, or
(2) = No, or
(3) = Don't know under child's person number!

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(b) Did --- have MEASLES vaccination? (b)															
(c) Did --- have RUBELLA (German measles) vaccination? (c)															
(d) Did --- have DPT shots? (Diphteria, Whooping Cough & Tetanus) (d)															
(e) Did --- have ORAL POLIO vaccination? (e)															
(f) Did --- have Mumps vaccination? (f)															
(g) Did --- have PPD (test for tuberculosis)? (g)															

PROBE: Are there any more children under the age of 9 living in this household? -- If so, ask questions 25. (b) through (g).

26. Has any person living in this household over the age of 10 had a TETANUS shot within the past 10 years?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Record (1) = Yes (2) = No (3) = Don't know															

PROBE: Is there anybody else living in his household over the age of 10 who has had a TETANUS shot? -- If so, record.

CST

The next few questions refer to your own feelings and opinions about health services here on Guam. (Hand respondent CARD D listing appropriate responses. Please use one of these responses as the best indication of your experiences).

ASK THIS QUESTION ONLY OF THE PERSON BEING INTERVIEWED - THE RESPONDENT!

Record (1) = Very satisfied
(2) = Satisfied
(3) = Somewhat dissatisfied
(4) = Dissatisfied
(5) = Does not apply
(9) = Refused, NO ANSWER

27. To what extend are you satisfied with...

(a) The information health professionals have given you about your health conditions?

(b) The information health professionals have given you about treatment you have received?

(c) The overall quality of health care you have received?

(d) The quality of health care you have received from doctors? (M.D.s).

(e) The quality of health care you have received from nurses?

(f) The quality of health care you have received from medical aides and technicians?

(g) The out-of-pocket costs (other than health insurance) you have had to pay?

(h) The time it takes to travel to a doctor's office or your health facility?

(i) The time it takes to complete a visit at a doctor's office or health facility from arriving till leaving?

(j) The days of the week that your usual source of health service is opened?

(k) The time of day that your usual health service is open?

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															
(g)															
(h)															
(i)															
(j)															
(k)															

/1

For this series of questions we would like you to indicate where you most often received advice or information about your own health problems and needs (hand subject CARD E)
ASK RESPONDENTS ONLY!

Record (1) = very often
(2) = sometimes
(3) = rarely
(4) = never
(5) = does not apply
(9) = refusal, or NO ANSWER

28. When you have some kind of illness or health problem, how frequently do you get information about what is wrong with you (a diagnosis) from:.....

(a) A member of this household?

(b) A relative not living in this household?

(c) A friend who is not a relative?

(d) A priest or a clergyman?

(e) A Suruhana(o), Hilog, or other traditional healer?

(f) A nurse or medical aide?

(g) A medical doctor?

(h) Books, magazines, newspapers, pamphlets, etc.

(i) TV or radio programs/ announcements?

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															
(g)															
(h)															
(i)															

29. Which of these sources from whom you have gotten information do you feel has been the most helpful to you?

Record answer from list above (e.g. either (a), (b), etc.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

30. When you find out that you have a health problem, how frequently do you get information about medicines and treatment from:....
Record responses as in question 28, e.g. use from (1) through (9)!

(a) A member of this household?

(b) A relative not living in this household?

(c) A friend who is not a relative?

(d) A priest or clergyman?

(e) A Suruhana(o), Hilog, or other traditional healer?

(f) A nurse or medical aide?

(g) A medical doctor?

(h) Books, magazines, newspapers, pamphlets, etc.

(i) TV or radio program/announcement?

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															
(g)															
(h)															
(i)															

31. If you needed or wanted information about PREGNANCY or FAMILY PLANNING, how frequently would you get advise from:...
Record responses as in question 28, e.g. use from (1) through (9)!

(a) A member of this household?

(b) A relative not living in this household?

(c) A friend who is not a relative?

(d) A priest or clergyman?

(e) A Suruhana(o), Hilog, or other traditional healer?

(f) A nurse or medical aide?

(g) A medical doctor?

(h) Books, magazines, newspapers, pamphlets, etc.

(i) TV or radio programs/announcements?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															
(e)															
(f)															
(g)															
(h)															
(i)															

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

32. How much time does it actually take you to travel to your usual place of health care service?
Record actual time (hrs/min) under respondent's number!

33. About how many miles by car is it from this residence to your usual place of health care service?
Record actual miles or (9) = doesn't know

34. When you or any other person from this household need to go to a health care facility, in what kind of transportation do you usually go?
Record (1) = own car or truck
(2) = relative's car or truck
(3) = non-relatives car or truck
(4) = Social Service agency car, truck or van
(5) = Taxi
(6) = walk
(7) = goes off-island
(9) = refusal, or NO ANSWER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

35. How difficult, if at all, is it for you to obtain the necessary transportation to get to a health facility?
Record (1) = very difficult
(2) = somewhat difficult
(3) = not difficult
(4) = refusal, or NO ANSWER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

36. Have you or any other member of this household ever decided not to go to a doctor or health facility because transportation was not readily available?
Record (1) = Yes
(2) = NO
(3) = Refusal, or NO ANSWER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

37. Do you or any other member of this household belong to a HEALTH INSURANCE PLAN? -- WHO? (Mark under the person's number) -- WHICH ONE? SHOW CARD F!
Record (1) = FHP
(2) = QMPH
(3) = HMI
(4) = Military
(5) = other group plan
(6) = commercial, self-paid insurance plan
(7) = other, not listed above
(8) = none
(9) = refusal, or NO ANSWER

38. In the past 12 months, about HOW MUCH MONEY has your household DIRECTLY PAID (not counting health insurance premiums) in OUT-OF-POCKET costs for health-related needs? (Medicine, or anything not covered by health insurance, including dental or optical costs. SHOW RESPONDENT CARD G TO PICK APPROPRIATE CATEGORIES. MARK ANSWERS UNDER RESPONDENT'S PERSON NUMBER!

Record (0) = none
(1) = $1 to $50
(2) = $51 to $150
(3) = $151 to $300
(4) = $301 to $500
(5) = $501 to $1,000
(6) = $1,001 to $2,000
(7) = $2,001 to $4,000
(8) = $4,001 or more - SPECIFY! _____
(9) = refusal, or NO ANSWER

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

The following questions refer to a planned health center which may be built in the future. It is important to you and your family that the planners of this center know your health needs and feelings about health care services. Please answer the following questions to the best of your knowledge.

Record (1) = very sure I would
(2) = somewhat sure I would
(3) = not sure I would
(4) = no, I would not
(5) = don't know
(6) = my family has never used that kind of service
(9) = refusal, or NO ANSWER

39. Here is a card (CARD H) which lists 3 possible locations for a health care center and 2 types of service providers.

(a) If a health center was located at location # 1 and operated by a health maintenance organization (HML, FHP, GMP, etc.), DO YOU THINK YOU WOULD START USING THIS FACILITIY FOR YOUR FAMILY for ...

-1) Dental Care
-2) Physicals and check-ups
-3) Emergency health care (accidents)
-4) Pediatric (child) health care
-5) Lab-tests, X-rays, or pharmacy needs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a-1)															
(a-2)															
(a-3)															
(a-4)															
(a-5)															

39. continued on next page!

39. continued!

(b) If a health center was located at location # 2 and operated by a health maintenance organization, DO YOU THINK YOU WOULD START TO USE THIS FACILITY FOR YOUR FAMILY'S...

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
-1) Dental Care (b-1)															
-2) Physicals and check-ups (b-2)															
-3) Emergency health care (accidents) (b-3)															
-4) Pediatric (child) health care (b-4)															
-5) Lab tests, x-rays, or pharmacy needs? (b-5)															

(c) If a health center was located location # 3 and operated by a health maintenance organization, DO YOU THINK YOU WOULD START TO USE THIS FACILITY FOR YOUR FAMILY'S...

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
-1) Dental Care (c-1)															
-2) Physicals and check-ups (c-2)															
-3) Emergency health care (accidents) (c-3)															
-4) Pediatric (child) health care (c-4)															
-5) Lab tests, x-rays, or pharmacy needs (c-5)															

40. I will repeat this question for the same 3 locations, but this time I want you to respond on the basis that the health center contains individual private doctors, and NOT a health maintenance organization.

(a) If a health center was located at location # 1 and operated by your private medical practitioner, DO YOU THINK YOU WOULD START TO USE THIS FACILITY FOR YOUR FAMILY'S...

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
-1) Dental Care (a-1)															
-2) Physicals and check-ups (a-2)															
-3) Emergency health care (accidents) (a-3)															
-4) Pediatric (child) health care (a-4)															
-5) Lab tests, x-rays, or pharmacy needs (a-5)															

40. continued on next page!

40. continued!

(b) If a health center was located a location # 2 and operated by your private medical practitioner, DO YOU THINK YOU WOULD START TO USE THIS FACILITY FOR YOUR FAMILY'S..

-1) Dental care

-2) Physicals and check-ups

-3) Emergency health care (accidents)

-4) Pediatric (child) health care

-5) Lab tests, x-rays, or pharmacy

(c) If a health center was located at location #3 and operated by your private medical practitioner, DO YOU THINK YOU WOULD START TO USE THIS FACILITY FOR YOUR FAMILY'S..

-1) Dental care

-2) Physicals and check-ups

-3) Emergency health care (accidents)

-4) Pediatric (child) health care

-5) Lab tests, x-rays, or pharmacy needs

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(b-1)															
(b-2)															
(b-3)															
(b-4)															
(b-5)															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(c-1)															
(c-2)															
(c-3)															
(c-4)															
(c-5)															

A health center can provide many services other than the 5 mentioned in the above questions. FOR EACH OF THE FOLLOWING SERVICES, TO WHAT EXTENT WOULD YOU EXPECT A MEMBER OF YOUR HOUSEHOLD TO USE THIS KIND OF SERVICE IF IT WAS OFFERED BY THE PROPOSED HEALTH FACILITY AT EITHER LOCATION #1, #2 or #3?

Record (1) = never, or not likely
(2) = sometimes, occasionally
(3) = very likely or frequently
(9) = refused, or NO ANSWER

41. Would anyone in your household be likely to use a health facility if it provided services for...

(a) Physical disability and therapy needs

(b) Drug or alcohol counseling

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															

41. continued on next page!

PERSON NUMBER

41. continued!

(c) Speech or hearing disability needs

(d) Health information education (stop smoking, baby care, etc.)

(e) Social welfare (food stamps, family counseling, etc.)

(f) General mental health needs (psychologists, etc.)

(g) Obstetric services (pregnancy care)

(h) Communicable disease control (immunization, etc.)

(i) Nutrition and diet counseling

(j) Are there any OTHER SERVICES YOU WOULD LIKE TO SEE OFFERED BY SUCH A PROPOSED NEW HEALTH CENTER? list→

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(c)															
(d)															
(e)															
(f)															
(g)															
(h)															
(i)															

(j) _____

42. Here is a card (CARD I) listing the days of the week and the hours of a day. FROM YOUR OWN EXPERIENCE AND HEALTH NEEDS ....

(a) What is the EARLIEST hour in the morning you would want such a proposed health center opened for your use?

(b) Excluding your first choice above, what is the LATEST hour in the morning you would accept such a proposed health center to be opened for your use?

(c) What is the EARLIEST hour in the afternoon or evening you would accept such a proposed health center to be closed for your use?

(d) Excluding your choice above, what is the LATEST hour in the afternoon or evening you would want the proposed health center closed to your use?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															
(c)															
(d)															

43. It is possible that such a proposed health center in this area could be open all 7 days of the week, but this is very expensive and it increases the cost of health care. If the proposed health center was to be closed ONE (1) day each week, WHICH DAY do you think would be the...

Record (1) = Sunday
(2) = Monday
(3) = Tuesday
(4) = Wednesday
(5) = Thursday
(6) = Friday
(7) = Saturday
(8) = makes no difference

(a) least harmful day to be meeting your needs

(b) second least harmful to meeting your needs (excluding your first choice)?

PERSON NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															
(b)															

Finally, there are just a few remaining questions about EACH PERSON in your household. This information will help us best understand your answers to the other questions. (ASK THIS INFORMATION FOR EACH PERSON LISTED ON THE ROSTER CARD.) CARD 7.

44. Who in this household has ever been married?

(a) At present, what is ---'s marital status?

Record (2) = married only once
(3) = married more than once
(4) = widowed
(5) = separated
(6) = divorced

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a)															

(b) At what age was --- first married?

Record (1) = has never been married
(0) = Don't know, or
(actual age)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(b)															

PROBE: Has anyone else ever been married? -- If so, repeat questions 44. (a) and (b)! Am I correct that each of the other persons have NEVER been married? If YES - record (1) for all such persons on lines (a) and (b). If NO - record (0) for persons if (a) and (b) unknown.

45. For each person 14 YEARS AND OLDER - what did --- do most of the time during the past week? SHOW CARD K.

Record (0) = Age 14 or less
(1) = Doing work for paid income (employed, or on vacation from paid employment)
(2) = Looking for work or making applications
(3) = Doing housework or child care
(4) = In School: (4a) Junior High School
(4b) High School
(4c) College or University
(5) = Retired
(6) = Doing something else, not specified above.

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

46. For those persons EMPLOYED (with a code (1) in question 45) - Is ---'s job...

Record (0) = Age 14 or less
(1) = All persons not employed
(2) = Full time only
(3) = Part time only
(4) = One full time and one part time job
(5) = Two part time jobs or more
(6) = Two full time jobs or more

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

47. Which one of the following best identifies ---'s major or primary job (full time, or the one with the highest salary: SHOW CARD L.

Record (0) = All persons under age 14
(1) = All persons not employed
(2) = General or construction labor (farmer, dockhand, delivery man, etc.)
(3) = Tradesman (enlisted military, carpenter, mechanic, etc.)
(4) = Skilled craftsman (policeman, electrician, foreman, draftsman, etc.)
(5) = Clerical or sales (bookkeeper, government office worker, business owner, etc.)
(6) = Professional (accountant, lawyer, military officer, teacher, nurse, etc.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

48. Which category on this card (CARD M) includes the total personal income before taxes that --- received during the past 12 months? Just tell me the appropriate number. (MARK UNDER EACH PERSON'S NUMBER)
Record (0) = none, under age 14, or don't know

	Annual	Bi-Weekly
(1) =	$1 to $3,000	$1 to $115
(2) =	$3,001 - $7,830	$116 - $301
(3) =	$7,831 - $11,130	$302 - $428
(4) =	$11,131 - $14,430	$429 - $555
(5) =	$14,431 - $17,730	$556 - $682
(6) =	$17,731 - $25,000	$683 - $962
(7) =	$25,001 - $35,000	$963 - $1,346
(8) =	$35,000 or more	$1,347 or more
(9) =	refusal, or NO ANSWER	

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

49. Who in your household, if anyone, receives any of the following social benefits. (MARK UNDER EACH PERSON'S NUMBER)
Record (1) = Yes SHOW CARD H !
(2) = No
(9) = refusal, or NO ANSWER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a) Welfare															
(b) Food Stamps															
(c) Social Security															
(d) GHURA Housing Assistance															
(e) Low Income Family Housing Subsidy															

50. Only for persons AGE 16 AND OLDER - How many years of schooling has --- completed?
Record (0) = under age of 16, or
(exact number of years: less than High School = 1 - 11 years; High School graduate = 12 years; College = 13 - 16 years; Graduate Studies or more = 17 years. -- MARK UNDER PERSON'S NUMBER!)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

51. People on Guam have different kinds of citizenship status. Were all members of your family born on Guam or within the United States? (MARK RESPONSES UNDER EACH PERSON'S NUMBER!)
Record (1) = Born on Guam
(2) = Born elsewhere in U.S.
(3) = Naturalized citizen of the U.S. (born elsewhere)
(4) = Temporary work visa
(5) = Other type of visa status

PERSON NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

52. People identify themselves as having different ethnic-racial backgrounds, such as Chamorro, Filipino, and so on. (Hand respondent CARD O) What category would each household member in your family most often use to identify their background? (MARK UNDER EACH PERSON'S NUMBER!)
Record (1) = Chamorro/Guamanian
(2) = T.T. Islander
(3) = Filipino
(4) = Caucasian/Statesider
(5) = Japanese
(6) = Korean
(7) = Chinese
(8) = Other - SPECIFY:_____
(9) = Don't know, refusal, or NO ANSWER

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

53. The proposed Northern Area Health Center would be built with Federal funds, but the funds for the upkeep and maintenance of the facility and for most employees would have to come from local sources. What are your feelings about having your property taxes increased if such a proposed new health center would provide... (SHOW CARD P).
Record (1) = A good project and I would be willing to have my tax increased to the extent necessary.
(2) = Would not mind if taxes were increased a little bit.
(3) = Thinks the project is good, but feels uncomfortable about tax increase.
(4) = Would not like a tax increase at all.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(a) Both improved acute (emergency) and preventive (immunization, etc.) health services? (a)															
(b) Improved preventive health services only? (b)															

Now we are having a few questions which deal with your knowledge, opinions and preferences. We would be grateful if you would answer these questions. (ASK ONLY RESPONDENT AND MARK HIS/HER PERSON NUMBER HERE: #_____)

54. There are many folk remedies for some of the common ailments on Guam. We would be interested to know what you think is the most effective home treatment for someone who is having watery diarrhea. _____

_____

55. Are you a registered voter of Guam
Record (1) = Yes
(2) = No
(3) = Not eligible _____

56. In your opinion, what should Guam's political future be? _____

_____

57. Did you vote on the Guam referendum issue last August?
Record (1) = Yes
(2) = No
(3) = Not eligible _____

58. What radio station do you listen to most often? _____

59. What TV station do you watch most often? _____

60. In your opinion, what is the purpose or function of the Cooperative Extension Service of the University's College of Agriculture and Life Sciences? _____

_____

61. What do you consider to be the Number 1 problem in your Village? _____

62. In your opinion, how could this problem best be solved? _____

_____

_____

63. What do you consider to be the Number 1 problem on Guam? _____

64. In opinion, how could this problem best be solved? _____

_____

_____

65. Do you ever buy from the roadside stands?
Record (1) = Yes
(2) = No _____

66. If YES, when was the last time you bought something from there? (SHOW CARD Q).
Record (1) = during last week
(2) = not this past week, but during last month
(3) = not during past month, but sometimes during past six months
(4) = not during past 6 months, but sometimes during past year
(5) = over 1 year ago _____

67. If YES to question 65 - what was it you bought when you shopped last time at the roadside stand? _____

68. If Yes to question 65 - why did you buy this product at the roadside stand? _____

69. Have you ever planted a tree on Guam? _____

(a) If YES, when was the last time? (a) _____

(b) If YES, what kind of tree was this? (b) _____

70. And for our final question: What would you say is the thing that you are most afraid of? _____

_____

THANK YOU VERY MUCH FOR HELPING US OUT!

****

54. There are many folk remedies for some of the common ailments on Guam. We would be interested to know what you think is the most effective home treatment for someone who is having watery diarrhea.

_____

_____

THIS IS THE END OF THE SURVEY. THANK YOU VERY MUCH FOR HELPING US.

****

APPENDIX C

CARD A - Questions 11 through 17

The following questions are about visits to doctors, illnesses in the family, and other health related events THAT HAPPENED DURING THE TWO (2) WEEKS MARKED BELOW.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Nov. 19	20	21	22	23	24	25
Nov. 26	27	28	29	30	Dec. 1	2
Dec. 3	4	5	6	7	8	9
Dec. 10	11	12	13	14	15	16
Dec. 17	18	19	20	21	22	23

CARD B - Question 15 - HEALTH CONDITIONS

Code Number	Type of Conditions and Examples
01	TUMOR, CANCER, NEOPLASM (Leukemia)
02	HEART OR BLOOD-VEIN DISORDER (Hypertension, hemorroids, rheumatic fever, heart disease, high blood pressure, gangrene, varicose veins)
03	ENDOCRINE METABOLIC DISEASE (Goiter, diabetes, thyroid gland, nutritional deficiency, over-weight-obesity, etc.)
04	SERIOUS STOMACH DISORDER (Ulcer, appendicitis, hernia, cirrhosis of liver, gastritis)
05	MUSCLE AND BONE DISORDER (Arthritis, rheumatism, back pains, pains in bones-joints, muscle spasm
06	MENTAL (BRAIN) DISORDERS (Migraine headaches, epilepsy, multiple sclerosis, dizzy spells, mental stress, stress-anxiety-depression, mental retardation, nervous breakdown, etc.)
07	SIGHT OR HEARING (EYES-EARS) DISORDERS (Cataract glaucoma, blindness, deafness, etc.)
08	LUNG, BREATHING OR THROAT DISEASES (Tonsilitis, strep throat, laryngitis - loss of voice, astma, pneumonia, bronchitis, emphysema, hard breathing, hay fever, allergies, etc.)
09	COMMON INFECTIOUS DISEASES (Food poisoning, diarrhea, flu, cold, whooping cough, small pox, measles, mumps, hepatitis, etc.)
10	MOUTH DISEASE OR DISORDER (Conker core, tooth ache, swelling of tongue, etc.)

CARD B - CONTINUED

Code Number	Type of condition and examples
11	SKIN DISEASE (Boil, carbuncle, itching, rash, dry-flaking, acne-pimples, etc.)
12	GENITO-URINARY DISORDER (Kidney infection, bladder infection, MALE genital problems, prostratitis, FEMALE genital problems, menstrual disorder, menopause, pelvic inflammation, yeast infection, cervicitis, V.D., syphilis, etc
13	PREGNANCY (Complication of pregnancy)
14	INJURY OR ACCIDENT (Broken bone, cuts, burns, sprains, bruises, internal injuries, dislocations, etc.)
15	ALCOHOLIC or DRUG REACTION (loss of consciousness, spasms, convulsions. etc.)
16	OTHER DISORDERS NOT IDENTIFIED ABOVE
98	DO NOT KNOW
99	NO ANSWER

CARD C - QUESTIONS 16 THROUGH 22

HEALTH FACILITY LOCATIONS
(by Type and in alphabetical order)

Code	Name	Location
	General Facilities, incl. medical, dental, optical	
01	(The) Doctor's Clinic	Harmon
02	(The) Family Clinic	Asan
03	FHP Guam Medical Center	
04	Dr. Garrett's Clinic	
05	Good Samaritan Clinic	
06	Guam Medical Clinic	Hospital Road
07	GUAM MEMORIAL HOSPITAL	
08	Guam Polyclinic	Ipao Road
09	International Medical Group	GITC Building
10	Julale Medical Clinic	
11	Marianas Medical Clinic	Hospital Road
12	Medical Arts Clinic	off Marine Drive
13	PUBLIC HEALTH CLINIC	Mangilao
14	Dr. Sablan's Clinic (dermatology)	
15	Dr. Sagis & Batoyon Clinic	Frank Cruz Building
16	St. Anthony Clinic	
17	Seventh Day Adventist Clinic	Ipao Road
18	Tamuning Medical Clinic	Lee's Plaza
19	Trade Center Medical Clinic	GITC Building
20	Other General Facility: SPECIFY _____	
	Dental Facilities	
21	Dededo Dental Clinic	
22	Guam Dental Clinic	
23	GITC DENTAL CLINIC	
24	Dr. Madarang's Clinic	
25	Ordot Dental Clinic	
26	Orthodontics Clinic, Drs. Camacho & Hoffman	
27	Drs. Reynolds/Milligan/VanderPyle Dental Clinic	
28	Other Dental Facility: SPECIFY _____	

CARD C - CONTINUED

Code	Name
	Optical Clinics (Eye Care)
29	Acebedo Optical
30	P.A. Acosta Optical
31	Chui Optical
32	Gibson's Optical
33	Marians Optical
34	Mayo Optical Clinic
35	Panes Optical
36	Yamashita's Optical Clinic
37	Other Optical Facility: SPECIFY _____
	Psychology Services
38	Behavioral Clinic
39	E. Fuerst Psychotherapist
40	T. Cottrell Psychotherapist
41	Guam Community Mental Health Center (in old GMH)
42	Other Psychology Services: SPECIFY _____
43	GUAM ACUPUNTURE CLINIC
44	CHIROPRACTOR CLINIC
45	MILITARY HOSPITAL or CLINICAL FACILITY ON GUAM
46	OFF-ISLAND MEDICAL FACILITY
47	OTHER MEDICAL, DENTAL, OPTICAL or PSYCHOLOGICAL SERVICES FACILITY NOT MENTIONED ABOVE: SPECIFY _____
98	Doctor, Dentist, Optician or Psychologist where consulted but I do not know where.
99	NO ANSWER

CARD D - QUESTION 27

This refers to feelings and opinions about health services here on Guam.

Code

(1) Very satisfied

(2) Satisfied

(3) Somewhat dissatisfied

(4) Dissatisfied

(5) Does not apply

(9) NO ANSWER

CARD E - QUESTIONS 28 THROUGH 31

Possible sources of health information or advise:

(a) a member of this household
(b) a relative not living in this household
(c) a friend who is not a relative
(d) a priest or clergyman
(e) a Suruhana(o), Hilog, or traditional health healer
(f) a nurse or medical aide.
(g) a medical doctor
(h) books, magazines, newspapers, or pamphlets, etc.
(i) TV, or radio programs/announcements.

Responses:

Code

(1) Very often

(2) Sometimes

(3) Rarely, (maybe once or twice)

(4) Never

(5) Does not apply

(9) NO ANSWER

CARD F - QUESTION 37

TYPES OF HEALTH INSURANCE PLANS

Code

(1) FHP

(2) GMPH

(3) HML

(4) Military

(5) Other Group Plan

(6) Commercial, Self-Paid Insurance Plan

(7) Other, not listed above

(8) No Insurance at all

(9) NO ANSWER

CARD G - QUESTION 38

In the past 12 months (1 year), about how much money has your household directly paid in out-of-pocket costs for health needs (medicine, services, dental, etc. - anything not covered by your health insurance) NOT COUNTING HEALTH INSURANCE PREMIUMS?

JUST GIVE THE CODE FOR THE APPROXIMATE CATEGORY:

Code	Amount
(0)	none
(1)	$1 - $50
(2)	$51 to $150
(3)	$151 to $300
(4)	$301 to $500
(5)	$501 to $1,000
(6)	$1,001 to $2,000
(7)	$2,001 to $4,000
(8)	$4,001 or more - SPECIFY:_____
(9)	Do not know, or NO ANSWER

CARD H - QUESTION 39 THROUGH 41

LOCATION-USE RESPONSES

Possible Locations for a Health Center:	Possible Service Providers:
(1) Between Upper Tumon and the Harmon Area	Building operated and controlled by
(2) Between Dededo and the Latte Heights Area	(A) Health Maintenance Organization such as FHP, HML, GMPH, etc.
(3) Between Yigo and Agafa Gumas area (AAFB)	(B) Individual private doctors and providers of health services

For each type of use, would you or a member of your household use the facility?

Code

(1) Very sure I would
(2) Somewhat sure I would
(3) Not sure I would
(4) No, I would not
(5) I don't know
(6) My family has never used that kind of service
(9) NO ANSWER

CARD 1 - QUESTIONS 42 AND 43

HOURS OF DAY AND DAYS OF WEEK

earliest ↕ latest

Morning Opening Code	Hour	Evening Closing Code	Hour	Code	Day
(1)	6 am or earlier	(0)	3 pm or earlier	(1)	Monday
(2)	7 am	(1)	4 pm	(2)	Tuesday
(3)	8 am	(2)	5 pm	(3)	Wednesday
(4)	9 am	(3)	6 pm	(4)	Thursday
(5)	10 am	(4)	7 pm	(5)	Friday
(6)	11 am	(5)	8 pm	(6)	Saturday
(7)	12 noon or later	(6)	9 pm	(7)	Sunday
(8)	No opinion	(7)	10 pm or later	(8)	No opinion
		(8)	No opinion		

CARD J - QUESTION 44 (A) & (B)

MARITAL STATUS

Who in this household has ever been married?

(a) At present, what is ---'s martial status?

Code

(2) married only once

(3) married more than once

(4) widowed

(5) separated

(6) divorced

(b) Atwhat age was --- first married?

Code

(1) If --- has never been married

(0) Don't know

(give actual age)

CARD K - QUESTIONS 45 AND 46

For each person 14 years and older, what did they do mos of the time during the past week?

Code

(1) Doing work for paid income (employed, self- employed, on vacation from paid work)

(2) Looking for work or making applications

(3) Doing housework and child care

(4) In School (4a) Junior High School
(4b) High School
(4c) College or University

(5) Retired

(6) Doing something else not specified above

For those persons EMPLOYED (Code (1) above), which code best describes their work?

Code

(2) Full time only

(3) Part time only

(4) One full time and one part time job

(5) Two part time jobs or more

(6) Two full time jobs or more

CARD L - QUESTION 47

Which code best includes each person's primary job (a full time job or the one with the highest income)?

Code	Type of Job
(2)	GENERAL OR CONSTRUCTION LABOR (farmer, dockhand, deliveryman, etc.)
(3)	TRADESMAN (enlisted military, carpenter, mechanic, etc.)
(4)	SKILLED CRAFTSMAN (policeman, electrician, foreman, draftsman, etc.)
(5)	CLERICAL OR SALES (bookkeeper, government office worker, business owner, etc.)
(6)	PROFESSIONAL (accountant, lawyer, doctor, military officer, teacher, nurse, etc.)

CARD M - QUESTION 48

INCOME OF EMPLYED PERSONS

Code	Yearly Income	Bi-weekly Income
(1)...	$1 to $3,000	$1 to $115
(2)...	$3,001 - $7,830	$116 - $301
(3)...	$7,831 - $11,130	$302 - $428
(4)...	$11,131 - $14,430	$429 - $555
(5)...	$14,431 - $17,730	$556 - $682
(6)...	$17,731 - $25,000	$683 - $962
(7)...	$25,001 - $35,000	$963 - $1,346
(8)...	$35,000 or more	$1,347 or more
(9)	NO ANSWER	

CARD N - QUESTION 49

Who in your household, if anyone, receives any of the following social benefits?

Just state the appropriate letter.

Type of Social Benefit

(a) Social Welfare Assistance (aid to dependent children, etc.)

(b) Food Stamps

(c) Social Security

(d) GHURA Housing Assistance

(e) Low Income Housing Subsidy

CARD 0 - QUESTION 52

People identify themselves as having different ethnic-racial backgrounds, such as Chamorro, Filipino, and so on. What category would each household member in your family most often use to identify their background?

Please state the approximate code number.

Code	Ethnicity
(1)	Chamorro/Guamanian
(2)	T.T. Islander
(3)	Filipino
(4)	Caucasian/Statesider
(5)	Japanese
(6)	Korean
(7)	Chinese
(8)	Other - SPECIFY:_____
(9)	Don't know or NO ANSWER

CARD P - QUESTION 53

The proposed Northern Area Health Center would be built with Federal Funds, but the funds for the upkeep and maintenance of the facility and for most employees would have to come from local sources. What are your feelings about having your property taxes increased if such a center would provide ...

(a) Both improved acute (emergency) and preventive (immunization, etc.) health services?

(b) Improved preventive health services only?

Please state the appropriate code number.

Code	Answer
(1)	I believe this is a good project and I would be willing to have my taxes increased to the extent necessary.
(2)	I would not mind if taxes were increased a little bit.
(3)	I think the project is good, but feel uncomfortable about a tax increase.
(4)	I would not like a tax increase at all.

CARD Q - QUESTION 66

When was the last time you bought something from a roadside stand?

Code

(1) During last week

(2) Not this past week, but during last month

(3) Not during the past month, but sometimes during the last six months

(4) Not during the past six months, but sometimes during the past year

(5) Over a year ago