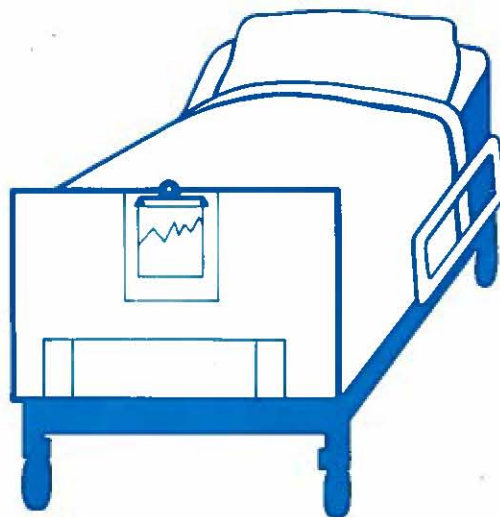


Health Status of the Population of Guam: Morbidity

**Community Development Report No. 14
May 1985**



A Collaborative Project between Community Development Institute, Cooperative Extension Service and
Guam Health Planning and Development Agency

Community Development Institute, College of Agriculture and Life Sciences
University of Guam, Mangilao, Guam 96923

HEALTH STATUS OF THE POPULATION OF GUAM:
MORBIDITY

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SECTION ONE

HEALTH BEHAVIOR PATTERNS: A DEMOGRAPHIC OVERVIEW

1.1 Survey Origin and Goal

The Islandwide Health Behavior Patterns Survey originated following acceptance by the Guam Health Planning and Development Agency (GHPDA) of an application prepared by the Community Development Institute (CDI), College of Agriculture and Life Sciences (CALS) and submitted by the University of Guam (UOG). An Interagency Agreement was affirmed in late September 1983.

The Agreement called for an islandwide survey to determine the health behavior patterns of the civilian population of Guam. In 1980 CDI completed a Health Needs Assessment of the northern part of the island (1). The study concentrated on 400 families in the village districts of Yigo, Dededo and Tamuning. At that time discussions by the Guam Health Coordinating Council centered on the need for a similar health assessment of the entire island population. The findings from such a study could provide relatively current information for reviewing and, as necessary, revising the Guam Health Plan. Before this, selected health data had been obtained from an islandwide CDI survey of households having at least one child in the 18 to 36 months age range (2). The purpose of the Department of Public Health and Social Services (DPHSS) sponsored study was to establish immunization levels for children under 10 years of age. The analysis involved 2,727 children from 1,237 households.

This report is the third publication of findings from the Islandwide Health Behavior Patterns Survey. As such, it is the culmination of nearly one and one-half years of research effort extending from the time of this survey project application on through the joint design and development of the data collection instrument, the interviewing and data analysis processes to the writing and actual publication.

This publication represents one of five volumes intended as a means of feedback to GHPDA following the initial general analysis of survey findings. The focus of this volume is on morbidity and factors that may be related to the types of services received.

1.2 Sponsorship and Coordination

The islandwide health behavior study was made possible through the coordination and collaborative efforts of several significant groups. The administration and professional staff of the Guam Health Planning Agency along with the Community Development Institute team jointly met during the initial phase of the project. Regular work sessions were held until such time that the design and development of the data collection instrument was completed. Intermittent written reports were submitted and small group meetings concerning the progress and status of the study were held involving GHPDA and CDI. Some changes in key personnel occurred during the study, and at times others were off-island. However, replacement personnel were not unfamiliar with GHPDA/CDI and/or the health status survey. As a result, therefore, work on this health status

study progressed, although we were not able to move ahead as rapidly as originally planned.

Due to limited funding from GHPDA and the nature and scope of the study, the project was also of interest to the Cooperative Extension Service (CES) at the University of Guam. To this end, CES provided Smith-Lever Act direct funding and professional personnel, thus joining the GHPDA in implementing the islandwide health behavior study. By combining resources of both GHPDA and CES a more comprehensive study was made possible.

The University of Guam Computer Center also played a very significant role in the project. Due to the extreme volume of survey data produced, major adjustments to operating schedules of the Computer Center staff (as well as intensive and extensive work sessions) were required to develop a means whereby the massive data set of approximately 36,632 record lines could be entered and analyzed. The large amount of information was generated as a result of treating every individual in the household as a research subject--in contrast to using only the head of the household. In effect, this design generated at least five times as much additional information. This in turn resulted in complicated situations that were not anticipated during the formation of the study.

1.3 Method and Procedure

A general overview of the method and procedure of this islandwide health survey follows. A more detailed explanation of the sample design and sample unit is included in Appendix B.

1.3.1 Sample

The health behavior study sample was drawn so that all 19 village districts would be proportionately represented in accordance with the civilian population totals reported within the 1980 Federal Census of Guam (3). The proportionate representation took into account the more densely populated census designated places (CDP's) as well as the lesser populated outlying parts of the village districts. Houses located on land currently held by the federal government were not sampled. In addition, those places that provide quarters for the institutionalized were not included in the population of housing units. Therefore, the 400 households selected for this study involved a geographically stratified two-step proportionate systematic random sampling procedure. The 400 sample units represented a ratio of one-in-fifty-nine or 1.7% of the 23,549 households available. A sample of this magnitude was determined to be of sufficient size to enable generalizing to the total civilian population. Aerial photography maps were utilized to locate housing units for drawing the sample as well as for location guides by the CDI interviewers. Because multiple residential units such as the Alupang Cove complex appeared as one building on aerial maps, families residing in condominium/apartment units were underrepresented in the study. Single houses in those same village districts tended to be somewhat overrepresented. The bias, if any, that this sampling discrepancy may have contributed to the overall study was limited only to the extent families in those two types of dwelling differed.

All the apartments within a major housing complex were counted as individual households during the 1980 Federal Census for determining the total number of household units within the village. Therefore, for a village district such as Tamuning, single-dwelling residential homes were proportionately overrepresented in the study to the extent that multiple apartment units and condominiums were undersampled. This sampling concern was recognized and discussed in advance of the study by the GHPDA/CDI project planning team but was not considered to be of such a nature as to require altering or redesigning of the sample design for the study.

1.3.2 Survey Instrument

The GHPDA/CDI health study project team developed the personal interview schedule during a series of intensive work sessions which often involved extensive discussions of particular items to be included. Generally, questions were included that paralleled a prior national health study while keeping in mind the specific health questions and concerns of GHPDA.

As usual, questions were dropped, redesigned or rewritten following several field pre-tests. A copy of the survey instrument used in the study is included in the appendices.

1.3.3 Data Collection and Analysis

Interviewers having prior successful field interviewing experience with CDI were called upon to do the bulk of the data gathering for this Islandwide Health Behavior Patterns Survey. Those who were new to this type of work were given very intensive training.

A problem was encountered during the field work phase when a new public law concerning dual employment was enforced. In particular, public school teachers and clerical personnel were unable to be hired as interviewers even though the survey work was to be done during late afternoon, early evening or weekend hours.

The majority of the 400 interviews were completed from late February to early May of 1984. The greatest difficulties encountered were locating the designated sample households, (especially in the less populated areas away from the village centers) and interviewer fatigue. With few exceptions most individuals found it very difficult to continue field interview work beyond 10 to 20 completed interviews. This held true even with an incentive-based pay rate that increased after every nth interview successfully completed. A total of 18 interviewers were utilized. Women in the 35 to 50 age range seemed to be more productive interviewers. Their ethnicity did not appear to be a factor related to successful work.

Generally, excellent cooperation was received from the interviewees, and little difficulty in the gathering of the field data was experienced. The extremely low rate of non-responses to personal questions such as income earned tends to support this claim.

In order to ensure the validity of information received, follow-up contacts were made by the CDI team with subjects who had been interviewed. Approximately 10% of all interviewees were contacted to determine the accuracy of the information

obtained during the interviews. In addition, this follow-up strategy provided an excellent check on the manner in which the interviewers had presented themselves and, in general, if they had been professional in their assignment.

Because of the volume of data generated in this study several additional computer science students at the university were employed to assist with the coding and data entry which was begun and continued simultaneously with the field interview process. As previously noted, the 1,928 subjects from the 400 households were treated as individual sample cases when coding interview information for analysis by the university mainframe computer. This generated an extremely large data set of approximately 36,632 record lines. Unfortunately, the size of the data file members that can be utilized by the Interactive Computer Control Facility (ICCF) of the University's Computer Center is limited to 5,000 record lines. A more detailed discussion of this technical data analysis problem encountered and it's eventual solution is included in the appendices.

Staff initially planned to use the Statistical Package for the Social Sciences (SPSS) to analyze data, but the Statistical Analysis System (SAS) was used due to uncertainty of the University's ability to maintain rental on the SPSS program. Analysis of data was still halted for about a week when the rental of the SAS program expired.

1.3.4 Validity and Reliability

The findings of the health survey are believed to be both valid and reliable within acceptable limits. As noted earlier,

interviewee follow-ups were made by phone and in person with approximately 10% of the households. The feedback was most positive. In addition, throughout the report various findings of this study are compared with similar data from the 1980 Federal Census of Guam and other CDI studies and are used as measures of accuracy.

When considering the very adequate sample size, in addition to the above observations, it is believed that the results reported in the following chapters can be viewed as very good estimates of the true situations as they existed in the civilian population of the island at the time data were collected.* Caution needs to be taken, however, when interpreting data on a village-by-village basis in view of the smaller number of households sampled in lesser populated village districts. Even though the sampling was proportionate to the total number of households on a village-by-village basis, the statistical chance of less accuracy obviously occurs when the raw sample size is small; for example, the village of Umatac. To help reduce that type of potential sampling error, the data in the following sections of this report have been analyzed on a geographical regional basis, also.

The possible bias of oversampling single dwelling houses and underrepresenting condominium and large apartment complex dwellings, especially in Tamuning, should also be considered when reviewing the findings. For example, if those who reside in the apartment units and condominiums are more homogeneous

*See Appendix B, Table 103

in regard to certain characteristics such as ethnicity, age, length of stay on the island, level of income, number per household, and so forth then those characteristics would be proportionately affected when reported for the entire village or island. Apartment dwellers on Guam have generally been younger individuals than those residing in single family homes. Therefore, the type of over/undersampling mentioned here could result in a slightly higher percentage of older individuals being included in the study.

1.4 Disclaimer

One factor which is always a concern of any survey of a sample of the population is the representativeness of subjects contacted. In addition, the time frame required to complete a study--from the initial team discussions until the published report is delivered--is most always longer than anticipated. In an atmosphere of considerable dynamic change that can and does occur on an island such as Guam, information is often outdated or somewhat less relevant, in part, by changes in the social environment and system studied before the final presentation is made. The users of such information, therefore, need to interpret that information accordingly--in light of known changes that have taken place. New information utilized in this manner should be very useful for decision making and planning purposes.

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

1.5 Form of Report

This report is presented in ten sections, or chapters. Section One introduces the study origin and general objectives. Also discussed here is the interagency coordination which was involved, along with a summary of methodology the team employed in collecting and analyzing the survey information. A brief overview of the validity and reliability of the data is also included in the initial section of this report. Section Two presents information pertaining to health needs and care. Gender, age, and ethnicity are considered to determine their relationship, if any, to various types of diseases and illness. Also reviewed in Sections Three, Four, and Five of the report are the hospitalization, home bed care and the reduction of usual activity due to illness or injury. A general level of well-being, as determined by work and school days lost appears in Section Six. Sections Seven through nine focus on diagnostic and treatment of illness or injury, preventive health care, therapy and rehabilitation. A brief summary of the findings is presented in Section Ten.

In an attempt to avoid duplication of material, and yet retain relevant information, considerable detailed information such as the sample design and sample unit selection procedure, the interview schedule, and flash cards are included in the appendices. For ease in preparing and reading this report, references cited also appear in the appendices along with definitions of key words and terms.

Percentage totals in the various data tables may exceed or be less than 100 by a decimal fraction of 0.1, due to mathematical rounding of numbers.

1.6 Acknowledgment

The CDI team would like to extend its appreciation for the outstanding support, understanding, and cooperation of all personnel from GHPDA, the CES, CALS and UOG administration, the UOG Computer Center, the work crew of faithful interviewers and dedicated data analysts. Last, but certainly not least, a heartfelt Si Yuus Maase to the clerical and office support staff for the numerous routine responsibilities performed--in particular, typing of this report.

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SECTION TWO

HEALTH NEEDS AND CARE

2.1 Introduction

Information regarding the health needs and care of the 1,928 individuals studied was obtained from the 400 adult household interviewees. The information they provided was based on their recall of the preceding 12 months for each member of their respective households. The data, therefore, may be expected to be accurate to the extent that the respondents were able to recall the various health needs and care of their family members. Generally, it is assumed that some individuals will overestimate or report events while others will underestimate them with the net result being a "good" representation of the true values. The assumption in this study was that responses would occur in such a manner. Thus, the findings reported for the entire randomly selected sample of households should provide a general view or profile of the health needs and care of the island civilian population. The information presented in this report covered the 12 months before the interviews were conducted excluding the two weeks just prior to the interview. Similar information was also obtained for the two-week period. However, it is not discussed in this report. Throughout this report reference to the "past year" or "past 12 months" actually means the previous year with the exclusion of the two-weeks referred to above. The basic

health information included in this report was obtained from answers to Questions 7-13 and 15 of the Interview Schedule. A copy of the relevant questions is included in the appendices.

2.2 Health Status and Personal-Social Characteristics

Approximately four out of every ten individuals (38.3%) were identified as having had a health condition that affected their normal or usual activity during the prior year (Table 1).

TABLE 1. Individuals with Health Conditions

Responses	Individuals	
	f	%
Yes	739	38.3
No	<u>1,189</u>	<u>61.7</u>
TOTAL	1,928	100.0

Table 2 presents a frequency and percentage distribution of the 739 individuals who were reported to have had a health condition by gender, ethnicity and age. Shown are the "actual" number and percentages found in this study as well as the numbers or frequencies that would be "expected" based on the proportion or percentage reported for the total study group of 1,928 individuals. Differences observed between the "actual" and "expected" figures suggest that given characteristics in some way associated or correlated with having had a health condition. For example, in this study 51.1% and 48.9% of the 1,928 individuals were male and female, respectively. Thus,

TABLE 2. Individuals with One or More Health Condition(s) by Gender, Ethnicity and Age

Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
<u>Gender</u>				
Male	345*	46.7	378	51.1
Female	<u>394*</u>	<u>53.3</u>	<u>361</u>	<u>48.9</u>
TOTAL	739	100.0	739	100.0

<u>Ethnicity</u>				
Chamorro	450	60.9	428	57.9
Filipino	176	23.8	208	28.1
Caucasian	36	4.9	26	3.5
Other Islanders	23	3.1	22	3.0
Asian	10	1.4	13	1.8
All Others	<u>44</u>	<u>5.9</u>	<u>42</u>	<u>5.7</u>
TOTAL	739	100.0	739	100.0

<u>Age</u>				
Less than 1	29	3.9	15	2.0
1 - 4	72	9.7	63	8.5
5 - 15	171	23.1	181	24.5
16 - 39	218	29.5	272	36.8
40 - 54	112	15.2	104	14.1
55 - 64	76	10.3	60	8.2
65 +	<u>61</u>	<u>8.3</u>	<u>44</u>	<u>5.9</u>
TOTAL	739	100.0	739	100.0

*These figures are statistically significant at the .02 level of probability or better.

one would expect to find 378 males and 363 females among the 739 with a health problem. As may be noted, however, the actual gender composition of the 739 individuals was 345 (46.7%) males and 394 (53.3%) females. There were 33 fewer males than anticipated and, therefore, 33 additional females. The difference was found to be statistically significant at the 0.02 level of probability. This suggests that females are more likely to have had or reported health conditions that needed special medical attention or care than were males.

With regard to ethnicity, Chamorros and Caucasians tended to be overrepresented among those who had had a health condition during the previous year. Those who identified themselves as being of Filipino ancestry were clearly underrepresented while all others were represented proportionately to their numbers among the total group of 1,928 individuals studied. Such differences obviously do not necessarily mean that individuals of a particular ethnic category were healthier than those of another, although such actually may be the case.

Factors such as available financial resources either in cash or insurance coverage could be involved in the decision of whether to have a health condition treated. An individual's general attitude and awareness regarding health care (among numerous other factors) may be associated with obtaining care or treatment of a health condition.

The third personal characteristic reported in Table 2 is that of age. As may be noted, those who were not yet five years old and others who were 40 or older were found to be more

likely have a health condition than would be expected. On the other hand, those in the 5 to 39 age range were underrepresented among those with health conditions. In particular, it may be observed that the greatest difference existed within the 16-39 years old category. If age were not a factor, 272 individuals of this age range would have been expected to have had or reported a health condition, in contrast to the smaller number of 218 reported.

These findings suggest a profile of the individuals who were reported to have had one or more health conditions. For health planning purposes it is noted that Chamorros and Caucasians, females, and those either preschool or at least middle age seem to have a greater health care need than those who are male, of other ethnic identity and of school age to middle age.

2.3 Health Condition and Personal-Social Characteristics

2.3.1 Number of Conditions

The interviewees were provided with a flash card that had a total of 131 health conditions listed on it (Flash Card E, Appendix D). They were asked to indicate the specific health conditions if they or their family members were among the 739 individuals who were reported to have had health problems during the previous 12 months. This was to include newly diagnosed as well as continuing conditions. A total of 982 health conditions were mentioned. The number of conditions reported per individual ranged from one to three. Three-fourths (74.8%) reported having had but one health condition. An additional 17.5% had just two health problems mentioned and

three different health conditions were identified for the other 7.7% of the individuals (Table 3). Another meaningful way of reporting these findings is to state that of the 739 individuals who had health conditions, 186 (25.2%) had a second condition and 57 (7.7%) had a third. No attempt was made in this study to determine if any particular significance was associated with the order in which conditions were listed. Therefore, a more intensive analysis of the total number of conditions was performed rather than to focus on whether the condition was listed first, second or third.

TABLE 3. Number of Health Conditions

Number of Conditions	Individuals	
	f	%
One	553	74.8
Two	129	17.5
Three	<u>57</u>	<u>7.7</u>
TOTAL	739	100.0

2.3.2 Types of Conditions Compared by Gender, Ethnicity and Age

The 131 specific health conditions were classified by the survey planning team. The four major categories developed were: catastrophic, chronic, acute and disabling. A fifth category was added to include those diseases or illnesses for which treatment is provided without charge by Guam law. A listing of the health condition categories and their composition appears in the Definition of Terms, Appendix A.

As was mentioned earlier, the 739 individuals with health problems had a total of 982 specific health conditions. The distribution of those conditions is presented in Table 4.

TABLE 4. Frequency of Reported Acute, Catastrophic, Chronic and Disabling Health Conditions and Mental Illness

Conditions	Individuals Reported		
	f	Total f	Total %
<u>Acute</u>	<u>773</u>		<u>78.7</u>
SUBTOTAL		773	78.7
<u>Catastrophic</u>			
Tumor/malignancies	3		
Kidney transplant	2		
Birth defect	<u>2</u>		
Subtotal	7		<u>0.7</u>
<u>Chronic</u>			
Hypertension	88		
Diabetes	52		
Kidney disease	18		
Parkinson disease	4		
Arthritis	30		
Rheumatism	<u>1</u>		
Subtotal	193		<u>19.7</u>
<u>Disabling Conditions</u>			
Deafness	1		
Blindness	1		
Full/partial paralysis	<u>2</u>		
Subtotal	4		<u>0.4</u>
<u>Mental Illness</u>	<u>5</u>		<u>0.5</u>
SUBTOTAL		<u>209</u>	<u>21.3</u>
TOTAL		982	100.00

As may be noted acute conditions made up 78.7% of all health conditions reported. The remaining 21.3% were predominantly chronic conditions. Nearly one out of every 5 (19.7%) of all health conditions were classified as chronic in nature. Hypertension, diabetes and arthritis ranked the highest in this category. Catastrophic conditions such as tumors/malignancies, kidney transplants and birth defects represented 0.7% of all health conditions reported. Relatively few cases of disabling conditions and mental illness existed. The percentage figures for these two classifications of health conditions were 0.4% and 0.5%, respectively.

Acute Conditions and Personal-Social Characteristics

The information presented in Table 5 shows the distribution and difference in the extent of acute health conditions when comparing the subjects by their gender, ethnic identity and age. The actual number and percentages of individuals reported to have had an acute condition and the expected number and percentages are shown in the table. As noted earlier, the expected percentage figures were derived from the total count distribution of 1,928 individuals. There was only a slight variation noted between the gender factors of male and female. The difference, however, was not statistically significant. Significant differences were found to exist among the various ethnic categories. Major variations from the expected results were the underrepresentation of Filipinos and the overrepresentation of Caucasians and those in the "All Other" category (to a lesser extent). With regard to age, differences were also found to be significant. Those less than a year old

TABLE 5. Actual and Expected Frequencies and Percentages by Gender, Ethnicity and Age of Those Reported Having Had Acute Health Conditions During the Prior Year

Personal-Social Characteristics	Actual					Expected	
	First f	Second f	Third f	Total Conditions f	%	Total Conditions f	%
<u>Gender*</u>							
Male	285	70	25	380	49.2	395	51.1
Female	298	74	21	393	50.8	378	48.9
TOTAL	583	144	46	773	100.0	773	100.0
<u>Ethnicity**</u>							
Chamorro	346	87	32	465	60.2	448	57.9
Filipino	139	24	5	168	21.7	217	28.1
Caucasian	30	13	2	45	5.8	27	3.5
Other							
Islanders	20	5	2	27	3.5	23	3.0
Asian	9	1	1	11	1.4	14	1.8
All Others	39	14	4	57	7.4	44	5.7
TOTAL	583	144	46	773	100.00	773	100.00
<u>Age**</u>							
Less than 1	29	8	1	38	4.9	15	2.0
1 - 4	71	17	3	91	11.8	66	8.5
5 - 15	168	27	8	203	26.3	189	24.5
16 - 39	187	48	15	250	32.3	285	36.8
40 - 54	63	25	9	97	12.6	109	14.1
55 - 64	38	4	7	49	6.3	63	8.2
65 +	27	15	3	45	5.8	46	5.9
TOTAL	583	144	46	773	100.00	773	100.00

*Actual total figures are not statistically significant.

**Actual total figures are statistically significant at the .001 level of probability.

contributed to a major portion of the differences. Because this infant group may possibly include a number of well baby births, they were excluded from the analysis when the statistical calculations were made a second time. However, when this was done the differences were still statistically significant at a highly acceptable level of confidence.

Catastrophic, Chronic, Disabling and Mental Health Conditions by Gender, Ethnicity and Age

There were considerable differences noted when analyzing the occurrences of catastrophic, chronic, disabling and mental health conditions as compared with acute conditions. All three variables of gender, ethnicity and age were found to be statistically significant at a high level of probability (Table 6). Therefore, real differences did exist. That is, more females than would be expected were reported to have had catastrophic and chronic health conditions. Chamorros were found to be overrepresented while fewer Filipinos than would be expected were reported to have had these types of health conditions. With regard to age there was a clear distinction between those under age 40 and those who were 40 years old or older. The number of older persons (40 and over) was substantially higher than would be expected if age were not a factor with regard to having health conditions that were classified as catastrophic or chronic.

Catastrophic Conditions

Seven individuals were reported to have had catastrophic health conditions. This breakdown included 3 tumor/malignancy

TABLE 6. Actual and Expected Frequencies and Percentages by Gender, Ethnicity and Age of Those Who Reported Having Had Catastrophic, Chronic, Disabling and Mental Illness Health Conditions During the Prior Year

Personal-Social Characteristics	Individuals					Expected Conditions		
	Actual Conditions*				Total	Total		
	One f	Two f	Three f	f		%	f	%
<u>Gender</u>								
Male	60	19	6	85	40.7		107	51.1
Female	96	23	5	124	59.3		102	48.9
TOTAL	156	42	11	209	100.0		209	100.0

<u>Ethnicity</u>								
Chamorro	104	31	8	143	68.4		121	57.9
Filipino	37	10	-	47	22.5		59	28.1
Caucasian	6	-	3	9	4.3		7	3.5
Other Islanders	3	-	-	3	1.4)		6)	3.0)
Asian	1	-	-	1	0.5)	4.8	4)	1.8)
All Others	5	1	-	6	2.9)		12)	5.7)
TOTAL	156	42	11	209	100.0		209	100.0

<u>Age</u>								
Under 1	-	-	-	-	-)		-)	2.0)
1 - 4	1	-	1	2	1.0)	2.4	73)	8.6)
5 - 15	3	-	-	3	1.4)		-)	24.4)
16 - 39	31	4	1	36	17.2		77	36.8
40 - 54	49	11	5	65	31.1		30	14.4
55 - 64	38	18	2	58	27.8		17	8.1
65 +	34	9	2	45	21.5		12	5.7
TOTAL	156	42	11	209	100.0		209	100.0

*All figures in the actual total column are statistically significant at the .01 level of probability or better.

cases, 2 kidney transplant cases and 2 cases involving birth defects (Table 7). The tumors/malignancies were reported only for females in the age range of 15 to 54. Two were Caucasians

TABLE 7. Frequencies of Various Catastrophic Health Conditions Reported by Gender, Ethnicity and Age

Personal-Social Characteristics	Catastrophic Conditions			Total	
	Tumors/ Malignancies	Kidney Transplant	Birth Defect	f	%
	f	f	f		
<u>Gender</u>					
Male	-	2	1	3	42.9
Female	<u>3</u>	<u>-</u>	<u>1</u>	<u>4</u>	<u>57.1</u>
TOTAL	3	2	2	7	100.0
<u>Ethnicity</u>					
Chamorro	1	2	2	5	71.4
Filipino	-	-	-	-	-
Caucasian	2	-	-	2	28.6
Other Islanders	-	-	-	-	-
Asian	-	-	-	-	-
All Others	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	3	2	2	7	100.0
<u>Age</u>					
Under 1	-	-	-	-	-
1 - 4	-	-	1	1	14.3
5 - 15	1	-	-	1	14.3
16 - 39	1	1	1	3	42.9
40 - 54	1	1	-	2	28.6
55 - 64	-	-	-	-	-
65 +	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	3	2	2	7	100.1

and the other Chamorro. The kidney transplant involved a Chamorro father and his son. One was the donor and the other the recipient. The transplant was performed off-island. The two individuals with reported birth defects were also Chamorro. Due to the small frequencies reported in Table 7, percentages were only reported for the total figures.

Chronic Conditions

A total of 193 chronic health conditions were reported. Of these cases hypertension, diabetes and arthritis were the most prevalent (Table 8). These three conditions, along with kidney diseases, were more prevalent among females. Conversely (although the occurrences were limited) Parkinson's disease and rheumatism were reported only for males. These differences were found to be statistically significant at the .001 level, which is extremely high. Generally more Chamorros than would be expected had these particular chronic conditions while the number of Filipinos was fewer than projected. The exception to this was for arthritis. Here Filipinos were overrepresented while there were fewer Chamorros than expected.

Upon inspecting Table 8 more closely, it may be noted that diabetes appeared to be basically a health problem of Chamorros among the survey sample of 1,928 individuals. Nearly 4 out of every 5 (78.9%) of the 52 individuals reported having diabetes were of this ethnic category. Just over 17.0% were Filipinos. As may be observed, this percentage figure was considerably below the 28.1% figure which represented the proportion of the total survey count who identified themselves as Filipino. The

TABLE 8. Actual and Expected Frequencies and Percentages of Various Chronic Health Conditions Reported by Gender, Ethnicity and Age

Personal-Social Characteristics	Chronic Conditions						Actual Total		Expected Total	
	Hyper- tension	Diabetes	Kidney Disease	Parkinson Disease	Arthritis	Rheumatism				
	f	f	f	f	f	f	f	%	f	%
Gender*										
Male	34	19	8	4	10	1	76	39.4	99	51.1
Female	54	33	10	-	20	-	117	60.6	94	48.9
TOTAL	88	52	18	4	30	1	193	100.00	193	100.00
Ethnicity**										
Chamorro	60	41	11	4	16	1	133	68.9	112	57.9
Filipino	21	9	4	-	10	-	44	22.8	54	28.1
Caucasian	3	-	2	-	2	-	7	3.6	7	3.5
Other Islanders	-	-	1	-	1	-	2	1.1	6	3.0
Asian	-	1	-	-	-	-	1	0.5	3	1.8
All Others	4	1	-	-	1	-	6	3.1	11	5.7
TOTAL	88	52	18	4	30	1	193	100.0	193	100.0
Age**										
Under 1	-	-	-	-	-	-	-	-	4	2.0
1 - 4	-	-	-	-	1	-	1	0.5	16	8.5
5 - 15	1	-	1	-	-	-	2	1.1	47	24.5
16 - 39	12	6	8	3	-	-	29	15.0	71	36.8
40 - 54	31	17	4	-	8	-	60	31.1	27	14.1
55 - 64	29	12	2	1	11	1	56	29.0	17	8.2
65 and older	15	17	3	-	10	-	45	23.3	11	5.9
TOTAL	88	52	18	4	30	1	193	100.0	193	100.0

*Actual total figures are statistically significant at the .001 level of probability.

**Actual total figures are statistically significant at the .05 level of probability.

differences in the frequencies of these chronic health conditions were found to be statistically significant at the .05 level.

Kidney problems and Parkinson's disease, as reported in the table, were most common among those age 16 to 39 while those 55 years or older had 70.0% of all the arthritis cases in this study. The difference between the actual and the expected figure for age variables were statistically significant beyond the .001 level of probability. Specific chronic health conditions were clearly associated with being older.

Disabling Diseases

The three cases of physical disability that were reported were one each of deafness and blindness and two with paralysis (Table 9). All four were Chamorros age 40 or older. Two were males and two were females.

Mental Illness

Five individuals were reported to be mentally ill (Table 10). Four were males and all five were in the 40 to 64 age range. Three (60.0%) were Filipinos.

Free or No Charge Conditions

As defined by Guam law free (or no charge) treatment is available for persons diagnosed as having tuberculosis (TB), Amyotrophic Lateral Sclerosis/Parkinson's disease (ALS/PD), mental illnesses or being in need of renal dialysis. In this study Parkinson's disease was reported for four individuals while five were mentally ill. No cases of TB, ALS/PD or the need for renal dialysis were reported.

TABLE 9. Frequencies of Various Physical Disabilities
Reported by Gender, Ethnicity and Age

Personal-Social Characteristics	Disabilities			Total	
	Deafness	Blindness	Full/ Partial Paralysis		
	f	f	f	f	%
<u>Gender</u>					
Male	-	-	2	2	50.0
Female	<u>1</u>	<u>1</u>	<u>-</u>	<u>2</u>	<u>50.0</u>
TOTAL	1	1	2	4	100.0
<u>Ethnicity</u>					
Chamorro	1	1	2	4	100.0
Filipino	-	-	-	-	-
Caucasian	-	-	-	-	-
Other	-	-	-	-	-
Islanders	-	-	-	-	-
Asian	-	-	-	-	-
All Others	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	1	1	2	4	100.0
<u>Age</u>					
Under 1	-	-	-	-	-
1 - 4	-	-	-	-	-
5 - 15	-	-	-	-	-
16 - 39	-	-	-	-	-
40 - 54	1	1	1	3	75.0
55 - 64	-	-	1	1	25.0
65 +	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	1	1	2	4	100.0

TABLE 10. Frequencies of Mental Illness Reported by Gender, Ethnicity and Age

Personal-Social Characteristics	Mental Illness	
	f	%
<u>Gender</u>		
Male	4	80.0
Female	<u>1</u>	<u>20.0</u>
TOTAL	5	100.0

<u>Ethnicity</u>		
Chamorro	1	20.0
Filipino	3	60.0
Caucasian	-	-
Other Islanders	1	20.0
Asian	-	-
All Others	<u>-</u>	<u>-</u>
TOTAL	5	100.0

<u>Age</u>		
Under 1	-	-
1 - 4	-	-
5 - 15	-	-
16 - 39	-	-
40 - 54	4	80.0
55 - 64	1	20.0
65 +	<u>-</u>	<u>-</u>
TOTAL	5	100.0

TABLE 11. Frequencies of Various "Free" or No Charge Health Conditions Reported by Gender, Ethnicity and Age

Personal-Social Characteristics	Free or No Charge Conditions		Total	
	Parkinson Disease	Mental Illness	f	%
	f	f		
<u>Gender</u>				
Male	4	4	8	88.9
Female	-	1	1	11.1
TOTAL	4	5	9	100.0

<u>Ethnicity</u>				
Chamorro	4	1	5	55.6
Filipino	-	3	3	33.3
Caucasian	-	-	-	-
Other Islanders	-	1	1	11.1
Asians	-	-	-	-
All Others	-	-	-	-
TOTAL	4	5	9	100.0

<u>Age</u>				
Under 1	-	-	-	-
1 - 4	-	-	-	-
5 - 15	-	-	-	-
16 - 39	3	-	3	33.3
40 - 54	-	4	4	44.4
55 - 64	1	1		22.2
65 +	-	-	-	-
TOTAL	4	5	9	99.9

As shown in Table 11, males had 8 of the 9 cases of Parkinson's disease and mental illness reported. These individuals were of mid to early senior years of age. As previously noted, Parkinson's disease was found only among Chamorros while the 5 cases of mental illness were reported among 3 Filipinos, 1 Chamorro and 1 individual from the islands near Guam.

2.4 Off-Island Treatment

The 400 spokespersons in this study were asked if any member of their household had traveled off-island during the past 12 months specifically for diagnosis and/or treatment of a medical condition. Thirteen individuals were reported to have traveled away from Guam for this purpose.

2.4.1 Physician Referral and Destination of Travel for Treatment

Of the 13 treated off-island, 6 (slightly less than half) had been referred by a physician on Guam to medical facilities off-island because the needed services were reported to not be available on the island. According to those interviewed, 8 (61.5%) of the individuals treated off island went to the United States while nearly one-third (4) had gone to the Philippines and 1 had received treatment in Korea.

2.4.2. Health Conditions Treated

Off-island medical treatment was sought for catastrophic, chronic, and acute health conditions (Table 12). The percentage distribution for the three categories of conditions was 38.5, 15.4 and 46.1, respectively. As shown in Table 7 a total of 7 individuals were reported to have had a catastrophic

condition. Therefore, all those with tumors/malignancies (3) and kidney transplants (2) went off-island for medical help.

TABLE 12. Frequencies of Health Conditions Treated Off-island

Condition	Individuals	
	f	%
<u>Catastrophic</u>		38.5
Tumors/malignancies	3	
Kidney transplants	2	
<u>Chronic</u>		15.4
Diabetes	1	
Arthritis	1	
<u>Acute</u>	—	46.1
TOTAL	6	100.0

One case each of diabetes and arthritis were treated off island. These chronic conditions comprised only about 1.0% of all chronic conditions reported and about 1.2% of all diabetes and arthritis cases. The 6 acute health conditions treated off island represented only 0.8% of all acute cases reported in the study.

2.4.3 Form of Payment

The off-island medical treatment of health conditions was reported to have been paid in part or in full by insurance in a little over half of the cases (53.8%) (see Table 13).

TABLE 13. Form of Payment for Off-Island Referral Medical Payment

Form of Payment	Cases	
	f	%
Paid in full by insurance	1	7.7
Paid in part by insurance	6	46.1
Not paid by insurance	<u>6</u>	<u>46.1</u>
TOTAL	13	99.9

SECTION THREE
YEARLY HOSPITAL CARE

3.1 Introduction

The 400 respondents were asked if any member of their household had been hospitalized because of illness or injury during the year preceding the survey. They were, however, not to include the two-week period just before the interview. That period is not discussed here. However, the information was obtained during the study. For convenience in writing, reference will be made to "the past 12 months" or "the past year." However, this will not include hospitalization information for the two-week period.

3.2 Length and Frequency of Hospitalization and Personal-Social Characteristics

A total of 132 (6.8%) of the 1,928 individuals studied had been hospitalized one or more times (Table 14). When asked how many times they had been hospitalized during the year, 90.6% were found to have been admitted once. An additional 7.9% had stayed in the hospital for one or more days at two

TABLE 14. Hospitalized During the Past Year

Hospitalized	Number	Percent
Yes	132	6.8
No	<u>1,796</u>	<u>93.2</u>
TOTAL	1,928	100.0

different times and 1.6% had been hospitalized three times (Table 15).

TABLE 15. Frequency of Hospitalization for Illness or Injury

Times Hospitalized	Individuals	
	f	%
One	115	90.6
Two	10	7.9
Three	<u>2</u>	<u>1.6</u>
TOTAL	127	100.1
Insufficient Data	5	

3.2.1 Gender

One's gender would seem to relate to whether or not hospitalization might occur. Of all males, 5.3% had been hospitalized, while for females the figure was 8.5% (Table 16).

TABLE 16. Comparison of Gender of Individuals Hospitalized and Total Count

Gender	Individuals in Total Count	Individuals Hospitalized	Percent* of Category Hospitalized
Male	985	52	5.3
Female	<u>943</u>	<u>80</u>	<u>8.5</u>
TOTAL	1,928	132	6.8

*The percentage figures indicate the proportion of the gender categories that had been hospitalized. For example, 5.3% of all males had been hospitalized.

Of the 132 individuals who had been confined to a hospital for a day or longer, a statistically significant larger percentage were females (Table 17). Slightly over 6 out of every 10 (60.6%) who were hospitalized were females.

TABLE 17. Actual and Expected Frequencies and Percentages of Individuals Who Were Hospitalized During the Past Year by Gender

Gender	Actual		Expected	
	f	%	f	%
Males	52	39.4	67	51.1
Females	<u>80</u>	<u>60.6</u>	<u>65</u>	<u>48.9</u>
TOTAL	132	100.0	132	100.0

Note: Differences between expected and actual frequencies are statistically significant at the .01 probability level.

3.2.2 Ethnicity

There were no major variations among ethnic categories, with the exception of the "Other Islanders," in regard to the extent that they had been hospitalized for care of illness or injury (Tables 18 & 19). Eight of the 58 (13.8%) individuals from the islands of the former Trust Territory of the Pacific Islands (excluding Saipan) were reported as being hospitalized. This was double the all-island figure of 6.8%. It also exceeded the figure of 7.4% for the Chamorros and Caucasians. The Filipinos, among the major ethnic categories, were found to have had the lowest rate of individuals hospitalized. The figure was 5.4%.

TABLE 18. Comparison of Ethnicity of Individuals Hospitalized and Total Count

Ethnicity	Individuals in Total Count	Individuals Hospitalized	Percent of Category Hospitalized
Chamorro	1,117	83	7.4
Filipino	542	29	5.4
Caucasian	68	5	7.4
Other Islanders	58	8	13.8
Asian	35	2	5.7
All Others	<u>108</u>	<u>5</u>	<u>4.6</u>
TOTAL	1,928	132	6.8

TABLE 19. Actual and Expected Frequencies and Percentages of Individuals Who Were Hospitalized During the Past Year by Ethnicity

Ethnicity	Actual		Expected	
	f	%	f	%
Chamorro	83	62.9	76	57.9
Filipino	29	22.0	37	28.1
Caucasian	5	3.8	5	3.5
Other Islanders	8	6.1	4	3.0
Asians	2	1.5	2	1.8
All Others	<u>5</u>	<u>3.7</u>	<u>8</u>	<u>5.7</u>
TOTAL	132	100.0	132	100.0

Note: Differences between expected and actual frequencies are not statistically significant.

3.2.3 Age

Some caution appears to be in order when interpreting findings reported in Table 20. When comparing the individuals hospitalized with all individuals surveyed by respective age categories, it was found that an unexpected percentage (53.8%) of the infants had been in the hospital. This finding may suggest that several newborn babies who were not ill or injured were inadvertently included by interviewers along with others who had been hospitalized. A further review of Table 20 shows that 6.3% of the individuals ages 16 to 39 had been hospitalized while the figure was 8.8% for those age 65 or older. Although at first the figure for the 16 to 39 age category would seem to be in line with the others, it could have also been slightly inflated by the inclusion of some healthy mothers who had had normal deliveries of newborn babies.

TABLE 20. Comparison by Age of Individuals Hospitalized and Total Count

Age in Years	Individuals Total Count	Individuals Hospitalized	Percent Hospitalized
Less than 1	39	21	53.8
1 - 4	164	11	6.7
5 - 15	472	12	2.5
16 - 39	710	45	6.3
40 - 54	272	21	7.7
55 - 64	158	12	7.6
65 +	<u>113</u>	<u>10</u>	<u>8.8</u>
TOTAL	1,928	132	6.8

Age differences were noted, however, among the 132 individuals who had been hospitalized (Table 21). Over one-third (34.1%) were in the age range of 16 to 39. Individuals 55 or older represented 16.7% of all those hospitalized. Age, as a factor related to hospitalization, was found to be statistically significant. This continued to hold true even when those under a year of age were removed from the data set to eliminate any bias resulting from the large actual frequency figure.

TABLE 21. Actual and Expected Frequencies and Percentages of Individuals Who Were Hospitalized During the Past Year by Age

Age*	Actual		Expected	
	f	%	f	%
Under 1	21	15.9	3	2.0
1 - 4	11	8.3	11	8.5
5 - 15	12	9.1	32	24.5
16 - 39	45	34.1	48	36.8
40 - 54	21	15.9	19	14.1
55 - 64	12	9.1	11	8.2
65 +	<u>10</u>	<u>7.6</u>	<u>8</u>	<u>5.9</u>
TOTAL	132	100.0	132	100.0

*Differences between actual and expected frequencies are statistically significant at the .01 level of probability.

3.2.4 Length of Hospitalization

The number of days of hospitalization is shown in Table 22. The range was from 1 to 130 days during the 12-month period. A

total of 935 days of hospitalization were reported for 127 individuals. The median number of days of confinement in the hospital was 3.4, while the arithmetic mean was much larger

TABLE 22. Number of Days Hospitalized During Past Twelve Months

Days	Individuals			Person Days
	f	%	Cum.%	
1	8	6.3	6.3	8
2	23	18.1	24.4	46
3	38	29.9	54.3	114
4	9	7.1	61.4	36
5	8	6.3	67.7	40
6	2	1.6	69.3	12
7	13	10.2	79.5	91
8	2	1.6	81.1	16
9	2	1.6	82.7	18
10	6	4.7	87.4	60
11	2	1.6	89.0	22
12	3	2.4	91.4	36
13	-	-	91.4	-
14	2	1.6	93.0	28
15 - 30	6	4.7	97.7	147
31 - 130	<u>3</u>	<u>2.4</u>	100.1	<u>261</u>
TOTAL	127	100.0		935

Insufficient Data	5			
Median	3.4 days			
Mean	7.4 days			

TABLE 23. Days of Hospitalization by Gender

Days	MALES			FEMALES			TOTAL		
	f	%	Person Days	f	%	Person Days	f	%	Person Days
1	2	4.1	2	6	7.7	6	8	6.3	8
2	5	10.2	10	18	23.1	36	23	18.1	46
3	13	26.5	39	25	32.1	75	38	29.9	114
4	7	14.3	28	2	2.6	8	9	7.1	36
5	3	6.1	15	5	6.4	25	8	6.3	40
6	1	2.0	6	1	1.3	6	2	1.6	12
7	4	8.2	28	9	11.5	63	13	10.2	91
8	-	-	-	2	2.6	16	2	1.6	16
9	2	4.1	18	-	-	-	2	1.6	18
10	3	6.1	30	3	3.8	30	6	4.7	60
11	2	4.1	22	-	-	-	2	1.6	22
12	1	2.0	12	2	2.6	24	3	2.4	36
13	-	-	-	-	-	-	-	-	-
14	1	2.0	14	1	1.3	14	2	1.6	28
15 - 30	3	6.1	80	3	3.8	67	6	4.7	147
31 - 130	<u>2</u>	<u>4.1</u>	<u>170</u>	<u>1</u>	<u>1.3</u>	<u>91</u>	<u>3</u>	<u>2.4</u>	<u>261</u>
TOTAL	49	99.9	474	78	100.1	461	127	100.1	935
Median	4.2			3.1			3.4		
Mean	9.7			5.9			7.4		
Range (days)	1-130			1-91			1-130		
Insuff. Data	3			2			5		

(7.4 days). The variation in the two measures of central tendency was caused by the positive skewness in the distribution of days of hospitalization.

Males were found to be hospitalized about a day longer than females. The median number of days for the males was found to be 4.2 while for the females the average length of hospital stay was 3.1 (Table 23). The arithmetic mean was also greater for the males. This was affected by the extended hospitalization periods of 4 individuals. Two of these males were in the hospital for 30 days, a third for 40 days and the fourth for 130 days. The greatest number of days of hospitalization during the year for any one of the females was 91 days. As previously pointed out, several well mothers who delivered healthy babies in the hospital may have been included in this study, along with those who had been hospitalized for illness or injury. It is possible that during the interview the interviewee misunderstood the interviewer thinking he/she was simply asking if anyone in their household had been hospitalized. If this type of error occurred, then the average number of days that females were hospitalized would be affected accordingly. More specifically, if the normal length of stay for deliveries is 2 to 3 days, the average hospital stay for all females would have been slightly lower than the true average for those confined in the hospital for illness or injury.

Data presented in Table 24 shows the number of days that individuals, categorized by ethnicity, had been hospitalized. Due to the low frequency numbers in several ethnic categories,

TABLE 24. Days of Hospitalization by Ethnicity

Days	Ethnicity																		Total		
	Chamorro			Filipino			Caucasian			Other Islanders			Asian			All Others					
	f	%	Person Days	f	%	Person Days	f	%	Person Days	f	%	Person Days	f	%	Person Days	f	%	Person Days	f	%	Person Days
1	5	6.4	5	3	10.4	3	-	-	-	-	-	-	-	-	-	-	-	-	8	6.3	8
2	11	14.1	22	8	27.7	16	1	20.0	2	1	12.5	2	-	-	-	2	40.0	4	23	18.1	46
3	25	32.1	75	8	27.7	24	-	-	-	2	25.0	6	1	50.0	3	2	40.0	6	38	29.9	114
4	6	7.7	24	2	6.9	8	-	-	-	1	12.5	4	-	-	-	-	-	-	9	7.1	36
5	5	6.4	25	1	3.4	5	-	-	-	1	12.5	5	-	-	-	1	20.0	5	8	6.3	40
6	1	1.3	6	-	-	-	1	20.0	6	-	-	-	-	-	-	-	-	-	2	1.6	12
7	6	7.7	42	2	6.9	14	3	60.0	21	2	25.0	14	-	-	-	-	-	-	13	10.2	91
8	1	1.3	8	1	3.4	8	-	-	-	-	-	-	-	-	-	-	-	-	2	1.6	16
9	1	1.3	9	1	3.4	9	-	-	-	-	-	-	-	-	-	-	-	-	2	1.6	18
10	6	7.7	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4.7	60
11	1	1.3	11	1	3.4	11	-	-	-	-	-	-	-	-	-	-	-	-	2	1.6	22
12	1	1.3	12	1	3.4	12	-	-	-	1	12.5	12	-	-	-	-	-	-	3	2.4	36
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	2	2.6	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.6	28
15-30	4	5.1	96	1	3.4	30	-	-	-	-	-	-	1	50.0	21	-	-	-	6	4.7	147
31-130	3	3.8	261	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2.4	261
TOTAL	78	100.1	684	29	100.0	140	5	100.0	29	8	100.0	43	2	100.0	24	5	100.0	15	127	100.1	935
Median	3.4			2.9			6.7			4.5			14.0			2.8			3.4		
Mean	8.8			4.8			5.8			5.4			12.0			3.0			7.4		
Range	1-130			1-30			2-7			2-12			3-21			2-6			1-130		
Insuff. Data	5																		5		

caution should be exercised when interpreting and making inferences about the findings. For example, a more appropriate profile could probably be obtained if all persons were simply categorized as being Chamorro, Filipino and Other. The sub-totals would then be 78, 29, and 20, respectively. As shown in this table the median length of hospital stays for Chamorros was 3.4 days as compared to 2.9 for Filipinos. The mean number of days were 8.8 and 4.8, respectively. Variations among ethnic groups in the mean number of days was greater than among the medians primarily due to the range in number of days of confinement. Three Chamorros were hospitalized a total of 40, 91, and 130 days each. Thirty days in the hospital was the longest for any one Filipino. Although the frequencies are rather low, it would appear that Caucasians, when hospitalized, stay for a longer period of time. The 5 Caucasian individuals in this study stayed in the hospital for about a week. When combining frequencies for all individuals, except the Chamorros and Filipinos, the 20 individuals were hospitalized for a range of 2 to 21 days. The median number of days for this group was 4.5 and the mean 5.6. This median figure was slightly larger than that of the Chamorro and Filipino.

Upon comparing the ages of the individuals who were hospitalized with the number of days of hospital confinement it was observed that the median length of stay was the longest (7.2 days) for those age 65 or older and shortest for infants (2.7 days) and young adults ages 16 to 39 (3.3 days). These figures are presented in Table 25. No baby under one year of age was in

Table 25. Days of Hospitalization by Age

Days	Age																Person Days
	Under 1		1 - 4		5 - 15		16 - 39		40 - 54		55 - 64		65 +		Total		
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	
1	2	9.5	-	-	-	-	3	6.8	3	14.3	-	-	-	-	8	6.3	8
2	7	33.3	-	-	-	-	11	25.0	3	14.3	2	16.7	-	-	23	18.1	46
3	10	47.6	1	10.0	2	22.2	17	38.6	3	14.3	3	25.0	2	20.0	38	29.9	114
4	1	4.8	2	20.0	2	22.2	2	4.6	-	-	1	8.3	1	10.0	9	7.1	36
5	1	4.8	1	10.0	-	-	3	6.8	2	9.5	1	8.3	-	-	8	6.3	40
6	-	-	1	10.0	1	11.1	-	-	-	-	-	-	-	-	2	1.6	12
7	-	-	1	10.0	2	22.2	4	9.1	2	9.5	1	8.3	3	30.0	13	10.2	91
8	-	-	-	-	-	-	-	-	1	4.8	1	8.3	-	-	2	1.6	16
9	-	-	-	-	1	11.1	-	-	-	-	-	-	1	10.0	2	1.6	18
10	-	-	1	10.0	-	-	2	4.6	3	14.3	-	-	-	-	6	4.7	60
11	-	-	1	10.0	-	-	-	-	1	4.8	-	-	-	-	2	1.6	22
12	-	-	-	-	1	11.1	-	-	-	-	2	16.7	-	-	3	2.4	36
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	1	10.0	-	-	-	-	-	-	1	8.3	-	-	2	1.6	28
15-30	-	-	1	10.0	-	-	2	4.6	1	4.8	-	-	2	20.0	6	4.7	147
31-130	-	-	-	-	-	-	-	-	2	9.5	-	-	1	10.0	3	2.4	261
TOTAL	21	100.0	10	100.0	9	99.9	44	100.1	21	100.1	12	99.9	10	100.0	127	100.1	935
Median	2.7		6.5		6.0		3.3		5.3		4.5		7.2		3.4		
Mean	2.6		8.5		6.1		4.5		16.1		6.3		12.6		7.4		
Range	1-15		3-21		3-12		1-30		1-130		2-14		3-40		1-130		
Insuff. Data	5														5		

the hospital for more than five days. Thirty percent of the oldest senior citizens (65 or older) stayed in the hospital for more than two weeks.

3.3 Hospital of Confinement

When considering the 126 of a total 132 individuals from whom information was available, it was found that 106 (84.1%) had been hospitalized for a day or more at the Guam Memorial Hospital (GMH) for illness or injury (Table 26). The next largest proportion (9.5%) were reported to have gone to the Naval Regional Medical Center (NRMC). Approximately 5.0% had been hospitalized off-island for medical treatment and care. Two individuals stayed at GMH and later went off-island for a kidney transplant. A father and son were involved in this situation as the donor and the recipient. No attempt was made in this study to determine if anyone eligible for hospitalization at the military hospital had stayed at the Guam Memorial

TABLE 26. Hospital of Confinement

Hospital	Individuals	
	Number	Percent
Guam Memorial Hospital	106	84.1
Naval Regional Medical Center	12	9.5
Off-Island	6	4.8
Other	<u>2</u>	<u>1.6</u>
TOTAL	126	100.0
Insufficient Data	6	

Hospital and if so, their reason for going there. Such information may be of value for health care planning purposes and could be considered in future studies.

3.4 Nature of Health Condition and Personal-Social Characteristics

Those reported to have been hospitalized for illness or injury were ailing due to a number of health conditions. The conditions were classified for the purposes of this study by the health study planning team. The disease classification system developed was as follows:

3.4.1 Disease Classification

Catastrophic Diseases:

- All malignancies (cancers) except squamous or basal cell skin cancer
- Leukemia, Hodgkin's disease, sarcoma, melanoma, cancer of any of the organs, and so forth
- Trauma or injury to the head or spinal cord defects
- Heart disease requiring surgery
- Kidney transplant

Chronic Diseases:

- Hypertension
- Diabetes
- Arthritis (any kind) also Rheumatism
- Chronic kidney disease
- Chronic liver disease
- ALS/PD (lytico/bodig)
- Multiple Sclerosis
- Myotonic Dystrophy

Acute Diseases:

- Everything else not listed above

Disabling Conditions:

- Blindness
- Deafness
- Loss of Speech
- Loss of Limb
- Full or partial paralysis

Free Diseases (free treatment by Guam Law):

- TB
- ALS/PD
- Renal dialysis
- Mental illness

3.4.2 Health Conditions by Gender, Ethnicity, and Age

Catastrophic and chronic diseases and disabling conditions comprised 11.0% of the health conditions associated with being hospitalized in this islandwide study. The remaining 89.0% were classified as "acute" (Table 27).

Upon taking a closer look at the catastrophic and chronic disease and disabilities (Table 27), it was observed that almost two-thirds (64.3%) were experienced by females. Those with hypertension were females 40 year old or older. The two individuals with diabetes were of Chamorro ancestry and also 40 or more years old.

Eighty-six percent of the health conditions that were catastrophic, chronic or disabling in nature were experienced by Chamorros. This represented 13.3% of the 90 hospitalization cases of those classified as Chamorro. However, care should be exercised when interpreting this particular set of information. It is quite probable that the specific cultures of the various ethnic categories may be of greater importance in analyzing the more serious health conditions as these. Another variable that should not be overlooked is selective migration. Generally, individuals with catastrophic, chronic or disabling conditions would not be expected to migrate over thousands of miles to the island in view of its moderate or limited scope of medical services available when compared with other locations. In

TABLE 27. Health Conditions Causing Hospitalization by Personal Characteristics

Characteristics	Health Conditions										DK (2)*
	Catastrophic N=3(2.4%)		Chronic N=10(7.9%)			Disabling N=1 (0.8%)	Subtotal a+b+c N=14(11%)		Acute N=113 (89%)		
	Tumor/Malignancies, etc.	Kidney Transplant	Hypertension	Diabetes	Kidney Disease	Deafness	f	%	f	%	
<u>Gender</u>											
Male	-	2	-	1	2	-	5	35.7	44	38.9	1
Female	<u>1</u>	<u>-</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>9</u>	<u>64.3</u>	<u>69</u>	<u>61.1</u>	<u>1</u>
TOTAL	1	2	4	2	4	1	14	100.0	113	100.0	2
<u>Ethnicity</u>											
Chamorro	1	2	3	2	3	1	12	85.7	66	58.4	2
Filipino	-	-	1	-	-	-	1	7.1	28	24.8	-
Caucasian	-	-	-	-	-	-	-	-	5	4.4	-
Other Islanders	-	-	-	-	1	-	1	7.1	7	6.2	-
Asian	-	-	-	-	-	-	-	-	2	1.8	-
All Others	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>5</u>	<u>4.4</u>	<u>-</u>
TOTAL	1	2	4	2	4	1	14	99.9	113	100.0	2
<u>Age</u>											
Under 1	-	-	-	-	-	-	-	-	21	18.6	-
1 - 4	-	-	-	-	-	-	-	-	10	8.8	1
5 - 15	1	-	-	-	1	-	2	14.3	7	6.2	1
16 - 39	-	-	-	-	-	-	3	21.4	41	36.3	-
40 - 54	-	1	-	-	2	-	7	50.0	14	12.4	-
55 - 64	-	1	3	1	1	1	-	-	12	10.6	-
65 +	<u>-</u>	<u>-</u>	<u>1</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>14.3</u>	<u>8</u>	<u>7.1</u>	<u>-</u>
TOTAL	1	2	4	2	4	1	14	100.0	113	100.0	2

*Don't know.

addition, it is commonly known that individuals originally from off-island who develop serious health conditions while on Guam in many cases permanently leave the island for care and treatment. Therefore, they would be less likely to show up in a general health survey.

Although the Other Islanders were disproportionately represented among the hospitalized (Table 18) by approximately 200.0%, it is noted that 87.5% of their medical conditions were classified as Acute and 12.5% as Chronic (Table 27).

3.5 Attending Doctor During Hospitalization

During the interviews the 400 respondents were asked to name those doctor(s) who were caring for the 132 members of their households at the time of hospitalization (during the 12-month period preceding the survey). For the respondents' convenience, a flash card with a listing of doctors and health facilities listed on it was provided (Card F, Appendix D).

A total of 19 doctors and medical clinics were named. They appear in alphabetical order in Table 28 along with frequencies and percentages for number of times named. As may be noted, Family Health Plan (FHP)--(13.5%), GMH--(11.9%), Seventh Day Adventist Clinic (SDA)--(11%) and NRMC (10.1%) represented a combined total of 46.5% of all doctors and clinics mentioned. When adding to this group ITC Clinic #1--(9.3%), Carlos Heights Clinic--(8.4%), and the Good Samaritan Clinic--(8.4%), the total for these eight reached 72.6%. Several doctors located off-island were also mentioned but not included in this analysis (See Run List, Sample & Methodology, Appendix B).

TABLE 28. Doctors and Medical Clinics of Hospitalized Patients

Doctor/Clinic**	Hospitalized Patients	
	f	%
Dr. Acosta (Asan Family Clinic)	1	0.9
Carlos Heights Clinic	10	8.4
Dr. Cruz (Cruz Pharmacy)	1	0.9
Dededo Medical Center	1	0.9
Family Health Plan (FHP)	16	13.5
Good Samaritan Clinic	10	8.4
Guam Memorial Hospital (GMH)	14	11.9
Guam Poly Clinic	6	5.1
ITC Clinic #1	11	9.3
Dr. K. Chen	1	0.9
Family Clinic	1	0.9
Dr. Guzman (Marianas Med. Clinic)	2	1.7
DPHSS*	3	2.5
Drs. Sagisi and Batoyan Clinic	7	5.9
St. Anthony's Clinic	2	1.7
Seventh Day Adventist Clinic (SDA)	13	11.0
Dr. Chang (Tamuning Med. Clinic)	5	4.2
Dr. Tolentino's Office	2	1.7
Naval Regional Medical Center (NRMC)	<u>12</u>	<u>10.2</u>
TOTAL	118	100.0

*Department of Public Health and Social Services

**See Appendix D, Card F, for detailed listing of doctors and medical facilities.

The ratio of only 1 in every 10 having mentioned the Naval Regional Medical Center (NRMC) initially may appear somewhat low. As already mentioned, however, no information was obtained to determine if individuals who were eligible for care at NRMC had gone to private doctors or clinic doctors for their care. In addition, the study did not call for an analysis of personal, social, economic or other characteristics for this apparently sizable category of individuals. Such data would be necessary to determine if and how they differed (especially healthwise) from the general population. It is suggested that in a future study it may be of value to explore this research question.

TABLE 29. Method of Hospitalization Payment

Payment Plan	Hospitalized Patients	
	f	%
Family Health Plan (FHP)	27	21.3
Guam Memorial Health Plan (GMHP)	27	21.3
Health Maintenance Life (HML)	7	5.5
Medicare	1	0.8
Military-related	12	9.4
Medicaid/Hospital Only	12	9.4
Self-paid	20	15.8
Other Insurance	<u>21</u>	<u>16.5</u>
TOTAL	127	100.0
Insufficient Data	5	

3.6 Financing Hospitalization

A flash card with a listing of the modes of hospitalization payments was shown to each person interviewed when asked by what means hospitalization for their household member had been paid. Flash Card "G" is included in Appendix D. A total of 18 alternative forms of payment were listed on this card. Of these, eight major categories for method of payment were mentioned.

Slightly over 1 out of every 5 (21.3%) of the individuals who were hospitalized reported the method of payment for their care was through FHP. A like figure (21.3%) mentioned Guam Memorial Health Plan (GMHP) as having covered their hospitalization charges (Table 29).

Approximately 1 out of every 6 individuals (15.8%) indicated that their hospitalization costs were "self-paid." A similar number specified various other insurance companies. Military-related programs and Medicaid were each mentioned as means of payment by 9.4% of the individuals. These data tend to compare favorably with the information provided in the earlier discussion regarding doctor and/or medical clinics as associated with an individual's hospitalization. This further affirms the validity of the data reported.

SECTION FOUR
YEARLY HOME BED CARE

4.1 Introduction

The impact of health conditions on the daily lives of the 1,928 individuals studied was also analyzed in terms of the number of days during the past year they stayed at home in bed due to illness or injury. This could have included days just prior to and/or following hospitalization.

4.2 Frequency and Length of Home Bed Care and Personal-Social Characteristics

A total of 172 (8.9%) of the 1,928 individuals studied were reported to have stayed at home in bed at some time during the prior year due to illness or injury. This was a ratio of about 1 out of every 11 individuals (Table 30).

4.2.1 Gender

There was no statistical difference observed between males and females and whether or not they stayed in bed at home due to illness or injury. A slight trend, however, was evident. More females than expected were reported to have been confined

TABLE 30. Home Bed Care During Past Year

Sick in Bed	Individuals	
	f	%
Yes	172	8.9
No	<u>1,756</u>	<u>91.1</u>
TOTAL	1,928	100.0

TABLE 31. Comparison by Gender of Individuals Requiring Home Bed Care and Total Count

Gender	Individuals in Total Count	Individuals Requiring Home Bed Care	Percent* of Category Requiring Home Bed Care
Male	985	85	8.6
Female	<u>943</u>	<u>87</u>	<u>9.2</u>
TOTAL	1,928	172	8.9

*The percentage figures indicate the proportion of the gender categories that had been required to stay home in bed. For example, 8.6% of all males stayed at home in bed due to illness or injury during the past year.

TABLE 32. Actual and Expected Frequencies and Percentages of Individuals Requiring Home Bed Care During Past Year by Gender

Characteristics	Home Bed Care			
	Actual		Expected	
	f	%	f	%
Male	85	49.4	88	51.1
Female	<u>87</u>	<u>50.6</u>	<u>84</u>	<u>48.9</u>
TOTAL	172	100.0	172	100.0

NOTE: Frequencies are not statistically significant.

to bed at home because of illness or injury (Tables 31 and 32). These findings of this data differ from the data reported on hospitalization. A statistically significant larger proportion of the female sample population had been hospitalized.

4.2.2 Ethnicity

While ethnicity was not associated with hospitalization, it certainly seemed to be associated with whether an individual remained at home in bed due to illness/injury (Tables 33, 34). Mainly due to the moderate underrepresentation of Filipinos and Asians and the extreme overrepresentation of Caucasians, the degree of association was statistically significant at the .001 level of probability. Nearly one-fourth (23.5%) of all Caucasians were reported to have been confined to home bed care

TABLE 33. Comparison by Ethnicity of Individuals Requiring Home Bed Care and Total Count

<u>Ethnicity</u>	<u>Individuals in Total Count</u>	<u>Individuals Requiring Home Bed Care</u>	<u>Percent of Category Requiring Home Bed Care</u>
Chamorro	1,117	107	9.6
Filipino	542	32	5.9
Caucasian	68	16	23.5
Other Islanders	58	3	6.0
Asian	35	2	5.7
All Others	<u>108</u>	<u>12</u>	<u>11.1</u>
TOTAL	1,928	172	8.9

TABLE 34. Actual and Expected Frequencies and Percentages of Individuals Requiring Home Bed Care During the Past Year by Ethnicity

Ethnicity	Actual		Expected	
	f*	%	f*	%
Chamorro	107	62.2	100	57.9
Filipino	32	18.6	48	28.1
Caucasian	16	9.3	6	3.5
Other Islanders	3	1.7	5	3.0
Asian	2	1.2	3	1.8
All Others	<u>12</u>	<u>7.0</u>	<u>10</u>	<u>5.7</u>
TOTAL	172	100.0	172	100.0

*Differences between actual and expected frequencies are statistically significant at the .001 level of probability.

during the year because of illness or injury. This was approximately 2.5 times larger than the all-island figure of 8.9%. In contrast to this ratio, only 5.7% and 5.9% of the Asians and Filipinos, respectively, stayed in bed for the same reasons. As noted above, ethnicity was not "correlated" to hospitalization. Therefore, it is difficult to ascertain from these data all factors related to whether an individual stayed home in bed to recover from an illness, to prevent worsening of a health condition, or continued to attend school or work while sick.

4.2.3 Age

Upon comparing the age of the 172 individuals who stayed home in bed due to their illness or injury with the 132 who had been hospitalized, marked differences were noted. Specifically, those in the age 5-15 category were not likely to have been

hospitalized, but they certainly made up the difference by staying at home and in bed. Over 50.0% more (64 versus 42) 5- to 15-years-old children and youth stayed at home in bed due to illness or injury than would have been expected. This was 13.6% of all individuals in that age bracket (Tables 35 and 36). A further inspection of the two tables will reveal that babies and young children under five years were less likely than expected to have been in bed due to illness or injury, when considering the distribution of the total sample. It may be of interest to note that the elderly ages 55 to 64 and those 65 or older were found to be underrepresented in this particular analysis of data. Based on their proportions in the total sample, fewer elderly than expected received home bed care.

TABLE 35. Comparison by Age of Individuals Requiring Home Bed Care and Total Count

Age	Individuals in Total Count	Individuals Requiring Home Bed Care	Percent of Category Requiring Home Bed Care
Less than 1	39	-	0.0
1 - 4	164	8	4.9
5 - 15	472	64	13.6
16 - 39	710	60	8.5
40 - 54	272	21	7.7
55 - 64	158	10	6.3
65 +	<u>113</u>	<u>9</u>	<u>8.0</u>
TOTAL	1,928	172	8.9

TABLE 36. Actual and Expected Frequencies and Percentages of Individuals Requiring Home Bed Care During Past Year by Age

Age	Actual		Expected	
	f*	%	f*	%
Less than 1	-	-	4	2.0
1 - 4	8	4.7	15	8.5
5 - 15	64	37.2	42	24.5
16 - 39	60	34.9	63	36.8
40 - 54	21	12.2	24	14.1
55 - 64	10	5.8	14	8.2
65 +	<u>9</u>	<u>5.2</u>	<u>10</u>	<u>5.9</u>
TOTAL	172	100.0	172	100.0

*Differences between actual and expected frequencies are statistically significant at the .005 level of probability.

4.2.4 Length of Home Bed Care

The total number of days of home bed care due to illness or injury is presented in Table 37. Although the overall median number of days was 3.0, the arithmetic mean was calculated at 5.4 days. These differences could be expected in view of the range in the number of days of home bed confinement. The total number of days the individuals stayed in bed throughout the year varied from 1.0 to 80.0. Slightly over three-fourths (75.5) of the 172 individuals stayed at home in bed for periods of 1.0 to 5.0 days. The total number of home bed days reported was 927.

When comparing the variable of gender with the actual number of bed days for illness or injury, it was found that the

TABLE 37. Extent of Home Bed Care During Past Year for Illness or Injury

Days	f	%	Cum.%	Total Bed Days
1	20	11.6	11.6	20
2	52	30.2	41.8	104
3	30	17.4	59.2	90
4	10	5.8	65.0	40
5	18	10.5	75.5	90
6	3	1.7	77.2	18
7	21	12.2	89.4	147
10	3	1.7	91.1	30
12	1	0.6	91.7	12
14	6	3.5	95.2	84
15	1	0.6	95.8	15
16	1	0.6	96.4	16
20	2	1.2	97.6	40
21	1	0.6	98.2	21
60	2	1.2	99.4	120
80	1	0.6	100.0	80
TOTAL	172	100.0		927

Median	3.0 days			
Mean	5.4 days			
Range	1-80 days			

median number of days for females only slightly exceeded the number of days for males. The figures were 3.1 and 2.9 days, respectively (Table 38). As shown in the table, however, one-fourth (25.3%) of the females stayed home in bed a total of 7 to 21 days, while 16.5% of the males were home in bed with an illness for this same length of time.

Ethnicity and length of bed care was also considered (Table 39). Not only did more Caucasians than expected stay at home in bed due to illness or injury but they stayed there longer than any of the other ethnic categories. Their median

TABLE 38. Days of Home Bed Care Over the Past Year Due to Illness or Injury by Gender

Days	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
1	12	14.1	8	9.2	20	11.6
2	26	30.6	26	29.9	52	30.2
3	13	15.3	17	19.5	30	17.5
4-6	18	21.2	13	14.9	31	18.0
7	9	10.6	12	13.8	21	12.2
8-21	5	5.9	10	11.5	15	8.7
22-30	-		-		-	
31+	<u>2</u>	<u>2.4</u>	<u>1</u>	<u>1.2</u>	<u>3</u>	<u>1.8</u>
TOTAL	85	100.1	87	100.0	172	100.0
Median Days	2.9		3.1		3.0	

number of days was 5.2. One-fourth of the Caucasians were reported to have received home bed care for as long as 8 to 21 days. The Filipinos, in contrast, not only were found to be less likely than any other ethnic group to stay home in bed while ill or injured, but if they did stay home it was for the briefest length of time reported. Their average (median) length of home bed care was 2.2 days. This was nearly one day less than the median figure of 3.0 for the total 172 individuals who were reported to have received home bed care for various health conditions. Of the Filipinos who reported home bed care, 62.5%

TABLE 39. Days of Home Bed Care During the Past Year Due to Illness or Injury by Ethnicity

Days	Ethnicity													
	Chamorro		Filipino		Caucasian		Other Islander		Asian		All Others		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	12	11.2	7	21.9	1	6.2	-	-	-	-	-	-	20	11.6
2	29	27.1	13	40.6	2	12.5	1	33.3	2	100.0	5	41.7	52	30.2
3	23	21.5	4	12.5	1	6.2	1	33.3	-	-	1	8.3	30	17.5
4-6	22	20.6	1	3.1	7	43.8	-	-	-	-	1	8.3	31	18.0
7	10	9.3	4	12.5	1	6.2	1	33.3	-	-	5	41.7	21	12.2
8-21	9	8.4	2	6.3	4	25.0	-	-	-	-	-	-	15	8.7
22-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31+	<u>2</u>	<u>1.9</u>	<u>1</u>	<u>3.1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>3</u>	<u>1.8</u>
TOTAL	107	100.0	32	100.0	16	99.9	3	99.9	2	100.0	12	100.0	172	100.0
Median Days	3.0		2.2		5.2		3.0		2.0		3.5		3.0	

stayed in bed a total of one or two days during the year prior to the study. As suggested earlier in this report, future analyses of these data should consider the effect one's occupation has on the condition of health. In particular, one's occupation and income level might be found to be related to such variables as home bed care. This alternative is recommended in view of the "correlation" found to exist between ethnicity and income level.

The age of the subjects is compared with the number of home bed care days in Table 40. The 16 to 39 and 55 to 64 age categories of individuals were reported to have had the least number of days in bed (2.5). This was one-half a day less than the overall average of 3.0 days. As might be expected, there appeared to be a correlating increase of the range in days of home bed care as age increased. This was reflected in the arithmetic means calculated for each of the age categories (Table 40). As indicated in this table, the mean number of bed days was more than double for those 40 to 54 years old as compared with those under age 40. The mean continued to increase with age, and for those 65 or older was almost three times greater than for the age group under 40.

TABLE 40. Days of Home Bed Care Over the Past Year Due to Illness of Injury by Age

Days	Age															
	Under 1		1-4		5-15		16-39		40-54		55-64		65+		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	-	-	2	25.0	11	17.2	4	6.7	1	4.8	2	20.0	-	-	20	11.6
2	-	-	1	12.5	17	26.6	27	45.0	2	9.5	3	30.0	2	22.2	52	30.2
3	-	-	-	-	10	15.6	9	15.0	7	33.3	2	20.0	2	22.2	30	17.5
4-6	-	-	3	37.5	13	20.3	10	16.6	4	19.0	-	-	1	11.1	31	18.0
7	-	-	2	25.0	9	14.1	6	10.0	3	14.3	1	10.0	-	-	21	12.2
8-21	-	-	-	-	4	6.2	4	6.7	3	14.3	1	10.0	3	33.3	15	8.7
22-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31+	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>4.8</u>	<u>1</u>	<u>10.0</u>	<u>1</u>	<u>11.1</u>	<u>3</u>	<u>1.8</u>
TOTAL	-	-	8	100.0	64	100.0	60	100.0	21	100.0	10	100.0	9	99.9	172	100.0
Median Age	-		4.5		2.9		2.5		3.9		2.5		5.0		3.0	
Mean Days	-		4.1		4.1		3.9		8.5		9.6		11.5		5.4	

SECTION FIVE
YEARLY REDUCED ACTIVITY DUE TO ILLNESS
OR INJURY

5.1 Introduction

Question 11 of the interview schedule* used in this study was asked to determine the extent to which usual activities were cut down or restricted during the prior year because of illness or injury. The respondents were asked to not include in their answer the number of days a person had been hospitalized or stayed at home in bed. Other specific questions were asked concerning hospital and home bed care. A given individual may have had to restrict or reduce his usual activity before and/or after receiving home bed care, depending on the nature of the illness or injury involved. Therefore, the number of days for all three situations may be considered additive although the individuals involved obviously could not be summed together.

5.2 Frequency and Length of Period of Reduced Activity Due to Illness or Injury and Personal-Social Characteristic

The 102 individuals who were reported to have cut down or restricted their usual activity because of being ill or injured was equal to 5.3% of the 1,928 studied (Table 41). This was a ratio of approximately 1 out of every 20 individuals.

*See Appendix C

TABLE 41. Reduction in Normal Activities During Past Year Due to Illness or Injury

Activity Reduced	Individuals	
	f	%
Yes	102	5.3
No	<u>1,826</u>	<u>94.7</u>
TOTAL	1,928	100.0

5.2.1 Gender

Although a slightly larger proportion of the females (6.3%) than of the males (4.4%) had cut back or restricted their activity for health reasons (Table 42), the difference (when statistically analyzed) was found not to be significant (Table 43). Therefore, although a trend appeared evident it was not of sufficient strength to support the notion that a reduction in usual activity for health related reasons was gender related.

TABLE 42. Comparison by Gender of Individuals Requiring Reduced Activity and Total Count

Gender	Individuals in Total Count	Individuals Requiring Reduced Activity	Percent* of Category Requiring Reduced Activity
Male	985	43	4.4
Female	<u>943</u>	<u>59</u>	<u>6.3</u>
TOTAL	1,928	102	5.3

*The percentage figure indicates the proportion of the gender categories that had been required to reduce their normal activity. For example, 4.4% of all males reduced their activity due to illness or injury during the year.

TABLE 43. Actual and Expected Frequencies of Days of Reduced Activity During Past Year for Illness or Injury by Gender

Characteristics	Reduced Activity			
	Actual		Expected	
	f	%	f	%
Male	43	42.2	52	51.1
Female	<u>59</u>	<u>57.8</u>	<u>50</u>	<u>48.9</u>
TOTAL	102	100.0	102	100.0

NOTE: Differences between actual and expected frequencies are not statistically significant.

5.2.2 Ethnicity

Once again, as reported in Section Four concerning home bed care, those in the Caucasian category clearly were more prone to have restricted their usual activity due to illness or injury. Nearly 1 out of every 5 (19.1%) had done so. This large percentage figure was in contrast to the 5.3% figure for the total 102 individuals involved in the analysis (Table 44). The percentage of Chamorros reported to have reduced their activity was 5.6. The Filipinos, Asians and All Others (excluding the Caucasians) were less likely to have restricted their activity because of being ill. As could be expected, the extent to which ethnicity was associated with reduced activity was statistically significant at the .001 level of probability (Table 45). As already implied, the large statistical value calculated was primarily a function of the difference between the observed and expected frequencies for the category of Caucasians.

TABLE 44. Comparison by Ethnicity of Individuals Requiring Reduced Activity and Total Count

Ethnicity	Individuals in Total Count	Individuals Requiring Reduced Activity	Percent of Category Requiring Reduced Activity
Chamorro	1,117	63	5.6
Filipino	542	21	3.9
Caucasian	68	13	19.1
Other Islanders	58	2	4.0
Asian	35	-	-
All Others	<u>108</u>	<u>3</u>	<u>2.8</u>
TOTAL	1,928	102	5.3

TABLE 45. Actual and Expected Frequencies and Percentages of Individuals Requiring Reduced Activity During Past Year by Ethnicity

Ethnicity	Individuals			
	Actual		Expected	
	f	%	f	%
Chamorro	63	61.8	59	57.8
Filipino	21	20.6	28	27.5
Caucasian	13	12.7	4	3.9
Other Islanders	2	2.0	3	2.9
Asian	-	-	2	2.0
All Others	<u>3</u>	<u>2.9</u>	<u>6</u>	<u>5.9</u>
TOTAL	102	100.0	102	100.0

NOTE: Differences between actual and expected frequencies are statistically significant at the .001 level of probability primarily due to the Caucasian category.

5.2.3 Age

The data presented in Tables 46 and 47 show that the age of the 102 individuals analyzed was associated with their having cut back or restricted their usual activity because of illness or injury over the prior year. Larger percentages of individuals in each of the age categories for 40 and over had reduced their activity than those who were under age 40. The combined percentage figure for the 40 and older individuals was 7.2 while for the younger group it was 4.5.

TABLE 46. Comparison of Individuals Requiring Reduced Activity During Past Year by Age

Age	Individuals in Total Count	Individuals Requiring Reduced Activity	Percent of Category Requiring Reduced Activity
Under 1	39	-	-)
1 - 4	164	8	4.9)
5 - 15	472	28	5.9)
16 - 39	710	27	3.8)
40 - 54	272	19	7.0)
55 - 64	158	10	6.3)
65 +	<u>113</u>	<u>10</u>	<u>8.8)</u>
TOTAL	1,928	102	5.3

The frequency distributions shown in Table 47 identify, in particular, the underrepresentation of the 16- to 39-year-old

TABLE 47. Actual and Expected Frequencies and Percentages of Individuals Requiring Reduced Activity During Past Year by Age

Age	Actual		Expected	
	f	%	f	%
Under 1	-	-	2	2.0
1 - 4	8	7.8	9	8.5
5 - 15	28	27.5	25	24.5
16 - 39	27	26.5	38	36.8
40 - 54	19	18.6	14	14.1
55 - 64	10	9.8	8	8.2
65 +	<u>10</u>	<u>9.8</u>	<u>6</u>	<u>5.9</u>
TOTAL	102	100.0	102	100.0

NOTE: Differences between actual and expected frequencies are statistically significant at the .10 level of probability primarily due to the underrepresentation in the 16- to 39-years-old age category and the overrepresentation within the 65-year-old and older category.

individuals. They comprised 26.5% of the 102 individuals analyzed, whereas (based on the total study group of 1,928) one would expect 36.8% to have been included if age were not associated with restricting usual activity due to health reasons. The overrepresentation of older persons in the analysis, especially those 65 or older, also contributed to the statistical test being significant, though to a lesser extent.

5.2.4 Length of Period of Reduced Activity

Because the period of consideration was the year preceding this study (excluding the two weeks before the interview) the maximum number of days involved was 351. Therefore, as noted in

Table 48 four individuals were reported to have reduced their usual activity for the entire "year" because of their illness or injury. These four individuals, when combined with eight others that had reduced their activity for a range of 40 to 150 days, accounted for 2,054 of the 2,651 total person days reported. Because of such extreme skewness, the arithmetic mean of 26 days was considerable larger than the median which was 4.3 days.

TABLE 48. Days of Reduced Activity During Past Year Due to Illness or Injury

Days	Individuals			Total Days Reduced Activity
	f	%	Cum. %	
1	5	4.9	4.9	5
2	21	20.6	25.5	42
3	20	19.6	45.1	60
4	6	5.8	50.9	24
5	15	14.7	65.6	75
6	1	1.0	66.6	6
7	4	3.9	70.5	28
10	2	2.0	72.5	20
12	2	2.0	74.5	24
14	5	4.9	79.4	70
17	2	2.0	81.4	34
27	1	1.0	82.4	27
30	6	5.8	88.2	180
40	1	1.0	89.2	40
42	1	1.0	90.2	42
50	1	1.0	91.2	50
60	1	1.0	92.2	60
90	1	1.0	93.2	90
100	1	1.0	94.2	100
120	1	1.0	95.2	120
150	1	1.0	96.2	150
351	4	3.9	100.1	1,404
TOTAL	102	100.1		2,651

Median	4.3 days			
Mean	26.0 days			
Range*	1-351 days			

*Every day during past year. Last two weeks of year were not included. Therefore, maximum number of days was 351.

The personal and social characteristics of gender, ethnicity, and age were also examined to determine if they were associated or "correlated" with the number of days the individuals had restricted their usual activity as a result of being ill or injured (Tables 49, 50, and 51). Although overall there was virtually no difference in the average number of restricted days for the males (4.2) and the females (4.3), proportionately more males, 25.6%, had reported a total of 22 or more restricted days as compared to 13.6% of the females.

TABLE 49. Days of Reduced Activity Over the Past Year Due to Illness or Injury by Gender

Days	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
1	3	7.0	2	3.4	5	4.9
2	9	20.9	12	20.3	21	20.6
3	8	18.6	12	20.3	20	19.6
4-6	7	16.3	15	25.4	22	21.6
7	1	2.3	3	5.1	4	3.9
8-21	4	9.3	7	11.9	11	10.8
22-30	4	9.3	3	5.1	7	6.9
31-160	4	9.3	4	6.8	8	7.8
351	<u>3</u>	<u>7.0</u>	<u>1</u>	<u>1.7</u>	<u>4</u>	<u>3.9</u>
TOTAL	43	100.0	59	100.0	102	100.0
Median Days	4.2		4.3		4.3	

With regard to ethnicity, the pattern continued in a manner similar to that of home bed care. Proportionately more Caucasians than other ethnic groups restricted their usual activity due to illness, and they did so by three times as many days (Table 50). Of the 13 Caucasians involved, 5 (38.4%) reported a reduction in usual activity for 31 to 160 days during the year. In this particular analysis, the median number of days cut back due to illness/injury by Filipinos was one-half day less than the days cut back by Chamorros. The figures were 3.7 and 4.3 days, respectively.

Considerable disparity was noted between the median and mean number of restricted days for the various age categories (Table 51). The median figures were found to range from 2.3 days for the children ages 1 to 4 up to 12.3 days for the adults ages 55 to 64. The overall average was 4.3 days. Because the arithmetic mean took into account the distribution's skewness toward the maximum potential number of days in the year, the mean age category figures ranged from 7.1 days to 52.0 days. With the exception of the young age category of 1 to 4 and the oldest of 65 or older, the mean number of restricted activity days for the ascending age categories were found to increase from 11.8 to 52.0. The mean number of days that the 102 individuals had cut back or restricted their usual activity over the past year for reasons of illness or injury was 26.0, or equivalent to slightly less than a month.

TABLE 50. Reduced Activity During the Past Year Due to Illness or Injury by Ethnicity

Days	Ethnicity												Total	
	Chamorro		Filipino		Caucasian		Other Islander		Asian		All Others			
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	2	3.2	1	4.8	1	7.7	1	50.0	-	-	-	-	5	4.9
2	16	25.4	3	14.3	-	-	-	-	-	-	2	66.7	21	20.6
3	10	15.9	6	28.6	4	30.8	-	-	-	-	-	-	20	19.6
4-6	14	22.2	8	38.1	-	-	-	-	-	-	-	-	22	21.6
7	2	3.2	-	-	1	7.7	-	-	-	-	1	33.3	4	3.9
8-21	7	11.1	2	9.5	2	15.4	-	-	-	-	-	-	11	10.8
22-30	6	9.5	1	4.8	-	-	-	-	-	-	-	-	7	6.9
31-160	3	4.8	-	-	5	38.4	-	-	-	-	-	-	8	7.8
351	<u>3</u>	<u>4.8</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>50.0</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>4</u>	<u>3.9</u>
TOTAL	63	100.1	21	100.1	13	100.0	2	100.0	-	-	3	100.0	102	100.0
Median Days	4.3		3.7		11.0		176.0		-		2.3		4.3	

TABLE 51. Days of Reduced Activity During the Past Year Due to Illness or Injury by Age

Days	Age															
	Under 1		1-4		5-15		16-39		40-54		55-64		65+		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	-	-	-	-	1	3.6	1	3.7	2	10.5	-	-	1	10.0	5	4.9
2	-	-	5	62.5	8	28.5	3	11.1	4	21.1	-	-	1	10.0	21	20.6
3	-	-	-	-	10	35.7	5	18.5	4	21.1	1	10.0	-	-	20	19.6
4-6	-	-	2	25.0	4	14.3	5	18.5	2	10.5	3	30.0	6	60.0	22	21.6
7	-	-	-	-	1	3.6	3	11.1	-	-	-	-	-	-	4	3.9
8-21	-	-	-	-	1	3.6	4	14.8	2	10.5	3	30.0	1	10.0	11	10.8
22-30	-	-	-	-	-	-	4	14.8	1	5.3	1	10.0	1	10.0	7	6.9
31-160	-	-	-	-	3	10.7	2	7.4	2	10.5	1	10.0	-	-	8	7.8
351	<u>-</u>	<u>-</u>	<u>1</u>	<u>12.5</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>10.5</u>	<u>1</u>	<u>10.0</u>	<u>-</u>	<u>-</u>	<u>4</u>	<u>3.9</u>
TOTAL	-	-	8	100.0	28	100.0	27	99.9	19	100.0	10	100.0	10	100.0	102	100.0
Median Days	-		2.3		3.0		6.2		3.4		12.3		5.0		4.3	
Mean Days	-		46.3		11.8		14.4		50.1		52.0		7.1		26.0	

SECTION SIX

DAYS LOST DUE TO ILLNESS OR INJURY AND LEVELS OF WELL-BEING

6.1 Introduction

An attempt was made to determine the impact that illness or injury had on usual work and school attendance schedules (Questions 10b, 10c, 11b, and 11c*). The questions were asked of those who had received home bed care and others who had reduced usual activity because of their health condition but had not been confined to bed at home. Although workdays and schooldays were also lost due to hospitalization, these questions concerning work and school were not asked of those who had been hospitalized. Estimates were made, however, based on home bed care data.

6.2 Workdays Lost

Of the combined total of individuals who were reported to have stayed home in bed or to have reduced their usual activity due to illness or injury, 6.9% indicated that no workdays were lost (Table 52). This is understandable, since the illness could have occurred on weekends, or in other cases, individuals who were ill may have gone to work anyway. An additional 26.3% specified the number of days of work they had missed because of illness. Missing work was not applicable for two-thirds of the individuals. They most likely were children and youths or

*Interview Schedule, Appendix C.

adults who were not working because of retirement or some other non-working status.

TABLE 52. Workdays Lost During Past Year by Those Receiving Home Bed Care or Reducing Usual Activity Due to Illness or Injury

Workdays	Individuals	
	f	%
None	19	6.9
1 - 80	72	26.3
Does Not Apply	<u>183</u>	<u>66.8</u>
TOTAL	274	100.0

Care should be exercised when interpreting the information presented in Section Six of this report. For example, the "frequencies of individuals" included in Table 53 are not necessarily different individuals but rather the number of individuals. A given individual may have reduced his usual activity before and/or after staying at home in bed due to his illness. Probably the most important figures in the table, therefore, are the workdays lost. In this study, a total of 400 workdays were reported to have been lost due to illness or injury as a result of staying home in bed or by a reduction in usual activity. An additional 268 days (due to hospitalization) could be added to the 400, thus raising the total of workdays lost to 668. See Appendix A for a detailed explanation.

TABLE 53. Number of Days of Work Lost During Year Due to Home Bed Care or Reduced Activity Because of Illness or Injury

Days	Home Bed Care	Reduced Activity	Total		Person Days
	f	f	f	%	
1	5	2	7	9.7	7
2	14	5	19	26.4	28
3	8	6	14	19.4	24
4	2	2	4	5.6	8
5	5	1	6	8.3	25
6	1	-	1	1.4	6
7	2	1	3	4.2	14
8	1	-	1	1.4	8
9	-	-	-	-	-
10	3	4	7	9.7	30
14	1	1	2	2.8	14
15	1	-	1	1.4	15
20	-	2	2	2.8	-
22	-	1	1	1.4	-
25	-	-	-	-	-
27	-	-	-	-	-
40	2	-	2	2.8	80
46	-	-	-	-	-
61	-	1	1	1.4	61
80	-	1	1	1.4	80
TOTAL	45	27	72	100.1	400
Median	3.2 days				
Mean	5.6 days				
Range	1-80 days				

6.3 Schooldays Lost

The combined frequencies of individuals who stayed at home in bed for health care and those who reduced or restricted their usual activity was 274 (Table 54). It should be noted that these categories were not mutually exclusive. Therefore, the combined figure included a double count for those who were reported in both categories. The extent of dual representation, however, is not known. The purpose of the table is to present a "rough" or general "overview" of the data.

TABLE 54. Schooldays Lost During Year by Those Receiving Home Bed Care or Reducing Usual Activity Due to Illness or Injury

Schooldays	Individuals	
	f	%
None	4	1.4
1 - 96	109	39.8
Does Not Apply	<u>161</u>	<u>58.8</u>
TOTAL	274	100.0

Table 55 shows the distribution of schooldays lost due to home bed care and reduced activity. The number of days ranged from 1 to 96. A total of 573 days of school were reported as being lost. It is estimated that this figure could be increased by 55 if days of hospitalization were also included. The total of lost schooldays then would be 628 (See Appendix A).

TABLE 55. Number of Days of School Lost During Year Due to Home Bed Care or Reduction in Usual Activity Because of Illness or Injury

Days	Home Bed Care	Reduced Activity	Total		Person Days
	f	f	f	%	
1	8	1	9	8.3	8
2	22	11	33	30.3	66
3	12	12	24	22.0	72
4	7	-	7	6.4	28
5	18	4	22	20.2	110
6	-	1	1	0.9	6
7	2	1	3	2.8	21
8	-	-	-	-	-
9	-	-	-	-	-
10	3	1	4	3.7	40
14	2	-	2	1.8	28
25	-	1	1	0.9	25
27	-	1	1	0.9	27
46	-	1	1	0.9	46
96	<u>-</u>	<u>1</u>	<u>1</u>	<u>0.9</u>	<u>96</u>
TOTAL	74	35	109	100.0	573

Median	3.0 days				
Mean	5.3 days				
Range	1-96 days				

6.4 Level of Well-Being

A rough or crude estimate of the number of days during the year that individuals were hospitalized, at home in bed or had reduced or restricted their usual activity because of illness or injury was used as a measure of their well-being.

TABLE 56. Composite of Individuals Hospitalized, at Home in Bed or Required to Reduce Usual Activity During Past Year Due to Illness or Injury

Health Care Situation	Number of Individuals	Mean Number of Days	Persondays
Hospitalized	127	7.4	935
At Home in Bed	172	5.4	927
Reduced Usual Activity	102	26.0	<u>2,651</u>
TOTAL			4,513

Upon inspecting Table 56, it may be noted that a total of 4,513 persondays were lost by sample subjects during the eleven and one-half months of the study. In order to make projections for a full year, the number of days for a half month were estimated for hospitalization, home bed care and reduced activity (Table 57). Using a factor of 44, the ratio of the number of individuals surveyed to the total civilian population, it was determined that 42,768 hospital patientdays were lost by the civilian population of 84,979 during the twelve months immediately prior to the survey interviews. A similar number of days (42,416) were projected as home bed care days for the

total population. A reduction of 121,308 persondays in usual activity due to illness or injury were also projected. The grand total of days affected by illness or injury, therefore, was estimated to be 206,492 for the civilian population over a year of time. This figure is equivalent to 566 personyears or only about 2.4 days per person.

TABLE 57. Projected Well-Being Status for Island Civilian Population Based on Days of Hospitalization, Home Bed Care and Reduced Activity of Study Sample Over Past Year

Populations	Days Hospitalized	Days at Home in Bed	Reduced Activity	Total Persondays
<u>Study Sample (1,928)</u>				
11.5 months (actual)	935	927	2,651	4,513
0.5 month (estimate)	<u>37</u>	<u>37</u>	<u>106</u>	<u>180</u>
12.0 months	972	964	2,757	4,693
<u>Island Civilian Population (84,979)</u>				
12.0 months (estimate)	42,768	42,416	121,308	206,492*

*566 personyears or 2.43 days per person per year.

SECTION SEVEN

DIAGNOSIS OR TREATMENT OF ILLNESS OR INJURY

7.1 Introduction and Personal-Social Characteristics

The 400 persons interviewed in the survey were questioned 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 visit that had occurred during the two weeks immediately preceding the interview.

In addition to the number of individuals who visited doctors, the survey also determined health conditions involved, locations of doctors' offices, and number of visits made. Probe questions were also included to determine if persons needing treatment had to consult a physician at a second or third location in order to be further treated for a single illness or injury. This represented more than one-fourth (28.1%) of the 1,928 subjects included in the study (Table 58).

TABLE 58. Individuals Visiting a Doctor During Past Year for Diagnosis and Treatment of Illness of Injury

Responses	Individuals	
	f	%
Yes	542	28.1
No	<u>1,386</u>	<u>71.9</u>
TOTAL	1,928	100.0

*Interview Schedule, Appendix C

With regard to the personal-social characteristic of gender, no statistical relationship was found between males and females and whether they had visited a doctor over the past year for diagnosis or treatment of illness or injury (Table 59). The actual number of males and females was very similar to the expected number that would occur if gender were not a causative factor.

Although a trend existed, the characteristic of ethnicity also was not statistically significant. Far more Caucasians and somewhat fewer Filipinos reported having made a doctor visit than would have been expected. All other ethnic groups reported in proportions equal to what was expected (Table 59).

There were more 1- to 4-years-old preschool age children and more older persons who had received medical care than was expected. As the age of the individuals who had gone to a doctor increased from 40 to beyond 65, the proportion of those in each age category seeing a doctor became greater. That is, there was a positive relationship between age (for those 40 and over) and having gone to a doctor for medical care. The 16- to 39-years-old individuals apparently were the healthiest age group. Approximately 33.0% fewer individuals than expected went to a doctor during the year. In contrast, 63.0% more of the oldest group age 65 or older had gone (Table 59).

7.2 Health Conditions

7.2.1 Acute, Catastrophic, Chronic and Disabling Conditions and Mental Illness

Health conditions classified as acute accounted for 74.8% of all conditions for which the individuals sought medical care

TABEL 59. Actual and Expected Frequencies and Percentages of Individuals Who Had Received Over the Year Diagnostic or Treatment Care for Illness or Injury by Gender, Ethnicity and Age

Personal-Social Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
<u>Gender*</u>				
Male	275	50.7	277	51.1
Female	<u>267</u>	<u>49.3</u>	<u>265</u>	<u>48.9</u>
TOTAL	542	100.0	542	100.0

<u>Ethnicity*</u>				
Chamorro	329	60.7	314	57.9
Filipino	132	24.3	152	28.1
Caucasian	29	5.4	19	3.5
Other Islanders	14	2.6	16	3.0
Asian	7	1.3	10	1.8
All Others	<u>31</u>	<u>5.7</u>	<u>31</u>	<u>5.7</u>
TOTAL	542	100.0	542	100.0

<u>Age**</u>				
Less than 1	10	1.8	11	2.0
1 - 4	61	11.3	46	8.5
5 - 15	136	25.1	133	24.5
16 - 39	134	24.7	200	36.9
40 - 54	87	16.1	76	14.0
55 - 64	62	11.4	44	8.1
65 +	<u>52</u>	<u>9.6</u>	<u>32</u>	<u>5.9</u>
TOTAL	542	100.0	542	99.9

*These figures are not statistically significant at the .05 level of probability.

**These figures are statistically significant at the .001 level of probability.

(Table 60). An additional 1.0% were catastrophic in nature. Mental illness and disabling conditions (deafness, blindness, paralysis) involved 0.5% each. The remaining 23.3% of the health conditions for which medical diagnosis and treatment were received included chronic diseases. Hypertension, as noted in Table 60, represented approximately one-half of the chronic conditions, and diabetes made up more than an additional one-fourth (28.3%). Arthritis accounted for 18 (11.8%) of the 152 chronic conditions reported.

7.2.2 Personal-Social Characteristics of Gender, Ethnicity, and Age

The data were also analyzed to determine if variables of gender, ethnicity or age were related to seeking medical diagnosis or treatment of the various health conditions. The chi-square statistical technique was utilized to determine the extent of association. The .05 level of probability was set as the acceptable level for designating statistical significance.

With regard to acute health conditions, gender was non-significant while ethnicity and age were found to be of very high statistical significance (Table 61). Filipino individuals were less likely to have gone to a doctor for diagnosis or treatment of acute health conditions, while Caucasians were far more likely to have sought such care than was expected. Concerning age, those 15 or younger and 65 or older were more likely to have been treated for acute health conditions than would be expected, while those who were in the various age categories from 16 to 64 were underrepresented.

TABLE 60. Doctor Visits During Past Year for Diagnosis and Treatment of Acute, Catastrophic, Chronic, Disabling Health Conditions and Mental Illness

Conditions	First Condition		Second Condition		Third Condition		Total	
	f	%	f	%	f	%	f	%
<u>Acute</u>	400	75.0	62	68.9	25	89.3	487	74.8
<u>Catastrophic</u>								
Tumor/malignancies	2		-		-		2	
Kidney transplant	2		-		-		2	
Birth Defect	-		1		-		1	
Sub-total	4	0.8	1	1.1	-	-	5	0.8
<u>Chronic</u>								
Hypertension	66		11		1		78	
Diabetes	32		10		1		43	
Kidney disease	8		2		-		10	
Parkinson's disease	2		-		1		3	
Arthritis	16		2		-		18	
Rheumatism	-		-		-		-	
Sub-total	124	23.2	25	27.8	3	10.7	152	23.3
<u>Disabling</u>								
Deafness	1		-		-		1	
Blindness	-		1		-		1	
Full/Partial Paralysis	1		-		-		1	
Sub-total	2	0.4	1	1.1	-	-	3	0.5
<u>Mental Illness</u>	3	0.6	1	1.1	-	-	4	0.6
<u>SUBTOTAL</u>	<u>133</u>	<u>25.0</u>	<u>28</u>	<u>31.1</u>	<u>3</u>	<u>10.7</u>	<u>164</u>	<u>25.2</u>
<u>TOTAL</u>	533	100.0	90	100.0	28	100.0	651	100.0
Insufficient Data	9		-		-		9	

TABLE 61. Actual and Expected Frequencies and Percentages by Gender, Ethnicity, and Age of Those Reported Having Gone to a Doctor for Diagnosis or Treatment of Acute Health Conditions During Prior Year

Personal-Social Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
<u>Gender*</u>				
Male	261	53.6	249	51.1
Female	<u>226</u>	<u>46.4</u>	<u>238</u>	<u>48.9</u>
TOTAL	487	100.0	487	100.0

<u>Ethnicity**</u>				
Chamorro	287	58.9	282	57.9
Filipino	113	23.2	137	28.1
Caucasian	31	6.4	17	3.5
Other Islanders	15	3.1	14	3.0
Asian	7	1.4	9	1.8
All Others	<u>34</u>	<u>7.0</u>	<u>28</u>	<u>5.7</u>
TOTAL	487	100.0	487	100.0

<u>Age**</u>				
Less than 1	12	2.5	10	2.0
1 - 4	68	14.0	41	8.5
5 - 15	150	30.8	119	24.5
16 - 39	134	27.5	179	36.8
40 - 54	59	12.1	69	14.1
55 - 64	32	6.6	40	8.2
65 +	<u>32</u>	<u>6.5</u>	<u>29</u>	<u>5.9</u>
TOTAL	487	100.0	487	100.0

*Actual total figures are not statistically significant.

**Actual total figures are statistically significant at the .005 and .001 levels of probability for ethnicity and age, respectively.

Gender, ethnicity and age were also analyzed in relation to the occurrence of diagnosis or treatment for catastrophic, chronic, disabling and mental health conditions (Table 62). In this analysis the variable of gender was statistically significant. More females than expected had received medical attention for these health conditions.

Upon combining the ethnic categories of Other Islanders, Asians and All Others due to low actual frequencies (Table 62), the ethnicity variable was also statistically significant. More Chamorros but fewer Filipinos and Other Islanders/Asians/All Others had received medical care for catastrophic, chronic, disabling and mental health conditions. Caucasians were found in proportion to the number expected.

The variable of age basically split into two categories. Those under age 40 were much less likely to have received diagnosis or treatment of catastrophic and chronic health conditions, while those age 40 or older were more likely to have gone to a doctor for such care. The statistical test was significant beyond the .001 level of probability.

Tables 63, 64 and 65 indicate frequency distributions for the personal-social characteristics of gender, ethnicity and age in relation to the specific health conditions classified as catastrophic, the various physical disabilities and mental illness. The frequencies, respectively, were 5, 3, and 4. Because of such few cases, care should be exercised in drawing conclusions about these particular findings. With this limitation of size of frequency noted, it may be observed that the likelihood of catastrophic conditions occurring tended to be

TABLE 62. Actual and Expected Frequencies and Percentages by Gender, Ethnicity and Age of Those Reported Having Gone to a Doctor for Diagnosis or Treatment of Catastrophic, Chronic, Disabling and Mental Illness Health Conditions During Prior Year

Personal-Social Characteristics	Individuals			
	Actual Conditions		Expected Conditions	
	f	%	f	%
<u>Gender*</u>				
Male	70	42.7	84	51.1
Female	94	57.3	80	48.9
TOTAL	164	100.0	164	100.0

<u>Ethnicity*</u>				
Chamorro	114	69.5	95	57.9
Filipino	35	21.3	46	28.1
Caucasian	6	3.7	6	3.5
Other Islanders	2	1.2	5	3.0
Asian	1	0.6	3	1.8
All Others	6	3.7	9	5.7
TOTAL	164	100.0	164	100.0

<u>Age*</u>				
Less than 1	-	-	3	2.0
1 - 4	1	0.6	14	8.5
5 - 15	2	1.2	40	24.5
16 - 39	27	16.5	60	36.8
40 - 54	51	31.1	23	14.1
55 - 64	50	30.5	14	8.2
65 +	33	20.1	10	5.9
TOTAL	164	100.0	164	100.0

*All figures in the actual total column are statistically significant; gender at the .05 level; ethnicity at the .02 level; and age beyond the .001 level of probability.

TABLE 63. Frequencies of Various Catastrophic Health Conditions for Which Medical Diagnosis or Treatment Was Received by Gender, Ethnicity and Age

Personal-Social Characteristics	Catastrophic Conditions			Total	
	Tumor/ Malignancies	Kidney Transplant	Birth Defect	f	%
	f	f	f		
<u>Gender</u>					
Male	-	2	-	2	40.0
Female	<u>2</u>	<u>-</u>	<u>1</u>	<u>3</u>	<u>60.0</u>
TOTAL	2	2	1	5	100.0

<u>Ethnicity</u>					
Chamorro	1	2	1	4	80.0
Filipino	-	-	-	-	-
Caucasian	1	-	-	1	20.0
Other Islanders	-	-	-	-	-
Asian	-	-	-	-	-
All Others	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	2	2	1	5	100.0

<u>Age</u>					
Less than 1	-	-	-	-	-
1 - 4	-	-	-	-	-
5 - 15	1	-	-	1	20.0
16 - 39	-	1	1	2	40.0
40 - 54	1	1	-	2	40.0
55 - 64	-	-	-	-	-
65 +	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	2	2	1	5	100.0

TABLE 64. Frequencies of Various Physical Disabilities for Which Medical Diagnosis or Treatment Was Received by Gender, Ethnicity and Age

Personal-Social Characteristics	Disabilities			Total	
	Deafness f	Blindness f	Full/Partial Paralysis f	f	%
<u>Gender</u>					
Male	-	-	1	1	33.3
Female	<u>1</u>	<u>1</u>	<u>-</u>	<u>2</u>	<u>66.7</u>
TOTAL	1	1	1	3	100.0

<u>Ethnicity</u>					
Chamorro	1	1	1	3	100.0
Filipino	-	-	-	-	-
Caucasian	-	-	-	-	-
Other Islanders	-	-	-	-	-
Asian	-	-	-	-	-
All Others	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	1	1	1	3	100.0

<u>Age</u>					
Less than 1	-	-	-	-	-
1 - 4	-	-	-	-	-
5 - 15	-	-	-	-	-
16 - 39	-	-	-	-	-
40 - 54	1	1	-	2	66.7
55 - 64	-	-	1	1	33.3
65 +	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	1	1	1	3	100.0

TABLE 65. Frequencies of Mental Illness for Which Medical Diagnosis or Treatment Was Received by Gender, Ethnicity and Age

Personal-Social Characteristics	Mental Illness	
	f	%
<u>Gender</u>		
Male	4	100.0
Female	-	-
TOTAL	4	100.0

<u>Ethnicity</u>		
Chamorro	-	-
Filipino	3	75.0
Caucasian	-	-
Other Islanders	1	25.0
Asian	-	-
All Others	-	-
TOTAL	4	100.0

<u>Age</u>		
Less than 1	-	-
1 - 4	-	-
5 - 15	-	-
16 - 39	3	75.0
40 - 54	-	-
55 - 64	1	25.0
65 +	-	-
TOTAL	4	100.0

greater among Chamorros who were 15 to 54 years old (Table 63), while the disabilities occurred exclusively within the group of Chamorros who were ages 40 to 64 (Table 64). Those who sought help for mental illness were primarily Filipino males in the 16 to 39 age bracket (Table 65).

Because chronic conditions were more frequently reported, the numbers were large enough to warrant statistical analysis (Table 66). As inspection of this table reveals, all three variables of gender, ethnicity, and age were statistically significant at high levels of probability. A closer review of the frequencies associated with the various chronic conditions will show that females were more likely to have sought medical care for hypertension, diabetes and arthritis while males had done so for kidney disease and Parkinson's disease. Caucasians were found in numbers equal to those expected, while Chamorros were overrepresented. Filipinos and all other ethnic groups tended to be underrepresented. The under/over age 40 dichotomy prevailed in this analysis, also. Younger individuals virtually had not been treated for the various chronic conditions, while older persons had. More specifically, as the age categories increased from 40 to 54, 55 to 64, and 65 or older, the number of individuals in each (when compared with the expected number) also increased proportionately.

7.3 Doctor Offices and Clinics

7.3.1 Frequency of Use

The most popular of the 29 locations utilized by the 516 individuals who had gone for medical diagnosis and treatment was the FHP Guam Medical Clinic (Table 67). Slightly more than

TABLE 66. Actual and Expected Frequencies and Percentages of Various Chronic Health Conditions for Which Diagnosis or Treatment Was Received by Gender, Ethnicity and Age

Personal-Social Characteristics	Chronic Conditions					Total			
	Hypertension	Diabetes	Kidney Disease	Parkinson's Disease	Arthritis	Actual		Expected	
	f	f	f	f	f	f	%	f	%
Gender*									
Male	31	16	6	3	7	63	41.4	78	51.1
Female	47	27	4	-	11	89	58.6	74	48.9
TOTAL	78	43	10	3	18	152	100.0	152	100.0
Ethnicity*									
Chamorro	54	34	6	3	10	107	70.4	88	57.9
Filipino	17	7	3	-	5	32	21.0	43	28.1
Caucasian	3	-	1	-	1	5	3.3	5	3.5
Other Islanders	-	-	-	-	1	1	0.7	4	3.0
Asians	-	1	-	-	-	1	0.7	3	1.8
All Others	4	1	-	-	1	6	3.9	9	5.7
TOTAL	78	43	10	3	18	152	100.0	152	100.0
Age**									
Less than 1	-	-	-	-	-	-	-	3	2.0
1 - 4	-	-	-	-	1	1	0.7	13	8.5
5 - 15	1	-	-	-	-	1	0.7	37	24.5
16 - 39	10	4	5	3	-	22	14.5	56	36.8
40 - 54	24	14	3	-	6	47	30.9	21	14.1
55 - 64	28	11	2	-	7	48	31.6	13	8.2
65 +	15	14	-	-	4	33	21.6	9	5.9
TOTAL	78	43	10	3	18	152	100.0	152	100.0

*Actual total figures are statistically significant at the .02 level of probability.

**Actual total figures are statistically significant beyond the .001 level of probability.

TABLE 67. Doctors' Offices or Medical Facilities Visited During Past Year One or More Times for Diagnosis or Treatment of Illness or Injury

Medical Care Facility *	First Location		Second Location		Third Location	
	f	%	f	%	f	%
Dr. Acosta	19	3.7	1	1.7	1	11.1
Carlos Heights Clinic	84	16.3	11	19.0	1	11.1
Dr. Cruz	5	1.0	1	1.7	-	-
Dededo Medical Center	6	1.2	-	-	-	-
FHP	113	21.9	6	10.3	2	22.2
Dr. Garrett's Office	3	0.6	-	-	-	-
Good Samaritan Clinic	19	3.7	3	5.2	-	-
Dr. Sirilan	1	0.2	-	-	-	-
Guam Memorial Hospital	31	6.0	7	12.1	-	-
Guam Poly Clinic	16	3.1	2	3.5	1	11.1
ITC Clinic #1	39	7.5	5	8.6	1	11.1
Dr. K. Chen	1	0.2	3	5.2	-	-
Family Clinic	10	1.9	3	5.2	-	-
Dr. Guzman	9	1.7	2	3.5	-	-
DPHSS	18	3.5	2	3.5	-	-
Dr. Sablan's Clinic	3	0.6	1	1.7	1	11.1
Drs. Sagisi and Batoyan	2	0.4	1	1.7	-	-
St. Anthony's Clinic	8	1.5	2	3.5	-	-
SDA	63	12.2	2	3.5	1	11.1
Dr. Chang	3	0.6	1	1.7	-	-
Dr. Tolentino's Office	7	1.4	1	1.7	-	-
China Acupuncture	3	0.6	1	1.7	-	-
Dr. Maskell-Chiropractor	1	0.2	-	-	-	-
Guam Chiropractor	1	0.2	-	-	-	-
NRMC	42	8.1	1	1.7	-	-
Andersen Clinic	7	1.4	-	-	1	11.1
Naval Station Dispensary	2	0.4	-	-	-	-
East West Oriental Clinic	-	-	1	1.7	-	-
Psychological Services	-	-	1	1.7	-	-
TOTAL	516	100.1	58	100.1	9	99.9
Insufficient Data	29		10			

*See Appendix D, Card f, for detailed listing of doctors and medical facilities.

23.0% (121) of the 516 individuals for whom information was reported had gone to the FHP Clinic. This percentage figure was similar to the 22.0% reported in the Health Needs Assessment of Northern Guam Study (1). The Carlos Heights Clinic ranked second at 18.6%. Approximately 13.0% of this group had gone to the SDA Clinic while 8.7% and 7.4%, respectively, received diagnostic services or treatment at ITC Clinic Number One and the Guam Memorial Hospital. Forty-three individuals were reported to have gone to the NRMC and an additional 10 to the Andersen AFB Clinic and Naval Station Dispensary. The total for these three military health centers comprised 10.3% of the total 516 individuals who had received such medical attention.

7.3.2 Personal-Social Characteristics of Gender, Ethnicity and Age

Information contained in Table 68 includes the number of males and females who reported having gone to various medical clinics for diagnosis or treatment of illness or injury during the past year. These data do not represent the total number of visits but rather sources of medical care. Also indicated in this table is a rank/order listing of the medical clinics or offices. In the ranking, "1" refers to the clinic that was mentioned most frequently. Statistical tests were computed to determine if the variations or differences in the number of males and females who had utilized services of a particular clinic or doctor were statistically significant. This was possible only in the cases where the expected cell frequencies were large enough. "Large enough" was defined as at least five.

TABLE 68. Doctors' Offices or Medical Facilities Visited
During Past Year One or More Times for Diagnosis
or Treatment of Illness or Injury by Gender

Medical Care Facility ^a	Gender				Total	
	Male		Female			
	f	Rank	f	Rank	f	Rank
Dr. Acosta*	14....	7	7		21....	8
Carlos Heights Clinic	48....	2	48....	2	96....	2
Dr. Cruz	1		5		6	
Dededo Medical Center	1		5		6	
FHP	62....	1	59....	1	121....	1
Dr. Garrett's Office	1		2		3	
Good Samaritan*	8		14....	7	22....	7
Dr. Sirilan	-		1		1	
Guam Memorial Hospital	21....	6	17....	6	38....	6
Guam Poly Clinic**	5		14....	7	19....	10
ITC Clinic	23....	4	22....	4	45....	4
Dr. K.Chen	2		2		4	
Family Clinic	7		6		13	
Dr. Guzman*	4		7		11	
DPHSS	11		9		20....	9
Dr. Sablan's Clinic	4		1		5	
Drs. Sagisi and Batoyan	-		3		3	
St. Anthony's Clinic***	9		1		10	
SDA	32....	3	34....	3	66....	3
Dr. Chang	3		1		4	
Dr. Tolentino's Office	6		2		8	
China Acupuncture	1		3		4	
Dr. Maskell-Chiropractor	-		1		1	
Guam Chiropractor	1		-		1	
NRMC	23....	4	20....	5	43....	5
Andersen Clinic	4		4		8	
Naval Station Dispensary	2		-		2	
East West Oriental Clinic	1		-		1	
Psychological Services	-		1		1	
TOTAL	294		289		583	
Insufficient Data	17		22			

*Not statistically significant at the .05 level of probability.

**Statistically significant at the .025 level of probability.

***Statistically significant at the .05 level of probability.

^aSee Appendix D, Card F, for detailed listing of doctors and medical facilities.

Generally, the rankings for the males and females were very similar. Exceptions to this were in the instances of Dr. Acosta, the Good Samaritan Clinic, and the Guam Poly Clinic. Though the difference between males and females looked substantial it was not statistically significant in the case of Dr. Acosta. Twice as many males as females had gone to Dr. Acosta. Essentially the reverse was the case in utilization of the Good Samaritan Clinic. Fourteen females as compared to eight males had gone there.

Statistically significant differences were found, however, in two cases. Clearly more females than males had gone to the Guam Poly Clinic. Although frequencies were small, 9 out of 10 (90.0%) of the St. Anthony's Clinic medical clients were males. Five out of six individuals who had seen Dr. Cruz for medical attention were females.

Considerable variation occurred among the various ethnic categories and their use of medical care facilities for diagnosis and treatment of illness or injury. As shown in Table 69 the FHP Clinic ranked first for Chamorros, the Carlos Heights Clinic for Filipinos, and the SDA Clinic for Caucasians. Other Islanders were more likely to have gone to the SDA Clinic or the Dededo Medical Center, though no clear cut pattern was evident due to the small number of individuals (9) involved. Those categorized as "All Others" were more likely to have gone to the SDA Clinic or NRMC. A closer inspection of the table will reveal that the three military medical facilities, when combined for statistical purposes, ranked first for use by

TABLE 69. Doctor's Offices or Medical Facilities Visited During Past Year One or More Times for Diagnosis or Treatment of Illness or Injury by Ethnicity

Medical Care Facility *	Ethnicity									
	Chamorro		Filipino		Caucasian		Other Islanders		Asian	
	f	Rank	f	Rank	f	Rank	f	Rank	f	Rank
Dr. Acosta	5		163		-		-		-	
Carlos Heights Clinic	562		331		1		1		-	
Dr. Cruz	4		2		-		-		-	
Dededo Medical Center	1		1		-		31		-	
FHP	961		134		63		1		21	
Dr. Garrett's Office	2		-		-		-		1	
Good Samaritan Clinic	167		3		-		23		-	
Dr. Sirilan	-		-		-		1		-	
Guam Memorial Hospital	294		76		-		1		-	
Guam Poly Clinic	8		76		1		-		21	
ITC Clinic #1	246		212		-		-		-	
Dr. K.Chen	4		-		-		-		-	
Family Clinic	118		-		1		1		-	
Dr. Guzman	3		85		-		-		-	
DPHSS	109		5		1		-		1	
Dr. Sablan's Clinic	2		1		1		-		-	
Drs. Sagisi and Batoyan	1		2		-		-		-	
St. Anthony's Clinic	4		5		1		-		-	
SDA Clinic	443		1		101		31		1	
Dr. Tolentino's Office	8		-		-		-		-	
China Acupuncture	-		3		-		1		-	
Dr. Maskell-Chiropractor	1		-		-		-		-	
Guam Chiropractor	1		-		-		-		-	
NMRC	265		-		82		1		1	
Andersen Clinic	-		4		2		-		1	
Naval Station Dispensary	-		1		1		-		-	
East West Oriental Clinic	1		-		-		-		-	
Psychological Services	1		-		-		-		-	
Dr. Chang	3		1		-		-		-	
TOTAL	361		134		33		15		9	
Insufficient Data	23		13		-		1		-	

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

Caucasians. Eleven out of 33 (33.0%) used the NRMCC, Andersen AFB Clinic or the Naval Station Dispensary as their source of medical care. The military clinics ranked fifth for Chamorros. ITC Clinic #1 ranked second for Filipinos, sixth for Chamorros and not at all for the other ethnic groupings. In addition, it may be of interest to note that the SDA Clinic ranked first, second or third for five of the six ethnic groups, Filipinos being the exception. Filipinos in this study virtually did not go to the SDA Clinic. As may be observed, only one of the total of 134 Filipinos noted in the table was reported to have gone there. Filipinos, on the other hand, were far more likely to have visited Dr. Acosta than were Chamorros or members of other ethnic categories. The FHP Clinic was ranked from first to fourth by all six ethnic groups.

The various medical care facilities tended to be age specific with regard to their clients included in this study. Generally, for individuals up to and including age 15, the rank order of medical clinics used was: Carlos Heights Clinic, FHP Clinic and SDA Clinic, respectively. The FHP Clinic, however, ranked first among the four age groupings of those ages 16 or older, while the ITC Clinic #1 ranked second, except for the age 65 and older group. The SDA Clinic ranked second or third for all age categories (Table 70).

Nearly two-thirds of all infants and children under age 5 were taken to the Carlos Heights and FHP Clinics. The proportion visiting these two clinics dropped to about 50.0% for the 5 to 15 age group and to 22.2% for those age 16 to 39.

TABLE 70. Doctors' Offices or Medical Facilities Visited During Past Year One or More Times for Diagnosis or Treatment of Illness or Injury by Age

Medical Care Facility*	Less than 1 Year		1-4 Years		5-15 Years		Age 16-39 Years		40-54 Years		55-64 Years		65+ Years		Total	
	f	Rank	f	Rank	f	Rank	f	Rank	f	Rank	f	Rank	f	Rank	f	Rank
Dr. Acosta	1		-		3		4		4		5		4		21....8	
Carlos Heights Clinic	3....1		25....1		41....1		8		9		4		6....2		96....2	
Dr. Cruz	-		-		-		1		1		-		4		6	
Dededo Medical Center	-		2		1		2		1		-		-		6	
FHP	3....1		15....2		31....2		26....1		22....1		15....1		9....1		121....1	
Dr. Garrett's Office	-		1		2		-		-		-		-		3	
Good Samaritan Clinic	-		-		6		7		3		4		2		22....7	
Dr. Sirilan	-		-		-		1		-		-		-		1	
Guam Memorial Hospital	-		2		9		15		5		4		3		38....6	
Guam Poly Clinic	1		-		5		6		5		1		1		19	
ITC Clinic	-		1		2		20....2		8		10		4		45....4	
Dr. K. Chen	-		-		1		1		1		-		1		4	
Family Clinic	-		1		2		2		2		2		4		13	
Dr. Guzman	-		-		2		2		4		1		2		11	
DPHSS	1		4		2		2		3		3		5		20....9	
Dr. Sablan's Clinic	-		-		2		1		1		-		1		5	
Drs. Sagisi and Batoyan	-		-		-		3		-		-		-		3	
St. Anthony's Clinic	-		3		3		1		1		-		2		10	
SDA Clinic	1		6		15		20....2		12....3		6		6....2		66....3	
Dr. Chang	-		-		1		2		1		-		-		4	
Dr. Tolentino's Office	-		-		2		4		1		-		1		8	
China Acupuncture	-		-		1		1		2		-		-		4	
Dr. Maskell-Chiropractor	-		-		-		-		-		1		-		1	
Guam Chiropractor	-		-		-		1		-		-		-		1	
NRMC	1		2		8		11		11 }		7		3		43....5	
Andersen Clinic	-		1		3		2		1 }..2		1		-		8	
Naval Station Dispensary	-		-		-		1		1 }		-		-		2	
East West Oriental Clinic	-		-		-		-		1		-		-		1	
Psychological Services	-		-		-		-		-		-		1		1	
TOTAL	11		63		142		144		100		64		59		583	
Insufficient Data	-		4		17		9		5		2		2			

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

7.4 Doctor Visits

7.4.1 Number

A total of 2,405 doctor calls were made by 539 individuals during the year for diagnostic services or treatment of illness or injury. The median number of visits was calculated as 8.0 and the arithmetic mean as 4.5. The number of office visits per person ranged from 1 to as many as 98 (Table 71).

Slightly less than one-third (31.0%) of the 539 individuals reported having made only one visit to the doctor for this type of medical care. This figure was similar to, though slightly less than, the 36.3% found in the Health Needs Assessment of Northern Guam Study (1) conducted five years ago. In that earlier study an additional 20.5% made two doctor visits; in the present study 22.6% had done so. Therefore, the two studies produced similar findings. Upon combining the percentages of individuals who made one doctor visit and those who made two, results for the Northern Area study totaled 56.8 and for the current all-island survey 53.6. These findings would tend to further support the reliability of the data.

7.4.2 Personal-Social Characteristics of Gender, Ethnicity and Age

The gender of a person seemed not to be related to the number of visits made to a doctor for diagnosis or treatment of illness or injury. Only a very slight trend was found. The female subjects' number of doctor visits was 8.7 for the year as compared to 7.5 for males. The arithmetic means differed by only 0.1 and were calculated to be 4.5 and 4.4, respectively, for females and males (Table 72).

TABLE 71. Number of Times Doctors Were Visited During Past Year for Diagnosis or Treatment of Illness or Injury

Number of Visits	Individuals		Total Visits
	f	%	
1	167	31.0	167
2	122	22.6	244
3	63	11.7	189
4	51	9.4	204
5	24	4.4	120
6	34	6.3	204
7	4	0.7	28
8	11	2.0	88
9	6	1.1	54
10	8	1.5	80
11	-	-	-
12	27	5.0	324
13	4	0.7	52
14	2	0.4	28
15	2	0.4	30
16	1	0.2	16
17	1	0.2	17
18	3	0.6	54
20	1	0.2	20
24	1	0.2	24
26	2	0.4	52
32	1	0.2	32
91	2	0.4	182
98	2	0.4	196
TOTAL	539	100.0	2,405

Median			8.0
Mean			4.5
Range			1-98
Insufficient Data			3

TABLE 72. Number of Times Doctors Were Visited During Past Year for Diagnosis or Treatment of Illness or Injury by Gender

Number of Visits	Gender				Total	
	Male		Female			
	f	Visits	f	Visits	f	Visits
1	85	85	82	82	167	167
2	62	124	60	120	122	244
3	29	87	34	102	63	189
4	30	120	21	84	51	204
5	12	60	12	60	24	120
6	17	102	17	102	34	204
7	3	21	1	7	4	28
8	6	48	5	40	11	88
9	2	18	4	36	6	54
10	4	40	4	40	8	80
11	-	-	-	-	-	-
12	12	144	15	180	27	324
13	2	26	2	26	4	52
14	1	14	1	14	2	28
15	-	-	2	30	2	30
16	1	16	-	-	1	16
17	1	17	-	-	1	17
18	1	18	2	36	3	54
20	-	-	1	20	1	20
24	1	24	-	-	1	24
26	2	52	-	-	2	52
32	-	-	1	32	1	32
91	2	182	-	-	2	182
98	-	-	2	196	2	196
TOTAL	273	1,198	266	1,207	539	2,405
Median		7.5		8.7		8.0
Mean		4.4		4.5		4.5
Range		1-91		1-98		1-98
Insufficient Data		1		2		3

With regard to ethnicity the medical services use profile continued to prevail. Generally, those who identified themselves as being of Chamorro ancestry visited a doctor during the year a number of times about equal to the overall study group. Their median number of visits was 6.7 and the mean 4.4. The Filipino group made fewer doctor visits. Their median figure was 5.9 and the mean was 3.6. Caucasians, in contrast, reported their median number of doctor visits to be 17.7; the mean figure was calculated to be 7.8. This was the largest mean figure for any of the six ethnic categories. Asians, as shown in Table 73 made the fewest doctor visits.

There was a direct positive relationship between age and the number of doctor visits. As noted in Table 74, the number of visits were fewest for infants less than one year old and increased progressively up to the 65 and older category. The median and mean number of doctor visits for infants were 3.5 and 2.3 and for those ages 55 to 64 were 12.0 and 6.3, respectively. Both median and mean figures increased in a consistent fashion across age groups from youngest to senior-aged individuals. The eldest age group of 65 or older reported slightly fewer visits than those in the 55 to 64 age bracket.

7.5 Time Since Last Nondiagnostic and Treatment Doctor Visit

The interviewees were asked when members of their households who had not visited a doctor during the prior year for the diagnosis and treatment of an illness or injury had last consulted a doctor for any reason whatsoever. The information obtained is presented in Table 75.

TABLE 73. Number of Times Doctors Were Visited During Past Year for Diagnosis or Treatment of Illness or Injury by Ethnicity

Number of Visits	Ethnicity												Total	
	Chamorro		Filipino		Caucasian		Other Islanders		Asian		All Others			
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits		
1	99	99	41	41	10	10	4	4	3	3	10	10	167	167
2	72	144	29	58	5	10	3	6	3	6	10	20	122	244
3	36	108	23	69	1	3	2	6	-	-	1	3	63	189
4	35	140	8	32	2	8	-	-	-	-	6	24	51	204
5	17	85	2	10	3	15	1	5	-	-	1	5	24	120
6	22	132	11	66	-	-	-	-	-	-	1	6	34	204
7	1	7	2	14	1	7	-	-	-	-	-	-	4	28
8	6	48	2	16	1	8	1	8	1	8	-	-	11	88
9	3	27	2	18	1	9	-	-	-	-	-	-	6	54
10	4	40	2	20	1	10	1	10	-	-	-	-	8	80
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	18	216	7	84	1	12	1	12	-	-	-	-	27	324
13	3	39	-	-	-	-	-	-	-	-	1	13	4	52
14	1	14	-	-	1	14	-	-	-	-	-	-	2	28
15	1	15	-	-	1	15	-	-	-	-	-	-	2	30
16	-	-	1	16	-	-	-	-	-	-	-	-	1	16
17	1	17	-	-	-	-	-	-	-	-	-	-	1	17
18	2	36	-	-	1	18	-	-	-	-	-	-	3	54
20	-	-	-	-	1	20	-	-	-	-	-	-	1	20
24	1	24	-	-	-	-	-	-	-	-	-	-	1	24
26	-	-	1	26	-	-	1	26	-	-	-	-	2	52
32	1	32	-	-	-	-	-	-	-	-	-	-	1	32
91	-	-	-	-	1	91	-	-	-	-	1	91	2	182
98	2	196	-	-	-	-	-	-	-	-	-	-	2	196
TOTAL	325	1,419	131	470	31	250	14	77	7	17	31	172	539	2,405
Median	6.7		5.9		17.7		10.5		2.4		90.6		8.0	
Mean	4.4		3.6		7.8		5.5		2.4		5.5		4.5	
Range	1-98		1-26		1-91		1-26		1-8		1-91		1-98	
Insufficient Data														3

TABLE 74. Number of Times Doctors Were Visited During Past Year for Diagnosis or Treatment of Illness or Injury by Age

Visits	Age																Total	
	Less than 1 Year		1-4 Years		5-15 Years		16-39 Years		40-54 Years		55-64 Years		65 + Years					
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits		
1	4	4	23	23	48	48	52	52	21	21	11	11	8	8	167	167		
2	2	4	16	32	46	92	22	44	14	28	13	26	9	18	122	244		
3	1	3	11	33	12	36	18	54	13	39	5	15	3	9	63	189		
4	3	12	4	16	9	36	11	44	8	32	10	40	6	24	51	204		
5	-	-	3	15	7	35	7	35	2	10	2	10	3	15	24	120		
6	-	-	-	-	4	24	6	36	5	30	10	60	9	54	34	204		
7	-	-	-	-	-	-	3	21	1	7	-	-	-	-	4	28		
8	-	-	-	-	1	8	2	16	4	32	2	16	2	16	11	88		
9	-	-	-	-	-	-	4	36	1	9	-	-	1	9	6	54		
10	-	-	1	10	3	30	1	10	2	20	-	-	1	10	8	80		
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12	-	-	1	12	-	-	7	84	9	108	3	36	7	84	27	324		
13	-	-	-	-	-	-	-	-	3	39	1	13	-	-	4	52		
14	-	-	-	-	-	-	-	-	1	14	-	-	1	14	2	28		
15	-	-	-	-	-	-	1	15	-	-	1	15	-	-	2	30		
16	-	-	-	-	-	-	-	-	-	-	1	16	-	-	1	16		
17	-	-	1	17	-	-	-	-	-	-	-	-	-	-	1	17		
18	-	-	-	-	-	-	-	-	-	-	1	18	2	36	3	54		
20	-	-	-	-	1	20	-	-	-	-	-	-	-	-	1	20		
24	-	-	-	-	-	-	-	-	1	24	-	-	-	-	1	24		
26	-	-	1	26	-	-	-	-	-	-	1	26	-	-	2	52		
32	-	-	-	-	-	-	-	-	1	32	-	-	-	-	1	32		
91	-	-	-	-	1	91	-	-	-	-	1	91	-	-	2	182		
98	-	-	-	-	1	98	1	98	-	-	-	-	-	-	2	196		
TOTAL	10	23	61	184	133	518	135	545	86	445	62	393	52	297	539	2,405		
Median	3.5		3.8		6.0		6.9		10.2		12.0		9.0		8.0			
Mean	2.3		3.0		3.9		4.2		5.2		6.3		5.7		4.5			
Range	1-4		1-26		1-98		1-98		1-32		1-91		1-18		1-98			
Insufficient Data																	3	

TABLE 75. Length of Time Since a Doctor Last Consulted for any Reason if No Doctor Visited During the Past Year for Diagnostic Services or Treatment of Illness or Injury

Length of Time (Months)		Individuals	
		f	%
Less than	1	73	5.3
	1	18	1.3
	2	14	1.0
	3	9	0.7
	4	7	0.5
	5	8	0.6
	6	9	0.7
	7	4	0.3
	8	9	0.7
	9	3	0.2
	10	4	0.3
	11	-	-
	12	6	0.4
More than	12	1,134	81.8
Don't know/does not apply		86	6.2
TOTAL		1,384	100.0
Insufficient Data		2	

Of the 1,384 individuals concerned, 73 (5.3%) had consulted a doctor during the month preceding the study. The time period since the last doctor visit for 6.7% of this group ranged from 1 to 12 months. For 81.8% the time period was over one year. An additional 6.2% either did not know how long it had been since the last doctor visit or had not consulted a doctor at all.

Those who had consulted a doctor during the year were compared with those who had not done so for more than a year prior to the study with regard to their personal-social characteristics of gender, ethnicity, and age (Tables 76-78). Gender and age were found to be statistically significant at the .005 and .001 level of probability, respectively; ethnicity was not. More females than expected had consulted a doctor during the year and more males had done so over a year earlier (Table 76). While the age variable was statistically very significant, the relationship was not linear, as might be expected. More young children under age 5 had been seen by a doctor during the year than would be expected, if age was not a factor associated with doctor visits. Fewer individuals age 5 to 15 and 40 to 54 had been to a doctor during the same 12-month period. When comparing the various age categories of those who had consulted a doctor over a year before the study, those under age 5 and those 55 years or older were underrepresented; the 16 to 39 years old individuals were considerably overrepresented. Those ages 5 to 15 and 40 to 54 were found in approximate proportion to what would be expected if one's age was not related in any manner to whether or not he consulted a doctor (Table 78).

TABLE 76. Length of Time Since a Doctor Last Consulted for Any Reason, if No Doctor Visited During Past Year for Diagnostic Services or Treatment of Illness or Injury by Gender

Length of Time (Months)	Gender				Total			
	Male		Female					
	A*	E*	A	E				
Less than 1		30	37		43	36		73
1 - 3	12)			29)			41)	
	)			)			)	
4 - 6	13)			11)			24)	
	)	34	47	)	57	44	)	91
7 - 9	5)			11)			16)	
	)			)			)	
10 - 12	4)			6)			10)	
More than 12		601	580		533	554		1,134
Don't know/does not apply		<u>46</u>			<u>40</u>			<u>86</u>
TOTAL		711			673			1,384

*A and E denote the actual and expected frequencies.

NOTE: The chi-square value with 2 degrees of freedom is statistically significant at the .005 level of probability.

TABLE 77. Length of Time Since a Doctor Last Consulted for Any Reason if No Doctor Visited During Past Year for Diagnostic Services or Treatment of Illness or Injury by Ethnicity

Length of Time (Months)	Ethnicity												Total A
	Chamorro		Filipino		Caucasian		Other Islanders		Asian		All Others		
	A*	E*	A	E	A	E	A	E	A	E	A	E	
Less than 12	91	95	49	46	7	6	6	5	3	3	8	9	164
More than 12	654	657	336	319	28	40	36	34	25	20	55	64	1,134
Don't know/ does not apply	<u>42</u>		<u>25</u>		<u>3</u>		<u>2</u>		<u>-</u>		<u>14</u>		<u>86</u>
TOTAL	787		410		38		44		28		77		1,384

*A and E denote the actual and expected frequencies.

NOTE: The chi-square value with 5 degrees of freedom was not statistically significant.

TABLE 78. Length of Time Since a Doctor Last Consulted for Any Reason if No Doctor Visited During Past Year for Diagnostic Services or Treatment of Illness or Injury

Length of Time (Months)	Age														Total A
	Under 1 Year		1-4		5-15		16-39		40-54		55-64		65 and Older		
	A*	E*	A	E	A	E	A	E	A	E	A	E	A	E	
Less than 12	23	4	25	14	24	40	60	60	12	23	14	13	6	10	164
More than 12	5	23	68	96	291	278	482	417	159	160	75	93	54	67	1,134
Don't know/ does not apply	<u>1</u>		<u>10</u>		<u>21</u>		<u>32</u>		<u>14</u>		<u>7</u>		<u>1</u>		<u>86</u>
TOTAL	29		103		336		574		185		96		61		1,384

*A and E denote the actual and expected frequencies.

NOTE: The chi-square value was statistically significant at the .001 level of probability.

SECTION EIGHT
PREVENTIVE MEDICAL CARE

8.1 Introduction and Personal-Social Characteristics

An attempt was made in this study to determine the degree to which preventive medical care was received by the people of Guam. Preventive care included those visits to a doctor by a person in good health and without injury for immunization, an x-ray or medical advice during the 12 months immediately prior to the survey.

Four kinds of information were obtained.* It included the number of persons out of the total of 1,928 in the study who had availed themselves of preventive medical care, the reason for the type of care received, the specific medical clinics or doctors' offices they had visited and the number of visits made. These data are presented in Tables 79-92.

Two hundred seventy persons (14.0%) were reported to have made 676 office calls for preventive medical care for the specified 12-month period (Table 79). Of the 270 individuals involved, 9 had also gone to a second doctor. None found it necessary to receive preventive medical care at a third medical location.

The personal-social characteristic of gender was found statistically to be very highly significant. More females than expected had sought preventive medical care (Table 80).

*See Survey Instrument, Appendix C (Questions 12 and 12a-g)

TABLE 79. Individuals Who Visited a Doctor During Past Year for Preventive Medical Care: Immunization, X-rays or Advice

Response	Individuals	
	f	%
Yes	270	14.0
No	<u>1,658</u>	<u>86.0</u>
TOTAL	1,928	100.0

Approximately 58.0% of the 270 individuals were females, while in the total sample they constituted 48.9%. Preventive medical care, as noted above, included immunization, x-ray, and medical advice. Although these data do not differentiate, it is quite probable that there was little difference, if any, between males and females and their rate of immunization or having been x-rayed during the year. Therefore, the difference noted was likely a result of females having received medical advice to a greater extent than did the males.

Statistically significant differences were also found for the ethnicity variable. There were fewer Filipinos and considerably more Caucasians and Other Islanders than expected when making a comparison of ethnicity distribution within the total group of 1,928. Chamorros, Asians and "All Others" appeared in numbers similar to expected frequencies. The number of Caucasians was nearly twice as large as would be expected, while only 80.0% of the expected number of Filipinos had received preventive health care. Findings are reported in Table 80.

TABLE 80. Actual and Expected Frequencies and Percentages of
Individuals Who Had Received Over the Year
Preventive Medical Care by Gender, Ethnicity and Age

Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
<u>Gender*</u>				
Male	114	42.2	138	51.1
Female	<u>156</u>	<u>57.8</u>	<u>132</u>	<u>48.9</u>
TOTAL	270	100.0	270	100.0

<u>Ethnicity*</u>				
Chamorro	152	56.3	156	57.9
Filipino	61	22.6	76	28.1
Caucasian	19	7.0	10	3.5
Other Islanders	15	5.6	8	3.0
Asian	4	1.5	5	1.8
All Others	<u>19</u>	<u>7.0</u>	<u>15</u>	<u>5.7</u>
TOTAL	270	100.0	270	100.0

<u>Age**</u>				
Less than 1	23	8.5	6	2.0
1 - 4	42	15.6	23	8.5
5 - 15	51	18.9	66	24.5
16 - 39	99	36.7	99	36.8
40 - 54	27	10.0	38	14.1
55 - 64	19	7.0	22	8.2
65 +	<u>9</u>	<u>3.3</u>	<u>16</u>	<u>5.9</u>
TOTAL	270	100.0	270	100.0

*These figures are statistically significant at the .005 level of probability.

**These figures are statistically significant at the .001 level of probability

The variable of age was also analyzed. Statistically, its degree of association was highly significant beyond the .001 level of probability (Table 80). This was primarily a function of the larger number of infants and other children under five years of age who had received preventive health care than would be expected if age were not a causative factor. Their numbers were more than twice as large as would be expected. The age categories that were underrepresented were the "5-15 years," "40-54 years" and the "65 and older." The underrepresentation of the most senior age group was worthy of note.

8.2 Nature of Preventive Medical Care

8.2.1 Reasons for Visits

Shown in Table 81 are the various reasons for which preventive medical care doctor's visits were made. One-third of

TABLE 81. Nature of Preventive Medical Care Doctor Visits During Past Year

Nature of Preventive Care	Visits	
	f	%
Prescription/Refill	7	2.4
Annual Health Exam	50	17.0
Employment/School Physical	29	9.9
Immunization Update	102	34.7
General Check-up	55	18.7
Eye Exam	5	1.7
Prenatal/Postpartum Check-up	<u>46</u>	<u>15.6</u>
TOTAL	294	100.0

the doctor or clinic visits were for updating immunizations. It should be noted that during the final third of the survey data collection period a measles epidemic was observed on the island. As a result, health agencies and schools cooperated in assisting a major effort to get all immunizations up-to-date. Physical examinations and general check-ups accounted for an additional 35.7% of such preventive medical care doctor visits.

8.2.2 Personal-Social Characteristics of Gender, Ethnicity and Age

Upon analyzing the gender variable (Table 82) it was found that 41.5% of the preventive health visits made by males were for immunizations. Annual health examinations (18.7%) and general health check-ups (17.9%) ranked second and third. The inclusion of males in the prenatal or postpartum check-ups

TABLE 82. Nature of Preventive Medical Care Doctor Visits During Past Year by Gender

Nature of Preventive Care	Gender			
	Male		Female	
	f	%	f	%
Prescription/Refill	2	1.6	5	2.9
Annual Health Exam	23	18.7	27	15.8
Employment/School Physical	13	10.6	16	9.4
Immunization Update	51	41.5	51	29.8
General Check-up	22	17.9	33	19.3
Eye Exam	1	0.8	4	2.3
Prenatal/Postpartum Check-up	<u>11</u>	<u>8.9</u>	<u>35</u>	<u>20.5</u>
TOTAL	123	100.0	171	100.0

category was a result of babies being reported as having their check-ups. This finding is verified in Table 82.

Although 29.8% of the preventive medical care visits made by the female subjects were for immunizations, the next largest percentage (20.5) was for prenatal and postpartum check-ups. General check-ups and annual health exams ranked third and fourth, respectively.

With regard to ethnicity (Table 83), the types of preventive medical care received by Chamorros and Filipinos was quite similar. Immunizations, however, made up a slightly larger proportion of the visits made by Chamorros. Prenatal and postpartum check-ups accounted for 18.6% of the medical care visits made by Filipinos as compared to 15.8% for Chamorros. Over 83.0% of the visits made by Caucasians were for immunizations, annual health exams and general check-ups.

As expected, immunizations accounted for a majority of the preventive health visits of the infants and young children (Table 84). Age also tended to be related to whether or not eye examinations were received. Thirty percent of the preventive health care visits made by those 65 years old or older were for eye exams. It may be noted that 11 (42.3%) of the medical visits made by the infants under one year of age were in the prenatal/postpartum check-up category. The inclusion of babies in this category provides the needed explanation for the number of males reported in Table 82.

TABLE 83. Nature of Preventive Medical Care Doctor Visits During Past Year by Ethnicity

Nature of Preventive Care	Ethnicity											
	Chamorro		Filipino		Caucasian		Other Islanders		Asians		All Others	
	f	%	f	%	f	%	f	%	f	%	f	%
Prescription/Refill	4	2.4	2	2.9	1	5.6	-	-	-	-	-	-
Annual Health Exam	29	17.6	13	18.6	6	33.3	1	6.7	1	25.0	-	-
Employment/School Physical	17	10.3	8	11.4	-	-	1	6.7	-	-	3	13.6
Immunization Update	55	33.3	19	27.1	6	33.3	10	66.6	1	25.0	11	50.0
General Check-up	30	18.2	14	20.0	3	16.7	2	13.3	1	25.0	5	22.8
Eye Exam	4	2.4	1	1.4	-	-	-	-	-	-	-	-
Prenatal/Postpartum Check-up	<u>26</u>	<u>15.8</u>	<u>13</u>	<u>18.6</u>	<u>2</u>	<u>11.1</u>	<u>1</u>	<u>6.7</u>	<u>1</u>	<u>25.0</u>	<u>3</u>	<u>13.6</u>
TOTAL	165	100.0	70	100.0	18	100.0	15	100.0	4	100.0	22	100.0

TABLE 84. Nature of Preventive Medical Care Doctor Visits During Past Year by Age

Nature of Preventive Care	Under 1 Year		1-4 Years		5-15 Years		Age 16-39 Years		40-54 Years		55-64 Years		65+ Years	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Prescription/Refill	-	-	-	-	1	1.7	3	2.9	3	11.1	-	-	-	-
Annual Health Exam	-	-	2	4.3	3	5.0	23	22.1	13	48.1	7	33.3	2	20.0
Employment/School Physical	-	-	2	4.3	8	13.3	10	9.6	5	18.5	4	19.0	-	-
Immunization Update	13	50.0	31	67.4	41	68.3	17	16.3	-	-	-	-	-	-
General Check-up	2	7.7	11	24.0	5	8.3	18	17.3	5	18.5	9	42.9	5	50.0
Eye Exam	-	-	-	-	-	-	2	1.9	-	-	-	-	3	30.0
Prenatal/Postpartum Check-up	<u>11</u>	<u>42.3</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>3.3</u>	<u>31</u>	<u>29.8</u>	<u>1</u>	<u>3.7</u>	<u>1</u>	<u>4.8</u>	<u>-</u>	<u>-</u>
TOTAL	26	100.0	46	100.0	60	99.9	104	99.9	27	99.9	21	100.0	10	100.0

8.3 Doctor Offices and Clinics

8.3.1 Frequency of Use

Inspection of Table 85 reveals 21 different clinics/medical centers were utilized. The FHP Guam Medical Center was most frequently utilized, while the DPHSS, SDA clinic, NRMC, and Carlos Heights Clinic ranked second, third, fourth and fifth, respectively. Two-thirds of the 271 doctor visits were made to these specific medical facilities for preventive health care. Four of the 9 persons who went to two different medical clinics for preventive care had gone to the Family Clinic.

8.3.2 Personal-Social Characteristics of Gender, Ethnicity and Age

Table 86 includes the frequency distribution of medical care facilities by gender. Also reported in the table is the rank/order listing of the medical clinics/offices. While overall the FHP clinic was mentioned as being used by the most individuals, it ranked second for the males but first for the females. The next most frequently mentioned medical facility was the Department of Public Health and Social Services. It, however, was ranked first by the males and third by the females. The SDA Clinic ranked third overall and for the males, while for the females it ranked second.

Similarity in the ranking of medical clinics between the males and females also existed for fourth and fifth place. The Carlos Heights Clinic and NRMC were fourth and fifth for the males but in the reverse order for the females.

Females, more so than males, mentioned that they had received care from specific medical clinics, while males listed

TABLE 85. Preventive Health Care Facilities Visited One or More Times

Medical Care Facility*	First Location		Second Location		Third Location	
	f	%	f	%	f	%
Carlos Heights Clinic	24	9.1	-	-		
Dr. Cruz	2	0.8	-	-		
Dededo Medical Center	3	1.1	-	-		
FHP	49	18.6	-	-		
Good Samaritan Clinic	13	4.9	-	-		
Dr. Sirilan	9	3.4	-	-		
Guam Memorial Hospital	4	1.5	1	14.3		
Guam Poly Clinic	8	3.0	-	-		
ITC Clinic #1	13	4.9	-	-		
Family Clinic	6	2.3	4	57.1	-NONE-	
DPHSS	41	15.5	1	14.3		
Drs. Sagisi and Batoyan	6	2.3	-	-		
St. Anthony's Clinic	7	2.7	-	-		
SDA	37	14.0	-	-		
Dr. Chang	4	1.5	-	-		
China Acupuncture	1	0.4	-	-		
NRMC	28	10.6	-	-		
Andersen Clinic	5	1.9	-	-		
Naval Station Dispensary	3	1.1	-	-		
UOG Clinic	1	0.4	-	-		
Dr. Tolentino's Office	-	-	1	14.3		
TOTAL	264	100.0	7	100.0		
Insufficient Data	6		2			

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

TABLE 86. Preventive Health Care Facilities Visited During the Year One or More Times by Gender

Medical Care Facility *	Gender				Total	
	Male		Female			
	f	Rank	f	Rank	f	Rank
Carlos Heights Clinic	7.....	5	17.....	4	24.....	5
Dr. Cruz	1		1		2	
Dededo Medical Center	1		2		3	
FHP	20	2	29.....	1	49.....	1
Good Samaritan Clinic	7.....	5	6		13	
Dr. Sirilan	3		6		9	
Guam Memorial Hospital	3		2		5	
Guam Poly Clinic	2		6		8	
ITC Clinic #1	5		8		13	
Family Clinic	3		7		10	
DPHSS	23.....	1	19.....	3	42.....	2
Drs. Sagisi and Batoyan	1		5		6	
St. Anthony's Clinic	1		6		7	
SDA	17.....	3	20.....	2	37.....	3
Dr. Chang	2		2		4	
China Acupuncture	1				1	
NRMC	13.....	4	15.....	5	28.....	4
Andersen Clinic	2		3		5	
Naval Station Dispensary	2		1		3	
UOG Clinic	1		-		1	
Dr. Tolentino's Office	-		1		1	
TOTAL	115		156		271	
Insufficient Data					8	

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

others. In particular, females interviewed mentioned more frequently Dr. Sirilan's Office, the Guam Poly Clinic, the Family Clinic, Drs. Sagisi-Batoyan Clinic and St. Anthony's Clinic. Male subjects were more apt to go to the Guam Memorial Hospital and the DPHSS than females for preventive health care services (Table 86). The differences, however, were only slight and in most cases could be chance occurrence due to small numbers.

Ethnicity was also analyzed to determine if individuals of specific ethnic origins were more likely to receive preventive medical care from given medical clinics. As Table 87 indicates, differences were found in this study. The FHP Medical Center ranked first in use by Chamorros. For Filipinos the DPHSS ranked first, while the SDA Clinic was first for Caucasians.

Generally, the data revealed that ethnicity "correlated" with choice of medical clinics for preventive care services. Chamorros were more likely to receive services from the FHP Clinic, NRMC, DPHSS, SDA and the Good Samaritan Clinic. In contrast to this, the Filipinos were more likely to go to DPHSS, Carlos Heights Clinic, ITC Clinic, FHP Clinic and the Drs. Sagisi-Batoyan Clinic.

One's age also tended to be "correlated" with the medical clinics they selected for preventive medical services. DPHSS ranked first or second for children up to age 15. In addition, its second place ranking for the age 16-39 category may have been heavily influenced by the 16-year-old youths who by law

TABLE 87. Preventive Health Care Facilities Visited During the Year One or More Times by Ethnicity

Medical Care Facility*	Ethnicity						Total
	Chamorro	Filipino	Caucasian	Other Islanders	Asians	All Others	
	f Rank	f Rank	f Rank	f Rank	f Rank	f Rank	
Carlos Heights Clinic	11	10.....2	1	-	-	2	24.....5
Dr. Cruz	-	-	-	-	1	1.....5	2
Dededo Medical Center	1	2	-	-	-	-	3
FHP	38.....1	6.....4	4.....2	1	-	-	49.....1
Good Samaritan Clinic	12.....5	1	-	-	-	-	13.....6
Dr. Sirilan	2	2	-	5.....1	-	-	9
Guam Memorial Hospital	2	-	1	1	1	-	5
Guam Poly Clinic	5	1	-	-	1	1	8
ITC Clinic #1	6	7.....3	-	-	-	-	13.....6
Family Clinic	5	1	1	1	1	1.....5	10.....7
DPHSS	20.....3	14.....1	1	3.....2	-	4.....2	42.....2
Drs. Sagisi and Batoyan	-	5.....5	-	-	-	1	6
St. Anthony's Clinic	2	3	-	1	-	1	7
SDA Clinic	20.....3	4	7.....1	1	-	5.....1	37.....3
Dr. Chang	2	-	-	2.....3	-	-	4
China Acupuncture	-	1	-	-	-	-	1
NRMC	21)	1)	1)	1)	-)	4)	28)
Andersen Clinic	1).....2	2)	2).....2	-)	-)	-).....2	5).....4
Naval Station Dispensary	1)	-)	1)	-)	1)	-)	3)
UOG Clinic	1	-	-	-	-	-	1
Dr. Tolentino's Office	-	1	-	-	-	-	1
TOTAL	150	61	19	16	5	20	271
Insufficient Data							8

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

were allowed to receive immunizations and dental care from the public health center (Table 88). Ranked first for the 16- to 39 year-old subjects was the SDA Clinic, while FHP was in first place for the 40-54 and 55-64 age groups surveyed. Of particular interest were the first and second place rankings of the NRMC for the two senior citizen age categories.

8.4 Doctor Visits

8.4.1 Number

The number of visits made by each person to each of the medical clinics was also determined. These data are reported in Table 89. The number of visits a given person had made to a medical clinic ranged from 1 to 13. The median number of doctor/clinic visits was 4.1 while the mean number was found to be 2.5. The number of visits per individual ranged from 1 to 13. In total, 676 preventive health care visits were reported.

8.4.2 Personal-Social Characteristics of Gender, Ethnicity, and Age

With regard to the number of times preventive health care was received during the study year, the subjects' gender seemed to be a determining factor. Not only did more females (162) than males (117) receive such health care services (Table 90) but the total number of visits differed considerably. For the males, 220 total preventive care visits were made while for the females the figure was 456. These figures represent a one-third to two-thirds ratio. Therefore, on the basis of these data, one would expect 67.0 percent of all preventive health care visits to be made by females.

TABLE 88. Preventive Health Care Facilities Visited During the Year One or More Times by Age

Medical Care Facility *	Age							Total Years
	Under 1 Year	1-4 Years	5-15 Years	16-39 Years	40-54 Years	55-64 Years	65+ Years	
	f Rank	f Rank	f Rank	f Rank	f Rank	f Rank	f Rank	
Carlos Heights Clinic	3....2	11....1	5	1	4....2	-	-	24....5
Dr. Cruz	-	-	-	1	-	1	-	2
Dededo Medical Center	-	-	-	1	-	2	-	3
FHP	6....1	9....2	8....2	13....3	8....1	5....1	-	49....1
Good Samaritan Clinic	1	-	1	6	4....2	1	-	13
Dr. Sirilan	-	1	4	4	-	-	-	9
Guam Memorial Hospital	-	-	-	3	1	1	-	5
Guam Poly Clinic	2	-	1	4	1	-	-	8
ITC Clinic	-	-	-	7	1	3....2	2....2	13
Family Clinic	2	3	-	2	2	1	-	10
DPHSS	3....2	9....2	14....1	16....2	-	-	-	42....2
Drs. Sagisi & Batoyan	1	-	-	5	-	-	-	6
St. Anthony's Clinic	-	3	3	1	-	-	-	7
SDA Clinic	3....2	5	7....3	17....1	2	2	1	37....3
Dr. K. Chen	2	-	-	-	1	1	-	4
China Acupuncture	-	-	-	-	-	1	-	1
NRMC	-	2	6	8	3	3	6	28....4
Andersen Clinic	-	-	-	5	-	-	-	5
Naval Station Dispensary	-	-	-	2	1	-	-	3
UOG Clinic	-	-	-	1	-	-	-	1
Dr. Tolentino's Office	-	-	-	-	1	-	-	1
TOTAL	23	43	49	97	29	21	9	271
Insufficient Data								8

*See Appendix D, Card F, for detailed listing of doctors and medical facilities.

TABLE 89. Number of Times and Locations Where Preventive Health Care Was Received

Number of Visits	First Location			Second Location		
	f	%	Total Visits	f	%	Total Visits
1	162	60.0	162	5	55.6	5
2	38	14.1	76	1	11.1	2
3	16	5.9	48	1	11.1	3
4	18	6.6	72	1	11.1	4
5	6	2.2	30	-	-	-
6	11	4.1	66	1	11.1	6
7	2	0.7	14	-	-	-
9	5	1.9	45	-	-	-
10	1	0.4	10	-	-	-
12	10	3.7	120	-	-	-
13	<u>1</u>	<u>0.4</u>	<u>13</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL	270	100.1	656	9	100.0	20

Median	4.1					
Mean	2.5					
Range	1-13					
Total Visits	676					

The median and mean number of visits were calculated, and as reported in Table 90, the arithmetic means were 1.9 for the males and 2.8 for the females. The difference between the figures was much greater due to larger number of female who had made seven or more doctor visits for preventive health services. The median for the males was 2.6 visits and 5.5 visits for the females.

TABLE 90. Number of Times Preventive Health Care Was Received During the Year by Gender

Visits	Gender				Total	
	Male		Female			
	f	Visits	f	Visits	f	Visits
1	81	81	86	86	167	167
2	14	28	25	50	39	78
3	6	18	11	33	17	51
4	8	32	11	44	19	76
5	3	15	3	15	6	30
6	2	12	10	60	12	72
7	-	-	2	14	2	14
9	-	-	5	45	5	45
10	1	10	-	-	1	10
12	2	24	8	96	10	120
13	<u>-</u>	<u>-</u>	<u>1</u>	<u>13</u>	<u>1</u>	<u>13</u>
TOTAL	117	220	162	456	279	676
Median		2.6		5.5		4.1
Mean		1.9		2.8		2.4
Range		1-12		1-13		1-13

These findings differ from those reported earlier for diagnostic or treatment care of illness or injury. As was reported, the number of doctor visits for such health care was approximately the same for males and females.

The ethnicity of the subjects was also studied to determine if it was a variable related to the number of preventive health care visits made in a year. The findings are presented in Table 91. As may be observed, there was little difference in the mean number of doctor visits when comparing Chamorros, Filipinos and Caucasians. The figures were 2.5, 2.4 and 2.3, respectively. The median number of visits also was found to be similar for Chamorros (4.7) and Caucasians (4.8). The median was slightly lower (4.0) for Filipinos. This resulted because of a smaller proportion of individuals in the ethnic category having reported the larger number of repeated doctor visits.

These findings were also in contrast to those reported earlier for diagnosis and treatment of illness or injury. Marked difference were noted. Caucasians had reported by far the largest average number of doctor visits for such medical services, while Filipinos reported the fewest doctor visits.

An analysis of the age variable produced interesting findings. As shown in Table 92 the very young, under 1 year of age, those in the child bearing age range of 16 to 39, and the very old, over 65, made the largest number of preventive care health visits. The mean number of doctor visits for these groups were relatively few. They were 3.1, 3.0 and 3.0 respectively for the three age categories.

TABLE 91. Number of Times Preventive Health Care Was Received During the Year by Ethnicity

Number of Visits	Ethnicity												Total f Visits	
	Chamorro		Filipino		Caucasian		Other Islanders		Asians		All Others			
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits		
1	94	94	38	38	12	12	11	11	2	2	10	10	167	167
2	22	44	5	10	4	8	3	6	-	-	5	10	39	78
3	7	21	5	15	-	-	1	3	1	3	3	9	17	51
4	9	36	7	28	-	-	1	4	1	4	1	4	19	76
5	3	15	2	10	1	5	-	-	-	-	-	-	6	30
6	8	48	2	12	1	6	-	-	-	-	1	6	12	72
7	1	7	1	7	-	-	-	-	-	-	-	-	2	14
9	4	36	1	9	-	-	-	-	-	-	-	-	5	45
10	1	10	-	-	-	-	-	-	-	-	-	-	1	10
12	7	84	1	12	1	12	-	-	1	12	-	-	10	120
13	-	-	1	13	-	-	-	-	-	-	-	-	1	13
TOTAL	156	395	63	154	19	43	16	24	5	21	20	39	279	676
Median	4.7		4.0		4.8		1.7		11.6		2.5		4.1	
Mean	2.5		2.4		2.3		1.5		4.2		2.0		2.4	
Range	1-12		1-13		1-12		1-4		1-12		1-6		1-13	

TABLE 92. Number of Times Preventive Health Care Was Received During the Year by Age

Number of Visits	Age														Total	
	Under 1 Year		1-4 Years		5-15 Years		16-39 Years		40-54 Years		55-64 Years		65+ Years			
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits
1	9	9	25	25	41	41	56	56	21	21	11	11	4	4	167	167
2	2	4	5	10	9	18	14	28	2	4	5	10	2	4	39	78
3	2	6	5	15	1	3	6	18	1	3	1	3	1	3	17	51
4	5	20	6	24	-	-	4	16	-	-	3	12	1	4	19	76
5	2	10	-	-	-	-	2	10	2	10	-	-	-	-	6	30
6	2	12	3	18	-	-	7	42	-	-	-	-	-	-	12	72
7	-	-	-	-	-	-	2	14	-	-	-	-	-	-	2	14
9	-	-	-	-	-	-	4	36	1	9	-	-	-	-	5	45
10	1	10	-	-	-	-	-	-	-	-	-	-	-	-	1	10
12	-	-	-	-	-	-	6	72	2	24	1	12	1	12	10	120
13	-	-	-	-	-	-	1	13	-	-	-	-	-	-	1	13
TOTAL	23	71	44	92	51	62	102	305	29	71	21	48	9	27	279	676
Median	4.3		3.2		1.2		6.1		5.3		3.5		4.1		4.1	
Mean	3.1		2.1		1.2		3.0		2.5		2.3		3.0		2.4	
Range	1-10		1-6		1-3		1-13		1-12		1-12		1-12		1-13	

The 5 to 15 age category had an average of about one preventive health care visit during the year. Had it not been for the measles epidemic during the study year, the average number of doctor visits for this particular age group would have been even smaller.

These findings for age and preventive health care visits also differed from those reported earlier for diagnostic and treatment visits. For such medical services, the number of visits during the year increased in a consistent manner from the youngest to the oldest subjects.

SECTION NINE

THERAPY, HABILITATION, AND REHABILITATION

9.1 Introduction and Personal-Social Characteristics

The 400 subjects also were asked a series of questions* to provide data on the extent to which a long-term impairment or disabling condition affecting members of their family had been cared for by means of visits to health facilities for therapy, habilitation or rehabilitation during the prior 12 months. Treatment in this case focused on hearing, speech and physical therapy and was in addition to medical care or treatment previously discussed under Diagnosis or Treatment and Preventive Health Care. These findings are presented in Tables 93-102.

A total of 14 (0.7%) of the 1,928 individuals in the study were reported to have received therapy or rehabilitation during the twelve-month period (Table 93). Of these 14, three (21.4%) were reported to have gone to a second medical care location. No one mentioned a third location.*

TABLE 93. Individuals Visiting a Health Facility During Past Year for Therapy, Habilitation, or Rehabilitation of Long-term Impairments or Disabilities

Response	Individuals	
	f	%
Yes	14	0.7
No	1,914	99.3
Total	1,928	100.0

*See Survey Instrument, Appendix C (Questions 13, 13a-d, 13e)

The actual and expected frequencies of individuals who had received therapy, habilitation or rehabilitation during the year are reported in Table 94 by gender, ethnicity, and age. Upon inspecting the findings presented in the table, it may be noted that the gender data was not statistically significant. However, a slight trend favoring females did exist.

The ethnicity of the 14 individuals involved in this analysis was not an influencing factor. Actual and expected frequencies were basically identical (Table 94).

The variable of age as defined in Table 94 resulted in frequencies that were too small for statistical testing. A trend, however, was observed. Fewer of the young and more of the older individuals than expected had received therapy or rehabilitation treatment. In view of the assumed trend, the data were regrouped. When those under age 40 were compared with those age 40 or older the chi-square statistical value was larger than that necessary to indicate significance at the .005 level of probability. This finding reaffirmed the trend noted above. Thus, those over age 40 were clearly more likely to have received such health care services than were the individuals age 39 or younger.

9.2 Doctors' Offices and Clinics

9.2.1 Frequency of Use

Four of the 14 persons reported here received treatment at Guam Memorial Hospital and a like number (4) had gone to the NRMHC. Other therapy or rehabilitation treatment facilities mentioned were Dr. Garrett's Office, St. Anthony's Clinic, and

TABLE 94. Actual and Expected Frequencies and Percentages of Individuals Who Had Received Over the Year Therapy, Habilitation and Rehabilitation by Gender, Ethnicity and Age

Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
<u>Gender*</u>				
Male	6	42.9	7	51.1
Female	8	57.1	7	48.9
TOTAL	14	100.0	14	100.0

<u>Ethnicity*</u>				
Chamorro	8	57.1	8	57.9
Filipino	4	28.6	4	28.1
Caucasian	1	7.1	1	3.5
Other Islander	-	-	-	3.0
Asian	1	7.1	-	1.8
All Others	-	-	1	5.7
TOTAL	14	100.0	14	100.0

<u>Age**</u>				
Less than 1	-)	-)	-)	2.0)
1 - 4	1)	7.1)	1)	8.5)
5 - 15	2) 5	14.3)	4) 10	24.5)
16 - 39	2)	14.3)	5)	36.8)
40 - 54	3)	21.4)	2)	14.1)
55 - 64	3) 9	21.4)	1) 4	8.2)
65 +	3)	21.4)	1)	5.9)
TOTAL	14	100.0	14	100.0

*These figures are not statistically significant at the .05 level of probability.

**These frequencies are not large enough for statistical testing. However, if regrouped into two general age categories of less than 40 and age 40 and older, the chi-square value of 8.8 is significant beyond the .005 level.

the SDA Clinic. Also mentioned were Dr. Tolentino, China Acupuncture and the DPHSS. Table 95 indicates that two of the 14 individuals received treatment at two different locations.

9.2.2 Personal-Social Characteristics of Gender, Ethnicity and Age

The information presented in Table 96 gives a breakdown by gender of the medical facilities utilized for therapy, habilitation and rehabilitation. As may be noted, the Naval Hospital (NRMHC) was used by more males than any of the other facilities listed. There did not appear to be any particular health facility to be more likely used by the females for this health care services.

TABLE 95. Doctor's Office or Medical Facility Visited One or More Times for Therapy, Habilitation or Rehabilitation

Medical Care Facility	First Location		Second Location	
	f	%	f	%
Dr. Garrett's Office	1	7.1	-	-
Guam Memorial Hospital	3	21.4	1	50.0
St. Anthony's Clinic	1	7.1	-	-
SDA Clinic	2	14.3	-	-
Dr. Tolentino's Office	1	7.1	-	-
China Acupuncture	2	14.3	-	-
NRMHC	4	28.6	-	-
DPHSS	-	-	1	50.0
TOTAL	14	99.9	2	100.0
Insufficient Data			1	

TABLE 96. Doctor's Office or Medical Facility Visited One or More Times for Therapy, Habilitation or Rehabilitation by Gender

Medical Care Facility	Male		Female		Total	
	f	Rank	f	Rank	f	Rank
Dr. Garrett's Office	-	-	1	-	1	-
Guam Memorial Hospital	2	2	2	1	4	1
St. Anthony's Clinic	-	-	1	-	1	-
SDA Clinic	-	-	2	1	2	3
Dr. Tolentino's Office	1	-	-	-	1	-
China Acupuncture	-	-	2	1	2	3
NRMC	3	1	1	-	1	-
DPHSS	<u>1</u>	-	<u>-</u>	-	<u>1</u>	-
TOTAL	7		9		16	
Insufficient Data					1	

Similar data based on these 14 subjects' ethnicity is reported in Table 97. It may be of interest to note that three of the eight Chamorros had utilized these services at the NRMC. This was also the situation for the one Caucasian.

As could be expected, when considering the age of the subjects, it was found that individuals who received therapy at the NRMC tended to be older (Table 98). Three of the four individuals were 40 years old or older. The situation for those who went to the Guam Memorial Hospital for like treatment was similar. In the case of GMH, three of the four individuals were senior citizens age 55 or older.

TABLE 97. Doctor's Office or Medical Facility Visited One or More Times for Therapy, Habilitation or Rehabilitation by Ethnicity

Medical Care Facility	Ethnicity						Total
	<u>Chamorro</u> f	<u>Filipino</u> f	<u>Caucasian</u> f	<u>Other Islanders</u> f	<u>Asians</u> f	<u>All Others</u> f	
Dr. Garrett's Office	-	-	-	-	1	-	1
Guam Memorial Hospital	2	1	-	-	1	-	4
St. Anthony's Clinic	-	1	-	-	-	-	1
SDA Clinic	2	-	-	-	-	-	2
Dr. Tolentino's Clinic	1	-	-	-	-	-	1
China Acupuncture	-	2	-	-	-	-	2
Naval Hospital (NMRC)	3	-	1	-	-	-	4
DPHSS	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>
TOTAL	8	5	1	-	2	-	16
Insufficient Data							1

TABLE 98. Doctor's Office or Medical Facility Visited One or More Times for Therapy, Habilitation or Rehabilitation by Age

Medical Care Facility	Age							Total
	Under 1 Year	1-4 Years	5-15 Years	16-39 Years	40-54 Years	55-64 Years	65+ Years	
	f	f	f	f	f	f	f	f
Dr. Garrett's Office	-	-	-	-	-	1	-	1
Guam Memorial Hospital	-	-	1	-	-	1	2	4
St. Anthony's Clinic	-	-	-	-	1	-	-	1
SDA Clinic	-	-	-	1	-	-	1	2
Dr. Tolentino's Office	-	1	-	-	-	-	-	1
China Acupuncture	-	-	1	-	1	-	-	2
Naval Hospital (NMRC)	-	-	-	1	1	2	-	4
DPHSS	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>
TOTAL	-	1	3	2	3	4	3	16
Insufficient Data								1

9.3 Doctor Visits

9.3.1 Number

The range in number of times that a person had received therapy or rehabilitation treatment during the year at a given location ranged from 1 to 20 (Table 99). The total number of visits made by the 14 individuals was 141. The median and mean number of visits per person were 10.7 and 10.1, respectively.

9.3.2 Personal-Social Characteristics of Gender, Ethnicity and Age

Because of the small number of individuals who reported having received therapy, habilitation or rehabilitation during the year, interpretations of the relationships (if any) between the number of medical services visits and their personal-social characteristics must be made with caution.

Reported in Table 100 is information on gender. As may be noted, the six males made more therapy or rehabilitation visits than the eight females. One male went to two locations for a total of 30 visits. Another male went seven times each to two locations and the female who received therapy treatments went four times to one location and five times to another.

Regarding ethnicity (Table 101) only two of the 14 individuals discussed in this section were not Chamorro or Filipino by origins. Due to the small number of cases, the Filipino male who made a total of 30 visits for therapy caused the average figures for the Filipino ethnic category to be the largest. Regardless of their ethnicity, most individuals had received nine or more therapy treatments during the year.

TABLE 99. Number of Times and Locations Where Therapy, Habilitation and Rehabilitation Were Received

Number of Visits	First Location			Second Location		
	f	%	Total Visits	f	%	Total Visits
1	1	7.1	1	-	-	-
2	1	7.1	2	-	-	-
3	-	-	-	-	-	-
4	2	14.3	8	1	33.3	4
5	1	7.1	5	-	-	-
6	-	-	-	-	-	-
7	1	7.1	7	1	33.3	7
8	-	-	-	-	-	-
9	2	14.3	18	-	-	-
10	4	28.6	40	-	-	-
11	1	7.1	11	-	-	-
18	1	7.1	18	-	-	-
20	-	-	-	1	33.3	20
TOTAL	14	99.8	110	3	99.9	31
Median	10.7					
Mean	10.1					
Range	1-20*					
Total Visits	141					

*The range by location.

TABLE 100. Number of Therapy, Habilitation, and Rehabilitation Treatment Visits During the Year by Gender

Number of Visits	Gender					
	Male		Female		Total	
	f	Visits	f	Visits	f	Visits
1	-	-	1	1	1	1
2	-	-	1	2	1	2
3	-	-	-	-	-	-
4	1	4	1	4	2	8
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	2	18	1	9	3	27
10	-	-	3	30	3	30
11	-	-	1	11	1	11
14	1	14	-	-	1	14
18	1	18	-	-	1	18
30	<u>1</u>	<u>30</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>30</u>
TOTAL	6	84	8	57	14	141

Median		17.8		10.0		10.7
Mean		14.0		7.1		10.1
Range		1-30		1-11		1-30

TABLE 101. Number of Therapy, Habilitation and Rehabilitation Treatment Visits
During the Past Year by Ethnicity

Number of Visits	Ethnicity												Total	
	Chamorro		Filipino		Caucasian		Other Islanders		Asians		All Others			
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits
1	-	-	1	1	-	-	-	-	-	-	-	-	1	1
2	-	-	-	-	1	2	-	-	-	-	-	-	1	2
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	2	8	-	-	-	-	-	-	-	-	-	-	2	8
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	2	18	-	-	-	-	-	-	1	9	-	-	3	27
10	2	20	1	10	-	-	-	-	-	-	-	-	3	30
11	1	11	-	-	-	-	-	-	-	-	-	-	1	11
14	1	14	-	-	-	-	-	-	-	-	-	-	1	14
18	-	-	1	18	-	-	-	-	-	-	-	-	1	18
30	-	-	1	30	-	-	-	-	-	-	-	-	1	30
TOTAL	8	71	4	59	1	2	-	-	1	9	-	-	14	141
Median	10.5		29.5		2.0		-		9.0		-		10.7	
Mean	8.9		14.8		2.0		-		9.0		-		10.1	
Range	4-14		1-30		-2-		-		-9-		-		1-30	

Based upon the age-specific visits information presented in Table 102, it would appear that the younger individuals who were under 40 tended to have made 10 or more health service visits for therapy or rehabilitation. In contrast, those over age 40 seemed to be more likely to have had fewer than 10 visits for this type of treatment.

It may also be observed upon inspecting the table that only five (36.0%) of the individuals were less than age 40, while the remaining nine subjects ranged in age from 40 to beyond 65.

TABLE 102. Number of Therapy, Habilitation and Rehabilitation Treatment Visits During the Year by Age

Number of Visits	Age															
	Under 1 Year		1-4 Years		5-15 Years		16-39 Years		40-54 Years		55-64 Years		65+ Years		Total	
	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits	f	Visits
1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	1
2	-	-	-	-	-	-	1	2	-	-	-	-	-	-	1	2
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	1	4	-	-	1	4	2	8
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	3	27	-	-	3	27
10	-	-	1	10	-	-	-	-	1	10	-	-	1	10	3	30
11	-	-	-	-	-	-	1	11	-	-	-	-	-	-	1	11
14	-	-	-	-	-	-	-	-	-	-	-	-	1	14	1	14
18	-	-	-	-	1	18	-	-	-	-	-	-	-	-	1	18
30	-	-	-	-	1	30	-	-	-	-	-	-	-	-	1	30
TOTAL	-	-	1	10	2	48	2	13	3	15	3	27	3	28	14	141
Median	-	-	10.0		29.7		10.9		9.8		9.0		13.5		10.7	
Mean	-	-	10.0		24.0		6.5		5.0		9.0		9.3		10.1	
Range	-	-	-10-		18-30		2-11		1-10		-9-		4-14		1-30	

SECTION TEN
SUMMARY OF FINDINGS

10.1 Health Needs and Care

Included in this report is morbidity information derived from personal interviews with 400 individuals who represented a population of 84,979. Interviews were conducted in 400 households sampled at random from among all households located throughout the island. Those individuals residing on military bases and in institutions were not included. Of the 1,928 individuals who resided in the 400 households, 739 (38.3%) were identified as having had a health condition that affected their normal or usual activity during the prior year.

A statistical analysis of the personal-social characteristics of gender, ethnicity and age revealed that females were more likely than males to have had or reported a health condition for which they received medical attention. Similar to findings in a Hawaii Health Study (6), Filipinos were less likely than would be expected to have had a health condition. This study indicated that Chamorros and Caucasians were overrepresented (or more likely to have had a health condition than would be expected) based on their proportions in the sample.

A total of 131 specific health conditions were identified and categorized into four main areas. These were disabling, catastrophic, chronic, and acute conditions. Those diseases

and illnesses for which treatment is provided without charge by Guam Law were considered independently.

Acute conditions represented 78.7% of all health conditions reported while chronic conditions made up an additional 19.7%. Only 0.7% were catastrophic in nature, while 0.5% were mental illness and 0.4% physical disabilities.

Caucasians and children less than 16 years of age were found to have had acute health problems beyond the expected levels. Filipinos and persons 16 and over were less likely to have had them.

Females, Chamorros and persons 40 years or older were more likely than other groups to have had catastrophic or chronic health problems. Filipinos continued to be underrepresented in this analysis, except in the case of arthritis.

The study indicates that females were much more likely to experience kidney problems, while Parkinson's disease and rheumatism were reported only by males. Diabetes was found to be basically a health problem of Chamorros. These findings were statistically significant at an extremely high level of probability. The few cases of physical disabilities involved only Chamorros who were middle-age or older. A majority of the mental illness cases noted were reported by males of Filipino ancestry.

A total of 13 individuals reported off-island treatment. Using the sample factor of 44 to project to the total civilian population of the island, these data would suggest that in a given year approximately 572 medical cases treated off-island

were for acute conditions, while 39.0% and 15.0%, respectively, were for catastrophic and chronic conditions. Insurance was used to help pay for off-island treatment costs in slightly over half of the cases.

10.2 Hospital Care

Approximately 7.0% of the 1,928 individuals studied were hospitalized during the year. Of these, 91.0% had been admitted only once. Women were more likely to have been hospitalized. Within their ethnic categories, "Other Islanders" were most likely to have been admitted to the hospital while Filipinos were least likely. With regard to age, those who were more likely to have been hospitalized were the infants under one year of age and all age categories of 40 or older while the 5- to 15-years-old group was least likely.

The mean length of stay in the hospital averaged about 7.5 days. On the average, males were hospitalized one day longer than females. Those 40 years or older were found to stay in the hospital for a longer period of time than those who were younger.

Nearly 10.0% of the individuals who had been hospitalized were admitted at the Naval Regional Medical Center. Most of the remaining individuals (84.1%) had gone to the Guam Memorial Hospital while 5.0% had been hospitalized off-island.

Eighty-nine percent of the individuals hospitalized were admitted for care or treatment of acute health problems, while the remaining 11.0% were there because of disabling, catastrophic and chronic health conditions. Worthy of special note

is the fact that those hospitalized for care of hypertension problems were females who were 40 years old or older.

Nearly 3 out of every 4 individuals who had been hospitalized had been referred by 8 of 19 doctors/clinics. These clinics were as follows: FHP, GMH, SDA, NRMHC, ITC Clinic #1, Carlos Heights Clinic, and the Good Samaritan Clinic.

Slightly over 1 out of every 5 persons who were hospitalized reported that the method of payment for their care was by FHP and a like number mentioned GMHP.

10.3 Home Bed Care

One out of every 11 (8.9%) of the total 1,928 individuals were reported to have stayed at home in bed due to illness or injury during the year of the study. The median length of stay was 3.0 days, while the mean was 5.4.

In contrast to hospitalization, Caucasians were two and one-half times more likely than the average of all cases to have stayed at home in bed due to illness or injury. For this ethnic category the rate was approximately 1 out of every 4 individuals. In addition, they also remained at home in bed much longer than any other ethnic category. Filipinos and Asians were least likely to have required home bed care.

With regard to age, those 16 to 39 were least apt to have received home bed care, while the average number of days in bed generally increased consistently as age increased. The most senior age group (65 or older) reported to have stayed in bed at home because of illness or injury about 12 days, while for the younger age groups the average number of days was about 4.

10.4 Reduced Activity Due to Illness or Injury

Slightly over 5.0% (about 1 out of every 20 individuals) reported that they had reduced their usual activity due to illness or injury. This did not include the time hospitalized or at home in bed.

Females were somewhat more likely to have reduced their activity for health reasons, although the difference in gender in this case was not of statistical significance at the predetermined cut-off level of .05. With regard to ethnicity and age, these findings for reduced activity were similar to those of home bed care. Caucasians were four times more likely than any other group to have reduced their normal activity due to illness or injury. Filipinos, Asians and "All Others" were least likely to have reduced normal activity. As age increased for those 40 and older, so did the number of individuals who reduced their activity due to illness.

Because several individuals had to reduce their normal activity for a major portion of the 12-month period, the arithmetic mean for all individuals was 26 days while the median was only 4.3 days. Caucasians reduced their normal activity for twice as many days during the year as did Chamorros and Filipinos. The median figures were 11.0 and 4.3/3.7, respectively.

Generally, there was an increase in the median number of days of reduced activity during the year for the various age categories beginning with those who were 1-4 years old to those who were senior citizens--with the exception being the oldest category.

10.5 Schooldays and Workdays Lost Due to Illness or Injury

An attempt was made in this study to determine what impact illness or injury had on regular work and school attendance. No doubt illness occurred throughout the week (including weekends, holidays and vacation periods) so workdays and schooldays lost should not be considered as representing the total morbidity situation.

In this study an estimated 668 workdays were lost due to hospitalization, home bed care or reduction in normal activity. Schooldays lost by the subjects were estimated to be 628.

10.6 Level of Well-Being

Upon projecting the days lost due to illness or injury to the total civilian population, it was estimated that a total of 42,768 hospital patient days, 42,416 home bed care days and an additional 121,308 persondays of reduced activity were "lost" during the year by the 84,979 individuals. The grand total of days affected during the study year for the island population (excluding those living in military housing on base) was 206,492. This figure was equivalent to 566 person years or about two and one-half days per person.

10.7 Diagnosis or Treatment of Illness or Injury

More than one-fourth of the 1,928 subjects (28.1%) made 2,405 doctor visits during the study year for diagnosis or treatment of an illness or an injury. An individual's gender or ethnicity was not "correlated" with such medical care; however, his age was. Those who were in the 1-4 age category

and those 40 or older were more likely to have had an illness or injury diagnosed or treated.

Caucasians were most likely and Filipinos least likely to have had an acute illness or injury diagnosed or treated. Those who were under age 16 or 65 and older were also more likely to have had treatment for an acute illness.

With regard to catastrophic and chronic health conditions, those who were more likely to have received diagnostic or treatment services were the Chamorro females, and adults in the 40 and older age range. These findings were all statistically significant beyond the .05 level of probability. More specifically, hypertension, diabetes and arthritis were clearly more likely to have been chronic medical problems of females, Chamorros and older persons.

The FHP Guam Medical Clinic was more likely to have been the location for diagnosis or treatment of illness or injury than any other clinic. More than 23.0% reported this specific clinic. This finding corresponded with the 22.0% figure noted several years earlier in the Health Needs Assessment of Northern Guam study (1). In this study, the Carlos Heights Clinic was mentioned by 18.6%.

Males were more likely to have gone to the St. Anthony's Clinic and to Dr. Acosta. Females were more likely to have gone to the Guam Poly Clinic, Good Samaritan Clinic and Dr. Cruz' office for diagnostic care or medical treatment. There appeared to be no significant gender difference or preference in going to various other medical clinics or doctor offices.

Considerable variation did, however, occur among ethnic groups in their use of medical facilities for diagnosis or treatment of illness or injury. Chamorros were more likely to have gone to the FHP Clinic, Filipinos to the Carlos Heights Clinic and Caucasians to the SDA Clinic. Thirty-three percent of all who had gone to the three military medical facilities were Caucasians. Among the 27 medical facilities mentioned, the military clinics/hospital ranked fifth for the Chamorros. The ITC Clinic #1 ranked second in use among Filipinos and sixth among Chamorros. It was of interest to note that the SDA Clinic ranked first, second or third among five of the six ethnic categories in the study. Filipinos virtually did not go there for diagnostic or medical treatment. Only one out of 134 (0.7%) of the Filipinos indicated that they had utilized the services of the SDA Clinic for this purpose. The various medical clinics also tended to be age specific.

The 539 individuals made a total of 2,405 doctor visits for diagnostic services or treatment of illness or injury. The number of visits per individual ranged from 1 to 98 while the median was 8.0 and the mean 4.5 visits. Males and females averaged about the same number of doctor visits. However, with regard to ethnicity and age differences were noted. Caucasians topped the list while Filipinos and Asians made the fewest doctor visits for diagnosis or treatment of illness or injury. Generally, as age increased the number of doctor visits also increased.

Those who had consulted a doctor during the year were compared with those who had not. Both gender and age were found to be statistically significant at extremely high levels of probability, .005 and .001, respectively. No significant difference were noted among the ethnic categories. More women had consulted a doctor during the year as did young children under age 5, those 16 to 39 and the 65 and older individuals.

10.8 Preventive Medical Care

Preventive medical care measures such as immunizations, x-rays and medical advice were also a part of this islandwide health study. During the 12-month study period 270 individuals (14.0% of the total sample of 1,928) made a combined total of 676 doctor visits for preventive medical care.

With regard to the various personal-social characteristics, the study revealed that more females, Caucasians and "Other Islanders," and infants and other young children under five years of age were by far the most likely to have received preventive medical care. Although females were more likely to have received preventive medical services than males it was suggested that much of the difference was in the area of medical advice and perhaps x-rays, but not immunization. Those of Filipino ancestry were only four-fifths as likely to have received medical care of a preventive nature as would be projected based on their proportion within the total number of individuals studied. The high rate of preventive health measures (especially immunizations) among the babies and pre-school age children was expected.

One-third of all preventive health care doctor visits were for immunizations. This was, no doubt, heavily influenced by the emphasis placed on updating immunizations among early school-aged children because of the measles epidemic observed during part of the year-long study. Annual health examinations made up one-third of all preventive health care visits of Caucasians while accounting for only 17.6% and 18.6% of the visits made by Chamorros and Filipinos, respectively. Immunizations made up 27.0% to 33% of preventive health care doctor visits for these three ethnic groups. Three out of 10 senior citizens ages 65 and older listed eye examinations as the type of preventive health care they had received. An additional 50.0% mentioned "general medical check-ups".

Two-thirds of all preventive health care visits were made at the FHP Guam Medical Center, DPHSS, SDA Clinic and the Carlos Heights Clinic. The FHP Center was the most "popular" for this purpose. Over 18.0% of all doctor calls were made at the FHP Center.

Regarding ethnicity and clinics used for preventive health care, the study results showed that the FHP Center ranked first among Chamorros, DPHSS was most likely to be used by Filipinos, and the SDA Clinic was used most by Caucasians. Generally, the study suggested that ethnicity "correlated" with choice of medical clinics/doctors for preventive care services.

Also "correlated" with use of specific medical clinics for health services of a preventive nature was one's age. DPHSS ranked first or second for children. The emphasis on immuniza-

tions and free care at the DPHSS no doubt contributed significantly to this level of use. Those in the childbearing age range were most likely to go to the SDA Clinic while FHP ranked first for those in their mid-life and early senior years. It was of interest to note that the NRMC ranked either first or second for preventive medical care by the senior citizens.

The number of preventive health care visits made during the year ranged up to 13. The median for all persons was 4.1 visits, while the mean was found to be 2.5. Females were found to make considerably more preventive care doctor visits than males. This differed from diagnostic and treatment doctor visits which were dominated by males. Virtually no differences in the number of preventive care medical visits were noted among the various ethnic categories. This also differed from the analysis of diagnostic and treatment services where it was found that Caucasians had the largest proportion of visits within their ethnic category and Filipinos the fewest.

The children and youth ages 5-15 were found to have made the fewest preventive medical care visits during the year. Infants less than a year old, those in the childbearing age range and the older senior citizens had made the largest number of such doctor calls. These findings also differed when compared with diagnostic and treatment medical care. As reported earlier, the number of doctor visits for this purpose increased as age increased.

10.9 Therapy, Habilitation and Rehabilitation

Only 14 (0.7%) of the total 1,928 individuals studied reported having had therapy or similar rehabilitative medical care during the study year. The variables of gender and ethnicity did not appear to be statistically related to receipt of this type of medical care. Age, however, was significantly related. Individuals 40 years or older were much more likely to have received therapy or rehabilitative medical care than were the younger group.

The GMH and NRMC were more frequently used for therapy and rehabilitation care than the other various medical clinics. The NRMC was used by more males than females, while at GMH the gender distribution was even. It was of interest to note that 3 out of the 8 Chamorros had utilized the NRMC for this type of health care. These 3 individuals, therefore, represented 75.0% of the 4 who were reported to have received therapy or rehabilitation care at NRMC. Those who were 40 years or older were more likely to have gone to the GMH and NRMC while the other medical care facilities offered therapy and rehabilitation services to an equal number of individuals in both the under 40 and 40 and older groups.

The number of medical facility visits by an individual during the year for therapy, habilitation or rehabilitation ranged to 30. The median and mean number of visits or treatment were 10.7 and 10.1, respectively.

APPENDICES

APPENDIX A
DEMOGRAPHIC TERMS, DEFINITIONS
AND EXPLANATIONS

DEMOGRAPHIC TERMS, DEFINITIONS AND EXPLANATIONS

The term gender and sex are used interchangeably throughout the report and refer to male and female.

Other Islanders refers to those originating from the islands, exclusive of Saipan, formerly known by their political identity as the Trust Territory of the Pacific Islands.

f is used in tables to refer to the frequency or count of individuals, etc.

% is used in the tables and text and, of course, refers to percent. Percentage totals may not equal 100.00 due to normal mathematical rounding error.

Education means number of years of formal schooling completed. Highest grade completed.

Adults occasionally is used and refers to those age 16 and older. The characteristics of income, education, and marital status are analyzed for individuals of this age category. This differs from the Federal Census which includes those age 15 and older for certain characteristics and age 16 and over for others.

Ethnicity is based on the interviewee's perception of himself and each individual member of the household. This differs from the Federal Census where all members of a household are designated the same ethnicity as the head of the household.

Age refers to a person's age at his last birthday.

Income included regular earnings for work and all other sources. The income question was dependent on one's memory and not records. Therefore, an underreporting could be expected especially in those cases involving a variety of types and sources.

Marital Status. Although civil/religious marriages and common-law marriages are treated separately in the tables, on occasion "married" is used in the text and includes both forms.

Morbidity refers to the occurrence of disease or a state of illness.

Median figures are generally reported since as a statistic they are not affected by extreme values in a distribution as are mean figures.

Demographic Terms, Definitions and Explanations (continued)

The following formula was used in calculating medians:

$$\text{Median} = l + \left(\frac{\frac{N}{2} - f_c}{f_w} \right) h$$

l = lower theoretical limit of the interval in which the median lies

f_c = cumulative frequency up to the interval containing the median

f_w = frequency within the interval containing the median

N = total number of cases

h = height of the interval

Civilian Population was established by GHPDA for this study as follows:

1980 Census Total Population	105,979
Minus Military Population	
(living either on bases or	
in the community)	
	-21,000
	84,979

Workdays Lost Due to Hospitalization. The total number of workdays lost (257) because individuals were at home in bed due to illness or injury was equal to 43.0% of all days (600) that those ages 16 and older had stayed at home in bed because of their illnesses or injuries. It was, therefore, estimated that at least a similar percentage of the days that the same age group had been hospitalized resulted in lost days of work.

Schooldays Lost Due to Hospitalization. The total number of schooldays reported lost (278) because individuals were at home in bed due to illness or injury was approximately equal to the number of days (262) that those ages 5 to 15 had stayed at home in bed for the same medical care reasons. The difference between schooldays lost and days at home in bed was attributed to the differences in the age ranges of those involved. Several 16- and 17-year-old youths were no doubt among those who were reported as having lost days of school due to illness or injury. For the purpose of estimating the number of schooldays lost due to hospitalization, a ratio of 1:1 was used. The 10 individuals who had been hospitalized due to illness or injury were in the 5 to 15 age range. They were reported to have stayed in the hospital for a combined total of 55 days. To determine the total number of schooldays lost, therefore, an additional 55 days were added to the total number of schooldays lost as a result of home bed care and a reduction in usual activity because of illnesses or injuries.

DISEASE CLASSIFICATIONS

Catastrophic Diseases:

- All malignancies (cancers) except squamous or basal cell skin cancer
- Leukemia, Hodgkin's Disease, sarcoma, melanoma, cancer of any of the organs, and so forth
- Trauma or injury to the head or spinal cord
- Birth defects
- Heart disease requiring surgery
- Kidney transplant

Chronic Diseases:

- Hypertension
- Diabetes
- Arthritis (any kind) and rheumatism
- Chronic kidney disease
- Chronic liver disease
- ALS/PD (Amyotrophic Lateral Sclerosis/Parkinson Disease also known as lytico/bodig)
- Multiple Sclerosis
- Myotonic dystrophy

Acute Diseases:

- Everything else not listed above

Disabling Conditions:

- Blindness
- Deafness
- Loss of speech
- Loss of limb
- Full or partial paralysis

"Free" Diseases (free treatment by Guam Law):

- Tuberculosis
- ALS/PD (Amyotrophic Lateral Sclerosis/Parkinson Disease)
- Renal Dialysis
- Mental Illness

INSURANCE GROUPINGS

HMOs:

- Family Health Plan (FHP)
- Guam Memorial Health Plan (GMHP)

Military Related:

- Veterans Administration (VA)
- Civilian Health and Medical Program of the Uniformed Services (CHAMPUS)
- Military dependents

Medicare

Medicaid/Lol program of Guam Memorial Hospital (GMH)*/
Medically Indigent Program of GMH

All Other Insurance Companies, such as:

- Blue Cross/Blue Shield
- Stay Well
- Prudential
- Nambo
- Universe Insurance Underwriters (UIU)

Non-Insurance

*Lol Program was dropped some time after data for this study had been collected.

ISLAND DISTRICTS

North:

- Dededo
- Yigo

North Central:

- Tamuning (including Tumon)
- Barrigada (including Barrigada Heights)

Central:

- Piti
- Asan/Maina
- Agana
- Agana Heights
- Sinajana
- Chalan Pago/Ordot
- Mangilao
- Mongmong/Toto/Maite

South Central:

- Agat
- Santa Rita (including St. Rosa)
- Talofofo
- Yona

South:

- Inarajan
- Merizo
- Umatac

APPENDIX B
SAMPLE AND METHODOLOGY

DETERMINING SAMPLE SIZE

Designing Sensible Surveys

Donald C. Orlich

Using a Survey to Collect Data
Using Printed Instruments
Information-Collecting Techniques
Guidelines to Determine Survey Use
Designing the Items
Planning for Item Construction
Item Sequencing
Designing Response Modes
Modes of Response
Establishing Appropriate Scales
Coding Survey Items
Forced-Response Codes
Open-Response Codes
Electronic Data Processing
Conducting the Survey
Sampling Considerations
Communicating with the Target Population
Protection of Human Subjects
Inclusionary Language
One Planning Technique
Adapting Other Designs
Other Effective Methods
Analyzing the Data
Descriptive Techniques
Inferential Statistical Tests
Implications of Analysis
Writing the Research Report
Planning the Report
Parts of the Research Report

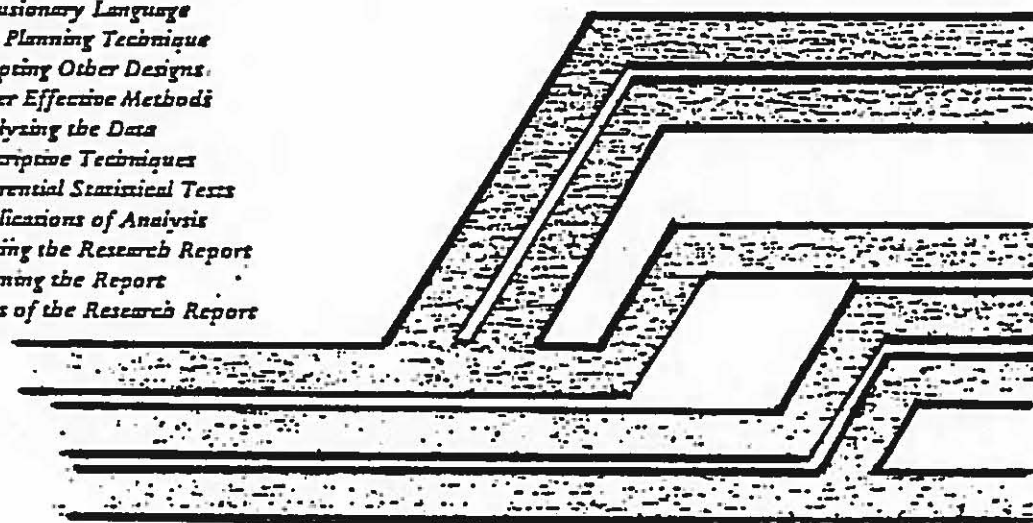


Table 5-1. Estimated Population and Sample Sizes

Population Size	Sample Size	Population Size	Sample Size
100	79	5,000	357
200	132	6,000	361
300	168	8,000	367
400	196	10,000	370
500	217	15,000	375
600	234	20,000	377
800	250	30,000	379
1,000	278	50,000	381
2,000	322	75,000	382
3,000	341	100,000	383

Sources: The National Education Association. Table 5-1 is reproduced with the written permission of the National Education Association.

DETERMINING SAMPLE SIZE (continued)

Suggested Sample Sizes for Selected Population Sizes
In a Simple Random Sample

Total Number of Households in the Population*	Number of Households Needed in the Sample	Total Number of Households in the Population	Number of Households Needed in the Sample
100	80	6,000	375
120	92	7,000	378
140	104	8,000	381
160	114	9,000	383
180	124	10,000	385
200	133	More than 10,000	400
220	142		
240	150		
260	158		
280	165		
300	171		
320	178		
340	184		
360	189		
380	195		
400	200		
420	205		
440	210		
460	214		
480	218		
500	222		
600	240		
700	255		
800	267		
900	277		
1,000	286		
1,250	303		
1,500	316		
1,750	326		
2,000	333		
2,500	345		
3,000	353		
3,500	359		
4,000	364		
4,500	367		
5,000	370		

* Make sure that you have added together all the households (rural and town) in the population before you determine the sample size.

TABLE 103. Confidence Limits for Sample Proportions

Sample Proportion %	95 Percent		99 Percent	
	Lower Limit %	Upper Limit %	Lower Limit %	Upper Limit %
5	3.1	7.6	2.6	8.5
10	7.2	13.4	6.5	14.5
15	11.7	18.9	10.7	20.1
20	16.2	24.3	15.1	25.6
30	25.6	34.8	24.3	36.2
40	35.2	45.0	33.7	46.5
50	45.0	55.0	43.5	56.5
60	55.0	64.8	53.5	66.3
70	65.2	74.4	63.8	75.7
80	75.7	83.8	74.4	84.9
85	81.1	88.3	79.9	89.3
90	86.6	92.8	85.5	93.5
95	92.4	96.9	91.5	97.4

NOTE: Interpretation of Table 103. In this study, approximately 50% of the households surveyed were located in the North Region of the island. At the 95% level of confidence, it may be concluded that the true proportion of houses in the North would fall somewhere in the 45.0% to 55.0% range.

DETAILED METHODOLOGY

Sample Design

The health study sample geographically represents the entire island to accommodate islandwide ethnicity and rural-urban characteristics. The central and northern regions of the island are more developed, multi-ethnic and contain urban-like villages. The southern part of Guam, by contrast, remains more culturally homogenous with villages "rural" in character. Most medical diagnostic and treatment personnel and facilities are found in central Guam. Thus, the geographically proportionate sample reflects a representative distribution of Guam's rural-urban and ethnic-cultural composition.

To achieve such sample characteristics, a geographically stratified, two-step, proportionate random cluster sample design was adopted for the study. Permanent housing units located throughout the island (excluding those on military installations, other federal housing compounds, temporary alien labor quarters, resort hotels, and those facilities for the institutionalized) are defined as representing the civilian population.

The 1980 Guam Census Report showed 28,225 housing units of which 4,676 (16.5%) were located on land claimed by the federal government. The balance of 23,549 housing units thus represents the population from which the survey sample was drawn.

For enumeration purposes in 1980, the U.S. Department of Commerce, Bureau of the Census, considered the entire island of Guam as 19 minor civil divisions (MCD's). The MCD's (Figure 27) are election "districts" and commonly known as villages. Also in 1980, the Bureau identified as census designated places (CDP's) 34 "more highly settled" areas--including those identified as cities in 1970. The entire MCD of Agana was designated as one CDP. Three other MCD's were subdivided into two or three CDP's which, however, were inclusive of the MCD's. These MCD's were Asan/Maina, Chalan Pago/Ordot, and Mongmong/Toto/Maite. The remaining 15 MCD's all contained one or more CDP's and a residual or less densely settled area (MCD-CDP's). Table 104 shows that eight of the 34 CDP's designated in the 1980 Census were official U.S. military or other federal housing areas and, therefore, were excluded from the total sampling area. The geographical subdivisions remaining for our sample included 26 CDP's and 15 MCD's/CDP's, for a total of 41. The distribution of the agreed upon 400 housing samples is also shown in Table 104.

Although all highways, most streets and many roads are officially named, signs are absent in a number of instances. In addition, certain roads, trails and drives are without uniform identification markers, particularly on unsurveyed tracts of rural land located beyond the more densely populated village CDP's. In view of these conditions, aerial photography housing maps of the island were utilized to determine the specific sample units for the study. A total of 146 section maps were

required to cover all areas of the island that contain residential housing. Each section map contained 36 grid-block squares. The number of houses in a grid-block varied depending on its location. Grid-blocks in the CDP's were, of course, more densely populated than those in the lesser settled areas of the MCD's. The CDP grid-blocks in northern and central MCD's contained as many as 25-30 housing units, while selected residential area grids in the southern part of the island had a few or in several cases only one.

Sample Unit

Representative sampling among MCD's could be achieved by randomly selecting grid-blocks in proportion to the number of households located in each MCD. A more precise representation could be obtained by proportionately sampling grid-blocks within the given MCD subdivision (CDP's and MCD minus CDP's). Therefore, the Sample Unit in this study was a randomly selected grid-block.

The second level or step in the sampling procedure was purposive designation of an initial contact house (Figure 7) in each randomly selected grid-square or "housing cluster".

In order to ensure a final minimum sample size of 400 surveys, a "back-up" sampling strategy was utilized in the event where all households in the sample unit (map grid) were contacted. In such instances alternate grid-blocks were to be utilized. A systematic pattern of alternating from the immediate left of the original sample grid to the right was set in

order to maintain the proper sample representation within and among the MCD's.

The random selection of 400 map grid-blocks pinpointed starting places for systematic sampling of one-in-fifty-nine or 1.7 percent of the total study population of 23,549 households.

TABLE 104. Sample Frame: Guam

Geographical Subdivision (MCD/CDP)	1 Population	2 Housing Units	3 Population/ Housing (C1/C2)	4 Housing Sample *
TOTAL	(105,979)	(28,225)	(3.75)	(400)
Agana (MCD/CDP)	896	384	2.30	7
Agana Heights (CDP)	2,970	900	3.30	15
Agana Heights (MCD/CDP)	314	71	4.40	1
Agat (CDP)	2,908	706	4.10	12
Agat (MCD/CDP)	1,091	284	3.80	5
Asan (MCD/CDP)	726	210	3.46	4
Maina (CDP)	891	231	3.86	4
Nimitz Hill Annex (CDP)	417	148	2.80	NS**
Naval Air Station (CPD)	1,650	352	4.69	NS
Barrigada Heights (CDP)	1,127	260	4.30	4
Barrigada (CDP)	3,127	787	3.97	13
Barrigada (MCD/CDP)	1,852	531	3.49	9
Chalan Pago (MCD/CDP)	1,921	472	4.07	8
Ordot (CDP)	1,199	266	4.50	5
Dededo (CDP)	2,524	641	3.90	11
Finegayan Station (CDP)	3,538	874	4.05	NS
Dededo (MCD/CDP)	17,582	4,019	4.40	67
Inarajan (CDP)	918	205	4.48	3
Inarajan Dist.(MCD/CDP)	1,141	250	4.56	4
Mangilao (CDP)	4,029	1,312	3.07	22
Latte Heights (CDP)	1,056	268	3.90	5
Marbo Annex (CDP)	856	253	3.40	NS
Mangilao (MCD/CDP)	899	234	3.80	4
Merizo (CDP)	1,500	356	4.20	6
Merizo (MCD/CDP)	163	42	3.90	1
Mongmong (MCD)	2,058	656	3.10	11
Toto (CDP)	2,358	498	4.70	8
Maite (CDP)	419	201	2.10	3
Agana Station (CDP)	410	135	3.04	NS
Piti (CDP)	737	226	3.30	4
Piti (CDP/CDP)	2,129	277	7.68	5
Santa Rita (CDP)	1,264	291	4.30	5
Santa Rosa (CDP)	860	209	4.10	4
Apra Harbor (CDP)	5,633	1,432	3.90	NS
Santa Rita (MCD/CDP)	1,426	321	4.40	5
Sinajana (CDP)	1,879	464	4.05	8
Sinajana (MCD/CDP)	606	155	3.90	3
Talofofo (CDP)	1,470	291	5.05	5
Talofofo (MCD/CDP)	536	154	3.50	3
Tamuning (CDP)	8,862	3,047	2.90	52

TABLE 104. Continued

Geographical Subdivision (MCD/CDP)	1 Population	2 Housing Units	3 Population/ Housing (C1/C2)	4 Housing Sample *
TOTAL	(105,979)	(28,225)	(3.75)	(400)
Tamuning (MCD/CDP)	4,718	1,741	2.70	29
Umatac (CDP)	487	96	5.07	2
Umatac (MCD/CDP)	245	51	4.80	1
Yigo (CDP)	3,392	964	3.50	16
Marbo Annex (CDP)	184	86	2.10	NS
Andersen AFB (CDP)	4,892	1,396	3.50	NS
Yigo (MCD/CDP)	1,891	452	4.20	8
Yona (CDP)	1,948	394	4.90	7
Yona (MCD/CDP)	2,280	632	3.60	11

*.0169858 X 23,549 households = 400 sample residences.

**NS = not sampled federal housing such as military bases.

Sources: U.S. Bureau of the Census. US Census of the Population: 1980. Vol.1, Characteristics of the Population, Part 54, Guam, PC80-1-A54 Chapter A, Number of Inhabitants. US Government Printing Office, Washington, DC, 1982.

Guam Department of Commerce, 1982. Preliminary Population and Housing Counts by Subdivision, Guam 1980 Census. Unpublished Data Sheet.

Figure 3. Sample Unit: Grid-Block Cluster of Households

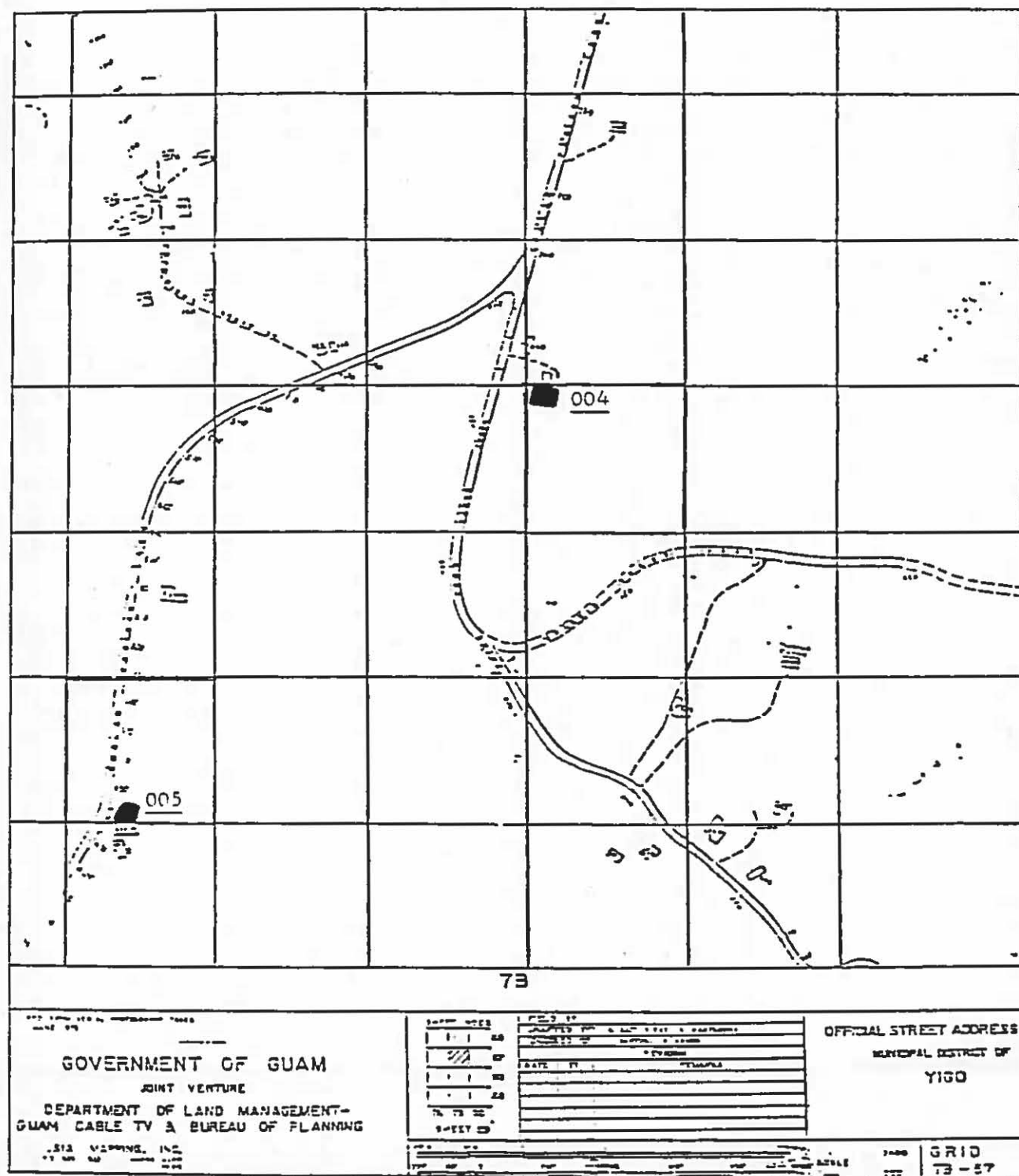
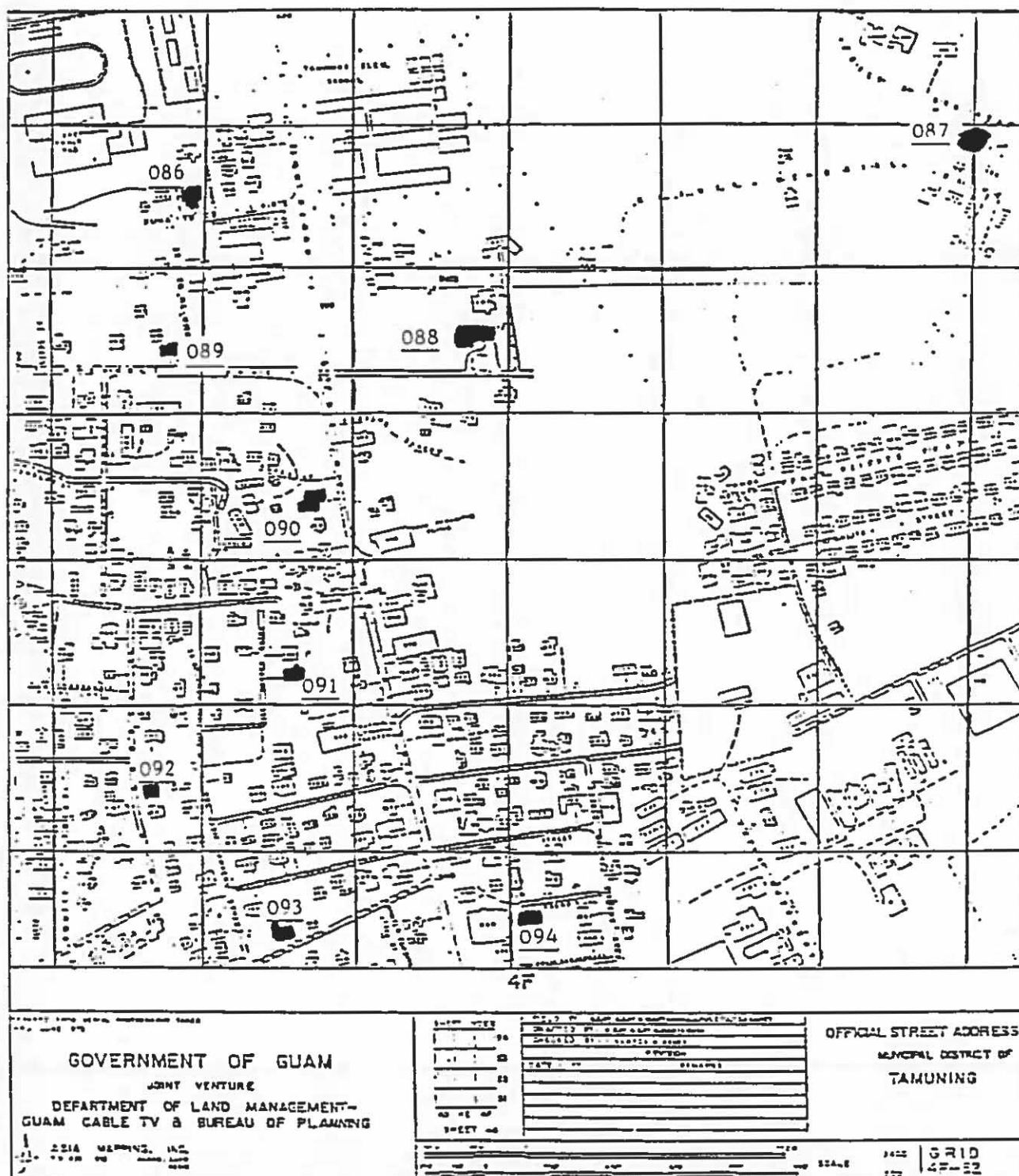


Figure 3. Sample Unit: Grid-Block Cluster of Households (continued)



GHPDA-UOG INTERAGENCY AGREEMENT W32100001

HEALTH BEHAVIOR PATTERNS SURVEY

Report 01

December 15, 1983

1. Due to the implementation of a new accounting system by the Government of Guam, effective with the beginning of FY'84, a financial account for this project was not established until mid-November 1983. This technically delayed the project start-up date by six weeks. This delay is considered to have been beyond the control of both agencies (GHPDA and UOG).
2. Telephone contact between GHPDA and UOG has been maintained and informal status reports given. Cooperation has been very good.
- 3a. Research Sample Design. Completed. Copy to be presented to GHPDA along with other requirements of Phase II (Second Installment).
- 3b. Drawing of Sample Units. Completed. Copy of islandwide sample distribution to be presented to GHPDA along with other requirements of Phase II (Second Installment).
- 3c. Survey Instrument, initial draft copy attached and ready for submission to GHPDA during first sit down reporting meeting scheduled for Wednesday, December 21, 1983. Recommend that the first joint follow-up work session on survey instrument development be held one week later on Wednesday, December 28, 1983.
4. The project design calls for field interviews to begin in January, 1984. Schedule calls for the interviews are to begin during the second weekend of January.

CODING, DATA ENTRY AND ANALYSIS

Computerization of Data
(June 22, 1984)

1. A technical complication developed in the planned procedures to key data in through the UOG Computer Center's Interactive Computing and Control Facility (ICCF). The size of data file members that can be utilized by the ICCF is very limited (5000 record lines). Miscommunication with the Computer Center led CDI staff to plan for only two (2) data file members that would contain the entire data set. However, because the data set is extremely large (approximately 36,632 record lines), the data files that had been keyed in were already too large. This required creation of an additional service of programming operations to rectify.
2. Working with Rudy Villagomez, Programmer Analyst at the UOG Computer Center, procedures were developed to: (a) divide the large ICCF data files into smaller usable segments; (b) these segments can be resorted as originally planned from the order pattern of keypunching (all household members for each data record line before entering of the next data record line) to the order pattern necessary for data analyses (all data record lines for each person and subsequent persons); (c) the resorted segments are then placed out on DISC storage, which permits the use of a SAS program to read, MERGE (a SAS Proc), and output all segments as a simple SAS Data set on a permanent computer TAPE file.
3. Data analyses will be processed using SAS software programs reading (input) the data from this tape.

HEALTH STATUS OF THE POPULATION OF GUAM SURVEY
November 8, 1984

Interviewer's Narrative Report and Coder's Comments:

<u>SUBJECT NO.</u>	<u>COMMENT/SPECIFY</u>
17801	Had to retire because of his heart disease (originally had 365 days at home in bed last 12 months); Q45 covered by military and medicare (doesn't use the medicare), coded 12-Military.
38102	Subject is diabetic and so she eats once an hour (about 13 "snacks" per day). Figured: 24 hours/day - 8 hours sleep <u>16</u> hours - 3 hours/3 meals <u>13</u> Coded Q25 as 8 (Maximum number for 1 column.
17302	Covered by BC/BS, FHP and Metropolitan. Coded 06 BC/BS for Q45a.
17304	Same as the above.
374 (all)	Household of six with #1 category income, no public assistance, and some with BC/BS insurance. The head of the household (husband) just died and apparently was the family's wage earner.
38910/12	Q9. Both subjects while they were in to see doctor about their colds, the doctor gave them their "baby shots" (measles, mumps, rubella, and so forth.
37402/05	Q8 shows HMSA insurance, Q45 shows no insurance. At the time she had the baby in Q8, she was living and working in Hawaii and was covered by HMSA. Currently lives in Guam, no insurance.
37003/06 and 37005/06	Q20, uses FHP but Q45, no insurance. Q8 and Q12, one doctor delivered, another doctor for prenatal visits. Q14 has FHP insurance but went to Dr. Labalan.

SUBJECT NO.COMMENTS/SPECIFY

	Verifier (Mary Vacher) asked interviewer if she knew more about the above or why. Interviewer remembered that those were the answers and couldn't add any more.
25701/03	Q2d/e/f. Coded 9's because these two people never went to school.
39002	Q2d/e. Coded 9's because he went to Brodie Memorial and they "don't have grades." He is not attending at the present. Subject was referred to as a "slow learner" and "disabled." He went to Brodie Memorial. He puts in 8 hours a day doing housework. (Interviewer has not coded him in Q7. Subject looked retarded to the interviewer. Interviewer also got the impression subject is not allowed to drive or to learn to drive. Subject doesn't drive.)
39001/01/03/04	FHP and Medicaid (coded 01-FHP in Q45)
31302/03/04	Q48c. Coded as "9" because all part of a family business. The joint family income is coded "8" with person #01 the father.
39203	Q2g. Suggested "mongolian" be added. This is the real origin of the Chamorro people.

HEALTH STATUS OF THE POPULATION OF GUAM
RUN LIST

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
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Q2. Relationship to head of the household:

39904	25-Other	Respondent gave S39904 as his son-in-law and single. (When asked about it, #04 is single and like a son-in-law).
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Q2d. Ref. 66 years and older--Marital Status:

40001	12-High School	Graduated from high school and had 4 years as apprentice.
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Q2f. Place in which attended highest grade they finish:

05902	29-Other	Samoa
06702	29-Other	Germany
06703	29-Other	Germany
28301	29-Other	Africa
39502	29-Other	Sweden

Q2g. Ethnic group:

05106	10-T.T.	Rotanese
20302	10-T.T.	Trukese
20303	10-T.T.	Trukese
20304	10-T.T.	Trukese
20305	10-T.T.	Trukese
17401	10-T.T.	Palauan
17402	10-T.T.	Palauan
17403	10-T.T.	Palauan
28301	12-Other/Single	African
37502	12-Other/Single	Mexican
37503	14-Other/Comb.	Mexican/Chamorro
06702	12-Other/Single	German
06703	12- "	German
06704	14-Other/Comb.	German/Black
06706	14- "	German/Filipino/Black

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
05902		
05903	14-Other/Comb.	Chamorro/Samoan
05904	14- "	Chamorro/Samoan
05905	14- "	Chamorro/Samoan
05906	14- "	Chamorro/Samoan
05907	14- "	Chamorro/Samoan
05908	14- "	Chamorro/Samoan
17803	14-Other/Comb.	Caucasian/Palauan
38701	14-Other/Comb.	Japanese/Chamorro
39303	14-Other/Comb.	Caucasian/Chamorro
39304	14- "	Caucasian/Chamorro
17503	14-Other/Comb.	Caucasian/Chamorro
17504	14- "	Caucasian/Chamorro
17303	14-Other/Comb.	Yapese/Hawaiian
17304	14- "	Yapese/Hawaiian/Chamorro
19103	14-Other/Comb.	Chamorro/Japanese
19104	14- "	Chamorro/Japanese
19105	14- "	Chamorro/Japanese
19106	14- "	Chamorro/Japanese
19107	14- "	Chamorro/Japanese
39503	14-Other/Comb.	Chamorro/Caucasian
39504	14- "	Chamorro/Caucasian
38914	14-Other/Comb.	Chamorro/Japanese/Hawaiian
38915	14- "	Chamorro/Japanese/Hawaiian
19503	14-Other/Comb.	Caucasian/Filipino
18003	14-Other/Comb.	Chamorro/Caucasian
18004	14- "	Chamorro/Caucasian
18005	14- "	Chamorro/Caucasian
06002	14-Other/Comb.	Chamorro/Canadian
06003	14- "	Chamorro/Canadian
06004	14- "	Chamorro/Canadian
06005	14- "	Chamorro/Canadian
08803	14-Other/Comb.	Filipino/Caucasian
08804	14- "	Filipino/Caucasian
08805	14- "	Filipino/Caucasian
27701	14-Other/Comb.	Filipino/Japanese

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
26403	14-Other/Comb.	Filipino/Italian
26404	14- "	Chamorro/French

Q4b. In bed at home during the last 2 weeks:

36901	000-Other	Tooth extraction kept S36901 in bed.
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Q7a. Health conditions during the past 12 months:

26203	1700-General	Injury (not specified).
26003	0000-Other	Jaw defect.
19103	0000-Other	Ingrown toenails.
11306	1800-General	Crippled since disabilities/impairment birth, uses walker.
21303	1903-Birth Defect	Clubfoot.
13005	0000-Other	Hearing problem--since birth.
40003	1705-Cuts	Abscess on gum where he had cut it.
39202	1100-General	Bone stuck in throat.
39101	0000-Other	Dizziness (blacked out once), not related to drugs or alcohol.
29004	0800-General	Shaken up (car accident).
13004	1800-General	School suggest got hearing problem.

Q8a. Hospital stays during the past 12 months (place of hospital):

31702	04-Off-island	Korea
21101	04- "	Philippines
37402	04- "	Hawaii
37405	04- "	Hawaii

Q8c. Illness or injury during hospital stays during the past 12 months:

26203	1700-General	Injury (not specified)
28702	0301-Diabetes	"Coded"
	(Not Coded)	(0202-hypertension)
	(Not Coded)	(1802-blind/diabetic)

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
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Q8d. Doctor's name during the past 12 months of hospitalization:

13601	1055	Dr. Guzman
	(Not Coded)	(Dr. Geling)
21102	9999-Off island	Dr. Ventura (gynecologist)
37402	9999- "	Dr. Nakagawa
37405	9999- "	Dr. Nakagawa
31702	0000-Off island	Doctor from Korea

Q8e. Modes of hospitalization payments during the past 12 months:

19407	17-Other	M.I.U. (interviewer feels it's Yap Government coverage).
19411	17- "	M.I.U. (same as above).
17401	13-Commercial	I.N.A. (North American Insurance)
11302	17-Other	Public Health CCS (Crippled Children Services)

Q9a. Name of doctor during the past 12 months for diagnosis and treatment:

39401/02	1600-Pub.Health	Dr. Parents (Mangilao)
01604	4700-Navy Hosp.	Dr. Espirito
02002	4700- "	Dr. Smith
26002	3700-Other	Dr. Liu (China Acupuncture Clinic)
26003	3700- "	Dr. Liu (")
10002	1600-DPHSS	Dr. Torres (Tamuning-Public Health)
40002	2000-SDA	Dr. Whitman

Q9b. Conditions for diagnosis and treatment during the past 12 months:

31701	0000-Other	Positive P.P.D. reactor.
19103	0000-Other	Ingrown toenails.
39202	1100-General	Bone stuck in throat.
39101	0000-Other	Dizziness not related to alcohol or drugs.
25004	0800	Shaken up (car accident)

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
<u>Q9c. During the past 12 months for diagnosis and treatment, name of doctor at another location:</u>		

39101	0000-No Pref/ No Choice	Dr. Chang (Acupuncture)
02201	1600-DPHSS	Dr. Parent (Mangilao)

Q12a. Name of doctor for good health doctors visits during the past 12 months:

02703	0600-FHP	Dr. McDonald
02704	0600-FHP	Dr. McDonald
02705	0600-FHP	Dr. McDonald

Q12c. Reason(s) for good health doctors visits during the past 12 months:

13004	7-Prenatal	Reason for visit; school suggest thought person had hearing problem.
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Q14d. Reason(s) for dentist visits during the past 12 months:

20204	08-Other	Injuries (lost tooth).
20101	08-Other	"Toothache. Only cut nerve surgery," had to do with nerve, not an extraction.
40003	08-Other	Cut gum and had an abscess.

Q14i. Dental insurance during the past 12 months:

02802	06-Other	UIU
02803	06- "	UIU
29302	06- "	UIU
29303	06- "	UIU
29304	06- "	UIU
04001	06- "	Prudential
04002	06- "	Prudential
17302	06- "	Metropolitan
05701	06- "	BC (John Hancock)
05702	06- "	BC (John Hancock)
05703	06- "	BC (John Hancock)
16301	06- "	Staywell
31301	06- "	Nambo
21102	06- "	Nambo
00801	06- "	Lincoln
12603	06- "	UIU

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
07903	06- "	John Hancock
07904	06- "	John Hancock
07905	06- "	John Hancock
01401	06- "	Blue Cross
01402	06- "	Blue Cross
01403	06- "	Blue Cross
01404	06- "	Blue Cross
38501	06- "	UIU
13705	02-GMHP	Subject was covered under 02-GMHP during his visit to the dentist, but presently no dental insurance.

Q15a. Health conditions for off-island treatment:

11306	1800-General	Crippled since birth. Uses walker (Disabilities/ impairments)
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Q15c. Off-island services:

35401	09-Other	Stomach ulcer surgery.
31702	09-Other	
21202	09-Other	Consulted hilog and gynocologist and spent 2 days in hospital to have D&C (uterus cleaned).

Q16a. Reasons for not seeing a doctor when needed:

09503	7	Didn't feel illness serious.
09504	4	Didn't feel doctor could do anything.
09505	4	Same as above.

Q20a. Name of regular doctor:

39401	1600-DPHSS	Dr. Parents
39402	1600-DPHSS	Dr. Parents

Q20b. Usual place for medical attention:

13903	4700-Navy Hosp.	Dr. Fry
19411	9999	Subject was only here temporarily and has gone back to Yap. She was only here for medical treatment.

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
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Q22a. Exercise habits:

06001	20-Other	Snorkeling
06002	20-Other	Snorkeling
40003	20-Other	Tahitian dancing

Q23c. Usual social situations for alcohol consumption habits:

28701	3-Coded (Not Coded)	Fiesta or party. (2-small group of friends or family.)
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Q33ix. Health programs:

23902	01-Other(yes)	Drug abuse.
39701	01-Other(yes)	Mind control & helping others.
25302	01-Other(yes)	Problem teenagers (drug control).

Q33a. Place for health programs to be held at:

29405	7-Other	Hospital and school.
07101	5-Worksite	Other choice not coded-#7 Home
17301	7-Other	Home
38601	7-Other	Fire Station

Q35. Sources from whom information is most helpful:

19502	6-Coded (7-Not Coded)	A nurse or medical aide. (A medical doctor).
20302	7-Coded (3-Not Coded)	A medical doctor. (A friend who is not a relative).
26802	6-Coded (8-Not Coded)	A nurse or medical aide. (Books, magazines, newspapers, pamphlets, etc.).
39701	7-Coded (8-Not Coded)	A medical doctor. (Books, magazines, newspapers, pamphlets, etc.).
13401	8-Coded 7-Not Coded	Books, magazines, newspapers, pamphlets, etc. (A medical doctor).

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
38502	0-No Answer	Respondent answered "no" to all the listed sources; she was trained by her parents (who are now dead) and has 16 years of experience taking care of people (young and old) and has also learned from "old folks."
39901	7-Coded (Not Coded)	Doctor. (Common sense).
38902	8-Coded	Books, magazines, newspapers, etc.
	(7-Not Coded)	(A medical doctor).
36102	6-Coded	A nurse or medical aide.
	(7-Not Coded)	(A medical doctor).
24002	7-Coded	A medical doctor.
	(8-Not Coded)	(Books, magazines, newspapers, pamphlets, etc.).
29405	7-Coded	A medical doctor.
	(6-Not Coded)	(A nurse or medical aide. That respondent was merely chosen as spokesman for family of Yapese and chose nurse or medical aide as their source. I (interviewer) believe just for choice. However, they have an uncle who is a doctor and consult with him often for family's medical needs).

Q42. Place (Off-island) before moving to Guam:

17801	23-T.T.	Ponape
19102	29-Other	Panama
05302	29-Other	Canada

Q44. Place born:

05902	29-Other	American Samoa
06702	29-Other	Germany
39502	29-Other	Sweden

Q45a. Health insurance plan:

14801	10-Other	Subject (either GMHP or FHP) respondent didn't know which and that person has permanently left the island.
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<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
14801	10-Other	Marmon--Off-island plan.
17801	12-Military	BC/BS, FHP and Metropolitan.
17302	06-BC/BS	Cause of retirement.
17303	06-BC/BS	BC/BS, FHP and Metropolitan.
39001	01-FHP	FHP and Medicaid
39002	01-FHP	FHP and Medicaid
39003	01-FHP	FHP and Medicaid
39004	01-FHP	FHP and Medicaid
39204	12-Military	Military and Travelers Insur.
39101	07-Medicaid	Currently no insurance, but they (household #391) had insurance from FHP. Last used was 9/1982 when son was born.
39102	07-Medicaid	Same as above.
39103	07-Medicaid	Same as above.
39104	07-Medicaid	Same as above.
39105	07-Medicaid	Same as above.
39106	07-Medicaid	Same as above.
39107	07-Medicaid	Same as above.
39108	07-Medicaid	Same as above.
39109	07-Medicaid	Same as above.
39110	07-Medicaid	Same as above.
39111	07-Medicaid	Same as above.
19401	10-Other	M.I.U.
19402	10-Other	M.I.U.
19403	10-Other	M.I.U.
19404	10-Other	M.I.U.
19405	10-Other	M.I.U.
19406	10-Other	M.I.U.
19407	10-Other	M.I.U.
19408	10-Other	M.I.U.
19409	10-Other	M.I.U.
19410	10-Other	M.I.U.
19411	10-Other	M.I.U.
06703		
17401	11-Commercial	INA-North American Insurance
17402	11-Commercial	INA-North American Insurance
17403	11-Commercial	INA-North American Insurance
29301	11-Commercial	UIU-Health Plan Insurance
29302	11-Commercial	UIU-Health Plan Insurance
29303	11-Commercial	UIU-Health Plan Insurance
29304	11-Commercial	UIU-Health Plan Insurance
29305	11-Commercial	UIU-Health Plan Insurance
23201	09-Medicare	
23202	09-Medicare	

Q47e. Other: Public assistance:

28502	1-Yes	Social Security Disability
04102	1-Yes	W.I.C.
39810	1-Yes	Farmers Home Assistance

<u>SUBJECT NO.</u>	<u>RECORD CODE</u>	<u>COMMENT/SPECIFY</u>
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Q48a/b/c. Employment status, primary occupation, average number of hours worked per week, and income before taxes:

38503	39999	Respondent's son is in National Guard and gets called in only 6 or 7 weeks. He works about 4 days from 7 a.m. to 5 p.m.
39101	59994	"Disabled" around May 1983. Used to be heavy equipment operator for Government of Guam.

Q49. Who's responsible for maintaining and protecting your good health:

20001	16-Other	Myself and occupation.
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Q50a. Name of doctor for diagnosis and treatment during the last 2 weeks:

03402	2000-SDA	Dr. Newbold
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College of Agriculture and Life Sciences
Community Development Institute

November 9, 1984

SUBJECT: Changes to be made on GHPDA Data Set (Run List)

<u>Subject #</u>	<u>Card</u>	<u>Var Name</u>	<u>Column (s)</u>	<u>From</u>	<u>To</u>	<u>Comment/Specify</u>
31702	31	I8D	21-24	0000	9999	Code (9999) for off- Island
02703	34	I12A	12-15	0600	0000	0600-FHP coded for Dr. McDonald, but Dr. McDonald is not known at FHP Clinic
02704	34	I12A	12-15	0600	0000	
13004	34	I12C	18	7	3	Code (3) for School Physical

APPENDIX C
INTERVIEW SCHEDULE
(QUESTIONNAIRE)

HEALTH SURVEY
VARIABLE DEFINITIONS FOR ANSWERS TO SURVEY

I. TITLE: Demographic variables

- I2A - Ages of all members of household
- I2B - Sex of all individuals of each household
- I2D - Highest grade attended in school
- I2E - Was this grade completed?
- I2F - Country or Island where this grade was finished
- I2G - Ethnic group
- I45 - Any health insurance?
- I45A - Who is insured and which insurance plan?
- I47A - Do you receive welfare (OAA, AB, APTD)?
- I47B - Food stamps?
- I47C - Medicaid?
- I47D - GHURA Housing Assistance/Low income family housing subsidy?
- I47E - Other, specify: _____

II. TITLE: Health Conditions

- I7A1-I7A3 - During the past 12 months (not including the last 2 weeks) has anyone in this household had any of the following health problems?
If yes, who, and what are the conditions?
- I3C - During the last 2 weeks, for what condition was the person in the hospital?
- I4B - During the last 2 weeks, what was the primary causal illness or injury that kept the person in bed?
- I5B - During the last 2 weeks, what was the primary causal illness or injury that the person had?
- I8C - During the past 12 months, for what illness or injury was the person hospitalized?

III. TITLE: DRS and sources of care:

- I3F - Name of doctor of the person in the hospital for last 2 weeks
- I4F - Name of doctor of the person in bed at home for sickness for the last 2 weeks
- I5F - Name of the doctor of the person restricted from activities fro the last 2 weeks
- I6A - The name of the doctor who was visited.
- I50A - Which doctor did this person visit? (with regards to diagnosis and treatment over the past 2 weeks)

Health Survey
Variable Definitions for answers to survey
Page 2

III. TITLE: DRS and sources of care (con't)

- I50C - Did the person visit another doctor at another location? (with regards to diagnosis and treatment over the past 2 weeks)
- I8D - Name of the doctor of the person who was in the hospital for the past 12 months
- I9C - Name of any other doctor this person may have visited
- I12A - Who was the doctor visited for immunization, x-rays, or advise?
- I12D - Did the person visit another doctor at another location?

IV. TITLE: Dental visits

- I14A - Who went to see the dentist? Who was the dentist?
- I14D - Did this person visit another dentist at another location?
- I14B1-I14B3 - What were the reasons for the dental visit?
- I14I - By which insurance is this person covered for dental visits?

V. TITLE: Good health doctor visits reasons

- I6C - What was the reason for the visit to a doctor when under good health?
- I12C1-I12C3 - What was the reason for the visits to a doctor with no injury at the time and in good health?

VI. TITLE: Hospital stays

- I3B - How many days during the last 2 weeks was the person in the hospital?
- I8B - How many days during the past 12 months was the person in the hospital?

VII. TITLE: Work days missed

- I4L - During the last 2 weeks, how many days did illness or injury keep the person from going to work for which pay is received?
- I5 - During the last 2 weeks, how many days did illness or injury (with regards to restricted activities) keep the person from going to work for which pay is received? (Record # of days or "99" for N/A)

Health Survey
Variable Definitions for answers to survey
Page 3

VII. TITLE: Work days missed (con't)

- I10B - Of the total # of days in bed at home, how many days did illness or injury (with regards to being in bed at home for the last 12 months) keep the person from going to work for which pay is received? (Record # of days or "99" for N/A)
- I11B - How many days did illness or injury (with regards to restricted activities over the past 12 months) keep the person from going to work for which pay is received? (Record the # of days)

VIII. TITLE: School days missed

- I4M - During the last 2 weeks, how many days did illness or injury (with regards to being in bed at home over the past 2 weeks) keep the person from going to school? (record # of days, or "99" for N/A)
- I5J - During the last 2 weeks, how many days did this illness or injury (with regards to restricted activities over the past 2 weeks) keep the person from going to school? (record # of days or "99" for N/A)
- I10C - Of the total # of days in bed at home over the past 12 months, just mentioned, how many days did illness or injury keep the person from going to school? (record # of days)
- I11C - Of the total # of days of the restricted activities over the past 12 months just mentioned, how many days did illness or injury keep the person from going to school? (record # of days)

IX. TITLE: Individual 12 month income

- I48C - During the past 12 months, approximately what was the person's income before taxes?

X. TITLE: Recognition & retention of condition

- I3D - When did the person first notice or get this condition which required a hospital stay over the past 2 weeks?
- I3E - Does the person still have this condition at this time?
- I4C - When did the person first notice or get this condition which required to be in bed at home over the last 2 weeks?
- I4D - Does the person still have this condition at this time?
- I5C - When did the person first notice or get this condition with regards to restricted activities over the last 2 weeks?
- I5D - Does the person still have this condition at this time?

Health Survey
Variable Definitions for answers to survey
Page 4

XI. TITLE: Hospital payments

- I3L - How was this hospitalization paid for (with regards to the last 2 weeks)?
- I8E - How was this hospitalization paid for (with regards to the past 12 months)?

XII. TITLE: yes/no answers

- I3 - During the last 2 weeks, did any member of this household stay in a hospital because of illness or injury?
- I4 - During the last 2 weeks, did any member of this household stay in bed at home because of illness or injury?
- I4E - Was a doctor consulted, either by visit or phone during the last 2 weeks for the person's condition?
- I5 - During the last 2 weeks did any member of this household cut down or restrict their usual activities for any given length of time because of illness or injury?
- I5E - Was a doctor consulted either by a visit or phone during the last 2 weeks for the person's condition?
- I6 - Not counting the visits to a doctor by the person's mentioned above, during the last 2 weeks did anyone in this household who was in good health and no injury at the time visit a doctor for immunization, x-rays, exams, tests, etc?
- I6D - Did the person get medical advice over the telephone during this same period?
- I50 - During the past 2 weeks, did anyone in this household visit a doctor for the diagnosis and treatment of an illness or injury?
- I7 - During the past 12 months has anyone in this household had any of the following health conditions?
- I8 - During the past 12 months did anyone in this household stay in a hospital because of illness or injury?
- I9 - During the past 12 months did anyone in this household visit a doctor for the diagnosis and treatment of an illness or injury?
- I10 - During the past 12 months, did anyone in this household stay in bed at home because of illness or injury?
- I11 - During the past 12 months, did anyone in this household cut down or restrict their usual activity for any given length of time because of illness or injury?
- I12 - Not counting the visits to a doctor by the person(s) mentioned, during the past 12 months, 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 advice?

Health Survey
Variable Definitions for answers to survey
Page 5

XII. TITLE: yes/no answers (con't)

- I13 - During the past 12 months, did anyone in this household with a long-time impairment or disability visit a health facility for therapy, habilitation or rehabilitation?
- I14 - During the past 12 months, did anyone in the household visit a dentist for any reason?
- I14H - Is the person covered by dental insurance? (with regards to dental visits over the past 12 months)
- I16 - During the past 12 months was there any time that a household member needed to see a doctor but for some reason did not?
- I19 - During the past 12 months has any member of this household ever decided not to go to a doctor or health facility on Guam because transportation was not readily available?
- I20 - Does any member of this household have a regular doctor?
- I28 - Does any member of this household usually wear a seatbelt when driving or riding as a passenger in a car?
- I29 - Does anyone in this household ever use medication or drugs which affects their mood or helps them relax?
- I30 - In the last 2 weeks, has any member of this household been greatly upset, troubled, or depressed for more than a few days due to problems in the family, divorce, separation, illness, death in the immediate family, preassure associated with work or school, loss of a job, or financial concerns?
- I30B - Was the person unable to do his/her usual work or daily activities because of this problem?
- I21 - Is there any member of this household who regularly smokes tobacco now?
- I21D - Has this person ever been advised by a doctor to stop smoking?
- I22 - Does any member of this household exercise at least 3 times per week?
- I22C - Does this person usually sweat during and/or after exercising?
- I23 - Does any member of this household usually drink alcoholic beverages, such as beer, wine, or mixed drinks?
- I23E - Has a physician ever advised this person that drinking alcohol is injurious to their health?
- I23F - Has this person ever tried to stop drinking alcohol?

House Number: _____
Questionnaire I.D. # _____
Interviewer's Number: _____
Village Area: _____
Date: _____
Coder's Name: _____

A SURVEY TO DETERMINE THE HEALTH STATUS
OF THE POPULATION OF GUAM

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

for

GUAM HEALTH PLANNING AND DEVELOPMENT AGENCY
GOVERNMENT OF GUAM

FUNDED IN PARTS
GHPDA - DHSS MONEY

NARRATIVE REPORT AND
INTERVIEWER'S ASSESSMENT
SHEET

				(2-4)	
House Code					
Person (5-6)		Card (7-8)		Village (9-10)	
0	0	1	0		
				(11-12)	
Interviewer Code					

(NOTE: To be completed by interviewer after the Interview has been conducted, and all questions are answered. Complete this page in your home or our office.)

Interview Completed during visit number 1 2 3 4

Narrative Report: (Include comments on accuracy of responses, interviewer interference, etc.)

Comments or Problems that you encountered that you feel would be helpful to us.

Concerning the interview on the whole:

1. Satisfactory _____
2. Unsatisfactory (explain) _____
3. Refused (explain) _____
4. Not Available (explain) _____
5. Other (explain) _____

☐

Length of Interview _____
(Hours:Minutes)

INTERVIEWER SIGNATURE

DATE

Household Interview Number
(Pre-Assigned)

House
(2-4)

Time Interview Began _____

Person
(5-6)

Card
(7-8)

Village
(9-10)

Card Identification

0	0	1	1		
---	---	---	---	--	--

Village Address _____
(House number and street)

Interviewer (24-25)

--	--

(village)

(26-27)

--	--

Type of Dwelling Place: (See Card Y for code)

Map of House Location

(If more space is needed, use back of sheet)

NOTE: Interview must be an adult member of the household.
(Preference: Head of Household or Spouse)

Month
(28-29)

Day
(30-31)

Year
(32-33)

Date:

--	--	--	--	--	--

How many persons have lived in or moved to this household since February 1, 1983?
(Identify Individuals who regularly eat and sleep in this household. Do not include individuals off-island attending school, family in military stations off-island).

(34) (35)

--	--

Are any of these temporarily living in this household? Code actual number (col. 23-24).

(36) (37)

--	--

WHAT IS YOUR NAME, PLEASE?

(38) (39)

Name of Respondents (contact persons)

--	--

In case we need to get in touch with you for clarification of your questionnaire, we would like your mailing address and a phone number.

Mailing Address:

Phone Number:

Home:

Work:

Other:

1. To begin with we would like you to tell us the first names of all the members of this household who usually live, eat, and sleep here. Begin with the head of the household listing all adults, children, and infants.

2. What is the relationship of all others to ____ (head of household)? (See CARD A for code)

- (a) What are the ages of all members of this household?
(Record actual age after last birthday)

- (b) Their Sex?
Record (1) = Male
(2) = Female

- (c) For those 16 years and older, what is their marital status at the present time? (Show CARD B to Respondent)
- Record (1) = single (never married)
(2) = married only once
(3) = married more than once
(4) = common-law
(5) = widowed
(6) = separated
(7) = divorced

- (d) For those 16 years and older, what is the highest grade _____ attended in school? (See CARD C for code)

- (e) Did they finish that grade?
Record (1) = Yes
(2) = No (Skip to Question 2(g))

- (f) (If Yes to 2(e)) Where did they finish that grade?
Record _____ (See CARD Q for code)
Country or Island

- (g) What ethnic group does each member of this household identify with? (CARD D, Ethnicity)

- Record (01) = Black (08) = Korean
(02) = Caucasian (09) = Saipanese
(03) = Chamorro (10) = T.T. Islander
(04) = Chinese Specify: _____
(05) = Filipino Island Group
(06) = Indian (11) = Vietnamese
(07) = Japanese (12) = Other (Specify: _____)

[illegible]

★★ FORMERLY CARD 12 ★★

PROBE: Are there any persons who usually lived, ate, and slept here during the past year but are now away for some reason. If YES, what is this person's name? Then ask Question 2 through 2(g). If NO, turn page and continue with Question 3.

6. NOT COUNTING THE VISITS to a Doctor by the person(s) mentioned above, during the last 2 weeks did anyone in this household who was in GOOD HEALTH and WITH NO INJURY AT THE TIME visit a Doctor for immunization, x-rays, exams, tests, etc...?

Record (1) = Yes

(2) = No (Skip to Question 7)

- (a) If YES, who was this and WHO WAS THE DOCTOR? (CARD F, Doctor and Health Facility Listing)

- (b) How many times during these last 2 weeks, did go to this doctor's office or clinic? Record number of times

- (c) What was the reason for the visit? (See CARD I Doctor's Office Visit)

- (d) Did get medical advice over the telephone during this same period?
Record (1) = Yes
(2) = No

PROBE: Has any other person from this household who was in GOOD HEALTH and had NO INJURY AT THE TIME visited a doctor's office or clinic in the last 2 weeks? If YES, repeat Questions 6(a), 6(b), etc... If NO, continue with Question 7.

Now I am going to ask you about your health care experience during the past 12 months or last year.

7. During the past 12 months (not including the last 2 weeks), has anyone in this household had any of the following Health Conditions? (See CARD E for conditions)
Record (1) = Yes
(2) = No (Skip to Question 8)

- (a) If YES, who is this and what is/are the condition(s)?

- (b) When was/were this/these condition(s) first diagnosed for ? (See CARD Z)

* REFER TO PAGE 26 FOR QUESTION 50.

GOOD HEALTH DOCTOR VISITS LAST 2 WEEKS

IDENTIFICATION CODE												GOOD HEALTH DOCTOR VISITS LAST 7 WEEKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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**HOSPITAL STAYS
PAST 12 MONTHS**

8. During the past 12 months (not including the 2 weeks we asked about earlier), did anyone in this household stay in a hospital because of illness or injury?

Record (1) = Yes

(2) = No (Skip to Question 9)

- (a) If YES, who was this and which hospital or hospitals did stay?

Record (1) = Guam Memorial Hospital

(2) = Navy Regional Medical Center

(3) = Old Guam Memorial Hospital

(4) = Off-Island (Specify: _____)

(5) : GMH and off-island

(6) = NPMC and off-island

NY DAYS during the past 12

- (b) HOW MANY DAYS during the past 12 months was _____
in the hospital?

Record number of days

- (c) For what illness or injury was ____ hospitalized?
(Show RESPONDENT CARD E, HEALTH CONDITIONS LISTING)

- (d) Who was _____'s doctor? (CARD F, Doctor and Health Facility Listing)

- (e) How was this hospitalization paid for? (See CARD G, Modes of Hospitalization Payments)

- (f) During the past 12 months, all totaled how many times was hospitalized?

[illegible]

PROBE: Did any other member of this household stay in a hospital during the past 12 months because of illness or injury?
If YES, repeat Question 8(a), 8(b), etc..
If NO, continue with Question 9.

- (2) = No (Skip to Question 9(h))

- (14) = unknown, don't know, or NO ANSWER

[illegible]

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10. During the past 12 months (Not counting the 2 weeks mentioned earlier), did anyone in this household stay in bed at home because of illness or injury?
Record (1) = Yes

Record (1) = Yes

(2) = No (Skip to Question 11)

(a) If YES, who was this and HOW MANY DAYS during the past 12 months did _____ stay in bed at home because of illness or injury?

Record number of days

(b) Of the total number of days in bed at home just mentioned, how many days did illness or injury keep from going to work for which pay is received?

Record number of days

(c) Of the total number of days in bed at home just mentioned, how many days did illness or injury keep _____ from going to school?

Record number of days

PROBE: Did any other member of this household stay in bed
at home during the past 12 months?

If YES, repeat Questions 10(a), 10(b), and 10(c).

IF NO, continue with Question 11.

11. During the past 12 months, did anyone in this household cut down or restrict their usual activities for any given length of time because of illness or injury? (Do not count the 2 weeks mentioned earlier and also those days during the past 12 months _____ was hospitalized or stayed in bed at home due to illness or injury.)

Record (1) = Yes

(2) = No (Skip to Question 12)

(a) If YES, who was this and HOW MANY DAYS during the past 12 months did _____ cut down or restrict their usual activities for any given length of time because of illness or injury?

Record number of days

(b) Of the total number of days just mentioned, how many days did illness or injury keep _____ from going to work for which pay is received?

Record number of days

IN BED AT HOME
PAST 12 MONTHS

RESTRICTED ACTIVITIES
PAST 12 MONTHS

[illegible]

(c) Of the total number of days just mentioned, how many days did illness or injury keep _____ from going to school?
Record number of days _____

PROBE: Did any other member of this household cut down
or restrict their usual activities during the past
12 months?
If YES, repeat Questions 11(a), 11(b), and 11(c).
If NO, continue with Question 12.

[illegible]

- (2) = No (Skip to Question 13)

- (g) If YES to previous question, how many times did visit this doctor?

[illegible][illegible]

211

13. During the past 12 months did anyone in this household with a long-time impairment or disability (hearing, speech, physical) visit a health facility for THERAPY, HABILITATION OR REHABILITATION?

Record (1) = Yes

(2) = No (Skip to Question 14)

(a) If YES, who was this, and where did ____ go for this treatment? (Use CARD F for code)

(b) How many times did ____ go there?
Record number of times

(c) Did ____ go any place else for therapy or rehabilitation? If YES, where? (Use CARD F for code)
If NO, record 99, and continue with Question 14.

(d) If YES to previous question, how many times did ____ go there?
Record number of times

(e) Did ____ go anyplace else for therapy or rehabilitation at a different place? If YES, where? (Use CARD F for code). If NO, record 99, turn page and continue with Question 14.

THERAPY REHABILITATION
PAST 12 MONTHS

	IDENTIFICATION CODE																	
	House			Per-son		Card		Vill-lage		13	a					b		
NAME	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18
						3	5											

c				d				e			
19	20	21	22	23	24	25	26	27	28	29	

PROBE: Did any other person from this household with long-term impairment or disability (hearing, speech, physical) visit a health facility for therapy during the past 12 months?
If YES, repeat Questions 13(a), 13(b), etc...
If NO, continue with Question 14.

REGULAR DOCTOR

- (2) = No (Skip to Question 20(b))

- (b) Where does _____ usually go to receive medical attention
(See CARD F for code)

[illegible]

OFF-ISLAND TREATMENT

OFF-ISLAND TREATMENT

15. During the past 12 months has any member of this household travelled OFF-ISLAND specifically for the diagnosis and/or treatment of a medical condition?

Record (1) = Yes

(2) = No (Skip to Question 16)

- (a) If YES, who was this and WHAT WAS THE CONDITION(S) for which _____ sought medical treatment? (See CARD E, Health Conditions Listing)

- (b) Where did go OFF-ISLAND

City

State/Country

- (c) Which of the following services did _____ receive while OFF-ISLAND? (CARD L, OFF-ISLAND Services)

Record (1) = Physical Rehabilitation Services

- (2) = Chemotherapy
(3) = Radiation Therapy
(4) = Nuclear Medicine Diagnosis and Treatment
(5) = Open Heart Surgery
(6) = Organ Transplant
(7) = Eye Surgery
(8) = Correction of Congenital Abnormality
(9) = Other (Specify:)

- (d) Was _____ referred by a physician or health facility on Guam to seek medical attention OFF-ISLAND because these services were not available on Guam?

Record (1) = Yes

(2) = No

- (e) Were the services _____ received OFF-ISLAND paid for in part or whole by insurance?

Record (1) = Paid in full by insurance

(2) = Paid in part by insurance

(3) = Not paid by insurance

[illegible]

PROBE: Has any other member of this household travelled OFF-ISLAND specifically for the diagnosis and/or treatment of a medical condition?

If YES, repeat Questions 15(a), 15(b), etc...

If NO, continue with Question 16.

41. How long have you lived continuously at this residence?
DO NOT include time away for more than a year such as
 college, military, change of address, etc...
 Record (0) = less than one year
 (number of years)

(a) HOW LONG did _____ live there before moving to this residence?
Record (0) = less than one year
(number of years)

43. What are the chances that you will move WITHIN THE NEXT 5 YEARS? (CARD R, 1 = highly likely; 2 = likely; 3 = no plans; 4 = not likely; 5 = highly unlikely)

(c) Off-Island? _____
Where? _____ (See CARD Q for code)

44. Would you please tell me where you were born?

(County or Island)

(THIS LAST SET OF QUESTIONS IS ONCE AGAIN FOR THE WHOLE HOUSEHOLD)

45. Do you or any other member of this household belong to a HEALTH INSURANCE PLAN?

Record (1) = Yes

(2) = No (Skip to Question 46)

(a) If YES, who is this, and by which insurance plan are they covered. (Show CARD 5 to Respondent)

NAME	IDENTIFICATION CODE										MIGRATION																	
	House			Per- son		Card		Vill- lage			41		42		a		43a	b	b	c	c	44		49				
	2	3	4	5	6	7	8	9	10	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66		
						6	0																					

☆☆ FORMERLY CARD 70 ☆☆

[illegible]

MIGRATION

HEALTH INSURANCE PLANS

49. For our last question, we would like to know who you feel is responsible for maintaining and protecting your good health? (CARD BB)

Record (01) = MySelf
(02) = Family
(03) = Doctor
(04) = Government (Local and Federal)
(05) = Myself and Family
(06) = Myself and Doctor
(07) = Myself and Government
(08) = Family and Doctor
(09) = Family and Government
(10) = Doctor and Government
(11) = Myself, Family and Doctor
(12) = Myself, Family and Government
(13) = Family, Doctor and Government
(14) = Myself, Doctor and Government
(15) = All of the above

*THIS IS THE END OF THE SURVEY. WE REALLY APPRECIATE YOU
TAKING TIME OUT TO PARTICIPATE. THANK YOU VERY MUCH!

Time interview ended: _____

APPENDIX D
FLASH CARDS

A SURVEY TO DETERMINE THE HEALTH STATUS
OF THE POPULATION ON GUAM

INTERVIEW SCHEDULE
CODE CARDS

CARD C - Question 2d
Education

Highest Grade Completed

- (1) Elementary - K 1 2 3 4 5 6 7 8
(2) High School - 9 10 11 12
(3) College - 1 2 3 4 5 or more years

CARD D - Question 2g
Ethnicity

- ```

01 - Black
02 - Caucasian
03 - Chamorro
04 - Chinese
05 - Filipino
06 - Indian
07 - Japanese
08 - Korean
09 - Saipanese
10 - T.T. Islander (Specify: _____)
 Island Group
11 - Vietnamese
12 - Other Single (Specify: _____)
13 - Chamorro/Filipino
14 - Other Combination (Specify: _____)

```

CARD E - Questions 3c, 3j, 4b, 4i, 5b, 7, 9b, 50b  
 Health Conditions - please be specific!

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>01 - TUMOR, GROWTH,<br/>           NEOPLASM, CANCER<br/>           01-Leukemia<br/>           02-Hodgkin's Disease<br/>           03-Lymphoma<br/>           04-Sarcoma<br/>           05-Benign growth</p>                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>05 - RESPIRATORY TRACT<br/>           DISORDERS<br/>           01-Asthma<br/>           02-Emphysema<br/>           03-Tuberculosis (TB)<br/>           04-Bronchitis<br/>           05-Pneumonia</p>                                                                                                                                                                                                         |
| <p>02 - HEART and BLOOD VESSEL<br/>           DISORDERS, STROKE<br/>           01-Hypertension (high<br/>               blood pressure)<br/>           02-Hypotension (low<br/>               blood pressure)<br/>           03-Heart disease<br/>           04-Rheumatic<br/>           05-Varicose veins<br/>           06-Hemorrhoid</p>                                                                                                                                                                                                                                                                                               | <p>06 - GENITO-URINARY TRACT<br/>           DISORDERS<br/>           01-Kidney disease,<br/>               kidneystones<br/>           02-Bladder disease<br/>           03-Problems of ureters<br/>               or uretha<br/>           04-Prostate problems<br/>           05-Problems of female<br/>               reproductive system<br/>           06-Menopause<br/>           07-Kidney transplant</p> |
| <p>03 - METABOLIC and<br/>           ENDOCRINE DISEASES<br/>           01-Diabetes<br/>           02-Thyroid problems<br/>           03-Obesity (overweight)<br/>           04-Nutritional<br/>               deficiencies<br/>           05-Cholestrol problems</p>                                                                                                                                                                                                                                                                                                                                                                      | <p>07 - NEUROLOGICAL DISORDERS<br/>           01-ALS (Lytico)<br/>           02-Parkinson's disease<br/>               (Bodig)<br/>           03-Epilepsy<br/>           04-Multiple Sclerosis<br/>           05-Retardation<br/>           06-Migraine headaches<br/>           07-Hydrocephalus</p>                                                                                                            |
| <p>04 - DIGESTIVE TRACT<br/>           DISORDERS<br/>           00-Jaundice<br/>           01-Ulcers of mouth,<br/>               esophagus, stomach,<br/>               or duodenum<br/>           02-Colitis<br/>           03-Diverticulitis<br/>           04-Spastic colon<br/>           05-Liver disease,<br/>               Cirrhosis<br/>           06-Gallbladder disease,<br/>               gallstones<br/>           07-Problems of pancreas<br/>           08-Hernia rupture<br/>           09-Diarrhea, vomiting,<br/>               stomachaches, cramps<br/>           10-Dehydration<br/>           11-Appendicitis</p> | <p>08 - MENTAL DISORDERS<br/>           01-Chronic or severe<br/>               depression, manic<br/>               depression<br/>           02-Schizophrenia<br/>           03-Paranoia<br/>           04-Stress-anxiety<br/>           05-Nervous breakdown</p>                                                                                                                                              |

CARD E - Continued

Health Conditions - please be specific!

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| <p>09 - MUSCULAR/SKELETAL DISORDERS</p> <ul style="list-style-type: none"> <li>00-General body aches</li> <li>01-Arthritis</li> <li>02-Rheumatism</li> <li>03-Gout</li> <li>04-Sciatica</li> <li>05-Bursitis</li> <li>06-Joint and bone pains</li> <li>07-Back pains</li> <li>08-Lumbago</li> <li>09-Pinched nerve</li> </ul>                 | <p>13 - EYE or VISUAL DISORDERS</p> <ul style="list-style-type: none"> <li>00-General symptoms</li> <li>01-Cataracts</li> <li>02-Glaucoma</li> <li>03-Retinitis</li> <li>04-Retinopathy</li> <li>05-Visually handicapped, blind</li> <li>06-Various eye troubles, pink eye</li> <li>07-Injury</li> </ul>                                                                                              |
| <p>10 - SKIN DISORDERS</p> <ul style="list-style-type: none"> <li>01-Boils, carbuncles</li> <li>02-Eczema</li> <li>03-Psoriasis</li> <li>04-Skin ulcer</li> <li>05-Itching</li> <li>06-Rash</li> <li>07-Flaking, dry skin</li> <li>08-Acne, pimples</li> <li>09-Herpes</li> </ul>                                                             | <p>14 - INFECTIOUS DISEASES</p> <ul style="list-style-type: none"> <li>01-Influenza of respiratory or gastrointestinal tract</li> <li>02-Chicken pox</li> <li>03-Measles</li> <li>04-Mumps</li> <li>05-Whooping cough</li> <li>06-Salmonella</li> <li>07-Food poisoning</li> <li>08-Hepatitis</li> <li>09-Cholera</li> <li>10-Common Cold</li> <li>11-Meningitis</li> <li>12-Athletes foot</li> </ul> |
| <p>11 - HEAD/EAR/NOSE/THROAT DISORDERS</p> <ul style="list-style-type: none"> <li>00-General symptoms</li> <li>01-Chronic headaches</li> <li>02-Sinus problems</li> <li>03-Ear infections</li> <li>04-Tonsillitis</li> <li>05-Strep throat</li> <li>06-Laryngitis</li> <li>07-Mouth ulcers</li> <li>08-Chancres</li> <li>09-Herpes</li> </ul> | <p>15 - PREGNANCY</p> <ul style="list-style-type: none"> <li>01-Normal pregnancy</li> <li>02-Problems with pregnancy</li> <li>03-Normal delivery</li> <li>04-Abnormal delivery</li> </ul>                                                                                                                                                                                                             |
| <p>12 - ALLERGIC DISORDERS</p> <ul style="list-style-type: none"> <li>01-Skin allergies</li> <li>02-Respiratory system (hay fever)</li> <li>03-Food allergies</li> </ul>                                                                                                                                                                      | <p>16 - ALCOHOL/DRUG RELATED PROBLEMS</p> <ul style="list-style-type: none"> <li>01-Disorientation</li> <li>02-Hyperactivity</li> <li>03-Dizziness</li> <li>04-Loss of consciousness</li> <li>05-Convulsion</li> </ul>                                                                                                                                                                                |

CARD E - ContinuedHealth Conditions - please be specific!

## 17 - INJURIES/ACCIDENTS

- 01-Broken bones
- 02-Laceration requiring  
stitches
- 03-Dislocations
- 04-Sprains
- 05-Cuts
- 06-Bruises
- 07-Internal injuries
- 08-Burns
- 09-Animal bites
- 10-Abrasions

18 - DISABILITIES/  
IMPAIRMENTS

- 01-Disabled by stroke
- 02-Loss of sight
- 03-Loss of hearing
- 04-Loss of speech (due  
to cancer surgery)
- 05-Loss of arms, legs,  
or hand (due to  
accident or  
amputation)
- 06-Partially paralyzed
- 07-Fully paralyzed

## 19 - BIRTH

- 01-Normal
- 02-Postnatal distress
- 03-Birth defects
- 04-Miscarriage

## 00 - OTHER

- 00-Other

CARD F - Questions 3f,h,k; 4f,j; 5f; 8d; 9a,e; 12d,f; 13c,e;  
14d; 20a,b; 50a,c

Doctors and Health Facilities on Guam

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| <p>00 - NO PREFERENCE/NO CHOICE<br/>00-Dr. Chang, Acupunc-<br/>ture (Agana)</p> <p>01 - ASAN FAMILY CLINIC<br/>(ASAN)<br/>01-Dr. Acosta</p> <p>02 - CARLOS HEIGHTS CLINIC<br/>(TUMON, TAMUNING)<br/>02-Dr. Santos (Tumon,<br/>Tamuning)<br/>03-Dr. M. Kallingal<br/>(Harmon, Dededo)<br/>04-Dr. S. Kallingal<br/>(Tumon, Tamuning)</p> <p>03 - CRUZ PHARMACY<br/>(TAMUNING)<br/>05-Dr. Olivia Cruz</p> <p>04 - DR. CURRY'S OFFICE<br/>(GCIC, AGANA)<br/>06-Dr. Curry</p> <p>05 - DEDEDO MEDICAL CENTER<br/>(DEDEDO)<br/>07-Dr. Atendido<br/>08-Dr. Carrera</p> <p>06 - FAMILY HEALTH PLAN<br/>(FHP) (TAMUNING)<br/>00-Dr. McDonald<br/>09-Dr. Aquino<br/>10-Dr. Binkley<br/>11-Dr. Burkhard*<br/>12-Dr. Camacho<br/>13-Dr. Cariaga<br/>14-Dr. Eigner*<br/>15-Dr. Fishman**<br/>16-Dr. Freeman<br/>17-Dr. Dorneweerd<br/>18-Dr. Huitema<br/>19-Dr. Larive*<br/>20-Dr. Lombard</p> | <p>06 - FAMILY HEALTH PLAN, FHP<br/>(TAMUNING)--continued<br/>21-Dr. Martinez<br/>22-Dr. Michels<br/>23-Dr. Murphy<br/>24-Dr. Oliver<br/>25-Dr. Rozychi<br/>26-Dr. Ryan*<br/>27-Dr. Silan**<br/>28-Dr. Smith<br/>29-Dr. Stadler<br/>30-Dr. Wanlass<br/>31-Dr. Wenner</p> <p>07 - DR. GARRETT'S OFFICE<br/>(GCIC, AGANA)<br/>32-Dr. Garrett</p> <p>08 - GOOD SAMARITAN CLINIC<br/>AND SURGICENTER (CHALAN<br/>SAN ANTONIO, TAMUNING)<br/>33-Dr. Bollinger<br/>34-Dr. Hayes*<br/>35-Dr. Matthews**<br/>36-Dr. Macaraeg<br/>37-Dr. Soriano<br/>38-Dr. Teiche<br/>39-Dr. Werthman</p> <p>09 - GUAM MEDICAL CLINIC (CHALAN<br/>SAN ANTONIO, TAMUNING)<br/>40-Dr. Sirilan</p> <p>10 - GUAM MEMORIAL HOSPITAL<br/>(GMH) (TAMUNING)</p> <p>11 - GUAM POLY CLINIC (TAMUNING)<br/>41-Dr. Chiu<br/>42-Dr. Griley<br/>43-Dr. Hong</p> |
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CARD F - ContinuedDoctors and Health Facilities on Guam

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| <p>12 - I.T.C. CLINIC #<br/>(TAMUNING)<br/>44-Dr. Arguelles<br/>45-Dr. Basilio<br/>46-Dr. P. Boonprakong<br/>47-Dr. V. Boonprakong<br/>48-Dr. Platt<br/>49-Dr. Sison</p> <p>13 - I.T.C. CLINIC #2<br/>(TAMUNING)<br/>50-Dr. K. Chen</p> <p>14 - FAMILY CLINIC (I.T.C.,<br/>(TAMUNING)<br/>51-Dr. Duenas<br/>52-Dr. Ericson<br/>53-Dr. Perez<br/>54-Dr. Taitano</p> <p>15 - MARIANAS MEDICAL CLINIC<br/>(TAMUNING)<br/>55-Dr. Guzman</p> <p>16 - DEPARTMENT OF PUBLIC<br/>HEALTH AND SOCIAL<br/>SERVICE (MANGILAO)<br/>00-Dr. Parents<br/>(Mangilao)</p> <p>17 - DR. SABLAN'S CLINIC<br/>(MONGMONG/TOTO/MAITE)<br/>56-Dr. Sablan</p> <p>18 - DR. SAGISI and DR.<br/>BATOYAN'S CLINIC (GOOD<br/>SAMARITAN CLINIC, CHALAN<br/>SAN ANTONIO, TAMUNING)<br/>57-Dr. Batoyan<br/>58-Dr. Sagisi</p> <p>19 - ST. ANTHONY'S CLINIC<br/>(TAMUNING)<br/>59-Dr. Concepcion<br/>60-Dr. Salvador</p> | <p>20 - SEVENTH DAY ADVENTIST<br/>CLINIC (TAMUNING)<br/>00-Dr. Werthman<br/>61-Dr. Boyle<br/>62-Dr. Holm<br/>63-Dr. Hanson<br/>64-Dr. Gerling<br/>65-Dr. B. Steinman<br/>66-Dr. W. D. Steinman<br/>67-Dr. Rick<br/>68-Dr. White<br/>00-Dr. Newbold</p> <p>21 - TAMUNING MEDICAL CLINIC<br/>(TAMUNING)<br/>69-Dr. Chang</p> <p>22 - DR. TOLENTINO'S OFFICE<br/>(I.T.C., TAMUNING)<br/>70-Dr. Tolentino</p> <p>23 - DEDEDO DENTAL CLINIC<br/>(DEDEDO)<br/>71-Dr. Walker</p> <p>24 - FHP DENTAL CLINIC<br/>(TAMUNING)<br/>72-Dr. Chun<br/>73-Dr. Goldstein<br/>74-Dr. Ives<br/>75-Dr. Soriano<br/>76-Dr. Walpole</p> <p>25 - ST. ANTHONY'S DENTAL<br/>CLINIC (CHALAN SAN<br/>ANTONIO, TANUMING)***<br/>77-Dr. Yumang</p> <p>26 - G.I.T.C. DENTAL CLINIC<br/>(TAMUNING)<br/>78-Dr. Labalan</p> <p>27 - GUAM POLY DENTAL CLINIC<br/>(TAMUNING)<br/>79-Dr. Silos</p> <p>28 - DR. MADARANG'S CLINIC<br/>(HARMON, DEDEDO)<br/>80-Dr. Madarang)</p> |
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CARD F - ContinuedDoctors and Health Facilities on Guam

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| 29 - MARIANAS DENTAL CLINIC<br>(TAMUNING)<br>81-Dr. Veloria                                                                           | 39 - EAST WEST ORIENTAL CLINIC<br>(MONGMONG/TOTO)<br>00-Dr. Chang H. Chung                                                                                                                                                         |
| 30 - ORDOT DENTAL CLINIC<br>(ORDOT/CHALAN PAGO)<br>82-Dr. Klein<br>83-Dr. Nelson                                                      | 40 - DR. T. J. MASKELL'S<br>CHIROPRACTOR CLINIC (TUMON,<br>TAMUNING)<br>00-Dr. T. J. Maskell                                                                                                                                       |
| 31 - ORTHODONTICS CLINIC<br>CHALAN SAN ANTONIO,<br>TAMUNING)<br>84-Dr. Camacho<br>85-Dr. Hoffman                                      | 41 - GUAM CHIROPRACTOR CLINIC<br>(GCIC, AGANA)                                                                                                                                                                                     |
| 32 - DEPARTMENT OF PUBLIC<br>HEALTH AND SOCIAL<br>SERVICES (MANGILAO)<br>86-Dr. Adamson<br>87-Dr. Mayberry<br>88-Dr. Sterritt         | 42 - DEPT. OF MENTAL HEALTH and<br>SUBSTANCE ABUSE (OLD GMH<br>BLDG., TAMUNING)                                                                                                                                                    |
| 33 - DR. REYNOLDS & ASSOC.<br>(GCIC, AGANA)<br>89-Dr. Fleischer<br>90-Dr. Post<br>91-Dr. Reynolds<br>92-Dr. Romero<br>93-Dr. Yasuhiro | 43 - PSYCHOLOGICAL SERVICES<br>01-Dr. E. Fuerst<br>02-Dr. E. Woodyard (Agana)<br>03-Behavioral Clinic<br>(Tamuning)                                                                                                                |
| 34 - SEVENTH DAY ADVENTIST<br>DENTAL CLINIC (YPAO,<br>TAMUNING)<br>94-Dr. Agnette<br>95-Dr. Guth<br>96-Dr. Lee<br>97-Dr. McFarlane    | 44 - SURUHANA/SURUHANNO<br>45 - HILOG<br>46 - TRADITIONAL HEALTH HEALER<br>50 - NURSE PRACTITIONER                                                                                                                                 |
| 35 - DR. TROYER'S CLINIC<br>98-Dr. Troyer                                                                                             | 51 - UOG CLINIC (MANGILAO)<br>60 - ZEE'S COMPLEX/CENTURY PLAZA<br>(TAMUNING)<br>80-Dr. Wy Chen, GP<br>81-Dr. Acosta, Optical                                                                                                       |
| 36 - DR. VAN DER PYLE'S<br>CLINIC (GCIC, AGANA)<br>99-Dr. Van der Pyle                                                                | 47 - NAVAL HOSPITAL (AGANA HTS)<br>00-Dr. Espirito<br>00-Dr. Smith                                                                                                                                                                 |
| 37 - CHINA ACUPUNCTURE<br>CLINIC (TAMUNING)<br>00-Dr. Liu                                                                             | 48 - <u>ANDERSEN CLINIC (YIGO)</u><br>*Dr. no longer practicing on<br>island, went off-island.<br>**Dr. presently located:<br>-0615, ITC (Tamuning)<br>-0627, Asia Plaza (Tamuning)<br>-0835, Micronesia Eye Center<br>(Tamuning). |
| 38 - GUAM ACUPUNCTURE CLINIC                                                                                                          | ***Clinic 25 corrected from Good<br>Samaritan Dental Clinic to St.<br>Anthony's Dental Clinic.                                                                                                                                     |

CARD G - Questions 3l and 8e  
Modes of Hospitalization Payments

- 01 - FHP
- 02 - GMHP
- 03 - HML
- 04 - STAYWELL
- 05 - HMSA
- 06 - BLUE CROSS/BLUE SHIELD
- 07 - MEDICAID
- 08 - MEDICARE: HOSPITAL ONLY
- 09 - MEDICARE: HOSPITAL, PHYSICIAN VISIT  
(Specify Carrier: \_\_\_\_\_)
- 10 - MILITARY/CHAMPUS
- 11 - V.A.
- 12 - HOSPITAL ABATEMENT (Welfare, Public Health etc...)
- 13 - COMMERCIAL (Specify: \_\_\_\_\_)
- 14 - SELF-PAID, excluding co-payments and deductibles
- 15 - NEVER RECEIVED A BILL
- 16 - UNABLE TO PAY PART OR ALL OF BILL, exclude co-payments  
and deductible
- 17 - OTHER (Specify: \_\_\_\_\_)
- 18 - Federal (e.g. GEHA)

CARD H - Questions 4g, 5g, and 16a  
Reasons Why Doctor Was Not Consulted

- 01 - Could not get appointment
- 02 - No money or insurance for doctor visit
- 03 - No transportation
- 04 - Felt the doctor could not do anything
- 05 - Felt I could treat myself
- 06 - Didn't want to bother the doctor
- 07 - Didn't feel that illness/injury was that serious
- 08 - Fear or discomfort in doctors visits
- 09 - No illness or injury at the time
- 10 - Others (Specify: \_\_\_\_\_)

CARD I - Questions 6c, and 12 c  
Good Health/No injury Doctor's Visit

- 1 - Prescription/Refill
- 2 - Annual Health Exam
- 3 - Employment or School Physical
- 4 - Immunization Update
- 5 - General Check-up
- 6 - Eye Exam
- 7 - Prenatal/Post
- 8 - Other

CARD J - Question 14b  
Dental Conditions

- 1 - Checkup and/or Cleaning
- 2 - Filling
- 3 - Extractions
- 4 - Fitting for Tooth Replacement, Crown Cap  
or False Teeth
- 5 - Orthodontist
- 6 - Gum Disease
- 7 - Others (Specify: \_\_\_\_\_)

CARD K - Question 14i  
Dental Insurance

- 1 - PUBLIC HEALTH
- 2 - GMHP
- 3 - FHP
- 4 - HML
- 5 - Military
- 6 - Other
- 7 - Federal

CARD L - Question 15c  
OFF-ISLAND Service

- 1 - Physical Rehabilitation Services
- 2 - Chemotherapy
- 3 - Radiation Therapy
- 4 - Nuclear Medicine Diagnosis and Treatment
- 5 - Open Heart Surgery
- 6 - Organ Transplant
- 7 - Eye Surgery
- 8 - Correcting of Congenital Abnormality
- 9 - Other (Specify: \_\_\_\_\_)

CARD M - Question 22a  
Exercise List

- 01 - Jogging/running
- 02 - Swimming
- 03 - Tennis
- 04 - Baseball/softball
- 05 - Basketball
- 06 - Weight lifting
- 07 - Working Around the Yard
- 08 - Doing Housework
- 09 - Racquetball
- 10 - Walking (over 1 mile)
- 11 - Aerobics/20 minute workout/heavy workout
- 12 - Bowling
- 13 - Golf
- 14 - Stretching/light workout
- 15 - Football
- 16 - Volleyball
- 17 - Biking
- 18 - Surfing
- 19 - Soccer
- 20 - Other

CARD Z - QUESTION 7bSaw a doctor and diagnosed:

00 less than 1 month  
 01-12 actual number of months  
 13 over 12 months  
 16 doesn't know when within 12 months

Saw a doctor but not diagnosed:

20 less than 1 month  
 21-32 actual number of months (1-12)  
 33 over 12 months  
 36 doesn't know when within 12 months

No doctor but self-diagnosed:

40 less than 1 month  
 41-52 actual number of months (1-12)  
 53 over 12 months  
 56 don't know when within 12 months  
 60 unknown, don't know or no answer

CARD AA - QUESTION 30aReason for depression, etc.

01 family problems  
 02 death/illness immediate family  
 03 death/illness relative/friends  
 04 divorce/separation (his/her own)  
 05 loss of job or job problems  
 06 moving  
 07 homesick  
 08 financial  
 09 medication side affect

APPENDIX E  
REFERENCES CITED

## REFERENCES

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- (4) 1984-87 Guam Cooperative Extension Service Plan of Work. College of Agriculture and Life Sciences, University of Guam (1984).
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- (6) Andersen, Robert N. The Molokai Health Services System: A Profile of Its Consumers. Research Bulletin 198, Hawaii Agricultural Experiment Station, College of of Tropical Agriculture and Human Resources, University of Hawaii-Manoa (1979).



APPENDIX F  
PROJECT PLANNING TEAM

### GHPDA/CDI PROJECT TEAM

A number of individuals played an active part in the planning and implementation of the islandwide health behavior survey project. The extent of involvement varied. However, all played significant roles.

#### GHPDA Personnel

Ms. Priscilla Maanao, former Administrator  
Mr. Michael Duenas, Acting Administrator  
Mr. Jose Mendiola, Deputy Administrator  
Ms. Gloria Long, former Planner  
Ms. Ulla-Katrina Craig, Planner  
Ms. Cynthia Naval, Planner

#### CDI Personnel

Dr. Lawrence F. Kasperbauer, Project Leader/Director, CDI  
Mr. Leonardo M. Rapadas, Data Collection Computer Entry  
Supervisor  
Dr. Randall Workman, Sociology Extension Specialist

Special recognition and gratitude is due and extended to the team's support staff at GHPDA and CDI. Special thanks are in order for Ms. Anita Manglona for her meticulous management of personnel action paperwork and payroll matters for interviewers and data coders, in addition to her efforts in data preparation and entry (among other valuable tasks). Dangkulo na Si Yuus Maase Ms. Arsenia Procalla for long hours of general assistance as CDI secretary throughout the project and, in particular, for drawing the numerous figures and typing this report. A special thanks is also in order for Extension Specialist Richard Prelosky, Laura Allman, Roberta Flores, and all others who helped in some way to complete the final revision and typing of this report.

The College and Extension administrators are gratefully acknowledged for their support of the project and their understanding of the complex processes involved in carrying out a study of this nature and magnitude.