VOLUME 4

Health Status of the Population of Guam: Health Care Accessibility, Utilization, Satisfaction and Responsibility

Community Development Report No. 15
June 4, 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:

HEALTH CARE ACCESSIBILITY, UTILIZATION, SATISFACTION AND RESPONSIBILITY

Lawrence F. Kasperbauer
Leonardo M. Rapadas
Randy L. Workman

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

Volume Four
Community Development Report No. 15

Community Development Institute
College of Agriculture and Life Sciences
University of Guam
Mangilao, Guam 96913

June 4, 1985

This material is based upon work supported by the U. S. Department of Health and Human Services and the Guam Health Planning and Development Agency under Agreement Number W32100001 and the University of Guam.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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 fourth 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 health care accessibility, utilization, satisfaction, responsibility and knowledge of sanitation practices.

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 (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 10.0% 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 10.0% 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 34

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 eight 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 the accessibility and utilization of health services. Health education program interests are explored in the third section. Sections Four through Six focus on health care information sources, level of satisfaction with the quality, accessibility and costs of health care services and health care responsibility. Food handling and child care sanitation knowledge are discussed in the seventh section. A brief summary of the findings is presented in Section Eight which is the final section.

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.

Although too numerous to list here, appreciation and gratitude is extended to the 400 household representatives who volunteered approximately an hour of their precious time providing the basic information for the study. Obviously, without their excellent cooperation and honesty, this study would not have been possible.

SECTION TWO

ACCESSIBILITY AND UTILIZATION OF HEALTH SERVICES

2.1 Introduction and Personal-Social Characteristics

Information concerning the accessibility and utilization of services to meet health care needs of the 1,928 individuals included in the islandwide study was obtained from the 400 adult household interviewees. The data presented in this report were derived from the personal interviews that depended on recall of the activities, events and situations that had occurred during the prior 12 months. The 400 primary subjects responded to certain questions not only for themselves but also on behalf of all members of their household. In most cases, this seemed relatively easy to achieve. The data presented in this report, therefore, may be expected to be accurate to the extent that respondents were able to recall or have general knowledge or awareness of their household health care situation. While some individuals may have overrepresented their household, others more than likely underrepresented theirs with a net result of the total data set being a "good" representation of true values or accurate information.

The basic health care information included in this section was obtained from an analysis of Questions 16 through 20b. A copy of these questions appears in Appendix C.

2.2 Inability to Obtain Doctor Care

Although an individual may periodically feel that he or a household member should seek and receive medical attention or care, for various reasons they do not. The 400 subjects were specifically asked if there had been any time during the 12 months prior to the study when a household member needed to see a doctor but for some reason did not go. The response to this question is presented in Table 1. As may be noted, 123 (6.4%) of the total 1,928 individuals were reported not to have seen a doctor when one was needed.

TABLE 1. Not Able to See a Doctor When Needed

Response	Individuals f	Individuals %
Yes	123	6.4
No	1,805	93.6
TOTAL	1,928	100.0

The personal-social characteristics of gender, ethnicity, and age of the 123 individuals who had not gone to a doctor when needed were analyzed as shown in Table 2. In relation to the proportion of the group they represented, the statistical tests clearly showed that females and Caucasians encountered severe problems in getting medical care when needed, while males and Filipinos had less difficulty in this regard than

TABLE 2. Not Able to See a Doctor When Needed by Gender, Ethnicity and Age

Social-Personal Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
Gender*				
Male	46	37.4	63	51.1
Female	77	62.6	60	48.9
TOTAL	123	100.0	123	100.0
Ethnicity**				
Chamorro	77	62.6	71	57.9
Filipino	23	18.7	35	28.1
Caucasian	12	9.8	5	3.5
Other Islander	2	1.6	3	3.0
Asians	1	0.8	2	1.8
All Others	8	6.5	7	5.7
TOTAL	123	100.0	123	100.0
Age***				
Under 5	15	12.2	13	10.5
5 - 15	28	22.8	30	24.5
16 - 39	45	36.6	45	36.8
40 - 54	23	18.7	18	14.1
55 - 64	6	4.9	10	8.2
65 +	6	4.9	7	5.9
TOTAL	123	100.1	123	100.0

*Statistically significant beyond the .005 level of probability.
**Statistically significant beyond the .01 level of probability.
***Not statistically significant.

would be expected. Age did not prove to be a factor contributing to one's inability to see a doctor when needed.

2.3 Reasons for Not Seeing a Doctor When Needed

The main reasons why the 123 individuals were not able to see a doctor when needed were obtained through Question 16a with the assistance of a flash card.*

Tables 3, 4, and 5 include a listing of the reasons. They are analyzed by the personal-social characteristics of gender, ethnicity and age, respectively. Three of the nine reasons given accounted for 75.0% of the cases. In addition to feeling that the illness or injury was not so severe or acute that the person absolutely had to see a doctor (29.3%), slightly over one-fourth (26.0%), mentioned that a lack of transportation was the reason for not seeing a doctor in their case. In addition, one out of every five (19.5%) indicated that a lack of money and/or insurance had kept them from seeing a doctor when needed. Other reasons dealt with the inability to get an appointment to see the doctor when needed, a feeling that the services of a doctor would not help them anyway, fears about going to a doctor, or that they "didn't want to bother the doctor."

Upon inspecting Tables 3, 4, and 5 more closely to determine if one's gender, ethnicity, or age were associated with a lack of transportation or financial means needed to see a doctor, the results were quite obvious. Nearly one-half (45.7%) of the males encountered such transportation or

*See Appendix D, Flash Card H

TABLE 3. Reason for Not Seeing Doctor by Gender

Reason	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
No Time	2	4.3	7	9.1	9	7.3
Could Not Get Appointment	2	4.3	4	5.2	6	4.9
No Money/Insurance for Doctor Visit	12	26.1	12	15.6	24	19.5
No Transportation	9	19.6	23	29.9	32	26.0
Felt Doctor Could Not Help	-	-	2	2.6	2	1.6
Felt Could Treat Self	3	6.5	6	7.8	9	7.3
Did Not Want to Bother Doctor	2	4.3	-	-	2	1.6
Felt Illness/Injury Not That Serious	16	34.8	20	26.0	36	29.3
Fear or Discomfort in Doctor Visits	-	-	3	3.9	3	2.4
TOTAL	46	99.9	77	100.1	123	99.9

TABLE 4. Reason for Not Seeing Doctor by Ethnicity

Reason	Ethnicity								Total	
	Chamorro		Filipino		Caucasian		All Others			
	f	%	f	%	f	%	f	%	f	%
No Time	5	6.5	2	8.7	2	16.7	-	-	9	7.3
Could Not Get Appointment	4	5.2	2	8.7	-	-	-	-	6	4.9
No Money/Insurance for Doctor Visit	14	18.2	5	21.7	-	-	5	45.5	24	19.5
No Transportation	25	32.5	1	4.3	5	41.7	1	9.1	32	26.0
Felt Doctor Could Not Help	-	-	1	4.3	1	8.3	-	-	2	1.6
Felt Could Treat Self	5	6.5	4	17.4	-	-	-	-	9	7.3
Did Not Want to Bother Doctor	1	1.3	-	-	-	-	1	9.1	2	1.6
Felt Illness/Injury Not That Serious	20	26.0	8	34.8	4	33.3	4	36.4	36	29.3
Fear or Discomfort in Doctor Visits	3	3.9	-	-	-	-	-	-	3	2.4
TOTAL	77	100.1	23	99.9	12	100.0	11	100.1	123	99.9

TABLE 5. Reason for Not Seeing Doctor by Age

Reason	Age						Total	
	Under 16		16-54		55 +			
	f	%	f	%	f	%	f	%
No Time	-	-	9	13.2	-	-	9	7.3
Could Not Get Appointment	2	4.7	3	4.4	1	8.3	6	4.9
No Money/Insurance for Doctor Visit	7	16.3	13	19.1	4	33.3	24	19.5
No Transportation	13	30.2	15	22.1	4	33.3	32	26.0
Felt Doctor Could Not Help	-	-	2	2.9	-	-	2	1.6
Felt Could Treat Self	5	11.6	4	5.9	-	-	9	7.3
Did Not Want to Bother Doctor	1	2.3	1	1.5	-	-	2	1.6
Felt Illness/Injury Not That Serious	15	34.9	19	28.0	2	16.7	36	29.3
Fear or Discomfort in Doctor Visits	-	-	2	2.9	1	8.3	3	2.4
TOTAL	43	100.0	68	100.0	12	99.9	123	99.9

financial problems. This was very similar (45.5%), to the percentage of females who mentioned these same reasons for not going to a doctor (Table 3). None of the Caucasians listed a lack of money or insurance as a problem, while 18.2% of the Chamorros, 21.7% of the Filipinos and nearly one-half (45.5%) of all other subjects indicated that this was the reason that kept them from receiving needed medical attention (Table 4).

Transportation, however, was a different matter. It was mentioned as the main reason or problem by only 4.3% of the Filipinos, but by as many as 32.5% and 41.7% of the Chamorros and Caucasians, respectively.

Clearly the senior citizens (ages 55 and older) in this group of 123 individuals who were reported to have had difficulty in seeing a doctor when needed, had greater problems with transportation and money than those middle aged or younger. These two specific reasons were also reported most often among the senior aged group than any of the other reasons given (Table 5).

2.4 Mode of Usual Transportation for Doctor Visits

The 400 household representatives in this study were asked what kind of transportation was usually used by their household members when going to a doctor's office or health care facility. Due to situations in several households where multiple modes of transportation were generally used, 406 responses were reported. The distribution of the modes of transportation used with comparisons by gender, ethnicity and age are presented in Table 6.

TABLE 6. Means of Transportation to Doctor's Office or Health Care Facility by Gender, Ethnicity and Age

Means of Transportation	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
Own Car or Truck	111	92.5	257	89.9	368	90.6
Relative's Car or Truck	6	5.0	20	7.0	26	6.4
Non-relative's Car or Truck	3	2.5	7	2.4	10	2.5
Taxi	-	-	2	0.7	2	0.5
TOTAL	120	100.0	286	100.0	406	100.0

Means of Transportation	Ethnicity								Total	
	Chamorro		Filipino		Caucasian		All Others			
	f	%	f	%	f	%	f	%	f	%
Own Car or Truck	192	87.3	118	95.9	29	87.8	29	96.7	368	90.6
Relative's Car or Truck	22	10.0	2	1.6	2	6.1	-	-	26	6.4
Non-relative's Car or Truck	4	1.8	3	2.5	2	6.1	1	3.3	10	2.5
Taxi	2	0.9	-	-	-	-	-	-	2	0.5
TOTAL	220	100.0	123	100.0	33	100.0	30	100.0	406	100.0

Means of Transportation	Age						Total	
	Under 16		16-54		55+			
	f	%	f	%	f	%	f	%
Own Car or Truck	2	50.0	283	93.1	83	84.7	368	90.6
Relative's Car or Truck	-	-	14	4.6	12	12.2	26	6.4
Non-relative's Car or Truck	-	-	7	2.3	3	3.1	10	2.5
Taxi	2	50.0	-	-	-	-	2	0.5
TOTAL	4	100.0	304	100.0	98	100.0	406	100.0

The findings of this islandwide study regarding usual mode of transportation for doctor visits were virtually identical to those in a similar health needs study of Northern Guam residents conducted several years earlier (1). One may, therefore, conclude that no change had occurred in this regard and/or that the entire island had become similar to what northern Guam was like in 1980. In both studies, 91.0% used their own car or truck to go to the doctor. An additional 6.0% in both studies relied on the cars or trucks of their relatives, while approximately 2.0% in both studies reported using vehicles of non-relatives or social service agencies. Slightly under 1.0% of the individuals in the two studies engaged the services of a taxi to go to the doctor. No one in this islandwide study indicated that they usually walked to their doctor's office. Slightly over 1.0% in the 1980 study of the northern part of the island identified walking as their usual means of getting to their doctor's office.

With regard to gender, ethnicity and age, there were minor differences noted. Females tended to be less likely than males to use their own car or truck, while depending more on either relatives or non-relatives for rides to the doctor. None of the males reported having used a taxi to go to a doctor's office. Chamorros and Caucasians were least likely to use their own car or truck. The percentage figures were 87.3 and 87.8, respectively. Filipinos (95.9%) and those in the "All Others" category (96.7%) used their own mode of transportation. Slightly over 6.0% of the Caucasians depended on non-relatives

for transportation to medical clinics. It was a significantly larger proportion of this ethnic category than for any other group. The lowest proportion (1.8%) was noted among Chamorros. The trend noted in these findings was as would be expected. The non-migrant population (Chamorros) depended least on non-family or relatives for transportation while those who had migrated the greater distances to the island no doubt were less likely to have relatives to go to for help. Depending or not depending on relatives, however, should not be overlooked as being a cultural trait rather than a matter of their presence or absence. Among the adults, senior citizens depended less on their own mode of transportation and more on others than those who were under 55 years of age (Table 6).

2.5 Difficulty in Accessing Transportation to Meet Medical Care Needs

In both the Health Needs Assessment of Northern Guam (1) and this islandwide survey, respondents indicated the degree of difficulty they and their household members experienced in obtaining necessary transportation to go to a doctor when needed. The findings in the two studies were again quite similar. In this study, 3.4% indicated that it was "very" difficult for them to obtain needed transportation for doctor visits. Using the factor of 44*, these data (when projected to the total population) would suggest that approximately 516 individuals experience this type of transportation problem during a year of time. In the study of the northern villages

*Total population or sample universe of 23,549 households divided by the 400 households studied.

TABLE 7. Degree of Difficulty to Access Transportation to Doctor's Office or Health Care Facility by Gender, Ethnicity and Age

Degree of Difficulty	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
Very	2	1.6	12	4.2	14	3.4
Somewhat	7	5.8	24	8.3	31	7.6
Not Difficult	113	92.6	252	87.5	365	89.0
TOTAL	122	100.0	288	100.0	410	100.0

Degree of Difficulty	Ethnicity								Total	
	Chamorro		Filipino		Caucasian		All Others			
	f	%	f	%	f	%	f	%	f.	%
Very	7	3.1	5	4.1	2	6.1	-	-	14	3.4
Somewhat	17	7.6	7	5.7	3	9.1	4	12.9	31	7.6
Not Difficult	199	89.3	111	90.2	28	84.8	27	87.1	365	89.0
TOTAL	223	100.0	123	100.0	33	100.0	31	100.0	410	100.0

Degree of Difficulty	Age						Total	
	Under 16		16-54		55+			
	f	%	f	%	f	%	f	%
Very	-	-	10	3.3	4	4.1	14	3.4
Somewhat	-	-	21	6.8	10	10.2	31	7.6
Not Difficult	5	100.0	276	89.9	84	85.7	365	89.0
TOTAL	5	100.0	307	100.0	98	100.0	410	100.0

of Yigo, Dededo and Tamuning (1), the comparable percentage figure was 5.6. In the present islandwide study, 7.6% noted that they had a "somewhat" difficult time in obtaining the necessary transportation whereas the figure was 10.4% in the earlier survey. These two references to differences found between the two studies, although slight, would suggest a trend toward greater accessibility of medical services. In the islandwide study approximately 9 out of 10 individuals (89.0%) reported they did not find it difficult to obtain transportation when they needed to visit a doctor. This figure was very similar to the 90.6% who reported their usual mode of transportation as being their own household car or truck.

Table 7 also indicates that a greater proportion of females noted that they found it "somewhat" to "very" difficult to obtain necessary transportation than did males. Slight differences were also observed among the various ethnic groups. Caucasians and "All Others" were more likely to have had transportation problems than were Chamorros or Filipinos. Likewise, one's age was a factor. The older individuals expressed greater degrees of difficulty in accessing transportation for medical means than did younger adults.

2.6 Unavailability of Medical Care Due to Lack of Transportation

The information presented in Table 8 was derived from the personal-social questions regarding gender, ethnicity and age, as well as Question 19 which focused on the relationship between available transportation and health care received. The subjects were asked directly if any member of their household

TABLE 8. Decided Not to Go to Doctor or Health Care Facility Due to Unavailability of Transportation by Gender, Ethnicity and Age

	Gender					
	Male		Female		Total	
Response	f	%	f	%	f	%
Yes	7	5.4	28	9.3	35	8.1
No	122	94.6	274	90.7	396	91.9
TOTAL	129	100.0	302	100.0	431	100.0

	Ethnicity									
	Chamorro		Filipino		Caucasian		All Others		Total	
Response	f	%	f	%	f	%	f	%	f	%
Yes	24	10.5	5	3.6	3	9.1	3	9.7	35	8.1
No	205	89.5	133	96.4	30	90.9	28	90.3	396	91.9
TOTAL	229	100.0	138	100.0	33	100.0	31	100.0	431	100.0

	Age							
	Under 16		16-54		55+		Total	
Response	f	%	f	%	f	%	f	%
Yes	3	18.8	22	7.1	10	9.7	35	8.1
No	13	81.2	290	90.9	93	92.3	396	91.9
TOTAL	16	100.0	312	100.0	103	100.0	431	100.0

had at any time during the prior 12 months decided not to go to a doctor or health care facility because transportation was not readily available. In this study, 8.1% responded in the affirmative as compared to a higher 14.2% in the study of Northern Guam several years earlier. The opening of additional medical clinics both in and outside of Tamuning, an apparent increase (although slight) in the proportions of households with their own car or truck, and extended clinic hours since the earlier study was made may have accounted for some of the differences noted.

The personal-social characteristics of gender, ethnicity and age were statistically analyzed to determine the degree of association, if any, each had with the decision to not seek needed health care due to the unavailability of transportation. The actual and expected frequencies needed for the statistical test make up Table 9. Gender and age were found to be statistically significant; ethnicity was not. Therefore, it may be concluded that females and senior citizens forego needed medical care due to non-accessibility of transportation. It should be pointed out that although a household has its own car or truck, it may not be readily available for medical care use if, for example, it is used by another family member in his work. This phenomenon may become an increasing problem in future years for the home bound elderly unless alternate means of transportation become more readily available and/or medical clinics become more widely distributed throughout the island.

TABLE 9. Actual and Expected Frequency and Percentage Distribution of Individuals Who Decided Not to Go to a Doctor or Health Care Facility Due to Unavailability of Transportation by Gender, Ethnicity and Age

Personal-Social Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
Gender*				
Male	7	20.0	18	51.1
Female	28	80.0	17	48.9
TOTAL	35	100.0	35	100.0
Ethnicity**				
Chamorro	24	68.6	20	57.9
Filipino	5	14.3	10	28.1
Caucasian	3	8.6	1	3.5
All Others	3	8.6	4	10.5
TOTAL	35	100.1	35	100.0
Age***				
Under 16	3	8.6	12	35.0
16 - 54	22	62.9	18	50.9
55 +	10	28.6	5	14.1
TOTAL	35	100.1	35	100.0

*/*** Statistically significant at or beyond the .001 and .005 levels of probability, respectively.

** The chi-square value of 4.5 obtained after combining the frequencies for the Caucasians and All Others (due to small numbers) was equal to the value needed for significance at the .10 level of probability. However, this was less than the .05 level established in this study for determining significant differences or degrees of association.

2.7 Length of Time Required to Reach Location of Health Care Services

The average length of time needed to travel from one's village of residence to the location of medical care was determined by calculating the distance traveled for each health care visit made during the two-week period preceding the study. If visits to one's doctor originated from one's village of residence, then 1,825 miles were driven by the individuals who had received medical care on 266 occasions. Based on these figures, the overall average distance traveled was 6.9 miles. Although this was an islandwide study, the mean distance was only slightly greater than the 6.03 average miles reported in the health study of Northern Guam (1). When using 30 miles per hour as the average travel speed for all medical care visits, the average travel time to get to the doctor's office or health care facility was 13 minutes and 48 seconds. This figure was also slightly less than the average of 17 minutes reported in the earlier study of the three northern villages.

Distance traveled to receive medical care did not seem, however, to be "correlated" with whether or not an individual actually made a doctor visit. On a regional basis, the average number of minutes and seconds traveled from village of residence to the doctor's office were: 35:29-South, 21:30-South Central, 10:53-Central, 10:56-North Central and 15:27-North. The percentage of the sample population from each of these regions who had actually gone to a doctor during a two-week period was 16, 15.1, 16.9, 9.2 and 13.7, respectively. The

largest percentage of individuals was located in the central region, which required the least travel time. A nearly equal proportion of the sample from the southern--and most distant region--had also gone, although their average travel time was more than three times greater. The regional boundaries defined and used in this study may be found in Appendix A along with a village-to-village mileage chart.

2.8 Utilization of Health Care Services

2.8.1 Regular Doctor for Medical Care

Questions were included in the study to determine the extent to which individuals in the island's population had definite or regular doctors to care for their medical needs. In response to Question 20, 799 (41.6%) indicated that the members of their households had regular doctors while 1,120 (58.4%) did not (Table 10).

There was no "correlation" whatsoever between gender and having a regular doctor (Table 11). The actual and expected frequencies for the males differed by only one. This was also the case for the female subjects.

With regard to ethnicity, it may be of interest to note that Filipinos were more likely to have a regular doctor, while Caucasians were least likely to have one. The percentage figures for these two ethnic groups were 46.8 and 26.5, respectively. These percentage figures were either greater than or much less than the 40.9% reported for the Chamorros and 36.8% for the "All Others" category of individuals (Table 10). As noted in Table 11, the differences among the various ethnic

TABLE 10. Had a Regular Doctor by Gender, Ethnicity and Age

Response	Gender: Male f	Male %	Female f	Female %	Total f	Total %
Yes	407	41.4	392	41.8	799	41.6
No	575	58.6	545	58.2	1,120	58.4
TOTAL	982	100.0	937	100.0	1,919	100.0
Insufficient Data	3		6		9	

Response	Ethnicity: Chamorro f	Chamorro %	Filipino f	Filipino %	Caucasian f	Caucasian %	All Others f	All Others %	Total f	Total %
Yes	456	40.9	251	46.8	18	26.5	74	36.8	799	41.6
No	658	59.1	285	53.2	50	73.5	127	63.2	1,120	58.4
TOTAL	1,114	100.0	536	100.0	68	100-0	201	100.0	1,919	100.0
Insufficient Data	3		6		-		-		9	

Response	Age: Under 16 f	Under 16 %	16-54 f	16-54 %	55+ f	55+ %	Total f	Total %
Yes	331	49.4	347	35.4	121	44.8	799	41.6
No	339	50.6	632	64.6	149	55.2	1,120	58.4
TOTAL	670	100.0	979	100.0	270	100.0	1,919	100.0
Insufficient Data	5		3		1		9	

TABLE 11. Actual and Expected Frequency and Percentage Distribution of Individuals Who Had a Regular Doctor by Gender, Ethnicity and Age

Personal-Social Characteristics	Individuals			
	Actual		Expected	
	f	%	f	%
Gender*				
Male	407	50.1	408	51.1
Female	392	49.9	391	48.9
TOTAL	799	100.0	799	100.0
Ethnicity**				
Chamorro	456	57.1	463	57.9
Filipino	251	31.4	224	28.0
Caucasian	18	2.3	28	3.5
All Others	74	9.3	84	10.5
TOTAL	799	100.1	799	99.9
Age***				
Under 16	331	41.4	280	35.0
16 - 54	347	43.4	406	50.9
55 +	121	15.2	113	14.1
TOTAL	799	100.0	799	100.0

* Not of statistical significance.
/* Statistically significant at the .05 and beyond the .001 levels of probability, respectively.

groups were statistically significant at the .05 level of probability. In this situation, more Filipinos and fewer Caucasians and "All Others" were reported to have had a regular doctor.

Infants and children under age 16 were more likely to have had a regular doctor than any of the other age groupings (Table 10). Nearly half (49.4%) of the younger group were reported to have had a regular doctor as compared to 35.4% of the working age group (16 to 54) and 44.8% of the more senior aged individuals. The statistical test of this variable, as shown in Table 11, proved it to be highly significant. Thus age was clearly associated with whether or not an individual had a regular doctor.

2.8.2 Doctors, Medical Centers and Clinics Named by Gender, Ethnicity and Age of Subjects

Interviewees representing the 799 individuals reported as having regular doctors were provided with flash cards* that listed the names of doctors known to be practicing medicine during the time of the survey. Also, the various operational medical clinics and centers were listed. Those representing the 1,120 individuals who were reported to not have a regular doctor were given the same doctor/medical facility flash card and asked to indicate where they usually had gone for medical attention. The frequency of mention of each doctor and facility, when analyzed by gender, ethnicity and age, are reported in Tables 12, 13, and 14, respectively. As may be noted, 282 subjects (15.1%) of the total sample were shown as

*See Appendix D, Flash Card F

TABLE 12. Regular or Usual Source of Medical Care by Gender

Doctor/Medical Clinic	Gender				Total	
	Male		Female			
	f	%	f	%	f	%
Dr. Acosta	15	1.6	12	1.3	27	1.4
Carlos Heights Clinic	122	12.7	116	12.8	238	12.7
Dr. Cruz	4	0.4	5	0.6	9	0.5
Dr. Curry	2	0.2	3	0.3	5	0.3
Dededo Medical Center	11	1.2	7	0.8	18	1.0
FHP	199	20.8	209	23.0	408	21.9
Good Samaritan Clinic	34	3.6	34	3.7	68	3.6
Dr. Sirilan	7	0.7	13	1.4	20	1.1
Guam Memorial Hospital	77	8.0	44	4.8	121	6.5
Guam Poly Clinic	17	1.8	14	1.5	31	1.7
ITC Clinic #1	66	6.9	56	6.2	122	6.5
Dr. K. Chen	3	0.3	1	0.1	4	0.2
Family Clinic	22	2.3	21	2.3	43	2.3
Dr. Guzman	9	0.9	6	0.7	15	0.8
DPHSS	32	3.3	33	3.6	65	3.5
Drs. Sagisi & Batoyan	5	0.5	10	1.1	15	0.8
St. Anthony's Clinic	14	1.5	11	1.2	25	1.3
SDA Clinic	82	8.6	94	10.3	176	9.4
Dr. Chang	19	2.0	13	1.4	32	1.7
Dr. Tolentino's Office	2	0.2	1	0.1	3	0.2
Suruhano/Suruhana	1	0.1	1	0.1	2	0.1
NRMC	55	5.7	50	5.5	105	5.6
Andersen Clinic	12	1.3	9	1.0	21	1.1
Naval Station Dispensary	7	0.7	5	0.6	12	0.6
No Preference	141	14.7	141	15.5	282	15.1
TOTAL	958	100.0	909	99.9	1,867	99.9
Insufficient Data	27		34		61	

not having a preference for a given doctor or medical clinic. The FHP Medical Center was mentioned as the regular or usual place of medical care by 21.0% of the males and 23.0% of the females. Overall more than 1 out of each 5 individuals (21.9%) specifically mentioned the FHP Center. This was by far the largest group. The second most frequently mentioned were the Carlos Heights Clinic (12.7%) and the SDA Clinic (9.4%). As with the FHP Center, like percentages of males (12.7) and females (12.8) specified the Carlos Heights Clinic, while the percentage of females (10.3) who selected the SDA Clinic was slightly greater than the percentage of males (8.6) who had chosen it. One-tenth of one percent (two individuals) indicated that their regular or usual source of medical care was provided by a Suruhano/Suruhana. When projecting this figure to the total study population or sample universe one would expect to find an approximate total of 118 who relied on such cultural traditional healers for their medical care. Twenty-seven (1.4%) of all individuals specifically mentioned Dr. Acosta as their regular or usual doctor. This was the highest frequency reported for a given doctor. Other doctors associated with the various clinics and centers may have had a larger patient/client list. In this study no attempt was made to probe for specific doctors within the various medical facilities named by the interviewees.

The ethnicity information shown in Table 13 is similar to ethnic related data presented in Volume Three of this five volume report series. Chamorros were clearly more likely to

TABLE 13. Regular or Usual Source of Medical Care by Ethnicity

Doctor/Medical Clinic	Ethnicity: Chamorro f	Chamorro %	Filipino f	Filipino %	Caucasian f	Caucasian %	All Others f	All Others %	Total f	Total %
Dr. Acosta	6	0.5	21	4.0	-	-	-	-	27	1.4
Carlos Heights Clinic	152	14.0	62	11.9	1	1.5	23	12.0	238	12.7
Dr. Cruz	8	0.7	1	0.2	-	-	-	-	9	0.5
Dr. Curry	3	0.3	1	0.2	1	1.5	-	-	5	0.3
Dededo Medical Center	6	0.5	11	2.1	-	-	1	0.5	18	1.0
FHP	315	28.9	51	9.8	14	20.6	28	14.7	408	21.9
Good Samaritan Clinic	46	4.2	18	3.5	1	1.5	3	1.6	68	3.6
Dr. Sirilan	6	0.5	6	1.2	-	-	8	4.2	20	1.1
Guam Memorial Hospital	66	6.1	31	6.0	1	1.5	23	12.0	121	6.5
Guam Poly Clinic	5	0.4	18	3.5	2	2.9	6	3.1	31	1.7
ITC Clinic #1	54	5.0	67	12.9	-	-	1	0.5	122	6.5
Dr. K. Chen	2	0.2	1	0.2	1	1.5	-	-	4	0.2
Family Clinic	37	3.4	-	-	2	2.9	4	2.1	43	2.3
Dr. Guzman	3	0.3	10	1.9	2	2.9	-	-	15	0.8
DPHSS	27	2.5	17	3.3	2	2.9	19	10.0	65	3.5
Drs. Sagisi & Batoyan	3	0.3	8	1.5	-	-	4	2.1	15	0.8
St. Anthony's Clinic	10	0.9	15	2.9	-	-	-	-	25	1.3
SDA Clinic	133	12.2	14	2.7	16	23.5	13	6.8	176	9.4
Dr. Chang	22	2.0	2	0.4	-	-	8	4.2	32	1.7
Dr. Tolentino's Office	2	0.2	-	-	-	-	1	0.5	3	0.2
Suruhano/Suruhana	2	0.2	-	-	-	-	-	-	2	0.1
NRMC	75	6.9	6	1.2	11	16.2	13	6.8	105	5.6
Andersen Clinic	4	0.4	6	1.2	4	5.9	7	3.7	21	1.1
Naval Station Dispensary	1	0.1	4	0.8	2	2.9	5	2.6	12	0.6
No Preference	101	9.3	149	28.7	8	11.8	24	12.6	282	15.1
TOTAL	1,089	100.0	519	100.1	68	100.0	191	100.0	1,867	99.9
Insufficient Data	28		23		-		10		61	

select the FHP Medical Center (28.9%), while Filipinos tended more to divide themselves among three clinics. These included the ITC Clinic #1 (12.9%), Carlos Heights Clinic (11.9%), and the FHP Medical Center (9.8%). Filipinos rarely mentioned the SDA Clinic (2.7%) as had been noted throughout this report. This is in contrast to the Caucasians who were most likely to name this specific clinic (23.5%). An additional 20.6% named the FHP Medical Center, and 25.1% indicated that their regular or usual source of medical care was either the NRMC, Andersen AFB Clinic or the Naval Station Dispensary. It may be of special interest to note that 13.1% of those individuals grouped into the "All Others" ethnic category which includes Pacific Islanders (other than those from Guam), Asians, other single ethnic groups, and the various ethnic combinations, specified a military medical center or clinic as their source of medical care. One interpretation advanced is that these individuals were most likely spouses or other dependents of uniformed or retired military personnel who were either Chamorro, Filipino or Caucasian.

It was reported that for more than one-half the infants and children under age 16 the Carlos Heights Clinic in Upper Tumon (26.9%), and the FHP Clinic in Tamuning (24.1%), were the sources of their regular or usual medical care (Table 14). This could be expected because a pediatrician was on the Carlos Heights Clinic staff. In contrast, only about 5.0% of all other individuals mentioned the Carlos Heights Clinic. The senior subjects age 55 and older tended to be distributed more

TABLE 14. Regular or Usual Source of Medical Care by Age

Doctor/Medical Clinic	Age: Under 16 f	Under 16 %	16-54 f	16-54 %	55+ f	55+ %	Total f	Total %
Dr. Acosta	3	0.5	15	1.6	9	3.4	27	1.4
Carlos Heights Clinic	174	26.9	50	5.2	14	5.2	238	12.7
Dr. Cruz	1	0.2	3	0.3	5	1.9	9	0.5
Dr. Curry	2	0.3	1	0.1	2	0.7	5	0.3
Dededo Medical Center	7	1.1	7	0.7	4	1.5	18	1.0
FHP	156	24.1	209	21.9	43	16.1	408	21.9
Good Samaritan Clinic	11	1.7	36	3.8	21	7.9	68	3.6
Dr. Sirilan	7	1.1	12	1.3	1	0.4	20	1.1
Guam Memorial Hospital	28	4.3	82	8.6	11	4.1	121	6.5
Guam Poly Clinic	7	1.1	16	1.7	8	3.0	31	1.7
ITC Clinic #1	14	2.2	87	9.1	21	7.9	122	6.5
Dr. K. Chen	-	-	1	0.1	3	1.1	4	0.2
Family Clinic	10	1.5	25	2.6	8	3.0	43	2.3
Dr. Guzman	3	0.5	8	0.8	4	1.5	15	0.8
DPHSS	18	2.8	33	3.5	14	5.2	65	3.5
Drs. Sagisi & Batoyan	2	0.3	10	1.1	3	1.1	15	0.8
St. Anthonly's Clinic	18	2.8	7	0.7	-	-	25	1.4
SDA Clinic	61	9.4	99	10.4	16	6.0	176	9.4
Dr. Chang	18	2.8	12	1.3	2	0.7	32	1.7
Dr. Tolentino's Clinic	-	-	3	0.3	-	-	3	0.2
Suruhano/Suruhana	-	-	-	-	2	0.7	2	0.1
NRMC	30	4.6	50	5.2	25	9.4	105	5.6
Anersen Clinic	9	1.4	10	1.1	2	0.7	21	1.1
Naval Station Dispensary	6	0.9	6	0.6	-	-	12	0.6
No Preference	61	9.4	172	18.0	49	18.4	282	15.1
TOTAL	646	99.9	954	100.0	267	99.9	1,867	100.0
Insufficient Data	29		28		4		61	

uniformly among the many doctors, medical clinics and centers. The largest proportion (16.1%) specified the FHP Medical Center as their usual source of medical care. This figure was most likely influenced by the larger proportion of Chamorros within the elderly group. Ranked second for those 55 and older were the military medical facilities (10.8%). This finding, it has been suggested, was most likely associated with the relatively substantial number of retired military personnel and dependents residing in villages throughout the island, many of whom claim Chamorro ancestry.

As shown on Tables 13 and 14, the two individuals who considered the Suruhano/Suruhana their usual source of medical care were Chamorros of at least 55 years of age.

SECTION THREE

HEALTH EDUCATION PROGRAMS

3.1 Introduction and Personal-Social Characteristics

3.1.1 Overview of the Section

Included in this section of the report is information pertaining to the level or extent of interest in various types of health education programs and suggested locations where they could be held. In addition, it includes the preferred day(s) of the week and hours of the day that the respondents indicated they would like to have such programs offered in order that they might participate. This section concludes with a discussion of their willingness to support the health education programs which they would like to attend by paying a nominal registration or participation fee.

The data presented in Section Three concern the respondents only. Therefore, the findings pertain to the interests and preferences of the 400 adult household representatives who were interviewed. The information in this section was derived from interview questions numbered 33 through 33d.*

3.1.2 Gender, Ethnicity and Age Composition of the Sample Interviewees

Although the 400 households studied were randomly determined, the adults interviewed from those households did not necessarily comprise a random sample. Therefore, the personal-

*See Appendix C

social characteristics of gender, ethnicity and age were analyzed in order to provide greater meaning to the information presented.

As may be noted upon inspecting Table 15, approximately 7 out of every 10 (71.0%) of the individuals interviewed were females. This was expected, though the figure was greater than the 57.8% figure found in the Northern Guam health study (1). The 71.0% figure was also higher than the 48.9% figure out of the total 1,928 individuals in this survey who were females.

The ethnic composition of the 400 household representatives (Table 15) was more similar to the overall composition of the 1,928 individuals from their households. The percentage figures were affected only slightly, primarily due to variations in average family sizes as noted in Volume One of the report (5). More specifically, the average household sizes of Caucasians and Asians were smaller than the overall average, while those of Chamorros and Other Islanders were larger. Therefore, in relation to the other ethnic categories in this analysis, their proportions were somewhat larger than might initially be anticipated.

Since the individuals who were interviewed were required to be adults, their age distribution differed somewhat from that of the entire sample of 1,928 individuals. In this study, 48.5% were in the less than 40 age category. This figure was similar, although slightly smaller, than the 53.7% found in the Northern Guam study (1) of several years earlier. The median age of this sample of 400 was slightly over 40, while in the

TABLE 15. Personal-Social Characteristics of Adult Household Sample Members Interviewed

Personal-Social Characteristics	Individuals f	%
Gender		
Male	116	29.0
Female	284	71.0
TOTAL	400	100.0
Ethnicity		
Chamorro	214	53.5
Filipino	122	30.5
Caucasian	33	8.2
Other Islanders	10	2.5
Asians	12	3.0
All Others	9	2.3
TOTAL	400	100.0
Age		
16 - 39	194	48.5
40 - 54	112	28.0
55 - 64	59	14.8
65 +	35	8.7
TOTAL	400	100.0

prior health needs and assessment survey of Northern Guam it was 39.5 years.

3.2 Health Education Programs and Level of Interest

During the interview the 400 subjects were presented a flash card* that listed eight different health-related topics. They were asked to indicate which ones, if any, they would like to attend. The suggested programs concerned how to stop smoking, weight reduction, stress management, parenting, nutrition, exercise, first aid/CPR, and food preparation and handling. They were also permitted to suggest other health programs in which they were interested (Table 16).

TABLE 16. Health Education Programs: Interest in Attendance

Proposed Program	Individuals f	%	Rank Order
Stop Smoking	75	18.8	5
Weight Reduction	107	26.8	3
Stress Management	63	15.8	7
Parenting	56	14.0	8
Nutrition	91	22.8	4
Exercise	113	28.3	2
First Aid/CPR	137	34.3	1
Food Preparation & Handling	71	17.8	6

*See Appendix D, Flash Card N

One hundred and thirty-seven (34.3%) of the 400 respondents mentioned that they would be interested in learning more about one or several of the specific health-related topics suggested to them. The gender, ethnicity and age composition of this subgroup differed some from the total 400 respondents, as could be expected.

The data appearing in Table 17 show that females were more interested in attending health education programs than were males. Of the 284 female respondents, 180 (63.4%) showed such an interest as compared to 57.8% of the males.

Nearly 73.0% of the Caucasian respondents interviewed wanted to attend the health programs suggested. This was the highest percentage figure for any of the ethnic categories. All Others and Chamorros ranked second and third with 67.7% and 65.0%, respectively. Ranking fourth, only slightly over one-half (51.6%) of the Filipinos noted similar interest in participating in the health information programs.

There was a clear inverse relationship between age and interest in the health programs suggested. As is also shown in Table 17, 71.1% of the 16 to 39 years age group gave a positive answer to Question 33 while 31.4% of those over 65 expressed similar interests. The intermediate age categories ranged between these two extreme percentage figures.

The interest levels of these 147 subjects in the eight health-related topics were analyzed by gender, ethnicity, and age. This data is presented in Tables 18, 19, and 20.

TABLE 17. Number and Percent of Sample Members Interested in Health and Related Educational Programs by Gender, Ethnicity and Age

Personal-Social Characteristics	Total Respondents f (400)	Interested in Health and Related Educational Programs f (247)	% (62)	Rank Order
Gender				
Male	116	67	57.8	2
Female	284	180	63.4	1
Ethnicity				
Chamorro	214	139	65.0	3
Filipino	122	63	51.6	4
Caucasian	33	24	72.7	1
All Others	31	21	67.7	2
Age				
16 - 39	194	138	71.1	1
40 - 54	112	73	65.2	2
55 - 64	59	25	42.4	3
65 +	35	11	31.4	4

The information in these three tables may be analyzed in a number of ways. One would be a comparison of the general level of interest across programs within a given gender, ethnic or age category since each program topic was considered to be independent from the others. For example, from 8.2% to 16.3% more of the women were interested in the various topics than were the males--the stop smoking program being the exception. No less than 20.0% of the females were interested in each of five programs, while for the males this was the case for only two programs. Therefore, even though there was considerable correspondence or similarity between the rank order of topics, a greater proportion of the females were interested in them. More specifically, the weight reduction program ranked third by both groups, yet only 19.0% of the males selected it, while 29.9% of the females chose it. A second way to "look at" data, therefore, would be to check the degree of similarity in the order of rankings.

3.2.1 Gender

When comparing rankings by gender (Table 18) it was clear that both males and females were most interested in a first aid/CPR program. The percentage of interested individuals was 28.4 and 36.6, respectively. Weight reduction and exercise programs tended to be high interest topics for both groups. These were followed by nutrition and food preparation programs. Stress management and parenting were of lesser interest. Of particular note was the complete reversal in the two rank order listings of the program to help individuals stop smoking. More

TABLE 18. Health Education Prcgrams: Interested in Attending by Gender

Proposed Programs	Male (116) f	Male (116) %	Male (116) Rank Order	Female (284) f	Female (284) %	Female (284) Rank Order	Total (400) f	Total (400) %	Total (400) Rank Order
Stop Smoking	33	28.4	1	42	14.8	8	75	18.8	5
Weight Reduction	22	19.0	3	85	29.9	3	107	26.8	3
Stress Management	8	6.9	7	55	19.4	6	63	15.8	7
Parenting	6	5.2	8	50	17.6	7	56	14.0	8
Nutrition	13	11.2	5	78	27.5	4	91	22.8	4
Exercise	21	18.1	4	93	32.7	2	114	28.5	2
First Aid/CPR	33	28.4	1	104	36.6	1	137	34.3	1
Food Preparation and Handling	13	11.2	5	58	20.4	5	71	17.8	6

than 28.0% of the males wanted this program as compared to only 14.8% of the females. Further analysis of these data is suggested including a control factor for smoking. That is, only the responses of smokers would be considered. This approach could determine whether females were actually less interested in the topic or simply if a smaller proportion of this group smoked.

3.2.2 Ethnicity

Similar to the analyses of gender where women made up a large majority of the total number of 400 subjects (Table 19), Chamorros also comprised a majority of the sample. In both cases, therefore, the total figures were greatly influenced by the majority groups' responses. Because of this limited discussion is directed to the total sample findings. Rather, our discussion focuses on the various subparts or categories of the personal-social characteristics.

Regardless of ethnic origin, a first aid/CPR course was found to be of greatest interest to the individual groups. The proportions of each ethnic group that were interested in such a course ranged from 32.0% for Filipinos to 39.4% for Caucasians. As noted in Table 19, Caucasians tended to show a greater interest in the nutrition and stress management topics than the others. The interest of Filipinos in these two programs closely paralleled those of the Caucasians, while interests of the Chamorro and All Others categories of individuals were similar. Of particular interest were their second and third place rankings of weight reduction and exercise programs. More than

TABLE 19. Health Education Programs: Interested in Attending by Ethnicity

Proposed Programs	Chamorro (214)			Filipino (112)			Caucasian (33)			All Others (31)			Total (400)		
	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order
Stop Smoking	55	25.7	4	12	9.8	8	4	12.1	6	4	12.9	5	75	18.8	5
Weight Reduction	72	33.6	2	20	16.4	5	4	12.1	6	11	35.5	2	107	26.8	3
Stress Management	35	16.4	7	13	10.7	7	11	33.3	2	4	12.9	5	63	15.8	7
Parenting	28	13.1	8	18	14.8	6	6	18.2	5	4	12.9	5	56	14.0	8
Nutrition	42	19.6	5	29	23.8	3	11	33.3	2	9	29.0	4	91	22.8	4
Exercise	61	28.5	3	32	26.2	2	11	33.3	2	10	32.3	3	114	28.5	2
First Aid/CPR	73	34.1	1	39	32.0	1	13	39.4	1	12	38.7	1	137	34.3	1
Food Preparation and Handling	36	16.8	6	27	22.1	4	4	12.1	6	4	12.9	5	71	17.8	6

one-third of each group noted their interest in the weight reduction topic as compared to 12.1% and 16.4% for the Caucasians and Filipinos, respectively. No attempt was made in this study to measure or weigh the subjects. Therefore, these differences in interests cannot be explained on the basis of differential "need" across ethnic categories. Although the stop smoking program ranked fourth among Chamorro interests, more than 1 out of every 4 (25.7%) wanted it. This percentage figure was at least twice as large as the figure for any of the other three ethnic classifications. A similar finding prevailed among the ethnic groups' interest in the food preparation and handling topic. More than 22.0% of the Filipinos indicated interest in it as compared to only 12.1% to 16.8% in any of the other groups.

3.2.3 Age

When health education program interest data was analyzed by age some interesting--but not surprising--results appeared (Table 20). Specifically, those who were 65 years or older showed no interest whatsoever in parenting or stress management programs and only limited interest in the other topics. A general review of the data across age categories reveals a sharp drop in program interests after age 54 with the exception of first aid/CPR and exercise. For these two topics the interest noticeably waned following age 64. When comparing the 16 to 39 age group with the 40 to 54 age group, it was found that their level of top interests were relatively high and very similar, except for parenting and food preparation/handling.

TABLE 20. Health Education Programs: Interested in Attending by Age

Proposed Programs	16-39 (194) f	%	Rank Order	40-54 (112) f	%	Rank Order	55-64 (59) f	%	Rank Order	65+ (35) f	%	Rank Order	Total (400) f	%	Rank Order
Stop Smoking	45	23.2	5	19	17.0	7	9	15.3	3	1	2.9	5	75	18.8	5
Weight Reduction	60	30.9	2	35	31.3	2	8	13.6	4	4	11.4	1	107	26.8	3
Stress Management	37	19.1	7	23	20.5	6	3	5.1	7	-	-	7	63	15.8	7
Parenting	40	20.6	6	14	12.5	8	2	3.4	8	-	-	7	56	14.0	8
Nutrition	50	25.8	4	31	27.7	3	6	10.2	5	4	11.4	1	91	22.8	4
Exercise	64	33.0	3	31	27.7	3	17	28.8	2	2	5.7	4	114	28.5	2
First Aid/CPR	77	39.7	1	38	33.9	1	18	30.5	1	4	11.4	1	137	34.3	1
Food Preparation and Handling	36	18.6	8	29	25.9	5	5	8.5	6	1	2.9	5	71	17.8	6

While the younger group (as expected) showed more interest in the parenting programs, more than one-fourth of those in their middle years (40 to 54) wanted the food program.

3.3 Where and When to Offer Health Education Programs

Preferred locations for holding health education programs were also established in this study (Table 21). In addition, the days and time that they wanted the programs were noted (Tables 22 and 23).

TABLE 21. Preference of Locations for Health Education Programs

Locations	Individuals f	Individuals %	Rank Order
Village Community Centers	161	65.2	1
District Public Health Centers (North, Central, South)	17	6.9	4
Hospital	6	2.4	6
School	26	10.5	2
Worksite	22	8.9	3
Other	4	1.6	7
Makes No Difference	11	4.5	5
TOTAL	247	100.0	

3.3.1 Locations

Village community centers were clearly the preferred location for offering health education programs. Two out of every three individuals specified the centers as their choice

of location (Table 21). An additional 10.5%, 8.9% and 6.9% mentioned schools, worksites and district Public Health Centers, respectively. The particular choice of site apparently was not an important consideration for 11 (4.5%) of those wanting the health programs. No specific attempt was made in this research to determine the subjects' interest in having these programs held at the Guam Community College or University of Guam.

TABLE 22. Preference of Days for Health Education Programs

Days Preferred	Individuals f	Individuals %	Rank Order
Weekdays	94	38.1	1
Saturday	71	28.7	2
Sunday	16	6.5	4
Weekends	9	3.6	5
Makes No Difference	57	23.1	3
TOTAL	247	100.0	

3.3.2 Day of Week

As may be noted upon inspecting Table 22, weekdays were preferred for the health programs by 38.1% of the 247 individuals wanting them. An additional (rather high) 28.7% selected Saturday for the program. The specific day that would be the best was of no particular consequence to nearly 1 out of every

4 individuals (23.1%). They told the interviewers that there was no particular best day.

3.3.3 Time of day

If the desired health education programs were offered during the early evening hours between 5:00 p.m. and 7:00 p.m., on the right day and in the best location, the largest number (37.2%) of those studied would be satisfied. The next best times appeared to be in the mornings, though afternoon hours were nearly as good a time. Overall, the evening time period after 7:00 p.m. was the least preferred time, although as many as 16.2% selected it as the best for themselves (Table 23).

TABLE 23. Preference of Times for Health Education Programs

Preferred Times	Individuals f	%	Rank Order
Betweem 8 a.m. and 12 p.m.	55	22.3	2
Between 12 p.m. and 5 p.m.	50	30.2	3
Between 5 p.m. and 7 p.m.	92	27.2	1
7 p.m. or later	40	16.2	4
Makes No Difference	10	4.1	5
TOTAL	247	100.0	

3.4 Program Participation Fees and Personal-Social Characteristics

The 247 individuals who had expressed an interest in the possibility of having health and related educational programs

offered were further quizzed about paying to attend. A total of 205 (83.0%) of the 247 who responded indicated that they would not mind being charged a nominal fee in order to participate in the health education program of their choice (Table 24). No attempt was made in this study to determine what amount was perceived as nominal. It is suggested that future research concerning charging for non-formal education program include probe questions that would elicit specific dollar figures.

TABLE 24. Willing to Pay Nominal Fee to Attend Health Education Programs

Willing to Pay	Individuals f	Individuals %
Yes	205	83.0
No	42	17.0
TOTAL	247	100.0

Also included in Table 25 is a presentation of the data showing how individuals felt about being charged to attend health education programs depending on their gender, ethnicity and age.

3.4.1 Gender

There appeared to be only minor differences between the male and female subjects regarding their willingness to pay for health education programs. The percentage figures were 84.4 and 79.1 for females and males, respectively.

3.4.2 Ethnicity

When the various ethnic groups were compared, an 11.8 range was noted. Caucasians ranked first in this regard, with 91.7% willing to pay the nominal participation fee. Filipinos and All Others ranked second (85.7%) giving an affirmative response to the fee question. Four out of every five (79.9%) of the Chamorros were also inclined to favor a participation fee.

TABLE 25. Willing to Pay Nominal Fee to Attend Health Education Programs by Gender, Ethnicity and Age

Personal-Social Characteristics	Individuals f	Individuals %	Rank Order
TOTAL (247)	(205)	(83.0)	-
Gender			
Male (67)	53	79.1	2
Female (180)	152	84.4	1
Ethnicity			
Chamorro (139)	111	79.9	4
Filipino (63)	54	85.7	2
Caucasian (24)	22	91.7	1
All Others (21)	18	85.7	2
Age			
16 - 39 (138)	111	80.4	3
40 - 54 (73)	66	90.4	1
55 - 64 (25)	19	76.0	4
65 + (11)	9	81.8	2

3.4.3 Age

Nine out of every ten middle-aged individuals (40 to 54) agreed that they would pay for the non-formal health education programs. This was the most favorable group. The younger adults and the two senior citizen categories expressed rather similar feelings on the matter. Approximately 4 out of every 5 were willing to pay.

SECTION FOUR

HEALTH CARE INFORMATION SOURCES

4.1 Introduction

It is a well established fact that individuals seek and receive information which makes them aware of a given practice or idea as well as facilitates the process of making a personal decision regarding some particular course of action. Through extensive research over the past 45 years, it has also been revealed that a population, or individuals, tend to become aware of a new idea or practice primarily through less personal information sources such as books, magazines, newspapers, pamphlets and electronic media. In the decision-making process, as they come closer to making a final decision to accept or adopt a new idea or practice the tendency is to rely more on personal sources of information such as experts in the field, relatives, neighbors and close friends whose opinions are valued and respected (7, 8).

4.2 Utilization Patterns

The 400 respondents were asked in Question 34 to indicate how frequently they utilized various personal and mass media sources of information to help them determine what was wrong when they encountered some kind of illness or health problem. A flash card* listing four response options that bridged a use

*See Appendix D, Flash Card O

frequency range from "never" to "very often" was provided to facilitate their responding to the nine predetermined information sources. The sources of information, by their order of appearance in the interview schedule, are listed in Table 26. Also shown in this table are the frequencies and percentages indicating the subjects' levels of utilization of the various information sources.

An attempt was made to summarize the large data set into a more manageable set of figures. The method by which this was done is reported in a footnote to the table. The product was an index score (IS) which appears in the initial column of Table 26. The scores were then rank ordered with a "1" being assigned to the largest and a "9" to the smallest response.

Personal sources of health information were found to be more extensively utilized. In particular, medical doctors (as expected) and household members ranked first and second. Certain printed sources such as books, magazines, pamphlets and so on (as well as special television or radio programs and announcements) were also relied upon as sources of health information. However, these sources were not relied upon as extensively as were doctors. Traditional cultural healers and churchmen were least likely to be called upon for information regarding the diagnosis of an illness.

4.3 Valued Source of Health Information

In Question 35 the individuals interviewed were asked to indicate from which of the nine sources (if any) they had received the most helpful health information. Their answers

TABLE 26. Extent of Use of Information Sources for Diagnosing Health Problems

Sources of Information	Rank Order/ Index Score*	Number of Times Information Source Used: Never f	Never %	Rarely f	Rarely %	Sometimes f	Sometimes %	Very Often f	Very Often %	Total f	Total %	Insufficient Information
A member of this household	2 / 7.5	59	14.8	47	11.8	173	43.4	119	29.9	398	99.9	2
A relative not living in this household	6 / 5.6	93	23.3	108	27.0	149	37.2	50	12.5	400	100.0	-
A friend who is not a relative	7 / 4.9	98	24.6	147	36.8	122	30.6	32	8.0	399	100.0	1
A priest or a clergyman	9 / 1.5	286	71.7	81	20.3	26	6.5	6	1.5	399	100.0	1
A suruhano, hilot or other traditional healer	8 / 2.2	265	66.4	58	14.5	65	16.3	11	2.8	399	100.0	1
A nurse or medical aide	5 / 5.8	98	24.6	71	17.8	186	46.6	44	11.0	399	100.0	1
A medical doctor	1 / 9.3	12	3.0	38	9.5	157	39.4	192	48.1	399	100.0	1
Books, magazines, newspapers, pamphlets, etc.	3 / 6.0	86	21.5	101	25.2	145	36.3	68	17.0	400	100.0	-
TV or radio programs/annoucements	4 / 5.9	99	24.8	93	23.3	122	30.6	85	21.3	399	100.0	1

*Rank Order/Index Score. The index score was determined by assigning valued of 0, 1, 2, and 3 to the responses of "never," "rarely," "sometimes," and "very often," respectively. The values were multiplied by respective frequencies, summed and the product divided by 100.

are reported in Table 27. Also shown is a rank-order listing that identifies more clearly the valued sources. The order of usefulness, as noted in Table 27, corresponded closely with the rankings established by means of index scores established in the immediately preceding table of data.

TABLE 27. Most Helpful Health Information Source

Information Source	Individuals f	Individuals %	Rank Order
A member of this household	34	8.5	4
A relative not living in this household	15	3.8	5
A friend who is not a relative	4	1.0	7
A priest or a clergyman	-	-	9
A suruhanu, hilot or other traditional healer	4	1.0	7
A nurse or medical aide	7	1.8	6
A medical doctor	253	63.2	1
Books, magazines, newspapers, pamphlets, etc.	35	8.8	3
Television or radio programs announcements	45	11.2	1
None of these	3	0.8	-
TOTAL	400	100.1	

The findings in this islandwide study were very similar to those reported in the earlier health study of Northern Guam

(1). The same health information sources were ranked in both studies. The only difference in the rankings (when using the index scores computed in this survey) was a reversal in the order of two sources--namely the nurse/medical aide and relatives not living in the household. In both studies, however, there was very little difference in the importance placed on them. Neither source was considered to be of more than limited value for this purpose. Although they are often talked about, the suruhano, hilot and other traditional healers--in this study, as in the previous one--were considered to be an important or very useful source of information by a relatively small percentage of individuals.

SECTION FIVE

LEVEL OF SATISFACTION WITH QUALITY, ACCESSIBILITY AND COST OF HEALTH CARE SERVICES

5.1 Introduction

The information in this section pertains to information obtained from the 400 respondents in our random sampling of households. They were asked in Question 36 to convey their own personal feelings and opinions about health services on the island.

By means of a flash card, the respondents were directed to indicate their level of satisfaction or dissatisfaction with the quality of health information and care provided to them.* They were also asked their opinion of the degree to which they found health services to be accessible to them--as well as their level of satisfaction regarding certain health care expenses. The findings from this series of 11 questions have been combined and included in Table 28. These questions were basically the same as those included in the Northern Guam health study (1).

5.2 Information Regarding Health Conditions and Treatment

Nearly 9 out of every 10 individuals interviewed expressed some degree of satisfaction with the information they had received from health professionals about their health conditions and about treatment. This very positive response from

*See Appendix D, Flash Card P

the islandwide sample was "better" by 10.0% than the findings of 1980 in Guam's three northern villages (Table 28).

5.3 Quality of Health Care

Four questions were posed concerning the quality of health care received. One focused on the general (overall) quality of care, while the remaining three were about medical personnel. Medical doctors, nurses, and other professional medical support staff such as technicians and aides were specified (Table 28).

The level of satisfaction continued to run high. Nearly 89.0% indicated some degree of satisfaction with the overall health care they had received, while similar percentages gave positive responses for the three categories of medical professionals. Although nurses received high "marks" in the study, they were again rated slightly lower than doctors and technicians--repeating the pattern established in the 1980 study. During the four-year interval, levels of user satisfaction had increased from 77.6% for nurses and about 83.0% for physicians and technicians to the 90.0% level. When the two studies were compared, nurses were found to have made the greatest improvement in the public's ratings. Even though these ratings of satisfaction seem very positive, one should not overlook the fact that approximately 10.0% to 12.0% of the respondents also registered various degrees of dissatisfaction with the quality of medical care received.

5.4 Out-of-Pocket Costs

Excluding health insurance coverage, the 400 adults interviewed were also asked to indicate their level of satisfaction

TABLE 28. Level of Satisfaction with Health Care Information Costs and Services

Health Services Statements	Very Satisfied f	Very Satisfied %	Satisfied f	Satisfied %	Somewhat Satisfied f	Somewhat Satisfied %	Somewhat Dissatisfied f	Somewhat Dissatisfied %	Dissatisfied f	Dissatisfied %	Very Dissatisfied f	Very Dissatisfied %	Total f	Total %	DK/NA* f
The information health professionals have given you about your health condition	32	8.2	249	63.7	65	16.6	30	7.7	10	2.6	5	1.2	391	100.0	9
The information health professionals have given you about treatment	31	7.9	247	63.2	71	18.2	28	7.2	9	2.2	5	1.3	391	100.0	9
The overall quality of health care you have received	34	8.8	243	62.6	67	17.3	26	6.7	13	3.3	5	1.3	388	100.0	12
The quality of health care you have received from doctors	52	13.3	237	60.8	63	16.1	23	5.9	10	2.6	5	1.3	390	100.0	10
The quality of care you have received from nurses	24	6.2	244	63.2	76	19.7	28	7.3	10	2.6	4	1.0	386	100.0	14
The quality of health care you have received from medical aides and technicians	24	6.4	231	61.4	84	22.3	25	6.6	9	2.4	3	0.8	376	99.9	24
The out-of-pocket costs (other than health insurance) you have had to pay	22	5.8	196	51.7	44	11.6	43	11.3	39	10.3	35	9.2	379	99.9	21
The time it takes to travel to a doctor's office or your health facility	27	7.0	278	71.6	42	10.8	21	5.4	14	3.6	6	1.5	388	99.9	12
The time it takes to complete a visit at a doctor's office or health facility from arriving until leaving	16	4.1	171	44.0	60	15.4	67	17.2	39	10.0	36	9.3	389	100.0	11
The days of the week that your usual source of health care is open	28	7.2	287	74.0	45	11.6	17	4.4	8	2.1	3	0.8	388	100.1	12
The time of day that your usual health service is open	27	7.0	291	75.0	44	11.3	15	3.9	10	2.6	1	0.2	388	100.0	12

*DK/NA refers to "don't know" and "no answer."

regarding direct costs they had to pay for medical care, related services and so forth. As might be expected, responses differed from those reported for quality of services. With regard to out-of-pocket costs, 69.1% noted some degree of satisfaction. Of the approximately 31.0% who were unhappy with such costs, nearly one-third reported being very dissatisfied. The findings regarding costs for medical services were quite similar to those reported for the 1980 study. The percentage figure for the satisfied group in that study was 66.7. Therefore, virtually no change in level of satisfaction had occurred in this area of concern.

5.5 Length of Doctor Visits and Days and Times Medical Care Was Available

Also reported in Table 28 are frequencies and percentages reflecting levels of satisfaction/dissatisfaction as reported by the interviewees regarding the amount of time required to travel to the doctor's office and receive care. Included in the question was the time period beginning when an individual first arrived at the doctor's office or clinic until care was complete and he left the medical facility. In this case those reporting satisfaction dropped to a low of 63.5%, which indicated that over one-third were dissatisfied. Though lower than other percentages in this study, the response was slightly higher than the 56.4% figure reported during the Northern Guam study four years earlier (1). These findings, therefore, may lend some support to the belief that some improvement may have occurred in the area of medical care accessibility.

The difference just noted, however, was very small when compared with the much improved positive responses to questions concerning days and times that medical care and related services were available. The percentage of individuals in the current study who reported satisfaction with service availability shot up 15.0% for days and 11.2% for times that medical care was available when compared with findings of the 1980 study. These new findings clearly would seem to indicate that the extension of doctor and clinic hours into time frames outside of the usual Monday to Friday working hours has been noticed and well received by the public.

These new data concerning satisfaction with accessibility of health care and services were consistent with the degree of satisfaction reported for quality of health information provided and care given by the medical personnel. The lower ratings for costs and, in particular, the length of time still required for one to wait for treatment after reaching the medical facility would seem to indicate areas in need of considerable improvement. Such changes will be necessary if individuals receiving medical services are to show improvement in their feelings about the medical care and services they receive.

SECTION SIX

HEALTH CARE RESPONSIBILITY

6.1 Introduction

Question 49 attempted to determine who the 400 respondents felt was responsible for maintaining and protecting their good health. A flash card* was also given to them--in this case to facilitate their answering the question.

6.2 Responsible Party

A long list of answers was developed from the basic group of "myself," "family," "doctor," and "government." Ten combinations were generated from the four individual answers (Table 29). These ten, however, made up only a little over 11.0% of all responses. "Myself," "family," and "doctor" were mentioned by 87.4% of the subjects. Six out of every ten survey respondents noted that they were responsible for maintaining their own good health, while 17.2% said that their doctor was. It was of interest to see that only 1.5% mentioned the government alone as being the responsible party.

Upon combining all those who mentioned "myself" (whether singularly or in combination) the figure was 68.8% (Table 30). When combined in the same manner, "family" was mentioned by 17.0% and "doctor" by 25.5% of the respondents. Only 17 (4.3%) of the 400 individuals mentioned "government" (singularly or in

*See Appendix D, Flash Card B

TABLE 29. Party Responsible for Maintaining and Protecting Your Good Health

Responsible Party	Individuals f	Individuals %
Myself	243	60.7
Family	38	9.5
Doctor	69	17.2
Government	6	1.5
Myself and family	8	2.0
Myself and doctor	11	2.8
Myself and government	1	0.3
Family and doctor	8	2.0
Family and government	2	0.5
Doctor and government	1	0.3
Myself, family and doctor	6	1.5
Family, doctor and government	1	0.3
Myself, doctor and government	1	0.3
Myself, family, doctor and government	5	1.2
TOTAL	400	100.1

combination) as the party responsible for maintaining and protecting an individual's good health. This response seemed low when considering the extent to which the federal and Guam governments financially support health care and health services on this island. The individuals' responses as shown in

Table 30 were derived from all the alternative answers. It should be noted that they are not mutually exclusive and, therefore, are not additive.

TABLE 30. Party Responsible for Maintaining and Protecting Individual's Own Good Health

Responsible Party	Individuals f	Individuals %
Myself	275	68.8
Family	68	17.0
Doctor	102	25.5
Government	17	4.3

SECTION SEVEN

FOOD HANDLING AND CHILD CARE SANITATION KNOWLEDGE

7.1 Introduction

A series of four statements (Questions 37-40) concerning child care and proper handling of food were presented to the 400 individuals during the survey interview. The health sanitation statements appear in Tables 31, 32, and 33 where they are "correlated" with the personal-social characteristics of gender, ethnicity and age. All statements were considered to be false.

7.2 Sanitation Statements and Personal-Social Characteristics

7.2.1 Total Sample of 400

The statement concerning whether it is safe to leave chicken kelaguin unrefrigerated for up to 12 hours was understood by 372 or 93.0% of the 400 adults surveyed. An even greater percentage (93.5) knew that diseases could be transmitted from small puppies to babies during shared play time.

Slightly more than 13.0% of the group thought it was normal and beneficial for children to eat small amounts of dirt because it would help them develop immunities to various diseases. These individuals, however, were incorrect in their judgement. A much greater percentage (39.7%) did not know that cool water was not as effective as hot water for laundering diapers--even if a good all-temperature detergent was used.

7.2.2 Gender

In general, females were more knowledgeable about sanitation than were males. The exception was the statement on doing laundry in cold water, where the "scores" were equal for the gender categories. Approximately 60.0% of both males and females knew the correct answer. It should be pointed out that a much smaller percentage of males (78.5%) than females (90.1%) correctly understood the statement about children eating dirt.

7.2.3 Ethnicity

While 89.3% or more of the individuals in each category understood the correct answer about kelaguin, the Caucasians were the most knowledgeable (97.0%) about this sanitation item. There was less variation among the ethnic groups in their responses to the statement regarding babies contacting diseases from puppies. In all categories over 92.0% gave the appropriate answer.

While the proportions of Chamorros and Filipinos who knew the correct answer to the statement about eating dirt dropped to around 84.0%, the Caucasians' figure remained at 97.0%. The All Others category rose to 100.0%--all 31 individuals knew that the statement was false. With regard to the detergent statement, however, individuals in the All Other category were the least knowledgeable. Only 17 (about 55.0%) answered that statement correctly. Although this was the lowest figure among the four groups, it was only slightly less than the Chamorros' 56.5%. Approximately two-thirds of the Filipinos and

TABLE 31. Sanitation Knowledge by Gender

Sanitation Statements	Gender								
	Male (116)			Female (284)			Total (400)		
	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order
Chicken kelaguin leftovers can be kept safely for up to 12 hours without refrigeration if they are kept out of the sun and covered so flies can't get in.....	99	85.3	2	273	96.1	1	372	93.0	2
It is alright for babies to play with small puppies because people can't get dog diseases.....	105	90.5	1	269	94.7	2	374	93.5	1
It is normal and beneficial for children to eat small amounts of dirt; it helps them develop immunity to many diseases.....	91	78.4	3	256	90.1	3	347	86.8	3
Cold water is just as good as hot water for laundering diapers, etc., if a good all-temperature detergent is used.....	70	60.3	4	171	60.2	4	241	60.3	4

TABLE 32. Sanitation Knowledge by Ethnicity

Sanitation Statements	Ethnicity														
	Chamorro (214)			Filipino (122)			Caucasian (33)			All Others (31)			Total (400)		
	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order	f	%	Rank Order
Chicken kelaguin leftovers can be kept safely for up to 12 hours without refrigeration if they are kept out of the sun and covered so flies can't get in.....	203	94.9	1	109	89.3	2	32	97.0	1	28	90.3	3	372	93.0	2
It is alright for babies to play with small puppies because people don't get dog diseases.....	199	93.0	2	113	92.6	1	32	97.0	1	30	96.8	2	374	93.5	1
It is normal and beneficial for children to eat small amounts of dirt; it helps them develop immunity to many diseases.....	181	84.6	3	103	84.4	3	32	97.0	1	31	100.0	1	347	86.8	3
Cold water is just as good as hot water for laundering diapers, etc., if a good all-temperature detergent is used.....	121	56.5	4	81	66.4	4	22	66.7	4	17	54.8	4	241	60.3	4

Caucasians knew that cold water was not as good as hot water when doing laundry with a good all-temperature detergent.

7.2.4 Age

There were virtually no noticeable differences among the age categories in their responses to the four sanitation statements--except for those who were 65 years old or older. The elderly group consistently "scored" about 10.0% lower on all statements except the final one on laundering. For this statement, 71.4% of the 65+ age group answered correctly. This figure ranged from 10.4% to 14.0% higher than those in the three younger adult age groups.

No attempt was made in this analysis of data to determine the relationship between various personal-social characteristics such as level of education, income, and gender (among others) to determine which, if any, were associated with giving correct answers to all statements. Therefore, it is suggested that a more in-depth analysis might be carried out in the future on these data in order to more clearly identify target audience(s) that may be in greatest need of sanitation information or educational programs.

TABLE 33. Sanitation Knowledge by Age

Sanitation Statements	Age 16-39 (194) f	%	Rank Order	40-54 (112) f	%	Rank Order	55-64 (59) f	%	Rank Order	65+ (35) f	%	Rank Order	Total (400) f	%	Rank Order
Chicken kelaguin leftovers can be kept safely for up to 12 hours without refrigeration if they are kept out of the sun and covered so flies can't get in.....	182	93.8	1	106	94.6	2	55	93.2	1	29	82.9	2	372	93.0	2
It is alright for babies to play with small puppies because people don't get dog diseases.....	182	93.8	1	107	95.5	1	55	93.2	1	30	85.7	1	374	93.5	1
It is normal and beneficial for children to eat small amounts of dirt; it helps them develop immunity to many diseases.....	170	87.6	3	100	89.3	3	50	84.7	3	27	77.1	3	347	86.8	3
Cold water is just as good as hot water for laundering diapers, etc., if a good all-temperature detergent is used.....	116	59.8	4	64	57.1	4	36	61.0	4	25	71.4	4	241	60.3	4

SECTION EIGHT

SUMMARY OF FINDINGS

8.1 Introduction

This is the fourth of five volumes on the health status of the population of Guam. Included in this report is information pertaining to health care accessibility, utilization, satisfaction and responsibility. The final section concerns child care and food handling sanitation knowledge.

A major portion of this report contains information about the perceptions, attitudes, feelings and knowledge of the 400 respondents. Their answers to Questions 16-20, 33-40 and 49 provided the basic data for the body of this report.

8.2 Accessibility and Utilization of Health Services

In this study 123 individuals (6.4%) of the total sample of 1,928 were reported not to have gone to a doctor when one was needed. There were three main reasons for their foregoing the needed health care. The three accounted for 75.0% of the nine reasons given. More than one-fourth (26.0%) indicated that a lack of transportation was the reason they were not able to see a doctor when needed. An additional 19.5% were unable to receive medical care because they did not have enough money and/or insurance. Twenty-nine percent didn't go because they decided their illness was not that severe after all.

Nearly one-half of the males (45.7%) and a like proportion of the females (45.5%) encountered transportation or financial

problems to the extent that they did not see a doctor when needed. Caucasians did not seem to have money or insurance problems that kept them from seeing a doctor when necessary. About 20.0% of the Chamorros and Filipinos, however, gave those reasons for doing without medical care. Nearly one-half (19.5%) of all other subjects experienced insurance or financial problems. Transportation virtually was not a problem for the Filipinos, but it was for 32.5% and 41.7% of the Chamorros and Caucasians, respectively. With regard to age, transportation and money problems were the most significant reasons that prevented the elderly aged 55 and older from receiving needed medical and health care. These reasons were considerably more pronounced for the elderly than for the other age groups.

Guam lacks a functional mass transportation system, but evidences a high vehicle-person ratio. Responses indicated, as expected, that nearly all individuals (91.0%) relied on their own car or truck when in need of health care. This same figure was reported for the 1980 health study of Northern Guam. Vehicles owned by relatives were relied upon by an additional 6.0% of the sample.

With regard to the relationship between mode of transportation and personal-social characteristics, it was found that females were less likely than males to have access to their own car or truck. Therefore, they depended more on relatives and friends. Chamorros and Caucasians were least likely to have their own form of transportation. This was especially the case for the females. In their time of need Chamorros turned to

relatives while Caucasians were more likely to rely on non-relatives for assistance with their transportation needs. The senior citizens--more than any other group--found it necessary to depend on others for transportation to medical facilities.

Respondents also indicated the degree of difficulty they encountered in obtaining necessary transportation for their medical care. Eleven percent stated that it was either "very" or "somewhat" difficult. These data showed a slight improvement when compared with the situation reported four years ago. In the current study, female subjects noted greater difficulty in accessing necessary transportation when they needed to see a doctor. Caucasians and All Others (excluding Chamorros and Filipinos) were least likely to have encountered such transportation problems. The aged expressed the greatest degree of difficulty in having transportation available when they needed medical attention.

There has been an increase in the number and distribution of physicians and medical clinics in areas outside of Tamuning since 1980. No doubt this contributed to a reduction in the percentage of individuals who specified that they at times needed medical care but did not receive it due to the unavailability of transportation. Statistical differences within gender and age variables were noted. Females and older persons definitely had foregone needed medical services because they were not able to secure transportation at the time.

Accessibility and utilization of medical services were also measured in terms of the time required to get to the

doctor's office or medical facility. Using actual medical visit data for the two weeks preceding the study, it was determined that the average distance traveled for all medical care visits was 6.9 miles. On the average, it was calculated that one would require 13 minutes and 48 seconds to cover the distance by car or truck. There seemed to be no correlation between distance traveled and whether or not medical care was received. For example, those residing on the south end of the island required an average of 35 minutes and 29 seconds to get to the doctor or clinic, while those from the central areas required only about 11 minutes. The percentages of individuals who had actually received medical care from the two regions, however, differed by only 1.0%.

Approximately 42.0% of all individuals studied claimed to have specific or regular doctors to whom they went for their medical care. Filipinos were more likely to have a regular doctor; Caucasians were least likely. These differences among the ethnic groups were statistically significant. With regard to age, the adult working-age category was least likely to have a regular or specific doctor, as compared with children and senior citizens who tended to do so.

Nearly 22.0% of all respondents mentioned that their regular place of medical care was the FHP Medical Center. The Carlos Heights Clinic (12.7%) and the SDA Clinic (9.4%) ranked second and third, respectively. Chamorros were clearly more likely to select the FHP Medical Center (28.9%) while Filipinos tended more to obtain their medical services from three

locations, namely: ITC Clinic #1 (12.9%), Carlos Heights Clinic (11.9%), and the FHP Medical Center (9.8%). Only 2.7% of the Filipino population mentioned that they regularly (or usually) went to the SDA Clinic. This finding was consistent with a general utilization pattern throughout this report on the status of health care. Caucasians, however, were more likely to go to the SDA Clinic (23.5%) than to any other location. More than one-half of the infants and other children under 16 years of age usually received medical services at the Carlos Heights Clinic and the FHP Medical Center. In contrast to this, only 5.0% of all others mentioned going to the Carlos Heights Clinic on a regular basis. The elderly in this study were more likely to see a doctor at the FHP Medical Clinic (16.1%) or one of the military medical facilities (10.8%). The Suruhano was noted as being the usual source of medical care by two elderly Chamorros.

8.3 Health Education Programs

Nearly two-thirds (62.0%) of the 400 adult respondents expressed an interest in attending one or more of eight proposed health education programs. Females were more interested in such educational programs (63.4%) than were the males (57.8%). Caucasians expressed the greatest interest (73.0%), and Filipinos the least (51.6%). There was an inverse relationship noted between age and interest in health education programs. As one became older, interest decreased from 71.1% for the 16- to 39-years-old group to 31.4% for those age 65 and older.

The health related education program that was of greatest interest was first aid/CPR training (34.3%). It ranked first for both males and females, all ethnic categories, and all age groupings. Programs in exercise and weight reduction ranked second and third, although differences were noted among the various classifications. For instance, males were equally as interested in a program to help them stop smoking as they were in the first aid/CPR course.

Conversely, the "stop smoking" program was ranked lowest by the females. This was also found to be the case for the Filipinos. Stress management and parenting programs elicited the least interest. This may have been a result of their lack of appeal for certain categories of individuals. None of the elderly, for example, were interested in these two programs. Although there appeared to be limited interest in the stress management program overall, it did rank second highest for Caucasians. Caucasians also tended to rank parenting higher than both Filipinos and, in particular, Chamorros who ranked it lowest among their interests.

Village community centers were clearly the preferred location for holding suggested health education programs. Over 38.0% reported that they would rather have the programs available on weekdays, while 28.7% preferred that they be held on Saturdays. As many as 23.1% indicated no particular day of preference. The times suggested for attending health education programs, in order of preference, were: early evenings after 5:00 p.m., mornings, afternoons, and evenings after 7:00 p.m.

More than 8 out of every 10 individuals (83.0%) indicated that they would be willing to pay a nominal fee to participate in the health and health related education programs. Nearly 92.0% of the Caucasians and 79.9% of the Chamorros were willing to pay such a fee. Approximately 86.0% of all others would pay the fee to participate or attend. With regard to age, those in the 40 to 54 age range were most willing to pay a nominal fee for attending health education programs.

8.4 Health Care Information Sources

The findings of this study--regarding the extent of use of various sources of medical and health information--were very similar to those reported for the Northern Guam health study (1) four years earlier. Medical doctors were considered by far to be the most useful sources of information. Household members and various forms of printed and electronic media ranked next in order of importance. Nurses continued to receive an intermediate ranking, while traditional healers and clergymen were considered to be of little or very limited use as medical information sources.

8.5 Level of Satisfaction in the Quality, Accessibility and Cost of Health Care Services

In general, a high level of satisfaction with health care services was found to prevail in this islandwide study. This was an improvement of about 10.0% over the 1980 health study. Of special note in this research was the high level of satisfaction (90.0%) in the information received from professionals about health conditions in general and treatment in particular. The quality of health care also received a high rating (89.0%).

This did mean, however, that 11.0% of the sample were not satisfied.

The subjects were clearly less satisfied with the out-of-pocket expenses they had to pay for medical care. Approximately 31.0% noted some degree of dissatisfaction. The one aspect of medical care which the survey group found most dissatisfying was the length of time required from their arrival at the doctor's office or clinic until care was received and they were able to return home. About 37.0% reacted negatively to this particular situation. Out-of-pocket costs and doctor's office waiting time were the two aspects of health care with which the sample group in 1980 (Tamuning, Yigo, and Dededo area) also found the greatest dissatisfaction.

There was a substantial increase in the degree of satisfaction noted for the days of the week and the times of the day that medical services were now available as compared to the situation four years earlier. The levels of satisfaction virtually "shot up" between 11.0%-15.0% to register in the 90.0% range for the present study group.

8.6 Health Care Responsibility

Generally, those interviewed felt a personal responsibility for the maintenance and protection of their own good health (68.8%). Seventeen percent felt that their family should have the responsibility, and 25.5% said it was the responsibility of the doctor. Only 4.3% mentioned that the government should have any such role regarding the status of their personal health.

8.7 Food Handling and Child Care Sanitation Knowledge

Generally, the subjects knew that kelaguin could not be safely left unrefrigerated and that babies could contract diseases from playing with puppies. Fewer of those surveyed were aware that it was not beneficial for children to eat small amounts of dirt. Clearly the statement that was least well understood concerned the difference from a sanitation viewpoint between cold and hot water when doing laundry and using an all-temperature detergent.

Females tended to be more knowledgeable than males regarding the sanitation statements. This was also the case for Caucasians in comparison to other ethnic groups. Chamorros and Filipinos scored lowest on the item concerning small children eating dirt, while Chamorros ranked second on the kelaguin statement. All of the 31 individuals in the All Other ethnic category knew the correct answer to the statement about eating dirt.

With regard to age, the older individuals who were at least 65 did less well than the younger age groups in answering three of the four sanitation questions. They were, however, more likely to answer correctly what seemed to be the most difficult statement about laundering and the use of hot or cold water with an all-temperature detergent.

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 <u>medians</u>:

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

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

<u>Civilian Population</u> 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

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 Santa Rosa)
- -Talofofo
- -Yona

South:

- -Inarajan
- -Merizo
- -Umatac

FIGURE 1. Geographical Regions

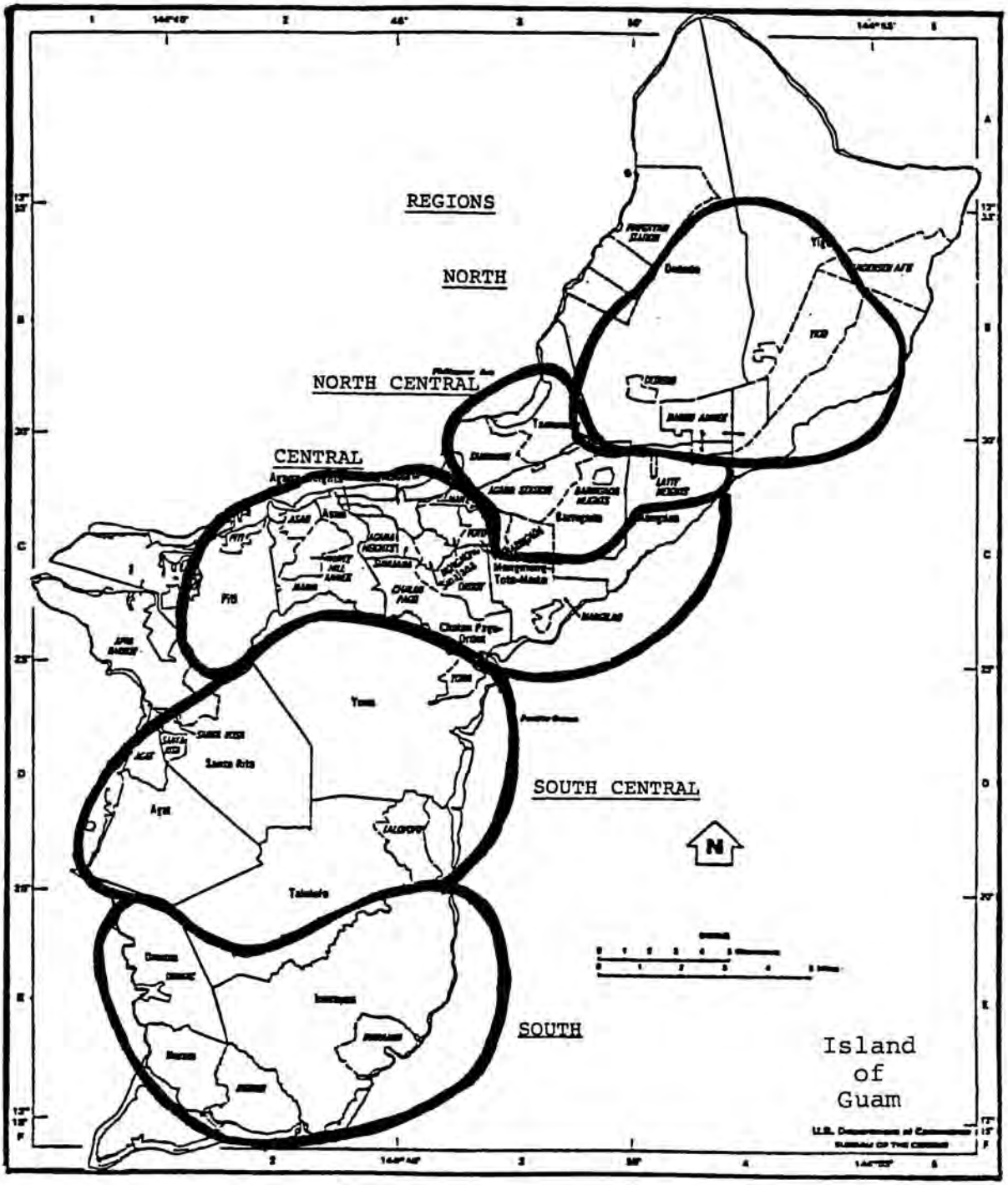
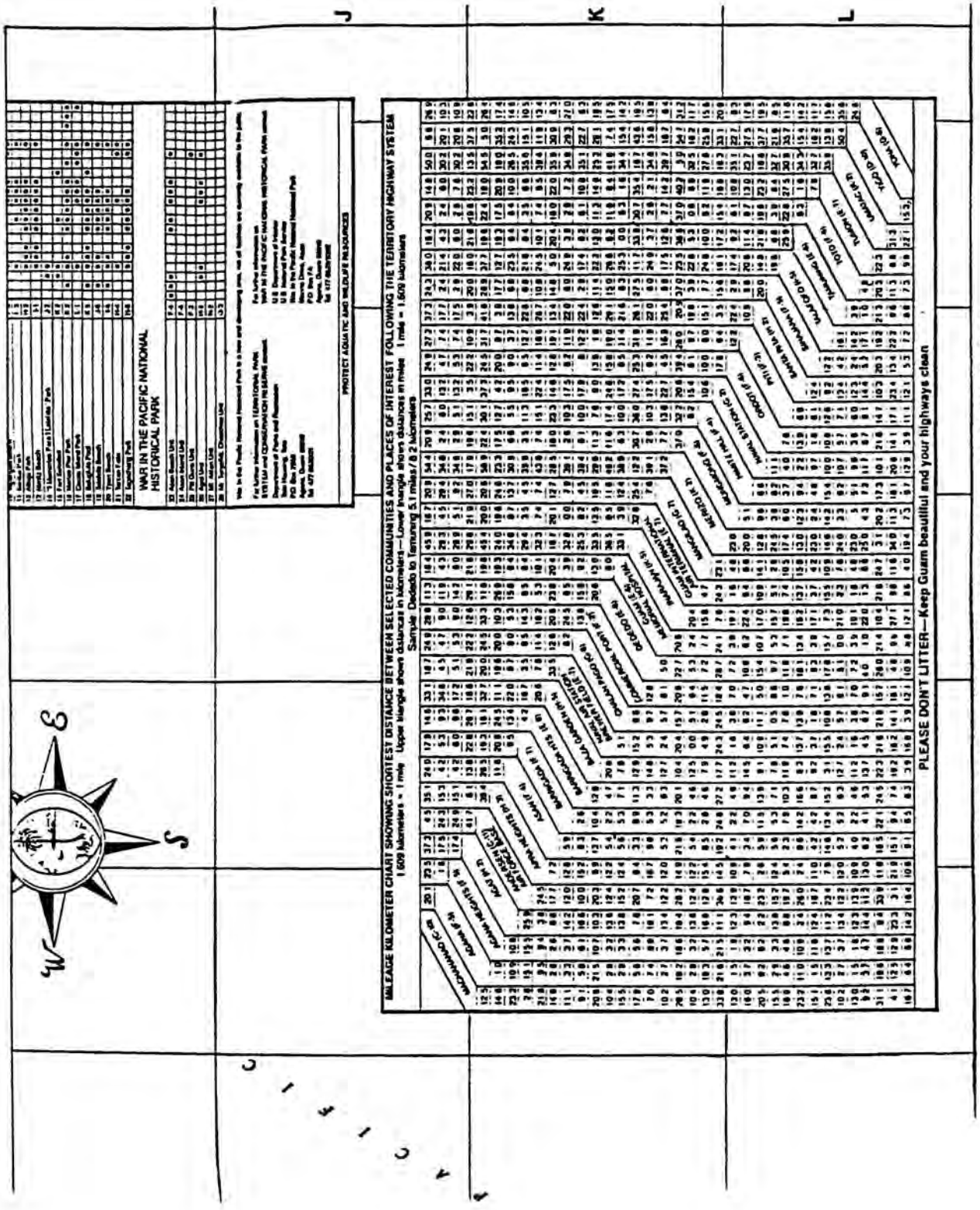


FIGURE 2. Village-to-Village Mileage Chart



APPENDIX B

SAMPLE AND METHODOLOGY

DETERMINING SAMPLE SIZE

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

Designing Sensible Surveys

Donald C. Orlich

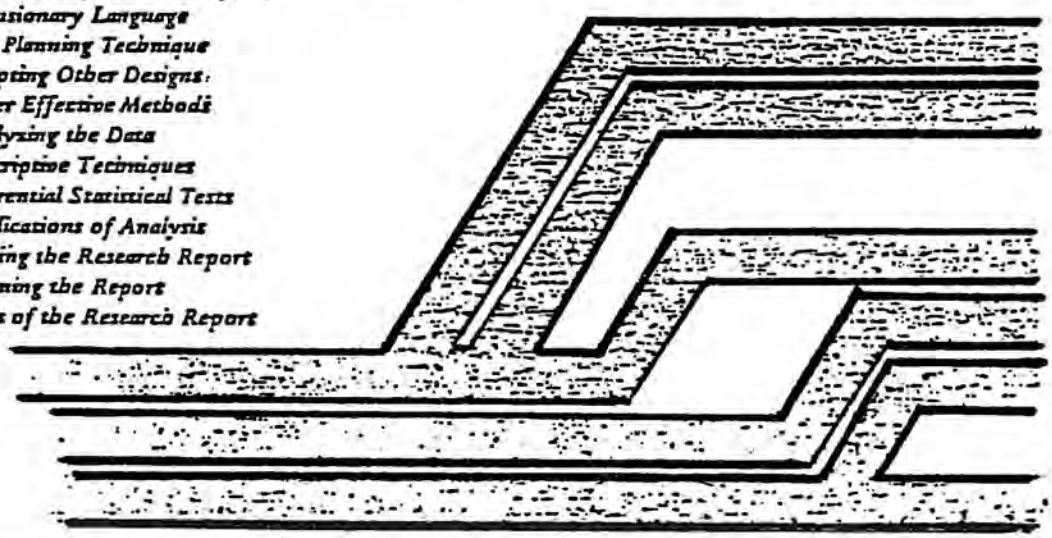


Table 5-1. Estimated Population and Sample Sizes

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	260	30,000	379
1,000	278	50,000	381
2,000	322	75,000	382
3,000	341	100,000	383

Source: 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 34. Confidence Limits for Sample Proportions

Sample Proportion %	95 Percent Lower Limit %	95 Percent Upper Limit %	99 Percent Lower Limit %	99 Percent 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 34. 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 3) 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 35 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 35.

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 4) 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 35. 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 35. 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 Chaper A, Number of Inhabitants. US Goverment 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. Election Districts (MCD's), Places (CDP's) and Sample Distribution

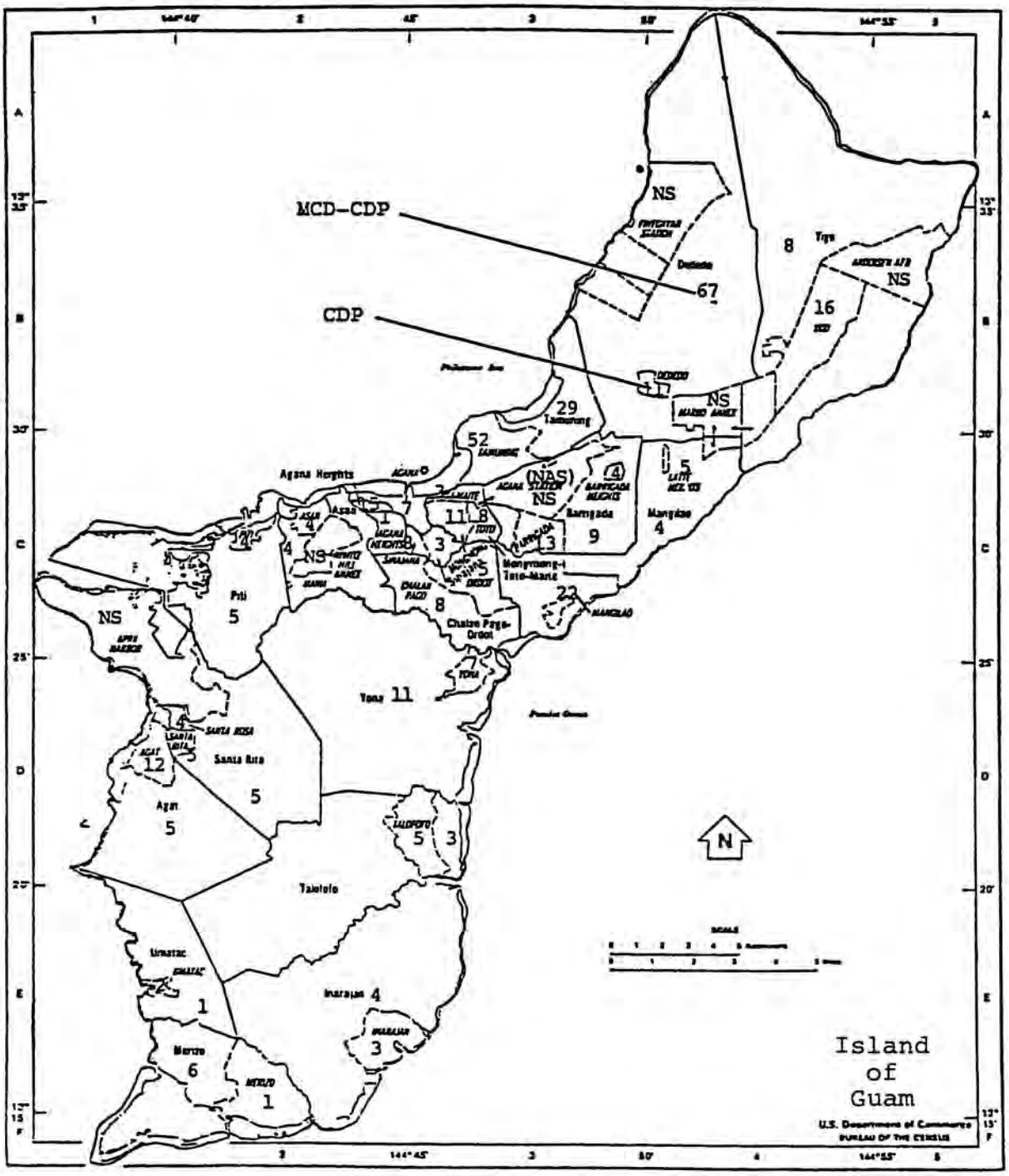


FIGURE 4. Sample Unit: Grid-Block Cluster of Households

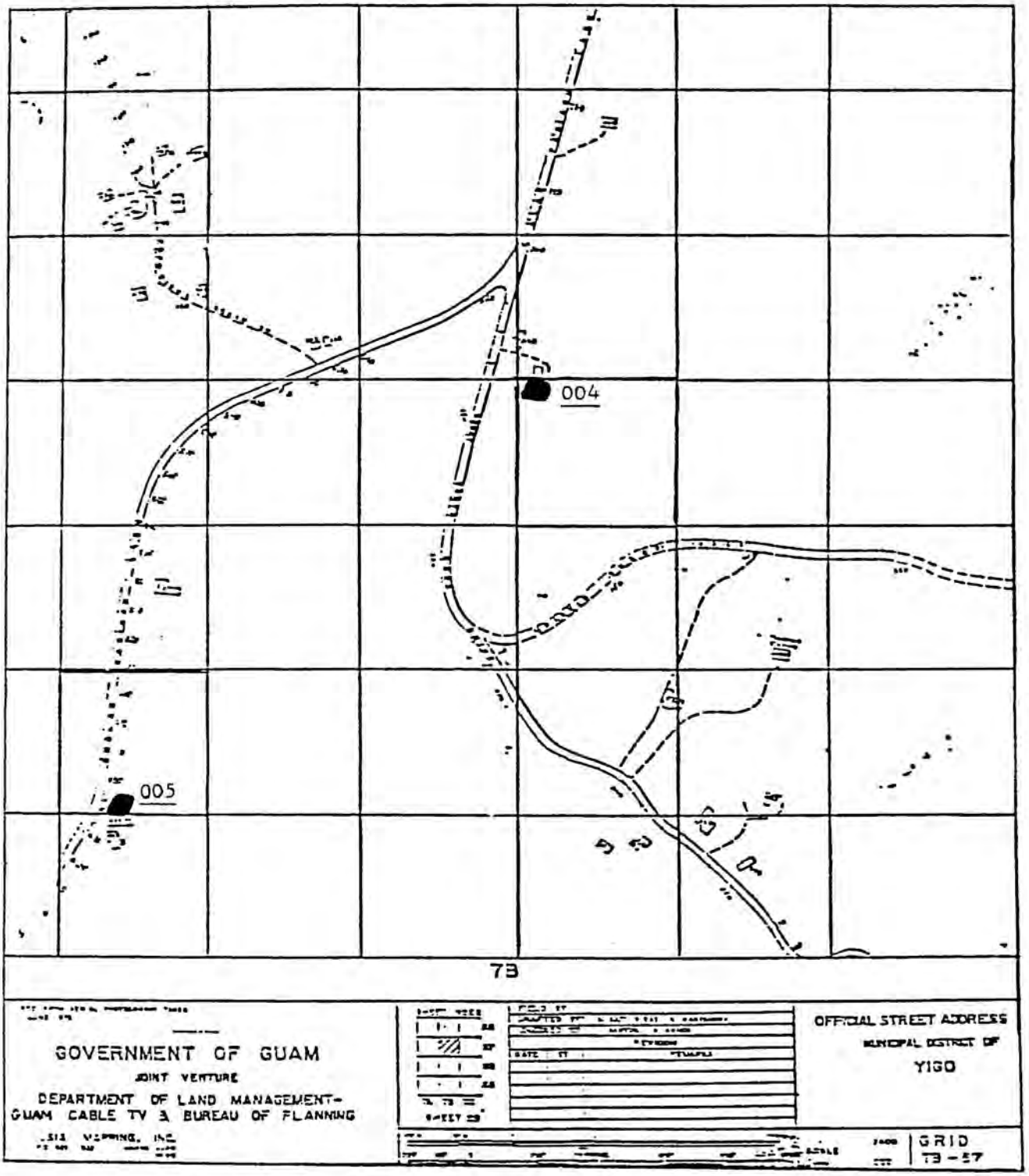


FIGURE 4. Sample Unit: Grid-Block Cluster of Households (continued)

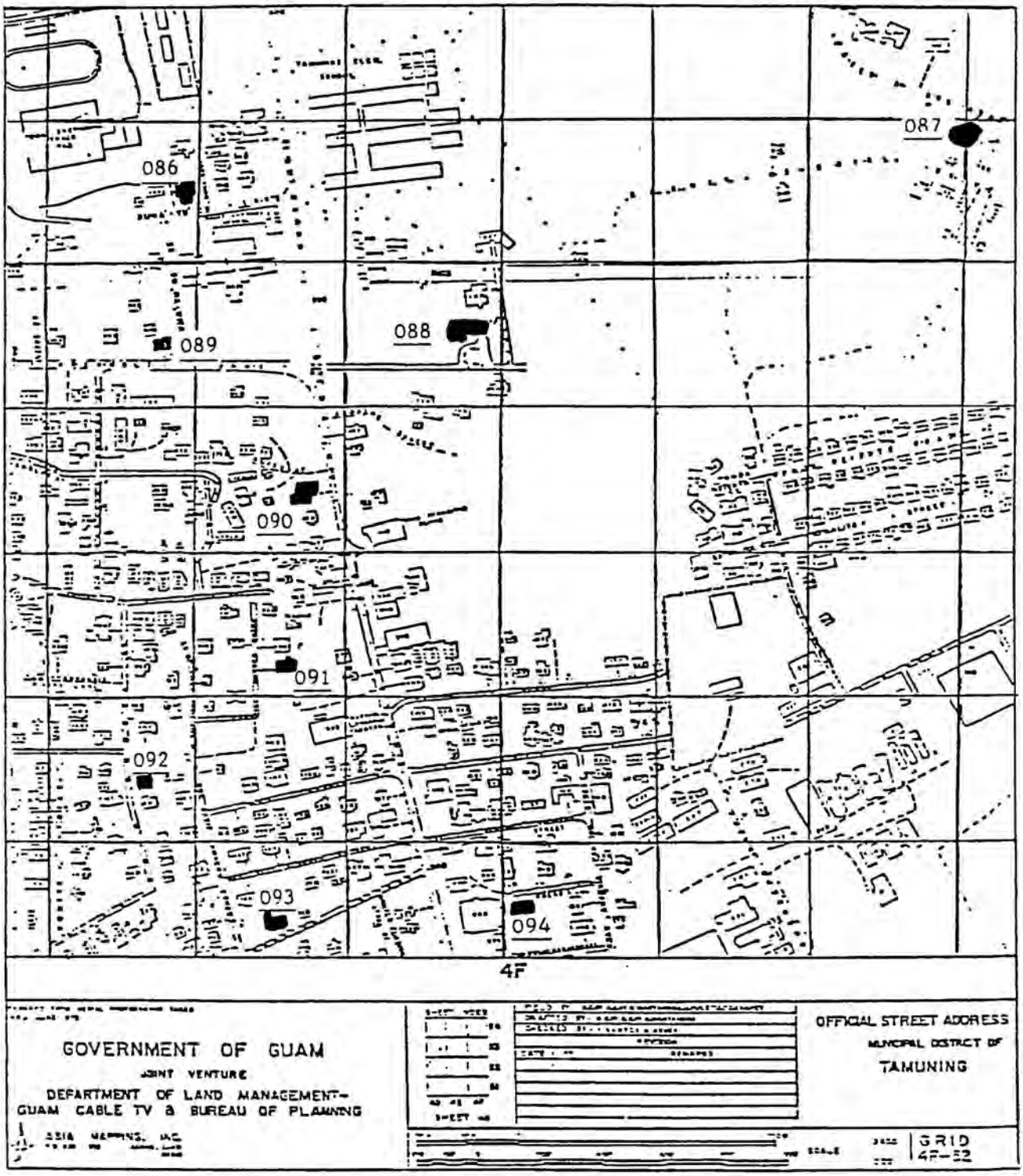
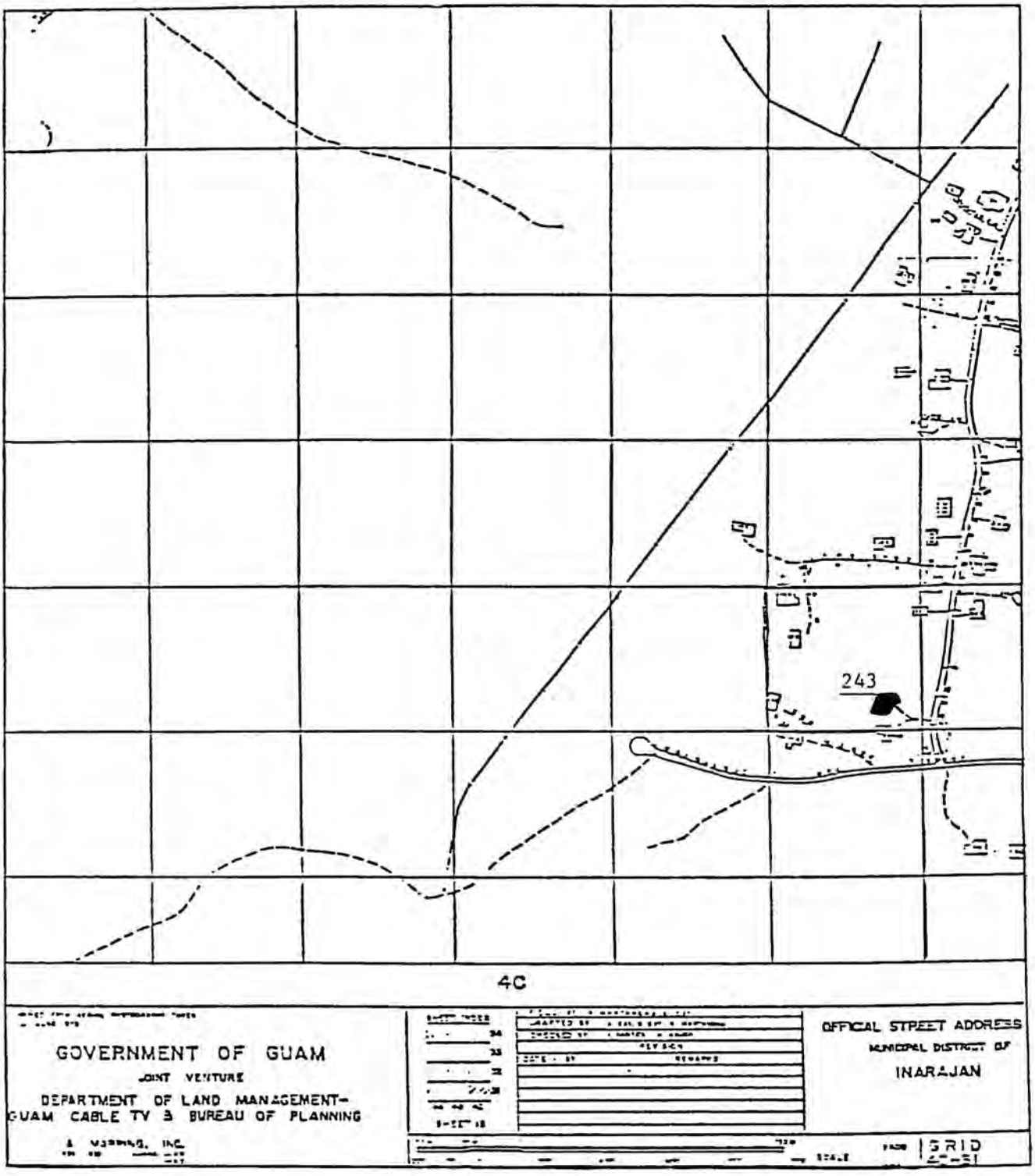


FIGURE 4. Sample Unit: Grid-Block Cluster of Households (continued)



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 Facilty (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:

SUBJECT NO.	COMMENT/SPECIFY
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 16 hours - 3 hours/3 meals 13 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, etc.).
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

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
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).
Q2d. Ref. 66 years and older--Marital Status:		
40001	12-High School	Graduated from high school and had 4 years as apprentice.
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 (cont.)	14- "	German/Filipino/Black

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
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
(cont.)		

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
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.

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.

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

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

Q9c. During the past 12 months for diagnosis and treatment, name of doctor at another location:

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

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
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:		
39101	0000-No Pref/ No Choice	Dr. Chang (Acupuncture)
02201	1600-DPHSS	Dr. Parents (Mangilao)
Q20b. Usual place for medical attention:		
13903	4700-NavHosp.	Dr. Fry
19411	9999	Subject was only here temporarily and has gone back to Yap. She was only here for medical treatment.
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.

SUBJECT NO.	RECORD CODE	COMMENTS/SPECIFY
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
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)
Q35. Sources from whom information is most helpful:		
19502	6-Coded	A nurse or medical aide.
	(7-Not Coded)	(A medical doctor).
20302	7-Coded	A medical doctor.
	(3-Not Coded)	(A friend who is not a relative).
26802	6-Coded	A nurse or medical aide.
	(8-Not Coded)	(Books, magazines, newspapers, pamphlets, etc.).
39701	7-Coded	A medical doctor.
	(8-Not Coded)	(Books, magazines, newspapers, pamphlets, etc.).
13401	8-Coded	Books, magazines, newspapers, pamphlets, etc.
	7-Not Coded	(A medical doctor).
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	Doctor.
	(Not Coded)	(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).

(cont.)

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
24002	7-Coded (8-Not Coded)	A medical doctor. (Books, magazines, newspapers, pamphlets, etc.).
19405	7-Coded (6-Not Coded)	A medical doctor. (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.
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.

(cont.)

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
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	

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.

SUBJECT NO.	RECORD CODE	COMMENT/SPECIFY
Q49. Who's responsible for maintaining and protecting your good health:		
20001	16-Other	Myself and occupation.
Q50a. Name of doctor for diagnosis and treatment during the last 2 weeks:		
03402	2000-SDA	Dr. Newbold

College of Agriculture and Life Sciences
Community Development Institute

November 9, 1984

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

Subject #	Card	Var Name	Column (s)	From	To	Comment/Specify
31702	31	I8D	21-24	0000	9999	Code (9999) for off-Island
02703	34	I12A	12-15	0600	0000	0600-FHP coded for
02704	34	I12A	12-15	0600	0000	Dr. McDonald, but Dr. McDonald is not known at FHP Clinic
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 wno 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 vovered 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 activites) 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 givien 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 advise 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?

'9 - 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 advise?

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

House Code (2-4)

Person (5-6) | Card (7-8) | Village (9-10)

0	0	1	0		

Interviewer Code (11-12)

NARRATIVE REPORT AND INTERVIEWER'S ASSESSMENT SHEET

(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 _____

Card Identification

Person (5-6)		Card (7-8)		Village (9-10)	
0	0	1	1		

Village Address _____
(House number and street)

_____
(village)

Interviewer (24-25)

(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)

Date:

Month (28-29)		Day (30-31)		Year (32-33)	

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: _____

HOUSEHOLD INFORMATION

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
   (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 (Specify: _____)

1	IDENTIFICATION CODE: House			Person		Card		Village		2		a		b	c	d		e	f		g	
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
						1	1															

** 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.

This survey is being conducted to collect information on the Health Status of people on Guam. So now I would like to ask you about visits to doctors, illnesses in the family and other health related matters.

First I am going to ask you a series of questions regarding your health care experiences during the last 2 weeks outlined on the calender I have just given you.

3. During the last 2 weeks, did any member of this household stay in a hospital because of illness or injury?
Record (1) = Yes
(2) = No (skip to Question 4)

(a) If YES, who was this and in which hospital did ____ stay?
Record (1) = Guam Memorial Hospital
(2) = Navy Regional Medical Center
(3) = Old GMH
(4) = Off-Island (Specify: _____ ____)
(5) = GMH and off-island
(6) = NRMC and off-island
(7) = other

(b) HOW MANY DAYS during the last 2 weeks was ____ in the hospital? Record number of days for each person.

(c) During the last 2 weeks, for what condition was ____ in the hospital? (SHOW RESPONDENT CARD E HEALTH CONDITIONS LISTING if they need help with recall!)

(d) When did ____ first notice or get this condition?
Record (00) = less than 1 month
(actual number 01 to 12 months)
(13) = more than 12 months
(14) = unknown, don't know, or NO ANSWER

(e) Does ____ still have this condition at this time?
Record (1) = Yes
(2) = No

(f) Who was ____'s doctor while in the hospital? (Show respondent CARD F Doctor and Health Facility listing if they need help with recall!)

HOSPITAL STAYS
LAST 2 WEEKS

IDENTIFICATION CODE										3	a	b		c				d	e	f					g	h			
House			Person		Card		Village																						
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
						2	0																						

i	j			
31	32	33	34	35

k				l	
36	37	38	39	40	41

(g) Was another doctor consulted, either by a visit or phone for ____'s condition while ____ was in the hospital during the last 2 weeks?
Record (1) = Yes
(2) = No (skip to Question 3(i))

(h) Who was the other doctor? (See CARD F for code)

(i) Was a doctor consulted for any other condition while in the hospital during the last 2 weeks?
Record (1) = Yes
(2) = No (skip to Question 3(l))

(j) What other condition did ____ have? (CARD E, HEALTH CONDITIONS LISTING)

(k) Who was this doctor? (see CARD F for code)

(l) How was this hospitalization paid for? (see CARD G, Modes of Hospitalization Payment)

PROBE: Did any other member of this household stay in a hospital during the last 2 weeks due to illness or injury? If YES, repeat Questions 3(a), 3(b), etc... If NO, continue with Question 4.

4. During the last 2 weeks, did any member of this household stay in bed at home because of illness or injury (DO NOT COUNT days in the hospital, if any)
Record (1) = Yes
(2) = No (skip to Question 5)

(a) If YES, who was this and HOW MANY DAYS during the last 2 weeks was ____ in bed most or all of the day? Record number of days.

(b) During the last 2 weeks what was the primary causal illness or injury that kept ____ in bed? (SHOW RESPONDENT CARD E, HEALTH CONDITIONS LISTING if they need help with recall!)

(c) When did ____ first notice or get this condition?
Record (00) = less than 1 month)
(actual number - 01 to 12 months)
(13) = more than 12 months)
(14) = unknown, don't know, or NO ANSWER

(d) Does ____ still have this condition at this time?
Record (1) = Yes
(2) = No

(e) Was a doctor consulted, either by a visit or phone during the last 2 weeks for ____'s condition?
Record (1) = Yes
(2) = No (skip to Question 4(g))

(f) Who was this doctor? (SHOW RESPONDENT CARD F, Doctor and Health Facility Listing if they need help with recall!) (Skip to Question 4(h)).

(g) If NO to Question 4(e), what was the main reason ____ did not see a doctor about this illness or injury? (See CARD H, reasons Doctor WAS NOT consulted)

(h) During the last 2 weeks, was a doctor consulted for any other condition while ____ was in bed at home?
Record (1) = Yes
(2) = No (Skip to Question 4(k))

IN BED AT HOME
LAST 2 WEEKS

	IDENTIFICATION CODE																										
	House			Person		Card		Village		4	a		b				c		d	e	f				g		h
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
						2	1																				

(i) What other condition did ____ have? (CARD E)

(j) Who was this doctor? (CARD F)

(k) During the last 2 weeks, all totaled how many times did ____ consult a doctor (or have someone consulted a doctor for him?)
Record number of times.

i				j			
29	30	31	32	33	34	35	36

(l) During the last 2 weeks, how many days did illness or injury keep ____ from going to work for which pay is received?
Record number of days or 99 for those who are not working.

(m) During the last 2 weeks, how many days did illness or injury keep ____ from going to school?
Record number of days or 99 for those who are not going to school.

PROBE: Did any other member of this household stay in bed at home during the last 2 weeks due to illness or injury?
If YES, repeat Question 4(a), 4(b), etc...
If NO, continue with Question 5.

k		l		m	
37	38	39	40	41	42

RESTRICTED ACTIVITIES
LAST 2 WEEKS

	IDENTIFICATION CODE									5	a		b				c		d	e	f				g	
	House			Person		Card		Village																		
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
						2	2																			

5. During the last 2 weeks (NOT COUNTING DAYS in hospital or in bed at home) did any member of this household CUT DOWN or restrict their usual activities for any given length of time because of illness or injury?
Record (1) = Yes
(2) = No (Skip to Question 6)

(a) If YES, who was this and HOW MANY DAYS during the last 2 weeks did ____ CUT DOWN or RESTRICT their usual activities due to illness or injury?
Record number of days

(b) During the last 2 weeks what was the primary causal illness or injury that ____ had?
(SHOW RESPONDENT CARD E, HEALTH CONDITION LISTING if they need help with recall!)

(c) When did ____ first notice or get this condition?
Record (00) = less than 1 month
(actual number 01 to 12 months)
(13) = more than 12 months
(14) = unknown, don't know, or NO ANSWER

(d) Does ____ still have this condition at this time?
Record (1) = Yes
(2) = No

(e) Was a doctor consulted, either by a visit or phone during the last 2 weeks for ____'s condition?
Record (1) = Yes
(2) = No (Skip to Question 5(g))

(f) Who was the doctor?. (CARD F, Doctor and Health Facility Listing) (Skip to Question 5(h)).

(g) What was the main reason ____ did not see a doctor about this illness or injury? (See CARD H, Reasons Doctor WAS NOT consulted.) (Skip to Question 5(i))

(h) (If Question 5(f) was answered) During the last 2 weeks, all totaled how many times did ____ consult a doctor (or have someone consult a doctor for him?)
Record number of times

(i) During the last 2 weeks, how many days did this illness or injury keep ____ from going to work for which pay is received?
Record number of days or 99 for those who are not working.

(j) During the last 2 weeks, how many days did this illness or injury keep ____ from going to school?
Record number of days or 99 for those who are not going to school.

PROBE: Did any other member of this household during the last 2 weeks cut down or restrict their usual activities due to illness or injury?
If YES, repeat Question 5(a), 5(b), etc...
If NO, continue with Question 6.

h		i		j	
28	29	30	31	32	33

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 advise 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

NAME	IDENTIFICATION CODE: House	Person	Card	Village	6	a	b	c	d	*50	a	b	b	c	d	e	f	g
	2 3 4 5	6 7	8	9 10	11	12 13 14 15	16 17	18	19	20	21 22 23 24	25 26 27 28	29 30 31 32	33 34 35 36	37 38	39 40 41 42	43 44 45 46	
		2	3															

HEALTH CONDITIONS
PAST 12 MONTHS

NAME	IDENTIFICATION CODE: House	Person	Card	Village	7	a	b	a	b	a	b
	2 3 4 5 6	7 8	9	10	11	12 13 14 15	16 17	18 19 20 21	22 23	24 25 26 27	28 29
		3	0								

DID NOT SEE DOCTOR

TRANSPORTATION

REGULAR DOCTOR

16. During the past 12 months, was there any time that a household member needed to see a doctor but for some reason did not?
Record (1) = Yes
(2) = No (Skip to Question 17)

(a) If YES to previous question, who was this and what was the main reason that ____ did not see a doctor when they needed to? (See CARD H for code)

17. When a member of this household needs to go to a doctor's office or health care facility what kind of transportation is generally used?
Record (1) = own car or truck
(2) = relative's car or truck
(3) = non-relatives car or truck
(4) = Social Service agency car, truck or van
(5) = Taxi
(6) = Bus
(7) = Walk
(8) = Ambulance
(9) = Other (Specify: ______________)

18. How difficult, if at all, is it for you to obtain transportation to a doctor's office or health facility?
Record (1) = very difficult
(2) = somewhat difficult
(3) = not difficult
(4) = refusal, or NO ANSWER

19. 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?
Record (1) = Yes
(2) = No
(3) = Other (Specify: ____________)

20. Does any member of this household have a regular doctor?
Record (1) = Yes
(2) = No (Skip to Question 20(b))

	IDENTIFICATION CODE																						
	House			Person		Card		Village		16	a	17	18	19	20	a				b			
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
						4	0																

(a) If YES to previous question, who is this? And what is this doctor's name? (See CARD F for code) If doctor is not on the list, ask Question 20(b).

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

QUESTIONS 33-44 ARE FOR THE RESPONDENT ONLY!

	IDENTIFICATION CODE									HEALTH PROGRAMS												
	House			Person		Card		Village		33i	ii	iii	iv	v	vi	vii	viii	ix	a	b	c	d
NAME	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
						6	0															

33. If the following programs were offered, which ones would you like to attend? (CARD N, Health Programs listing).
Record (1) = Yes
(2) = No to the following programs

(i) = stop smoking
(ii) = weight reduction
(iii) = stress management
(iv) = parenting
(v) = nutrition
(vi) = exercise
(vii) = first aid/CPR
(viii) = food preparation and handling
(ix) = Other (Specify: _____)

(a) Where would you prefer that the program be held?
Record (1) = Village Community Center
(2) = Public Health District Centers (North, Central, South)
(3) = Hospital
(4) = School
(5) = Worksite
(6) = No difference
(7) = Other (Specify: _____)

(b) What day would you prefer that program be held?
Record (1) = Week-days
(2) = Saturday
(3) = Sunday
(4) = No Difference
(5) = Weekends

(c) What time would you prefer that the program be held?
Record (1) = Between 8 a.m. and 12 p.m.
(2) = Between 12 p.m. and 5 p.m.
(3) = Between 5 p.m. and 7 p.m.
(4) = 7 p.m. or later
(5) = No difference

(d) Would you be willing to pay a nominal fee to attend these programs?
Record (1) = Yes
(2) = No

HEALTH INFORMATION

34a	b	c	d	e	f	g	h	i	35
25	26	27	28	29	30	31	32	33	34

34. When you have some kind of illness or health problem, how frequently do you get information about what is wrong with you (a diagnosis) from: (CARD O, 1 = very often; 2 = sometimes; 3 = rarely; 4 = never)

(a) A member of this household?

(b) A relative not living in this household?

(c) A friend who is not a relative?

(d) A priest or a clergyman?

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

(f) A nurse or medical aide?

(g) A medical doctor?

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

(i) TV or radio programs/announcements?

35. Which of these sources from whom you have gotten information do you feel has been the most helpful to you?
Which one? _____
34(a)-34(i)

SATISFACTION

SANITATION ATTITUDE

	IDENTIFICATION CODE																													
	House			Person		Card		Village		36a	b	c	d	e	f	g	h	i	j	k	37	38	39	40
NAME	2	3	4	5	6	7	8	9	10	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
						6	0																	

36. The next few questions refer to your own feelings and opinions about health services here on Guam. In the past, to what extent were you satisfied with... (CARD P, 1 = very satisfied; 2 = satisfied; 3 = somewhat satisfied; 4 = somewhat dissatisfied; 5 = dissatisfied; 6 = very dissatisfied.)

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

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

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

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

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

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

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

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

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

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

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

The following statements have to do with SANITATION ATTITUDE. Please respond with TRUE or FALSE.
Record (1) = True
(2) = False
(9) = Don't know

37. Chicken Kelaguin leftovers can be kept safely for up to 12 hours without refrigeration if they are kept out of the sun and covered so flies can't get in.

38. It is alright for babies to play with small puppies because people don't get dog diseases.

39. It is normal and beneficial for children to eat small amounts of dirt, it helps them develop immunity to many diseases.

40. Cold water is just as good as hot water for laundering diapers, etc..., if a good all-temperature detergent is used.

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

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 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

00 - NO PREFERENCE/NO CHOICE
- 00-Dr. Chang, Acupuncture (Agana)

01 - ASAN FAMILY CLINIC (ASAN)
- 01-Dr. Acosta

02 - CARLOS HEIGHTS CLINIC (TUMON, TAMUNING)
- 02-Dr. Santos (Tumon, Tamuning)
- 03-Dr. M. Kallingal (Harmon, Dededo)
- 04-Dr. S. Kallingal (Tumon, Tamuning)

03 - CRUZ PHARMACY (TAMUNING)
- 05-Dr. Olivia Cruz

04 - DR. CURRY'S OFFICE (GCIC, AGANA)
- 06-Dr. Curry

05 - DEDEDO MEDICAL CENTER (DEDEDO)
- 07-Dr. Atendido
- 08-Dr. Carrera

06 - FAMILY HEALTH PLAN (FHP) (TAMUNING)
- 00-Dr. McDonald
- 09-Dr. Aquino
- 10-Dr. Binkley
- 11-Dr. Burkhard*
- 12-Dr. Camacho
- 13-Dr. Cariaga
- 14-Dr. Eigner*
- 15-Dr. Fishman**
- 16-Dr. Freeman
- 17-Dr. Dorneweerd
- 18-Dr. Huitema
- 19-Dr. Larive*
- 20-Dr. Lombard

06 - FAMILY HEALTH PLAN, FHP (TAMUNING)--continued
- 21-Dr. Martinez
- 22-Dr. Michels
- 23-Dr. Murphy
- 24-Dr. Oliver
- 25-Dr. Rozychi
- 26-Dr. Ryan*
- 27-Dr. Silan**
- 28-Dr. Smith
- 29-Dr. Stadler
- 30-Dr. Wanlass
- 31-Dr. Wenner

07 - DR. GARRETT'S OFFICE (GCIC, AGANA)
- 32-Dr. Garrett

08 - GOOD SAMARITAN CLINIC AND SURGICENTER (CHALAN SAN ANTONIO, TAMUNING)
- 33-Dr. Bollinger
- 34-Dr. Hayes*
- 35-Dr. Matthews**
- 36-Dr. Macaraeg
- 37-Dr. Soriano
- 38-Dr. Teiche
- 39-Dr. Werthman

09 - GUAM MEDICAL CLINIC (CHALAN SAN ANTONIO, TAMUNING)
- 40-Dr. Sirilan

10 - GUAM MEMORIAL HOSPITAL (GMH) (TAMUNING)

11 - GUAM POLY CLINIC (TAMUNING)
- 41-Dr. Chiu
- 42-Dr. Griley
- 43-Dr. Hong

CARD F - Continued

Doctors and Health Facilities on Guam

12 - I.T.C. CLINIC # (TAMUNING)
44-Dr. Arguelles
45-Dr. Basilio
46-Dr. P. Boonprakong
47-Dr. V. Boonprakong
48-Dr. Platt
49-Dr. Sison

13 - I.T.C. CLINIC #2 (TAMUNING)
50-Dr. K. Chen

14 - FAMILY CLINIC (I.T.C., (TAMUNING)
51-Dr. Duenas
52-Dr. Ericson
53-Dr. Perez
54-Dr. Taitano

15 - MARIANAS MEDICAL CLINIC (TAMUNING)
55-Dr. Guzman

16 - DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICE (MANGILAO)
00-Dr. Parents (Mangilao)

17 - DR. SABLAN'S CLINIC (MONGMONG/TOTO/MAITE)
56-Dr. Sablan

18 - DR. SAGISI and DR. BATOYAN'S CLINIC (GOOD SAMARITAN CLINIC, CHALAN SAN ANTONIO, TAMUNING)
57-Dr. Batoyan
58-Dr. Sagisi

19 - ST. ANTHONY'S CLINIC (TAMUNING)
59-Dr. Concepcion
60-Dr. Salvador

20 - SEVENTH DAY ADVENTIST CLINIC (TAMUNING)
00-Dr. Werthman
61-Dr. Boyle
62-Dr. Holm
63-Dr. Hanson
64-Dr. Gerling
65-Dr. B. Steinman
66-Dr. W. D. Steinman
67-Dr. Rick
68-Dr. White
00-Dr. Newbold

21 - TAMUNING MEDICAL CLINIC (TAMUNING)
69-Dr. Chang

22 - DR. TOLENTINO'S OFFICE (I.T.C., TAMUNING)
70-Dr. Tolentino

23 - DEDEDO DENTAL CLINIC (DEDEDO)
71-Dr. Walker

24 - FHP DENTAL CLINIC (TAMUNING)
72-Dr. Chun
73-Dr. Goldstein
74-Dr. Ives
75-Dr. Soriano
76-Dr. Walpole

25 - ST. ANTHONY'S DENTAL CLINIC (CHALAN SAN ANTONIO, TANUMING)***
77-Dr. Yumang

26 - G.I.T.C. DENTAL CLINIC (TAMUNING)
78-Dr. Labalan

27 - GUAM POLY DENTAL CLINIC (TAMUNING)
79-Dr. Silos

28 - DR. MADARANG'S CLINIC (HARMON, DEDEDO)
80-Dr. Madarang)

CARD F - Continued

Doctors and Health Facilities on Guam

29 - MARIANAS DENTAL CLINIC (TAMUNING)
81-Dr. Veloria

30 - ORDOT DENTAL CLINIC (ORDOT/CHALAN PAGO)
82-Dr. Klein
83-Dr. Nelson

31 - ORTHODONTICS CLINIC CHALAN SAN ANTONIO, TAMUNING)
84-Dr. Camacho
85-Dr. Hoffman

32 - DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES (MANGILAO)
86-Dr. Adamson
87-Dr. Mayberry
88-Dr. Sterritt

33 - DR. REYNOLDS & ASSOC. (GCIC, AGANA)
89-Dr. Fleischer
90-Dr. Post
91-Dr. Reynolds
92-Dr. Romero
93-Dr. Yasuhiro

34 - SEVENTH DAY ADVENTIST DENTAL CLINIC (YPAO, TAMUNING)
94-Dr. Agnette
95-Dr. Guth
96-Dr. Lee
97-Dr. McFarlane

35 - DR. TROYER'S CLINIC
98-Dr. Troyer

36 - DR. VAN DER PYLE'S CLINIC (GCIC, AGANA)
99-Dr. Van der Pyle

37 - CHINA ACUPUNCTURE CLINIC (TAMUNING)
00-Dr. Liu

38 - GUAM ACUPUNCTURE CLINIC

39 - EAST WEST ORIENTAL CLINIC (MONGMONG/TOTO)
00-Dr. Chang H. Chung

40 - DR. T. J. MASKELL'S CHIROPRACTOR CLINIC (TUMON, TAMUNING)
00-Dr. T. J. Maskell

41 - GUAM CHIROPRACTOR CLINIC (GCIC, AGANA)

42 - DEPT. OF MENTAL HEALTH and SUBSTANCE ABUSE (OLD GMH BLDG., TAMUNING)

43 - PSYCHOLOGICAL SERVICES
01-Dr. E. Fuerst
02-Dr. E. Woodyard (Agana)
03-Behavioral Clinic (Tamuning)

44 - SURUHANA/SURUHANO

45 - HILOG

46 - TRADITIONAL HEALTH HEALER

50 - NURSE PRACTITIONER

51 - UOG CLINIC (MANGILAO)

60 - ZEE'S COMPLEX/CENTURY PLAZA (TAMUNING)
80-Dr. Wy Chen, GP
81-Dr. Acosta, Optical

47 - NAVAL HOSPITAL (AGANA HTS)
00-Dr. Espirito
00-Dr. Smith

48 - ANDERSEN CLINIC (YIGO)

*Dr. no longer practicing on island, went off-island.

**Dr. presently located:
-0615, ITC (Tamuning)
-0627, Asia Plaza (Tamuning)
-0835, Micronesia Eye Center (Tamuning).

***Clinic 25 corrected from Good Samaritan Dental Clinic to St. Anthony's Dental Clinic.

CARD N - Question 33
Health Programs

01 - Stop Smoking
02 - Weight Reduction
03 - Stress Management
04 - Parenting
05 - Nutrition
06 - Exercise
07 - First-Aid and/or CPR
(Cardiopulmonary Resuscitation)
08 - Food Preparation and Handling
09 - Other (Specify: _____)

CARD O - Question 34
Possible Sources of Health
Information or Advise

Responses:

1 - Very Often
2 - Sometimes
3 - Rarely (may be once or twice)
4 - Never

CARD P - Question 36
This refers to feelings and opinions
about health services on Guam

1 - Very satisfied
2 - Satisfied
3 - Somewhat satisfied
4 - Somewhat dissatisfied
5 - Dissatisfied
6 - Very dissatisfied
9 - No experience

CARD BB - QUESTION 49

(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

APPENDIX E

REFERENCES CITED

REFERENCES

(1) Kasperbauer, Lawrence F. Health Needs Assessment of Northern Guam. Community Development Report No. 9, College of Agriculture and Life Sciences, University of Guam (1980).

(2) Kasperbauer, Lawrence F. Immunization of Children Under Ten Years of Age: A Statistical Report. Community Development Report No. 2, College of Agriculture and Life Sciences, University of Guam (1978).

(3) U.S. Bureau of the Census. U.S. Census of the Population: 1980. Vol.1, Characteristics of the Population, Part 54, Guam, PC80-1-B-54, Chapter B, General Population Characteristics. U.S. Government Printing Office, Washington, D. C.

(4) 1984-87 Guam Cooperative Extension Service Plan of Work. College of Agriculture and Life Sciences, University of Guam (1984).

(5) Kasperbauer, Lawrence F., Leonardo M. Rapadas, and Randy L. Workman. Health Status of the Population of Guam: Salient Social and Economic Characteristics. Vol. 1, Community Development Report No. 12, College of Agriculture and Life Sciences, University of Guam (1985).

(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).

(7) Beal, G. M. and J. M. Bohlen. The Diffusion Process. Iowa Agricultural Extension Service Special Report 18, Iowa State University-Ames (March 1957).

(8) Lionberger, Herbert F. Adoption of New Ideas and Practices. The Iowa State University Press, Iowa State University-Ames (1960).

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.