WESTINGHOUSE

# BASELINE HEALTH STATUS SURVEY
# PRIMARY HEALTH CARE PROJECT AREAS
# PAKISTAN

OCTOBER 1983-APRIL 1984

AID CONTRACT NO. PDC 1406-I-00-1129-00

WORK ORDER NO. 10

## FINAL REPORT-PART 1

WESTINGHOUSE ELECTRIC CORPORATION
WESTINGHOUSE HEALTH SYSTEMS
P.O. BOX 866
COLUMBIA , MARYLAND 21044

PN-AAE-402

FINAL REPORT

# BASELINE HEALTH STATUS SURVEY
# PRIMARY HEALTH CARE PROJECT AREAS
# PAKISTAN

October 1983 - April 1984

The Baseline Health Status Survey was undertaken for the Agency for International Development in conjunction with the Pakistan Primary Health Care Project. Technical Assistance by Drs. Clayton Ajello, Marjorie Pollack and Makhdoom Shah was provided through Westinghouse Health Systems under AID Indefinity Quantity Contract No. PDC-1406-I-00-1129-00.

Westinghouse Electric Corporation
Westinghouse Health System
P.O. Box 866
Columbia, Maryland 21044

## Acknowledgements

The consultant team would like to thank all of the individuals in the field who helped the team make it possible for it to complete its scope of work. We would like to thank especially for their part in the Baseline Survey the Project Director, Dr. Mushtag and his deputy Dr. Zafhar; Dr. Davis and Ms. Sewell of U.S.A.I.D./Islamabad; Mr. Eaton, management specialist and Ms. Lamb, training specialist for the PPHC Project.

The consultant team was fortunate to have the support of all the PPHD Project Provincial Training Specialists and Management Analysts as well as their drivers who carried them safely around Pakistan.

We owe special thanks to the PPHD clerical staff whose efficient and competent work kept the survey running as scheduled.

Table of Contents


| | | Page |
|---|---|---|
| Executive Summary | | 1 |
| I. | Introduction | 6 |
| II. | The Setting | 10 |
| | The Health Services of Pakistan | 10 |
| III. | Methodology | 12 |
| | Overview | 12 |
| | The survey Instruments | 12 |
| | o Target Group to be Assessed | 12 |
| | o Derivation of the Instruments | 13 |
| | o Assumptions Associated with use of the Survey Instruments | 19 |
| | o Weaknesses Associated with the Use of Survey Instrument | 19 |
| | o Instrument Validity | 20 |
| | o Field Testing | 21 |
| | o Field Component of the Baseline Survey | 21 |
| | o Staging | 21 |
| | o Characteristics of the Sample | 22 |
| | o Mapping | 27 |
| | o Sampling Procedures | 29 |
| | o Survey Staff and Oranization | 34 |
| | o Survey Staff Training | 37 |
| | o Reliability | 42 |
| | o Implementation | 47 |
| | o Data Processing | 50 |
| | o Data Analysis | 51 |
| IV. | Results | 53 |
| | o Survey Population Sampled | 53 |
| | o Information on Maternal Knowledge and Practices | 55 |
| | o Findings on the Low Births that occurred in the 5 years Preceeding the Survey | 73 |
| | o General Analysis | 87 |
| V. | Discussion | 108 |
| | o Infant and Child Mortality and Underreporting | 108 |
| | o Nutrition | 111 |
| | o ORT Program | 113 |
| | o EPI Program | 115 |
| | o Contraceptive Prevalence | 117 |
| | o Recommendations for Additional Analysis | 117 |
| | o Recommendations for Project Impact | 118 |
| | o Pitfalls to avoid in follow up survey | 120 |

APPENDICES - See Part 2

## List of Tables


| | | Page |
|---|---|---|
| 3.1 | Proportional Population Distribution Among Four Provinces and Expected Sample Frame Parameters | 26 |
| 3.2 | Summary of Baseline Health Survey Sample Frame By Province, District, IRHC, Number of RHC Associated Village and Number of BHU Associated Villages. | 28 |
| 3.3 | Village Sampling - Population Listing (Portion of Total Listing which Appears as Appendix IXB). | 32 |
| 3.4 | Reliability Rsults Showing Proportion of Responses to Variables Recorded Correctly (relative to experts) by Interviewers on Survey Instrument | 46 |
| 4.1 | Summary of the Composition of the Population sampled in the Baseline Health Status Survey, by Province and Health Facility Type | 54 |
| 4.2 | Cross Tabulations by Type - RHC vs. BHU | 56 |
| 4.3 | Cross Tabulations by Province (NWFP vs. Punjab) | 57 |
| 4.4 | Age and Sex distribution of live births still alive at time of survey | 76 |
| 4.5 | Overall mortality by age at death and health facility type | 78 |
| 4.6 | Distribution of responses to questions about symptoms preceding death for all live births that died. | 81 |
| 4.7 | Overall mortality by age at death by Province. | 84 |
| 4.8 | Distribution of responses to questions about symptoms preceding death, where symptoms were remembered for live births that died, Punjab vs. NWFP Provinces. | 85 |
| 4.9 | Nutritional status of males 0 - 35 months of age, using the Gomez categorizations of weight forage, by Province. | 89 |

| | | |
|---|---|---|
| 4.10 | Nutritional status of females 0 - 35 months of age, using the Gomez categorizations of weight forage, by Province. | 90 |
| 4.11 | Nutritional status of males using CDC categorization of weight for height. | 95 |
| 4.12 | Nutritional status of females using CDC categorization of weight for height. | 96 |
| 4.13 | Age distribution of children with a history of diarrhea in the month preceeding the survey, Punjab, NWFP and total survey population. | 98 |
| 4.14 | Percentage coverages of children less than 5 years of age with the EPI vaccines by age, vaccine type and dose number in series for multidose vaccines, and percentage ever vaccinated by maternal history. | 100 |
| 4.15 | Mortality rates per 1,000 live births among cohorts born between October/November 1978 and November/December 1983 by age at death and district of residence. | 102 |
| 4.16 | Stratification of living status (live vs. dead) at time of survey of live births by distance of health facility from village of residence. | 104 |
| 4.17 | Age specific mortality rates per 1,000 live births among cohorts who have completed their risk period for death by health facility type, Punjab, NWFP and total survey population. | 105 |
| 4.18 | Mean ages at death, all deaths among live births that occurred in the five years preceding the survey by Province. | 107 |

## List of Figures


| | | Page |
|---|---|---|
| III-1 | Baseline Survey Implementation Schedule | 48 |
| IV-1 | Proportion of Women Still Breastfeeding by month since last birth. | 74 |
| IV-2 | Proportion of Children receiving Solid Foods by month since birth. | 75 |
| IV-3 | Mean weight for age (in months) for boys birth - 35 months, as compared to tne NCHS standard, Punjab Province. | 91 |
| IV-4 | Mean weight for age (in months) for boys birth - 35 months, as compared to the NCHS standard, NWFP Province. | 92 |
| IV-5 | Mean weight for weight (in months) for girls birth - 35 months, as compared to the NCHS standard, Punjab Province. | 93 |
| IV-6 | Mean weight for age (in months) for girls birth - 35 months, as compared to the NCHS standard, NWFP Province. | 94 |

## List of Appendices


I. Scope of Work

II. Suggested Variables For Baseline Survey

III. Population Survey Instrument

IV. Community Variable sheet

V. Code Book

VI. Interviewer's Manual

VII. Baseline Survey - Instructions for Administering and Coding Survey Instrument

VIII. Mapping Instructions

IX A. List of IRHC's Eligible for Sampling
B. Village Sampling - Population Listing

X A. Aspects to be Covered in Training of Supervisors
B. Cluster Summary Sheets

XI. Schedule for Training Interviewers for Baseline Survey in N.W.F.P. and Baluchistan

XII. Instructional Materials for Interviewers

## EXECUTIVE SUMMARY

The Pakistan Primary Health Care Project (PPHC Project) is a five year joint effort between the Ministry of Health (MOH) of Pakistan and the United States Agency for International Development (USAID). The goal of this project is to improve the health status of the rural population of Pakistan. Several objectives have been established for the project which include:

- Reductions in specific health status indicators including a 20% reduction in infant and child mortality; 20% reduction in the prevalence of second and third degree malnutrition; and a 35% reduction in deaths due to diarrheal disease.

- 75% of MT's devoting at least half of their time to training and supervising CHW's.

- 80% of the IRHC's with authorized drugs and medical supplies available.

- 75% of BHU's receiving at least one visit weekly from MT supervisors posted at IRHC's.

- A total of 53 additional operational IRHC's in the provinces distributed numerically in a pre-determined manner.

A consultant team was assembled by the PPHC Project to assist the project in the design and implementation of a Baseline Health Survey. The purpose of this Baseline Survey is to enable sponsors of the project to determine if there has been a meaningful impact by project activities at the end of the project. That is, has the purpose of the project to improve the health status of the rural population of Pakistan been substantially accomplished.

With the help of the consultant team, the PPHC Project articulated a survey design and seven topical areas of information it felt would enable impact evaluation. The survey design is such as to enable documentation of associations among variables both at points in time and over time. Hence, the survey design allows for documentation of changes in selected indicators associated with the period during which the project is being implemented. It was not desired nor will the survey design permit

Two survey instruments were developed by the consultant team in cooperation with the staff of the PPHC Project: a "population survey instrument" and a "community variable sheet". The former consisted of two parts: a respondent form and a child form, both of which taken together were designed to obtain information about all mothers who had a live birth during the past five years and about the children themselves whether the child is currently alive or not. A live birth is one which is born alive even if it dies within moments of birth. The community variable sheet (completed by a team of mappers before household interviewers even went to the field) was designed to enable interviewers to find the villages, facilitate their work there, and to provide information about each village which might be useful in tempering interpretation of data obtained through using the population survey instrument during household surveying.

The population survey instrument was designed as a pre-coded survey form. It was executed in English first and translated into Urdu (the official national language) and administered to respondents in Punjabi (similar to Urdu and the most widespread language in survey areas) and Pushto. The household survey portion of the Baseline Survey was administered by teams of female medical technicians (MT's), each surpervised by a PPHC Project staff member (four of whom were training specialists, two of whom were temporary staff with previous training or survey experience). Each team also was provided with 1-2 male MT's to assist the team supervisors and to conduct weighing and measuring of heights of children. The field surveying portion was phased into two parts. Four teams were trained and immediately assigned to survey all sampled villages in the Punjab Province first. Six teams consisting of new interviewers and four supervisors used in the Punjab and two new supervisors were trained/re-trained and deployed six weeks later in the NWFP Province. As scheduling permitted, selected teams were sent to survey sampled villages in the Sind and Baluchistan Provinces. Replacement interviewers were selected and trained in the Sind for the Sind sample villages.

The sample frame consisted of all Integrated Rural Health Complexes (one Rural Health Center, and four Basic Health Units) which are fully functional or will be fully functional as of December, 1984). After a proportional sample, cluster sampling techniques were applied to population estimates, maps of the sampled villages were constructed by a team of mappers (project management analyst staff) trained by the consultant team for this purpose. Mappers also completed the community variable sheet while completing the maps of each village.

All training of supervisors, mappers, and interviewers and male MT's (who did the weighing and measuring of heights) was done or guided by the consultant team with substantial assistance of the PPHC Project staff. The consultant team also provided a kind of roving field supervision of

the survey teams on an ongoing basis while the survey was being conducted. Project staff also conducted multiple field trips to oversee the conduct of both training and supervision of the survey.

Data entry was done in Pakistan. Editing/cleaning and the analysis was done in the United States by two of the consultant team members. Very limited reliability testing was done to assess inter-observer variation by team and by training session. The results re-affirmed the desirability to analyze the data stratifying by province. Other stratifications which were found to be useful were by type of facility, distance from facility and the usual age/sex stratifications. All were applied selectively.

Information was obtained on 4,864 women who had had a live birth in the five years preceding the survey, and from them, on 8,847 live births that had occurred during that period.

The survey result showed an overall infant mortality (IMR) rate of 89.2 per 1,000 live births among cohorts that had passed the risk period of death in the first year of life, with a neonatal:post neonatal mortality ratio of 2.3:1. Crude mortality rate (not corrected for completion of risk period) showed a difference in IMR by type of health facility serving the population (RHC-95.9 versus BHU 81.5 per 1,000 live births), and between province of residence (Punjab-62.6, NWSP-105.0, Baluchistan-45.5, and Sind-82.7 per 1,000 live births). The childhood (1-4 yr. old) mortality was 14.5 per 1,000 live births.

An interesting finding was seen through a stratification of the mortality by distance from health facility. The overall crude mortality rate for the 0-4 yr. old population in areas where the health facility was located in the village was 80.7 per 1,000 live births, 110.1 per 1,000 live births where the health facility was less than or equal to two miles from the village, and 117.0 where the health facility was greater than 2 miles from the village.

There was sufficient evidence to suggest that there was a large degree of under reporting of mortality among the survey population.

Overall, there was a 32.9% incidence of diarrhea among the children surveyed during the one month preceding the survey, with the mean age of cases being 24.4 months of age, and the highest age specific attack rate among children 13-18 mosnths of age; 64.2% of the cases were treated with allopatheic drugs and 10% with ORT. Using the Gomez classification of nutritional status by assessment of weight for age, there was a 21.9% prevalence of second degree malnutrition and a 4.0% prevalence of third degree malnutrition among males 0-35 mos. of age. There was a 20.3% prevalence of second degree and 4.2% prevalence of third degree malnutrition among females in the 0-35 mos. age group. Growth curve plotted against the NCHS standard, revealed that by 9-10 mos. of age,

males in Punjab were below the fifth percentile, by 15 mos. of age males in NWSP were below the fifth percentile of the NCHS standard. Females in Punjab fell below the fifth percentile by 12 mos. of age, and females in NWSP, fell below the fifth percentile during the period 13-24 mos. of age.

EPI coverages of the greater than or equal to 9 mos. old population (taking into account documented and verbal histories) were: 12.1% had three doses of polio vaccine, 10.4% had three doses of combined DPT/DT vaccine, 18.0% had measles vaccine, and 30.4% had BCG. The drop out rate for polio and DPT/DT were 67.6% and 72.7% respectively.

Maternal knowledge and practices included: an overall literacy rate of 7.8%, 22.6% of women felt that routine antenatal care was necessary; 60.2% felt that a traditional birth attendant should deliver a baby, and 25.9% felt that a relative should deliver a baby; 4.3% had received tetanus toxoid during their last pregnancy (5.3% in RHC areas vs. 3.4% in BHU areas); 28.2% stopped breast feeding because of pregnancy, with the mean age of cessation of breast feeding of 18.6 mos. and the mean age of introduction of solid weaning foods of 9.7 mos; 59.4% had used the government health facility they were assigned to (67.0% in RHC areas vs. 52.7% in BHU areas). Reasons for non-utilization included 19.3% said it was too far, 18.8% did not trust the personnel, and 16.8% had never heard of it; 38.3% had heard of ORT (40.7% in RHC areas, 36.1% in BHU areas) of whom 81.8% had used it; 78.6% had heard of vaccines (81.3% RHC, 23.7% BHU); 3.9% of the women claimed to be using contraceptives at the time of the survey.

There were marked differences in knowledge and behavioral patterns of mothers when comparing Punjab and NWSP Provinces. Punjab had a higher literacy rate (9.0 vs. 7.3%); more women in Punjab felt that antenatal care was indicated (25.7 vs. 18.8%); more women in Punjab stopped breast feeding because of another pregnancy (34.7% vs. 26.4%); mean age of introduction of solid weaning food was earlier in Punjab (9.37 mos. vs. 9.93 mos.); more women in Punjab had used the government health facility they were assigned to (67.8% vs. 52.5%); more women did not use the health facility because it was too far in Punjab (32.5% vs. 14.3%); less women in Punjab had heard of ORT (28.4% vs. 41.9%); of whom less women had used it (78.1% vs. 82.8%); more women in Punjab had heard of vaccines (84.4% vs. 75.7%) and less women in Punjab claimed to be using contraceptives (3.7% vs. 4.2%).

The survey results indicate that the project should orient activities to increasing an awareness of the importance and benefits of ORT and EPI. In addition, with respect to the nutritional deficiencies, the results suggest that the project should concentrate efforts on lowering the age of introduction of solid weaning foods to between 4 and 6 mos. of age, since that is the period when the nutritional status of the children

is starting to decline. In addition, there are suggestions that the present level of outreach of health care services from the health facility needs to be increased.

The report also gives some useful guidelines for problems to avoid in the follow up survey planned for 1987, based on the experiences of this survey.

# I. INTRODUCTION

## THE PAKISTAN PRIMARY HEALTH CARE PROJECT (PPHC PROJECT)

The Pakistan Primary Health Care Project (PPHC Project) is a 5 year joint effort between the Ministry of Health (MOH) of Pakistan and the United States Agency for International Development (USAID). It is the overall goal of the project to improve the health status of the rural population of Pakistan. More specifically, it is the purpose of the project to "improve the quality and expand the coverage of primary health services in rural areas" of Pakistan. In order to accomplish the goal and purpose of this project several specific objectives have been set. These objectives pertain to strengthening of program management and operations of the basic health services in all areas ranging from planning to supervision, transportation, and supply to maintenance finance and information. There are also objectives which pertain to strengthening selected worker training, research/evaluation, and an accelerated, expanded program for immunization (EPI) program.

The objectives relating to the research/evaluation component of the project are primarily project evaluation activities to ascertain the progress of the project in teaching its goals and objectives and determining the overall impact of the project. The PPHC Project paper describes a baseline and end-of-project survey as a significant portion of these evaluation activities.

This report describes in detail the design, implementation, and results obtained from a baseline survey conducted for the PPHC Project by project staff with design and implementation assistance from a team of expatriate consultants during the period October 1983 through March 1984. (For scope of work of consultant team, see Appendix I.)

## THE BASELINE SURVEY

PPHC Project Objectives and Project Evaluation

The objectives of the PPHC Project have been etablished and quantified in the project paper. These include:

- Reductions in specific health status indications including a 20% reduction in infant and child mortality; 20% reduction in the prevalence of second and third degree malnutrition; an a 35% reduction in deaths due to diarrheal disease.
- 75% of MT's devoting at least half of their time to training and supervising CHN's.
- 80% of the IRHC's with authorized drugs and medical supplies available.
- 75% of BHU's receiving at least one visit weekly from MT supervisors posted at IRHC's.
- A total of 53 additional operational IRHC's in the provinces distributed numerically in a pre-determined manner.

The purpose of the Baseline Survey is to enable sponsors of the project to determine if there has been a meaningful impact by project activities. That is, has the purpose of the poroject to improve the health status of the rural population of Pakistan been substantially achieved. In this sense and in the context of project evaluation, the project objectives listed above tend to separate naturally into two categories: those which relate to project impact evaluation and those which relate to process evaluation. Process evaluation indicators are generally mesured more frequently during the course of a project and help to establish the credibility of the project's ability to have an impact -- before impact indicators are able to be tabulated. The objective mentioning specific health indicators is most frequently associated with impact evaluation, because of the long period of time required to effect and detect changes in these measures and because of the fundamental way in which they reflect change. The remaining objectives provide a framework for establishing overall process evaluation measures.

The Baseline Survey has been undertaken to enable impact evaluation of the PPHC Project. Hence, the survey has been designed utilizing indicators which it has established as being clearly linked with project impact.

During discussions with those participating in the PPHC Project, the consultant team helped project staff articulate other parameters which might reflect in a more refined way project impact intermediate to dramatic reductions in specific indicators. This was felt to be essential since statistically meaningful reductions in the health status indicators already mentioned above often take several years to occur. It was agreed that the Baseline Survey should identify other indicators which might reflect project impact at a time when health status indicator reductions might have begun to be affected, but not to a significant degree.

In this regard, the project lays heavy emphasis on strengthening the expanded program for immunization (EPI) and oral rehydration therapy services in project areas. These and other components of the project should contribute to significant changes not only in health status indicators directly, but also to changes in individual knowledge, attitudes, and practices regarding health care. Hence, the various emphasis of the project suggest many additional indicators useful in assessing project impact. The derivation of these indicators is discussed fully in the section of the chapter on methodology bearing the same name.

Survey Design Relative to Survey Objectives

For the sake of clarity, it is noted at this point that lengthy discussion was devoted to expectations relating to the information generated by this survey. It was formally agreed that a survey design

should be developed which would assist in impact evaluation of the project. However, end results were to be useful in identifying associations between project activities and changes in health status of persons living in catchment areas of PPHC Project facilities. There was no intent on the part of the PPHC or its sponsors to attempt to anticipate in the survey design a desire on the part of end-of-project evaluators to document any causal relationships. Documenting causal relationships would require a much different survey design (i.e., a study design) than has been employed here. Indeed, documenting causal relationships would also require a much greater resource commitment on the part of project sponsors. The project has decided that such a commitment would be beyond the scope of needs for evaluation (As determined by the PPHC itself).

In addition, it was noted by the consultant team that the information from the Baseline Survey by itself would be most useful as descriptive information about a specified population of Pakistan (or its sub-populations). Of course the true value of the Baseline Survey information will be derived through its comparison to end-of-project survey results. Impact evaluation will depend on having both Baseline and end-of-project survey data sets.

## II. THE SETTING

### THE HEALTH SERVICES OF PAKISTAN

#### View of the Organizational Structure

There is an administrative structure for the Ministry of Health at both the Federal Government level and at the Provincial level in Pakistan. Both levels are actively involved in organizing and/or administering the health services of Pakistan. The Federal Government, however, is responsible primarily for setting health policy, while implementation of this policy rests largely with the provincial hierarchy. At the Federal level, the responsibilities of planning and funding infrastructure are separate from the entity charged with responsibility for funding of recurrent costs. In order to coordinate activities between the Federal and Provincial Governments with regard to primary health care services, the Federal Ministry of Health established a Basic Health Services Cell (BHSC). The primary responsibility of the BHSC is to oversee and assist implementation of the PPHC.

The PPHC and its predecessor project, the Basic Health Services Project (BHS Project), were undertaken within the existing Provincial administrative organization. At the Provincial level, the Secretary of Health is the highest health authority located in the province. Under his direction, the Director of Health is responsible for day to day operation of the provincial health care delivery system. Varying numbers of Deputy Divisional Directors assist the Director of Health in each province. The unit of jurisdiction in each province is the district, headed by a district health officer (DHO). DHO's are responsible to the Deputy Divisional Director of Health.

Within each district are located rural health centers (RHC's) and basic health units (BHU's). DHO's have direct supervisory authority over these facilities. The difference between these types of facilities relates to size (RHC's are larger), staff (RHC's have a larger and more varied categories of staff and staffing patterns), and services offered (RHC's offer a wider range of services). Within most districts, however, there is a district hospital which acts as a referral institution for other health facilities. District hospitals do not come under the supervisory authority of the DHO; rather these are supervised by Medical Superintendents who report to the Director of Health.

With the advent of the BHS Project and as continued under the PPHC Project, greater coordination among RHC's and BHU's has been sought with a strengthening of the staffing patterns and services offered by these facilities. Where this coordination has been established, this is recognized by the use of the term "Integrated Rural Health Complex" or "IRHC". An IRHC generally comprises one RHC and four BHU's. The association is generally supported by a natural geographical/population association.

There are 53 IRHC's to be functional (as a result of the PPHC Project) by the end of the PPHC Project. Currently, there are 28 IRHC's functional (fully staffed and fully equipped) or scheduled to be functional by December of 1984 in the four provinces (Punjab, Northwest Frontier - NWFP -, Baluchistan, and Sind Provinces).

In the broadest sense, it is the functional or near functional IRHC's which form the sample frame for the Baseline Health Survey. It is the intent of the Baseline Survey to document the health status of the population of IRHC's (functional/near functional) so as to enable assessment of the PPHC Project impact on the population after a 4 year period.

## III. METHODOLOGY

### OVERVIEW

In order to fulfill the purpose of this Baseline Survey, an approach consisting of two major components was developed. The first component embodies methods related to development of the survey instruments (comprising a "population survey instrument" and a "community variable sheet"). These include methods for determining the objectives of the instruments and their contents; and for determining the validity and reliability of the instruments. The second component encompasses methods related to the implementation of the baseline survey. The specific methodological issues arising during the course of designing and conducting the baseline survey are discussed separately below for each component.

### THE SURVEY INSTRUMENTS

#### Target Group to be Assessed

Women of reproductive ages and children are acknowledged to be groups especially subject to fluctuations in health status, and for whom basic primary health services can have a meaningful, positive impact. These groups are also subject to greater morbidity and mortality than the general population as a whole. Children's health status is important in its effect upon life expectancy of the population at large. The PPHC Project has focussed on strengthening services which are likely to affect to the greatest extent women and children. These factors prodded the Baseline Survey to focus upon women of reproductive ages, women currently with unmarried children less than 5 years of age and children less than 5 years of age.

## Derivation of the Instruments

Although women and children were designated as the basic target groups, it was felt that information about the communities in which the target populations live might influence the overall interpretation of survey results. Hence, two categories of survey instruments were developed for the baseline survey: a "population survey instrument" and a community variable sheet". The former instrument seeks to document information about individual respondents within selected communities. The community variable sheet is a simple form highlighting basic information about each community where the survey was undertaken. In addition the community variable sheet documents any unusual characteristics about any community which might affect the overall interpretation o the data set. The derivation of each instrument is discussed below, separately.

o Population Survey Instrument

The contents of the population survey instrument were derived through a series of joint meetings among the principals of the PPHC Project and the consultant team. The consultant team first reviewed all relevant project documents to ascertain the major components of the project, project objective (identified in an earlier section), and the likely target groups of the project. The consultant team then drew up a listing of potential topical areas (relevant to project impact as described earlier) that the survey instrument might investigate within the target population. These topical areas were presented for discussion and modification by the principals of the PPHC Project.

The topical areas agreed upon for inclusion in the survey instrument which were felt to reflect the main thrusts of project objectives and activities included:

- Antenatal/natal/postnatal attitudes and practices
- Utilization of services
- Infant nutrition
- Infant/child morbidity
- Infant/child mortality
- Attitudes and practices pertaining to Oral REhydration Therapy (ORT)
- Knowledge and practices pertaining to child immunizations

As can be surmised from a study of this list, the principals of the PPHC Project have a desire to measure more than just population health status defined strictly in terms of mortality, morbidity, and/or anthropometric indicators. In addition, there was a desire expressed to ascertain if the project activities have an impact on those factors which affect morbidity and mortality statistics. Hence, the topical areas include information about various health knowledge, attitudes and practices, and information regarding the utilization of services. The topical areas dealing with oral rehydration and child immunization were considered important because of the heavy emphasis placed on these items within the Basic Health Services Cell of which the PPHC Project is a major component.

After the topical areas were agreed upon, the consultant team undertook to develop a variable list within each topical area which could provide a basis for determining the impact of the project activities over a 5 year period. (See Appendix II for "Suggested Variables for Baseline Survey".)

In its final form (See Appendix III for facsimilie of English version of population survey instrument), the population survey instrument comprised two parts. Part I is a respondent form (in all cases women household members are the respondents). Part II is a child form. Apart

from identification an biographical information in each part, the multiple variables of each part of the survey instrument are discussed here in broad terms by topical section of the instrument. Note that for both parts of the population survey instrument, where dates were required, a set of special "event calendars" were devised. These are part of Appendix XII, Instructional Materials for Interviewers.

Part I of the population survey instrument relates primarily to respondent mothers' health-related knowledge, attitudes and practices. Within the first substantive section of Part I, ANTENATAL, NATAL AND POSTNATAL information, the thrust of the survey is to provide baseline information about maternal knowledge, attitudes, and practices toward antenatal, natal, and postnatal care. For instance, do mothers think these types of care are important, and is this manifested in their actions. Questions regarding past and present breastfeeding practices; timing of, introduction of, and kinds of weaning foods are included here.

The second section of Part I seeks to elicit information about HEALTH SERVICES UTILIZATION. Variables included were where first treatment for a seriously ill child is sought, whether a government health facility has ever been used (and why not if applicable), and how long it takes to get to the VILLAGE where the health facility is located (and how one would get to that village if one were to go there). For the latter two variables, the questions specifically asked how long it would take to get to the specific village and not to the facility, since many people have not been to the facility. Further, the chosen wording allows for some stratification of the survey results by time access to government health facilities for all respondents -- not just those who have been to the facility.

The third section of Part I regarding DIARRHREAL DISEASES emphasizes respondents' knowledge of ORAL REHYDRATION THERAPY: have they heard about it (and from whom), have they ever used it (and why not if applicable), and from where they would obtain it.

The next section of Part I focuses upon respondents' knowledge and practices regarding CHILD IMMUNIZATIONS. Respondents are asked if they have ever heard of vaccination; of specific vaccines; and if they know the number of doses necessary of several specific vaccines to prevent the specific diseases.

In addition to these sections of Part I, two additional questions were added: has the respondent ever heard of contraceptives, and if she is presently using any method.

Part II of the population survey instrument relates primarily to information about respondents' children under the age of 5 years. A separate Part II form is completed for each child born (alive) to the respondent since Ramazan 1978 (whether the child is (now) living or not).

For each child, the following variables were selected for inclusion in the survey: biographical information variables, age of child (if living) or age at death, history of diarrhea in the past month, treatment practices applied when diarrhea occurred, immunization history (and why not immunized if applicable), physical presence of immunization card; numbers of doses of vaccine received according to the immunization card, anthopometric measures, and signs and symptoms accompanying death for children who died.

o Community Variable Sheet

The community variable sheet (See Appendix IV for English version facsimilie) did not undergo the rather lengthy development period which accompanied the development of the population survey instrument. The community variable sheet had the specific purpose of being a written and to a great extent an open ended record of the major characteristics of each village. Of particular interest to the consultant team was the need to have clear directions to each village where surveying would be done, a

summary of the major characteristics of the village, a list of names of the community leaders or other influential individuals residing in each village who might be helpful in ensuring the completion of the survey by the team when they arrived, and a summary of the unusual characteristics of each village to be surveyed which might affect the conduct of the survey or which might contribute to a more realistic interpretation of survey data.

The community variable sheet, then, was drawn up mainly on the basis of the expert opinion of the consultant team and their experience in selecting useful information for inclusion. This task was completed bearing in mind that the community variable sheet would be completed by the persons who would be assigned to do mapping of villages; and that the community variable sheets and mapping would be completed prior to initiating use of the population survey instrument.

Production of Prototype Instruments

Once the content of the population survey instrument was determined, prototype versions of the instrument were produced in English. After agreement was reached among the PPHC Project principals on the content of the English version, the consultant team devised the specific survey form format. A pre-coded design was incorporated into the format. Code book appears as Appendix V.

The next step in development of the prototype instrument was to translate the entire survey into Urdu. Because of the severe time constraints under which the survey had to be developed and deployed, a technique of 100% back translation by independent translators could not be used. Instead, the instrument was translated first by two Urdu/English speakers working together. However, subsequent revisions were made to the translation prior to its use in the actual survey. The impetus for these revisions came from comments solicited by the PPHC

Project staff of survey team supervisors and interviewers during their training.

The population survey administered to all households was printed only in Urdu for field use. Local dialect adaptations were provided by interviewers as required. Several problems precluded development of the survey in multiple languages. Among these were: cost, lack of qualified translators or interviewers who were qualified readers of the various languages, insufficient time to perfect written versions of each language potentially to be encountered. On the other hand, the decision to produce a field instrument only in Urdu was not made lightly. Supporting the decision was the knowledge that Urdu is the official national language. While not everyone can write Urdu in Pakistan, it and Punjab a closely related language are widely understood. In addition, interviewers were exposed to dialectial translations of colloquial expressions before they were sent to the field. Indeed, it was the interviewers who helped provide the group of interviewers as a whole with the proper wording of colloquial expressions. Finally, it might be noted that the overwhelming majority of households in the sample frame used Punjabi as the primary language of communication. This was known during the planning phase of the survey. Regarding the interviewers, their training emphasized acquiring an understanding of the intent of each question so that where dialect translations were required, the interviewers were not hampered by a memorized version of specific questions without a clear understanding of the information sought.

The community variable sheet used to record information about the location and characteristics of the villages from which households were to be sampled were produced in English only.

## Assumptions Associated with Use of the Survey Instruments

The use of the population survey instrument and the community variable sheet assume several circumstances in order to be useful. These include:

- That the mappers can identify persons within each village to be mapped who might help the mapper objectively identify the routine and unusual characteristics as well as identify all households of each village and record these on the community variable sheet or map as appropriate.
- That interviewers can correctly develop dialect translations as needed in the field.
- That the content of the population survey instrument accurately reflects the responses of respondents, and that the questions accurately reflect the prominent features of the project which can be affected by the project activities.
- That supervisors are adequately trained and proficient as both supervisors and as interviewers.
- That measurement bias is systematic within each province and is consistent or of a decreasing nature over time.

## Weaknesses Associated with the Use of the Survey Instruments

To the extent that the population survey instrument depends upon objective and accurate recording by interviewers and supervisors of information about the population, the population survey instrument might be limited. It should be recognized that conducting a health information survey by service providers who have a pre-disposition in the outcome of the survey results could affect the conduct of the survey. While this circumstance is an acknowledged, potential limitation, steps were taken to minimize the threat of this potential limitation. First, survey supervisors were drawn from all over the country. Half of the interviewers were students who had only recently graduated and were not really linked with previous care in the community. Second, the consultant team acted as the final level of supervision in the field

regarding matters of interview administration -- the consultant team constantly reviewed the conduct of individual interviews with supervisors and interviewers on a spot basis.

Instrument Validity

How precisely the population survey instrument and the community variable sheet reflect the range and depth of indicators of project impact requires some consideration here. There is a large universe of variables potentially useful in measuring project impact. Only a few variables within a few topical areas were chosen for inclusion in the community variable sheet or the population survey instrument. Methodology for choosing specific variables was discussed earlier. However, expert opinion played a large role in deciding which variables to include in the final instruments. Beyond this, it was not feasible for the PPHC Project to attempt to ascertain the validity of those variables selected for inclusion in the instruments as being representative of project impact variables.

The validity of the selected information in the population survey instrument is difficult to assess. This circumstance derives from the nature of the selected variables assessed. While many of the variables are dependent upon the respondent's recall or emotions, i.e., attitude questions, at the time of interview (which lowers the degree of validity associated with these variables), other variables are independent of these factors, i.e., child heights or weights, and are associated with a greater degree of validity providing there is minimal measurement error.

No effort to determine the validity of the community variable sheet as a whole or with regard to the individual variables was undertaken.

## Field Testing

After the population survey instrument was formulated and placed into an acceptable format, a field test of the instrument was undertaken. The instrument was administered by the PPHC Project staff who had been assigned to the Baseline Health Survey as field supervisors/team leaders. Each of these supervisors was first trained in the use of the survey instrument. Training was followed by in-field administration of the instrument by the supervisors under the guidance of the Urdu speaking member of the consultant team in a test area. The test area was not part of the target sampling area, and comprised three villages located close to Islamabad. After administering the instrument to several respondents, the supervisors and the consultant team reviewed the results of the field test and made the appropriate modifications to the instrument and survey methods. Modification to the instrument pertained mainly to wording and ordering of questions. Modification to survey methods pertained mainly to interviewer approach to the household and locating of households by supervisors, and composition of the survey team(s). Each of these are discussed in further detail along with many other topics in the handout entitled "Interviewers' Manual" which appears as Appendix VI, and "Baseline Survey and Instructions for Administering and Coding Survey Instrument" which appears as Appendix VII.

# THE FIELD COMPONENT OF THE BASELINE SURVEY

## Staging

The Baseline Health Survey was staged in two phases: a preparatory phase and a surveying phase. The preparatory phase included development and production of the survey instruments (already discussed), circumscription of the sample frame and size, mapping, establishing and initiating sampling procedures, selection and training of supervisors and interviewers, establishing survey teams and an appropriate level of

logistical support, determination of and arranging for appropriate data processing services. The second phase, surveying or implementation of the survey, dealt primarily with the day to day supervision of interview teams.

As the instrument development portion of the preparatory phase drew to a close, the other activities in the preparatory phase were initiated. Methods associated with these and aspects of the second phase of surveying and survey implementation are discussed below.

Characteristics of the Sample

o Target Population

As discussed in the section on the organization of the health services, it was noted that the PPHC Project operates in all 4 provinces of Pakistan. In a broad sense implementation status of project activities in synonymous with the functioning status of IRHC's. The thrust of the Baseline Survey is to document the levels of selected health status indicators in implemented areas served by IRHC's (i.e., functional/near functional IRHC's. Hence, the Baseline Survey seeks to assess health status and related indicators in catchment areas representative of functional/near functional IRHC's. Nearly all IRHC's were eligible for surveying (i.e., were functional or will be functional by June 1984). Ten of 28 IRHCS catchment area populations (See Appendix) were sampled in order to establish the baseline level of the selected indicators. Eligible IRHC's that were not included in the sampling procedure or which were used to develop a sample frame but subsequently not visited by an interview team were dropped because of insurmountable problems which developed during the course of conducting this survey. The most common problem which precluded inclusion of an IRHC was lack of census information. One village within one IRHC actually visited was not surveyed because of inaccessibility by motorized vehicle. The time

limitations imposed for completing the survey made inclusion of villages accessible only by foot not feasible.

o Sample Frame

The IRHC as discussed above represents only the physical (i.e., geographical/physical facility) location of the sample frame. The actual sample frame, or the list of units potentially available/eligible within the IRHC universe, requires further discussion here. The Baseline Survey as discussed earlier in this chapter in the section on the derivation of the instruments, seeks to garner information about mothers and children vis-a-vis their knowledge and attitudes toward and/or interaction with the health system. All households within eligible IRHC's make up the sample frame of the Baseline Survey. The procedure used to identify all households (i.e., a mapping procedure) is discussed in the next section.

While all households in the sample frame are potentially eligible for providing useful information in a baseline survey, eligibility requirements were established which had to be met before individuals would actually be interviewed. Eligibility requirements were established in order to increase the efficiency of sampling, survey conduct, and the population survey instrument. A family was eligible for interview if certain circumstances were met. Specifically, it has to have had a live birth sometime during the past 5 years (since Ramazan 1978), even if the child died within moments of being born.

Some terms commonly used in this report and relating to the sample are defined here:

HOUSEHOLD: All families/individuals who share a common cooking facility and generally live together.

FAMILY: A husband (if alive) and a wife living together with their unmarried children.

ELIGIBLE MOTHER (RESPONDENT): A mother who has had a live birth since Ramazan 1978 or is a sole maternal provider for a child born since Ramazan 1978 -- irrespective of the current health status of the child (e.g., alive, sick, dead).

o Size

The sample size was determined by assessing the rate of expected occurance of selected variables among members of the sample frame. The variables selected for assessment were chosen for their characteristic of tending to increase the sample size due to their relative rare occurance in the sample population. Adjustments to the sample size were made to accommodate stratifications anticipated in analysis of survey data; and to allow reasonable confidence limits in order to facilitate comparison of baseline survey information to information obtained from subsequent survey round(s).

The variables which guide the setting of a sample size included the infant mortality (and its components: Neonatal and postneonatal mortality rates), certain cause specific mortality rates (i.e., diarrhea, tetanus), and expected immunization rates for certain vaccines. The rate at which interviewers could expect to find "eligible" respondents; and the desire to stratify the results by type of facility serving a catchment area and by distance from a facility affected computation of the sample size. A total sample size of 1920-2056 households, half of which would be selected from all catchment areas or RHC's and half of which would be selected from all catchment areas of BHU's was established. This number was calculated to represent the minimal number of households needed to obtain sufficient respondents to achieve statistically sound comparisons of associations which were anticipated to be tested within certain sub-populations of the Baseline Survey data set; and for associations anticipated to be tested between Baseline and end-of-project survey data sets.

In further regard to the calculation of sample size, various population estimates which were made available to the consultant team by the Census Board and other Pakistani Government agencies and which were useful in calculation of the sample size are listed below. Each is Pakistan specific unless otherwise noted.

- Average family size is 5.6
- Average number of families per household is 2.5
- Average number of births during a 5 year period per female is 1.5
- Infant mortality rate is approximated at 100-140/1000 live births
- Childhood mortality is estimated at 10%
- Crude death rate is estimated at 45.3

One final note about the sample size is in order here. During the initial stages of planning for this survey, many factors caused the consultant team to be aware of the possible contingency that the survey might not be able to be effected in all provinces. Weather conditions, potential non-availability of qualified interviewers, potential complications resulting from special translation services, and other local conditions prompted the consultant team to recommend that the sample size drawn should be such as to allow Punjab and NWFP to stand alone in a statistical sense, should information from Baluchistan and Sind not be available. This strategy was felt to cause the least harm to fulfillment of the survey objectives. The reason for this is that on a proportional population representation, the two provinces least likely to be surveyed (Sind and Baluchistan) together account for less than 20% of the RHC village population to be surveyed. It was, however, a priority to obtain the designated IRHC sample from each province.

Table III-1 shows the proportional population distribution among the 4 provinces along with various other size parameters of the sample frame and its expected characteristics.

Table III-1 Proportional Population Distribution
Among Provinces of Pakistan and Expected Sample Frame Parameters

| Province | | Estimated Population of Catchment Areas of Sample | Total Number of Households to be Sampled n | % (as a % of Total Sample) | Total Number of Clusters | Estimated Number of Respondents | Estimated Number of Children under 5yrs | Estimated Number of Live Births During Preceeding Year | Estimated Number of Infant Deaths During Preceeing Year |
|---|---|---|---|---|---|---|---|---|---|
| Punjab | RHC | 75,902 | 340 | 33% | 17 | 850 | 1275 | 208 | 21 |
| | BHU | 260,201 | 440 | 42% | 22 | 1100 | 1650 | 269 | 27 |
| NWFP | RHC | 144,640 | 512 | 50% | 32 | 1280 | 1920 | 313 | 31 |
| | BHU | 367,757 | 512 | 49% | 32 | 1280 | 1920 | 313 | 31 |
| Baluchistan | | | | | | | | | |
| | RHC | 31,666 | 48 | 5% | 3 | 120 | 180 | 29 | 3 |
| | BHU | 20,825 | 64 | 6% | 4 | 160 | 240 | 39 | 4 |
| Sind | RHC | 12,530 | 128 | 12% | 8 | 320 | 480 | 78 | 9 |
| | BHU | 66,155 | 32 | 3% | 2 | 80 | 120 | 20 | 2 |
| TOTALS | RHC | 264,738 | 1028 | 100% | 60 | 2570 | 3855 | 627 | 64 |
| | BHU | 714,938 | 1028 | 100% | 60 | 2620 | 3930 | 640 | 64 |

0806A

o Locations/Population Parameters

The location of the sample frame is summarized by province, district, IRHC, and number of RHC and BHU villages in Table III-2. A total of 9 districts in 4 provinces having 10 IRHC's are summarized in this table. The selected IRHC's comprise 269 villages associated with RHC's and 352 villages associated with 43 BHU's.

The total population in catchment areas of RHC's is slightly over 260,000; just over 710,000 in BHU associated catchment areas. Approximately 38% of the sample frame fall in Punjab; 50% in NWFP; 5% in Baluchistan; and 8% in Sind.

Mapping

Mapping of villages in IRHC's from which sampling of respondents would be drawn was done only after the villages themselves were identified. The procedure for sampling villages as well as households is discussed in the next section. First, however, we review the procedures associated with mapping, since mapping was crucial to enabling many of the sampling procedures discussed in the next section.

Once villages from which cluster samples of respondents were to be drawn were identified, a team of mappers was assembled, trained and finally deployed to map the selected villages in the catchment areas of eligible IRHC's. In most cases one person mapped one village. Large villages were sub-divided into sections and assigned to individual mappers. Mappers enlisted the help of local leaders and their designated representatives to facilitate completion of maps. The overwhelming majority of communities were extremely helpful in assisting the mappers, almost always providing several persons to help facilitate mappers access throughout all quarters of the village, and to knock on doors to help introduce mappers trying to obtain community and census-like information.

Table III-2. Summary of Baseline Health Survey Single Frame by Province, District, IRCH, Number of RHC Villages and Number of BHU Villages

| Province | District | IRHC | # of RHC Villages | # of BHU's | # of BHU Villages |
|---|---|---|---|---|---|
| Punjab | Multan | Kacha Khan | 7 | 4 | 29 |
| | Jhelum | Sohawa | 14 | 4 | 33 |
| | Sargodha | Kut Momin | 1 | 4 | 19 |
| | Jhang | Mochi Wala | 9 | 6 | 55 |
| NWFP | Peshawar | Khairabad | 10 | 4 | 23 |
| | | Jamalabad | 37 | 4 | 76 |
| | Mansehra | Chowki | 20 | 4 | 35 |
| | Abbotabad | Haueliian | 14 | 4 | 27 |
| Baluchistan | Pishin | Pishin | 13 | 4 | 26 |
| Sind | Thatta | Darro | 18 | 5 | 29 |
| 4 | 9 | 10 | 269 | 43 | 352 |

On each map, major landmarks, schools, mosques, health facilities, etc., were noted. Each household was identified with a number. Households were consecutively numbered in a pre-determined manner. The specific methodological details of the construction of any given map were assembled in a manual for mappers and given to them during their training session. This manual appears as Appendix VIII.

As alluded to above, it might be clarified that in addition to completing maps, the mappers also completed the community variable sheets. This task was assigned to mappers because of their role in helping to prepare communities for the arrival of interviewing teams. It was felt that the more that mappers probed into the community, the easier it would be to gain access for the interviewing teams. The community variable sheet provided a systematic framework for organizing the mappers tasks of meeting the right people; obtaining appropriate information important to finding village and interpretation of survey results; and facilitating future access by interview teams.

Sampling Procedures

Procedures related to sampling of villages and households were devised. Each is discussed below separately. Prior to the employment of any sampling procedures, several decisions were made:

1. Although integrated, RHC's and BHU's service different populations with different needs, it was decided that data pertaining to respondents from catchment areas of RHC's would be treated separately from the corresponding information about respondents living around BHU's. Since some comparisons were expected between RHC and BHU populations, ths separation of data was considered one level of stratification.

2. With regard to other anticipated stratifications, distance from a facility was desired. However, this information was either not available or unreliable. Instead, some manipulation of the data would be undertaken in order to take advantage of a

variable in the population data set: time it takes respondent to get to the town/village where the facility is located. An attempt to ascertain village distances from facilities on the community variable sheet would be made.

3. An attempt would be made to undertake construction of a proportional population sample.

4. Sampling would have to work around or live with cost/time constraints as well as the potential of inaccurate information available for constructing the sample.

o Village Sampling

After IRHC's were selected, a listing of all villages associated with the RHC and BHU's of the IRHC's was generated. Next to the name of each village the estimated population size (obtained from the Census Bureau) and the estimated number of households in the village were entered. In still another column, the cumulative total was generated. Note that the selection of villages from which households would be selected was based on population totals by village, not on the sum of households. However, village selection required formulation of an approach to the sampling procedure for households within selected villages.

Because of the transportation, cost and personnel resource constraints, cluster sampling of households was deemed the only feasible method for ensuring a timely completion of the survey.

Having decided upon cluster sampling, the number of clusters and size of the clusters needed formulation. These were calculated as influenced by the personnel/transportation/time resources available. These factors included:

1. Approximately 1000 households (i.e., 2500 families) were to be interviewed in RHC catchment areas.

2. Fourteen days were available for interviewing in RHC areas.

3. Approximately 16 interviewers would be available for interviewing. Each interviewer was estimated to be able to complete 10-15 interviews per day.

Initially the consultant team envisioned that if each interviewer could complete 10-15 interviews per day, then 4 interviewers (the assumed number of effective interviewers per team) could complete 40-60 interviews per day. Note that 40-60 interviews per day is approximately 15-24 households per day (2.5 eligible respondents per household). Given that about 1000 households (960 is the exact number) needed to be visited during a 15 day period, 960/15=64 households per day would have to be visited each day by 4 survey teams to finish on schedule. Sixty-four households divided by 4 teams equals 16 households per team. To avoid excessive logistical support costs, it was arbitrarily decided that whatever number of contiguous households could be visited in one day by a team should be considered 1 cluster (i.e., 15 households or about 40 respondents). If 15 households represented 1 cluster, then 65 clusters needed to be completed in the 15 day interview period. The number 64 was rounded off to 60 for operational purposes. As it turned out in Punjab the number of eligible respondents per household ws about half that expected so that the total number households actually visited was adjusted upward to obtain the same number of respondents.

After determining the number of clusters (60), and their size (15 households), the sampling interval was calculated. The sampling interval here was calculated by dividing 271,000 (the population of RHC catchment area villages found on the listing or population enumeration discussed earlier in this sub-section and duplicated in part in Table III-3 and reproduced in full in Appendix IX-B) by 60=4518. The sampling interval is the population interval point at which a cluster of households is generated for interviewing. Subsequent points in the cumulative population total at which a cluster is generated are determined by an arithmetic progression of the sampling interval: 4518, 9036, 13554, etc. The first individual in the cumulative population total with whom a

Table III-3 *Village Sampling Population Listing (RHC associated villages - partial listing)

| P District | 1RHC | Village | Population | Cumulative | |
|---|---|---|---|---|---|
| P. Jhelum | Sohawa | 1 - Rakh Dhanial | 275 | 275 | |
| | | 2 - Jhangi Misri | 567 | 842 | |
| | | 3 - Kandiari | 498 | 1340 | |
| | | 4 - Sohawa | 3003 | 4343 | Cluster 1 |
| | | 5 - Pind Mate Khan | 1457 | 5800 | |
| | | 6 - Bari Las | 255 | 6055 | |
| | | 7 - Aral | 219 | 6274 | |
| | | 8 - Zinda Shah Madar | 241 | 6515 | |
| | | 9 - Gurah Mang | 364 | 6879 | |
| | | 10 - Kabaraka | 6435 | 13314 | Clusters 2, 3 |
| | | 11 - Bhit Masl | 609 | 13923 | |
| | | 12 - Bhitsher Ali | 215 | 14138 | |
| | | 13 - Mohra Lal | 181 | 14319 | |
| | | 14 - Sasral | 604 | 14923 | |
| P. Multan | Kachakhu | 1 - 3/9 - R | 712 | 15635 | |
| | | 2 - 4/9 - R | 1978 | 17613 | Cluster 4 |
| | | 3 - 6/9 - R | 557 | 18170 | |
| | | 4 - 16/9 - R | 3122 | 21292 | Cluster 5 |
| | | 5 - 17/9 - R | 2871 | 24163 | |
| | | 6 - 18/9 - R | 1425 | 25588 | Cluster 6 |
| | | 7 - 19/9 - R | 8194 | 33782 | Cluster 7 |
| P. Sargodha | Kot Momin | 1 - Kot Momin | 25383 | 59165 | Clusters 8 - 13 |

Note: RHC associated village population = 271,054
Sampling interval = 4518
Random starting number = 2822

*For full listing for RHC and BHU villages
See Appendix IX - B

cluster is generated, however, is randomly selected. In the case of RHC village populations, the random number 2822 represented the first individual in the cumulative population total with whom a cluster was initiated. The second cluster started with the individual represented by the number 2822 + 4518 (the sampling interval) or 7340.

Looking at the listing describing the cumulative population enumeration, the 2833th person occurs in Sohawa IRHC, Sohawa Village. The 7370th and 11858th persons (persons in villages in which the generation points for the 2nd and 3rd cluster occur) fall in Sohawa IRHC, Kobaraka Village. The procedure continues until all villages in which a cluster or clusters fall are determined. A similar procedure ws followed to select all BHU associated villages for sampling.

Determination of which households within selected villages is determined by still another procedure which is described below.

o Household Sampling Within Selected Villages.

Following the selection of villages, the task of mapping each selected village was initiated. The methods associated with mapping have already been discussed in a previous section. In addition to the major items noted on maps discussed in the previous section, mappers were asked to number each street at each end (intersections) with consecutive numbers. On a designated space on the map, the mappers were asked to list each pair of numbers representing each stretch of street (from one intersection to another) and to indicate the number of households on that street. Alongside this listing, a cumulative total of households was generated.

This listing was then used by the consultant team to select the first house of the cluster using the following procedure. After determining the total number of households in the village, a random number between 1

and the total number of households was selected as a starting point. In short, the first house on the street containing the household in the cumulative total corresponding to the selected random number was designated as the starting point for the interviewer (i.e., the 1st household of the cluster). Subsequent households in the cluster were simply contiguous households on both sides of the street with eligible mothers.

In the case where 2 or more clusters had to be selected from the same village, the procedure was slightly modified. The total number of households in the village was divided by the number of clusters to be sampled in the village. The resultant number was taken as the sampling interval. A random number between 1 and the sampling interval was selected and represented the household number used to find the street where the first cluster would be initiated. Subsequent starting points for additional clusters were generated by simply adding the sampling interval to the initial random number.

Survey Staff Organization and Selection

o Survey Staff Organization

The survey team staff were organized according to consideration of several factors: numbers of different categories of staff available, cultural acceptability, constraints imposed by vehicle and other project resources, and standards of supervision deemed acceptable by the consultant team. The resultant organization determined to fulfill the disparate requirements was a multi-team approach. Because there were 4 PPHC Project training specialists (each with a project bus-like vehicle at their disposal) made available to work on the Baseline Survey in a field supervisory capacity, each training specialist was designated as a team leader/supervisor. Prior to the training of these persons, one training specialist was replaced by a person from outside the PPHC

Project. Replacement was dictated by personal obligations of the replaced training specialist. Two additional team supervisors were hired mid-way during the survey to ensure completion of the survey in a timely manner. These added supervisors took part only in survey work in provinces surveyed after the Punjab (phase I) survey was completed.

Under each field supervisor 4 to 8 female interviewers were assigned to conduct the household interviews. In addition, each team was assigned 1 or 2 males to obtain weight and height measurements on all children below the age of 3 years. The males provided an appropriate "appearance" for an otherwise all female group of generally unmarried females travelling the countryside. It was planned that the males would also provide much needed assistance to the supervisors as aides. Each team was provided with a male driver.

The teams were organized in such a way as to allow pairs of female interviewers to enter a household identified and accessed by the team leader. It was felt that a pair of female interviewers per household would make the interviewers and respondents more comfortable. While some interviewers maintained this pairing scheme early in field work (particularly younger interviewers), the practice was soon deemed unnecessary and was abandoned very early in the field work, such that there was one interviewer per household. Each team devised its own way to notify the males doing the weighing and measuring of heights as to when they should enter a home. The volume of work generally forced males simply to interrupt the female interviewers whenever they (the males) were able to get to the house where an interview was in progress. Once a female interviewer was finished in any particular household, she would proceed down the street to find an appropriate chalk mark (or other system as devised by the team itself) on a household which was eligible for her to proceed to interview.

The team supervisors were supervised by the consultant team and by a U.S.A.I.D.-PPHC Project affiliated public health specialist. (This person will be referred to as the "public health specialist" from this point on). These "central Supervisors" spent all of their time moving from team to team during the field portion of the survey except as noted elsewhere in this report. Additionally, central supervisors kept the PPHC Project Director apprised of all activities at regular intervals between his visits to the field, as well as through ad hoc meetings. All policy related issues relating to the Baseline Survey were deferred to the PPHC Project Director for resolution.

Logistical support was guided by a PPHC Project management analyst (provincial level) under the supervision of the expatriate central office management training specialist. This latter person coordinated all activities with the consultant team. In addition, the U.S.A.I.D. Project Officer provided timely assistance for many last minute and/or unusual but crucial requests of logistical support without which fulfilling, completion of the survey would have been greatly delayed.

Three additional provincial PPHC Project management analysts were assigned by the project director to fill three needs: to help in gaining access for survey teams to villages to be surveyed, to serve as mappers of villages, and to participate in the survey by completing the community variable sheets.

The entire effort to undertake and conduct the Baseline Survey was enthusiastically and competently supported by the PPHC Project office clerical staff.

o Selection of Survey Staff

All persons who participated in the Baseline Survey were regular or temporary PPHC Project staff assigned by the project director except the interviewers and the males who did the weighing and measuring. These

latter persons were male and female medical technicians (MT's). MT's were assigned to assist in the Baseline Survey by their provincial health directors at the request of the PPHC Project Director. MT's experience in survey research ranged from none (most common) to a few individuals with limited previous experience. MT's experience as MT's ranged from long standing (about 50% of the MT's - mainly from Punjab) to recent graduates yet to have been posted (about 50% of the MT's - mainly from NWFP, Baluchistan and the Sind Provinces).

Survey Staff Training

o Supervisors

Supervisors were trained as supervisors/trainers during a 6 day period in Islamabad. Because these persons were PPHC Project training specialists, greater emphasis was placed during their training on the mechanics of conducting the survey, individual interviews, and on an understanding of the survey instruments. A topical summary sheet of issues covered during supervisor training and distributed to all supervisors at the start of their training is located in Appendix X.

Supervisor training consisted of didactic classroom training, demonstration, and practical experience both in the classroom and in the community. It should be added here that supervisors added many excellent comments and suggestions to improve the translation and administration of the survey instrument during this, their training session.

Supervisors were given spot training throughout the survey on both a group and individual basis as required. A second formal training session (3 days) for supervisors was conducted after phase I of the survey (Punjab Province) was completed. This refresher/review training served to allow the consultant team and supervisors to discuss administrative and technical problems of phase I and to formulate changes for phase II of the survey based on survey staff experience.

o Mappers

Mappers were given a 3 day training session which consisted of 1 day of didactic in-classroom training and participatory demonstration. This was followed by 2 days of practical experience in selected communities just outside of Islamabad. A copy of "Mapping Instructions" appears as Appendix VIII.

Mappers' work was supervised by the PPHC Project's expatriate management training specialist, and two of the consultant team members through regularly scheduled field trips. A 1 day group review of maps from phase I of the Baseline Survey (Punjab Province) was done prior to mapping of Phase II Baseline Survey Villages.

o Interviewers

Interviewers for phase I and phase II o the survey were trained separately six weeks apart. Phase I interviewers were trained in Faisalabad; phase II interviewers were trained in Abbotabad. The training schedule for the Abbotabad session can be found in Appendix XI. A difference between the two sessions was that the first session in Faisalabad was led primarily by the Urdu speaking consultant team member so as to serve as a training practicum for team leader/supervisors who participated primarily as trainers in the second training session for phase II interviewers in Abbotabad. The team leaders/supervisors were guided in the Abbotabad training by the consultant team and the public health specialist.

Interviewer training focussed on conveying an understanding of the survey instrument and how to administer that instrument. The sessions over a 6 day period emphasized practical experience with role playing and actual interview experience (i.e., experiential training). Role playing was undertaken to help in familiarizing interviewers with various

issues/problems encountered in entering a home and conducting an interview; as well as to help the consultant team stabilize both inter-observer and intra-observer variation. This latter point is discussed further in the section on Reliability. All instructional materials used and/or distributed to interviewers have been reproduced in Appendix XII.

o Male MT's - Training for Taking Weights and Height Measurements

The male MT's who conducted weighing and height measurements were trained during the 6 day training sessions for interviewers. Male MT's spent a portion of their time in these training sessions alongside female interviewers to become familiar with the survey, the instruments and the logistical support available to the survey teams. At other times special training sessions were held for the male MT's to train them in the techniques of weighing and measuring heights; and to familiarize them with their role and responsibilities and their special equipment. Because the consultant team felt that practical experience in weighing and measuring heights was paramount, and because no time was available to assess male MT's reading ability or to prepare translations of appropriate materials, no written instructions were prepared as handouts for the male MT's. A detailed review of the verbal instructions given to male MT's about weighing and measuring heights, and other relevant information about their equipment and its use is provided below.

The male MT's were trained for their role in a short didactic lesson combined with a lengthy period of experiential training. Salter rotary dial scales were used for determination of the weights. Additional slings for the children were designed and prepared locally (during phase I survey training for interviewers) in Faisalabad for use throughout the Baseline Survey in all provinces. Sets of slings were made for each male MT in various sizes to accommodate children less than 3 years of age and 3 to 5 years of age.

Instructions for weighing included an active participation of the mother and/or guardian in holding the child and assisting with a female interviewer in the placement of the child into the sling. The assisting interviewer was instructed to hold the child while the sling was being attached to the scale, and then to keep their hands poised directly under the child's axillae to facilitate in catching the child should the sling tear or the child attempt to jump out of the sling. In addition, instructions were given to insure that the arms of the child were to be placed in between the straps of the sling to better stabilize the child in the sling. All MT's were carefully instructed to safeguard the head of the child while positioning the straps of the sling onto the scale. An additional instruction given was for the male MT's to "zero" the scale with the sling on it before <u>each</u> child was to be weighed.

To facilitate the measuring of heights of children, measuring boards were designed locally. These consisted of a standard 100 cm measuring stick placed into a board with a standardized top for measuring. The male MT's were trained to assess the child's ability to stand unassisted. If the child was capable of standing alone, the child was to be measured in a standing position; if the child was found to be unable to support itself, or refused to stand still to permit measuring, the male MT's were instructed to place the measuring board in a horizontal position and lay the child down. As with weight measurements, the mother's assistance was to be solicited. It was stressed that care was to be taken to avoid any sort of accidental injury to the child. The MT's were instructed to ensure that the child's heels were flat (flush) against the bottom of the measuring board, that the child's knees were straight, the head and neck straight, and the arms lined up on the side of the board to guarantee consistency in measuring the full height of the child. It was suggested that holding the child's knees with one hand was helpful in keeping both the child's heels flush and the needs straight.

During the training session in the field, several useful pointers came up regarding both weighing and height measurements. These are related here.

One child had partially chewed peanuts in his mouth, and was crying while measuring was attempted in the upright position. When it became clear that the child would not remain still for measuring in the upright position and had to be placed in a horizontal position, attention was not paid to the food in the child's mouth. Following this incident, the male MT's were carefully instructed about the necessity of checking for food in the child's mouth prior to placing the child in the horizontal position. In addition, the male MT's were instructed in how to dislodge food or other objects that might be accidentally aspirated by a crying child: 1) direct manipulation of the oropharynx, 2) inverting the child and slapping the child's back, and 3) the Heimlich maneuver.

Another pointer that was given to the MT's regarding the positioning of the child is to guarantee that the measuring board is positioned in such a direction that the child does not face directly into the sun, rather that the sun is to the child's back. This is important as it was recommended to do the measuring in the courtyard of the house to permit ease and accuracy of readings. To insure accuracy and consistency in the readings of the heights, the male MT's were instructed to position themselves so that the reading line was of the house to permit ease and accuracy of readings. To insure accuracy and consistency in the readings of the heights, the male MT's were instructed to position themselves so that the reading line was directly at eyelevel; thus, when the measuring board is in the vertical position, they should squat to make the reading, and when the measuring board is in the horizontal position they should be squating such that their eyes are directly perpendicular to the line to prevent angular distortion. In addition, it was clearly stated in the instructions that the MT's should always position themselves on the side of the measuring board where the measuring stick is located.

Additional pointers that were given relevant to weighting procedures included positioning of the weigher's eyes to avoid angular distortion (paralax). All of the houses visited during the field testing had hooks on the outside of the houses from which scales could be hung. Too, the male MT's were instructed in how to take a reading in the case where the child was making jerking movements which might prevent an even reading of the scale. In this event, MT's were taught to take a mid-point reading of the vacillating needle.

Three other general guidelines were given to the male MT's. First, the MT's should always verify that the interviewer has marked the heights and weights correctly on the correct child's form. Second, in the event that other mothers who are not included in the survey request that their children be weighed and measured, these requests should be accommodated. Finally, male MT's were reminded to bring and use their eyeglasses (if applicable) on all surveying days.

Reliability

Near the end of training of interviewers, it was decided by the consultant team that documentation of the reliability, particularly that regarding observer (i.e., interviewer) variation relative to some standard (e.g., consultant team definition) would be useful in the latter stages of analyzing the interpreting the results.

The most useful and practical test was to allow all interviewers to complete a survey instrument (both respondent and child forms of the population survey instrument) under simulated conditions. Two expert supervisors enacted a mother being interviewed by an interviewer using role playing. The interviewer acted as the investigator for the whole group of interviewer trainees, but all interviewer trainees completed both parts to the survey instrument. The two expert supervisors enacting

the role play were told to make the interview as realistic as possible. Neither the role players nor the interviewer trainees were aware that the results would be tabulated for reliability purposes. Strict instructions regarding talking during the role playing among the interviewer trainees were enforced to ensure as little verbal exchange among interviewer trainees as practical. Trainees were told that no talking would be permitted during the role playing session except by the role players. The same role players were used for all reliability tests. Unfortunately, only one of these tests was able to be done during each of the two interviewer training sessions.

In order to follow the interpretation of the results of these tests, the reader must be aware of the following points:

- Each question on the survey instrument represents one variable for which a comparison between the interviewer trainee's response and the consultant team's determination of what the answer was that was elicited by the expert interviewer. Part I of the population survey instrument, then, has 35 variables; Part II 16 variables.

- Each interviewer trainee's recorded response is counted as correct if it matches the reference response provided by the consultant team (in conjunction with the expert role players).

The results of the reliability testing are summarized in Table III-4 by training session, by part of the survey instrument, and by team. The results suggest that there existed at the time of testing an overall significant difference between the two training sessions and the degree of reliability achieved; reliability scores being significantly higher in session I (81% in Punjab training) as compared to session II (77% in NWFP training). The source of this difference seems to be as a result of session I interviewer trainees achieving significantly higher reliability ($X^2$ with 1 df = 7.21, $p<.05$) in completing part II of the survey instrument (92%) as compared to session II interviewer trainees (86%); since their reliability scores for part I of the survey instrument were not significantly different ($X^2$ with 1 df = 1.84, p ).

In addition, Table III-4 also suggests that session I interviewer trainees showed a significant difference in reliability scores by team in completing part I of the survey instrument ($X^2$ with 3 df = 8.68, $p<.05$). Yet, these same interviewers showed no significant difference in reliability scores by team for Part II of the survey instrument ($X^2$ with 3 df = 6.00, p .05). The exact reverse occurred during session II interviewer training. That is, Session II interviewer trainees showed no significant difference by team among reliability scores achieved pertaining to Part I f the survey instrument (X with 4 df = 2.93, p .05); while these same interviewers showed a significant difference in their reliability scores by team for Part II of the survey instrument ($X^2$ with 4 df = 25.66, $p<.05$).

In sum, session I interviewer trainees seemed to be able to correctly "hear" and interpret information from a mother being interviewed more often than session I interviewer trainees. There was more variation among session I teams' ability to "hear" and interpret correctly information pertaining to part I of the survey instrument than to part II. By contrast, there was more variation among session II teams' ability to "hear" and interpret correctly information pertaining to part II of the survey instrument than to part I.

These results regarding session differences are not surprising since session I interviewer trainees were on average older and more experienced MT's, while session II interviewer trainees were just barely out of school. It would be expected that older persons with work experience requiring an ability to listen, and some of whom had previous survey experience, would as a group achieve higher reliability scores than a group of individuals without these characteristics. In addition, because of the wider differences in experience among session I interviewer trainees, it is also not surprising that there existed a significant difference among teams on reliability scores for the more complicated

Part I of the survey instrument. It would seem that some minimal level of experience common to all interviewer trainees helped session I trainees to score relatively high on he easier part II of the instrument, but that wide experience differences wiped you this stabilizing force on reliability when these trainees had to deal with the more complicated Part I. By contrast, session II trainees' inexperience was the common thread that caused their reliability on Part I of the instrument to be stable among teams but significantly lower on average than session I trainees.

The state of affairs manifested in these results were generally recognized by the consultant team during implementation of the survey. Intensive supervision with regular on-the-spot group an individual training was the daily standing order of the roving central and field supervisors. The lower reliability of session II interviewers, after being recognized during the first few days of their field work, was addressed with a major re-training effort before field work continued.

It is not entirely certain how these results should affect the interpretation of the results since follow-up reliability testing could not be done. Awareness of the less reliable results being generated by session II trainees during their first few days of field work and which prompted very intensive re-training and supervision probably acted to eliminate differences between session I and session II trained interviewers; or perhaps actually reversed the direction of overall reliability differences between the two groups of interviewers. It cannot be proved that differences among teams'reliability lessened over time, but the intensive supervision and anecdotal information from team supervisors suggested that differences among teams probably did lessen over time. Despite these positive statements, the consultant team has taken the precaution of analyzing the data set not only as a whole, but according to provinces where session I trained interviewers worked (Punjab Province) verses where session II trained interviewers worked (NWFP, Baluchistan, and Sind Provinces).

Table III-4. *Reliability Results Showing Proportion of Responses to Variables Recorded Correctly (relative to experts) by Interviewers on Survey Instrument

| | Team Number and Number ( ) of Interviewers Per Team | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Session I | I | II | IV | V | VI | VII | | |
| Part of Survey Instrument | (6) | (6) | (6) | (6) | | | | |
| Part I | 167/210 | 170/210 | 152/210 | 149/210 | – | – | $X^2$ with 3df = 8.68 ($p < .05$) 638/840 | 991/1224 |
| Part II | 89/96 | 93/96 | 87/96 | 84/96 | – | – | $X^2$ with 3df = 6.00 ($p > .05$) 353/384 | |
| Session II | (7) | (8) | (6) | (–) | (6) | (8) | | |
| Part I | 186/245 | 197/280 | 151/210 | – | 153/210 | 211/280 | $X^2$ with 4df = 2.93 ($p > .05$) 898/1225 | 138/1785 |
| Part II | 98/112 | 121/128 | 74/96 | – | 73/96 | 117/128 | $X^2$ with 4df = 25.66 ($p < .05$) 483/560 | |

*Note: only 4 teams participated in session I; 6 Teams in session II. There was no team "III". Team V reliability test was not available for tabulations. Numerators and denominators are described in text. Results are based on one test at or near end of training sessions.

Part I Session I vs Session II $X^2$ with 1df = 1.835 ($p > .05$)
Part II Session I vs Session II $X^2$ with 1df = 7.212 ($p < .05$)

Overall Session I vs Session II $X^2$ with 1df = 5.62 ($p < .05$)

One last note on the reliability testing with regard to a weakness in this analysis and interpretation of Table III-4 is offered here. It must be recognized that the reliability scores of all interviewers have been grouped in various ways. The obvious potential problem is that the scores do not tell us if the interviewer trainees tended to be unreliable in hearing or interpretation (relative to "correct" information as determined by the consultant team) vis-a-vis the same questions or difference questions. The reliability scores reflect an average of individual scores by team. Each individual trainee's score reflects a trainee's degree of agreement with a "reference" on many (36+15=51) variables. Having mentioned this, it should also be noted that none of the trainees disagreed with the "correct" information on 15 of 51 variables. Further, slightly over 80% of the total disagreement between trainees' recorded responses and the experts' "correct" recorded responses occurred in relation to 14 of 51 variables. Finally, the remaining portion of disagreement is attributable primarily to one team.

Implementation

The implementation schedule of the Baseline Health Survey was outlined by the consultant team and agreed to with some modification by the PPHC Project during the initial week of in-country consultation. This schedule was followed, with all progress points met within a few days, except for the addition of a re-training period during the second phase of the survey. The additional training time lengthened the projected time to complete field work by about one week. In addition, the mapping of villages occurred in two phases, not in one phase as indicated on the projected implementation schedule presented in Figure III-1.

The first 4 weeks of the implementation period were spent developing the objectives of the survey, the variables, the survey instrument;

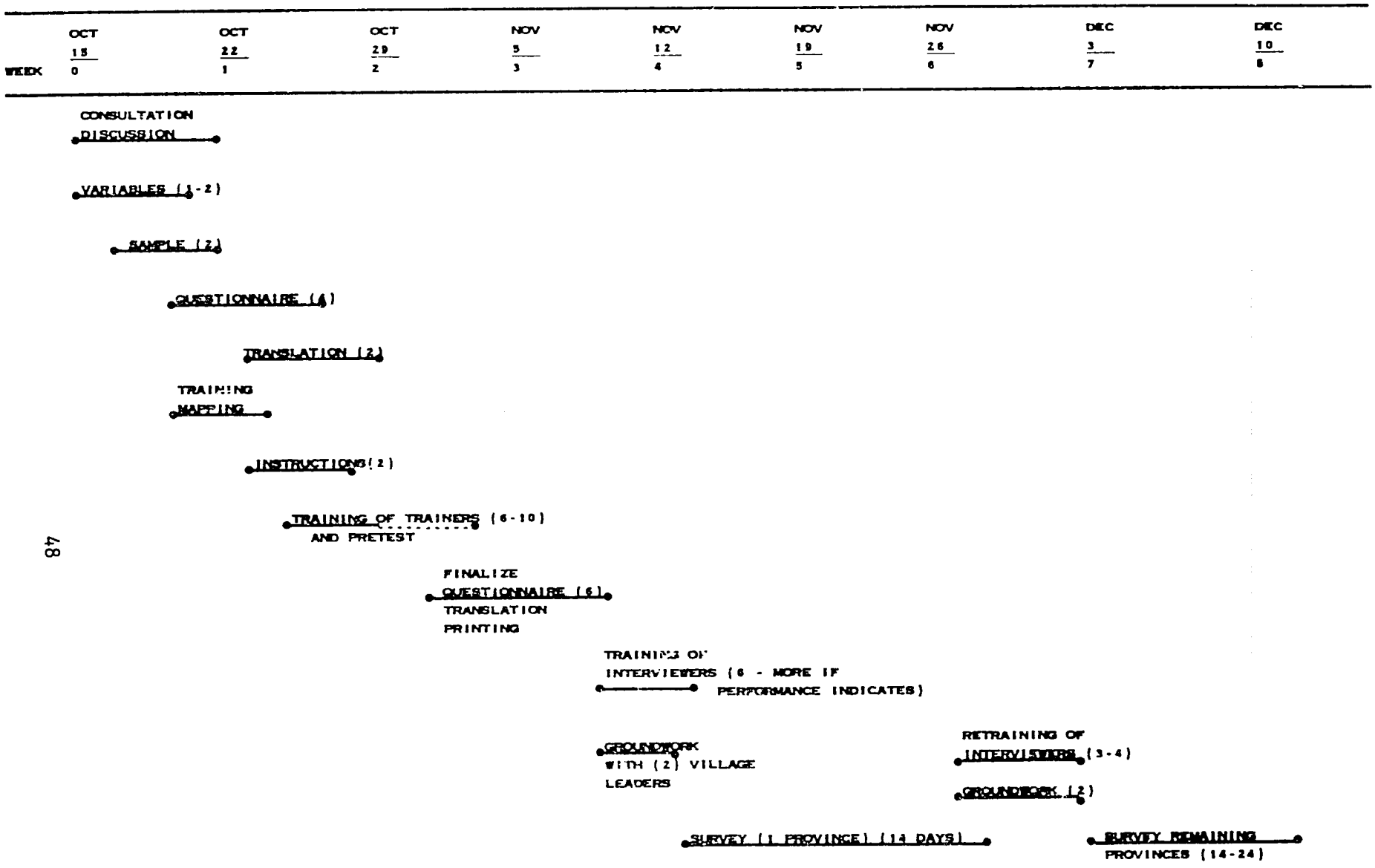



FIGURE III-5 BASELINE SURVEY IMPLEMENTATION SCHEDULE

development of the sample frame and maps of villages to be sampled, dummy tables, training materials for field supervisors and interviewers; and initiation of activity to identify appropriate data processing services, identification of field staff and organization of the logistical support for both training and of supervisors/interviewers as well as actual field work.

A policy decision was made early during the initial 4 weeks of the implementation period that the survey would use interviewers in a province only if they were already living in that province. It was decided that all supervisors would go to one province simultaneously with their teams to conduct the survey. It was also decided that the survey would be done in two phases: the Punjab Province survey would be done first followed by a second phase of surveying in NWFP. The survey in Sind and Baluchistan Provinces would be done either as a third phase or along with the second phase in NWFP; but that the decision of phasing Sind and Baluchistan surveying would be made only after some experience with field work in Punjab. The small sizes of both the Sind and Baluchistan samples relative to Punjab and NWFP made their attachment or overlapping with phase II quite likely. In the end both Provinces were surveyed in a manner overlapping with phase II. The survey had to be halted in Baluchistan shortly after its initiation because of poor weather conditions which precluded long distance travelling.

Phase I and Phase II field surveying were preceded by a 6-10 day training period. The session I interviewer training was conducted in Faisalabad; session II (which included the Sind and Baluchistan survey interview teams) in Abbotabad. Field supervisors helped in these sessions and were themselves trained during a one week period in Islamabad prior to interviewer training. Details of the training are discussed in the earlier section of the chapter on methodology with the same title.

The actual surveying took 14-24 days in each phase. Only two of three members of the consultant team were available during the phase I portion of the survey; one member during phase II. Much of the time of one consultant team member's time during phase I was necessarily split between field work and other survey administrative work (e.g., organizing data processing and phase II training/field work preparation, etc.) in Islamabad or elsewhere in the country. During the field surveying, the consultant team members (as available) and the U.S. A.I.D. public health specialist visited the different survey sites within the province then being surveyed - roving from survey team to survey team. Supervision often took the roving supervisors into homes to observe interviewers as well as the team supervisors in action. The roving supervisors attempted to target their supervision by staying in the field longer with teams that appeared to be having more difficulty or which were perceived as being potentially susceptible to unusual problems or field circumstances.

Data Processing

After a lengthy process of assessing in-country data processing services and discussion of these among PPHC Project staff and the consultant team, a data processing strategy emerged. This strategy comprised in-country data entry and out-of-country data analysis. In-country data-entry services were provided by a private sector firm. One of the consultant team members spent a substantial amount of time guiding the development of a data-entry program able to do column and range verification. The particular firm chosen to do this work was selected primarily because no other public or private sector organization interviewed and who was otherwise qualified and willing to undertake data entry for the Baseline Survey was familiar with or prepared to undertake simultaneous or double-entry column and range entry-verification.

Once data were entered onto diskette and verified (IBM 43/31 equipment), duplicate sets of diskettes were made. One set of diskettes

was retained at the PPHC Project, the second set was sent to the U.S. for further editing and analysis by two of the consultant team members.

Data Analysis

Data analysis of the Baseline Health Survey data set proceeded in three stages. Stage I included preparation of a clean, edited data tape. This stage itself proceeded in two phases, since the survey itself was phased. This latter circumstance resulted in the in-country data entry service being able to provide the consultant team with diskettes containing phase I survey information (Punjab Province households) and phase II survey information (NWFP, Baluchistan and Sind Province households) about 4 weeks apart. With the phase I data sent in hand, a series of programs to enable editing/cleaning of the data set were able to be written, tested, and used -- ready to apply to the phase II data when it arrived in the U.S. Once all data were edited (which did require some referral to the original survey forms back in Pakistan), two separate data sets, one for children and one for respondents, were created.

Stage II for the analysis comprised the generation of final frequency distribution tables of all variables and useful disaggregations of the frequency distributions.

Stage III of the analysis comprised the generation of a series of useful cross-tabulations. In addition, during this stage of analysis, appropriate stratifications of the data set were performed (time to facility, type of facility, province stratification, etc.). Interfile cross-tabulations (i.e., between respondents and children) were not attempted. It was felt by the consultant team that the specific cross-tabulations of this sort (useful mainly when viewed over time as in combination with end-of-project survey results) could be better decided as the project proceeds. An edited version of the data sets are provided with this report as well as a list of several suggested inter-file associations which might be followed over time (see discussion section).

Particularly during the second and third stages of analysis, Chi-squared was found useful for testing a variety of null hypotheses associated with the variables appraised using the population survey instrument. Due to the nature of the data set (baseline information), the preponderance of data presented itself as frequencies of nominal data variables for which two proportions (sometimes more) were needed to be compared. These circumstances permit the use of Chi-squared for hypothesis testing. Most often, significance testing was applied to some categorical variable where the outcome or response variable was simply "yes" or "no".

All frequency distribution and calculations of Chi-squared were computer assisted, and executed with version 9 of the Statistical Package for the Social Sciences (SPSS). For 2 x 2 tables, this version of SPSS automatically applies Fisher's Exact Test when there are fewer than 21 cases; and Yate's corrected Chi-squared is applied for all other 2 x 2 tables.

When a respondent did not know, could not remember, or could not be made to understand or answer a question; or where no response was recorded due to interviewer error and the information was irretrievable, observations were considered missing. Depending upon the circumstances, these missing observations were usually removed from the statistical analyses.

Nutritional data was compared to WHO recommended standards developed from the NCHS Growth Charts.

Information from the community variable sheets was not tabulated in any specific, formal sense. This information was used to verify certain pieces of information crucial to the internal validity controls developed by the consultant team. In this sense, these data were not "processed" or "analyzed", but were used in association with interpretation of the information derived through the use of the population survey instrument.

## IV. RESULTS

As with most operational research surveys, there were more than 200 tables of frequency distributions and cross tabulations of the survey instrument variables produced. For the sake of brevity, frequency distributions comparing survey variables by health facility type (RHC and BHU) servicing the area of residence of the population sampled are presented in Appendix 13, and those comparing survey variables by province for NWFP and Punjab are presented in Appendix 14, for those "number-crunchers" among the readers who wish to further analyze them. This section of the report will give a summary of the relevant findings, mention statistically significant differences between health facility serving the population or provinces, and additional interesting findings. Caution must be exercised in the interpretation of some of the results as previously discussed in the methodology section of this report.

Because of the small sample size in Baluchistan and Sind provinces, they have been excluded in the presentation of survey results by province (NWFP vs. Punjab) but are included in the presentations of the survey results by health facility type.

### A. Survey Population Sampled

Information was collected on a total of 4,864 eligible women (respondents) in the childbearing age group, and from them, information on 8,847 live births that had occurred during the five years preceeding the survey. Table #1 shows a summary of the survey population by province of residence and health facility serving their village of residence. Crude mortality rates per 1,000 live births are also presented, and show a range from a low of 45.5 in Baluchistan, to a high of 121 in NWFP. The overall crude mortality found in the survey areas was 104.1 per 1,000 live births. The difference in mortality occurrence between Punjab and NWFP was significant at $p = 1.5 \times 10^{-9}$, as was the difference between RHC and BHU areas ($p < .03$).

Table 4.1 Summary of the Composition of the Population sampled in the Baseline Health Status Survey, by Province and Health Facility Type, Pakistan October 1983 - January 1984

| Type of Health Facility Servicing Area of Residence | Category of Population | PROVINCE Punjab | NWFP | Baluchistan | Sind | Total (All Provinces) |
|---|---|---|---|---|---|---|
| RHC | No. of Eligible Respondents[1] | 730 | 1420 | 0 | 136 | 2286 |
| | No. of Live Births Still Alive[2] | 1173 | 2381 | 0 | 216 | 3770 |
| | No. of Live Births - died[2] | 101 | 351 | 0 | 21 | 473 |
| | Total No. of Eligible Live Births[2] | 1274 | 2732 | 0 | 237 | 4243 |
| | Crude Mortality Rate/1000 Live Births[3] | 79.3 | 128.5 | - | 88.6 | 111.5 |
| BHU | No. of Eligible Respondents[1] | 943 | 1442 | 56 | 137 | 2578 |
| | No. of Live Births Still Alive[2] | 1436 | 2392 | 105 | 223 | 4156 |
| | No. of Live Births died[2] | 119 | 306 | 5 | 18 | 448 |
| | Total No. of Eligible Live Births[2] | 1555 | 2698 | 110 | 241 | 4604 |
| | Crude Mortality Rate/1000 Live Births[3] | 76.5 | 113.4 | 45.5 | 74.7 | 97.3 |
| Total Survey (RHC & BHU) | No. of Eligible Respondents[1] | 1673 | 2862 | 56 | 273 | 4864 |
| | No. of Live Births Still Alive[2] | 2609 | 4773 | 105 | 439 | 7926 |
| | No. of Live Births - died[2] | 220 | 657 | 5 | 39 | 921 |
| | Total No. of Eligible Live Births[2] | 2829 | 5430 | 110 | 478 | 8847 |
| | Crude Mortality Rate/1000 Live Births[3] | 77.8 | 121.0 | 45.5 | 81.6 | 104.1 |

[1] An eligible respondent is a woman who has had a live birth in the 5 year period preceeding the survey (Since 1978)

[2] Eligible Live Birth is a live birth that occurred in the 5 year period preceeding the survey (since 1978)

[3] Crude Mortality Rate of survey popultion children less than 5 years of age

The number of respondents per household varied from 1 to 4. The mean number of respondents per household in Punjab was 1.03, in NWFP 1.08, in Baluchistan 1.16, and in Sind 1.13, with an overall mean number of 1.07 respondents per household. In Punjab, 96.9% of the households had one respondent, 2.9% had 2 respondents and 0.2% had 3 respondents. In NWFP, 93% of the households had one respondent, 6.1% had two respondents, 0.7% had 3 respondents and 0.1% had four respondents.

Tables 2 and 3 are lists of the frequency distributions represented in Appendices 13 and 14 respectively. Asterisks are placed next to those tables which demonstrate significant differences in responses by stratifications (RHC vs. BHU, or Punjab vs. NWFP).

B. Information on Maternal Knowledge and Practices

1. Demographic parameters (by health facility type) (See Appendix 13, Tables 1 - 6)

The respondents sampled ranged in age from 14 to 70 years, with a mean age of 29.4 years. There was no significant difference in age composition in RHC vs. BHU sampled populations. Overall, 7.8% of respondents were literate; 8.8% in RHC areas vs. 6.8 in BHU areas ($X^2$ = 6.7111 $P < .0096$). Sixty-five percent of respondents were the wife of the head of the household and 30% the daughter-in-law. Household size ranged from 1 to 34, with a mean of 7.93 persons (in RHC areas the range was 2 to 24 with a mean of 8.09; in BHU areas, the range was 1 to 34, with a mean of 7.79). The average family size was 5.80, with a range of 1 to 31 (RHC-mean 5.90, range 1 to 14; BHU-mean 5.71, range 1 to 31). The number live births per respondent in the five years preceeding the survey ranged from 1 to 5 with a mean of 1.82 (RHC, mean 1.85; BHU mean 1.80). Thirty-six percent of respondents interviewed had had their most recent live birth in 1983, 29% in 1982, and 19% in 1981.

Table 4.2 -- Cross Tabulations by Type -- RHC vs. BHU

Part 1 -- Respondent's form:

1. Age distribution of respondent.
2. Relationship of respondent to Head of Household.
3.* Educational status of respondents.
4.* Household size.
5. Family size.
6. Number of live births since Ramazan 1978 per respondent.
7. Should you obtain pre-natal care? Respondent's opinion.
8.* Who do you think should deliver a baby? Respondent's opinion.
9.* Who actually delivered respondent's last baby?
10. Year of birth of last child.
11.* Was tetanus toxoid received during the last pregnancy?
12. Was the last child breastfed during first week of life?
13. Why wasn't the last child breastfed during first week of life?
14. Is respondent still breastfeeding the last child?
15. Why did respondent stop breastfeeding the last child?
16. Age (in months) breastfeeding was stopped.
17. Has the child received other than liquid foods?
18. Age in months of introduction of solid weaning foods (solids).
19.* Type of weaning food first given.
20.* To whom or where would respondent go for first treatment of a sick child?
21.* Ever use government health facility in catchment area?
22.* Reasons why respondent never used government health facility?
23.* How long it takes to go to the town where the health facility is located.
24.* How respondent gets to the town where the health facility is located.
25.* Has respondent ever heard of ORT?
26.* Who told respondent about ORT?
27. Of respondents who have heard of ORT, has respondent used ORT?
28. Reasons why respondent who has heard of ORT has not used it?
29. Where can respondent get ORT?
30.* Has respondent ever heard of vaccines?
31. Can polio be prevented by vaccines?
32.* Can measles be prevented by vaccine?
33. Can diptheria be prevented by vaccines?
34. Can tetanus be prevented by vaccines?
35.* Can pertussis (whooping cough) be prevented by vaccines?
36.* Can tuberculosis be prevented by vaccines?
37. Number of doses of polio vaccine required for protection?
38. Number of doses of DPT required for protection?
39. Number of doses of measles vaccine required for protection?
40. Number of doses of BCG required for protection?
41. Number of doses of TT (Tetanus Toxoid) required for protection during pregnancy?
42.* Has respondent ever heard of contraceptives?
43. Is respondent currently using contraceptives?

Part II -- Child's (Live Birth's) form

44. Sex distribution of children surveyed.
45.* Living status (live vs. dead).
46. Age distribution of live children (in months)?
47. History of diarrhea in the month preceeding the survey.
48. First treatment for the diarrheal episode?
49.* Children still living who were immunized?
50.* Reasons why children were never immunized?
51. Does the mother still have the immunization card?
52. Number of doses of polio vaccine received by the child?
53. Number of doses of combined DPT and DT received by the child?
54. Number of doses of measles vaccine received by the child?
55. Number of doses of BCG received by the child?

* Statistically Significant difference between RHC and BHU results.

Table 4.3 - Cross Tabulations by Province (NWFP vs. Punjab)

Part 1 -- Respondent's form:

1.* Age distribution of respondent.
2. Relationship of respondent to Head of Household.
3.* Educational status of respondents.
4. Household size.
5. Family size.
6.* Number of live births sinze Ramazan 1978 per respondent.
7.* Should you obtain pre-natal care? Respondent's opinion.
8. Who do you think should deliver a baby? Respondent's opinion.
9. Who actually delivered respondent's last baby?
10. Year of birth of last child.
11.* Was tetanus toxoid received during the last pregnancy?
12. Was the last child breastfed during first week of life?
13. Why wasn't the last child breastfed during first week of life?
14.* Is respondent still breastfeeding the last child?
15.* Why did respondent stop breastfeeding the last child?
16. Age (in months) breastfeeding was stopped.
17.* Has the child received other than liquid foods?
18.* Age in months of introduction of solid weaning foods (solids).
19. Type of weaning food first given.
20.* To whom or where would respondent go for first treatment of a sick child?.
21.* Ever use government health facility in catchment area?
22. Reasons why respondent never used government health facility?
23.* How long it takes to go to the town where the health facility is located?
24.* How respondent gets to the town where the health facility is located?
25.* Has respondent ever heard of ORT?
26. Who told respondent about ORT?
27.* Of respondents who have heard of ORT, has respondent used ORT?
28. Reasons why respondent who has heard of ORT has not used it?
29. Where can respondent get ORT?
30.* Has respondent ever heard of vaccines?
31.* Can polio be prevented by vaccines?
32.* Can measles be prevented by vaccine?
33.* Can diptheria be prevented by vaccines?
34.* Can tetanus be prevented by vaccines?
35.* Can petrussis (whooping cough) be prevented by vaccines?
36.* Can tuberculosis be prevented by vaccines?
37. Number of doses of polio vaccine required for protection?
38. Number of doses of DPT required for protection?
39. Number of doses of measles vaccine required for protection?
40. Number of doses of BCG required for protection?
41. Number of doses of TT (Tetanus Toxoid) required for protection during pregnancy?
42.* Has respondent ever heard of contraceptives?
43. Is respondent currently using contraceptives?

Part II -- Child's (Live Birth's) form

44. Sex distribution of children surveyed.
45.* Living status (live vs. dead).
46. Age distribution of live children (in months)?
47.* History of diarrhea in the month preceeding the survey
48.* First treatment for the diarrheal episode?
49.* Children still living who were immunied?
50. Reasons why children were never immunized?
51. Does the mother still have the immunization card?
52. Number of doses of polio vaccine received by the child?
53. Number of doses of combined DPT and DT received by the child?
54. Number of doses of measles vaccine received by the child?
55. Number of doses of BCG received by the child?

* Statistically Significant Differences between NWFP and Punjab results.

2. Antenatal Practices (by health facility type) (Appendix 13, Tables 7 - 11)

In response to the question, "do you think you should see a health care provider during pregnancy if you are otherwise healthy"?, 77.4% of respondents did not feel that prenatal care was necessary. 60.2% of respondents felt that a dai should deliver a baby, 25.9% a relative, and 12.9% a doctor or other health worker. In contrast, 61% of the respondents' most recent births were delivered by a dai, 28% by a relative and 8.5% by a doctor or other health worker (a comparison between who should deliver a baby vs. who actually delivered the most recent live birth was significant at a $p < 1.0 \times 10^{-10}$.) 4.3% of women received tetanus toxiod during their most recent pregnancy (5.3% of women residing in RHC catchment areas vs. 3.4% in BHU areas. This difference was significant at $p = .0013$).

3. Breastfeeding and weaning practices (by health facility type) (Appendix 13, Tables 12 - 19)

Ninety-six percent of women breastfed their most recent live birth during the first week of life. Of the women who did not breastfeed during the first week of life, 38% stated that the child died early, 22% stated that the child was ill, 16% stated that they had difficulty in milk production and 11% stated that they (the respondent) were ill. Only 3.6% of the women who did not breastfeed during the first week life stated a preference for bottle feeding. 64% of the sample was still breastfeeding their most recent birth at the time of the survey. Of the women who had stopped breastfeeding, 49% stated that breastfeeding was stopped because the child had reached the weaning age, and 28.2% stated another pregnancy as a reason for stopping. The mean age of children at cessation of breastfeeding was 18.6 months. Analysis of mean age of cessation of breastfeeding by year of birth showed a trend of increasing mean age; for children born in 1983, the mean age was 3.5 months, for

those born in 1982 the mean age was 11.2 months, for those born in 1981 the mean age was 19.9 months, those born in 1980 the mean age was 23.3 months, and for those born in 1979 the mean age was 24.2 months (R = +.95). Of interest, when cessation of breastfeeding age was compared with the reason why breastfeeding was stopped, during the first three months of life, 49% stated that the child had died early and 37% stated that the mother was ill. In contrast, for those where breastfeeding was stopped at seven to nine months of age, 19% stated because the child had died, 19% because the mother was ill and 43% because the mother became pregnant. By age group 22 to 24 months, 74% stated the reason for cessation of breastfeeding was the child reached the appropriate age and 22% stated because the mother became pregnant again. Of interest, evaluation of age at cessation of breastfeeding vs mother becoming pregnant, of those children among whom breastfeeding stopped at 13 to 15 months of age, 72% were because the mother became pregnant.

Sixty-six percent of the respondents gave a history of having introduced solid foods other than liquids to their most recent live birth. As with cessation of breastfeeding, the mean age of introduction of solid weaning foods increased by year of birth from 6.4 months for those children born in 1983, to 9.0 months to children born in 1982, 10.6 months for children born in 1981, 11.5 months for children born in 1980, and 12.1 months for children born in 1979 with an overall mean age at introduction of solid weaning foods of 9.7 months for the survey population (R = +.95). Fifty-seven percent of the respondents gave breads as a primary weaning food and 12.6% gave fruits.

4. Health Facility utilization and access (by type of health facility) (Appendix 13, Tables 20 - 24)

When women were asked to whom or where would they go for first treatment should their child become ill or have a serious accident, 27%

responded they would go to a private doctor, 23% to an RHC, 21% to the hospital and 16% to a BHU. 7.8% of women residing in BHU catchment areas stated they would seek treatment from a Hakeem, whereas only 3.2% of women residing in RHC catchment areas would. Overall, 59.4% of women claimed they had used the services of the government health facility to which they were geographically assigned; 67% residing in RHC areas had used the facility as compared to 52.7% of women residing in BHU areas. (This difference was significant at $p < 1.0 \times 10^{-10}$). For those women who had never used the services of the government health facility, 26.4% claimed as a reason for nonutilization, never having needed the services; 19.3% stated that the health facility was too far and 18.8% stated that they did not trust the personnel. Of interest, 18.1% of women residing in BHU catchment areas stated they had never used the health facility because they had never heard of it as compared with 14.7% of women residing in RHC areas.

To assess the access of the population to the health facility they were assigned to, women were asked how long it takes them to go to the town in which the health facility was located. Overall, 68% of the population surveyed lived within a travel time of less than or equal to one hour; (71.3% in RHCs and 65% in BHUs), 12% of the population lived at a travel time of greater than one hour but less than two hours, and 2.9% of the population lived more than 2 hours from the health facility to which they were assigned. Seventeen percent either had never went to the town, or had never heard of the village in which the health facility was located. Forty-eight percent of the women sampled stated that they would walk to the village, 34% would take public transport, and 5% would take a tonga to get to the village in which the health facility was located.

5. Oral Rehydration Therapy (ORT) - Knowledge and Practice (by Health Facility Type)(Appendix 13, Tables 25-29)

Respondents were questioned whether they had ever heard of oral rehydration therapy (ORT), either prepackaged or homemade (salt, sugar and water). Overall, 38.3% of the women surveyed had heard of ORT, 40.7%

living in RHC areas had heard of ORT vs 36.1% of women residing in BHU areas ($X^2$ = 10.8277, p < .001). For those women who had heard of ORT; 53.7% first heard of it from a doctor, 29.9% from another health worker (medical technician, nurse, lady health visitor or community health worker) and 10.7% from a friend or a relative. Only 1.5% of the population stated they had heard of it through radio or television messages. For women who stated they had heard of ORT, 81.8% stated that they had used it (there was no significant difference between women residing in RHC or BHU catchment areas). For those women who had never used ORT, 72% stated that they had not had the occasion to use it, 6.2% stated that they preferred to seek medical consultation prior to utilization, and 6.2% stated that they did not approve of ORT. When asked where they would get ORT, 31.4% stated they would get it from a doctor, 22.4% stated they would get it from the RHC or BHU in their catchment area, 20.6% stated they would get it from a pharmacy, and 16.4% stated they would get it from another health worker (medical technician, nurse, lady health visitor or community health worker) Only 2.2% of the respondents stated that they would prepare ORT at home from a sugar, salt and water solution.

6. Expanded Program on Immunizations (EPI) - Knowledge by Health Facility Type (Appendix 13, Tables 30-41)

Overall, 78.6% of the women interviewed had heard of vaccines (81.3% in RHC areas vs 76.3% in BHU areas; - $X^2$ = 17.9430; p < 2.276 x $10^{-5}$). After asking women if they had heard of vaccines, there was an attempt to assess the level of knowledge of the EPI. Women were first asked "what diseases can be prevented by vaccines". When an appropriate disease was mentioned, the woman was categorized as having given an "unprompted yes" to knowledge of the prevention of the disease. The women were then asked by individual disease, if it could be prevented by vaccines. If the response was yes following this line of questioning, the woman was categorized as having given a "prompted yes" response to knowledge of the specific disease.

In total, 18.7% of respondents gave an "unprompted yes" to polio being prevented by vaccines, an additional 34.3% gave a "prompted yes"; thus, a total of 53% of the women surveyed recognized that polio could be prevented by vaccine. There was no difference between respondents level of knowledge of polic prevention in RHC vs BHU areas when assessing "unprompted vs prompted" vs didn't know responses. In contrast, the difference between all yes responses vs all no responses was significant at the $p < .05$ level.

In total, 46.8% of the respondents gave an "unprompted yes" response to measles being preventable by vaccine; an additional 23.9% gave a "prompted yes" response thus, a total of 70.7% of the population interviewed recognized that measles could be prevented by vaccines. There was a statistically significant difference between RHC and BHU knowledge of measles prevention ($X^2 = 20.3773$, $p < 3.8 \times 10^{-5}$). In RHC areas, 73.3% of the population recognized measles as preventable by vaccines, in contrast, to 68.4% of respondents in BHU areas.

With respect to diphtheria, 10.8% of the respondents gave an "unprompted yes",with an additional 36.2% a "prompted yes". Thus, a total of 47% of the population knew that diphtheria could be prevented by vaccines. There was no statistically significant difference between RHC and BHU respondents with respect to their knowledge of diphtheria prevention.

Of the population sampled, 42.5% gave an "unprompted yes" to pertussis (whooping cough), an additional 26% gave a "prompted yes" response; thus a total of 68.5% of the population knew that pertussis could be prevented by vaccines. There was a statistically significant difference in level of knowledge of pertussis prevention between RHC and BHU areas, where 70.8% of respondents in RHC area knew vs 66.5% in BHU areas ($X^2 = 17.68499$; $p < .00014$).

A total 14% of the respondents gave an "unprompted yes" response to tetanus being preventable by vaccines; an additional 33.9% gave a "prompted yes" response, thus a total of 47.9% of the population surveyed had knowledge that tetanus could be prevented by vaccines. There was no difference between knowledge of tetanus prevention in RHU vs BHU areas.

A total of 22.3% of the population sampled gave an "unprompted yes" to tuberculosis prevention by vaccine, an additional 35.1% gave a "prompted yes" thus, a total of 57.4% had knowledge that tuberculosis could be prevented by vaccines. There was a statistically significant difference in level of knowledge from RHC to BHU areas, with 60 % of RHC areas having with knowledge of tuberculosis prevention as compared to 55% of BHU areas ($X^2$ = 12.3528, P < .0021).

As a further test of knowledge of EPI, respondents were asked how many doses of each of the EPI vaccines were required for complete protection. 37.4% of respondents who knew about polio vaccine correctly answered that three doses were required; 17.1% of respondents gave a correct response of one dose of measles vaccine (BHU areas 18.6% vs RHC areas 15.5%), 31.1% of women correctly knew that three doses of DPT vaccine were required (32.3% in BHU areas vs 29.8% in RHC areas) and only 8% of women sampled knew that two doses of tetanus toxoid (TT) were required during pregnancy (8.8% in RHC areas vs 7.3% in BHU areas), (22.5% of women knew that one dose of BCG was required) exchange tetanus toxoid with Tuberculosis.

7. Contraceptive Knowledge and Practice by Health Facility Type (Appendix 13, Tables 42-43)

Two questions related to contraceptive knowledge and practice were asked. The first was whether or not the respondent had ever heard of contraceptives. In total, 69.4% of the women responded that they had heard of contraceptives; 71.3% of women in RHCs areas vs. 67.7% of

respondents in BHU areas ($X^2$ = 7.5165 p < .0061). Those women who had responded yes to knowledge of contraceptives were then asked if they were currently using contraceptives. Only 3.9% of the women asked, responded yes to contraceptive use, 82.7% responded no, 9.7% were pregnant at the time of the interview, and 3.7% had delivered an infant within 40 days of the survey. If one adjusts the denominator to eliminate women who would not be eligible for contraceptives (pregnant women and women who had recently delivered), the adjusted contraceptive prevalence was 4.6% for the survey population. That is, 4.6% of women who have heard of contraceptives were currently using them. On the other hand, if one adjusts the demonimator to use the total number respondents (4,864), the contraceptive prevalence among the survey population was 2.7 %. Using this adjustment, 3.8 % of women in RHC areas were using contraceptives as compared to 2.3 % of women in BHU areas ($X^2$ = 8.3297, p = .0039).

8. Demographic characteristics Punjab vs. NWFP (Appendix 14, Tables 1-6)

In comparing the survey populations from Punjab vs NWFP there was a significant difference in age distributions of the respondents ($X^2$ = 46.009 p = $2.5 \times 10^{-10}$), where 42.1% of the respondents in Punjab were in the 30 to 39 year old age group as compared to 38.8% in NWFP, and 12.4% of population in Punjab were greater than 40 years of age as compared with 8.0% in NWFP. A larger proportion of respondents were the wife of the head of household in Punjab as compared with NWFP (72.4% vs 61.2%). With respect to educational status, Punjab respondents had a higher literacy rate (9% vs 7.3%; $X^2$ = 3.9886 p = .0458). Mean household size in Punjab was 7.38 persons as compared with a mean of 8.97 in NWFP. Mean family size in Punjab was 5.61 as compared with a mean 5.89 in NWFP. With respect to the number of live births per respondent in the five years preceeding the survey, there were a mean of 1.72 births in Punjab as compared with a mean of 1.89 births in NWFP ($X^2$ = 62.1808, p < $1.0 \times 10^{-10}$).

9. Antenatal Practices, NWFP vs. Punjab (Appendix 14, Tables 7-11)

In response to the question if they would seek prenatal care if they were otherwise healthy, 25.7% of the women in Punjab said that they would as compared with 18.8% in NWFP; ($X^2$ = 28.9552, $p < 6.0 \times 10^{-8}$). When asked who they thought should deliver a baby, 83.7% of the respondents in Punjab felt that a dai was appropriate as compared with 45.4% of respondents in NWFP; only 2.6% of respondents in Punjab felt a relative should deliver a baby, in contrast to 41.1% of respondents in NWFP. In total, 12.6% of the women felt that a doctor or other health worker should deliver a baby. When asked who delivered their most recent baby, in Punjab, 86.7% were delivered by a dai as compared with 44.3% in NWFP; 4.8% were delivered by relatives in Punjab, whereas 42.7% in NWFP were delivered by relatives. Of interest, the difference between responses for who should deliver vs who actually delivered last baby were highly significant for Punjab, and for NWFP. There was no difference in distribution of year of birth of most recent child between Punjab and NWFP.

Five percent of women in Punjab stated they had received tetanus toxoid during their most recent pregnancy as compared with 4.3% in NWFP. Of interest, 7.5% of women in Punjab stated they had never heard of tetanus toxoid vs. 17.1% of women in NWFP ($X^2$ = 82.2568, p  $1.0 \times 10^{-10}$).

10. Breastfeeding and weaning practices, Punjab and NWFP (Appendix 14, Tables 12-19)

In Punjab, 95.2% of women breastfed their most recent child as compared with 96.1% in NWFP. Among women who did not breastfeed their child during the first week of life, 31.2% in Punjab stated that the child died early vs 45.4% in NWFP; mother's illness as a reason for not breastfeeding was claimed by 14.3% in Punjab vs 6.5% in NWFP. At the

time of the survey, 60.9 % of the women in Punjab were still breastfeeding their last born child as compared with 65.1% of women in NWFP ($X^2$ = 7.54249, p = .006). Reasons for termination of breastfeeding varied: 43.5% of women in Punjab stated the child had reached weaning age as compared with 50.8% of women in NWFP; in contrast, only 4.3% of women in Punjab stated the child had died as compared to 10.4% in NWFP; mother's illness was stated as a reason in 12.1% of women in Punjab vs 8.9% in NWFP, and mother became pregnant as a reason in 34.7% of women in Punjab vs 26.4% in NWFP ($X^2$ = 42.5208, p = 4.1 x $10^{-7}$). 19.5% of women stopped breastfeeding when the child reached 13 to 18 months of age in Punjab as compared with 14.6 % of women in NWFP.

Of interest is that 70.3% of women surveyed in Punjab stated they had introduced weaning foods as compared with 63.7% of women in NWFP ($X^2$ = 19.06834, p = 1.1 x $10^{-5}$). The mean age of introduction of weaning foods was 9.37 months in Punjab, and 9.93 months in NWFP ($X^2$ = 64.35219, p=1.0 x $10^{-10}$). Breads were the most common weaning food in both Punjab and NWFP (56.9% and 58.7% respectively). Rice was more common in Punjab (7.4%) as compared with NWFP (3.6%); and egg was more common in NWFP (4.8%) as compared with Punjab (1.4%).

11 Health Facility Utilization and Access, NWFP and Punjab (Appendix 14, Tables 20-24)

In response to the question "to whom or where would you go for first treatment if a child of yours became ill or was injured", 13.7% of women in Punjab responded they would go to the hospital as compared with 26.1% in NWFP, 20.6% in Punjab stated they would go to the BHU as compared to 12.6% in NWFP, and 14.9% of women in Punjab stated a preference for a Hakeem as compared with 0.7% in the NWFP. Of interest, if one combines preference for seeking the services of a hospital with that of RHC and BHU as indicators of utilization of government health facilities, then 56% of respondents in Punjab would seek assistance at a government health

facility as compared with 62.5% in NWFP ($X^2$ = 18.2735, p = 1.9 x $10^{-5}$). 67.8% of respondents in Punjab stated they had used the government health facility they were assigned to as compared with 52.5% of respondents in NWFP ($X^2$ = 100.5609, p < 1.0 x $10^{-10}$). Of respondents who had never used the government health facility, 23% in Punjab stated they did not trust the personnel as compared with 17.5% in NWFP; 32.5% in Punjab stated the health facility was too far as compared with only 14.3% in NWFP; 7.6% in Punjab preferred a Hakeem as compared with 0.4% in NWFP. In contrast, 14% of women in Punjab stated they never needed the services as compared with 30.8% of women in NWFP. In trying to assess differences in access to health facilities, data were analyzed for how long it takes the women to get to the town in which the government health facility was located. In Punjab, 57.9% of women lived one hour or less from the government health facility as compared with 71.6% of women in NWFP; 13.7% in Punjab lived between one and two hours from the health facility as compared with 11% in NWFP, 7.5% of women in Punjab lived greater than two hours from the health facility as compared with 1.2% of women in NWFP. 20.3% of women in Punjab had never been to the town where the health facility was located as compared with 15.5% of women in NWFP. 55.2% of the women in Punjab stated they would walk to the town as compared with 43.5% of the women in NWFP, 9.8% of women in Punjab stated they would take public transportation as compared with 45.2% of women in NWFP.

12. ORT - Knowledge and Practice - Punjab vs. NWFP (Appendix 14, Tables 25-29)

With respect to knowledge of ORT, 28.4% of respondents in Punjab had heard of ORT vs 41.9% of respondents in NWFP ($X^2$ = 82.7326, p = 1.0 x $10^{-10}$). Of interest, 76.6% of respondents in Punjab had heard about ORT from a doctor or other health worker as compared with 86.2% in NWFP. 5.1% of respondents in Punjab had heard about ORT from a traditional healer or dai as compared with 0.8% of respondents in NWFP, and 14.6% of

respondents in Punjab heard about it from a friend or a relative as compared with 9.1% of respondents in NWFP. Only 1.1 and 1.7% of respondents in Punjab and NWFP respectively had heard of ORT from radio or television messages. Of those women who had heard of ORT, 78.1% in Punjab had used it as compared with 82.8% in NWFP ($X^2$ = 4.6929 p = .03).

Reasons given for why women had never used ORT included: no occasion (Punjab 63.8%, NWFP 75.6%), preferred to get medical consult before treatment (Punjab 11.7%, NWFP 3.5%), and disapprove (6.4% and 6.5% in Punjab and NWFP respectively). In response to the question on where they would obtain ORT, 20.4% of respondents in Punjab stated "from a doctor" as compared to 35.2% in NWFP; 5.1% of respondents in Punjab stated "from another health worker" as compared to 22.7% in NWFP. Of interest, 47% of respondents in Punjab stated from the RHC or BHU in their area as compared to 14.9% of respondents in NWFP. In Punjab, 4.2% of respondents prepared a sugar, salt and water solution at home as compared to 1.6% of respondents in NWFP.

13. EPI Knowledge - Punjab vs. NWFP (Appendix 14, Tables 30-41)

With respect to knowledge about EPI, 84.4% of respondents in Punjab had heard of vaccines as compared with 75.7% of respondents in NWFP. ($X^2$ = 47.5754, p = 1.0 x $10^{-10}$). Delving further into knowledge about EPI through questioning on which diseases could be prevented by vaccines, 23.9% of respondents in Punjab gave an "unprompted yes" for polio as compared with 15.1% in NWFP. Combining "unprompted" and "prompted" yes responses, 61.9% of respondents in Punjab knew that polio could be prevented by vaccine as compared with 47.4% of respondents in NWFP ($X^2$ = 58.8967, p = 1.0 X $10^{-10}$).

With respect to measles, 35.7% of respondents in Punjab as compared with 52.8% of respondents in NWFP gave an "unprompted yes" response. For overall recognition (combining "unprompted" and "prompted" yes responses)

that measles could be prevented by vaccine, 65.8% of respondents in Punjab as compared with 72.0% of respondents in NWFP ($X^2$ = 40.9732, p = $2.0 \times 10^{-10}$).

With respect to diphtheria, 12.4% of respondents in Punjab gave an "unprompted yes" for diphtheria prevention by vaccines as compared with 9.6% respondents in NWFP. For total recognition, 58.5% of respondents in Punjab were aware that diphtheria could be prevented by vaccine as compared with 40% of respondents in NWFP ($X^2$=105.9767, P = $1.0 \times 10^{-10}$).

With respect to recognition that tetanus could be prevented by vaccine, 15.4% of respondents in Punjab gave an "unprompted yes" as compared to 13.6% in NWFP. In total, 58.1% of women in Punjab recognized that tetanus could be prevented by vaccine as compared with 42.7% in NWFP ($X^2$=65.8185, P=$1.0 \times 10^{-10}$).

With respect to pertussis prevention, 32.2% in Punjab vs. 49.1% in NWFP gave "unprompted yes" responses. A total of 64.7% of respondents in Punjab as compared with 69.9% in NWFP gave positive recognition that pertussis could be prevented by vaccine ($X^2$= 36.4487, P = $1.6 \times 10^{-9}$).

24.8% of respondents in Punjab and 20.9% of respondents in NWFP gave unprompted recognition of tuberculosis prevention by vaccine. In total 62.8% of respondents in Punjab as compared with 53.7% of respondents in NWFP recognized that tuberculosis could be prevented by vaccine ($X^2$=17.4821, P=$2.9 \times 10^{-5}$).

Respondents were then asked the number of doses of each EPI vaccine required for adequate protection. In Punjab, of the total respondents in the survey, only 26.3% gave a correct response to the number of doses of polio vaccine required as compared with 17.5% of respondents in NWFP. With respect to DPT, 25.7% of respondents in Punjab vs. 20.2% of

respondents in NWFP gave a correct response to the number of doses required. With respect to measles vaccine, 8.6% of respondents in Punjab vs. 14.3% of respondents in NWFP gave correct responses. For BCG, 12.6% of respondents in Punjab and 14% of respondents in NWFP gave correct responses to the number of doses required. Looking at the differences between correct and incorrect or don't know as a response, they were statistically significant for polio, DPT, and measles vaccines, between provinces (p 1.0 x $10^{-10}$, p = 1.67 x $10^{-5}$, and p = 2.0 x $10^{-18}$ respectively). In addition, 4.7% of respondents in Punjab vs. 3.9% of respondents in NWFP gave a correct response to the number of doses of tetanus toxoid required during pregnancy.

14. Contraceptive Knowledge and Practice, Punjab and NWFP (Appendix 14, Tables 42-43

With respect to knowledge of contraceptives, 62.6% of respondents in Punjab stated that they had heard of contraceptives as compared with 74.4% of respondents in NWFP ($X^2$=72.0718, P=1.0 x $10^{-10}$). Of those women who stated that they had heard of contraceptives, 3.7% in Punjab and 4.2% in NWFP stated they were presently using them. Two percent of women in Punjab and 13.3% of women in NWFP were pregnant at the time of the survey, and 5.3% of the women in NWFP had recently delivered an infant within 40 days prior to the survey. There was a posterior change in the questionnaire adding a response category for recently delivered that occurred following the Punjab survey. If one adjusts the denominator for the proportion of women presently using contraceptives by the total number of respondents in the survey, 2.3% of women in Punjab and 3.1% of women in NWFP were using contraceptives at the time of the survey.

15. Correlation of Behavior to Maternal Age and other variables

Maternal age group was compared with responses to many of the knowledge and practice questions on the survey instrument. Findings of interest will be discussed here briefly. When looking at receipt of tetanus toxoid during the most recent pregnancy there was an inverse relationship between increasing age and decreasing coverage with tetanus toxoid (R = -.94). In the 15-20 year old age group, 7.1% had received tetanus toxoid, in the 20-24 year old age group 5.3% and by the 30-39 year old age group, 2.9% had received tetanus toxoid during their previous pregnancy.

When comparing reasons why breastfeeding was stopped by age group of respondent, mother being pregnant accounted for 37% of why breastfeeding was stopped in the 20-24 year old age group, 35% in the 25-29 year old age group and dropped to 27.3% in the 30-39 year old age group. In contrast child dying seemed to be inversely related where 13.9% of the 15-19 year old age group cited the child died early as a reason for stopping breastfeeding, 11.5% in the 20-24 year old age group, 8.2% in the 25-29 year old age group and 7.2% in the 30-39 year old age group, and 5.6% in the 40 or greater age group. (R = -.94)

There was a definite correlation between increasing mean age at cessation of breastfeeding with increasing maternal age. In the 15-20 year old age group the mean age at cessation of breastfeeding was 13.80 months, in the 20-24 year old age group it was 15.83 months, in the 25-29 year old age group it was 17.56 months, in the 30-39 year old it was 19.29 months and in the 40 year old and greater it was 21.44 months (R = + .99.)

A similar correlation of increasing mean age at introduction of solid weaning foods with increasing maternal age was observed. In the 15-19 year old maternal age group, the mean age of introduction of solid

weaning foods was 8.44 months, in the 20-24 year old age group the mean age was 8.98 months, in the 25-29 year old age group the mean age was 9.63 months, in the 30-39 year old age group the mean age was 9.74 months, and in the 40 year old and greater maternal age group the mean age was 10.71 months (R = +.98).

An interesting finding was a trend of increasing use of ORT with increasing maternal age. In the 15-19 year old age group 70.1% of the women who had heard of ORT had used it, in the 20-24 year old age group 78.2%, in the 25-29 year old age group 83.8%, in the 30-39 year old age group 82.4%, and in the 40 year old and greater age group 85%.

With respect to contraceptive use at the time of the survey there was a correlation between increasing use with increasing age group. In the 15-19 year old age group 1.8% of the women were using contraceptives, in the 20-24 year old age group 1.6%, in the 25-29 year old age group 2.9%, in the 30-39 year old age group 5.4% and in the 40 year old and greater 6.0% (R= +.96).

Other interesting findings included the fact that receipt of tetanus toxoid during the respondent's previous pregnancy was associated with use of health facility. 44.5% of women who have used their designated government health facility had received tetanus toxoid during their previous pregnancy, as compared with 2.2% of women who had not used the government health facility ($X^2$ = 9.4799, p = .002). There is an interesting trend of increasing proportion of women receiving tetanus toxoid by more recent year of last delivery. For those delivering in 1983, 7.8% had received tetanus toxoid during the pregnancy, in 1982 4.5%, in 1981 4.5%, in 1980 2.1%, and in 1979 1.5%. (R = -.95).

Another interesting finding was in BHU serviced areas; 44.9% of women who had used their designated BHU had heard of ORT, as compared with 28.4% of women who had not used the BHU. Similarly, 81.8% of women who

had used their BHU health facility had heard of vaccines in comparison with 70% of women who had not used the facility ($X^2$ = 49.4455, p = $1.0 \times 10^{-10}$). A similar trend was seen among women in RHC Catchment areas; 45.2% of women who had used the health facility had heard of ORT vs 31.8% of women who had not used the facility. ($X^2$ = 37.1570, p = < $1.0 \times 10^{-10}$). Similarly, in women assigned to RHC Catchment areas, 87.4% of the women who had used their health facility had heard about vaccines as compared with 69% of women who had not used their facility ($X^2$ = 81.1192 p = $1.0 \times 10^{-10}$).

Age of cessation of breastfeeding, and age of introduction of weaning foods were looked at using a life table approach. Figures 1 and 2 show the results of these analyses. In Figure 1 the cohort born in 1981 was looked at for age of cessation of breastfeeding. At six to nine months of age, approximately 97% of children are still breastfeeding. By 15-18 months of age this drops to 75% who are still breastfeeding and by 21-24 months of age this has dropped to 42.7%. In Figure 2, the same cohort was looked at for age of introduction of weaning foods. At three months of age 1% of children have had introduction of solid weaning foods, by four months of age 3.4%; a large increase occurs in the six, seven and 8 month age groups where 17.9%, 25.4%, 38.4% of children have had introduction of weaning foods going up to ten months of age 52.1%, and by one year of age 79.9% of children have had introduction of solid weaning foods.

## C. Findings on the Live Births that Occurred in the 5 Years Preceeding the Survey.

### 1. Demographic Characteristics by Type of Health Facility (Appendix 13, Tables 44-46)

Information was obtained on a total of 8,847 live births that had occurred in the 5 year period preceeding the survey. Of these, 4,245

Figure 4.1 Proportion of women still breastfeeding by month since last birth, using life table techniques, for women with a surviving birth occurring in 1981. Pakistan Baseline Health Status Survey 10/83 - 1/84

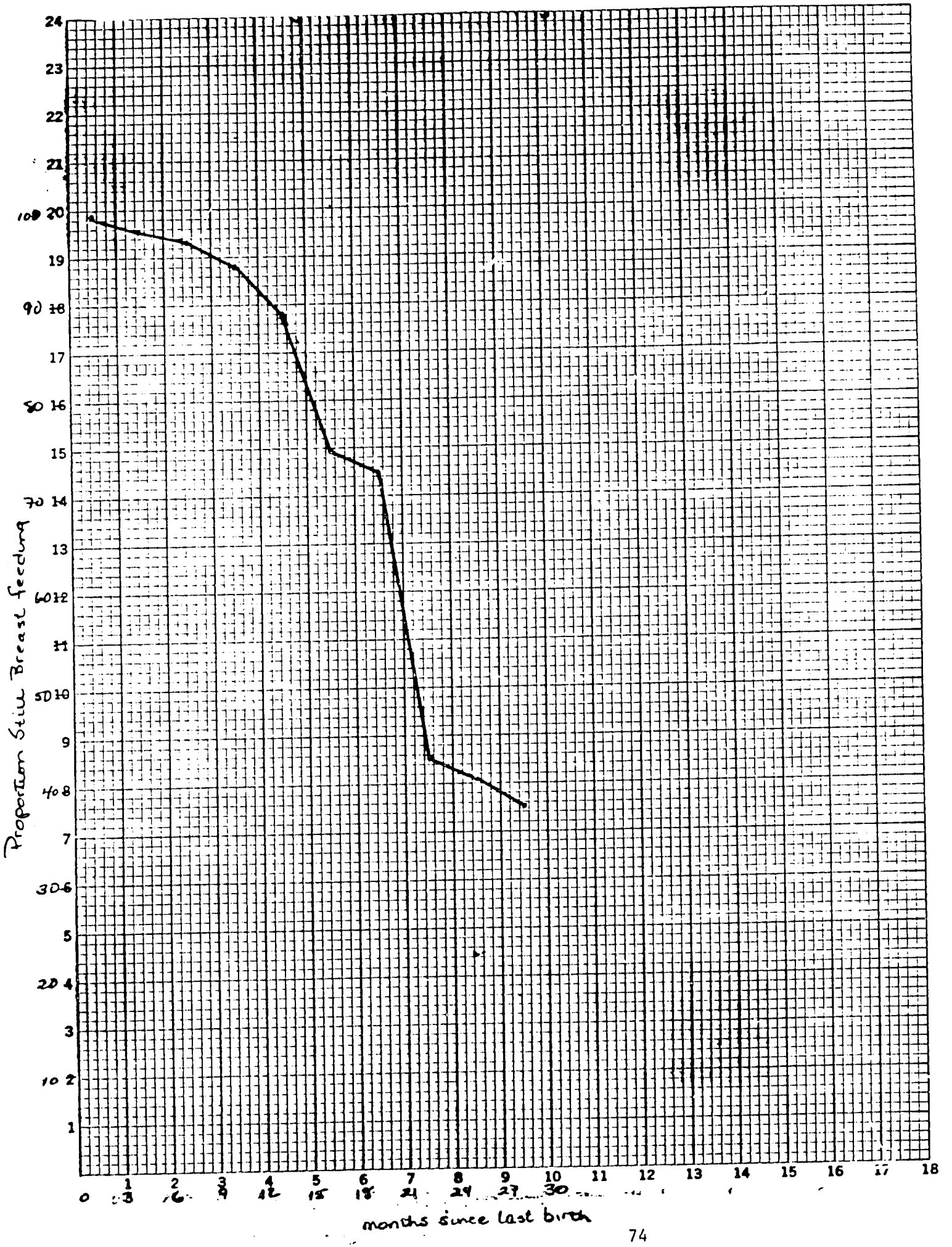


Figure 4.2 Proportion of children receiving solid foods by month since birth, using life table techniques, for surviving children born in 1981 - Pakistan Baseline Health Status Survey - 10/83 - 1/84

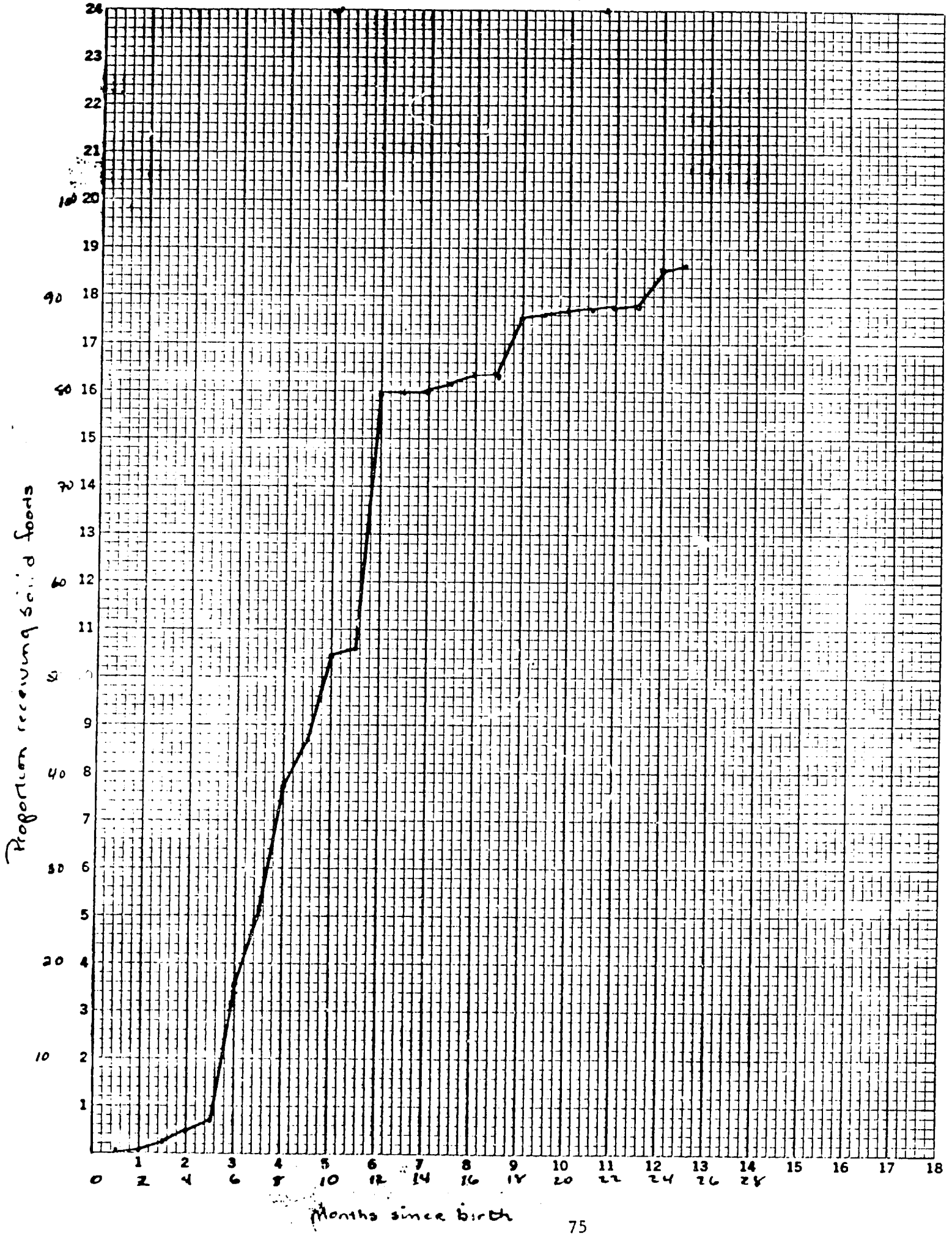


Table 4.4 Age and Sex distribution of live births still alive at time of survey - Pakistan Baseline Health Status Survey October 1983 - January 1984

| Age Group (in months) | Sex: Male No. | Male % | Female No. | Female % | Total No. | Total % |
|---|---|---|---|---|---|---|
| 1 | 99 | 2.4 | 88 | 2.3 | 187 | 2.3 |
| 1-2 | 142 | 3.4 | 133 | 3.5 | 279 | 3.5 |
| 3-5 | 231 | 5.6 | 210 | 5.5 | 441 | 5.6 |
| 6-8 | 217 | 5.3 | 201 | 5.3 | 418 | 5.3 |
| 9-11 | 192 | 4.6 | 178 | 4.7 | 370 | 4.7 |
| 12-14 | 297 | 7.2 | 241 | 6.3 | 538 | 6.8 |
| 15-17 | 186 | 4.5 | 160 | 4.2 | 346 | 4.4 |
| 18-20 | 174 | 4.2 | 174 | 4.6 | 348 | 4.4 |
| 21-23 | 120 | 2.9 | 114 | 3.0 | 234 | 2.9 |
| 24-35 | 865 | 20.9 | 774 | 20.4 | 1639 | 20.7 |
| 36-47 | 785 | 19.0 | 790 | 20.8 | 1575 | 19.9 |
| 48-59 | 819 | 19.8 | 724 | 19.1 | 1543 | 19.5 |
| 60 | 6 | 0.1 | 4 | 0.1 | 10 | 0.1 |
| Total | 4133 | (51.6)[1] | 3791 | (48.4)[1] | 7924 | 100.1 |

[1] Percent of total population

resided in RHC catchment areas as compared with 4,602 who resided in BHU catchment areas. Table 4 shows the age and sex distribution of the survey population of live births who are still living. Of the live children, 52.2% were males and 47.8% were females. The mean age was 29 months with no difference between males and females. The male to female ratio in RHC areas was 1.06:1, in BHU areas 1.11:.

2. General Mortality by Health Facility Type

As shown in Table 1 at the beginning of the results section, the overall crude mortality was 104.1 per 1,000 live births, with 111.4 in RHC areas as compared to 97.3 in BHU areas ($X^2$=4.69114, P=.03).

Table 5 shows the overall mortality by age at death in RHC vs. BHU areas. Overall, the infant mortality in RHC areas was 95.9 per 1,000 live births as compared with 81.5 in BHU catchment areas. An interesting statistic to evaluate is the neonatal to post-neonatal mortality ratio. An observation in many countries, is that as the infant mortality starts dropping, the neonatal to post-neonatal causes such as diarrhea and acute respiratory infection. In developed countries, one generally sees a ratio of 3:1. In developing countries one generally sees a ratio of 1:1 where infant mortalities are 100 or greater. As can be seen in Table 5, the neonatal to post-neonatal ratio in RHC areas is 2.57 to 1 as compared with 1.98 to 1 in BHU areas.

3. Diarrheal Episodes in the One Month Preceeding the Survey by Type of Health Facility (Appendix 14, Tables 47-48)

In an attempt to ascertain the level of diarrheal disease, information was solicited about a history of diarrhea in the one month preceeding the survey. Overall, 32.9% of the children surveyed had a history of diarrhea in the one month preceeding the survey. There was no difference between children residing in RHC or BHU areas. Children who

Table 4.5 Overall Mortality by age at death[1] and health facility type.
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total Population | |
| Age at Death | No. | Rate/1000 Live Births | No. | Rate/1000 Live Births | No. | Rate/1000 Live Births |
| < 1 day | 21 | 4.9 | 25 | 5.4 | 46 | 5.2 |
| 1-7 days | 179 | 42.2 | 147 | 31.9 | 326 | 36.8 |
| 8-29 days | 93 | 21.9 | 77 | 16.7 | 170 | 19.2 |
| Total Neonatal (NNM) | 293 | 69.1 | 249 | 54.1 | 542 | 61.3 |
| 1-11 months(PNN) | 114 | 26.9 | 126 | 27.4 | 240 | 27.1 |
| Total Infant Deaths (IMR) | 407 | 95.9 | 375 | 81.5 | 782 | 88.4 |
| NNM : PNNM Ratio | 2.57:1 | | 1.97:1 | | 2.26:1 | |
| 1 year | 37 | 8.7 | 39 | 8.5 | 76 | 8.6 |
| 2 years | 19 | 4.5 | 16 | 3.5 | 35 | 4.0 |
| 3 years | 4 | 0.9 | 9 | 2.0 | 13 | 1.5 |
| 4 years | 1 | 0.2 | 2 | 0.4 | 3 | 0.3 |
| 5 years | — | | 1 | 0.2 | 1 | 0.1 |
| Total 1-5 Yrs | 61 | 14.4 | 67 | 14.6 | 128 | 14.5 |
| Total 0-5 years | 468 | 110.3 | 442 | 96.0 | 921* | 104.1 |
| Number of Live Births | 4243 | | 4602 | | 8847 | |

RHC BHU $X^2$IMR=5.7086 p=.017
0-5 month 4.8597 p=027

[1] Age at death unknown for 11 cases included in total 0-5 mortality calculations

were less than one month of age at the time of the survey were excluded from the above analysis. The reason these children were excluded was because not all of these children had completed the risk period of one month. Of interest though, of the 187 children surveyed who were less than one month of age at the time of the survey, 52 (27.8%) had a history of having diarrhea in the one month preceeding the survey. Taking the observed incidence of 32.9% of children having a history of diarrhea in the one month preceeding the survey and multiplying this by 12 months in the year, results in an average of 3.9 diarrheal episodes per child per year in the survey population. At this point, it is important to note at this point, that the survey was conducted in the non-peak diarrheal season.

For those children who had a history of diarrhea, respondents were asked about the first treatment used for the diarrheal episode. Overall, 64.2% of the women stated they had used allopathic drugs for treatment, 10% gave a history of having used ORT, and 10% gave a history of having used a home remedy. There was no difference in choice of first treatment for diarrhea in RHC vs BHU areas.

4. Immunization Histories by Health Facility Type (Appendix 13, Tables 50-55)

Respondents were asked if the child had ever been immunized. Of the children surveyed, 38.2% had a history of ever being immunized. Of interest, 40.1% of children residing in RHC catchment areas had a history of ever being immunized as compared with 36.5% of children residing in BHU catchment areas ($X^2 = 10.51079$, $P < .0012$). In cases where children had never been immunized, respondents were asked for reasons why they had never been immunized. 25.9% of the respondents gave as a reason that they had never heard of vaccines, 12.5% stated that the child was too young and 12% stated that the EPI team did not come. It is important to mention at this point that the response category EPI team did not come

was a posterior coding addition in the NWFP phase of the survey after questionnaire editing revealed it was a common response. Evaluation of the Punjab phase of the survey revealed that an additional 2.7% of women gave EPI team didn't come as a response category. Thus, 11.3% of respondents in RHC catchment areas stated the child was never vaccinated because the EPI team didn't come as compared with 17.7% in BHU areas. Of additional interest is that 13.4% of women in RHC areas gave no time/ carelessness/laziness as a reason for never immunizing the child as compared with 7.6% of women in BHU catchment areas. Overall, 4.1% of women stated they did not approve of immunizations, and 7.6% of women stated that their children were not immunized because the health facility was too far (10.3% in RHC areas as compared with 5.4% in BHU areas). The reasons given for why children were never immunized differed from RHC to BHU catchment areas and was significant at a $P = 8.0 \times 10^{-10}$.

Of those children who had been immunized, 61.3% of the mothers had the immunization cards available for review. EPI coverages will be discussed in a later section, but it is important to note at this point that there were no significant differences between coverages in RHC catchment areas vs. those in BHU catchment areas.

5. Cause Specific Mortality by Health Facility Type

It was decided to look at mortality due to diarrheal diseases and neonatal tetanus. To this effect, the survey instrument contained seven questions that would assist in identification of neonatal tetanus and diarrheal disease related deaths. Table 6 is a frequency distribution of symptoms leading to death, all age groups for the entire survey population. For the purposes of this survey, a neonatal tetanus death was defined as a death that occurred in a child between the 3rd and 28the day of life who sucked normally after birth, but in the period immediately preceeding death stopped suckling or was unable to open its mouth and cry, and had had convulsions, stiff body or muscular spasms.

Table 4.6 Distribution of responses to questions about symptoms preceeding death for all live births that died
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Symptom | Present No. | Present %[1] | Absent No. | Absent %[1] | Didn't Know Can't Remember No. | Didn't Know Can't Remember %[2] | Not Determined No. | Not Determined %[2] | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1. Sucked normally after birth | 637 | 71.5% | 254 | 28.5 | 3 | 0.3% | 27 | 2.9% | 921 |
| 2. Stopped Suckling | 551 | 62.0% | 338 | 38.0% | 3 | 0.3% | 29 | 3.1% | 921 |
| 3. Unable to open mouth and cry | 436 | 49.2% | 451 | 50.8% | 4 | 0.4% | 30 | 3.3% | 921 |
| 4. Diarrhea | 250 | 28.2% | 635 | 71.8% | 6 | 0.7% | 30 | 3.3% | 921 |
| 5. Blood/Mucus in stools | 58 | 6.6% | 818 | 93.8% | 10 | 1.1% | 35 | 3.8% | 921 |
| 6. Vomiting | 276 | 31.2% | 609 | 68.8% | 5 | 0.5% | 31 | 3.4% | 921 |
| 7. Convulsions/body stiff/muscle spasms | 560 | 63.6% | 320 | 36.4% | 9 | 1.0% | 32 | 3.5% | 921 |

1 percent of those where symptoms preceeding death were remembered

2 percent of total deaths

Using this definition, of the 293 neonatal deaths that occurred among infants living in RHC catchment areas, 152 (51.9%) were consistent with a diagnosis of neonatal tetanus. Of the 249 neonatal deaths among infants residing in BHU catchment areas, 110 (44.2%) were consistent with a diagnosis of neonatal tetanus.

A diarrheal disease associated death was defined as an infant who had a history of diarrhea, diarrhea and vomiting, or dysentery (diarrhea and blood or mucus in stools). Using this case definition, 85 deaths among children residing in RHC catchment areas were consistent with a diarrhea related death, an additional 17 were consistent with a dysentery death. In contrast, 97 deaths among children residing in BHU catchment areas were consistent with a diarrhea related death and an additional 20 were consistent with a dysentery related death. Combining diarrheal and dysentery deaths in children one month to less than one year of age, there were a total of 59 deaths in RHC catchment areas, out of 114 deaths in this age group (51.8%), as compared with 70 deaths in BHU areas out of 126 (55.6%) in BHU catchment areas. In the one year old population, 15 out of 37 deaths that occurred in RHC catchment areas (48.6%) met the case definition of diarrhea or dysentery as compared with 22 out of 38 (57.9%) in BHU catchment areas. Nine out of 19 deaths that occurred in two year olds (47.4%) residing in RHC areas met the case definition for diarrheal or dysentery related death as compared with only 4 out of 16 (25%) of deaths that occurred among 2 year olds in BHU areas. Three out of 4 of the deaths recorded in 3 year olds in RHC areas (75%) were consistent with diarrhea as compared with 1 out of 9 (11.1%) of deaths in BHU areas. Of the 4 deaths recorded in 4 and 5 year old children, two were consistent with diarrhea or dysentery.

6. Demographic Characteristics of Live Births in Punjab vs. NWFP (Appendix 14, Tables 44-46)

Information was collected on a total of 2,829 live births in Punjab and 5,430 live births in NWFP. The male to female ratio in Punjab was

1.15:1, as compared with 1.07:1 in NWFP. The mean age of children still alive at the time of the survey in Punjab was 28.2 months, and 28.3 months in NWFP.

7. Diarrheal Episodes in the 1 Month preceeding the survey - NWFP vs. Punjab (Appendix 14, Tables 46-47)

36.5% of children in the Punjab had a history of diarrhea in the one month preceeding the survey as compared with 30.7% of the children in NWFP ($X^2$=24.79277, P=5.6 x $10^{-7}$). When asked about treatment first used for the diarrhea episodes, 13.1% of the diarrheal episodes in NWFP were treated with ORT as compared with 5.2% in the Punjab; 9.7% in NWFP used a home remedy as compared with 9% in Punjab. In NWFP, 68.9% used allopathic drugs as compared with 58% in Punjab. 6% of the children in NWFP recovered without treatment as compared to 4.9% in Punjab. The difference between treatment for diarrheal episodes in Punjab vs. NWPF was significant at $P < 1.0 \times 10^{-10}$ ($X^2$= 245.45084).

8. Immunization Histories - Punjab vs. NWFP (Appendix 14, Tables 48-55)

57.3% of the children in Punjab had a positive history of ever being immunized as compared with 29.1% of children in NWFP ($X^2$ = 560.49731, $p < 1.0 \times 10^{-10}$). The most common reasons stated for never being immunized was that the mother had never heard of vaccines (17.1% in Punjab, 29.7% in NWFP); 9.3% in NWFP stated the facility was too far as compared with 3.0% in Punjab; in contrast, 8.1% of children in Punjab were not immunized because the child was ill as compared with only 2.1% in NWFP. In NWFP 12.9% were not immunized because the EPI team did not come as compared with 12.3% in Punjab. Among the "other categories" an additional 4% in Punjab stated they were not home when the EPI team came as compared with only 0.7% in NWFP. 24.1% of children in Punjab were not immunized because they were too young as compared with 8.5% in NWFP.

Table 4.7 Overall mortality by age at death[1] by Province
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Age at Death | PROVINCE: Punjab No. | Punjab Rate/1000 Live Births | NWFP No. | NWFP Rate/1000 Live Births | Baluchistan No. | Baluchistan Rate/1000 Live Births | Sind No. | Sind Rate/1000 Live Births | Total No. | Total Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| < 1 Month(neonatal) | 101 | 35.7 | 430 | 79.2 | 0 | — | 11 | 23.0 | 542 | 61.3 |
| > 1 Month (less than 1 year postneonatal) | 76 | 26.9 | 140 | 25.8 | 5 | 45.5 | 19 | 39.7 | 240 | 27.1 |
| Total Infant Deaths (IME) | 62.6 | | 105.0 | | 45.5 | | 82.7 | | 88.4 | |
| NNM:PNNM Ratio | 1.33:1 | | 3.0781 | | 0 | | 0.58 (1:1.73) | | 2.26:1 | |
| 1 Year | 18 | 6.4 | 53 | 9.8 | 0 | 0 | 5 | 10.5 | 76 | 8. |
| 2 Years | 17 | 3.9 | 21 | 3.9 | 0 | 0 | 3 | 6.3 | 35 | 4. |
| 3 Years | 4 | 1.4 | 8 | 1.5 | 0 | 0 | 1 | 2.1 | 13 | 1. |
| 4 Years | 1 | 0.4 | 2 | 0.4 | 0 | 0 | 0 | 0 | 3 | 0. |
| 5 Years | 1 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0. |
| Number of Live Births | 2829 | | 5430 | | 110 | | 478 | | 8847 | |

Table 4.8 Distribution of responses to questions about symptoms preceeding death, where symptoms were remembered for live births that died, Punjab vs. NWFP Provinces.
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | | | NWFP | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Present | | Absent | | Present | | Absent | | | |
| Symptom | No. | % | No. | % | No. | % | No. | % | $X^2 df_1$ | P |
| 1. Sucked normally after birth | 130 | 64.7% | 71 | 35.3 | 469 | 72.5% | 178 | 27.5% | 4.14325 | 0.0418 |
| 2. Stopped Suckling | 87 | 42.6% | 117 | 57.4% | 453 | 70.6% | 189 | 29.4% | 51.0441 | $1.0 \times 10^{-10}$ |
| 3. Unable to open mouth and cry | 67 | 33.2% | 135 | 66.8% | 361 | 56.2% | 281 | 43.8% | 31.77974 | $1.73 \times 10^{-8}$ |
| 4. Diarrhea | 91 | 45.0% | 111 | 55.0% | 131 | 20.5% | 509 | 79.51% | 46.52699 | $1.0 \times 10^{-10}$ |
| 5. Blood/Mucus in stools | 22 | 11.0% | 178 | 89.0% | 32 | 5.0% | 604 | 95.0% | 8.01016 | 0.0047 |
| 6. Vomiting | 80 | 39.8% | 121 | 60.2% | 182 | 28.4% | 459 | 71.6% | 8.76601 | 0.0031 |
| 7. Convulsions/body stiff/muscle spasams | 77 | 38.9% | 121 | 61.1% | 468 | 73.2% | 171 | 26.8% | 77.01489 | $1.0 \times 10^{-10}$ |

Of those children who were immunized, 67.2% of the children in Punjab had their immunization cards available for verification as compared with 58.7% in NWFP. It is important to note at this time that there were major differences in EPI coverages between Punjab and NWFP for all of the EPI vaccines. 52.5% of the children surveyed in Punjab had received one dose of polio vaccine as compared with 25.5% of children in NWFP, 14.4% of children had received 3 or more doses in Punjab as compared with 9.5% in NWFP. In looking at combined DT with DPT vaccines, 53.6% of children in Punjab had received at least one dose as compared with 26% in NWFP, 12.7% in Punjab had received three or more doses as compared with 8.1% in NWFP. With respect to measles vaccine, 22.4% of children in Punjab had received at least one dose of measles vaccine, as compared with 13.4% of children in NWFP; with respect to BCG vaccine, 38.1% of children in Punjab as compared with 23.3% of children in NWFP gave a history of BCG vaccine.

9. General and Cause Specific Mortality - Punjab vs. NWFP

Table 7 is a presentation of the age group of deaths by Province presenting crude mortality rates. The crude infant mortality rate in Punjab was 62.6 per 1,000 live births as compared with 105 per live births in NWFP. The neonatal:post-neonatal ratio in Punjab was 1.33:1 as compared with [illegible]07:1 in NWFP. Table 8 is a presentation of the frequency of symptoms leading to death in Punjab vs. NWFP. 24 of the 101 neonatal deaths (23.8%) in Punjab were consistent with neonatal tetanus, as compared with 231 of the 430 neonatal deaths (53.7%) in NWFP. A total of 64 deaths in Punjab were consistent with a diagnosis of diarrhea associated death as compared with 104 in NWFP, an additional 14 were consistent with dysentery in Punjab and 22 in NWFP. 47 of the 76 deaths that occurred between 1 and 11 months of age in Punjab (61.8%) were attributable to diarrhea or dysentery, as compared with 66 of the 140 deaths in this age group (47.1%) in NWFP. Six out of 18 (33.3%) of deaths in the one year old age group in Punjab were attributable to

diarrhea and dysentery as compared with 33 out of 53 (62.3%) in NWFP. Three out of 11 (27.3%) of deaths among two year olds in Punjab were attributable to diarrhea and dysentery as compared with 5 out of 21 (23.8%) in NWFP. Two out of the 4 deaths that occurred in 3 year olds in Punjab (50%) were consistent with a diagnosis of diarrhea as compared with 2 out of 8 (25%) in NWFP. Both of the deaths that occurred in children of four years of age in NWFP were consistent with diarrheal disease deaths.

## D. GENERAL ANALYSES

### 1. Nutrition

For the purposes of assessing the nutritional status of the children in areas to be serviced by the Primary Health Care Project, anthropometric measurements of height and weight were obtained on the children in the survey. At this point, it is important to mention one of the problems observed with information collected on children in the survey. While the survey instrument requested date of birth (month and year) of the children, there was a tendency for the interviewers to obtain the mother's estimate of the child's age in months and not try to establish an exact date of birth. Thus, one observes rounding off at 6 month intervals, most noticable beginning at 18 months of age. This is relevant when one considers that the interpretation of the anthropometric measurements rely on a comparison of height for age, and weight for age and there is a credibility gap with respect to ages listed. Taking this into account, it was decided to do an overall Gomez classification (keeping in mind the above stated limitations) of the survey population carrying out the analyses through 35 months of age, and then to analyze weight for height on the survey population. Thus, while the data exists, they were not analyzed to assess chronic malnutrition as evidenced by stunting (low height for age).

Tables 9 and 10 present the overall results of the weight for age assessment for boys and girls separately by Province of residence. In the Gomez classification, the weights are compared to a standard (NCHS 50the percentile) those children who are 90% of the standard are classified as normal; those between 75-89% of the standard have 1st degree malnutrition; those between 60-74% of the standard have 2and degree malnutrition, and those less than 60% of the standard have 3rd degree malnutrition. Using the Gomez classification (based on the NCHS standard), overall, 43% of the boys were categorized as having first degree malnutrition, 21.9% had second degree and 4% had third degree malnutrition. It is important to comment that in Punjab, 31.9% of the males sampled had second or third degree malnutrition as compared with 20.4% of the male population in NWFP. This difference in nutritional status between NWFP and Punjab was highly significant ($X^2$=58.71661 df3, P=1.0 x $10^{-10}$). A similar statistically significant difference in nutritional status between females in Punjab vs. NWFP is seen ($X^2$=53.68478, P=1.0 x $10^{-10}$). Overall, among the female population, 42.1% surveyed had first degree malnutrition, 20.3% had second degree and 4.2% had third degree malnutrition.

Figures 3 and 4 are plots of the mean weights by month of age for males in Punjab and NWFP respectively as compared to the NCHS curves. One observes that in both provinces, the mean weights deviate by 6 months of age and never recover, with Punjab means falling below the NCHS 5the percentile by 12 months of age. Figures 5 and 6 represent the same for females. In both provinces the mean weights for females start dropping by 4 months of age, with the Punjab population falling below the 5the percentile by 12 months of age.

Tables 11 and 12 present the results of the weight for height assessments for males and females separately. Due to technical constraints, the survey population was analyzed to a height of 88 cm. consistent with the 35 month old NCHS standard. In the weight for height

Table 4.9 Nutritonal Status of males 0-35 months of age, using the Gomez categorizations of weight forage, by Province, Pakistan Baseline Health Status Survey October 1983 - January 1984.

| Nutritional Status | PROVINCE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Punjab | | NWFP | | Baluchistan | | Sind | | Total | |
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Normal | 224 | 24.8 | 541 | 35.9 | 7 | 18.4 | 34 | 23.8 | 806 | 31.1 |
| 1° Malnutrition[1] | 391 | 43.3 | 660 | 43.7 | 10 | 26.3 | 54 | 37.8 | 1115 | 43.0 |
| 2° Malnutrition[2] | 234 | 25.9 | 273 | 18.1 | 16 | 42.1 | 44 | 30.8 | 567 | 21.9 |
| 3° Malnutrition[3] | 54 | 6.0 | 35 | 2.3 | 5 | 13.2 | 11 | 7.8 | 105 | 4.0 |
| Total of sample | 903 | | 1509 | | 38 | | 143 | | 2593 (62.7%)[4] | |

NWFP vs Punjab $X^2$ $df^1$ = 58.71661 $p = < 1.0 \times 10^{-10}$

1. 1° malnutrition = $\geq$ 75% of standard (50th percent of NCHS)
2. 2° malnutrition = 60 - 74% of standard (50th percent of NCHS)
3. 3° malnutrition = < 60% of standard (50th percent of NCHS)
4. Proportion of the total males sampled

Table 4.10 Nutritonal Status of females 0-35 months of age, using the Gomez categorizations of weight for age, by Province, Pakistan Baseline Health Status Survey October 1983 - January 1984.

| Nutritional Status | PROVINCE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Punjab | | NWFP | | Baluchistan | | Sind | | Total | |
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Normal | 208 | 23.6 | 542 | 38.3 | 8 | 29.6 | 37 | 25.3 | 795 | 33.4 |
| 1° Malnutrition[1] | 334 | 42.2 | 599 | 42.2 | 8 | 29.6 | 59 | 40.4 | 1000 | 42.1 |
| 2° Malnutrition[2] | 208 | 26.3 | 223 | 15.8 | 10 | 37.0 | 41 | 28.1 | 482 | 20.3 |
| 3° Malnutrition[3] | 41 | 5.2 | 50 | 3.5 | 1 | 3.7 | 9 | 6.2 | 101 | 4.2 |
| Total of sample | 791 | | 1414 | | 27 | | 146 | | 2378 (62.7%)[4] | |

NWFP vs Punjab $X^2$ $df_1$ = 53.68478 p = $< 1.0 \times 10^{-10}$

1. 1° malnutrition = $\geq$ 75% of standard (50th percentile of NCHS)
2. 2° malnutrition = 60 - 74% of standard (50th percentile of NCHS)
3. 3° malnutrition = < 60% of standard (50th percentile of NCHS)
4. Proportion of the total females sampled

Figure 4.3 Mean weight for age (in months) for boys birth -35 months, as compared to the NCHS standard, Punjab Province, Pakistan Baseline Health Status Survey, October 1983 - January 1984

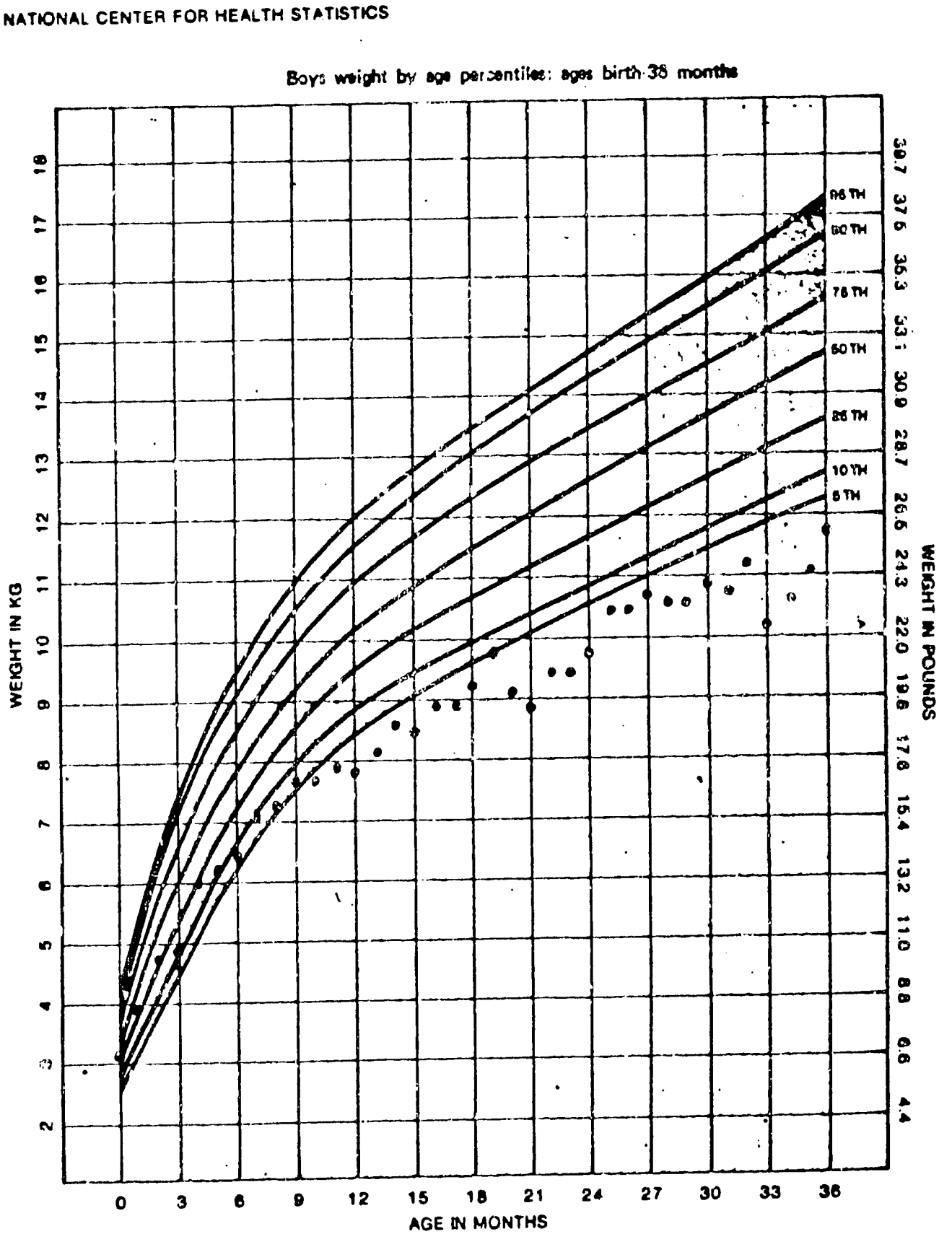


Figure 4.4 Mean weight for age (in months) for boys birth - 35 months, as compared to the NCHS standard, NWFP Province, Pakistan Baseline Health Status Survey, October 1983 - January 1984

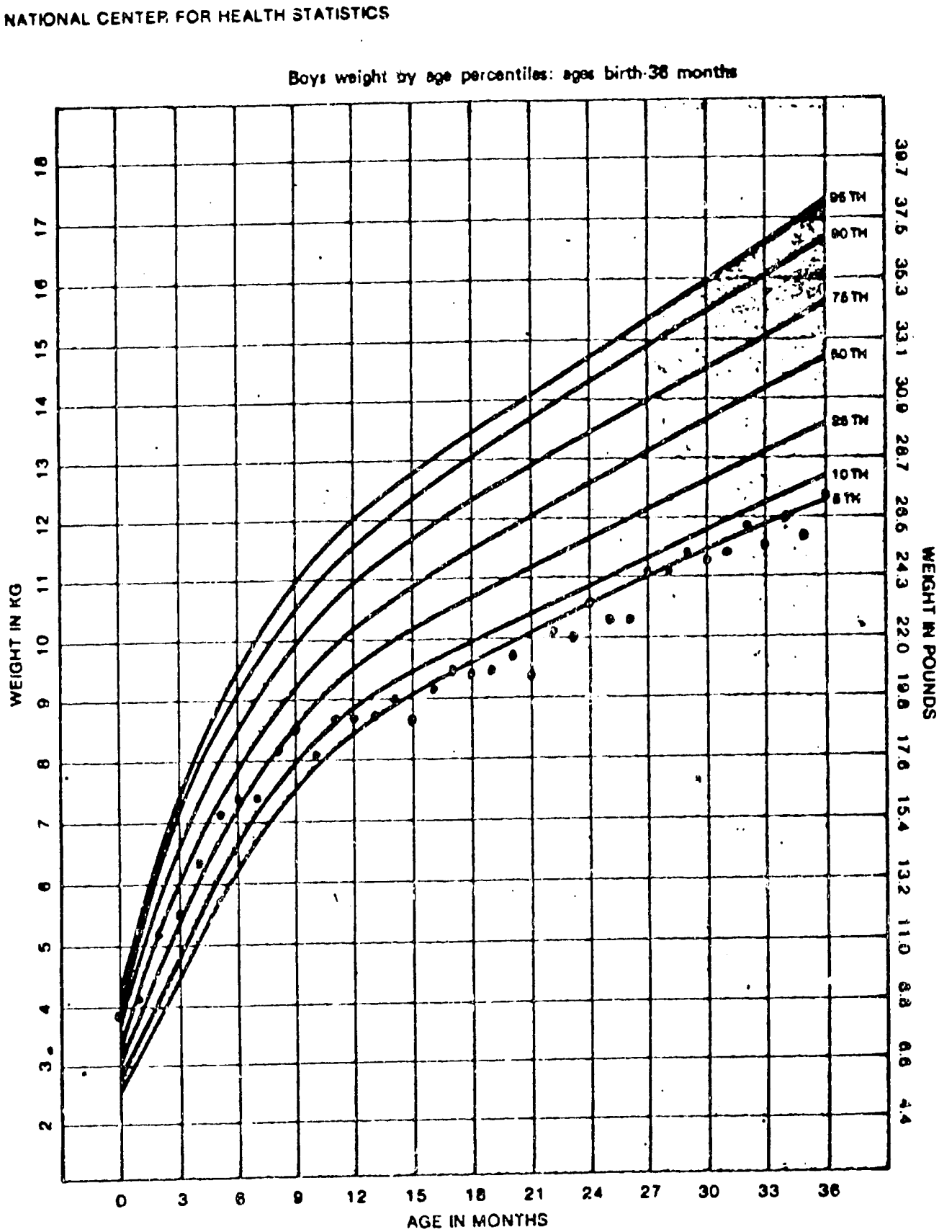


Figure 4.5 Mean weight for age (in months) for girls birth - 35 months, as compared to the NCHS standard, Punjab Province, Pakistan Baseline Health Status Survey, October 1983 - January 1984

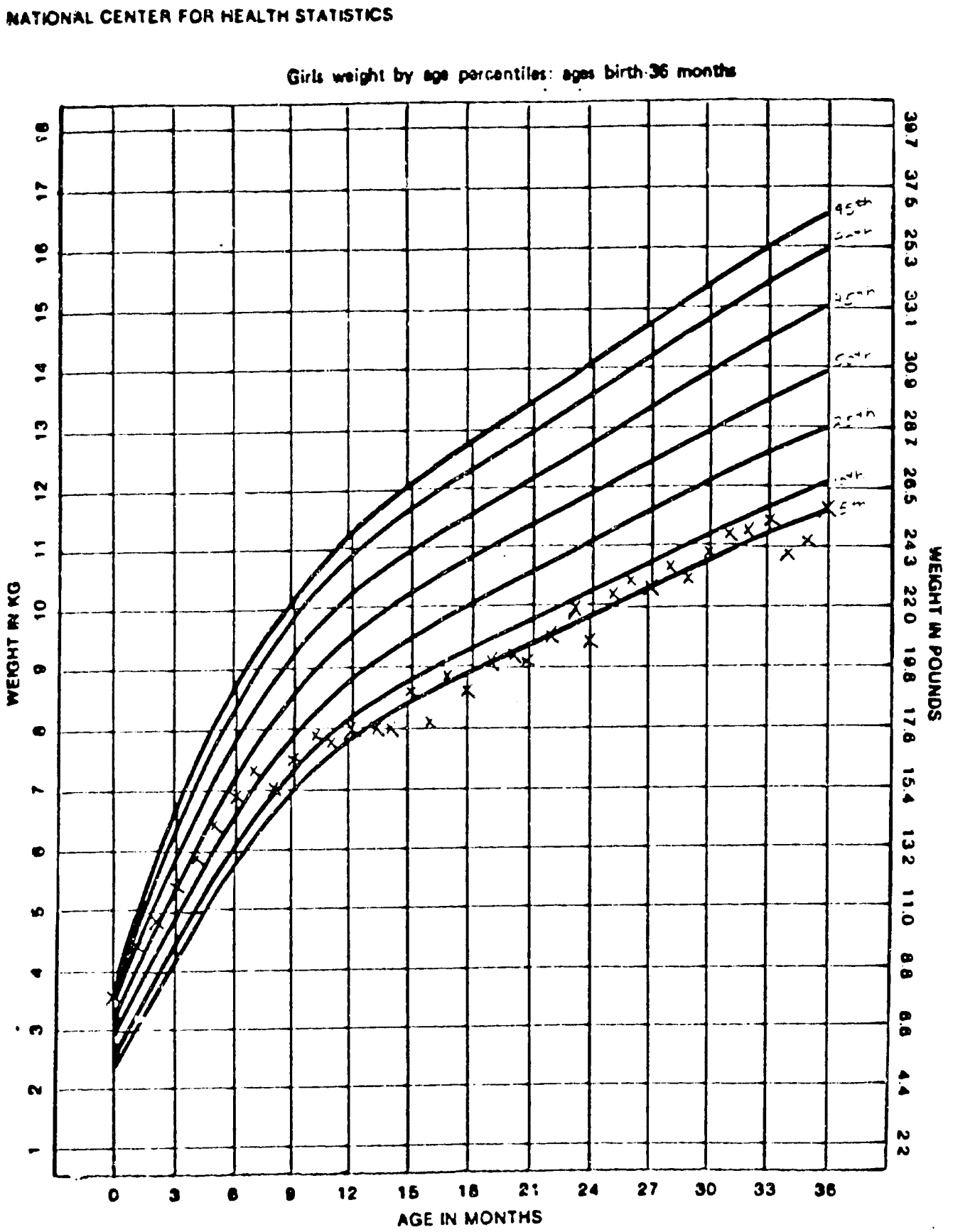


Figure 4.6 Mean weight for age (in months) for girls birth - 35 months, as compared to the NCHS standard, NWFP Province, Pakistan Baseline Health Status Survey, October 1983 - January 1984

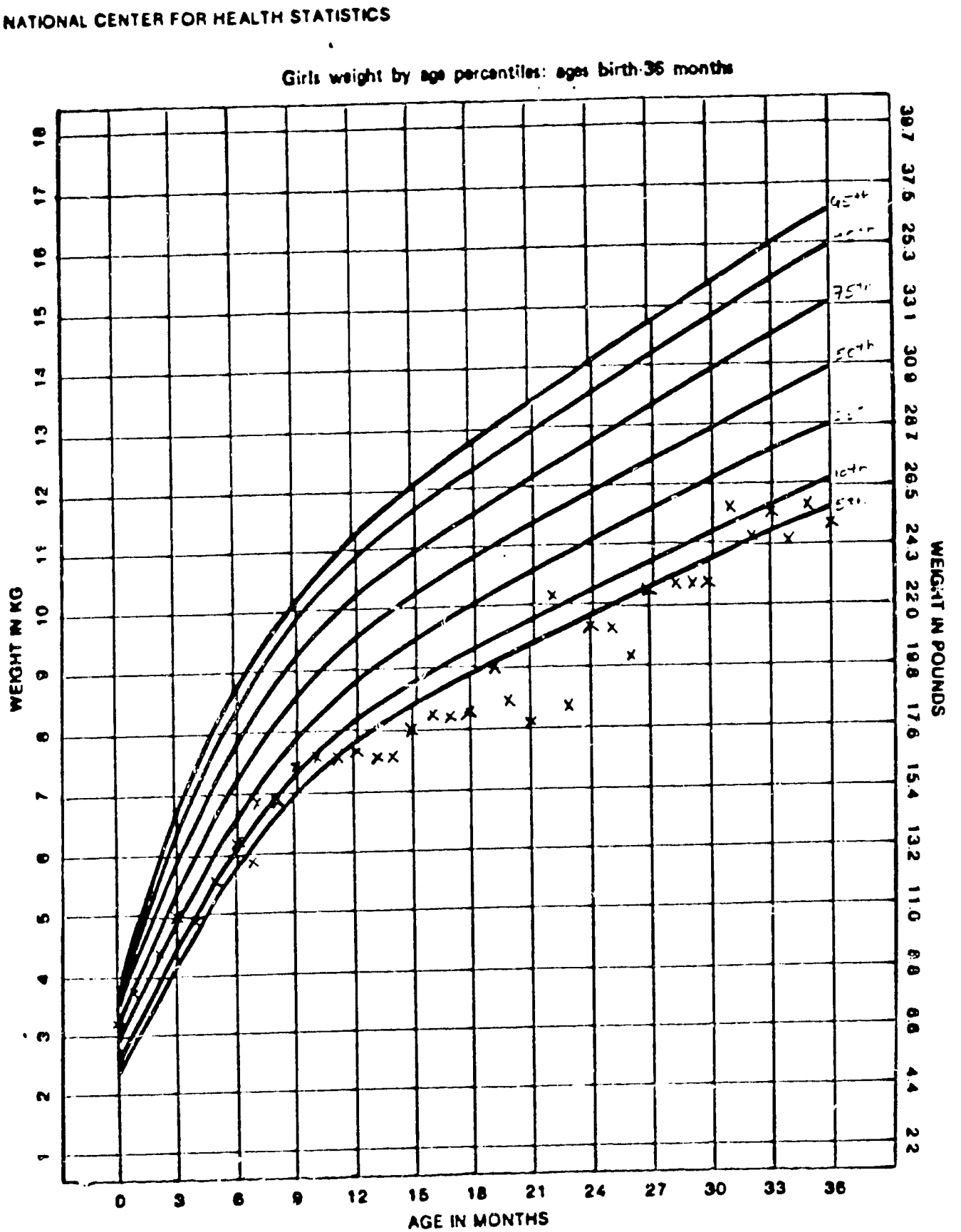


Table 4.11 Nutritonal Status of males using CDC categorization of weight for height; by Province, Pakistan Baseline Health Status Survey October 1983 - January 1984.

PROVINCE

| Nutritional Status | Punjab No. | Punjab % | NWFP No. | NWFP % | Baluchistan No. | Baluchistan % | Sind No. | Sind % | Total No. | Total % |
|---|---|---|---|---|---|---|---|---|---|---|
| Normal | 966 | 73.7 | 1550 | 65.4 | 45 | 84.9 | 160 | 74.1 | 2721 | 68.9 |
| Moderately under-nournished[2] | -- | | -- | | -- | | -- | | -- | |
| Acute under-nutrition[3] | 344 | 26.3 | 819 | 34.6 | 8 | 15.1 | 56 | 25.9 | 1227 | 31.1 |
| Total of sample | 1310 | | 2369 | | 53 | | 216 | | 3945 | (95.5%)[4] |

NWFP vs. Punjab $X^2$ $df_1$ = 21.34291 $p=3.84 \times 10^{-6}$

1. up through 88 cms-estimated 23 months of age
2. moderately undernourished = 80 - 90% of standard (50% percentile of NCHS)
3. Acute undernutrition = less than 80% of standard (50% percentile of NCHS)
4. Proportion of the total males sampled

Table 4.12 Nutritonal Status of females using CDC categorization of weight for height; by Province, Pakistan Baseline Health Status Survey October 1983 - January 1984.

| Nutritional Status | PROVINCE Punjab No. | % | NWFP No. | % | Baluchistan No. | % | Sind No. | % | Total No. | % |
|---|---|---|---|---|---|---|---|---|---|---|
| Normal | 880 | 75.71 | 1526 | 68.1 | 32 | 71.1 | 164 | 81.2 | 2602 | 71.3 |
| Moderately under-nourished[2] | -- | | — | | — | | — | | — | |
| Acute under-nutrition[3] | 282 | 24.3 | 716 | 31.9 | 13 | 28.9 | 38 | 18.8 | 1049 | 28.7 |
| Total of sample | 1162 | | 2242 | | 45 | | 202 | | 3651 (96.3%)[4] | |

NWFP vs. Punjab $X^2$ df1=26.57486, p=2.54 x $10^{-7}$

NWFP vs Punjab $X^2$ df = 1 = 58.71661 p = 1.0 x $10^{-10}$

1. 1 up through 88 cms-estimated 23 months of age
2. moderately undernourished = 80 - 90% of standard (50% percentile of NCHS)
3. Acute undernutrition = <80% of standard (50% percentile of NCHS)
4. Proportion of the total female population sampled

assessment, one compares the child's weight against the standard weight for the child's given height. (50the percentile of the NCHS standard). Those children who are greater than 90% of the standard are categorized as normal, those who fall between 80 and 90% of the standard are categorized as moderately undernourished, and those who are less than 80% of the standard are categorized as acutely under nourished. Overall, 31.1% of the male population met the criteria for acute malnutrition as compared with 28.7% of the female population. An unexplicable finding was the nonexistence of moderately undernourished children among males or females. Comparing nutritional status in Punjab vs. NWFP both for males and females, the difference is statistically significant. Of males in Punjab, 26.3% are acutely malnourished as compared to 34.6% in NWFP ($X^2$=26.57486, P=2.1 x $10^{-8}$). Among females, 24.3% in Punjab were acutely malnourished as compared with 31.9% in NWFP ($X^2$=21.3291, P=3.8 x $10^{-6}$). Another interesting finding is that 95-96% of the sample fell within 88 cms of height, suggesting a high degree of stunting in the older age groups measured.

2. Diarrheal Disease Analyses

Table 13 shows the age distribution in months of age by history of diarrhea in Punjab, NWFP, and for the total survey population in the one month preceeding the survey (including Baluchistan and Sind). Two proportions are presented, one being the proportion age distribution of the diarrheal disease cases, the second being the equivalent of an age specific attack rate per 100 population for each age group. Overall, the mean age of diarrheal disease cases is 24.4 months (22.7 months in Punjab as compared with 25.5 months in NWFP). While children 10-12 months old represented the highest proportion of cases in Punjab (8.8%), the peak age specific attack rate was seen in the 19-21 month old age group. In contrast, in NWFP the peak age distribution was among children in the 13-15 month age group which was the same as the group with the highest age specific attack rate. Overall, the largest proportion of cases were

Table 4.13 Age distribution of children with a history of diarrhea in the month preceeding the survey, Punjab, NWFP and total survey population.

| Age in Months | PUNJAB Total Population | History of Diarrhea No | % Cases | % of Age Group | NWFP Total Population | History of Diarrhea No | % Cases | % of Age Group | TOTAL SURVEY POPULATION (All Provinces) Total Population | History of Diarrhea No | % Cases | % of Age Group |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 - 3 | 150 | 53 | 5.7 | 35.3 | 237 | 49 | 3.4 | 20.7 | 421 | 113 | 4.4 | 26.8 |
| 4 - 6 | 153 | 77 | 8.3 | 50.3 | 278 | 101 | 7.0 | 36.3 | 455 | 188 | 7.4 | 25.9 |
| 7 - 9 | 115 | 61 | 6.6 | 53.0 | 213 | 81 | 5.6 | 38.0 | 365 | 160 | 6.3 | 43.8 |
| 10 - 12 | 182 | 82 | 8.8 | 45.1 | 261 | 124 | 8.6 | 47.5 | 483 | 223 | 8.8 | 46.2 |
| 13 - 15 | 137 | 67 | 7.2 | 48.9 | 263 | 127 | 8.9 | 48.3 | 420 | 199 | 7.8 | 47.4 |
| 16 - 18 | 151 | 81 | 8.7 | 53.6 | 263 | 115 | 8.0 | 43.7 | 445 | 211 | 8.3 | 47.4 |
| 19 - 21 | 63 | 37 | 4.0 | 58.7 | 125 | 48 | 3.3 | 38.4 | 207 | 93 | 3.7 | 44.9 |
| 22 - 24 | 152 | 74 | 8.0 | 48.7 | 225 | 83 | 5.8 | 36.9 | 426 | 177 | 7.0 | 41.5 |
| 25 - 27 | 150 | 57 | 6.1 | 38.0 | 311 | 115 | 8.0 | 37.0 | 476 | 178 | 7.0 | 37.4 |
| 28 - 30 | 195 | 70 | 7.6 | 35.9 | 282 | 86 | 6.0 | 43.9 | 501 | 159 | 6.3 | 31.7 |
| 31 - 33 | 64 | 24 | 2.6 | 37.5 | 173 | 52 | 3.6 | 30.1 | 252 | 82 | 3.2 | 32.5 |
| 34 - 36 | 173 | 68 | 7.3 | 39.3 | 246 | 67 | 4.7 | 37.4 | 470 | 149 | 5.9 | 31.7 |
| 37 - 39 | 130 | 34 | 3.7 | 26.2 | 318 | 87 | 6.1 | 37.7 | 470 | 130 | 5.1 | 27.7 |
| 40 - 42 | 129 | 37 | 4.0 | 28.7 | 254 | 63 | 4.4 | 24.8 | 400 | 106 | 4.2 | 26.5 |
| 43 - 45 | 72 | 12 | 1.3 | 16.7 | 145 | 35 | 2.4 | 24.1 | 235 | 52 | 2.0 | 22.1 |
| 46 - 48 | 186 | 33 | 3.6 | 21.6 | 249 | 45 | 3.1 | 18.1 | 492 | 88 | 3.5 | 17.9 |
| 49 - 51 | 132 | 22 | 2.4 | 16.7 | 285 | 51 | 3.6 | 17.9 | 435 | 79 | 3.1 | 18.2 |
| 52 - 54 | 116 | 22 | 2.4 | 19.0 | 272 | 54 | 3.8 | 19.9 | 400 | 78 | 3.1 | 19.5 |
| 55 - 57 | 42 | 13 | 1.4 | 31.0 | 138 | 18 | 1.3 | 13.0 | 191 | 34 | 1.3 | 17.8 |
| 58 - 60 | 44 | 3 | 0.3 | 6.8 | 117 | 33 | 2.3 | 28.2 | 173 | 41 | 1.6 | 23.7 |
| Over 60 | 2 | 0 | - | - | 1 | 0 | - | - | 3 | 0 | - | - |
| TOTAL | 2538 | 927 | 100.0 | 36.5 | 4656 | 1434 | 99.9 | 30.8 | 7720 | 2540 | 100.0 | 32.9 |
| MEAN AGE | 22.7 months | | | | 25.5 months | | | | 24.4 months | | | |
| Estimated No. of Episodes per Child per year | 4.38 | | | | 3.70 | | | | 3.95 | | | |

in children 10-12 months old (8.8% of cases) while the highest age specific attack rate (47.4%) was in children 13-18 months old. It is important to note that 36.5% of the population surveyed in Punjab had a history of diarrhea in the month preceeding the survey as compared with 30.8% of the population in NWFP. If one extrapolates from the incidence seen in the one month preceeding the survey to encompass a 12 month period, in Punjab the children surveyed would have an average of 4.38 episodes of diarrhea per year as compared with 3.7 episodes per child per year in NWFP.

3. EPI Coverages

Table 14 shows the EPI coverages by age group and dose number in series for the entire survey population. Immunization coverages are presented in two manners. The first presents the coverages by documented history, (D) that is, coverage information that was obtained by reading the child's immunization card. The second includes in the calculation those immunization histories obtained by verbal history from the mother in the absence of an immunization card (D+V). The percentage coverages are calculated as the following:

> First dose coverages take into account the number of children receiving second and third doses of the multidose vaccines as they have all received a first dose; for calculation of second dose coverage in multidose vaccines the cumulative number of children receiving 2 and 3 doses are used as the numerator, and for 3 dose coverage those receiving 3 or more doses are added together and calculated. The denominator used in these equations are the populations of the specific age groups.

At this point, it is important to mention the EPI schedule recommended by the Ministry of Health. The recommendations for complete coverage include 3 doses of Polio vaccine, 3 doses of DPT prior to age 2, or 3 doses of DT over age 2, 1 dose of measles vaccine begun at 7 months of age and 1 dose of BCG (if not administered immediately following

Table 4.14 Percentage coverages of children less than 5 years of age with the EPI vaccines, by age, vaccine type and dose number in series for multidose vaccines, and percentage ever vaccinated by maternal history - Pakistan Baseline Health Status Survey, October 1983 - January 1984.

| Age in Months | Polio Vaccine | | | | | | | | DPT/DT[1] | | | | | | | | | | | | % Ever Vaccinated By History |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st Dose | | 2nd Dose | | 3rd Dose | | Dropout Rate[4] | | 1st Dose | | 2nd Dose | | 3rd Dose | | Dropout Rate[4] | | Measles | | BCG | | |
| | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | D[2] | D+V[3] | |
| 0-2 | - | 0.2 | - | - | - | - | - | 100.0 | 0.2 | 0.6 | - | - | - | - | - | 100.0 | - | - | 0.6 | 0.6 | 2.6 |
| 3-5 | 10.7 | 12.7 | 2.7 | 3.6 | 1.6 | 1.6 | 85.1 | 87.5 | 11.1 | 12.7 | 2.9 | 3.4 | 1.8 | 1.8 | 83.7 | 85.7 | 1.8 | 2.0 | 8.6 | 11.1 | 14.7 |
| 6-8 | 17.2 | 22.2 | 7.7 | 10.5 | 2.9 | 3.6 | 83.3 | 83.9 | 17.5 | 22.2 | 7.7 | 9.8 | 2.6 | 3.3 | 84.9 | 84.9 | 3.1 | 6.0 | 13.9 | 18.2 | 23.7 |
| 9-11 | 23.0 | 35.4 | 11.9 | 20.3 | 5.1 | 8.6 | 77.6 | 75.6 | 23.2 | 34.9 | 12.4 | 19.7 | 5.7 | 8.6 | 75.6 | 75.2 | 10.3 | 15.1 | 15.4 | 25.9 | 39.5 |
| 12-33 | 27.1 | 38.5 | 16.7 | 24.1 | 8.6 | 12.1 | 68.3 | 68.6 | 28.1 | 39.5 | 16.6 | 23.8 | 8.6 | 11.5 | 69.4 | 70.8 | 16.9 | 22.0 | 19.9 | 30.2 | 43.5 |
| 24-35 | 24.8 | 37.9 | 16.0 | 25.0 | 7.7 | 12.8 | 68.8 | 66.2 | 25.7 | 38.4 | 15.9 | 23.8 | 7.5 | 11.3 | 70.8 | 70.5 | 11.5 | 19.0 | 18.8 | 30.8 | 43.2 |
| 36-47 | 24.1 | 38.0 | 16.1 | 25.7 | 7.9 | 13.5 | 67.4 | 64.6 | 25.4 | 38.5 | 16.0 | 24.9 | 6.7 | 10.7 | 73.8 | 72.2 | 10.0 | 17.1 | 19.2 | 31.7 | 43.9 |
| Over 48 | 23.4 | 35.6 | 14.7 | 23.0 | 5.9 | 10.8 | 74.7 | 69.6 | 25.0 | 37.0 | 14.5 | 22.4 | 4.3 | 8.5 | 82.8 | 76.9 | 8.0 | 14.8 | 17.8 | 30.0 | 43.1 |
| TOTAL | 22.1 | 33.0 | 13.6 | 20.9 | 6.4 | 10.4 | 71.1 | 68.6 | 23.1 | 33.7 | 13.5 | 20.3 | 5.8 | 9.0 | 74.8 | 73.4 | 9.8 | 15.4 | 16.8 | 26.9 | 38.2 |
| Coverages of Population Under 9 Mos. of Age | 24.7 | 37.4 | 15.6 | 24.2 | 7.4 | 12.1 | 70.1 | 67.6 | 25.9 | 38.1 | 15.6 | 23.5 | 6.7 | 10.4 | 74.1 | 72.7 | 11.5 | 18.0 | 18.7 | 30.4 | |

1 The EPI recommendations for the country include DPT prior to 2 years of age, and DT beginning 2 years of age - for the purposes of analysis they the are combined.

2 D= information obtained from immunization card (documented)

3 D+V= Information obtained from immunization card plus those where mothers gave a verbal history, having lost the immunization card

4 Drop out rate = precentage difference between the number of children who have received a first does of vaccine, (started the series) and the number of children who have received a third dose of vaccine (completed the series)

birth, to be administered with the 3rd dose of polio and DPT vaccines). It is recommended that Polio and DPT vaccines be begun at 1 month of age using 2-3 months of intervals between doses. Taking this recommended schedule into account, on the bottom line of Table 14 is a presentation of the EPI coverages of the groups that should be fully covered, that is, those children greater than or equal to 9 months of age, because theoretically these children should have completed their full recommended immunization series by this age. Because of the use of DT in children over two years, coverages with DPT and DT have been combined. In addition, for the multidose vaccines (Polio, DPT/DT) a drop out rate is presented. The drop out rate is calculated by taking the percentage difference between the number of children who have initiated the series (have received their first dose of vaccine) and the number of children who have completed the series (third dose). The drop out rate is an indication of the proportion loss of contact between individuals who have established contact with the health care system but were then lost to follow up. There is a general trend for decreasing drop out rates with increasing age for both Polio and DPT/DT vaccines. The overall drop out rate of 68.6% for Polio vaccine and 73.4% for DPT/DT, illustrates that close to 2/3 of children that have started their series of Polio vaccine and 3/4 of children who have started their series with DPT/DT have not completed the series.

4. Mortality

Table 15 is a presentation of mortality rates by district among live births occurring during a reference period (1978 through 1983), by age at death. This table is presented to show the extreme variance in infant and childhood mortality ascertained in the survey, district by district. One observes a range in infant mortality from a low of 19 in district 4 to a high of 123.2 per 1,000 live births in district 7. In addition, the neonatal to post-neonatal ratios per district are shown.

Table 4.15 Mortality rates per 1000 live births among cohorts born between October/November 1978 and November/December 1983 by age at death and district of residence, Pakistan Baseline Health Status Survey - October 1983 - January 1984

| Age at Death | DISTRICT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PUNJAB | | | | NWFP | | | BALUCHISTAN | SIND | |
| | Multan | Jhang | Sarghoda | Jhelem | Abbottabad | Mansehra | Peshawar | Pishin | Thatta | Total |
| **Infant** | | | | | | | | | | |
| Less 1 month (neonatal-NWM) | 32.5 | 51.5 | 36.8 | 4.8 | 58.3 | 44.9 | 98.2 | - | 24.1 | 60.8 |
| 1 - 11 Mos. (postneonatal-PNNM) | 24.7 | 30.6 | 32.9 | 14.3 | 21.4 | 34.6 | 25.0 | 43.9 | 41.7 | 27.5 |
| Total Infant Mortality Rate (IMR) | 57.2 | 82.1 | 69.7 | 19.0 | 79.7 | 79.6 | 123.2 | 43.9 | 65.8 | 88.4 |
| NNM:PNNM Ratio | 1.32:1 | 1.68:1 | 1.12:1 | 1:2.98 | 2.72:1 | 1.30:1 | 3.93:1 | 0:1 | 1:1.73 | 2.21:1 |
| **Child** | | | | | | | | | | |
| 1 Year | 6.5 | 3.7 | 11.8 | 2.4 | 9.4 | 11.2 | 9.8 | - | 8.8 | 8.7 |
| 2 Years | 2.6 | 7.4 | 1.3 | 2.4 | 6.9 | 2.8 | 3.3 | - | 6.6 | 3.9 |
| 3 Years | 1.3 | 2.5 | - | 2.4 | - | 0.9 | 2.3 | - | 2.2 | 1.5 |
| 4 Years | 1.3 | - | - | - | - | 0.9 | 0.3 | - | - | 0.3 |
| 5 Years | - | 1.2 | - | - | - | - | - | - | - | 0.1 |
| Total 1 - 5 Year Mortality | 11.7 | 14.7 | 13.2 | 7.1 | 16.3 | 15.9 | 15.6 | - | 17.5 | 14.6 |
| Total 0 - 5 Year Mortality | 68.9 | 96.8 | 82.9 | 26.2 | 96.0 | 95.5 | 138.8 | 43.9 | 83.3 | 103.6 |
| Number of Live Births | 769 | 816 | 760 | 420 | 1167 | 1068 | 3076 | 114 | 456 | 8646 |

Table 16 shows the living status by distance of village of residence from health facility the village was assigned to. Of note, the Table does not stratify RHC vs. BHU. There is an interesting trend of increasing crude mortality rate by distance of health facility from village. In villages where the health facility was located within the village, the crude mortality rate was 80.7 per 1,000 live births. The next stratum looked at was villages where the health facility was not located in the village, but was less than or equal to 2 miles from the village. In this stratum, the crude mortality rate increases to 110.1 per 1,000 live births. The next stratum was villages where the health facility was greater than two miles from the village. In this case, the crude mortality was 117.0. Of interest is that the overall stratification was significant ($X^2$=21.2113, P=9.5 x $10^{-5}$). In comparing the crude mortality rates where health centers were located in the village vs. less than or equal to 2 miles from the village, there is a significant difference ($X^2$=12.9770, P=.003), in contrast the difference between those villages that are less than or equal to 2 miles from the health facility vs. those that are greater than 2 miles from the health facility, there is no significant difference.

All mortality rates shown thus far are crude mortality rates that do not correct for populations that have completed their risk period. Table 17 is a summary table showing the age specific mortality rates for birth cohorts completing their risk period for NWFP vs. Punjab, and for the entire survey population. In this table the infant mortality rate was calculated among the cohorts born who have past their first birthday and thereby are no longer at risk of dying before reaching their first birthday. The same applies for 1 year old mortality, that is, the cohorts represented are all children who have completed or would have completed their first birthday by the time of the survey. Again similar for 2 year old and 3 year old mortalities. Stratification by type of health facility (RHC and BHU) are also presented.

Table 4.16. Stratification of Living Status (live vs. dead) at time of survey of Live Births by distance of health facility from village of Residence

| Living Status at time of survey | In village | $\leq$2 miles (out of Village) | > 2 miles (out of Village) | Unknown[1] | Total |
|---|---|---|---|---|---|
| alive | 2256 | 2464 | 2831 | 375 | 7926 |
| died | 198 | 305 | 375 | 43 | 921 |
| Total Population(of live Births) (alive and dead) | 2454 | 2769 | 3206 | 418 | 8847 |
| Crude mortality rate/1000 live births | 80.7 | 110.1 | 117.0 | 102.9 | 104.1 |

All Ages at Death

In village vs. $\leq$2 miles vs. > miles vs unk - $X^2$ $df_3$ = 21.2113 p = $9.5 \times 10^{-5}$

In village vs. $\leq$2 miles - $X^2$ $df_2$ = 12.9770 p = .0003

$\leq$ 2 miles vs. >2 miles $X^2$ $df_2$ = 0.6852 p NS

[1] unknown are known not to be in the village of residence

Table 4.17 Age specific mortality rates per 1000 live births among cohorts who have completed their risk period for death by health facility type, Punjab, NWFP and total survey population

| | Punjab | | | NWFP | | | Total Survey Population | | |
|---|---|---|---|---|---|---|---|---|---|
| Age at Death | RHC | BHU | Total | RHC | BHU | Total | RHC | BHU | Total |
| 1 Month (neonatal)[1] | 34.4 | 32.7 | 33.6 | 92.7 | 68.8 | 81.0 | 71.8 | 53.2 | 62.2 |
| 1-11 Months (Postneonatal)[1] | 24.0 | 29.3 | 27.0 | 25.8 | 26.0 | 25.9 | 26.7 | 27.5 | 27.1 |
| Total Infant Mortality[1] | 58.3 | 62.0 | 60.6 | 118.5 | 94.8 | 106.8 | 98.4 | 80.7 | 89.2 |
| 1 Year [2] | 12.5 | 5.9 | 8.9 | 9.7 | 12.0 | 10.8 | 10.5 | 9.9 | 10.2 |
| 2 Year [3] | 8.8 | 4.0 | 6.3 | 6.6 | 4.0 | 5.3 | 7.6 | 3.7 | 5.6 |
| 3 Year [4] | 4.9 | - | 2.4 | 2.1 | 10.4 | 6.2 | 2.3 | 6.9 | 4.9 |

1 Cohorts born October/November 1978 - November/December 1982
2 Cohorts born October/November 1978 - November/December 1981
3 Cohorts born October/November 1978 - November/December 1980
4 Cohorts born October/November 1978 - November/December 1979

Table 18 presents descriptions of deaths observed in the survey, the age range among the various mortality groups, the mean age at death within the group, and the total number of deaths that occurred by district. The observation that the mean age of neonatal death is 6.5 to 7 days in all Provinces is highly suggestive of a large neonatal tetanus component to the neonatal mortality.

Of interest, in evaluating the infant mortality by birth cohort, i.e., 1982 - 1983 vs. 1981 - 1982, etc., there was a trend of increasing infant mortality by year further away from time of the survey. This increasing infant mortality was most marked in districts 6 and 7. For example, for the birth cohort November/December 1982 - October/November 1983, the infant mortality in district 7 was 109.2; for the birth cohort 1981 - 1982 the infant mortality in district 7 was 109.9, for 1980 - 1981 the infant mortality was 126.5, for 1979 - 1980 the infant mortality was 131 and for 1978 - 1979 mortality the IMR was 138.5. This same trend was seen in the total infant mortality of the survey population starting with the 1982-1983 cohort infant mortality of 85.2 progressing to an overall infant mortality of 98.4 for the cohort born in 1978-1979.

Table 15 shows the overall mortality by age at death in RHC vs. BHU areas. Overall, the infant mortality in RHC areas was 95.9 per 1,000 live births as compared with 81.5 in BHU catchment areas. An interesting statistic to evaluate is the neonatal to post-neonatal mortality ratio. An observation in many countries, is that as the infant mortality starts dropping, the neonatal to post-neonatal ratio starts increasing reflecting the elimination of post-neonatal causes such as diarrhea and acute respiratory infection. In developed countries, one generally sees a ratio of 3:1. In developing countries one generally sees a ratio of 1:1 where infant mortalities are 100 or greater. As can be seen in Table 5, the neonatal to post-neonatal ratio in RHC areas is 2.57 to 1 as compared with 1.98 to 1 in BHU areas.

Table 4.18 Mean ages at death, all deaths among live births that occurred in the 5 years preceeding the survey by Province.
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | NWFP | Baluchistan | Sind | Total |
|---|---|---|---|---|---|
| **Neonatal Deaths** | | | | | |
| Range | 0-27 Days | 0-29 Days | - | 0-21 Days | 0-29 Days |
| Mean | 6-5 Days | 7.13 Days | - | 6.91 Days | 7.01 Days |
| Median | 5 Days | 7 Days | - | 6 Days | 7 Days |
| No. Deaths | 101 | 430 | - | 11 | 542 |
| **Post Neonatal Deaths** (1-11 mos) | | | | | |
| Range | 1-10 mos. | 1-11 mos. | 5-6 mos. | 1-11 mos. | 1-11 mos. |
| Mean | 4.91 mos. | 4.78 mos. | 5.80 mos. | 5.32 mos. | 4.89 mos. |
| No. Deaths | 76 | 140 | 5 | 19 | 240 |
| **Child Deaths** (12-60 mos) | | | | | |
| Range | 12-60 mos. | 12-53 mos. | - | 12-36 mos. | 12-60 mos. |
| Mean | 23.31 mos. | 20.40 mos. | - | 21.67 mos. | 21.29 mos. |
| No. Deaths | 35 | 84 | 0 | 9 | 128 |

## V. DISCUSSION

### A. Infant and Child Mortality and Underreporting

Mortality underreporting is a very common occurrence in mortality surveys, as there is a tendency for the mothers not to discuss deaths that may have occurred. It has also been observed in surveys that are seeking information on live individuals, that there is the tendency for the interviewer to ascertain if there are eligible live children and forget to ask if there were live births that may have died. Because of this known observation, the training period of interviewers should concentrate heavily on the ascertainment of both live and dead children.

There are several observations about the results of this survey that suggest that the survey was plagued with problems vis-a-vis mortality ascertainment. Some of these observations are anecdotal, others are based on conflicting data sets, or "suspicious" results. As the data show, the overall IMR for Punjab province was 62.6 per 1,000 live births, whereas for NWFP it was 105.0. While it is generally agreed that Punjab is further ahead developmentally and socioeconomically, the observed IMR of 19.0 in district 4 (Punjab) is difficult to comprehend. If one does an analysis of the overall (crude) mortality rates by survey team supervisor one sees marked variances that are difficult to explain. In the Punjab phase of the survey, one of the supervisors had a crude mortality pick-up of 49.0/1000 live births, (39 deaths found out of 796 live births identified), while another had a pick-up of 116.6 (78 deaths out of 667 live births), this difference was highly significant ($X^2 df_1 = 22.7713$, $p = 1.82 \times 10^{-6}$). The remaining supervisors had mortality rates of 73.1 (53/725) and 78 (50/641), the supervisor with low pickup being statistically significantly different from both other supervisors ($p=.023$, and $p=.049$ respectively). This is highly suggestive that there may have been a supervisor specific underreporting.

A similar pattern was seen in NWFP, where the range in mortality pick-up was 85.4 (73/855), 89.8 (110/1225), 136.2 (282/2070), and 150.5 (110/1225). The differences between the high and low mortalities observed were highly significant, with probabilities of chance occurrence ranging from p=.00012, to $p = 8.08 \times 10^{-6}$. Of importance to mention is that the areas where the supervisors observing a lower mortality worked, were in fact areas of more difficult access (mountainous). In addition, the areas where the higher mortalities were observed, were areas where the interviewers had undergone intensive retraining mid-stage in the survey when problems were detected during the initial editing of the questionnaires. In fact, many of the areas were resurveyed, and many missed deaths were uncovered in households that had been previously surveyed. In spite of this resurveying there is still evidence that suggests an underreporting of mortality.

As mentioned previously in the report, the neonatal (NNM) to post-neonatal (PNM) mortality ratio can be an interesting indicator of mortality reporting problems. PNNM is primarily due to environmentally influenced events, such as diarrheal diseases and acute respiratory infections, where as neonatal causes are primarily reflections of the in-utero environment, genetics, or perinatal events, such as birth trauma, hypoxia, and tetanus. Infectious causes of mortality are the most amenable to prevention, and therefore, one generally observes that, with decreasing IMR, there is a rapid decrease in the PNN component of the IMR, as compared to the NNM component, which after the initial reduction observed by the elimination of neonatal tetanus as a cause of death, is fairly resistant to reduction. Thus, in developed countries with low IMRs, one generally observes a NNM:PNNM ratio of 2-3:1, whereas in developing countries the reverse ratio is generally observed. The NNM:PNNM ratios observed in the results of this survey are conflicting with what is generally observed. In the Punjab rates, the NNM:PNNM ratio is 1.33:1, a ratio generally seen with IMRs greater than or equal to 100. In contrast, the NNM:PNNM ratio observed in NWFP of 3.07:1 is

generally seen in countries with IMRs of less than 20. Hence the paradox, and suspicion that mortality is underreported in both areas; in Punjab, probably both NNM and to a greater extent PNNM; in NWFP, primarily PNNM. If one assumes that, with the observed IMR of 105.0 in NWFP, coupled with an expected NNM:PNNM ratio of at least 1:1, then a safe estimate of what the true IMR in NWFP is would be to double the NNM component; thus, one might expect to find an IMR of at least 160/1000 live births.

Another set of difficult to explain observations, is the higher diarrheal disease incidence in Punjab, combined with a lower knowledge and utilization of ORT when compared with NWFP. With the higher incidence, and lower knowledge and utilization of an effective mortality prevention, it is a paradox to observe the lower IMR. In addition, the low coverage of the population with Tetanus Toxoid during pregnancy, combined with the high reliance on untrained Dai's for delivery of infants, it is hard to reconcile the lower IMR observed.

An additional finding that is inconsistent with respect to the observation of a lower IMR in Punjab as compared to NWFP, is the higher prevalence of $2^{o}$ and $3^{o}$ malnutrition observed in Punjab than in NWFP.

All of these factors lead one to conclude that the survey definitely underreported the infant mortality. There is also reason to believe that there was underreporting of childhood mortality for much the same reasons. Leading causes of childhood mortality include diarrheal diseases; the high incidence of diarrheal diseases observed in all areas, combined with the nutritional compromise, the low utilization of ORT (only 10% of the diarrheal cases that were reported had been treated with ORT), and the low EPI coverages, are all suggestive of a health picture more consistent with a higher childhood mortality than what was observed. Previous reports on the health status in Pakistan suggest that

an additional 10% mortality is observed in the 1-4 year old age group, as compared with the observed 1.2% and 1.6% in Punjab and NWFP respectively in this survey.

One must be cautious in the interpretation of the findings, but also keep them in mind, especially if the follow-up survey does not experience the same magnitude of underreporting as this survey. It may appear as though the health picture in the project areas has worsened, when in fact, it may be improving over what the picture was at the time of this survey.

At this point it seems appropriate to suggest that the project consider designing within the information system, a means of monitoring mortality occurring within the project area on a routine basis, thereby permitting ongoing evaluation of the indicators the project is designed to impact. Given the difficulties in ascertainment of mortality statistics in a survey of this sort, a routine mortality monitoring system would be of great assistance.

B. Nutrition

One of the stated objectives of the project is to effect a 20% reduction in the prevalence of second and third degree malnutrition. As was shown in the results section, overall there was a 25.9% prevalence of second and third degree malnutrition among boys in the areas surveyed. As mentioned, this ranged from a low of 20.4 in NWFP, to a high of 55.3% in Baluchistan. Interpretation of the findings in Baluchistan must take into consideration that it was a small sample size (only 38 individuals). A similar picture was seen among girls, although the girls tended to have a slightly better nutritional picture, with an overall prevalence of second and third degree malnutrition of 24.5%. When one plots the mean weight for age seen in the survey population, by province, one sees that, as expected, the survey population starts out in the 50th

percentile range when compared with the NCHS standard. The survey population starts dropping off and deviating from this standard at 6 months of age. There is a second deviation in the curve at approximately 12 months of age and again at 18 months of age so that the survey population tends to fall on or below the fifth percentile of the NCHS standard of weight for age. While analyses of height for age were not conducted, the finding that 95% of the survey population were $\leq$ 88 cms (the NCHS 50th percentile for 35 months of age) suggests that there is a high prevalence of stunting among 3 and 4 year olds. This detailed reiteration of the nutrition information is important when one considers how can one impact this high level of malnutrition. As the survey illustrated, the mean age of introduction of weaning foods was approximately 9 months of age. The drop in weight first showing at 6 months of age can be explained by the prolongation of exclusive breastmilk for feeding of infants, where it is widely recognized that somewhere between 4 and 6 months breastmilk alone is insufficient to sustain a normal growth pattern and it is necessary to introduce supplemental (weaning) foods.

A confounding variable that enters the picture at the same time, is that with the introduction of weaning foods, there is the introduction of a higher risk of diarrheal disease, especially food and water borne. Reviewing the age specific attack rates among the surveyed population with respect to a history of diarrhea in the month preceding the survey, one sees that, overall, almost one-half the incidence of diarrhea occurs in the first six months of life than in the second and third six months. This increase in the occurrence of diarrhea could be one explanation behind the second and third leveling off of the weight growth curve observed in the survey. Impacting the morbidity due to diarrhea is a much more difficult and long term process than impacting the mortality due to diarrhea. The survey did not demonstrate a predilection for mothers to withhold food or nourishment during the diarrheal episodes.

In fact, the survey was not really directed at detecting such behavior patterns, but only would have detected them if a mother spontaneously said that she treated the diarrheal episode by withholding food.

It is interesting to compare the Punjab growth curve with the Punjab age specific diarrheal rates. In the male weight for age chart in Punjab, we see a dipping off to the twenty-fifth and tenth percentile between 4 and 6 months of age. This coincides with a marked increase in diarrheal morbidity that occurs in the 4 to 6 month age group (at 1-3 months of age, there was a 35.3% attack rate as compared with 50.3% in the 4 - 6 month age range, and 53% in the 7 - 9 month age range). This again is reflected in the curve where it further flattens down to approach the fifth percentile by the ninth month of age, and again by 18 - 21 months where it falls way below the fifth percentile. In the 19 - 21 month age group, one observes the highest age specific attack rate, for diarrhea (58.7%). The survey data seem to strongly suggest a high correlation between diarrheal disease morbidity and a similar, but lesser correlation, between weaning practices as an etiology of malnutrition. The data are there, but could not be analyzed, that would permit a closer look at the relationship of diarrhea episodes and the weaning period.

C. ORT Program

With respect to ORT knowledge and utilization, the results of the survey are somewhat paradoxical. When respondents were questioned as to their knowledge of ORT and if those who had heard of ORT had used it, approximately 80% of those who had heard of ORT claimed to have used it. A dichotomy appears when one evaluates the children's information, only 10% of the children who had a diarrheal episode in the month preceding the survey were treated with ORT. An interesting analysis of the data would be to compare those mothers who stated that they had heard of ORT and had used it, with their children to see if, in fact, they had used it for the most recent episode of diarrhea. Due to technical difficulties,

inter-file data (respondent versus child) comparisons such as this could not be conducted. An interesting expertise is to estimate what proportion of children should have been treated with ORT if all mothers who stated that they had used it, had in fact treated their childs' diarrheal episode with it. If one takes the fact that 38.3% of respondents had heard of ORT and of these, 80% had actually used it, then 30.6% of the total respondents had actually used ORT. This translates to, 1490 respondents should have used ORT. Taking the fact that on an average, there were 1.74 children per respondent, these 1490 respondents (users of ORT) resprent mothers of approximately 2,593 children. If the children represented by the survey findings, had an incidence of 32.9% for diarrhea in the month preceding the survey, then approximately 853 of these children had a diarrheal episode in the month preceding the survey. If all of these children were treated with ORT, they would represent 9.6% of the total children surveyed. In contrast, the absolute number of children who were treated for diarrhea with ORT was 247 or 29% of those expected. This suggests that while information is being disseminated to a limited extent (a reminder that only 38.3% of respondents had heard of ORT), women who claimed to be using ORT (81.8% of those who had heard of it), most probably were using it once or twice but still preferred other treatments. The finding that 64.2% of the diarrheal episodes were treated with allopathic drugs shows either a health care provider or health care recipient preference for allopathic drugs, which have not been shown to be as effective in reducing diarrheal disease mortality as ORT.

The fact that mortality due to diarrhea is still a major problem is seen in the percentage representation of diarrhea deaths above one month of age. Given these findings, it appears as though a concerted effort towards dissemination of knowledge, and behavioral changes is indicated. Of additional importance, is the finding that 20.6% of respondents who had heard of ORT stated they would get it from a pharmacy. This suggests that private sector involvement in the ORT program might prove an effective route of dissemination of ORT in the country.

D. EPI Program

The finding that 78.6% of respondents had heard of vaccines when compared with the finding that only 38.2% of children had ever been vaccinated is suggestive of needs within the educational component of EPI. A major reason for children never being immunized as stated by the mothers was that they had never heard of vaccine. 25.9% of the women gave this as a response; an additional 16% responded that the EPI team didn't come. In evaluating the EPI coverages obtained in the survey, one among children with a documented history of immunization, the coverages with three doses of polio vaccine were 7.4%, three doses of DPT/DT 6.7%, measles vaccine 11.5%, and BCG 18.7%. The addition of verbal history does not raise coverages higher than 30.4% for BCG, 18% for measles, 10.4% for DPT/DT and 12.1% for polio vaccine. Thus, of the 40% of children who had ever been vaccinated, less than 50% of them had completed the series. The dropout rates point to another problem. As previously mentioned, the dropout rates are a proportional difference between the number of children initially captured for immunization as evidence by first dose recipients, compared with the number actually completing a series or third dose recipients. A dropout rate of 67.6% for polio vaccine and 72.7% for the DPT/DT vaccine are highly suggestive of educational component needs within the EPI program. There is a need to identify the reason why over two-thirds of children who make contact with the health care delivery system for immunizations services a first time do not complete their series. This suggests that the first contact is less than optimal for imparting a message of the importance of completing a series. The other side of the coin is the fact that while 78.6% of respondents had heard of vaccines, only 40% of children had ever been immunized. Again, this is suggestive of problems with the educational component which is not stressing the importance of immunizations.

An interesting anecdotal observation within country was that there were plentiful signs advertising EPI along the roadside and numerous televisions spots related to EPI. With respect to the signs on the roadside, the Y contain the international EPI logo and written words mentioning the six EPI preventable diseases. Thus, an individual who is unable to read would not understand the sign as it is non pictorial with the exception of the logo. This is relevant as the survey demonstrated an overall literacy rate of 7.8% among respondents. Thus, the overwhelming majority of respondents are unable to recognize the message given on these roadside signs. In addition through observation of behavioral patterns in Pakistan, it appears that television watching is a communal activity among male members of the community, thus the respondents, the women or mothers of the children, are not being directly exposed to a message on the importance of EPI. The knowledge of EPI combined with the low practice of EPI suggests that the message towards the importance of EPI is not being translated efficiently.

Another observation is the dilemma about the strategy for obtaining effective coverage with the EPI vaccines. Culturally, Pakistan is a society in which many of the women stay within the homes or within the confines of their village due to observation of Purdah. With this in mind, the strategy for immunization in Pakistan is a house-to-house approach bringing the vaccinators into the village and household as a means of overcoming the cultural barrier. Results of survey data on reasons for non-vaccination showed that respondents stated that the EPI team did not come. What this is suggestive of that they have not been educated as to the importance of seeking out the EPI team. Thus, even if a child or mother are not home when the EPI team comes to the village, or the EPI team does not come to the village by the time the child is of age, the educational component of the program should be directed to orient the mother or father to actively seek the services. Many countries have observed that house to house routine immunization programs have not been effective in raising coverages with the EPI vaccines to

desired levels because of the problem of the population waiting for the team to come to them, as opposed to their seeking the team out. Given the cultural constraints constraints to seeking out the team, it poses exceptional difficulties for achievement of EPI goals. There appear to be definite indications of a need to evaluate the present educational component of EPI in order to work around the cultural constraints to effective program functioning.

In addition to the childhood EPI program, a look was obtained of the pregnant female vaccination component of EPI (Tetanus Toxoid,). Of the survey population, only 4.3% gave a history of having received Tetanus Toxoid during their most recent pregnancy. As mentioned earlier a comparison of tetanus toxoid by year showed a decreasing trend from 1983 where 7% had received tetanus toxoid down to 2.9% in 1982 and 1981.

E. Contraceptive Prevalence

While the survey represented a very crude look at contraceptive knowledge and practice, the results were highly suggestive of a very low coverage. While 67.8% of women had heard of contraceptives, less than 5% were currently using them at the time of the survey. An additional suggestion of low coverage was the finding that 27.% of the women who had heard of contraceptives were pregnant at the time of the survey. This translates to a pregnancy prevalence of 66.2 per 1,000 women in the child bearing age group.

F. Recommendations for Additional Analysis

As mentioned throughout the report, there was a huge data base consisting of 67 variables, (43 for respondents, 22 for live births) and close to 14,000 record collected. Given the limited resources, the data could not be completely analyzed. There are additional analyses of the data that could be done. Some are crossfile analyses trying to relate

maternal knowledge and practice (behavior) with childhood outcomes such as nutritional status, morbidity and mortality. Examples are, maternal knowledge of ORT versus actual use in last episode of diarrhea; maternal knowledge of EPI versus ever immunized, and actual immunization coverage. Other crossfile analyses that would be exceedingly interesting to look at include comparing nutritional status and diarrheal incidence among children and relating it to their weaning period. What this would entail, is selecting out the most recent live births for where there is information on introduction of weaning food and cessation of breastfeeding, and evaluating those children who are within a few months of age from introduction of weaning foods to evaluate the nutritional status, and incidence of diarrhea. This might provide information on as association of diarrheal disease episodes with the weaning period, and might also correlate the dropoff in nutritional status based on weaning age.

The initial look at crude mortality as stratified by location of health facility with respect to the village being surveyed whets ones appetite to do further analyses using this new stratification to see if there are variances in patterns of behavior (health facility located in the village, versus out of the village but less than or equal to two miles from the village, versus greater than two miles from the village). The finding of crude mortality differences between the stratifications suggests that the presence of the health facility in a village seems to impact mortality, but the moment it is removed from the village that impact is lost. This has strong implications on assessment of outreach that is presently ongoing within the health facilities.

## G. Recommendations for Project Impact

As shown by the results of this survey, the present behavioral patterns of the maternal population are not yet consistent with those that would have major impacts on reductions of morbidity and mortality

among the project population. This includes the knowledge and utilization of ORT for management of acute diarrheal episodes, the receipt of tetanus toxoid in pregnancy to prevent neonatal tetanus and the completion of the recommended series with the EPI vaccines to prevent major causes of childhood morbidity and mortality. The survey suggests that there are strong needs within the educational components of the programs. While only 40% of women knew about ORT, of those who knew, 80% had used it. While 70% of women knew about vaccines only 40% of children had ever received them.

With the project objective of improving the nutritional status of the project population, there are 2 main areas suggested by the survey that might be responsible for the high prevalence of second and third degree malnutrition observed. One is the delayed introduction of weaning food (9 months of age); the mean weight for age curve starts dropping between 4 and 6 months of age, which may be an indication of the need for supplementation of breastmilk. The second finding is the high incidence of diarrhea around the weaning age which coincides with a second drop in nutritional status as seen on the weight for age curve.

Given the time and resources that went into the conduct of this survey, when compared with the types of data and information that were generated, it appears indicated that the information system of the project should include many of these indicators for routine collection of data to monitor changes.

Were the project to increase efforts towards improving the education and dissemination of knowledge within EPI, ORT, and proper weaning practices the suggestion stands that there would be major changes in the health status of less than five year old population served by the project.

## H. Pitfalls to Avoid in Follow-up Survey

As the title of the survey suggests (baseline health status survey) the present survey was targeted to obtain background information on the health status of the population to be served, prior to the implementation of the primary health care project. Thus, it is implicit within the title, that there will be a follow-up survey to measure the impact the project may have had on the health status of the population served by it. With that in mind, there is a strong desire to prevent the reinvention of a broken wheel. Thus, it is important to discuss at this point the problems that were encountered in the present survey, in an attempt to prevent them from occurring in the follow-up survey, and to potentially improve the quality and reliability of the future survey results.

As discussed earlier there were problems in the credibility of mortality ascertainment within this survey. A major problem that is probably related to this, was the leaving of the ascertainment of mortality episodes up to the interviewer. Nowhere on the survey form, were the interviewers "walked through" the necessary questions to obtain and document a thorough pregnancy history of the women. This should include ascertainment of all pregnancies, still births, spontaneous abortions, live births that died, and live births who were still alive at the time of the survey. As has been experienced in many surveys previously, when one is attempting to obtain a lot of information about many children, where the majority are still alive at the time of the survey, there is a tendency of interviewers to address questions suggesting that they are only interested in those children who are still alive. Thus, the need to "walk" the interviewers through the pregnancy history as part of the survey instrument.

A recommended series of questions to be included on the survey instrument is; 1) How many times has the woman been pregnant? 2) Of those pregnancies, how many resulted in a live birth? 3) Of those live

births how long ago was the most recent one born? 4) How many Ramazans have passed since the last one was born? In addition one could ask; 1) How old were you when you were married? 2) How many years were you married when your first child was born? 3) How old was the first child when the next one was born?; and keep asking about the intervals from one birth to the next. It is important that the respondent understands that the interviewer is interested in all pregnancies that she has had. One might also ask how many of the pregnancies resulted in a live birth, how many of the live births are alive today, how many of the pregnancies resulted in a still birth and how many of the pregnancies resulted in a spontaneous abortion.

In addition, the supervisors should assist in the ascertainment of the pregnancy history of each of the households identified to be surveyed and should follow-up prior to leaving the village to verify that information was collected on all live births regardless of ultimate outcome.

Another major problem that arose was in the determination of dates of birth. By having as a question on the questionnaire "age of child", the interviewer was not oriented towards correct ascertainment of date of birth. While it can be a lengthy process, dates of birth could be approximated by using various Islamic festivals and holy days as reference points and counting the number of Ramazans that had passed since the child was born. It was also learned that many of the fathers are now writing the dates of birth of the children on a slip of paper, a fact interviewers should be trained to inquire about.

Another question to address is whether maternal mortality should be accessed as part of the evaluation of the project. The design of the survey tended to bias against finding maternal mortality. This is due to the fact that to identify eligible respondents as those women who had had

a live birth in the five years preceding the survey, rather than ascertaining the number of live births that had occurred in the household surveyed.

Upon analysis of the data, it was discovered that while the survey attempted to demonstrate mortality rates in the 1 - 4 year old population, by including children up through their fifth birthday, it did not sample a cohort that had completed the risk period of death within the 5th year of life. Thus, if the project wishes to obtain a 1 - 4 year old mortality rate, it is suggested that the follow up survey expand the group of live births to include those that occurred in the 6 years preceding the survey.

Another problem is the interpretation of the weight for age data in the NWFP sample. In NWFP, the survey was conducted during the winter months, when children were fully clothed and bundled, and were weighed as such. Samples of weights of average clothing used to bundle children were not conducted during the survey. Thus, with the finding that NWFP has a lower prevalence of malnutrition evaluated using the weight for age scale, one is unclear what correction factor should be applied to adjust for the additional clothing. This must be remembered for the follow up survey. If it is conducted during the summer months, one should be cautious on the interpretation of a worsening in the nutritional status as a true worsening, but rather that it may be closer to a representation of what the actual picture was if the children had not been clothed.

Another important point to raise is the inadequacies of the training of interviewers due in part to pressure to maintain a time frame for completion of the survey. This, combined with the major workload of the supervisors that prevented the thorough coding and editing of questionnaires at the end of the day resulted in the situation that problems with the technical application of the questionnaires did not

become apparent until late in the survey. Had there been a prolongation of the training period into the implementation stage, the problems might have been detected and resolved earlier in the survey.

WESTINGHOUSE

# BASELINE HEALTH STATUS SURVEY
# PRIMARY HEALTH CARE PROJECT AREAS
# PAKISTAN

OCTOBER 1983-APRIL 1984

AID CONTRACT NO. PDC 1406-I-00-1129-00

WORK ORDER NO. 10

## FINAL REPORT-PART 2

WESTINGHOUSE ELECTRIC CORPORATION
WESTINGHOUSE HEALTH SYSTEMS
P.O. BOX 866
COLUMBIA , MARYLAND 21044

PART 2

**FINAL REPORT**

**BASELINE HEALTH STATUS SURVEY**
**PRIMARY HEALTH CARE PROJECT AREAS**
**PAKISTAN**

Octber 1983 - April 1984

The Baseline Health Status Survey was undertaken for the Agency for International Development in conjunction with the Pakistan Primary Health Care Project. Technical Assistance by Drs. Clayton Ajello, Marjorie Pollack and Makhdoom Shah was provided through Westinghouse Health Systems under AID Indefinity Quantity Contract No. PDC-1406-I-00-1129-00.

Westinghouse Electric Corporation
Westinghouse Health System
P.O. Box 866
Columbia, Maryland 21.44

## List of Appendices


I. Scope of Work

II. Suggested Variables For Baseline Survey

III. Population Survey Instrument

IV. Community Variable sheet

V. Code Book

VI. Interviewer's Manual

VII. Baseline Survey - Instructions for Administering and Coding Survey Instrument

VIII. Mapping Instructions

IX A. List of IRHC's Eligible for Sampling
B. Village Sampling - Population Listing

X A. Aspects to be Covered in Training of Supervisors
B. Cluster Summary Sheets

XI. Schedule for Training Interviewers for Baseline Survey in N.W.F.P. and Baluchistan

XII. Instructional Materials for Interviewers

# APPENDIX I

## Attachment 1

## Statement of Work

### I. Background

The Primary Health Care Project is a joint GOP-USAID venture to improve the health status of the population through expanded and improved provision of primary health care services in the rural areas of the country. During the course of this five year, $20 million project, 53 additional Integrated Rural Health Complexes (IRHCs) will be established in which satellite clinics, known as Basic Health Units (BHUs), and recruited and trained community health workers will carry services down to the village level. In the areas served by the Project in which functional IRHCs are established, measures of achievement will be indicated by at least a 20% reduction in infant and child mortality, at least a 20% reduction in moderate to severe malnutrition, and at least a 35% reduction in deaths due to diarrheal disease. A baseline survey is to be undertaken to measure these indicators to the extent possible. Due to the nature of the survey and the follow-on survey to take place 3-4 years later, there is difficulty in documenting true mortality rates and their reduction over time. However, other health indicators will be examined to ascertain changes in morbidity and mortality patterns over the project's duration.

### II. Survey Design

#### A. Objective

To assist the GOP in the design, data collection and analysis of the baseline survey for the Primary Health Care Project.

#### B. Survey areas

The PHC Project is a national project in which IRHCs will be established in all four provinces of Pakistan. The provinces have sufficient economic, social and cultural differences which necessitate that the baseline survey be carried out in all four provinces, using a randomly selected project area to be served by an IRHC and a control area. Within the survey areas selected, there may be 25-35 villages with populations of 500 to 1,000 on average. These villages will be at varying distances from the health facilities of the rural health center and their basic health units. Most likely, distance will be a significant variable which should be considered by categorizing villages within 2 kilometers of a health center and those beyond. Once this is done, random selection of villages and a sufficient sample size to make valid judgements about differences in the dependent variables may occur. The survey respondents should be primarily mothers with children from 0-5 years old.

C. Proposed Baseline Measurement

The following represent suggested measurements to be included in the survey and possible techniques for obtaining these measurements during the data collection:

1. Infant Morfality Rate through the use of recall during the last year, using the parameters of the last year's Ramazan to the most recent Ramazan this past July. Since Ramazan is the most important Muslim holiday, this should provoke more reliable recall.
2. Malnutrition amongst children under five using height for weight measures.
3. Morbidity and mortality secondary to diarrhea.
4. Immunization status.
5. General health knowledge related to treatment of diarrhea, use of oral rehydration salts, child spacing, supplementary feeding for infants above 6 months and use of contraceptives.
6. Utilization of rural health centers and basic health units.
7. Water supply and sanitation conditions.
8. Literacy.
9. Socio-economic data.

D. Logistics

Currently the Project employs 8 Pakistani professional staff to work in the areas of management and training. These staff are assigned to provincial Basic Health Services Cell, the implementing organization at the provincial level for the Project. The four training specialists are all female and will be assigned to act as field supervisors to oversee the surveying in each province, which will be done sequentially due to constraints of staff and other logistical support which prohibit simultaneous survey in all 4 provinces. The four management analysts will assist in setting up logistical support, mapping of survey areas and other related activities. Federal and provincial Basic Health Services Cell staff and other Ministry of Health staff will undertake survey collection preparatory work and field coordination, management and supervision as necessary. The field interviewers will be medical technician students from each province who will be released from their training to assist in the data collection. Up to 5 project vehicles will be available to transport the interviewers to the survey sites and others can be rented as necessary. Questionnaire printing will be done locally.

E. Equipment

The following equipment will be needed to carry out some of the survey activities and should be brought by the contractor's team or air freighted by the contractor:

1. Six salter scales
2. Six mobile measuring boards

## III. Scope of Work

The baseline survey is a GOP Primary Health Care Project related activity to establish baseline health morbidity and mortality data from which to measure project impact at its conclusion. The contractor will work jointly with the GOP in the development of the survey design and analysis plan for survey collected data. The GOP counterpart and co-investigator for the baseline survey will be Dr. Mushtaq Ahmad Chaudhary, Deputy Director General of the Federal Basic Health Services Cell, Islamabad

In consultation with Dr. Mushtaq and other appropriate GOP counterparts, the contractor will carry out the following tasks:

### A. Survey Design

1. Determine the sample size of the survey to include villages in IRHC service areas and control areas.
2. Design the baseline survey protocol to primarily focus on information related to infant mortality rate, infant malnutrition, morbidity and mortality secondary to diarrhea, immunization status, general health knowledge, utilization of rural health centers and basic health units, water supply and sanitation conditions, literacy and socio-economic data.

### B. Training

1. Design a training course for the field interviewers participating in the survey to include survey objectives, survey protocol, interviewing techniques and surveying methodology.
2. Train field supervisors as master trainers to enable them to train field interviewers.

### C. Survey Field Work

1. Upon completion of draft questionnaire, pretest the survey instrument and make necessary modification prior to survey initiation.
2. Monitor the field work of the survey.

### D. Analysis

1. In the U.S. the contractor will fully analyze the data collected and relate such data to indicators that must be met at project completion. Analysis may include, but shall not be limited to the following:

a. Descriptive according to:

i. age and sex structure;
ii. socio-economic data;
iii. average size of households;
iv. literacy;
v. type of potable water;
vi. type of sanitary facilties;
vii. electricity;
viii. contraceptive usage; and
ix. type of health care sought.

b. Cross tabulation:

i. educational status by total number of children;
by contraceptive usage;
by mothers knowledge of ORS, EPI, supplementary foods, etc;
by nutritional status
by actual immunization.

ii. immunization rates relative to distance from health facility;

iii. utilization rates of Rural Health Centers/Basic Health Units;

iv. nutritional status according to WHO and Pakistani standards relative to mothers knowledge of weaning foods and by sex;

v. distance of villages from health facilities as it relates to health knowledge, nutritional status, vaccination status, and knowledge and preparation of ORS.

E. Reports

Within three months from the consultants' departure from Pakistan, a final report must be submitted to USAID/Pakistan with inclusion of the following:

1. Survey methodology in detail so as to be reproducible at the conclusion of the project.

2. Analysis of the data as suggested.

3. Comparative analysis of data from other Asian countries.

4. Recommendations, assessment, review and significant observations on the survey, its findings and the Primary Health Care Project.

F. Special Provisions

1. All survey data and the final reports are the property of the Ministry of Health, Special Education and Social Welfare, Government of Pakistan.

2. Publication of any of the survey results or portions of the final report must be approved by the MOH, GOP.

3. Copies of the clean computer tape must be supplied to the MOH, GOP and USAID/Pakistan.

G. Period of Service

1. Services shall be for up to 13 weeks in-country and for 5 weeks in the U.S. at Westinghouse Health Systems to allow for data analysis and final report writing.

2. A gap of time between in-country consultancy and U.S. consultancy will occur to allow for data collection and its forwarding to the consultants in the U.S. Consultants must be available within 2 months of their departure from Pakistan for their one month U.S. consultancy to complete the scope of work.

3. Services shall begin o/a September 25 and end in-country o/a December 24, 1983. U.S. consultancy may be delayed as agreeable to USAID/Pakistan and the consultants, but must commence no later than o/a January 1 and end o/a January 31, 1984.

4. Consultants are authorized to work a 6 day work week.

H. Level of Efforts

1. The in-country phase will require 3 consultants, a survey researcher for 5 weeks, 1 epidemiologist for 7 weeks, and 1 epidemiologist for up to 13 weeks.

2. U.S. work will require 2 epidemiologists to work at Westinghouse up to 1 week prior to in-country consultancy for preparatory work necessary for computer analysis of data. Subsequent to provisions of survey data, 2 epidemiologists will undertake jointly 5 weeks consultancy to analyze data and prepare final report.

APPENDIX II

## APPENDIX II

## SUGGESTED VARIABLES FOR BASELINE SURVEY

The Primary Health Care Project (PHC), No. 391-0475 is undertaking a baseline survey. The purpose of this survey is to provide a reference point for project evaluation. The consultant team has prepared this document to serve as a basis of discussion about the variables to be included in this baseline survey.

The team has identified several sections to the proposed survey. These include:

1. Census/identification
2. Antenatal attitudes and practices
3. Expanded programme for immunizations (EPI information).
4. Oral rehydration therapy knowledge, attitudes and practices
5. Morbidity and outreach information
6. Mortality information
7. Nutrition information

Specific variables for each section listed above are identified below:

Census/identification:

Variables: province name, district, IRHC number, BHU number, village number, household number, respondent number and individual serial number. For each individual enumerated, the following will be ascertained: relation to head of household family size, name, sex, age, marital status, educational status, occupation. Collection of these will depend on type of enumeration format used (i.e., whole family census eligible women and children).

Antenatal:

Variables:

1. Perceived need by mothers to see a medical person during pregnancy.

2. Who mother sees as appropriate for delivery.

3. Who delivered last infant, where delivered, when was delivered, TT given.

EPI:

Variables:

1. Percentage of eligible population covered with WHO recommended vaccines.
2. Who administered immunizations.
3. Maternal knowledge about immunizations. Information relating to evidence of immunization and effectiveness of immunization are of additional importance.

Oral Rehydration Therapy:

Variables:

1. Knowledge of ORT.
2. Did a child in family suffer from diarrhea during some reference period.
3. Practices in treating actual episodes of diarrhea during some reference period, intended practices in treating diarrhea if it were to occur.

Morbidity/Information about Outreach Activities:

Variables:

1. Who was sick during some reference period.
2. From where care was sought.
3. What they were sick from (probably in terms of signs/symptoms), alternatively disease-specific events only relating to pre-selected disease entities only.
4. Who treated.
5. What was given.
6. Has the household been visited by any medical personnel during some reference period.
7. Information about duration of disease might be considered as additional information.

Mortality:

Variables:

1. Total children born alive but now dead.
2. Age at death.
3. Sex of deceased.
4. Who was consulted for care.
5. Did person have selected signs/symptoms.

Nutrition:

Variables:

1. Weight.
2. Height.
3. Knowledge information relevant to PHC Project. (breastfeeding, weaning foods).

# APPENDIX III

# BASIC HEALTH SERVICES CELL

Primary Health Care Project

Baseline Health Status Survey - November/December 1983

cover

## IDENTIFICATION

Interviewer [ ][ ] Supervisor [ ] Prov [ ] Dist [ ][ ] TRHC [ ][ ] RHC [ ][ ] BHU [ ][ ]

Village [ ][ ][ ] Household [ ][ ][ ]

Interviewer: After identifying yourself, explaining the purpose of your visit and entering the household, your first task is to tell the household member with whom you are talking that you would like to find out how many people are part of this household. Indicate that the only purpose of [illegible] is to make sure you complete the correct number of forms during the interview.

List below all members of this household

| Husband's Name | Wife's Name | Children's Names (if any) (unmarried) | Age of each child |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Others | Relation to Head of Household | Age |
|---|---|---|
| | | |
| | | |
| | | |

BASIC HEALTH SERVICES CELL
PRIMARY HEALTH CARE PROJECT
Baseline Health Status Survey - November/December 1980

## IDENTIFICATION

Interviewer [ ][ ] _____ Supervisor [ ] _____ Prov [ ] _____ Dist [ ][ ] _____ IRHC [ ][ ] _____ RHC [ ][ ] 10 _____ BHU [ ][ ] 12 _____

Village [ ][ ][ ] _____ Household [ ][ ][ ] 12 _____

Keypuncher's column

## GENERAL INFORMATION

Interviewer: please explain to the respondent that you are about to ask some general questions about himself.

1- Respondent's name _____ Respondent No [ ] — For official use only: [ ]

2. Respondent's age (in years) _____ [ ][ ]

3. Respondent's relationship to head of household.

| wife | daughter | daughter in-law | Sister | Niece | Cousin | Other (specify) | Not determined ND |
|---|---|---|---|---|---|---|---|
| [ ] 01 | [ ] 02 | [ ] 03 | [ ] 04 | [ ] 05 | [ ] 06 | [ ] 96 | [ ] 99 |

[ ][ ]

4. Respondent's educational status

| Illiterate | Literate (can read a newspaper and write a letter) | ND |
|---|---|---|
| [ ] 1 | [ ] 2 | [ ] 9 |

[ ]

5 How many people are in this household? (including respondent) [ ][ ]

6 How many people are in your family? (including respondent) [ ][ ]

7 How many children have you had since Ramazan 1978? [ ] [ ]

## ANTENATAL/NATAL/POSTNATAL

Interviewer: please explain to the respondent that you are about to ask some questions about pregnancy, childbirth and infant care.

8. If you were pregnant, do you think it would be important to see a health worker, even if you are otherwise feeling healthy?

| Yes | No | Don't know (DK) | ND |
|---|---|---|---|
| [ ] 1 | [ ] 2 | [ ] 7 | [ ] 9 |

[ ]

Page 3 Kruponkee [illegible]

FOR OFFICIAL USE ONLY

10. Who do you think should deliver a baby?

| Doctor | Other health worker | Dai | Relative | Other (specify) | DK | ND |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 6 | 7 | 9 |

31

10. Who delivered your last baby?

| Doctor | Other health worker | Dai | Relative | Other (specify) | Can't Remember (CR) DK | ND |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 6 | 7 | 9 |

11. When was your last child born?

| 1983 | 1982 | 1981 | 1980 | 1979 | 1978 | DK CR | ND |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

12. Were you given an injection against tetanus during that pregnancy?

| Yes | No | Has not heard of tetanus | DK CR | ND |
|---|---|---|---|---|
| 1 | 2 | 3 | 7 | 9 |

Interviewer: three next questions (Nº's 13–20) all refer to the most recent live birth.

13 Was your last child breastfed during his/her first week of life?

| Yes | No | DK CR | ND |
|---|---|---|---|
| 1 | 2 | 7 | 9 |

Go to Q15

Continue with next Q

14. Why not?

| Child died very early | Child [illegible] to nurse | No milk/weak milk | Mother too ill to nurse | Preferred bottle feeding | Other (specify) | DK CR | Not applicable NA | ND |
|---|---|---|---|---|---|---|---|---|
| 01 | 02 | 03 | 04 | 05 | 96 | 97 | 98 | 99 |

Go to Q21

Go to Q18

15 Are you still breastfeeding him/her?
If the child has died were you still breastfeeding him/her when he/she died?

| Yes | No | NA | ND |
|---|---|---|---|
| 1 | 2 | 8 | 9 |

Go to Q18

Continue with next Q

For Office Use only

Why did you stop breastfeeding him/her?

- Child reached age for weaning — 01
- Child died — 02
- Child ill/unable to suck — 03
- Child refused to suck — 04
- Mother ill/no milk/weak milk — 05
- Mother became pregnant — 06
- Mother preferred bottles — 07
- Other (specify) _____ — 96
- DK CR — 97
- NA — 98
- ND — 99

17- What was the age of your child when breastfeeding was stopped? (in months)

months ____ | CR DK — 97 | NA — 98 | ND — 99

18- Has he/she received food other than milk, water and/or juices?

- Yes — 1 → Continue with next Q
- No — 2
- DK CR — 7
- NA — 8
- ND — 9

Go to Q 21

19- At what age did he/she first receive foods other than milk, water and/or juices? (in months)

months ____ | CR DK — 97 | NA — 98 | ND — 99

20- What type of food did you first give the child?

- (Roti) Chappati Tikki — 01
- Khichree — 02
- Rice — 03
- Halwa — 04
- Yakhnee — 05
- Daliya — 06
- Egg — 07
- Fruits — 08
- Vegetables — 09
- Other (specify) _____ — 96
- CR DK — 97
- NA — 98
- ND — 99

HEALTH SERVICES UTILIZATION

Interviewer: please explain to the respondent that these next questions (21-25) refer to use of health services.

21 God forbid, if a child of yours is seriously ill or has an injury, to where or to whom would you go to for treatment as the very first thing? I mean other than any treatment you may give by yourself.

- Hospital — 01
- RHC — 02
- BHU — 03
- Hakeem — 04
- Homeopath — 05
- Pir/Faqir aamil — 06
- Sayana/Sanyasi — 07
- Private Doctor — 08
- Wouldn't seek treatment — 09
- Other (specify) _____ — 96
- CR DK — 97
- ND — 99

FOR OFFICE USE ONLY

Interviewer: These next questions (22-23) relate to the health facility closest to the village.

22. Have you ever been to the government health facility at _____ (insert name of town or village of RHC/BHU) to receive treatment or has any functionary from there been to your house to give treatment?

Yes [1] → Go to Q24

No [2] / CR DK [7] / ND [9] → Continue with next Q

13. Why not?

never heard of it [01] / do not trust personnel [02] / too far to travel [03] / prefer to use hakeem [04] / never needed treatment [05] / other (specify) _____ [96] / CR DK [97] / NA [98] / ND [99]

(Interviewer: These next questions 24-25, relate to ease to get to the town where health facility is located.)

24. How long does it usually take you to get to _____ (insert name of town where RHC/BHU is)? (in minutes)

minutes [___] / never gone there [991] / never heard of town [992] / CR DK [997] / NA [998] / ND [999]

25. How would you get to _____ (insert name of town where RHC/BHU is) if you had to go there? (Interviewer: This refers to non-emergency situations)

walk [01] / Public Transport [02] / Tonga [03] / Bicycle [04] / Animal [05] / Bullock Cart [06] / Never gone there [07] / other (specify) _____ [96] / CR DK [97] / NA [98] / ND [99]

INTERVIEWER: Please explain to the respondent that the next questions (26-35) refer to some health care practices.

INTERVIEWER

26. Have you ever heard of ORT (oralyte, hydrosol, sugar-salt-water)?

Yes [1] → Continue with next Q

No [2] / CR DK [7] / ND [9] → Go to Q31

FOR OFFICE USE ONLY

7 Who told you about ORT or where did you first hear about ORT?

Doctor [01] | Other health worker [02] | Traditional Healer [03] | Dai [04] | Friend Relative [05]

Shopkeeper [06] | Radio Television [07] | Other (specify) [96] | CR DK [97] | NA [98] | ND [99]

8 - Have you ever used ORT?

Yes [1] → Go to Q30 | No [2] | CR DK [7] | NA [8] | ND [9]

Continue with next Q

9 Why haven't you used ORT?

Have not had the occasion [01] | Not available [02] | Too costly [03] | Prefer to get "medical opinion" [04] | Does not know where to get it [05] → Go to Q31

Disapprove [06] | other (specify) [96] | CR DK [97] | NA [98] | ND [99]

0. From where would you obtain ORT?

Doctor [01] | Other health worker [02] | Traditional Healer [03] | Dai [04] | Government facility (RHC/BHU) [05] | Shop [06]

Dispensary [07] | Pharmacy [08] | Make at home [09] | Friend Relative [10] | Other (specify) [96] | CR DK [97] | NA [98] | ND [99]

PI

. Have you ever heard of vaccines? (TeeKay)

Yes [1] | No [2] | ND [9]

FOR OFFICIAL USE ONLY

What diseases can be prevented by vaccines?

| | Unprompted Yes | Prompted Yes | No | CR DK | ND |
|---|---|---|---|---|---|
| a. polio | 1 | 2 | 3 | 7 | 9 |
| b measles | 1 | 2 | 3 | 7 | 9 |
| c. diphtheria | 1 | 2 | 3 | 7 | 9 |
| d. tetanus | 1 | 2 | 3 | 7 | 9 |
| e whooping cough | 1 | 2 | 3 | 7 | 9 |
| f tuberculosis | 1 | 2 | 3 | 7 | 9 |

Go to Q34

How many doses of each vaccine are necessary to prevent the diseases? (Refer to children except TT)

(Interviewer: See "special instructions")

| | one 1 | two 2 | three 3 | more than three 4 | DK CR 7 | NA 8 | ND 9 |
|---|---|---|---|---|---|---|---|
| a. polio | 1 | 2 | 3 | 4 | 7 | 8 | 9 |
| b DPT diphtheria pertussis tetanus | 1 | 2 | 3 | 4 | 7 | 8 | 9 |
| c. Measles | 1 | 2 | 3 | 4 | 7 | 8 | 9 |
| d. BCG tuberculosis | 1 | 2 | 3 | 4 | 7 | 8 | 9 |
| e TT neonatal tetanus (for mother only) | 1 | 2 | 3 | 4 | 7 | 8 | 9 |

I. Have you ever heard of contraceptives?

| Yes | No | CR DK | ND |
|---|---|---|---|
| 1 | 2 | 7 | 9 |

Continue with next Q

Go to Part II

Are you presently using any contraceptives?

| Yes | NO | Women currently pregnant | Women delivered in past 40 days | DK/CR | NA | ND |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 7 | 8 | 9 |

Interviewer: please explain to the respondent that you are now going to ask her questions about live births she has had since Imrial law (or Ramazan 1978)

# Baseline Health Status Survey - Part II

Information on all Live Births since Ramazan 1978

IDENTIFICATION

| Interviewer | Supervisor | Province | District | IRHC | RHC | BHU | Village | Household | Respondent No |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Interviewer: This part (II) must be completed for each live birth the respondent has had since Ramazan 1978. If you have not already explained, tell respondent that you are now going to ask her questions about live births she has had since martial law (or Ramazan 1978).

Newspaper's Color

FOR OFFICIAL USE ONLY

- Name of live birth _____ Live Birth No [ ]

- Date of birth _____ (month and year) [ ] [ ] month . [ ] [ ] year

- Sex
  - male [1]
  - female [2]

- Is he/she still alive?
  - Yes [1] → Continue with next Q
  - No [2] → Go to Q14

- Present age of child (in months).
  - less than 1 month [00]
  - age (months) [ ]
  - CR DK [97]
  - NA [98]
  - ND [99]

- Has he/she had diarrhea in the past month?
  - Yes [1] → Continue with next Q
  - No [2] → Go to Q8
  - CR DK [7]
  - NA [8]
  - ND [9] → Go to Q8

- What did you first treat diarrhea with?
  - ORS [01]
  - Home Remedy [02]
  - Hakeem Drugs [03]
  - Homeopathic Drugs [04]
  - Allopathic Drugs [05]
  - Withheld food/water [06]
  - other (specify) _____ [96]
  - CR DK [97]
  - NA [98]
  - ND [99]

FOR OFFICIAL US

• Has he/she ever been immunized?

| Yes | No | CR DK | NA | ND |
|---|---|---|---|---|
| ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |

Go to Q10 — Continue with next Q

Why hasn't he/she been immunized?

| never heard of vaccine | don't approve of vaccines | too far to health center | too expensive | family opposed |
|---|---|---|---|---|
| ☐ 01 | ☐ 02 | ☐ 03 | ☐ 04 | ☐ 05 |

| Child was ill when vaccinators came | Vaccines cause illness | Child too young | Other (specify) _____ | CR DK | NA | ND |
|---|---|---|---|---|---|---|
| ☐ 06 | ☐ 07 | ☐ 08 | ☐ 96 | ☐ 97 | ☐ 98 | ☐ 99 |

Go to Q12

9. Does mother have child's immunization card?

| Yes | No | DK CR | NA | ND |
|---|---|---|---|---|
| ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |

10. How many doses of each vaccine has the child received? (If the respondent has the immunization card please verify information from the card; if there is no card ask the respondent. If card shows no vaccination, enter "0" for doses.

| | number of doses | DK CR | NA | ND |
|---|---|---|---|---|
| a. polio vaccine | ☐ | ☐ 7 | ☐ 8 | ☐ 9 |
| b. DPT vaccine | ☐ | ☐ 7 | ☐ 8 | ☐ 9 |
| c. measles vaccine | ☐ | ☐ 7 | ☐ 8 | ☐ 9 |
| d BCG | ☐ | ☐ 7 | ☐ 8 | ☐ 9 |
| e DT | ☐ | ☐ 7 | ☐ 8 | ☐ 9 |

12. Child's height (in cms) ☐ cm's — NA ☐ 998.8 — ND ☐ 999.9

13. Child's weight (in kgs) ☐ Kgs — NA ☐ 98.8 — ND ☐ 99.9

For official u

Interviewer: If child is still alive this ends the questions on the child, start a new Part II questionnaire on next live birth. If child is no longer alive, continue with question 14.

14 What was his/her age when he/she died? (If child died before 1 month of age please specify age in days)

| less than one month | | one month or older | | CR DK | NA | NL |
|---|---|---|---|---|---|---|
| ☐ 1 | _____ age (specify in days) | ☐ 2 | _____ age (specify) | ☐ 7:97 | ☐ 8:98 | ☐ 9:99 |

(if child died during first day of life write 0 for age in days.)

15. Did he/she suck normally after birth?

| Yes | No | CR DK | NA | NL |
|---|---|---|---|---|
| ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |

16. During the illness leading to death, did he/she have one or more of the following symptoms?

| | Yes | No | CR DK | NA | NL |
|---|---|---|---|---|---|
| a. unable to suckle | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |
| b. unable to open mouth to cry | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |
| c. diarrhea | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |
| d. mucus or blood in stools | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |
| e. vomiting | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |
| f. muscle spasms or convulsions or body stiff | ☐ 1 | ☐ 2 | ☐ 7 | ☐ 8 | ☐ 9 |

APPENDIX IV

ATTACHMENT "A"

## COMMUNITY INFORMATION SHEET

ENUMERATOR: PLEASE OBTAIN THE FOLLOWING INFORMATION ON EACH VILLAGE/TOWN AND MAKE ANY ADDITIONAL COMMENTS THAT MAY HELP THE INTERVIEWERS IN CARRYING OUT THE SURVEY

Name of the village/town/community: _____

Name of the Community Leader: _____

Designation of the Community Leader, if any: _____
(e.g., Lambardar, Councilor etc.)

Informal Leader (if other than the one given above): _____
(Name)

MAJOR LANDMARKS (PLEASE MARK ALL THOSE PRESENT)

_____ Primary School (Boys)

_____ Primary School (Girls)

_____ Middle School (Boys)

_____ Middle School (Girls)

_____ High School (Boys) - if no school in the village, distance from the Boys' High School: _____ (miles)

_____ High School (Girls) from the Girls' High School: _____ (miles)

_____ Dispensary

_____ Other Medical Facility (SPECIFY): _____

If no medical facility in the village, distance from the nearest facility (Specify):

_____ (Facility) _____ (Distance)

Whether the village has Electricity? _____ Yes _____ No

Is the village connected to the nearest Town/City by a Pacca Road?

_____ Yes _____ No

If no, distance from the Pacca Road: _____ (miles)

Distance from the RHC (if the RHC is not in this village): _____ (miles)

Distance from the BHU (if the BHU is not in this village): _____ (miles)

Distance from the nearest hospital: _____
(miles)

Does the village have an elected Councilor who lives in this village?

_____ Yes _____ No

Name of the Councilor: _____

GENERAL OBSERVATIONS: Please give your objective assessment/opinion on the following:

Is the general population of the village cooperative?

_____ VERY COOPERATIVE _____ COOPERATIVE _____ NOT COOPERATIVE

Is the village lay out - streets/paths - easy to understand?

_____ Yes _____ No

Does the village comprise of one single unit or are there any houses that physically separated from the main village?

_____ SINGLE UNIT _____ VILLAGE HAS OTHER HOUSES

How many? _____
(#)

General cleanliness of the village?

_____ VERY GOOD _____ GOOD _____ POOR _____ VERY POOR

OTHER INFORMATION: The following information will be very useful to the interviewers. Please give precise and accurate account on each item.

Place where the team may assemble for planning the day's work (e.g., School, Community Leader's house, Health facility etc.)

_____

Name of any person or community leader at whose house the lady interviewers may take rest in case of need:

_____

Place where the transport/vehicle may be parked (School, health facility, community leader's dera etc.)

_____ _____

Name and distance of the nearest town/city from where food items may be obtained:

_____ _____
(name) (distance)

Name and distance of the nearest town/city from where vehicel may be repaired:

_____ (name) _____ (distance)

Nearest Rest House: _____ CANAL _____ WAPDA _____ PWD

Location/Address: _____

Distance : _____ (miles)

Capacity : _____ (# rooms)

Distance to the next study village : _____ (miles)

General condition of the access road to this village :

_____ Good _____ Fair _____ Poor

Any other information that may be helpful to the interviewing team:

_____

_____

_____

ENUMERATOR/MAPPER'S NAME : _____

Date of mapping : _____ Day _____ Month 1983 Year

# APPENDIX V

| SUPERVISORS | CODE # |
|---|---|
| Miss Nasim Akhtar | 1 |
| Mrs. Shahnaz Imam | 2 |
| Mrs. Mahmooda Nasreen | 3 |
| Miss Tasleem Razia | 4 |
| Maj. Wasima Khanam (Retd.) | 5 |
| Dr. Igbal | 6 |
| Mrs. Jameiln Ishtiag | 7 |

| PROVINCE | | DISTRICT | | IRHC | | RHC | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| Punjab | 1 | Multan | 01 | Kacha Khu | 01 | Kacha Khu | 01 | Chak 4/9-R | 001 |
| | | | | | | | | 16/9-R | 002 |
| | | | | | | | | 18/9-R | 003 |
| | | | | | | | | 19/9-R | 004 |
| | | Jhang | 02 | Mochiwala | 02 | Mochiwala | 02 | Chak 214 | 012 |
| | | | | | | | | 174-JB | 013 |
| | | | | | | | | 175-JB | 014 |
| | | | | | | | | 213-JB | 015 |
| | | Sargodha | 03 | Kot Momin | 03 | Kot Momin | 03 | Kot Momin | 024 |
| | | Jhelum | 04 | Sohawa | 04 | Sohawa | 04 | Sohawa | 030 |
| | | | | | | | | Kobarka | 031 |
| N.W.F.P. | 2 | Abbotabad | 05 | Havelian | 05 | Havelian | 05 | Havelian Town | 035 |
| | | | | | | | | Havelian Rural | 036 |
| | | | | | | | | Mallah | 037 |
| | | | | | | | | Jhangra | 038 |
| | | | | | | | | Phullan Wali | 039 |
| | | | | | | | | Chamba | 040 |
| | | | | | | | | Langra | 041 |
| | | Mansehra | 06 | Chowki | 06 | Chowki | 06 | Muradpur | 046 |
| | | | | | | | | Gidarpur | 047 |
| | | | | | | | | Chappar | 048 |

| PROVINCE | | DISTRICT | | IRHC | | RHC | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| N.W.F.P. | 2 | Peshawar | 07 | Jamalabad | 07 | Jamalabad | 07 | Quaidabad | 057 |
| | | | | | | | | Badraga Dheri | 058 |
| | | | | | | | | Kopar | 059 |
| | | | | | | | | Kaskale | 060 |
| | | | | | | | | Lali Kale | 061 |
| | | | | | | | | Ghulam Hussain Kale | 062 |
| | | | | | | | | Feroq Khan Kale | 063 |
| | | | | | | | | Imam Kol | 064 |
| | | | | | | | | Dobiano Kale | 065 |
| | | | | | | | | Said Amran Kale | 066 |
| | | | | Khairabad | 08 | Khairabad | 08 | Jammu | 081 |
| | | | | | | | | Naudeh | 082 |
| | | | | | | | | Narai | 083 |
| | | | | | | | | Dheri Khattak | 084 |
| Baluchistan | 3 | Pishin | 08 | Pishin | 09 | Pishin | 09 | Killi Faiz Mohammad | 090 |
| | | | | | | | | Killi Maji Razak | 091 |
| | | | | | | | | Killi Tora Shah | 092 |
| | | | | | | | | Killi Malik Yar | 093 |
| | | | | | | | | Killi Tarat | 094 |
| | | | | | | | | Pishin Town | 095 |

| PROVINCE | | DISTRICT | | IRHC | | RHC | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| Sind | 4 | Thatta | 09 | Darro | 10 | Darro | 10 | Usman Khaskali | 098 |
| | | | | | | | | New Goth | 099 |
| | | | | | | | | Darro | 100 |

| PROVINCE | | DISTRICT | | IRHC | | BHU | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| Punjab | 1 | Multan | 01 | Kaccha Khu | 01 | Chak 7/9-R | 01 | Chak 5/9-R | 005 |
| | | | | | | | | 15/9-R | 006 |
| | | | | | | Chak 30/10-R | 02 | 29/10-R | 007 |
| | | | | | | 79/10-R | 03 | 79/10-R | 008 |
| | | | | | | 88/15-L | 04 | 88/15-L | 009 |
| | | | | | | | | 68-69/15-L | 010 |
| | | Jhang | 02 | Mochiwala | 02 | Chak 446-JB | 05 | Chak 446-JB | 016 |
| | | | | | | | | 448-JB | 017 |
| | | | | | | Chak 220-JB | 06 | 215-JB | 018 |
| | | | | | | | | 267-JB | 019 |
| | | | | | | Chak 254-JB | 07 | 250-JB | 020 |
| | | | | | | 170-JB | 08 | 164-JB | 021 |
| | | | | | | | | 167-JB | 022 |
| | | | | | | Chak 262-JB | 09 | 263-JB | 023 |
| | | Sargodha | 03 | Kot Momin | 03 | Ghullapur | 10 | Omrana | 025 |
| | | | | | | Bucha Kalan | 11 | Bucha Kalan | 026 |
| | | | | | | Maroonlian-wala | 12 | Maroonlianwala | 027 |
| | | | | | | | | Chak 13-A | 028 |
| | | | | | | Salam | 13 | Salam | 029 |
| | | Jhelum | 04 | Sohawa | 04 | Bishandaur | 14 | Gidram | 032 |
| | | | | | | Domeli | 15 | Domeli | 033 |
| | | | | | | Sagri | 16 | Nakodar | 034 |

| PROVINCE | | DISTRICT | | IRHC | | BHU | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| N.W.F.P. | 2 | Abbotabad | 05 | Havelian | 05 | Rajoiya | 17 | Rajoiya | 042 |
| | | | | | | Takia Sheikhan | 18 | Kihala | 043 |
| | | | | | | Nawa Shehar | 19 | Nawa Shehar | 044 |
| | | | | | | | | Sheikh-ul-Bandi | 045 |
| | | Mansehra | 06 | Chowki | 06 | Tarangari | 20 | Gullibagh | 049 |
| | | | | | | Shinkiari | 21 | Shinkiari | 050 |
| | | | | | | | | Dhodhial | 051 |
| | | | | | | | | Ichrian | 052 |
| | | | | | | | | Dharhial | 053 |
| | | | | | | Belkund | 22 | Belkund | 054 |
| | | | | | | | | Hamsherian | 055 |
| | | | | | | Khaki | 23 | Khaki | 056 |
| | | Peshawar | 07 | Jamalabad | 07 | Shak # 6 | 24 | Ghaziabad | 067 |
| | | | | | | | | Maina | 068 |
| | | | | | | | | Ghazgi | 069 |
| | | | | | | | | Pasand Kale | 070 |
| | | | | | | | | Ijara | 071 |
| | | | | | | | | Gardo Kale | 072 |
| | | | | | | | | Almas Kale | 073 |
| | | | | | | Peeran | 25 | Dado Kale | 074 |
| | | | | | | Landi Shah | 26 | Shakoor | 075 |
| | | | | | | | | Soor Kumar | 076 |
| | | | | | | | | Jaba Gai | 077 |

| PROVINCE | | DISTRICT | | IRHC | | BHU | | VILLAGE | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Code # | Name | Code # | Name | Code # | Name | Code # | Name | Code # |
| N.W.F.P. | 2 | Peshawar | 07 | Jamalabad | 07 | Mandani | 27 | Henger Baribard | 078 |
| | | | | | | | | Isara | 079 |
| | | | | | | | | Kagan | 080 |
| | | | | Khairabad | 08 | Sheidu | 28 | Adamzai | 085 |
| | | | | | | Manduri | 29 | Tawa | 086 |
| | | | | | | Inzari | 30 | Hisar Tang | 087 |
| | | | | | | Kahi | 31 | Kahi | 088 |
| | | | | | | | | Gaju Khel | 089 |
| Baluchistan | 3 | Pishin | 08 | Pishin | 09 | Bostan | 32 | Killi Sheikhan | 096 |
| | | | | | | Nigand | 33 | Killi Mawalli | 097 |
| Sind | 4 | Thatta | 09 | Darro | 10 | Banno | 34 | Banno | 101 |
| | | | | | | Kot Alam | 35 | Kot Alam | 102 |
| | | | | | | Laiqpur | 36 | Laiqpur | 103 |

# APPENDIX VI

# INTERVIEWERS' MANUAL

This manual is meant for the use of Master Trainers (Supervisors) and through them the interviewers. It deals with the DO's and DON'Ts of interviewing. It is our hope that all the four Master Trainers will familiarize themselves with this manual and understand the various principles of interviewing discussed in it.

The Master Trainers will be responsible for the training of the Interviewers after they themselves have been trained. We are appreciative of the fact that all the four Master Trainers have had considerable experience in the field; and some have experience in interviewing as well. However, each survey has its own specific objectives and the interviewing process has to meet some specific considerations. It is in this respect that a thorough familiarization of this manual - set of instructions - is important.

## GENERAL OVERVIEW

This survey, like most surveys, is aimed at asking specific questions of specific individuals - called RESPONDENTS - who live in specific communities. These communities, in our case, are villages and towns that are served by RHCs and BHUs. A number of questions when put together constitute a questionnaire (also called at times a schedule). The survey has some objectives. The questions within the questionnaire are so designed and sequenced that once the interview has been completed, the responses (or the answers) of the respondents will give information that will meet the objectives. The process of asking questions from specified respondents is called INTERVIEWING. Various instructions that the interviewers are supposed to follow are contained in (this) INTERVIEWERS MANUAL (or interviewers' instructions).

We can, therefore say, that an interview involves the following:

i. an interviewer - the person who will ask questions from a pre-selected or pre-designed individual; and

ii. a respondent (or interviewee) from whom all questions contained in a questionnaire will be asked.

For completing an interview, an interviewer uses a QUESTIONNAIRE or a schedule. This is a compilation of questions and certain instructions that facilitate the interviewer to ask the questions properly.

A number of interviewers are going to be assigned to one team. The composition of each team will be:

Supervisor (female) ..... one
Female Interviewers ..... eight
Male M.T. ..... one
Driver ..... one

The roles or duties of each of the above are briefly discussed below:

Supervisor: Each supervisor oversees each team, ensuring that each team fulfils its objective, and that each team members fulfils his/her specific responsibilities. The supervisor will plan the general routines of the work - what to be done, who will do it when it will be done, where it will be done, and how it will be done. The broad guidelines pertaining to these aspects will be discussed in the training of the Supervisors.

Female Interviewers: Two female MTs will form a sub-team within each team. In other words, there will be four-sub-teams within each team. At any given time, under the instructions of the supervisor, two pre-designated females will go into a designated household and one of the two female MTs will interview an eligible mother. The other will collect the children of the respondent and with the assistance of the driver weigh and measure all children less than three years.

Male MT: The male MT will get in touch with the community leader and solicit the necessary assistance for facilitating the operation of the team. He is essentially the contact between the team members and the community leader. Any contact between the supervisor and the various team members while working in a community - shall be facilitated by the male MT or the driver if available. It is also expected that the male MT will assist the females in carrying the supplies etc.

Driver: Besides operating the vehicle the driver will be responsible for assisting the female interviewers in weighing and measuring the children. Therefore, the driver under the guidance of the male MT will move from one household to the next with the scale and measuring board to conduct the measurements. The timing will have to be planned in a way that the Driver should be able to complete the measurements during the time of the interview.

## SURVEY OBJECTIVES

This survey is undertaken to measure the health status of infants and children below the age five years who live in designated areas and are served by selected RHCs and BHUs. Specifically we will ask eligible mothers (those ever married women who have had at least one live birth during the five years preceding the survey) questions about the following:

- Prenatal care
- Delivery
- Breast feeding
- Diarrheal disease experience
- ORS
- Knowledge of health facilities and utilization practices

Sample: In our survey, like in any other survey, we are using a sample. In simple terms that means that only a fraction of the total population living in the areas covered by the selected RHCs and BHUs will be interviewed. It is important to remember that each team will be assigned a pre-selected number of households out of which all eligible mothers will be interviewed. The detailed instructions for the selection process will be given to the Supervisors. For the purposes of this survey one terminology distinction is crucial: house versus household. For the purposes of this survey a house refers to a structure within which more than one household may be residing. A household, on the other hand, refers to a unit in which a number of persons share a common cooking facility and generally live together. Therefore, in any one house there may be more than one household.

For the purposes of this survey we are going to use household as our basic unit of sample within which we will interview the eligible mothers.

Once the household has been selected, following the criteria that will be explained in the training, eligible mothers have to be identified and interviewed. It is important to remember that under no circumstances - except those specified in the protocol - will another woman be interviewed in place of the identified eligible woman.

PREPARATION FOR INTERVIEW:

For the field activity or interviewing there are certain materials that each interviewer is supposed to carry with her. Below, we have provided a list of these materials:

- Blank questionnaires for the area
- Map of the community that is to be interviewed (one per sub-team)
- Pencils - always carry more than one - erasor and pencil sharpner
- Folders
- Scale & measuring board (one set per team)

The supervisor of each team must plan the itinerary - the routing that will be followed for doing interviewing - in such a way that she would know which communities are to be visited on a given day for the purpose of interviewing. This also implies that each supervisor will in fact have a complete listing of all the areas within a given BHU/RHC that will be visited. This is crucial for one reason: In any given village the number of eligible mothers may not keep the entire team occupied for the duration of a day. In other words, some members of the team may be without work in the same village where others are working. With the information on the amount of work to be done, the supervisor can plan the day in a way that team will go into a village at the most appropriate time in the morning and come out at a reasonable time in the evening after completing the work and be able to reach the rest house. The details of the process will be discussed in the training sessions.

Each supervisor, it may be emphasized here, will assign the day's work to the team members in a way that the team as a whole will cover the maximum number of mothers that can possibly be covered in a given day. It is our hope that we will be able to discuss these and other aspects of interviewing in the training of the supervisors and later the supervisors will cover the same as those pertain to the interviewers in the training of the latter.

KNOWING THE QUESTIONNAIRE:

The questionnaire that we are using for this survey is what is called "pre-coded". It simply means that for each question the probable/ possible response/answer categories are already determined and appear on the questionnaire. The interviewer has to follow the necessary instructions and mark the answer or the response on the questionnaire. Each response category also has a numeral underneath the box designated for the response. That numberal refers to the "code" that will be used for coding the response. Coding, it may be mentioned here, is a mechanism through which some information (in our case the response) is assigned a number (code). For example, in response to a question if the answer is "YES" we are assigning a code "1"; and if the answer is "NO" we are assigning a code "2". A pre-coded questionnaire eases the work of the interviewer by limiting the amount of writing that the interviewer will need to do for recording the response. It also facilitates a computer analysis of the information collected in the survey.

The questionnaire is divided into a number of sections. Please familiarize yourself with these sections. Each section is designed to measure some specific aspects of health status and care such as pre-natal care, and diarrheal diseases etc. Within each section there are a number of questions. Basically each section has some objective that is to be served. Similarly, each question has some objective. We will discuss these objectives in detail during the training session. At this time we will only emphasize that you should please familiarize yourself with the questionnaire for the purpose of understanding each question and the response categories

that go with each question. Equally important are instructions on how to ask each question. The quality of information that will be collected through interviewing will depend on how the questions are asked.

One thing that must be understood clearly is that some of the contents of the questionnaire will be read by the interviewer and other parts will not to be read out to the interviewee. This distinction has to be observed very carefully. It can be done and mastered only through understanding and familiarizing yourself with the questionnaire.

HOW TO APPROACH THE COMMUNITY:

There are certain logistical considerations that need to be understood for approaching a community. Also, there are other considerations that pertain to the mannerism for interviewing. In the following both of these have been discussed.

In terms of logistics the following must be observed:

- The supervisor, as discussed earlier, will know before hand - at least a couple of days in advance - which community is to be visited on what day.
- The overall number of interviews to be done in a community will be determined by the number of eligible women in the households to be sampled. That should facilitate the decision about the time that the team will need to spend in the community.
- The supervisor through the logistics support person will have information on the rest house and other facilities such as where the gasoline and food can be obtained. This information must be examined before going to the community. In case there is any doubt about the quality of the information that will be available, the supervisor must assign the male MT to verify the information.

- On reaching a community the vehicle should be parked at a safe place where the children will not damage the vehicle. The community maps that the mappers will have prepared identify such information.
- The supervisor must decide for each community where the interviewers will assemble after the completion of the day's work.
- The supervisor must know at all times where the various interviewers will be. The male MT should be used to get the necessary contact between the various members.
- As a general rule the male MT should get acquainted with the village areas well. It is advisable that when the female MTs are in a household or a number of households in a close cluster the male MT should stay around in the general area of operation. In other words, he should be around to be available to render any assistance that the supervisor or the team members may need.
- Before starting any interview each one the interviewers must introduce herself properly. Courtesy, kindness and patience are keys to a successful interviewing. The "standard" introduction will be discussed in the training session.
- After the introduction has been done, each interviewer should try to get the respondent in a situation where there are no other persons around. Experience tells us that on occasions getting privacy is not the easiest thing in the rural areas. But one has to try to secure privacy as far as possible. In case you cannot get the other members of the households away, try to start the introduction with the request that the conversation (interview) is supposed to be between the mother (your respondent) and yourself. That generally will discourage other members of the community to give information in response to the questions.
- As a follow-up to the point above, should you find yourself in a situation where some other person, say the mother-in-law of the respondent, offers answers to the questions (the

examples will be discussed in the training session) please make sure that you also solicit the answer from the respondent; and record only the responses that will come from your respondent.

- There are some questions that relate to time period or dates. We know from our experience that some women, particularly in the rural areas, have difficulty in recalling dates precisely. We, therefore, encourage that you should use standard calendar events. We will give some of these during the training sessions.

- In certain questions the respondents will demonstrate reluctance in answering. For such questions a good interviewer uses probes - mechanisms to facilitate the answering without giving the words in the mouth of the respondent. It is highly desirable that interviewers should not use leading probes - putting the answer into respondent's mouth. For a proper understanding of leading probes we will have some examples covered in the training session.

ON COMPLETING THE INTERVIEW:

After you have completed an interview, the following need to be checked:

- Please make sure that you have asked all the questions that you were supposed to ask. This is to ensure "completeness".

- There are certain pieces of information on which you need to make sure that you have recorded the information accurately. For example if a woman has a living child, it must be so recorded in the questionnaire. This is generally called "accuracy". In our training session we will cover these while discussing the questionnaire.

- There are certain variables on which information has been asked more than once. In all such cases an interviewer is supposed to ensure "consistency". This implies that at no point in the questionnaire should there be two pieces of information that are about the same variables (for

example the number of living children) and on which there is a difference in the information recorded when the measurement is supposed to get the same thing. Once again, we will cover specific examples during the training session.

- Before you leave the house where interview was conducted, please thank the respondent. It is a good policy to answer any questions that the respondent may have. Should the respondent ask a question on which you do not have the information and therefore are not able to give an answer, express your inability and regrets.

AFTER INTERVIEWING:

At the end of each day the supervisor must make sure that the completed interviews are properly edited and coded. Editing involves the same points that have been discussed above: completeness, accuracy and consistency. For editing and coding the following steps should be followed

i. all interviews completed by one interviewer should be editied by another interviewer. This implies that the completed interviews of various interviewers will be exchanged to ensure that some one other than the interviewer who completed the interviews will do complete editing;

ii. each supervisor shall then code all the interviews(questionnaire) completed by her team;

iii. Each Supervisor shall also check edit at least 20% of the questionnaire; and

iv. The supervisors shall exchange the questionnaires and check each other's coding.

Each interviewer on the completion of a day must prepare a summary of the day's work. Basically the following information is needed:

- total number of interviews completed
- the number of respondents that may have refused to be interviewed. Such cases are to be attempted by the supervisor. Thereofore, it implies that interviewer had reported such a case to the supervisor in the field; and that the supervisor had attempted interviewing. Despite

all, that, if the respondent refused to be interviewed, the summary (Daily Summary Sheet - DSS) must reflect that.

- Any other information that may be helpful for the consultnats/Study Director for understanding the community in which the interviewing was carried out.
- Each interviewer, in consultation with the superisor, must plan the next day's work. It implies that the projected number of interviews to be done must be properly understood.
- The supervisors have to follow the organizational/ logistical arrangements to send the completed questionnaires to the Study Headquarter - the Project Office.
- If there is any development that was not expected or if there is any circumstance that was unforeseen - the examples will be discussed in the training session - that the supervisor cannot handle or about which the supervisor is not sure what to do, it must be brought to the attention of the Logistics Expert/Facilitator. Should the supervisor feel that she needs to inform the Consultants' Team Leader, she must use the fastest means available to do so. Such means include using the telephone from a public call office, the office of DHO's phone, the office of Deputy Commissioner or a telegram. Whenever seeking advice from the Project office make sure that you let the Project office know the following:
    - What is the problem?
    - What needs to be done?
    - How do you propose it to be done?
    - What is the time frame within which it must be done?
    - What is the next point where you could be contacted?

In summary, take care of yourself, your team members and the work on hand. This work has to be done why not do it with the best of spirits and with a sense of achievement!

# APPENDIX VII

# BASELINE SURVEY

## Instructions for Administering and Coding Survey Instrument

The following document is for use by Baseline Survey supervisors, interviewers and keypunching personnel. The purpose of producing this document is to assist these persons in the execution of their survey related responsibilities.

This document is divided into two sections. First, one section is devoted to a general set of instructions which outline rules/guidelines to be followed by the interviewers in administering the Baseline Survey instrument. The second section deals with special instructions to be followed by interviewers regarding the individual questions. That is, some questions require some explanatory notes in order to ask the questions correctly and record responses correctly. Taken together the instructions/rules/guidelines in both sections provide a basis for ensuring a more symtematically and uniformly executed survey. In turn a more reliable survey should emerge.

## GENERAL GUIDELINES

In order to fulfill the Baseline Survey, a multi-page survey "instrument" has been devised for administration to selected members of selected households. The survey instrument is of a "pre-coded" design. Pre-coded survey instruments came into use mainly as a response to the use of computers to tabulate the results of surveys. The pre-coded survey instrument is one in which responses obtained during the conduct of a survey interview are automatically converted by the interviewer into a numerical code. The mechanics of this will be discussed in a moment. The advantage of code numbers is that these can be entered directly into a computer for tabulation as contrast to open ended "word" responses which cannot be understood by a computer.

A pre-coded survey instrument generally has three sections to its overall format. There is an "identification" section generally located on the top of the front page. This section allows space for recording and numerical coding of such things as the survey name, the interviewer, location of the interviewee and other general information which might be useful in identifying a specific interview. The second section is the main body of the instrument containing the specific questions to be asked of each respondent. Associated with each question are a series of "most likely" answers which are anticipated and might be given by the respondent. Room is provided by each answer for a "check box" and a unique code number. As the interviewer conducts the survey, he/she need only check (✓) off the response given by the person being interviewed. At a later point in time the code numbers of the "check marked" (✓) answers can be copied into the third section of the survey instrument. This third section is often referred to as the "keypunchers section". It is because every possible answer is associated with a pre-established code number, this type of instrument has become known as a "pre-coded survey instrument".

Several important guidelines need to be enumerated here:

- It is important that each question be asked as it is written.
- Although answers are provided, these are NOT TO BE READ OUT ALOUD TO THE PERSON BEING INTERVIEWED <u>UNLESS</u> SPECIFICALLY SPECIFIED IN THE INSTRUCTIONS which appear either on the survey instrument or in the next section of this document entitled:

  "SPECIFIC INSTRUCTIONS REGARDING INDIVIDUAL QUESTIONS".
- All markings on the instrument entered by the interviewer should be made in pen. If a mistake is made, then the mistake should be corrected by writing in the correct answer without trying to erase the incorrect answer but clearly identifying which is the correct answer.
- In most cases where it cannot be established that <u>all</u> potential answers are anticipated, the answer "other" has been used. However whenever "other" describes the respondent's answer, the interviewer must <u>write</u> in or "specify" what was the respondent's actual answer.

- If a question is asked and the respondent does not seem to be able to answer, the interviewer should repeat the question. If still no response is obtained because the respondent does not understand the question, the interviewer should attempt to re-phrase the question into another colloquial expression which might be understood. But the interviewer should NEVER attempt to get a response to a question by listing possible answers to that question even when this might clarify the question. Re-phrasing a question is always preferred However, even in re-phrasing a question, care must be taken not to alter the intent of the question. Interviewers should remember that each question is intended to discover specific information. It is not appropriate for interviewers to change the intent of question -- rather, interviewers should gain during their training a full understanding of the intent of each question.

- With reference to the above guideline, those who interpret survey information would be much happier if an interviewer indicates that an answer "cannot be determined" than to have the answer to some question not intended to be asked. Interviewers should note the following standard choices found in most questions of this Baseline Survey:

  1. "other": this was discussed above.

  2. "DK/CR": this coded answer signifies that the respondent does not know the answer to the question or cannot remember the answer. For instance, a question might be "who would you seek help from if your child is sick with diarrhea?" The respondent simply may not know ahead of time who he/she would visit for help. DK or does not know would be an appropriate response to record.

  3. "ND": this signifies "not determined". In contrast to the above question and situation, ND would be an appropriate answer only if the respondent cannot be made to understand the question or if the respondent is simply not wanting to give a response (i.e. perhaps because of embarassment) to a specific question. ND should NOT be used to signify that the respondent cannot make a decision about an answer. Again, ND means that the redpondent cannot be made to understand the question adequately to give a response or that the respondent refuses to answer the question.

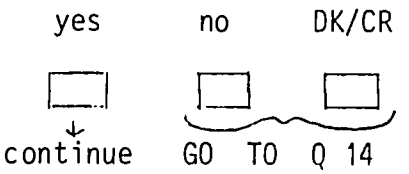
  4. "NA": this signifies that the question is "not applicable or not appropriate to be asked of this respondent". For instance, if a respondent has never heard of "oral rehydration salts" (ORS), then the question of "where did you get these salts" is "not applicable" to that particular respondent.

- The coded answer "other health worker" specifically refers to a nurse, CHW, MT, or LHV.

- Each question should be asked sequentially as it appears. If the response to any question leads to two or more unrelated questions depending on the answer given instructions are provided for the interviewer as to where to proceed on the survey instrument. For instance, if the answer to a question is "yes" and the intent is to have the interviewer proceed directly to the next question, the word "continue" will appear under the pre-coded answer "yes". If the answer is "no", and an alternative set of follow-up question is required, instructions as "Go To Question 14" will appear. In this latter case, the interviewer might actually skip one or more questions which are "NA" (not applicable) before reaching the next appropriate question. (note: the questions skipped should still be coded as "NA").

  EXAMPLE:

  12. Question: Do you use ORS?




  13. Question: Where do you get ORS?

  14. Question: Do you use home remedies?

- Interviewers should use the Appendix I of this document for code numbers relevant to all identification section codes except household numbers. Field supervisors will assign household numbers.

- Interviewers should consult Appendix II of this document for conversion of months and years used in this survey.

- Supervisors are responsible, at the end of each day, for transferring the numerals of the coded responses which are checked (✓) into the oversized boxes in the "Keypunchers section". EVERY box in the keypunchers section MUST be filled in with some code number. No blank spaces are permitted. Note that if an answer is given as 135 minutes, sufficient numbers of oversized boxes in the keypunchers section (3) are given (see question 23 as an example). However, if the answer is only 35 minutes, all three boxes

must be coded. In this case 35 minutes is coded as "035"

Keypunchers Section

answer = 135 minutes

| | | |
|---|---|---|
| 1 | 3 | 5 |

answer = 35 minutes

| | | |
|---|---|---|
| 0 | 3 | 5 |

Note that "0" is always used to take up extra spaces, and that whole numbers are always positioned in such a way in the keypunchers box so that the last digit always falls in the box furthest to the right - with "0" being used in all unused boxes on the left.

## SPECIAL INSTRUCTIONS REGARDING INDIVIDUAL QUESTIONS

| Question Number | Special Instructions for Part I |
|---|---|
| 1 | After you have identified the proper respondents in the household eligible to be interviewed (entered on cover sheet), interviewer should assign each respondent a unique single digit number. These "respondent numbers" should be assigned sequentially starting with "1" in each new household. |
| 4 | A person is considered to be literate only if he/she can both read and write a letter. Reading newspaper can substitute for reading a letter. Reading and writing one's name does not make one literate. Reading the Quran does not qualify someone as being able to read. |
| 5,6,7 | A family for the purposes of this survey is a husband, wife and their unmarried children. Alternatively, a family is also a mother and her unmarried children if the husband has died. These three questions are usefu for verifying information on the cover sheet and must be asked again. |
| 11 | To establish year of birth, the questioning can relate to: How many Ramazans have passed since your last pregnancy of birth. Appendix II gives the approximate dates of each Ramazan since Martial Law. Once the number of Ramazans passed has been determined, the month of birth can be asked to pinpoint which year the birth occurred in. |
| 3-20 | Note that these questions apply only to the most recent child born alive even if that child died a couple of hours or even minutes after birth. |
| 22,24,25 | The interviewer should insert the name of the town/village where the respondent should be going to find a government RHC or BHU as the interviewer asks the question. Each village selected belongs to the "catchment area" of an RHC or BHU. The town in which the RHC or BHU is located is the town name to be inserted. The appropriate names will be supplied to the interviewer by the supervisor on a daily basis. |
| 32 | The interviewer should simply ask the question and wait for responses. If a mother names some disease which appears in the list, the interviewer should check (✓) "unprompted yes". Then the interviewer should ask |

176

| Question Number | Special Instructions for Part I |
| --- | --- |
| | "any others" until the respondent can give no further diseases which are preventable by vaccination and which appears on the list on the instrument. Then the interviewer should read aloud to the respondent the remaining diseases on the list which the respondent did not mention. When the interviewer reads aloud the name of a disease and the respondent says yes, it can be prevented by vaccine the interviewer should check (✓) "prompted yes". If the respondent says no, it cannot be prevented by vaccine, the interviewer should check (✓) "no". If the respondent does not recognize the name or cannot understand the question, the interviewer should check (✓) the appropriate box. If the respondent mentions a disease which is not listed on the instrument, the interviewer should simply disregard the response and proceed as appropriate. |

| Question Number | Special Instructions for Part II |
|---|---|
| 2,5 | The way to establish the year of birth for each live birth is the same as described for question 10. Once you have established the month and year of birth you can look up the conversion table given in Appendix II.<br><br>EXAMPLE:<br><br>A child born in January 1982, is 22 months old in November 1983. |
| 10,11 | If the answer to question 10 is yes, then the information requested in question "should be obtained from the immunization card itself. If the answer to question 10 is no or CR/DK or ND, then the interviewer should attempt to ascertain the information in question 11 directly from the respondent by asking how many doses of each vaccine the child has received. If the card is available and the child has no written record of receiving the named vaccine, the interviewer should check (✓) "NA". Otherwise, enter the number of doses. If no card is available ask the respondent if she knows how many doses of each vaccine the child received (name each vaccine) and enter the number. If the respondent does not know or cannot remember, check (✓) the appropriate box. If the respondent says "No doses were received", enter "0". |
| 14 | The interviewer should <u>enter</u> the number of days or months in the appropriate box (i.e. [21] days). If the death occurred in a child less than one month of age, the answer <u>must</u> be given in <u>days</u>. If the death occurred in an individual older than one month of age, the answer <u>must</u> be given in months. If the child died during the first day of life write "0" for age where room for "age in days" is found. |
| 16 | The <u>each</u> sign or symptom listed should be asked individually to determine its presence or absence. |

# APPENDIX VIII

# MAPPING INSTRUCTIONS

Governments all over the world are committed to providing certain basic services to their citizens. Health services are one of the most basic essentials in this regard.

The planners of various services are always interested in monitoring and evaluating the structures and their functioning for the provision of services. While the official routine performance reports are supposed to serve the objective of monitoring, at times in depth evaluation is warranted. Such efforts are at times dictated in the allocation of resources.

The consultants have been contracted to carry out a baseline survey for evaluation. The proposed survey can be successfully completed and executed. One basic step in this respect is mapping. In the following pages some of the essential steps of survey research described briefly. Mapping has been discussed in detail. It is hoped that this brief write up combined with a one day intensive training will facilitate the mappers in doing a proper job. An understanding of the various steps is the key to success.

## EVALUATION PROCESS

Programmes, in general, have some objectives. These objectives are generally based on some previous information. For example, a health programme may have the objective of reducing the infant mortality rate (the number of deaths in children below the age of one year in a given year per one thousand live births in a given year) by twenty percent over a period of five years. This statement of objective implies that the planners know what the infant mortality rate is for a given period. This information may come from the Hospital records or some survey. Once the objective has been set, some

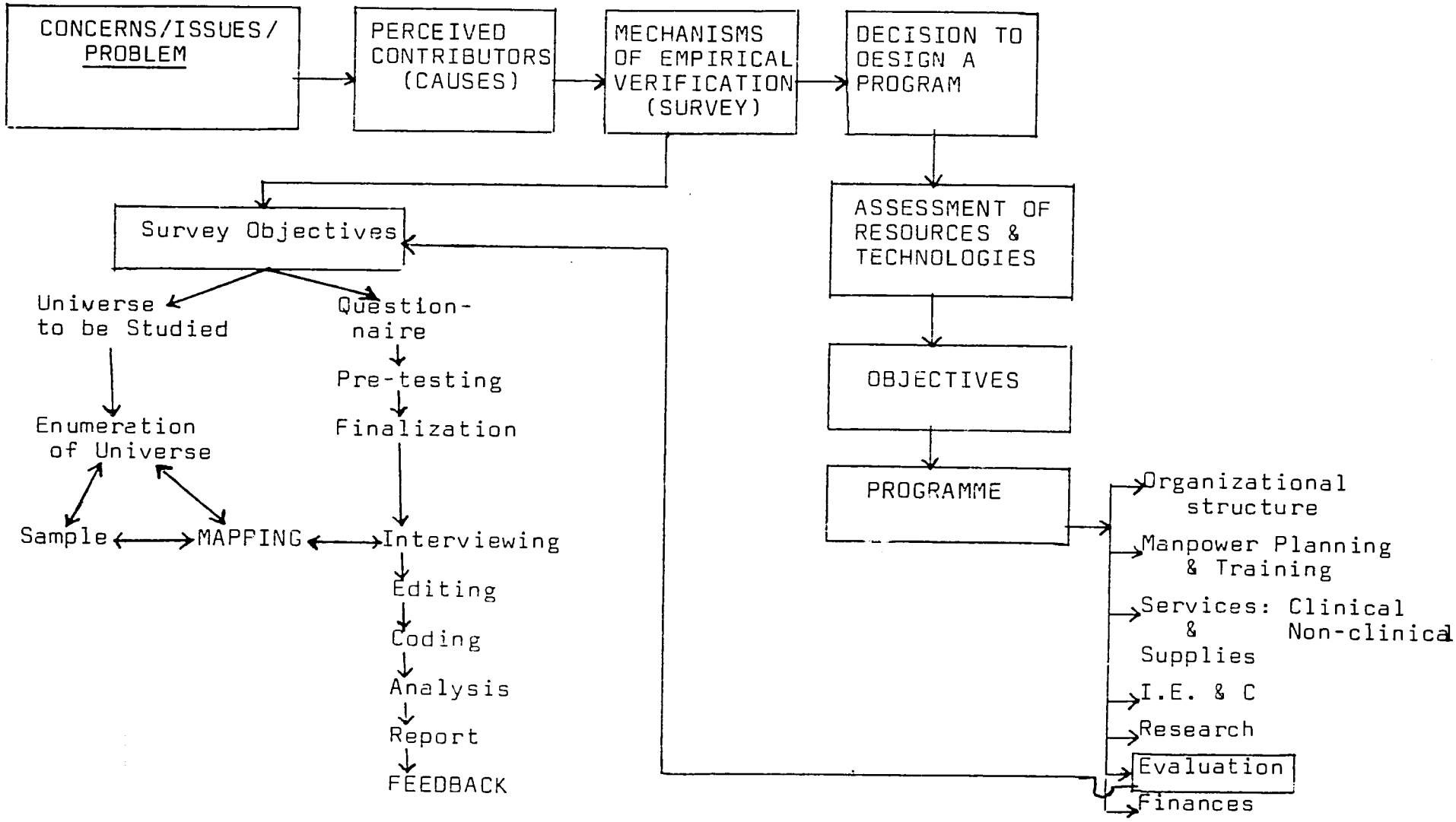
effort will have to be initiated at the end of the period during which the decline or decrease was to be achieved in order to see whether the programme has in fact achieved the stated decline. Such an effort can be a survey. In some cases a baseline survey is undertaken to establish the various levels of different measures. For example, in Pakistan a number of baseline surveys have been completed over the years to establish the levels of indicators and measures such as birth rate, death rate, infant mortality rate etc.

The following page presents a brief summary of the various major activities that are needed to complete a survey. It can be seen that mapping is one of the activities. In the rest of the paper we will discuss the essentials - what may be called DOs and DON'Ts - of mapping.

## MAPPING

As it may be seen from the figure on the next page, mapping is closely related to the selection of the Universe to be studied and the sample to be used. In general, researchers and evaluators do not take measurements on all persons in the population. A sample of the population that is carefully selected following some statistical procedures can provide precise estimates of desired measures. Use of sampling technique results in lower survey cost compared to if we were to get information from the entire population (with regard to our concern or problem). However, the quality of data to be collected must be preserved by identifying the population - for example certain villages or households within a village - properly. This can be assured through mapping.

For the purposes of this survey a number of IRHCs constitute


CONCERNS/ISSUES/ PROBLEM
PERCEIVED CONTRIBUTORS (CAUSES)
MECHANISMS OF EMPIRICAL VERIFICATION (SURVEY)
DECISION TO DESIGN A PROGRAM
Survey Objectives
Universe to be Studied
Questionnaire
Pre-testing
Finalization
Enumeration of Universe
Sample
MAPPING
Interviewing
Editing
Coding
Analysis
Report
FEEDBACK
ASSESSMENT OF RESOURCES & TECHNOLOGIES
OBJECTIVES
PROGRAMME
Organizational structure
Manpower Planning & Training
Services: Clinical & Non-clinical
Supplies
I.E. & C
Research
Evaluation
Finances

MAS

the universe (or total population to be studied). That means that the sample - a fraction of the total eligible IRHCs to be designated and based on some crucial considerations related to the objectives of the survey - will be selected from the total eligible IRHCs. As we know the IRHCs are composed of RHCs and BHUs. We can call the RHCs and BHUs "facilities". Each of the RHCs and BHUs serves a catchment area - a village or a number of villages or a town. The sampling process necessitates that we should have a clear geographical demarcation of various villages, garhis, dehs, Mouzas, goaths etc. The primary consideration is that each unit of population - a village or a town or a mouza or garhi - that is considered by the Revenue administration and by the Census organization as a composite unit must be so identified. Another way of saying the same thing would be that in our mapping all houses and households that are considered as an integral part of one community - a village or a mouza - must be so identified. We know from our experience of Pakistan that in certain districts we have the village and with that some additional houses exist within the revenue boudary of the village. But these villages may be at some distance from the basic village. This, as we know, is quite common in Sind and Baluchistan province.

At this point we can summarize the discussion by saying that the first step in mapping is to realize that the mappers have to identify, mark and report composite units of population that fall under one village or mouza or town. This implies that any houses or household (the distinction between "house" and "household" is given on the following page) that are physically separated from the basic village but within the revenue "khata" or "gardawari" will be treated as one composite unit or a CLUSTER.

For the purposes of mapping each one of you is supposed to DO the following:

- Familiarize yourself with the lists that you will be given. These lists give the name of the IRHCs. Within each IRHC there is one RHC and a number of BHUs - generally four for each RHC. The RHC and BHUs have a list of villages/mouzas/chack/deh/basti/goath town that they serve. For each of these the following information is also provided:
    - Total population of each locality
    - Number of households (Please note that there is a difference between a household and a house. The word house refers to a structure, whereas a household refers to a number of persons that share a common cooking facility and who generally live together. Generally speaking, there are or there can be more than one household in any house. Therefore, the number of households is generally larger than the number of houses).

      As we will discuss, later, you will have to check the number of households that are given in the list against the number of households that you will find in each village.
- Take care of the list that will be assigned to you. Please do not lose this list. In case you lose it, contact the Project office immediately. We will try to send you a copy of the list. But under no circumstances are you to do the mapping without having the list with you. In other words, you have to keep the list with you at all times when you are

in the field for the purposes of mapping.

- The day you are ready to get out into the field to undertake the mapping, ascertain the direction and the distance of the IRHC/RHC/BHU/Village from the place of operation - the provincial headquarter or other major city.

For actual mapping the following are extremely important:

- The information that you will provide through mapping is what will become the guide for the interviewers.
- You are expected to record the following for each "community". Therefore, you have to record these in the sequence in which these are specified:
    * The name of the main road that links the RHC/BHU/Village with the nearest big city. For exampl RHC "X", in district Jhang is served by a road that goes from, say, Jhang to Gojra. You should, therefore, indicate on the description sheet that the IRHC "X" is accessible by going from Faisalabad to Jhang, and from there following the Jhang to Gojra road. Once you have given the descriptio of the immediate service road (the road that connects your community to the nearest city or town) you have to identify the following:
    * The name of the city/town/Adda from where the service road starts.
    * General direction towards which the road goes (e.g., North, North-West, South etc.)
    * The number of roads that branch off from the intersection/Adda
    * In case it is a town or city from where the road branches off, the general side of the town from

where the road branches off; and any significant landmark - such as a School or Hospital - that is near where the road branches off.

* The distance starting from the point from where the service road branches off and to where the boundary of the community starts.

Now you are at the boundary of the community that you are going to map. For this activity the following are to be accomplished:

- General outline of the "community" - the boundaries with approximate lengths of the parameters and land marks.
- Within the general outline approximate locations of the standard land marks, which will be the following (each mapper will use the same reference letters to identify and mark the land marks:

MASJID.....M

SCHOOL.....S

POND/TALAB/CHAPPER.....P

CHURCH.....C

DISPENSARY/OTHER MEDICAL FACILITY.....M.F.

HAMEEM SHOP.....H.S.

We are interested in getting all the major streets/paths/ Pakh dandees. For that we will follow a standard convention under which each enumerator/mapper will after giving the outline of the community mark a sign [x] to signify the point of entry into the village/community. Starting from that point, mark all the major streets within the community. For doing that start in the counter-clockwise direction - or from the right-of the starting point or [x]. Make sure that you do not miss out any street/path. This can

best be assured through following some very simple precautions, discussed below:

Once you have reached a community, ask any adult who the community leader is. This may be a Lambardar, a Councilor, a Wadera, a Khan, a Pir Sahib, a prominent teach' , an Imam Masjid etc. Present yourself to him; and explain the purpose of your visit. That will facilitate you at times to get the help of some one from the community to do the following:

- Establishing whether there are any houses that are infact a part of the same village/community but are located separately from the village
- An exact lay out of the streets. At times there are smaller streets that an outsider is liable to miss. This is more commonly found in the NWFP region.
- It earns you the recognition and acceptance in the community.

After you have marked the major as well as minor streets and paths, you have to establish the number of households along each of the streets. Once you have done that, write that down, as described in the specimen map.

While you are meeting the village leader you should tell him that a team of ladies (do not use the expression that may mean girls) accompanied by two males will come to the village to talk to selected household mothers regarding the health of their children.

On completing a given village, you are expected to move to the next village and do the mapping. In so doing you have to follow all the steps discussed earlier so as to facilitate the interviewing teams a ready and easy access to the village.

There is some additional information that is needed for interviewing purpose. This is given in attachment "A". Please make sure that you obtain that.

There are certain things that a mapper or an enumerator never does. These DON'Ts are given below:

- Don't give an estimate or distance or direction when exact measure - distance or direction - can be established.
- Don't give a relatively less significant land mark when a more significant land mark is available. For example, for indicating the place or spot from where the road branches off from the main road if you have a High school building and a Tea Staff, use the School. Or indicate School as the land mark and also say there is a Tea stall just outside the school building on the left of the road (depending on the location of the tea stall).
- Don't forget to list the general road condition - good - fair - poor.
- Don't let some one from the community do the mapping for you. At times you will come across very hospitable community headmen. They will like to help you by asking you to take rest while one of their men will go in the community to do your job.

  Don't fall for any one version of information on which two contradictory sources are available. For example, in some community one person may say there are a few houses 1/4 miles away from the village and another person may say "no, those are just quarters for the cattle of the landlord". <u>Do</u> go there yourself and confirm the status.

- In certain villages/communities there are serious polarizations due to different political affiliations. For example, some section of the community may be closely affiliated with the Jamat Islami and others may be affiliated with the PPP. Please keep your personal affiliations out of your work. DO NOT run the risk of hurting the survey through unwarranted comments/conversation/mannerism etc.
- Respect the privacy of the members of the community just as you would like yours to be respected.
- Never enter into a yard even if it seems as males quarter/ Deenwan Khana/Dera/Garhi unless you are absolutely certain.
- Do not give any other than approved introduction to yourself and the project.

ATTACHMENT "A"

# COMMUNITY INFORMATION SHEET

ENUMERATOR: PLEASE OBTAIN THE FOLLOWING INFORMATION ON EACH VILLAGE/TOWN AND MAKE ANY ADDITIONAL COMMENTS THAT MAY HELP THE INTERVIEWERS IN CARRYING OUT THE SURVEY

Name of the village/town/community: _____

Name of the Community Leader: _____

Designation of the Community Leader, if any: _____
(e.g. Lambardar, Councilor etc.)

Informal Leader (if other than the one given above): _____
(Name)

MAJOR LANDMARKS (PLEASE MARK ALL THOSE PRESENT)

_____ Regular Primary School (Boys)

_____ Mosque Primary School (Boys)

_____ Regular Primary School (Girls)

_____ Mosque Primary School (Girls)

_____ Middle School (Boys)

_____ Middle School (Girls)

_____ High School (Boys) - if no school in the village, distance from the Boys' High School: _____ (miles)

_____ High School (Girls) from the Girls' High School: _____ (miles)

_____ Dispensary

_____ Other Medical Facility (SPECIFY): _____

If no medical facility in the village, distance from the nearest facility (Specify):

_____ (Facility) _____ (Distance)

Any health worker who is available in the community (PLEASE MARK ALL APPLICABLE)

_____ CHW

_____ M.T.

_____ Hakeem

_____ Doctor

Contd.....P/ii

Whether the village has Electricity?_____Yes _____No

Is the village connected to the nearest Town/City by a Pacca Road?

_____Yes _____No

If no, distance from the Pacca Road: _____
(miles)

Distance from the RHC (if the RHC is not in this village): _____
(miles)

Distance from the BHU (if the BHU is not in this village): _____
(miles)

Distance from the nearest hospital (PLEASE MARK ONLY ONE - THE NEAREST HOSPITAL AND GIVE THE DISTANCE)

_____ Tehsil hospital: Distance: _____
(miles)

_____ District hospital: Distance: _____
(miles)

Does the village have an elected Councilor who lives in this village?

_____Yes _____No

GENERAL OBSERVATIONS: Please give your objective assessment/opinion on the following:

Is the general population of the village cooperative?

_____VERY COOPERATIVE _____COOPERATIVE _____NOT COOPERATIVE

Is the village lay out - streets/paths - easy to understand?

_____Yes _____No

Does the village comprise of one single unit or are there any houses physically separated from the main village?

_____SINGLE UNIT _____VILLAGE HAS OTHER HOUSES

How many? _____
(#)

Main water source in the village (PLEASE MARK ONLY ONE THAT YOU ESTABLISH AS THE MOST COMMON - AT LEAST 50% OF THE POPULATION USING THAT SOURCE)

_____ Hand pump

_____ Wells

Contd.....P/iii

_____ Canal

_____ Rain water

_____ Other (SPECIFY) _____

Does the village have pit laterines (PLEASE MARK ONLY ONE CATEGORY)

_____ None

_____ <10%

_____ 11 - 25%

_____ 26 - 50%

_____ More than 50%

Does the village have any persons working in the middle eastern countries?
If yes, how many?

_____None _____Persons

OTHER INFORMATION: The following information will be very useful to the interviewers. Please give precise and accurate account on each item.

Place where the team may assemble for planning the day's work (e.g., School, Community Leader's house, Health facility etc.)

_____

Name of any person or community leader at whose house the lady interviewers may take rest in case of need:

_____

Place where the transport/vehicle may be parked (School, health facility, community leader's dera etc.)

_____

Name and distance of the nearest town/city from where food items may be obtained:

_____ (name) _____ (distance)

Name and distance of the nearest town/city from where vehicle may be repaired:

_____ (name) _____ (distance)

Contd.....P/iv

Nearest Rest House: _____ CANAL _____ WAPDA _____ PWD

Location/Address: _____

Distance: _____
(miles)

Capacity: _____
(# rooms)

Distance to the next study village: _____
(miles)

General condition of the access road to this village :

_____ GOOD _____ FAIR _____ POOR

Any other information that may be helpful to the interviewing team:

_____

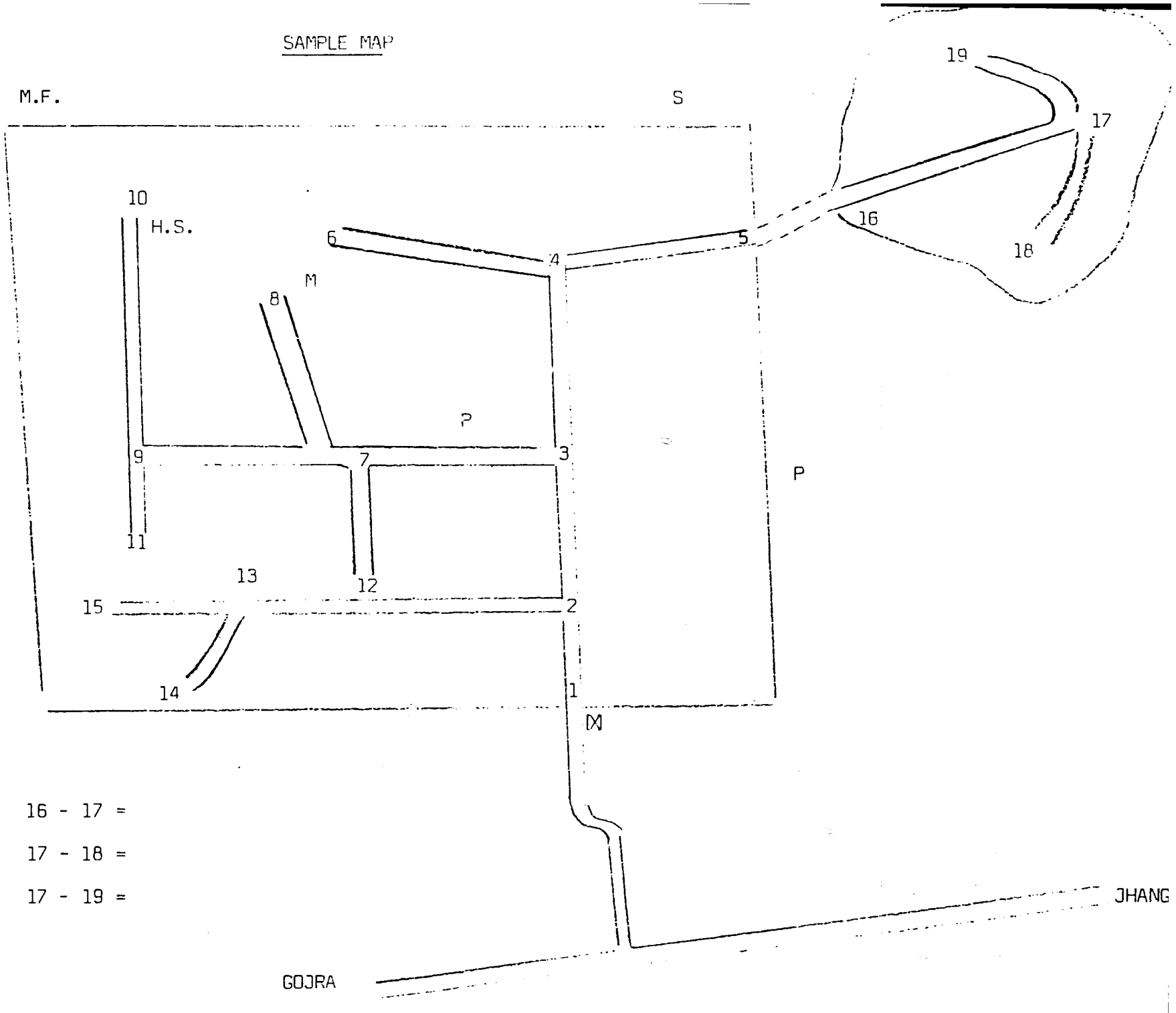
_____

_____

ENUMERATOR/MAPPER'S NAME : _____

Date of mapping : _____ _____ 1983
Day Month Year

SAMPLE MAP




# HOUSEHOLDS BETWEEN INTERSECTIONS/ TERMINAL POINTS:

1 - 2 =

2 - 3 =

3 - 4 =

4 - 5 =

4 - 6 =

3 - 7 =

7 - 8 =

7 - 9 =

9 - 10 =

9 - 11 =

7 - 12 =

12 - 13=

13 - 14=

13 - 15=

16 - 17 =

17 - 18 =

17 - 19 =

# APPENDIX IXA

## APPENDIX IX A

### PUNJAB PROVINCE

| | | | | |
|---|---|---|---|---|
| Distt. Rawalpindi | - | IRHC | i. | Bagga Shaikhan |
| Distt. Sialkot | - | IRHC | i. | Sitrah |
| Distt. Sheikhupura | - | IRHC | i. | Narang Mandi |
| Distt. Lieah | - | IRHC | i. | Chowk Azam |
| Distt. Multan | - | IRHC | i.+ | Kacha Khuh |
| Distt. Kasur | - | IRHC | i. | Kot Radha Kishan |
| Distt. Jhang | - | IRHC | i.+ | Mochiwala |
| | | | ii.* | Shahjiwana |
| Distt. Jhelum | - | IRHC | i.+ | Johawa |
| Distt. Sargodha | - | IRHCs | i. | Farooqa |
| | | | ii.+ | Kot Memen. |
| Distt. Bahawalpur | - | IRHC | i. | Mubarakpur. |
| Distt. Rahim Yar Khan | - | IRHC | i. | Chak 173 P |
| Distt. Bhawalnagar | - | IRHC | i. | Dahranwala |

### Sind Province

| | | | | |
|---|---|---|---|---|
| Distt. Thatta | - | IRHC | i.+ | Dare |
| Distt. Tharparkar | - | IRHC | i.* | Pithere |
| Distt. Sukkur | - | IRHC | i.* | Kandhre |

### NWFP PROVINCE

| | | | | |
|---|---|---|---|---|
| Distt. Peshawar | - | IRHCs | i.+ | Khairabad |
| | | | ii.+ | Jamalabad |
| Dist. Abbettabad | - | IRHCs | i.+ | Havalian |
| | | | ii. | Khanpur. |
| Distt. Meneshra | - | IRHCs | i. | Lassa Nawab. |
| | | | ii.+ | Chowki |

### BALUCHISTAN PROVINCE

| | | | | |
|---|---|---|---|---|
| Distt. Kacchi | - | IRHC | i.* | Dadar |
| Distt. Pishin | - | IRHC | i.+ | Pishia. |

* Eligible means is fully functional or will be fully functional by December 1984

\+ Indicates selected IRHC's

# APPENDIX IX B

RHC - Total Pop = 271,054
60 clusters
Sampling Interval = 4518
Random # = 2822

| District | RHC | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| Jhelum | Sohawa | 1. Rakh Dhamal | 275 | 275 | | |
| | | 2. Jhangi Misri | 567 | 842 | | |
| | | 3. Kandiari | 498 | 1340 | | |
| | | 4. Sohawa | 3003 | 4343 | (1) | 2822 |
| | | 5. Pind Mate Khan | 1457 | 5800 | | |
| | | 6. Bari Las | 255 | 6055 | | |
| | | 7. Aral | 219 | 6274 | | |
| | | 8. Zinda Shah Madar | 241 | 6515 | | |
| | | 9. Gurah Mang | 364 | 6879 | | 75 40 |
| | | 10. Khara Ka | 6435 | 13314 | (2)(3) | 7370, 11858 |
| | | 11. Bhit Masl | 609 | 13923 | | |
| | | 12. Bhit Sher Ali | 215 | 14138 | | |
| | | 13. Mohra Lal | 181 | 14319 | | |
| | | 14. Sasral | 604 | 14923 | | |
| Multan | Kacha Khu | 1. 3/9 - R | 712 | 15635 | | |
| | | 2. 4/9 - R | 1978 | 17613 | (4) | 16376 |
| | | 3. 6/9 - R | 557 | 18170 | | |
| | | 4. 16/9 - R | 3122 | 21292 | (5) | 20894 |
| | | 5. 17/9 - R | 2871 | 24163 | | |
| | | 6. 18/9 - R | 1425 | 25588 | (6) | 25412 |
| | | 7. 19/9 - R | 8194 | 33782 | (7) | 29930 |
| Sargodha | Kot Momin | 1. Kot Momin | 25383 | 59165 | (8)(9)(10)(11)(12)(13) | 34448, 38966, 43484, 48002, 52520, 57038 |
| Jhang | Mochi Wala | 1. Chak # 214 | 3028 | 62193 | (14) | 61556 |
| | | 2. Chak # 171 JB | 2174 | 64367 | | |
| | | 3. Chak # 172 JB | 1472 | 65839 | | |
| | | 4. Chak # 174 JB | 1275 | 67114 | (15) | 66074, |
| | | 5. Chak # 175 JB | 4290 | 71404 | (16) | 70592 |
| | | 6. Chak # 180 JB | 799 | 72203 | | |
| | | 7. Chak # 182 JB | 972 | 73175 | | |
| | | 8. Chak # 183 JB | 1308 | 74483 | | |
| | | 9. Chak # 213 JB | 1419 | 75902 | (17) | 75110 |
| F.P | | | | | | |
| Peshawar | Khairabad | 1. Khairabad | 3460 | 79362 | | |
| | | 2. Jammu | 388 | 79750 | (18) | 79628 |
| | | 3. Mandukhel | 1056 | 80806 | | |
| | | 4. Khatti Miana | 1443 | 82249 | | |
| | | 5. Kund | 433 | 82682 | | |
| | | 6. Nihal pura | 261 | 82943 | | |
| | | 7. Naudch / 8. Narai | 2369 | 85312 | (19) | 84146 |
| | | 9. Jehangira | 1121 | 86433 | | |
| | | 10. Dheri Khattak | 3374 | 89807 | (20) | 88664 |
| Mansehra | Chowki | 1. Chowki | 892 | 90699 | | |
| | | 2. Tatar | 1710 | 92409 | | |
| | | 3. Muradpur | 975 | 93384 | (21) | 93182 |
| | | 4. Khojgan | 1917 | 95301 | | |
| | | 5. Gidarpur | 8733 | 104034 | (22)(23) | 97700, 102218 |
| | | 6. Bhambral | 1041 | 105075 | | |

| District | RHC | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| N.F.P | | 7. Shainai | 476 | 105551 | | |
| | | 8. Dab | 372 | 105923 | | |
| | | 9. Sikandra | 494 | 106417 | | |
| | | 10. Chappar | 4980 | 111397 | 24 25 | 106,736, 111254 |
| | | 11. Mehra | 238 | 111635 | | |
| | | 12. Khakoo | 520 | 112155 | | |
| | | 13. Bhalaysar | 520 | 112675 | | |
| | | 14. Banda-Sheikhan | 120 | 112795 | | |
| | | 15. Malhoo | 297 | 113092 | | |
| | | 16. Chirya | 372 | 113464 | | |
| | | 17. Laddan | 267 | 113731 | | |
| | | 18. Lala Darra | 267 | 113998 | | |
| | | 19. Bankhoti | 520 | 114518 | | |
| | | 20. Panyali | 1188 | 115706 | | |
| Abbotabad | Havelian | 1. Havelian-Town | 16305 | 132011 | 26 27 28 29 | 115772, 120290, 124808 129326, |
| | | 2. Havelian (rural) | 6858 | 138869 | 30 31 | 133844, 138362 |
| | | 3. Sultan-pur | 3702 | 142571 | | |
| | | 4. Mallah | 535 | 143106 | 32 | 142880 |
| | | 5. Waziran | 482 | 143538 | | |
| | | 6 Jhangra | 5584 | 149172 | 33 | 147398 |
| | | 7. Kallu-Mehran | 851 | 150023 | | |
| | | 8 Nowshera | 1043 | 151066 | | |
| | | 9. Phullan-wali | 2618 | 153684 | 34 | 151916, |
| | | 10. Peepal | 237 | 153921 | | |
| | | 11. Kutla | 1093 | 155014 | | |
| | | 12. Chamba | 1664 | 156678 | 35 | 156434, |
| | | 13. Sang-Laila | | | | |
| | | 14. Langra | 7356 | 164034 | 36 | 160,952 |
| Peshawar | Jamalabad | 1. Jamalobad | 1120 | 165154 | | |
| | | 2. Quaid-Abad | 6674 | 171828 | 37 38 | 165470, 169988 |
| | | 3. Hamish-Banda | 700 | 172528 | | |
| | | 4. Chargo-Kale | 1680 | 174208 | | |
| | | 5. Badraga-Dheri | 2184 | 176392 | 39 | 174506, |
| | | 6. Kopar | 14000 | 190392 | 40 41 42 | 179024, 183542, 188060 |
| | | 7 Kas Kale | 2800 | 193192 | 43 | 192578 |
| | | 8. Khan-Syed Kale | 1400 | 194592 | | |
| | | 9. Zarin-Abad | 1120 | 195712 | | |

| District | BHC | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| | | 10. Lali - Kale | 2800 | 198512 | (44) | 197096 |
| | | 11. Abazo - Dheri | 1680 | 200192 | | |
| | | 12. Bashir - Mian - Kale | 640 | 200832 | | |
| | | 13. Mulk-e-Aman Kale | 420 | 201252 | | |
| | | 14. Ghulam-Hussain-Kale | 980 | 202232 | (45) | 201614 |
| | | 15. Khat Kale | 700 | 202932 | | |
| | | 16. Mohammed-Kale | 840 | 203772 | | |
| | | 17. Habib - Banda | 700 | 204472 | | |
| | | 18. Wakil - Kale | 980 | 205452 | | |
| | | 19. Feroze - Khan Kale | 2100 | 207552 | (46) | 206132 |
| | | 20. Shabrang Kale | 420 | 207972 | | |
| | | 21. Raye Kale | 1400 | 209372 | | |
| | | 22. Gadbano-Kale | 700 | 210072 | | |
| | | 23. Imam-Kol | 1400 | 211472 | (47) | 210650 |
| | | 24. Jolagano Kale | 2100 | 213572 | | |
| | | 25. Paoona | 840 | 214412 | | |
| | | 26. Dobiano Kale | 1400 | 215812 | (48) | 215168 |
| | | 27. Spalmai | 2100 | 217912 | | |
| | | 28. Saad-Ullah Jan-Kale | 700 | 218612 | | |
| | | 29. Haji Akram Kale | 280 | 218892 | | |
| | | 30. Qaizer-Kale | 700 | 219592 | | |
| | | 31. Said-Amran Kale | 560 | 220152 | (49) | 219686 |
| | | 32. Tor Gul Kale | 840 | 220992 | | |
| | | 33. Maslan Kale | 1400 | 222392 | | |
| | | 34. Abdul-Samad Kale | 420 | 222812 | | |
| | | 35. Tahir Kale | 560 | 223372 | | |
| | | 36. Ambar | 350 | 223722 | | |
| | | 37. Syed Amir Kale | 280 | 224002 | | |

| District | RHC | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| Pishin | Pishin | 1. Killi Faiz-Mohammed | 2100 | 226102 | 50 | 224,204 |
| | | 2. Killi Tora-Ghundi | 420 | 226522 | | |
| | | 3. Killi Malik Katta | 840 | 227362 | | |
| | | 4. Killi - Abdullah-Jan | 1120 | 228482 | | |
| | | 5. Killi Moji-Razaq | 560 | 229042 | 51 | 228722 |
| | | 6. Killi Tirkha | 280 | 229322 | | |
| | | 7. Killi Sher Khan | 700 | 230022 | | |
| | | 8. Killi Aikal-Zai | 2800 | 232822 | | |
| | | 9. Killi Tora-Shah | 3660 | 236482 | 52 | 233240 |
| | | 10. Killi Malik-Yar | 4471 | 240953 | 53 | 237758 |
| | | 11. Killi ALLah-Abad | 700 | 241653 | | |
| | | 12. Killi Tarat | 1400 | 243053 | 54 | 242276 |
| | | 13. Pishin-Town | 14715 | 257768 | 55 56 57 | 246794, 251312, 255830 |
| ND | Sukkur | Kandhra 1. Jagi | 756 | 258524 | | |
| | | 2. Pishan-Abad | 1582 | 260106 | | |
| | | 3. Jat | 504 | 260610 | 58 | 260348 |
| | | 4. Bagh-Fatch Ali | 882 | 261492 | | |
| | | 5. Wah-Burera | 3822 | 265314 | 59 | 264866 |
| | | 6. Amaal-Makk | 1050 | 266364 | | |
| | | 7. Waryah | 588 | 266952 | | |
| | | 8. Rasoolpur | 252 | 267204 | | |
| | | 9. Jariyo-Mahar | 336 | 267540 | | |
| | | 10. Mazar-Khan | 686 | 268226 | | |
| | | 11. Tarki | 490 | 268716 | | |
| | | 12. Abipoi | 1428 | 270144 | 60 | 269384 |
| | | 13. Palah | 910 | 271054 | | |

BHUs

BHU total pop = 674521
60 clusters
Sampling Int = 11659
Random # = 5858

| Province | District | BHU | Village | Population | Cumulative | |
|---|---|---|---|---|---|---|
| Punjab (A) | Jehlum (RHC. Sohawa) | 1. Bishandaur | 1. Bishandaur | 1913 | 1913 | |
| | | | 2. Tandoi | 535 | 2448 | |
| | | | 3. Hathia | 2650 | 5098 | |
| | | | 4. Santhothi | 103 | 5201 | |
| | | | 5. Gurki | 110 | 5311 | |
| | | | 6. Gidram | 680 | 5991 (1) | 5858, |
| | | 2. Banth | 1. Banth | 443 | 6434 | |
| | | | 2. Amral | 960 | 7394 | |
| | | | 3. Chak Mian | 229 | 7623 | |
| | | | 4. Dohala | 45 | 7668 | |
| | | | 5. Dhok Mochian | | | |
| | | | 6. Bakrala | 2243 | 9911 | |
| | | | 7. Bhanghaloh | 1311 | 11222 | |
| | | | 8. Gorsian | 725 | 11947 | |
| | | | 9. Chak - Mohammed-Hussain | 12 | 11959 | |
| | | 3. Domeli | 1. Domeli | 8854 | 20813 (2) | 17517 |
| | | | 2. Bhagwal | 926 | 21739 | |
| | | | 3. Jhalli | 1248 | 22987 | |
| | | | 4. Rasila Kalan | 829 | 23816 | |
| | | | 5. Rasila Khurd | 188 | 24004 | |
| | | | 6. Hayal | 749 | 24753 | |
| | | | 7. Dhera | 1132 | 25885 | |
| | | | 8. Karbak | 520 | 26405 | |
| | | | 9. Kumba | 315 | 26720 | |
| | | 4. Sagri | 1. Sagri | 1246 | 27966 | |
| | | | 2. Sau chak | 435 | 28401 | |
| | | | 3. Nakodar | 1973 | 30374 (3) | 29176 |
| | | | 4. Madu Kalas | 1275 | 31649 | |
| | | | 5. Pir Pachar | 299 | 31948 | |
| | | | 6. Kurla | 1498 | 33446 | |
| | | | 7. Chak Abdul-Khaliq | 717 | 34163 | |
| | | | 8. Khana Boki | 989 | 35152 | |
| | | | 9. Chhani-Gujran | 657 | 35809 | |
| Punjab (B) | Multan (RHC - Kacha Khu) | 1. Chak - 7/9 - R | 1. 7/9 - R | 3859 | 39668 | |
| | | | 2. 5/9 - R | 2874 | 42542 (4) | 40835 |
| | | | 3. 8/9 - R | 2597 | 45139 | |
| | | | 4. 13/9 - R | 2565 | 47704 | |
| | | | 5. 14/9 - R | 3593 | 51297 | |
| | | | 6. 15/9 - R | 1876 | 53173 (5) | 52494 |

| Province | District | BHU | BHUs Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | 2. Chak - 30/10-R | 1. 30/10-R | 3015 | 56188 | | |
| | | | 2. 26/10-R | 2062 | 58250 | | |
| | | | 3. 27/10-R | 2367 | 60617 | | 60132 |
| | | | 4. 28/10-R | 1676 | 62293 | | |
| | | | 5. 29/10-R | 1934 | 64227 | (6) | 64153 |
| | | | 6. 31/10-R | 1376 | 65603 | | |
| | | | 7. 32/10-R | 784 | 66387 | | |
| | | | 8. 33/10-R | 2474 | 68861 | | |
| | | | 9. 33/10-R | 3197 | 72058 | | |
| | | 3. Chak - 79/10-R | 1. 79/10-R | 3857 | 75915 | (7) | 75812 |
| | | | 2. 38/10-R | 1926 | 77841 | | |
| | | | 3. 39/10-R | 2250 | 80091 | | |
| | | | 4. 40/10-R | 1804 | 81895 | | |
| | | | 5. 80/10-R | 4980 | 86875 | | |
| | | 4. Chak - 88/15-L | 1. 88/15-L | 1829 | 88704 | (8) | 87471 |
| | | | 2. 83/15-L | 1444 | 90148 | | |
| | | | 3. 84/15-L | 1912 | 92060 | | |
| | | | 4. 85/15-L | 1125 | 93185 | | |
| | | | 5. 86/15-L | 1203 | 94388 | | |
| | | | 6. 87/15-L | 2057 | 96445 | | |
| | | | 7. 89/15-L | 2028 | 98473 | | |
| | | | 8. 68+69/15-L | 1858 | 100331 | (9) | 99130 |
| | | | 9. 66/15-L | 1413 | 101744 | | |
| Sargodha (GRHC - Kot Momin) | 1. Ghullapur | 1. Ghullapur | | 6563 | 108307 | | |
| | | | 2. Kotla-Panah | 956 | 109263 | | |
| | | | 3. Omrana | 1817 | 111080 | (10) | 110789 |
| | | | 4. Nasarpur-Kalan | 6204 | 117284 | | |
| | | | 5. Daulatpur | 2331 | 119615 | | |
| | | | 6. Beruwal | 285 | 119900 | | |
| | | 2. Buchakalan | 1. Buccha-Kalan | 7651 | 127551 | (11) | 122448 |
| | | | 2. Waan-Miana | 2060 | 129611 | | |
| | | | 3. Jholpur | 1245 | 130856 | | |
| | | | 4. Dhingran-wali | 1838 | 132694 | | |
| | | 3. Maroon-Lian Wala | 1. Maroon-Lian Wala | 7360 | 140054 | (12) | 134107 |
| | | | 2. Chak 15-SB | 2290 | 142344 | | |
| | | | 3. Chak 13-SB | 2586 | 144930 | | |
| | | | 4. Chak 13-A | 936 | 145866 | (13) | 145766 |
| | | | 5. Chak 14 | 1328 | 147194 | | |
| | | | 6. Chak 14-A | 350 | 147544 | | |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | | 7. Chak 16 | 1563 | 149107 | | |
| | | | 8. Chak 12 | 1364 | 150471 | | |
| | | 4. Salam | 1. Salam | 10980 | 161451 | (14) | 157425 |
| | Jhang (9RHC-Mochi Wala) | 1. Chak 181-JB | 1. Chak 181-JB | 2309 | 163760 | | |
| | | 2. Chak ~~466~~ 446-JB | 1. Chak ~~466~~ 446-JB | 5894 | 169654 | (15) | 169084 |
| | | | 2. Chak No 440 JB | 1243 | 170897 | | |
| | | | 3. " " 441 JB | 1593 | 172490 | | |
| | | | 4. " " 442 " | 1790 | 174280 | | |
| | | | 5. " " 443 " | 1490 | 175770 | | |
| | | | 6. " " 444 " | 1980 | 177750 | | |
| | | | 7. " " 445 " | 1466 | 179216 | | |
| | | | 8. " " 447 " | 923 | 180139 | | |
| | | | 9. " " 448 " | 1583 | 181722 | (16) | 180743 |
| | | | 10. " " 449 | 1786 | 183508 | | |
| | | | 11. " " 450 " | 1439 | 184947 | | |
| | | | 12. " " 451 " | 1006 | 185953 | | |
| | | | 13. " " 452 " | 1737 | 187690 | | |
| | | | 14. " " 462 " | 1398 | 189089 | | |
| | | | 15. " " 463 " | 964 | 189992 | | |
| | | 3. Chak No-220 JB | 1. Chak No-220 JB | 2093 | 192085 | | |
| | | | 2. Chak No-215 JB | 2400 | 194485 | (17) | 192402 |
| | | | 3. Chak No-216 JB | 2465 | 196950 | | |
| | | | 4. Chak No-217 JB | 330 | 197280 | | |
| | | | 5. Chak No-218 JB | 108 | 197388 | | |
| | | | 6. Chak No-219 JB | 1786 | 199174 | | |
| | | | 7. Chak No-265 JB | 2481 | 201655 | | |
| | | | 8. Chak No-266 JB | 1628 | 203283 | | |
| | | | 9. Chak No-267 JB | 1995 | 205278 | (18) | 204064 |
| | | 4. Chak No-254 JB | 1. Chak 254 JB | 2361 | 207639 | | |
| | | | 2. " 176 " | 1278 | 208917 | | |
| | | | 3. " 177 " | 1413 | 210330 | | |
| | | | 4. " 256 " | 2504 | 212834 | | |
| | | | 5. " 258 " | 1339 | 214173 | | |
| | | | 6. " 250 " | 3823 | 217996 | (19) | 215720 |
| | | | 7. " 253 " | 2039 | 220035 | | |
| | | | 8. " 252 " | 1394 | 221429 | | |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | | 9. Chak 251JB | 1675 | 223104 | | |
| | | | 10. " 178 " | 1675 | 224779 | | |
| | | 5. Chak No-170JB | 1. Chak 170JB | 1519 | 226298 | | |
| | | | 2. " 464 " | 2116 | 228414 | (20) Drop | 227379 |
| | | | 3. " 257 " | 1505 | 229919 | | |
| | | | 4. " 258 " | 744 | 230663 | | |
| | | | 5. " 259 " | 2043 | 232706 | | |
| | | | 6. " 260 " | 1448 | 234154 | | |
| | | | 7. " 261 " | 1588 | 235742 | | |
| | | | 8. " 165 " | 1966 | 237708 | | |
| | | | 9. " 166 " | 1323 | 239031 | | |
| | | | 10. " 167 " | 1813 | 240844 | (21) | 239038 |
| | | | 11. " 168 " | 1354 | 242198 | | |
| | | | 12. " 164 " | 1471 | 243669 | new - (#20) | |
| | | | 13. " 173 | 2334 | 246003 | | |
| | | (Sub Health Center) 6. Chak No-262 | 1. Chak No 262 | 3236 | 249239 | | |
| | | | 2. " " 263 | 1650 | 250889 | (22) | 250697 |
| | | | 3. " " 264 | 1155 | 252044 | | |
| | | | 4. Sheikh-Choohar | 3558 | 255602 | | |
| | | | 5. Chak-Koryana | 1710 | 257312 | | |
| | | | 6. Kul Korai | 1179 | 258491 | | |
| | | | 7. Chak-Sheikhana | 1710 | 260201 | | |
| N.W.F.P | Peshawar (RHC-Khairabad) | 1. Sheidu | 1. Sheidu | 1305 | 261506 | | |
| | | | 2. Adamzai | 3643 | 265149 | (23) | 262356 |
| | | | 3. Faqir Baba | 2254 | 267403 | | |
| | | 2. Manduri | 1. Manduri | 1205 | 268608 | | |
| | | | 2. Jabai | 3357 | 271965 | | |
| | | | 3. Pindoori | 798 | 272763 | | |
| | | | 4. Amarpura | 464 | 273227 | | |
| | | | 5. Kawa | 106 | 273333 | | |
| | | | 6. Tawa | 1526 | 274859 | (24) | 274015 |
| | | | 7. Gharibpura | 1790 | 276649 | | |
| | | | 8. Darwazgai<br>9. Charpani | 2265 | 278914 | | |
| | | 3. Inzari | 1. Inzari | 6488 | 285402 | | |
| | | | 2. Hisartang | 2318 | 287720 | (25) | 285674 |
| | | | 3. Khankoi | 3892 | 291612 | | |
| | | | 4. Gandab | 2086 | 293698 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Kahi | 1. Kahi | 6386 | 300084 | (26) | | 297333 |
| | 2. Tarkhel | 350 | 300434 | | | |
| | 3. Mamakhel | 632 | 301066 | | | |
| | 4. Shongi | 2800 | 303866 | | | |
| | 5. Ashakhel | 574 | 304440 | | | |
| | 6. Shagai | 4226 | 308666 | | | |
| | 7. Gajukhel | 2814 | 311480 | (27) | | 308992 |
| Mansehra (JRHC-Chowki) | 1. Tarangari | 1. Tarangari-bala<br>2. Tarangari-pain | 4551 | 316031 | | |
| | | 3. Malakpur | 1889 | 317920 | | |
| | | 4. Sherpur | 1673 | 319593 | | |
| | | 5 Gulli bagh | 2594 | 322187 | (28) | 320651 |
| | | 6. Batangi | 383 | 322570 | | |
| | | 7. Mehra | 6761 | 329331 | | |
| | 2. Shinkiari | 1. Shinkiari | 9381 | 338712 | (29) | 332310 |
| | | 2. Baidadi | 3449 | 342161 | | |
| | | 3. Shenai | 1653 | 343814 | | |
| | | 4. Dodhial | 2800 | 346614 | (30) | 343969 |
| | | 5. Girwal | 903 | 347517 | | |
| | | 6. Bakrial | 2800 | 350317 | | |
| | | 7. Tanda | 3354 | 353671 | | |
| | | 8. Gehrian | 11200 | 364871 | (31) | 355628 |
| | | 9. Khanpur | 1260 | 366131 | | |
| | | 10. Dharhial | 4200 | 370331 | (32) | 367287 |
| | 3. Belkund | 1. Belkund | 21000 | 391331 | (33) (34) | 378946, 390605 |
| | | 2. Naukot | 2778 | 394109 | | |
| | | 3. Dharyab-Bala | 4200 | 398309 | | |
| | | 4. Dharyab-pain | 2800 | 401109 | | |
| | | 5. Hamsher-ian | 1400 | 402509 | (35) | 402264 |
| | | 6. Timber-Khola | 2100 | 404609 | | |
| | | 7. Kannat | 700 | 405309 | | |
| | | 8. Maswal | 1680 | 406989 | | |
| | | 9. Marri-Shah Wali | 1120 | 408109 | | |
| | | 10. Marri-Shah Mugarr-ab | 980 | 409089 | | |
| | | 11. Marri-Khanna | 1680 | 410769 | | |
| | | 12. Tajjal | 840 | 411609 | | |
| | | 13. Mehra | 2100 | 413709 | | |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | 4. Khaki | 1. Khaki | 3964 | 417673 | 36 | 413923 |
| | | | 2. Sosab | 2064 | 419737 | | |
| | | | 3. Kaineyan | 540 | 420277 | | |
| | | | 4. Harrih-Mehran | 840 | 421117 | | |
| | | | 5. Nilour | 580 | 421697 | | |
| | Abbotabad | 1. Rajoiya | 1. Rajoiya | 6276 | 427973 | 37 | 425582 |
| | | | 2. Bhanda-Shohalian | 415 | 428388 | | |
| | | | 3. Sajawal | 200 | 428588 | | |
| | | | 4. Malkan | 500 | 429088 | | |
| | | | 5. Tilh | 1000 | 430088 | | |
| | | | 6. Mannan | 285 | 430373 | | |
| | | | 7. Uchar | 100 | 430473 | | |
| | | | 8. Larrih | 653 | 431126 | | |
| | | | 9. Banda-Bazdar | 2186 | 433312 | | |
| | | | 10. Jaswal | 419 | 433731 | | |
| | | 2. Takya-Sheikhan | 1. Takya-Sheikhan | | 0 | | |
| | | | 2. Bandi-Atai Khan | 2147 | 435878 | | |
| | | | 3. Kiwala | 2065 | 437943 | 34 | 437241 |
| | | | 4. Hurnarrah | 974 | 438917 | | |
| | | | 5. Garri-Phulgran | 2956 | 441873 | | |
| | | | 6. Ghora-Bazgran | 1708 | 443581 | | |
| | | | 7. Jaggian-Kohalian | 1444 | 445025 | | |
| | | 3. Sallwa-llah | 1. Sallwallah | 928 | 445953 | | |
| | | | 2. Batorni | 1224 | 447177 | | |
| | | | 3. Surila | 619 | 447796 | | |
| | | | 4. Riala | 617 | 448413 | | |
| | | | 5. Khialag | | 0 | | |
| | | | 6. Dorri Dhog | | 0 | | |
| | | | 7. Gandian | | 0 | | |
| | | 4. Nawa Shehar | 1. Nawa-Shehar | 4169 | 452582 | 39 | 448900 |
| | | | 2. Dhamdhore | | 0 | | |
| | | | 3. Sheikh-ul Bandi | 10742 | 463324 | 40 | 460559 |

| District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| Peshawar | 1. Shakh #6 | 1. Shakh #6 | 0 | | | |
| | | 2. Sarki | 1462 | 464786 | | |
| | | 3. Meerabad | 1610 | 466396 | | |
| | | 4. Speena-Warai | 5600 | 471996 | | |
| | | 5. Ghaziabad | 4200 | 476196 | 41 | 472218 |
| | | 6. Shandai-Kale | 2800 | 478996 | | |
| | | 7. Zanzir Kale | 2800 | 481796 | | |
| | | 8. Maina | 5600 | 487396 | 42 | 483877 |
| | | 9. Dheri | 4200 | 491596 | | |
| | | 10. Ghazgi | 4004 | 495600 | 43 | 495536 |
| | | 11. Dobiano-Kale | 1400 | 497000 | | |
| | | 12. Shagai | 4200 | 501200 | | |
| | | 13. Zarbab-Gari | 2027 | 503227 | | |
| | | 14. Amir Shah-Kale | 2800 | 506027 | | |
| | | 15. Pasand-Kale | 4200 | 510227 | 44 | 507195 |
| | | 16. Akbar-Khan Kale | 1120 | 511347 | | |
| | | 17. Julabad | 2800 | 514147 | | |
| | | 18. Stonadar | 4200 | 518347 | | |
| | | 19. Ijara | 5600 | 523947 | 45 | 518854 |
| | | 20. Takar-Karoona | 840 | 524787 | | |
| | | 21. Gardo-Kale | 6300 | 531087 | 46 | 530513 |
| | | 22. Moliano-Sarke | 840 | 531927 | | |
| | | 23. Inzaro-Kale | 2800 | 534727 | | |
| | | 24. Haji Saheb-Kale | 1400 | 536127 | | |
| | | 25. Khadi-Kale | 5600 | 541727 | | |
| | | 26. Almas-Kale | 4200 | 545927 | 47 | 542172 |
| | 2. Peeran | 1. Peeran | 1120 | 547047 | | |
| | | 2. Ajoon-Kale | 1680 | 548727 | | |
| | | 3. Serai | 3360 | 552087 | | |
| | | 4. Gulbagh | 1400 | 553487 | | |
| | | 5. Dado-Kale | 4480 | 557967 | 48 | 553431 |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | | 6. Wazir-Kale | 840 | 558407 | | |
| | | | 7. Karimo-Kale | 560 | 559367 | | |
| | | | 8. Kochake-Kale | 560 | 559927 | | |
| | | 3. Landi Shah | 1. Landi Shah | 2800 | 562727 | | |
| | | | 2. Shakoor | 5600 | 568327 | 49 | 565490 |
| | | | 3. Sewan | 1400 | 569727 | | |
| | | | 4. Khwaizo | 840 | 570567 | | |
| | | | 5. Hashim-abad | 600 | 571167 | | |
| | | | 6. Makh-Pazwar | 1120 | 572287 | | |
| | | | 7. Mianjan-Kali | 1680 | 573967 | | |
| | | | 8. Mohammad Gous | 560 | 574527 | | |
| | | | 9. Yar Jan-Kali | 840 | 575367 | | |
| | | | 10. Dilawar-Kali | 700 | 576067 | | |
| | | | 11. Poonbo-Shah | 980 | 577047 | | |
| | | | 12. Soor Kumar | 5600 | 582647 | 50 | 577149 |
| | | | 13. Zard Ali-Khan | 420 | 583067 | | |
| | | | 14. Zubair-Karoona | 350 | 583417 | | |
| | | | 15. Senizo-Shah | 980 | 584397 | | |
| | | | 16. Gulandiano Kali | 560 | 584957 | | |
| | | | 17. Fazle-Akram Kali | 700 | 585657 | | |
| | | | 18. Haji Habib-ur-Rehman | 560 | 586217 | | |
| | | | 19. Haji Abdul-Wahab | 560 | 586777 | | |
| | | | 20. Miagand | 280 | 587157 | | |
| | | | 21. Nurbyuba | 1260 | 588417 | | |
| | | | 22. Tobagai | 1400 | 589817 | 51 | 588608 |
| | | | 23. Bar Boram-Dheri | 1680 | 591497 | | |
| | | 4. Mandani | 1. Mandani | 4026 | 595523 | | |
| | | | 2. Safo Bari-Band | 2800 | 598323 | | |
| | | | 3. Tobagand | 1400 | 599723 | | |

| District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|
| | | 4. Henger-Bari band | 2800 | 602523 | 52 | 600467 |
| | | 5. Shei Khan-Bari band | 4200 | 606723 | | |
| | | 6. Sabandai | 1680 | 608403 | | |
| | | 7. Aedawan | 1400 | 609803 | | |
| | | 8. Azbe Ro-Kale | 1120 | 610923 | | |
| | | 9. Haji Shah-Afzal | 840 | 611763 | | |
| | | 10. Isara | 1960 | 613723 | 53 | 612126 |
| | | 11. Dara | 1680 | 615403 | | |
| | | 12. Nasapai | 1400 | 616803 | | |
| | | 13. Dowe zo-Kala | 1120 | 617923 | | |
| | | 14. Chel | 2100 | 620023 | | |
| | | 15. Miagano-Banda | 1120 | 621143 | | |
| | | 16. Shah Alam-Jor | 1960 | 623103 | | |
| | | 17. Kagan | 1400 | 624503 | 54 | 623785 |
| | | 18. Marghan | 1680 | 626183 | | |
| | | 19. Shodag | 1400 | 627583 | | |
| | | 20. Bahram-Khan Dheri | 1680 | 629263 | | |
| Baluchistan | Pishin | 1. Bostan | | | | |
| | | 1. Bostan | 1554 | 630817 | | |
| | | 2. Killi Mehtar-zai | 477 | 631294 | | |
| | | 3. Killi Khanan | 840 | 632134 | | |
| | | 4. Killi Qasim | 724 | 632858 | | |
| | | 5. Killi-Sheikhan | 2800 | 635658 | 55 | 635444 |
| | | 6. Killi Nilai | 328 | 635986 | | |
| | | 7. Killi-Chouka | 607 | 636593 | | |
| | 2. Karbala | 1. Karbala | 5600 | 642193 | | |
| | | 2. Shahi Kot | 1120 | 643313 | | |
| | | 3. Bade zai | 1441 | 644754 | | |
| | | 4. Chur Bade-zai | 308 | 645062 | | |
| | 3. Nigand | 1. Killi Bala-Nagand | 1050 | 646112 | | |
| | | 2. Killi Bian-zai | 308 | 646420 | | |
| | | 3. Killi Haji-Khero | 154 | 646574 | | |
| | | 4. Killi Mawali | 1260 | 647834 | 56 | 647103 |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | | 5. Killi Haji-Mohammed-Ghaus | 840 | 648674 | | |
| | | | 6. Nigand | 1260 | 649934 | | |
| | | 4. Saranan | 1. Saranan-City | 140 | 650074 | | |
| | | | 2. Killi-Abdullah | 350 | 650424 | | |
| | | | 3. New Saranan | 210 | 650634 | | |
| | | | 4. Old Saranan | 42 | 650676 | | |
| | | | 5. Suleman-Zai | 350 | 651026 | | |
| | | | 6. Butay Zai | 210 | 651236 | | |
| | | | 7. Ziarat-Butay Zai | 56 | 651292 | | |
| | | | 8. Killi-Ajram | 70 | 651362 | | |
| | | | 9. Killi-Khuda Zai | 280 | 651642 | | |
| Sind | Sukkur (DHC-Kandhra) | 1. Dodan Ko | 1. Sobho Mahar | 1246 | 652888 | | |
| | | | 2. Khano Mahar | 322 | 653210 | | |
| | | | 3. Jakhriya | 196 | 653406 | | |
| | | | 4. Mir Khan | 168 | 653574 | | |
| | | | 5. Magsi | 210 | 653784 | | |
| | | | 6. Bhit Noor-Shah | 1260 | 655044 | | |
| | | | 7. Sirohi | 686 | 655730 | | |
| | | | 8. Faqir Shah-ESSO | 154 | 655884 | | |
| | | | 9. Allah-Warayo | 350 | 656234 | | |
| | | | 10. Bandho | 364 | 656598 | | |
| | | | 11. Kalri | 2362 | 658960 | 57 | 658762 |
| | | | 12 Bahar-Kat par | 196 | 659156 | | |
| | | | 13. Parjo-Mahar | 714 | 659870 | | |
| | | | 14. Bux-Kat par | 1554 | 661424 | | |
| | | 2. Patani | 1. Patani | 3975 | 665399 | | |
| | | | 2. Rakhyal-Sheikh | 98 | 665497 | | |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | | 3. Ali Jan-Sheikh | 70 | 665567 | | |
| | | | 4. Hazar Khan-Shar | 938 | 666505 | | |
| | | | 5. Ailah Dino-Umrani | 378 | 666883 | | |
| | | | 6. Tando | 756 | 667639 | | |
| | | | 7. Borah | 952 | 668591 | | |
| | | | 8. Kalar-Goth | 966 | 669557 | | |
| | | | 9. Bhutta | 210 | 669767 | | |
| | | | 10. Shar | 448 | 670215 | | |
| | | | 11. Sheikh-Goth | 336 | 670551 | (58) | 670021 |
| | | | 12. Achyoon-Qubyoon | 1344 | 671895 | | |
| | | | 13. Mir Bahar-Goth | 434 | 672329 | | |
| | | | 14. Bhaba | 588 | 672917 | | |
| | | | 15. Noonon | 924 | 673841 | | |
| | | | 16. Banglo | 462 | 674303 | | |
| | | | 17. Janwari | 1204 | 675507 | | |
| | | | 18. Anbah | 1330 | 676837 | | |
| | | | 19. Soi | 1064 | 677901 | | |
| | 3. Arore | | 1. Saroki | 420 | 678321 | | |
| | | | 2. Karyo | 518 | 678839 | | |
| | | | 3. Kalaji | 518 | 679357 | | |
| | | | 4. Noorabad | 434 | 679791 | | |
| | | | 5. Bundo | 252 | 680043 | | |
| | | | 6. Jogi | 224 | 680267 | | |
| | | | 7. Ali Murad-Junejo | 238 | 680505 | | |
| | | | 8. Faizoo-Kandhro | 224 | 680729 | | |
| | | | 9. Burera | 294 | 681023 | | |
| | | | 10. Nara Old-Arore Road. | 448 | 681471 | | |
| | | | 11. Bux | 616 | 682087 | (59) | 682080 |
| | | | 12. Jhanja | 210 | 682297 | | |
| | | | 13. Punjabi | 168 | 682465 | | |
| | | | 13. Abdul-Qasim Hangryo | 434 | 682899 | | |
| | | | 14. Achar-Mangryo | 280 | 683179 | | |
| | | | 15. Fatoo-Mahar | 378 | 683557 | | |
| | | | 16. Thari | 854 | 684411 | | |

| Province | District | BHU | Village | Population | Cumulative | | |
|---|---|---|---|---|---|---|---|
| | | 4. Kandri | 1. Tri Mooho | 1078 | 685489 | | |
| | | | 2. Haji-Chibhar | 490 | 685979 | | |
| | | | 3. Ali Nawaz | 168 | 686147 | | |
| | | | 4. Jurial-Faqir | 420 | 686567 | | |
| | | | 5. Mohammed Sadiq Palh | 588 | 687155 | | |
| | | | 6. Noor-Mohammed | 392 | 687547 | | |
| | | | 7. Anwar | 322 | 687869 | | |
| | | | 8. Gul-Mohammadi | 504 | 688373 | | |
| | | | 9. Shahi | 266 | 688639 | | |
| | | | 10. Gul-Mohammed-Lashari | 378 | 689017 | | |
| | | | 11. Hadan-Jagrani | 252 | 689269 | | |
| | | | 12. Hazari | 350 | 689619 | | |
| | | | 13. Haji-Panhoo | 224 | 689843 | | |
| | | | 14. Jamari | 420 | 690263 | | |
| | | | 15. Yar Ali-Katohar | 210 | 690473 | | |
| | | | 16. Hussain-Bux | 448 | 690921 | | |
| | | 5. Saleh Pat | 1. Sheerojah | 574 | 691495 | | |
| | | | 2. Fazal abad | 994 | 692489 | | |
| | | | 3. Ghari Syed | 490 | 692979 | | |
| | | | 4. Khahi-Syed | 686 | 693665 | | |
| | | | 5. Lal Bux-Mangsi | 532 | 694197 | 60 | 693739 |
| | | | 6. Chana-Goth | 154 | 694351 | | |
| | | | 7. Bargah | 2107 | 696458 | | |
| | | | 8. Khair-Mohammed | 280 | 696738 | | |
| | | | 9. Allah-Rakhyo | 532 | 697270 | | |
| | | | 10. Tarai Mahar | 616 | 697886 | | |
| | | | 11. Nabi Bux | 196 | 698082 | | |
| | | | 12. Loung Goth | 490 | 698572 | | |
| | | | 13. Wadhal Shar | 238 | 698810 | | |
| | | | 14. Kod Goth | 532 | 699342 | | |
| | | | 15. Fazal Punjabi | 182 | 699524 | | |

Sind IRHC Thatta BHU substitutions

| BHU. | Village | Pop | Cum |
|---|---|---|---|
| Darya Khan Suho | 1- Darya Khan Soho | 130 | 130 |
| | 2- Satyani | 700 | 830 |
| | 3- Haji Wali Mohammad Khor | 150 | 980 |
| | 4- Haji Mohammad Soho | 300 | 1280 |
| | 5- Suhrale Soho | 100 | 1380 |
| | 6. Soohard Qaur | 75 | 1455 |
| | 7- Gozi Khan Chang | 200 | 1655 |
| | 8. Ahmed Qaur | 300 | 1955 |
| Banno | 1- Rahoth | 500 | 2455 |
| | 2- Dhooro Dhamrach | 300 | 2755 |
| | 3. Haji Ismail Soomro | 300 | 3055 |
| Kot Alam | 1. Kot Alam | 800 | 3855 |
| | 2 Molwi Saleh Mohammad | 210 | 4065 |
| | 3. Abdullah Ali Jo | 200 | 4265 |
| | 4. Matho Sorjo | 286 | 4551 |
| | 5- Ahmed Memon | 52 | 4603 |
| Liaqpur | 1- Dalail Mazri | 200 | 4803 |
| | 2- Qasim Dharmach | 300 | 5103 |
| | 3- Molwi Ahmed Guzzo | 150 | 5253 |
| | 4- Hussainpur | 200 | 5453 |
| | 5 Rohail Jashari | 200 | 5653 |
| | 6 Ramzan Khokar | 120 | 5773 |
| | 7- Essa Bikak | 150 | 5923 |
| Shah Nawaz Loghasi. | 1- Shah Nawaz | 250 | 6173 |
| | 2- Tando Changain | 150 | 6323 |
| | 3- Charalain | 350 | 6673 |
| | 4- Seri | 400 | 7073 |
| | 5- Ali Musad Kashari | 325 | 7398 |

? Banno

? Liaqpur

Sind substitution - Thatta

Sind IRHC. Thatta. RHC. Darro

| | Pop | Cumulative |
|---|---|---|
| 1- Usman Khaskali | 200 | 200 |
| 2. Haji Wahid Bux Khaskali | 300 | 500 |
| 3. Uris Khaskali | 350 | 850 |
| 4. Soomar Memon | 300 | 1150 |
| 5. Alimir Shah | 150 | 1300 |
| 6 Garsuar Pariar | 250 | 1550 |
| 7. Ali Mohd Phul | 200 | 1750 |
| 8. Shah Wah | 89 | 1839 |
| 9. Achar Malah | 150 | 1989 |
| 10 Haji Ali Mohd Jadaru | 142 | 2131 |
| 11. Gul Gaho | 252 | 2383 |
| 12 Kharmido Soomro | 300 | 2683 |
| 13- Qasim Soomro | 358 | 3041 |
| 14 Ahmed Mershi | 123 | 3164 |
| 15- Ratta | 745 | 3909 |
| 16. Haji Ali Soomro | 159 | 4068 |
| 17 New Goth | 300 | 4368 |

? Darro

Sind IRHC Thatta BHU substitutions

Total Pop = 19398
Sampling Interval = 4850
Random = 3782

| BHU. | Village | Pop | Cum | |
|---|---|---|---|---|
| Darya Khan Soho | 1- Darya Khan Soho | 130 | 130 | |
| | 2- Satyani | 700 | 830 | |
| | 3- Haji Wali Mohammad Khoc | 150 | 980 | |
| | 4- Haji Mohammad Soho | 300 | 1280 | |
| | 5- Suhrab Soho | 100 | 1380 | |
| | 6. Sooharo Qaur | 75 | 1455 | |
| | 7- Gozi Khan Chang | 200 | 1655 | |
| | 8. Ahmed Qaur | 300 | 1955 | |
| Banno | 1- Rahoth | 500 | 2455 | |
| | 2. Dhoro Dhamrach | 300 | 2755 | |
| | 3. Haji Ismail Soomro | 300 | 3055 | |
| | 4 Banno | 7000 | | |
| 1. Kot Alam | 1. Kot Alam | 800 | 3855 | ① 3782 |
| | 2 Mohwi Saleh Mohammad | 210 | 4065 | |
| | 3. Abdullah Ankjo | 200 | 4265 | |
| | 4 Matho Sarjo | 286 | 4551 | |
| | 5- Ahmed Memon | 52 | 4603 | |
| Liaqpur | 1- Dalail Mazri | 200 | 4803 | |
| | 2- Qasim Dharmach | 300 | 5103 | |
| | 3- Molwi Ahmed Guzzo | 150 | 5253 | |
| | 4- Hussainpur | 200 | 5453 | |
| | 5 Rohail Jokari | 200 | 5653 | |
| | 6 Ramzan Khokar | 120 | 5773 | |
| | 7- Essa Bikak | 150 | 5923 | |
| 5. Shah Nawaz Loghasi. | 1- Shah Nawaz | 250 | 6173 | |
| | 2- Tando Changaiwo | 150 | 6323 | |
| | 3- Charalaim | 350 | 6673 | |
| | 4- Seri | 400 | 7073 | |
| | 5- Ali Musad Kashari | 325 | 7398 | |
| | ? Banno | 7,000. | 14398 | ② ③ 8632, 13480 |
| | ? Liaqpur | 5,000. | 19398 | ④ 18,332 |

Sind IRHC. ~~Thatta~~ Dadu. RHC. Darro

50,000 PE. PU

Total pop : 12,3[illegible]
Sampling Interval : 4[illegible]
Random = 0018

| | Pop | Cumulative | |
|---|---|---|---|
| 1- Usman Khaskali | 200 | 200 | ① 18 |
| 2- Haji Wahid Bux Khaskali | 300 | 500 | |
| 3- Uris Khaskali | 350 | 850 | |
| 4- Soomar Memon | 300 | 1150 | |
| 5- Alimar Shah | 150 | 1300 | |
| 6 Garsuar Pariar | 250 | 1550 | |
| 7- Ali Mohd Phul | 200 | 1750 | |
| 8- Shah Wah | 89 | 1839 | |
| 9- Achar Malah | 150 | 1989 | |
| 10 Haji Ali Mohd Jadaru | 142 | 2131 | |
| 11- Gul Gako | 252 | 2383 | |
| 12 Kharmiso Soomro | 300 | 2683 | |
| 13- Qasim Soomro | 358 | 3041 | |
| 14 Ahmed Munshi | 123 | 3164 | |
| 15- Ratta | 745 | 3909 | |
| 16- Haji Ali Soomro | 159 | 4068 | |
| 17- New Goth | 300 | 4368 | ② 4[illegible]41 |
| Darro | 8,000 | 12,368 | ③ 8264 |

# APPENDIX X A

# ASPECTS TO BE COVERED IN THE TRAINING OF SUPERVISORS

## BACKGROUND

- What is a survey?
- How is a survey done?
- Objectives of the Survey
- Questionnaire and its objectives
    - Sections in the questionnaire
    - Questions within each section
- Distinction between Universe/Population and Sample
- What is our sample & why do we select a sample?
- Composition of a Team :
    - Supervisor
    - Female M.Ts
    - Male M.T.
    - Driver
- Role of each team member

## PREPARATION FOR INTERVIEWING

- Material/supplies needed
- Assessing allocation of work (Total work by # persons)
- Planning the itinerary
- House vs. household
- Who is eligible mother?

## KNOWING THE QUESTIONNAIRE

- What is a precoded questionnaire?
- Uses/advantages of a precoded questionnaire
- Sections within the questionnaire
- Questions within each section

- Objectives of the questionnaire, sections and individual questions.
- Response categories
- Use of instructions:
    - parts to be read out
    - parts not to be read out
- How to ask questions:
    - wording - using exactly what is provided
    - sequencing - abiding to the provided sequence
- Use of probes:
    - avoiding leading probes

HOW TO APPROACH THE COMMUNITY

- Which communities to be interviewed on what day
- Facilities for covering the communities:
    - rest houses/hotels
    - facility for Gasoline/repair
    - facility for food
- Familiarizing with the community
    - parking place
    - assembly point
- Knowing who is in which household & keeping in contact
    - role of individual interviewers
    - role of male M.T.

MANNERISM IN INTERVIEWING:

- Introduction
- Selecting eligible mother (respondent)
- Privacy
- Ensuring responses only from the respondent
- Use of probes

- Use of standard calendar events/dates

ON COMPLETING THE INTERVIEW

- Checking for completeness, accuracy, and consistency before leaving the house
- Thanking the respondent
- Answering any question
- Knowing the next household - soliciting help if needed

IF REFUSAL, ROLE OF SUPERVISOR

AFTER INTERVIEWING

- Editing - Exchange between interviewers
- Coding - to be done by supervisor
- Check editing
- Check coding
- Preparation of daily summary sheet (D.S.S.) by interviewers
- Daily summary sheet by supervisor

PLANNING NEXT DAY'S WORK

- Work assignment
- Idea about the next community
- Using previous day's experience

CONTACT WITH THE STUDY HEADQUARTERS

- Sending the completed questionnaires back to the H.Q.
- Keeping the H.Q. informed of the progress
- Contacting in need of emergency

APPENDIX XB

# SUPERVISOR CLUSTER SUMMARY SHEET

Cluster Number _____

RHC Number _____

BHU Number _____

Village Number _____ Village Name _____

Number of:

Households interviewed _____

Respondents interviewed _____

Children/live births _____

Children who are not with their natural mother _____

Please list below the "Other" or "Specify" categories found as responses for each question. Also give the number of respondents who mentioned this response. If no "Other" categories were given, please write "None".

| Proforma I | Other Categories Specified | Number of Respondent |
|---|---|---|
| Q 3 | | |
| | | |
| Q 9 | | |
| | | |
| Q 10 | | |
| | | |
| Q 14 | | |
| | | |
| Q 16 | | |
| | | |

| Proforma I | Other Categories Specified | Number of Respondents |
|---|---|---|
| Q 16 | | |
| | | |
| Q 20 | | |
| | | |
| Q 21 | | |
| | | |
| Q 23 | | |
| | | |
| Q 27 | | |
| | | |
| Q 29 | | |
| | | |
| Q 30 | | |
| | | |

| Proforma II | | |
|---|---|---|
| Q 7 | | |
| | | |
| Q 9 | | |
| | | |
| | | |

Additional findings, problems encountered or comments:

# APPENDIX XI

# SCHEDULE FOR TRAINING INTERVIEWERS FOR BASELINE SURVEY IN N.W.F.P. AND BALUCHISTAN

Sarban Hotel
Abbotabad, December 3-8, 1983

## Day 1 (Saturday)

| | |
|---|---|
| 08:30-11:30 | (In Islamabad). Review agenda for training with supervisors; discussion of Punjab portion of survey. |
| 11:30-01:30 | Travel to Abbotabad |
| 03:00-05:00 | Group session for: |

- o Brief introduction of staff and the goals/objectives of survey.
- o Expectations of teams; interviewers/ supervisors roles and responsibilities.
- o Description and realities of field work
  - Schedule of work for week of training
  - Working hours
  - Accommodations
  - Meals
  - Promptness/dress for field work
  - Use of vehicles
  - Interaction with families
- o Distribution of sample survey instruments (verbal corrections)

## Day 2 (Sunday)

| | |
|---|---|
| 08:30-11:00 | (Group Session). Review of survey instrument using transparencies and overhead projector. |
| 11:00-11:30 | Tea break |
| 11:30-12:15 | (Group Session). Question and answer period |

| | |
|---|---|
| 12:15-01:00 | (Group Session). Role play with Shahnaz as mother and Tasleem as interviewer. Interviewer trainees will complete form simultaneously. Najma will complete transparency simultaneously. |
| 01:00-02:30 | (Group Session). Review of forms/transparency completed during role play. Discussion. |
| 02:30-03:30 | Lunch |

Day 3 (Monday)

| | |
|---|---|
| 08:30-11:30 | (Individual Groups except male MTs): Role play with each supervisor playing the role of mother and one interviewer trainee playing role of interviewer. Discussion follows actual role play. |
| 11:30-12:00 | Tea break |
| 12:00-02:30 | (Indivisual Groups except male MTs). Role play with each trainee playing the role of interviewer once. Several "Interviews" can be done in each group simultaneously, while supervisor floats. Discussion within each team will follow the role playing. |
| 02:30-03:30 | Lunch |
| 03:30-04:15 | (Group Session). Logistics of field work |

- o Tasleem and Shahnaz will discuss:
  - Obtaining community/family cooperation
  - Helpful hints about planning your schedule of work with regard to meals, snacks, illness of co-workers, meeting your vehicle etc.
- o Nasim will discuss:
  - How interviewers will be assigned households for interviewer (including finding the next house and keeping track of households where both interview and weighing/measuring is completed).
  - Coordination of interviewing with weighing measuring

(N.B. During morning sessions male MTs will be trained in weighing and measuring and the role of the assistant).

Day 4 (Tuesday)

| | |
|---|---|
| 08:30-09:30 | (Group Session). Discussion left from day 3 and questions/answers as needed. |
| 09:30-01:00 | (Field Practice). Each interviewer trainee does two family interviews. Male MTs work separately. Tea/Soda/Cookie break upon return from field practice. |
| 01:00-02:30 | (Individual Teams). Discussion of field practice. |
| 02:30-03:30 | Lunch break |
| 03:30-04:15 | (Group Session). Training of female MTs in weighing/measuring assistance and a review of coordinating work of male and female MTs. |

Day 5 (Wednesday)

| | |
|---|---|
| 08:30-12:30 | (Field Practice). Each interviewer trainee does 3 family interviews in conjunction with weighing and measuring by male MTs. Tea/Soda/Cookie break upon return from field practice. |
| 01:00-02:30 | (Individual Teams including male MTs). Discussion of field practice. |
| 02:30-03:30 | Lunch break |

Day 6 (Thursday)

| | |
|---|---|
| 08:30-12:30 | (Field Practice). Each interviewer trainee does 3 family interviews in conjunction with weighing and measuring by male MTs. Tea/soda/cookie break upon return from field practice. |
| 12:30-01:30 | (Individual Teams including male MTs). Discussion of field practice. |
| 01:30-02:30 | (Group Session). Overview discussion/questions/answers as well as field assignments. |
| 02:30-03:30 | Lunch break |
| 03:30:04:30 | To be announced |

| | |
|---|---|
| Day 7 (Friday) | Rest day |
| Day 8 (Saturday) | Work/survey day for NWFP (Abbotabad Teams). Travel day for NWFP (Peshawar Teams) and Baluchistan Team. |

# APPENDIX XII

# تربیت کا نصاب

5-نومبر 1983ء

۱- تعارف:

ڈاکٹر مخدوم علی شاہ
ڈاکٹر کلیئن آہیاؤ
ڈاکٹر مارتھی لیوانگ
ڈاکٹر انجم غنی
تسلیم اختر، شہناز امام، تسلیم رضیہ اور وسیمہ خانم
طارق رحیم النور

انٹرویوئر - خواتین و حضرات

۲- صحت کی بنیادی سہولتیں اور متعلقہ جائزہ

صحت کی بنیادی سہولتوں کی فراہمی اور اُن میں توسیع

+ مربوط دیہی مراکز صحت
- دیہی مراکز صحت
- بنیادی مراکز صحت

۳- جائزۂ اوّل (Baseline Survey) کے خصوصی مقاصد

- شرح بیماری میں کمی
- شرح اموات میں کمی (کمسن اور بچگان کی اموات)
- جلدی امراض کے باعث اموات میں کمی
- غذائیت میں کمی کے باعث بیمار ہونے والے بچوں کی تعداد میں کمی
- حفاظتی ٹیکوں کا توسیعی پروگرام

۴- سٹاف اور کام کی توقعات

- مشیروں کا کام
- سپروائزروں کا کام
- انٹرویوئروں کا کام
- انچارج انتظامات

۵- ٹیم کی تشکیل

چائے کا وقفہ

## سوالنامہ سے واقفیت

سوالنامے کے مختلف حصے

۱۔ کتبہ کے کوائف والا حصہ

۲۔ حصہ اوّل — ہدایات، سوالات اور جوابات

۳۔ حصہ دوئم

6 نومبر 1983ء

سوالنامے کو سمجھنا

۔ متن یا سوالات

۔ جوابات

۔ تدریج

تبادلۂ خیالات اور بحث

7۔ نومبر 1983ء

انٹرویوئر اور جواب دہندہ کے رویہ کا عملی مظاہرہ

تجزیہ

اصلی انٹرویوئروں اور سپروائزروں کے مابین عملی مظاہرہ

جائے کا وقفہ

تبادلۂ خیالات اور بحث

8 نومبر تا 10 نومبر 1983ء۔

ہر روز قبل دوپہر ۔ مختلف آبادیوں میں انٹرویو کی مشق

ہر روز بعد دوپہر ۔ تبادلۂ خیالات اور بحث

## سوالنامہ کے متعلق چند خصوصی ہدایات

**گھر کی فہرست:** گھرانہ کی فہرست کے سلسلہ میں چند مشکلات رونما ہوئی ہیں اس سلسلہ میں مندرجہ ذیل نقاط اہم ہیں۔ ان کی یاد دہانی ضروری ہے:

۱۔ اگر کسی شادی شدہ عورت کا شوہر فوت ہو چکا ہے مگر ساس زندہ ہے اور گھرانہ کے افراد اُسے گھر کی سربراہ تصور کرتے ہیں تو اس خاتون کو ایسا ہی تصور کریں قطع نظر اس چیز کے کہ اُس خاتون کا انٹرویو ہونا ہے یا نہیں، یعنی اُسکے جمعونی عمر کے بچے ہیں یا نہیں

۲۔ اگر کسی مرد کی بیوی فوت ہو چکی ہے، اُس نے دوسری شادی کی ہے مگر پہلی بیوی سے اولاد ہے اور اُن بچوں کی عمریں ایسی ہیں کہ اُن کے متعلق حصہ دوئم بھرنا ہے تو ان تمام کے نام ماں (سوتیلی) کے ساتھ لکھیں۔ مگر ساتھ ہی نوٹ لکھدیں کہ فلاں فلاں بچہ (نام درج کرکے) پہلی بیوی سے ہے جو کہ فوت ہو چکی ہے

یاد رکھیں کہ ایسے تمام سوالناموں کے دائیں اوپر والے کونہ میں سرخ پنسل سے کراس کا نمایاں نشان لگا ہیں۔ یہ نشان ہر متعلقہ سوالنامہ یعنی حصہ اوّل اور دوئم پر لگایا جائیگا

۳۔ اگر کسی عورت کی موجودہ شادی دوسری ہے یعنی پہلا خاوند فوت ہو چکا ہے یا طلاق کے بعد موجودہ شادی ہے اور پہلی شادی سے اولاد ہے اور ان بچوں کے متعلق حصہ دوئم بھرنا ہے تو ایسے بچوں کو ماں کے ساتھ

درج کریں اور متعلقہ نام بھریں۔ یاد رہے کہ ایسی صورت میں کسی مخصوص نشان کی ضرورت نہیں ہے کیونکہ تمام بچے ایک عورت سے ہیں

۱۔ اگر کسی شخص کی ایک سے زیادہ شادیاں ہوں تو تمام اہل (ELIGIBLE) خواتین کے متعلقہ نام اکٹھے ایک جگہ رکھیں۔ یعنی ہر بیوی کے نام بھریں اور ساتھ نوٹ لکھ دیں کہ کس بیوی کا کونسا نام ہے، یعنی نمبر درج کریں

یاد رہے کہ تمام "اہل" (ELIGIBLE) عورتوں اور ان کے بچوں کے نام فہرست میں اوپر لکھیں اور باقی عورتوں کے، ماسوائے گھر کی سربراہ خاتون کے، نیچے، یعنی دیگر کے تحت لکھیں

## دیگر ہدایات

سوالنمبر 14 کے جواب میں اگر ماں کہتی ہے کہ اس نے پہلے ہفتے کے دوران خود بیمار رہنے کی وجہ سے یا بچے کے بیمار رہنے کی وجہ سے اپنا دودھ نہیں پلایا تھا یا کم بعد میں پلایا تو ایسی صورت میں سوالنمبر 18 پر نہ جائیں بلکہ سوالنمبر 15 سے جاری رکھیں

۲۔ یاد رہے کہ سوالات نمبر 24 اور 25 میں ہم صحت کے مرکز کے متعلق نہیں بلکہ جس گاؤں یا قصبہ میں مرکزِ صحت ہے اس گاؤں یا قصبہ کے متعلق معلومات حاصل کر رہے ہیں

# ٹیم کی تشکیل اور فرائض

**سپروائزر:**

۱۔ کلی انچارج
۲۔ کام کے متعلق عام و خاص فیصلے
۳۔ تعین شدہ آبادیوں میں مذکورہ ہدایات کے مطابق گھروں کا چناؤ
۴۔ کام کی تقسیم (انٹرویوئرز اور مرد ایم۔ٹی کو)
۵۔ آبادی میں پیش آنے والی مشکلات کا حل تلاش کرنا
۶۔ جواب دہندہ کے انکار کی صورت میں فیصلہ (کسی اور انٹرویوئر کو بھیجنا یا خود جانا)
۷۔ آبادی چھوڑنے سے قبل کلی جائزہ (جو کرنا تھا اسکی تکمیل کا اندازہ)

**واپسی پر:**

۱۔ ایڈیٹنگ (پڑتال) کی رہنمائی
۲۔ کوڈنگ (ہندسی تعین) کرنا
۳۔ تبادلہ کے بعد کوڈنگ کی پڑتال
۴۔ ایڈیٹنگ کی پڑتال
۵۔ آئندہ یوم کے متعلق کام کے منصوبہ کو وضع کرنا
۶۔ تکمیل شدہ کام کا تجزیہ اور تبادلۂ خیالات
۷۔ تکمیلی رپورٹ تیار کرنا
۸۔ دیگر سپروائزروں کے ساتھ تبادلۂ خیالات

**اہم نقاط:**

- وقت کی پابندی
- مشکلات میں فیصلہ اور رہنمائی
- ہیڈ کوارٹر سے رابطہ
- تکمیل شدہ جوابنامے ارسال کرنا (منصوبہ کے تحت)

## انٹرویوئر:

۱۔ تعین شدہ کام کی تکمیل
۲۔ جواب دہندہ کے انکار کی صورت میں سپروائزر کو مطلع کرنا
۳۔ سپروائزر کی امداد کرنا
۴۔ شام کو تبادلہ کے بعد ایڈٹنگ (پڑتال کرنا)
۵۔ پڑتال کے دوران اگر سنگین غلطی نظر آئے تو سپروائزر کو بتلانا
۶۔ اگلے دن کا کام سمجھنا
۷۔ یومیہ تجزیہ کا تجزیہ اور تبادلۂ خیالات
۸۔ تجزیہ کے اسباق کا آغاز

## انٹرویو کے اہم نقاط

۱۔ تعین شدہ آبادی میں صحیح گھروں میں جانا
۲۔ آداب کو مدنظر رکھنا
۳۔ تعارف ۔ مناسب اور مختصر
۴۔ گھرانہ کی فہرست مکمل کرنا
۵۔ جواب دہندہ کا چناؤ
۶۔ علیحدگی کا اہتمام
} رابطہ

۷۔ انٹرویو کرنا (رابطہ، آداب، جواب دہندہ کی سہولت)

## دوران انٹرویو احتیاط

- صرف جواب دہندہ کے جوابات کا اندراج
- رفتارِ گفتگو اور اندازِ گفتگو (مناسب)
- رابطہ کا اہتمام
- تدریج
- لفاظی
- چھان بین (مناسب)

اختتام پر: پڑتال، سوالات کے جوابات اور شکریہ

| | | | | |
|---|---|---|---|---|
| ربیع الاوّل | پوہ | جنوری | ماگھ | ربیع الثانی |
| 16 | 18 | | 18 | 16 |
| ربیع الثانی | ماگھ | فروری | پھاگن | جمادی الاوّل |
| 17 | 19 | | 17 | 15 |
| جمادی الاوّل | پھاگن | مارچ | چیت | جمادی الثانی |
| 16 | 18 | | 18 | 16 |
| جمادی الثانی | چیت | اپریل | بیساکھ | رجب |
| 17 | 19 | | 18 | 17 |
| رجب | بیساکھ | مئی | جیٹھ | شعبان |
| 18 | 19 | | 18 | 18 |
| شعبان | جیٹھ | جون | اساڑ | رمضان |
| 19 | 19 | | 16 | 19 |
| رمضان | اساڑ | جولائی | ساون | شوّال |
| 20 | 17 | | 16 | 20 |
| شوّال | ساون | اگست | بھادوں | ذیقعد |
| 21 | 17 | | 15 | 21 |
| ذیقعد | بھادوں | ستمبر | اسوج | ذوالحجہ |
| 22 | 16 | | 14 | 22 |
| ذوالحجہ | اسوج | اکتوبر | کاتک | محرّم |
| 23 | 15 | | 15 | 24 |
| محرّم | کاتک | نومبر | مگھر | صفر |
| 25 | 16 | | 15 | 24 |
| صفر | مگھر | دسمبر | پوہ | ربیع الاوّل |
| 25 | 16 | | 15 | 23 |

## NAME OF MONTHS

| English | Urdu | Hindi |
|---|---|---|
| January | محرّم | چیت |
| February | صفر | بیساکھی |
| March | ربیع الاوّل | جیٹھ |
| April | ربیع الثانی | اساڑھ |
| May | جمادی الاوّل | ساون |
| June | جمادی الثانی | بھادوں |
| July | رجب | اسوج |
| August | شعبان | کاتک |
| September | رمضان | مگھر |
| October | شوّال | پوہ |
| November | ذیقعد | ماگھ |
| December | ذی الحجہ | پھاگن |

| | | | |
|---|---|---|---|
| Pakistan Day | Wednesday | 23rd March | پاکستان ڈے |
| Easter-Eid | Sunday | 3rd April | ایسٹر |
| Shab-e-Maraj | Tuesday | 10th May | شب معراج |
| Shab-e-Barat | Saturday | 28th May | شب برات |
| Jumatul Wida | Friday | 8th July | جمعہ الوداع |
| Eid-ul-Fitr | Tuesday & Wednesday | 12th & 13th July | عید الفطر |
| Eid-ul-Azha | Sunday & Monday | 18th & 19th September | عید الضحیٰ |
| Ashura | Monday | 17th & 18th October | عاشورہ |
| Eid-i-Milad-un-Nabi | Sunday | 18th December | عید میلاد النبی |
| Quaid-e-Azam's Birth Anniversary | Saturday | 25th December | پیدائش قائداعظم |

~~The Hay Khomini book over.~~

* Subject to the appearance of the Moon.

# APPENDIX XIII

APPENDIX 13

Table 1

Age distribution of Respondents by
Health Facility Type-All Provinces
Pakistan Baseline Health Status Survey
October, 1983 - January, 1984

| | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| Age Group (years) | No | % | No | % | No | % |
| 15 | 1 | 0.0 | 1 | 0.0 | 2 | 0.0 |
| 15-19 | 99 | 4.3 | 98 | 3.8 | 197 | 4.1 |
| 20-24 | 401 | 17.6 | 431 | 16.8 | 832 | 17.2 |
| 25-29 | 631 | 27.6 | 776 | 30.2 | 1407 | 29.0 |
| 30-39 | 920 | 40.3 | 1013 | 39.4 | 1933 | 39.8 |
| >40 | 231 | 10.1 | 249 | 9.7 | 480 | 9.9 |
| Total | 2283 | 99.9 | 2568 | 99.9 | 4851 | 100.0 |

APPENDIX 13

Table 2

Relationship of Respondent to Head of Household
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Relationship to Head of Household | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Wife | 1477 | 64.6 | 1671 | 64.9 | 3148 | 64.8 |
| Daughter in Law | 666 | 29.1 | 781 | 30.4 | 1447 | 29.8 |
| *Other | 71 | 3.1 | 70 | 2.7 | 141 | 2.9 |
| Daughter | 63 | 2.8 | 45 | 1.7 | 108 | 2.2 |
| Sister | 8 | 0.3 | 4 | 0.2 | 12 | 0.2 |
| Niece | 2 | 0.1 | 2 | 0.1 | 4 | 0.1 |
| Total | 2287 | 100.0 | 2573 | 100.0 | 4860 | 100.0 |
| *Other Categories (where specified) | | | | | | |
| Sister in Law | 41 | 1.8 | 45 | 1.7 | 86 | 1.8 |
| Herself head of household | 15 | 0.7 | 12 | 0.5 | 27 | 0.6 |
| Mother | 0 | - | 4 | 0.2 | 4 | 0.1 |
| Sister | 0 | - | 1 | 0.0 | 1 | 0.0 |

APPENDIX 13

Table 3

Educational Status of Respondents
by Health Facility Type - All Provinces
Pakistan Baseline Health Status Survey
October 1983 - January, 1984

Health Facility Type

| Educational Status | RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| Illiterate | 2081 | 91.2 | 2394 | 93.2 | 4475 | 92.2 |
| Literate | 202 | 8.8 | 175 | 6.8 | 377 | 7.8 |
| Total | 2083 | | 2469 | | 4852 | |

$X^2$ 6.71106 $p = < .0096$

APPENDIX 13

Table 4

Household Size
by Health Facility Type - All Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Number of Persons in Household | RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| 1 | 0 | 0.0 | 2 | 0.1 | 2 | 0.0 |
| 2 | 10 | 0.4 | 14 | 0.5 | 24 | 0.5 |
| 3 | 99 | 4.3 | 114 | 4.4 | 213 | 4.4 |
| 4 | 160 | 7.0 | 227 | 8.8 | 387 | 8.0 |
| 5 | 239 | 10.5 | 294 | 11.4 | 533 | 11.0 |
| 6 | 311 | 13.6 | 347 | 13.5 | 658 | 13.6 |
| 7 | 296 | 13.0 | 347 | 13.5 | 643 | 13.2 |
| 8 | 284 | 12.4 | 359 | 14.0 | 643 | 13.2 |
| 9 | 279 | 12.2 | 261 | 10.2 | 540 | 11.2 |
| 10 | 183 | 8.0 | 200 | 7.8 | 383 | 7.9 |
| 11 | 119 | 5.2 | 127 | 4.9 | 246 | 5.1 |
| 12 | 74 | 3.2 | 83 | 3.2 | 157 | 3.2 |
| 13 | 59 | 2.6 | 45 | 1.8 | 104 | 2.1 |
| 14 | 46 | 2.0 | 41 | 1.6 | 87 | 1.8 |
| 15 | 35 | 1.5 | 25 | 1.0 | 60 | 1.2 |
| 16 | 31 | 1.4 | 22 | 0.9 | 53 | 1.1 |
| 17 | 19 | 0.8 | 22 | 0.9 | 41 | 0.8 |
| 18 | 9 | 0.4 | 6 | 0.2 | 15 | 0.3 |
| 19 | 9 | 0.4 | 4 | 0.2 | 13 | 0.3 |
| 20 | 1 | 0.0 | 5 | 0.2 | 6 | 0.1 |
| 21 | 9 | 0.4 | 7 | 0.3 | 16 | 0.3 |
| 22 | 5 | 0.2 | 6 | 0.2 | 11 | 0.2 |
| 23 | 4 | 0.2 | 0 | - | 4 | 0.1 |
| 24 | 3 | 0.1 | 1 | 0.0 | 4 | 0.1 |
| 26 | 0 | - | 3 | 0.1 | 3 | 0.1 |
| 31 | 0 | - | 5 | 0.2 | 5 | 0.1 |
| 34 | 0 | - | 2 | 0.1 | 2 | 0.0 |
| Total | 2284 | | 2569 | | 4853 | |
| Mean | 8.09 | | 7.79 | | 7.93 | |

Grouping 20

*$X^2$ = df 19 30.32604, $p < .0478$

APPENDIX 13

Table 5

Family Size by Health Facility type - All Provinces
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Number of Persons in Family | RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 2 | 0.1 | 3 | 0.1 |
| 2 | 32 | 1.4 | 53 | 2.1 | 85 | 1.8 |
| 3 | 330 | 14.4 | 382 | 14.9 | 712 | 14.7 |
| 4 | 353 | 15.5 | 450 | 17.5 | 803 | 16.6 |
| 5 | 360 | 15.8 | 412 | 16.1 | 772 | 15.9 |
| 6 | 359 | 15.7 | 394 | 15.4 | 753 | 15.5 |
| 7 | 290 | 12.7 | 349 | 13.6 | 639 | 13.2 |
| 8 | 247 | 10.8 | 237 | 9.2 | 484 | 10.0 |
| 9 | 166 | 7.3 | 152 | 5.9 | 318 | 6.6 |
| 10 | 87 | 3.8 | 82 | 3.2 | 169 | 3.5 |
| 11 | 35 | 1.5 | 35 | 1.4 | 70 | 1.4 |
| 12 | 15 | 0.7 | 8 | 0.3 | 23 | 0.5 |
| 13 | 7 | 0.3 | 4 | 0.2 | 11 | 0.2 |
| 14 | 2 | 0.1 | 2 | 0.1 | 4 | 0.1 |
| 16 | 0 | - | 1 | 0.0 | 1 | 0.0 |
| 18 | 0 | - | 1 | 0.0 | 1 | 0.0 |
| 22 | 0 | - | 1 | 0.0 | 1 | 0.0 |
| 31 | 0 | - | 1 | 0.0 | 1 | 0.0 |
| Total | 2,284 | | 2,566 | | 4,850 | |
| Mean | 5.90 | | 5.71 | | 5.80 | |

APPENDIX 13

Table 6

Number of Live Births since Ramazan 1978 per Respondent
Health Facility type-all provinces
by health Facility Type - All Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Number of live births during 5-year preceding the survey | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| 1 | 806 | 35.3 | 479 | 38.0 | 1,785 | 36.7 |
| 2 | 1,049 | 45.9 | 1,174 | 45.6 | 2,223 | 45.8 |
| 3 | 389 | 17.0 | 390 | 15.2 | 779 | 16.0 |
| 4 | 37 | 1.6 | 30 | 1.2 | 67 | 1.4 |
| 5 | 3 | 0.1 | 1 | 0.0 | 4 | 0.1 |
| Total | 2,284 | | 2,574 | | 4,858 | |
| Mean | 1.85 | | 1.80 | | 1.82 | |

APPENDIX 13

Table 7
Respondent's Opinion: Should You Obtain Prenatal Care?
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Response | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Yes | 517 | 23.0 | 565 | 22.2 | 1,082 | 22.6 |
| No | 1,735 | 77.0 | 1,978 | 77.8 | 3,713 | 77.4 |
| Total | 2,252 | | 2,543 | | | |

APPENDIX 13

Table 8

Respondent's Opinion: Who do you think should deliver a baby
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Who should deliver a baby | RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| Dai | 1,314 | 57.7 | 1,605 | 62.5 | 2,919 | 60.2 |
| Relative | 602 | 26.4 | 651 | 25.4 | 1,253 | 25.9 |
| Doctor | 198 | 8.7 | 154 | 6.0 | 352 | 7.3 |
| Other health worker (MT, LHV, nurse, CHW) | 140 | 6.1 | 131 | 5.1 | 271 | 5.6 |
| *Other | 24 | 1.1 | 27 | 1.1 | 51 | 1.1 |
| Total | 2,278 | | 2,568 | | 4,846 | |

$X_2$ df 4 19.6175 $p < .0006$

*Other Categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Neighbor | 4 | 0.2 | 12 | 0.5 | 16 | 0.3 |
| Any Intelligent lady | 6 | 0.3 | 8 | 0.3 | 14 | 0.3 |
| No one is necessary | 6 | 0.3 | 3 | 0.1 | 9 | 0.2 |
| At home | 3 | 0.1 | 2 | 0.1 | 5 | 0.1 |
| In the hospital | 1 | 0.0 | 1 | 0.0 | 2 | 0.0 |
| Village elder | 2 | 0.1 | 0 | - | 2 | 0.0 |

APPENDIX 13

Table 9

Who actually delivered respondents last baby.
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Who delivered last baby | RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| Dai | 1,352 | 59.1 | 1,626 | 63.2 | 2,978 | 61.3 |
| Relative | 657 | 28.7 | 679 | 26.4 | 1,336 | 27.5 |
| Doctor | 107 | 4.7 | 103 | 4.0 | 210 | 4.3 |
| *Other health worker (MT, LHV, nurse, CHW) | 102 | 4.5 | 100 | 3.9 | 202 | 4.2 |
| Other | 68 | 3.0 | 65 | 2.5 | 133 | 2.7 |
| Total | 2,286 | | 2,573 | | 4,859 | |

$X^2$ df 4 8.81505 p < .0659 NS

*Other Categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Neighbor | 39 | 1.7 | 34 | 1.3 | 63 | 1.3 |
| No One (Spontaenous delivery) | 19 | 0.8 | 19 | 0.7 | 38 | 0.8 |
| Village Elder | 1 | 0.0 | 6 | 0.2 | 7 | 0.1 |
| In the hospital | 1 | 0.0 | 4 | 0.2 | 7 | 0.1 |
| Family Member | 0 | - | 1 | 0.0 | 1 | 0.0 |

APPENDIX 13

Table 10

Year of Birth of Last Child
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Year of Birth | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1984 | 5 | 0.2 | 9 | 0.4 | 14 | 0.3 |
| 1983 | 833 | 36.4 | 922 | 35.9 | 1,755 | 36.1 |
| 1982 | 665 | 29.1 | 749 | 29.1 | 1,414 | 29.1 |
| 1981 | 445 | 19.5 | 497 | 19.3 | 942 | 19.4 |
| 1980 | 195 | 8.5 | 241 | 9.4 | 436 | 9.0 |
| 1979 | 138 | 6.0 | 147 | 5.7 | 285 | 5.9 |
| 1978 | 5 | 0.2 | 5 | 0.2 | 10 | 0.2 |
| Total | 2,286 | | 2,570 | | 4,856 | |

APPENDIX 13

Table 11

Was Tetanus Toxoid received during last pregnancy?
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Received Tetanus Toxoid during last pregnancy | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 121 | 5.3 | 88 | 3.4 | 209 | 4.3 |
| No | 1,788 | 78.7 | 2,162 | 84.6 | 3,950 | 81.8 |
| Never heard of it | 363 | 16.0 | 306 | 12.0 | 669 | 13.9 |
| Total | 2,272 | | 2,556 | | 4,828 | |

$X^2$ df 2 28.87265 $p < 5.4 \times 10^{-7}$
$X^2$ Yes vs. no and never heard of it)
$X^2_{df\ 2}$ 10.2958 $p < .0013$

APPENDIX 13

Table 12

Was last child breastfed during first week of life?
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Breastfed during first week | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 2,192 | 96.0 | 2,460 | 95.6 | 4,652 | 95.8 |
| No | 92 | 4.0 | 112 | 4.4 | 204 | 4.2 |
| Total | 2,284 | | 2,572 | | 4,856 | |

APPENDIX 13

Table 13

Reason Why last Child not breastfed during first week of life?
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reason why not breastfed | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Child died | 34 | 38.2 | 40 | 37.4 | 74 | 37.8 |
| Child was ill | 14 | 15.7 | 30 | 28.0 | 44 | 22.4 |
| Mother had no milk | 19 | 21.3 | 13 | 12.1 | 32 | 16.3 |
| Mother was ill | 9 | 10.1 | 12 | 11.2 | 21 | 10.7 |
| *Other | 9 | 10.1 | 9 | 8.4 | 18 | 9.2 |
| Mother preferred bottle | 4 | 4.5 | 3 | 2.8 | 7 | 3.6 |
| Total | 89 | | 107 | | 196 | |
| *Other categories | | | | | | |
| Recently delivered | 0 | - | 3 | 2.8 | 3 | 1.5 |
| Mother's milk not good | 1 | 1.1 | 1 | 0.9 | 2 | 1.0 |
| Milk came after 7 days | 1 | 1.1 | 0 | - | 1 | 0.5 |
| Doctor said to stop | 1 | 1.1 | 0 | - | 1 | 0.5 |
| Friend said to stop | 1 | 1.1 | 0 | - | 1 | 0.5 |
| Child died at 1 day of age | 1 | 1.1 | 0 | - | 1 | 0.5 |
| Adopted Child | 0 | | 1 | 0.9 | 1 | 0.5 |
| Child wouldn't take breast | 0 | | 1 | 0.9 | 1 | 0.5 |
| Mother died | 0 | | 1 | 0.9 | 1 | 0.5 |

APPENDIX 13

Table 14

Is respondent still breastfeeding last child?
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Still breastfeeding | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Yes | 1,380 | 63.0 | 1,573 | 63.9 | 2,953 | 63.5 |
| No | 810 | 37.0 | 889 | 36.1 | 1,699 | 36.5 |
| Total | 2,190 | | 2,462 | | 4,652 | |

APPENDIX 13

Table 15

Why did respondent stop breastfeeding last child?
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reason why breastfeeding stopped | Health Facility Type: RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| Child reached weaning age | 395 | 49.5 | 429 | 48.7 | 824 | 49.1 |
| Mother became pregnant | 209 | 26.2 | 264 | 30.0 | 473 | 28.2 |
| Mother was ill | 81 | 10.2 | 88 | 10.0 | 169 | 10.1 |
| Child died | 70 | 8.8 | 63 | 7.2 | 133 | 7.9 |
| Child was ill | 20 | 2.5 | 15 | 1.7 | 35 | 2.1 |
| Child refused breast | 9 | 1.1 | 9 | 1.0 | 18 | 1.1 |
| Mother preferred bottle | 4 | 0.5 | 9 | 1.0 | 13 | 0.8 |
| *Other | 10 | 1.3 | 4 | 0.5 | 14 | 0.8 |
| Total | 798 | | 881 | | 1,679 | |
| *Other categories | | | | | | |
| Mother died | 6 | 0.8 | 2 | 0.2 | 8 | 0.5 |
| Mother is working | 1 | 0.1 | 1 | 0.1 | 2 | 0.1 |
| Doctor said mother's milk not good | 2 | 0.3 | 0 | - | 2 | 0.1 |
| Child gave trouble while breastfeeding | 0 | - | 2 | 0.2 | 2 | 0.1 |
| Friend said not to give breastmilk | 1 | 0.1 | 0 | - | 1 | 0.1 |
| Mother went for Haj | 1 | 0.1 | 0 | - | 1 | 0.1 |
| Mother thinks child died because of milk | 0 | - | 1 | 0.1 | 1 | 0.1 |

APPENDIX 13

Table 16

Age (in months) Breastfeeding Was Stopped
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Age (in months) | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| 6 months | 119 | 14.9 | 101 | 11.7 | 220 | 13.3 |
| 7-12 months | 131 | 16.4 | 135 | 15.7 | 266 | 16.1 |
| 13-18 months | 151 | 18.9 | 141 | 16.4 | 292 | 17.6 |
| 19-24 months | 285 | 35.8 | 358 | 41.6 | 643 | 38.8 |
| 25-30 months | 86 | 10.8 | 104 | 12.1 | 190 | 11.5 |
| 31-36 months | 25 | 3.1 | 18 | 2.1 | 43 | 2.6 |
| 36 months | 0 | - | 3 | 0.3 | 3 | 0.2 |
| Total | 797 | | 860 | | 1,657 | |
| Mean age | 18.4 | | 19.4 | | 18.6 | |

APPENDIX 13

Table 17
Has Child Received Other Than Liquid Foods?
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| Response | N | % | N | % | N | % |
| Yes | 1,480 | 67.0 | 1,624 | 65.3 | 3,104 | 66.1 |
| No | 729 | 33.0 | 863 | 34.7 | 1,592 | 33.9 |
| Total | 2,209 | | 2,487 | | 4,696 | |

APPENDIX 13

Table 18
Age (in months) of Introduction of Solid Weaning Foods
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Age (in months) | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| ≤ 6 months | 380 | 25.8 | 419 | 25.9 | 799 | 25.9 |
| 7-12 months | 962 | 65.4 | 1,028 | 63.6 | 1,990 | 64.4 |
| 13-18 months | 79 | 5.4 | 88 | 5.4 | 167 | 5.4 |
| 19-24 months | 39 | 2.6 | 65 | 4.0 | 104 | 3.4 |
| 25-30 months | 8 | 0.5 | 10 | 0.6 | 18 | 0.6 |
| 31-36 months | 4 | 0.3 | 6 | 0.4 | 10 | 0.3 |
| Total | 1,472 | | 1,616 | | 3,088 | |
| Mean age | 9.6 | | 9.8 | | 9.7 | |

APPENDIX 13

Table 19

Type of Weaning Food First Given
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| Type of Weaning Food | N | % | N | % | N | % |
| Breads | 814 | 55.4 | 933 | 57.7 | 1,747 | 56.6 |
| Fruits | 215 | 14.6 | 173 | 10.7 | 388 | 12.6 |
| *Others | 156 | 10.6 | 210 | 13.0 | 366 | 11.9 |
| Rice | 69 | 4.7 | 99 | 6.1 | 168 | 5.4 |
| Daliya | 70 | 4.8 | 48 | 3.0 | 118 | 3.8 |
| Egg | 53 | 3.6 | 56 | 3.5 | 109 | 3.5 |
| Halwa | 43 | 2.9 | 37 | 2.3 | 80 | 2.6 |
| Khichree | 32 | 2.2 | 42 | 2.6 | 74 | 2.4 |
| Yakhnee | 11 | 0.7 | 14 | 0.9 | 25 | 0.8 |
| Vegetables | 6 | 0.4 | 4 | 0.2 | 10 | 0.3 |
| Total | 1,469 | | 1,616 | | 3,085 | |

$X^2 = 25.7762$ $p^2.0022$

*other categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| biscuits | 103 | 7.3 | 148 | 9.2 | 251 | 8.1 |
| farax (formula) | 15 | 1.1 | 26 | 1.6 | 41 | 1.3 |
| sweets | 3 | 0.2 | 11 | 0.7 | 14 | 0.5 |
| milk products | 0 | - | 9 | 0.6 | 9 | 0.3 |
| dalia | 3 | 0.2 | 0 | - | 3 | 0.1 |
| vegetables | 1 | 0.1 | 1 | 0.1 | 2 | 0.0 |
| toast | 1 | 0.1 | 0 | - | 1 | 0.0 |

APPENDIX 13

Table 20

To Whom Or Where Respondent Would Go For Treatment If Child Were To Become Ill Or Have An Accident by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

Health Facility Type

| Type of Health Care Provider | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Private Doctor | 668 | 29.3 | 637 | 24.9 | 1,305 | 27.0 |
| RHC | 689 | 30.2 | 434 | 16.9 | 1,123 | 23.2 |
| Hospital | 468 | 20.5 | 565 | 22.1 | 1,033 | 21.3 |
| BHU | 228 | 10.0 | 544 | 21.2 | 772 | 16.0 |
| *Other | 143 | 6.3 | 159 | 6.2 | 302 | 6.2 |
| Hakeem | 72 | 3.2 | 199 | 7.8 | 271 | 5.6 |
| Pir-Faquir | 4 | 0.2 | 17 | 0.7 | 21 | 0.4 |
| Sayuaral | 1 | 0.0 | 3 | 0.1 | 4 | 0.1 |
| No where | 4 | 0.2 | 2 | 0.1 | 6 | 0.1 |
| Homeopath | 1 | 0.0 | 1 | 0.0 | 2 | 0.0 |
| Total | 2,278 | | 2,561 | | 4,839 | |

$X^2 = 251.4826$, $p < 1.0 \times 10^{-10}$

| *Other categories where specified | | | | | | |
|---|---|---|---|---|---|---|
| Private Practitioner | 55 | 2.4 | 64 | 2.5 | 119 | 2.5 |
| Compounder/dispenser | 31 | 1.4 | 60 | 2.3 | 91 | 1.9 |
| Home treatment | 5 | 0.2 | 8 | 2.3 | 13 | 0.3 |
| Doctor in family | 2 | 0.1 | 4 | 0.2 | 6 | 0.1 |
| Hospital | 1 | 0.0 | 3 | 0.1 | 4 | 0.1 |
| No need | 3 | 0.1 | 0 | - | 3 | 0.1 |
| No time | 2 | 0.1 | 0 | - | 2 | 0.0 |
| Family doesn't allow | 0 | - | 2 | 0.1 | 2 | 0.0 |

APPENDIX 13

Table 21

Ever Use Services Of The Government Health Facility Village Assigned To? by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

| | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| Used gov't health facility | N | % | N | % | N | % |
| Yes | 1,530 | 67.0 | 1,354 | 52.7 | 2,884 | 59.4 |
| No | 754 | 33.0 | 1,214 | 47.3 | 1,968 | 40.6 |
| Total | 2,284 | | 2,568 | | 4,852 | |

$X^2 = 101.39639 \quad p < 1.0 \times 10^{-10}$

APPENDIX 13

Table 22
Reasons Why Respondent Never Used Services Of
Government Health Facility
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Reasons Why | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Never needed to | 193 | 26.8 | 304 | 26.1 | 497 | 26.4 |
| Too far | 148 | 20.6 | 216 | 18.6 | 364 | 19.3 |
| Don't trust the personnel | 131 | 18.2 | 224 | 19.2 | 355 | 18.8 |
| Never heard of it | 106 | 14.9 | 211 | 18.1 | 317 | 16.8 |
| *Other | 132 | 18.3 | 174 | 14.9 | 306 | 16.2 |
| Prefer Hakeem | 10 | 1.4 | 35 | 3.0 | 45 | 2.4 |
| Total | 720 | | 1,164 | | 1,884 | |

$X^2 = 12.3385$ $p < 0.4$

*Other categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Don't get medicines | 34 | 4.7 | 55 | 4.7 | 89 | 4.7 |
| Purdah observer | 19 | 2.6 | 16 | 1.4 | 35 | 1.9 |
| Family doesn't allow | 13 | 1.8 | 15 | 1.3 | 28 | 1.5 |
| Prefer private practitioner | 11 | 1.5 | 11 | 0.9 | 22 | 1.2 |
| They charge too much money | 7 | 1.0 | 14 | 1.2 | 21 | 1.1 |
| Treatment not good | 7 | 1.0 | 10 | 0.9 | 17 | 0.9 |
| Recently to area | 5 | 0.7 | 8 | 0.7 | 13 | 0.7 |
| Prefer home treatment | 3 | 0.4 | 8 | 0.7 | 11 | 0.6 |
| Prefer hospital | 2 | 0.3 | 9 | 0.8 | 11 | 0.6 |
| Too far | 6 | 0.8 | 5 | 0.4 | 11 | 0.6 |
| No time/laziness | 2 | 0.3 | 6 | 0.5 | 8 | 0.4 |
| Too long a wait | 1 | 0.1 | 2 | 0.2 | 3 | 0.2 |

APPENDIX 13

Table 23
How Long It Takes To Go To Town Where Government
Health Facility Is Located
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Time (in hours) | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| < 1 hour | 1,158 | 71.3 | 1,134 | 65.0 | 2,292 | 68.0 |
| 1 hour | 221 | 13.6 | 182 | 10.4 | 403 | 12.0 |
| 2 hours | 37 | 2.3 | 35 | 2.0 | 72 | 2.1 |
| 3 hours | 22 | 1.4 | 4 | 0.2 | 26 | 0.8 |
| ≥ 4 hours | 1 | 0.1 | 0 | - | 1 | 0.0 |
| Never went there | 176 | 10.8 | 378 | 21.7 | 554 | 16.4 |
| Never heard of town | 9 | 0.6 | 12 | 0.7 | 21 | 0.6 |
| Total | 1,624 | | 1,745 | | 3,369 | |

$X^2 = 87.39148$, $p < 1.0 \times 10^{-10}$

APPENDIX 13

Table 24
How Respondent Gets To Town Where Government Health Facility Is Located
by Health Facility Type - all Provinas
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| How To Get To Town | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Walk | 788 | 48.4 | 815 | 47.2 | 1,603 | 47.8 |
| Public Transport | 608 | 37.3 | 539 | 31.2 | 1,147 | 34.2 |
| Never went there | 101 | 6.2 | 251 | 14.5 | 352 | 10.5 |
| Tonga | 82 | 5.0 | 85 | 4.9 | 167 | 5.0 |
| Bicycle | 23 | 1.4 | 31 | 1.8 | 54 | 1.6 |
| Bullock Cart | 14 | 0.9 | 2 | 0.1 | 16 | 0.5 |
| Animal (horse, camel etc.) | 10 | 0.6 | 2 | 0.1 | 12 | 0.4 |
| Other | 2 | 0.1 | 3 | 0.2 | 5 | 0.1 |
| Total | 1,628 | | 1,728 | | 3,356 | |

$X^2 = 81.39093 \; p < 1.0 \times 10^{-10}$

APPENDIX 13

Table 25

Has Respondent Ever Heard Of ORT (Oral Rehydration Therapy)
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| Ever Heard Of ORT | N | % | N | % | N | % |
| Yes | 928 | 40.7 | 925 | 36.1 | 1,858 | 38.3 |
| No | 1,350 | 59.3 | 1,638 | 63.9 | 2,988 | 61.7 |
| Total | 2,278 | | 2,563 | | 4,841 | |

$X^2 = 10.8277$ $p < 0.001$

APPENDIX 13

Table 26
Who Told Respondents About ORT
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Who Told | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Doctor | 492 | 53.3 | 498 | 54.1 | 990 | 53.7 |
| Other health worker (MT, nurse, LHV,CHW) | 258 | 28.0 | 291 | 31.6 | 549 | 29.8 |
| Friend/relative | 118 | 12.8 | 79 | 8.6 | 197 | 10.7 |
| *Other | 12 | 1.3 | 21 | 2.3 | 33 | 1.8 |
| Radio/TV | 17 | 1.8 | 10 | 1.1 | 27 | 1.5 |
| Traditional Healer | 11 | 1.2 | 16 | 1.7 | 27 | 1.5 |
| Dai | 8 | 0.9 | 3 | 0.3 | 11 | 0.6 |
| Shopkeeper | 7 | 0.8 | 3 | 0.3 | 10 | 0.5 |
| Total | 923 | | 921 | | 1,844 | |

$X^2 = 18.80663$ $p < .0088$

*Other categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Private practitioner | 4 | 0.4 | 6 | 0.7 | 10 | 0.5 |
| Hospital | 1 | 0.1 | 5 | 0.5 | 6 | 0.3 |
| Compounder | 2 | 0.2 | 1 | 0.1 | 3 | 0.2 |
| Neighbor | 1 | 0.1 | 0 | - | 1 | 0.1 |

APPENDIX 13

Table 27

Of respondents who have heard of ORT, have they used ORT?
Pakistan Baseline Health Status Survey
Health Facility type-all provinces
October 1983 - January 1984

| Ever use ORT | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Yes | 744 | 80.3 | 769 | 83.4 | 1,513 | 81.8 |
| No | 183 | 19.2 | 153 | 16.6 | 336 | 18.2 |
| Total | 927 | | 922 | | 1,849 | |

APPENDIX 13

Table 28

Reasons why respondents who have heard of ORT have not used it
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reasons Why Not | Health Facility Type: RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| No occasion to | 122 | 70.1 | 111 | 74.5 | 233 | 72.1 |
| *Other | 12 | 6.9 | 15 | 10.1 | 27 | 8.4 |
| Disapprove of ORT | 13 | 7.5 | 7 | 4.7 | 20 | 6.2 |
| Prefer to consult health care provider first | 11 | 6.3 | 9 | 6.0 | 20 | 6.2 |
| Don't know where to get it | 7 | 4.0 | 4 | 2.7 | 11 | 3.4 |
| It wasn't available | 8 | 4.6 | 2 | 1.3 | 10 | 3.1 |
| Too expensive | 1 | 0.6 | 1 | 0.2 | 2 | 0.6 |
| Total | 174 | | 149 | | 323 | |
| *Other categories where specified | | | | | | |
| Doctor prescribed other medicine | 3 | 1.7 | 3 | 2.0 | 6 | 1.9 |
| Child recovered without treatment | 0 | - | 3 | 2.0 | 3 | 0.6 |
| Prefer other medicines | 1 | 0.6 | 1 | 0.7 | 2 | 0.6 |
| It doesn't work | 0 | - | 1 | 0.7 | 1 | 0.3 |
| Never Use medicine | 0 | - | 1 | 0.7 | 1 | 0.3 |
| Prefer home remedy | 1 | 0.6 | 0 | - | 1 | 0.3 |
| No time | 0 | - | 1 | 0.7 | 1 | 0.3 |
| Don;t know how to prepare it | 0 | - | 1 | 0.7 | 1 | 0.3 |

APPENDIX 13

Table 29

Of respondents who have heard of ORT, where they would they get it
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Where to get ORT | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Doctor | 259 | 29.0 | 305 | 33.7 | 564 | 31.4 |
| RHC-BHU | 211 | 23.6 | 206 | 22.8 | 417 | 23.2 |
| Pharmacy | 208 | 23.3 | 163 | 18.0 | 371 | 20.6 |
| Other health worker (MT, Nurse, LHV, CHW) | 150 | 16.8 | 145 | 16.0 | 295 | 16.4 |
| Would prepare at home | 15 | 1.7 | 25 | 2.8 | 40 | 2.2 |
| Shop | 16 | 1.8 | 21 | 2.3 | 37 | 2.1 |
| Dispensary | 18 | 2.0 | 16 | 1.8 | 34 | 1.9 |
| *Other | 7 | 0.8 | 9 | 1.0 | 16 | 0.9 |
| Traditional Healer | 7 | 0.8 | 8 | 0.9 | 15 | 0.8 |
| Friend/Relative | 3 | 0.3 | 6 | 0.7 | 9 | 0.5 |
| Total | 894 | | 904 | | 1,798 | |
| *Other categories where specified | | | | | | |
| Private Practitioner | 2 | 0.2 | 2 | 0.2 | 4 | 0.2 |
| Compounder | 0 | - | 2 | 0.2 | 2 | 0.1 |
| Hospital | 0 | - | 1 | 0.1 | 1 | 0.1 |
| Husband will bring | 0 | - | 1 | 0.1 | 1 | 0.1 |

APPENDIX 13

Table 30

Has respondent ever heard of vaccines
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever head of vaccines | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Yes | 1,859 | 81.3 | 1,962 | 76.3 | 3,821 | 78.6 |
| No | 428 | 18.7 | 611 | 23.7 | 1,039 | 21.4 |
| Total | 2,287 | | 2,573 | | 4,368 | |

$X^2 = 17.9430$ $p < 2.3 \times 10^{-5}$

APPENDIX 13

Table 31

Response to question: What diseases can be prevented by Vaccines? Polio
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Can polio be prevented? | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 424 | 18.6 | 440 | 18.8 | 904 | 18.7 |
| Prompted Yes | 818 | 35.9 | 841 | 32.9 | 1,659 | 34.4 |
| No | 378 | 16.6 | 451 | 17.7 | 829 | 17.2 |
| Don't Know/can't remember | 657 | 24.9 | 782 | 30.6 | 1439 | 29.8 |
| Total | 2,277 | 100.0 | 2,554 | 100.0 | 4,831 | 100.0 |

APPENDIX 13

Table 32

Response to question: What diseases can be prevented by Vaccines? Measles
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can measles be prevented? | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Unprompted Yes | 1,142 | 50.1 | 1,123 | 43.9 | 2,265 | 46.8 |
| Prompted Yes | 529 | 23.2 | 628 | 24.5 | 1,157 | 23.9 |
| No | 210 | 9.2 | 264 | 10.3 | 474 | 9.8 |
| Don't Know/can't remember | 400 | 17.5 | 544 | 24.3 | 944 | 19.5 |
| Total | 2,281 | 100.0 | 2,559 | 100.0 | 4,840 | 100.0 |

$X^2=20.3773$, $p<3.8 \times 10^{-5}$

APPENDIX 13

Table 33

Response to question: What diseases can be prevented by Vaccines? Diphtheria
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can diphtheria be prevented? | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Unprompted Yes | 259 | 11.4 | 261 | 10.2 | 520 | 10.8 |
| Prompted Yes | 839 | 36.8 | 910 | 35.6 | 1,749 | 36.2 |
| No | 406 | 17.8 | 524 | 20.5 | 930 | 19.3 |
| Don't Know/can't remember | 773 | 33.9 | 859 | 33.6 | 1,632 | 33.8 |
| Total | 2,277 | 99.9 | 2,554 | 99.9 | 4,831 | 110.1 |

APPENDIX 13

Table 34

Response to Question: What diseases can be prevented by Vaccines? Tetanus
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can Tetanus be prevented | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Unprompted Yes | 335 | 14.8 | 341 | 13.4 | 676 | 14.0 |
| Prompted Yes | 778 | 34.3 | 857 | 33.6 | 1,635 | 33.9 |
| No | 414 | 18.2 | 516 | 20.2 | 930 | 19.3 |
| Don't Know/can't remember | 743 | 32.7 | 837 | 32.8 | 1,580 | 32.8 |
| Total | 2,270 | 100 | 2,551 | 100 | 4,821 | 100 |

$X^2=17.68499$, $p < .00014$

APPENDIX 13

Table 35

Response to Question: What diseases can be prevented by Vaccines?
Health Facility type-all provinces
Pertussis (Whooping Cough)
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can Pertussis be prevented? | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Unprompted Yes | 1,037 | 456 | 1,016 | 39.7 | 2,053 | 42.5 |
| Prompted Yes | 573 | 25.2 | 686 | 26.8 | 1,259 | 26.0 |
| No | 220 | 9.7 | 285 | 11.1 | 505 | 10.4 |
| Don't Know/can't remember | 446 | 19.6 | 571 | 22.3 | 1,017 | 21.0 |
| Total | 2,276 | 100.1 | 2,558 | 99.9 | 4,834 | 99.9 |

APPENDIX 13

Table 36

Response to Question: What diseases can be prevented by Vaccines?
Tuberculosis
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Can Tuberculosis be prevented? | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 536 | 23.6 | 539 | 21.1 | 1,075 | 22.3 |
| Prompted Yes | 827 | 36.4 | 866 | 33.9 | 1,693 | 35.1 |
| No | 313 | 13.8 | 417 | 16.3 | 730 | 15.1 |
| Don't Know/can't remember | 596 | 26.2 | 731 | 28.6 | 1,327 | 27.5 |
| Total | 2,272 | 100.0 | 2,553 | 99.9 | 4,825 | 100.0 |

$X^2=12.3528$, $p < .0021$

APPENDIX 13

Table 37

Response to Question: Number of doses of Polio Vaccine Required
Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of Polio Vaccine | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| 1 | 70 | 5.4 | 62 | 4.6 | 132 | 5.0 |
| 2 | 131 | 10.2 | 141 | 10.5 | 272 | 10.3 |
| 3 | 480 | 37.2 | 505 | 37.5 | 985 | 37.4 |
| > 3 | 69 | 5.3 | 77 | 5.7 | 146 | 5.5 |
| Don't know/Can't remember | 540 | 41.9 | 560 | 41.6 | 1,100 | 41.7 |
| Total | 1,290 | 100.0 | 1,345 | 99.9 | 2,635 | 99.9 |

APPENDIX 13

Table 38

Response to Question: Number of doses of Measles Vaccine required
by Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Number of doses of Measles | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 258 | 15.5 | 323 | 18.6 | 581 | 17.1 |
| 2 | 190 | 11.4 | 211 | 12.1 | 401 | 11.8 |
| 3 | 362 | 21.7 | 358 | 20.6 | 720 | 21.1 |
| >3 | 81 | 4.9 | 58 | 3.3 | 139 | 4.1 |
| Don't know/can't remember | 775 | 46.5 | 790 | 45.4 | 1,565 | 45.9 |
| Total | 1,666 | 100.0 | 1,740 | 100.0 | 3,406 | 100.0 |

APPENDIX 13

Table 39

Response to Question: Number of doses of DPT required
by Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of DPT | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| 1 | 114 | 7.0 | 94 | 5.5 | 208 | 6.2 |
| 2 | 190 | 11.6 | 229 | 13.3 | 419 | 12.6 |
| 3 | 486 | 29.8 | 555 | 32.3 | 1,041 | 31.1 |
| >3 | 93 | 5.7 | 71 | 4.1 | 164 | 4.9 |
| Don't know/can't remember | 750 | 45.9 | 770 | 44.8 | 1,520 | 45.3 |
| Total | 1,633 | 100.0 | 1,719 | 100.0 | 3,352 | 100.0 |

APPENDIX 13

Table 40

Response to Question: How many doses of BCG are required
by Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses required | Health Facility Type: RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| 1 | 313 | 22.5 | 317 | 22.6 | 630 | 22.5 |
| 2 | 114 | 8.2 | 118 | 8.4 | 232 | 8.3 |
| 3 | 203 | 14.6 | 233 | 16.6 | 436 | 15.6 |
| > 3 | 84 | 6.0 | 74 | 5.3 | 158 | 5.6 |
| Don't know/can't remember | 679 | 48.7 | 662 | 47.2 | 1,341 | 47.9 |
| Total | 1,393 | 100.0 | 1,404 | 100.1 | 2,797 | 99.9 |

APPENDIX 13

Table 41

Response to Question: How many doses of Tetanus Toxoid are required during pregnancy? Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of TT | Health Facility Type: RHC No | RHC % | BHU No | BHU % | Total No | Total % |
|---|---|---|---|---|---|---|
| 1 | 32 | 2.6 | 29 | 2.3 | 61 | 2.4 |
| 2 | 106 | 8.8 | 94 | 7.3 | 200 | 8.0 |
| 3 | 40 | 3.3 | 45 | 3.5 | 85 | 3.4 |
| >3 | 22 | 1.8 | 20 | 1.6 | 42 | 1.7 |
| Don't know/can't remember | 1,010 | 83.5 | 1,096 | 85.4 | 2,106 | 84.4 |
| Total | 1,210 | 100.0 | 1,284 | 100.1 | 2,494 | 99.9 |

APPENDIX 13

Table 42

Has respondent ever heard of Contraceptives?
by Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever heard of Contraceptives | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Yes | 1,628 | 71.3 | 1,739 | 67.7 | 3,367 | 69.4 |
| No | 654 | 28.7 | 831 | 32.3 | 1,485 | 30.6 |
| Total | 2,282 | | 2,570 | | 4,852 | |

$X^2=7.5165$, $p < .0061$

APPENDIX 13

Table 43

Of those who have heard of contraceptives - those currently using them
by Health Facility type-all provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Currently using Contraceptives | Health Facility Type | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| | No | % | No | % | No | % |
| Yes | 64 | 4.0 | 67 | 3.9 | 131 | 3.9 |
| No | 1,339 | 83.2 | 1,408 | 82.2 | 2,747 | 82.7 |
| Currently pregnant | 154 | 9.6 | 168 | 9.8 | 322 | 9.7 |
| Just Delivered within 40 days preceding survey | 53 | 3.3 | 70 | 4.1 | 123 | 3.7 |
| Total | 1,610 | 100.1 | 1,713 | 100.0 | 3,323 | 100.0 |

APPENDIX 13

Table 44
Sex Distribution Of Children Surveyed
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Sex | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Male | 2,117 | 51.3 | 2,430 | 52.8 | 4,607 | 52.1 |
| Female | 2,064 | 48.7 | 2,172 | 47.2 | 4,236 | 47.9 |
| Total | 4,241 | | 4,602 | | 8,843 | |

APPENDIX 13

Table 45

Number Of Children In Sample By Living Status
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Living Status | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Alive | 3,772 | 88.9 | 4,154 | 90.3 | 7,926 | 89.6 |
| Died | 473 | 11.1 | 448 | 9.7 | 921 | 10.4 |
| Total | 4,245 | | 4,602 | | 8,847 | |

$X^2 = 4.5414$ $p < .034$

APPENDIX 13

Table 46
Age Distribution Of Children Surveryed Still Alive
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Age Distribution (months) | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| 0-2 | 211 | 5.6 | 251 | 6.0 | 462 | 5.8 |
| 3-5 | 208 | 5.5 | 233 | 5.6 | 441 | 5.6 |
| 6-8 | 204 | 5.4 | 214 | 5.2 | 418 | 5.3 |
| 9-11 | 188 | 5.0 | 182 | 4.4 | 370 | 4.7 |
| 12-17 | 400 | 10.6 | 484 | 11.7 | 884 | 11.2 |
| 18-23 | 278 | 7.4 | 304 | 7.3 | 582 | 7.3 |
| 24-35 | 776 | 20.6 | 863 | 20.8 | 1,639 | 20.7 |
| 36-47 | 752 | 19.9 | 824 | 19.8 | 1,576 | 19.9 |
| 48-59 | 749 | 19.9 | 794 | 19.1 | 1,543 | 19.5 |
| ≥ 60 | 6 | 0.2 | 5 | 0.1 | 11 | 0.1 |
| Total | 3,772 | 100.1 | 4,154 | 100.0 | 7,926 | 100.1 |
| Mean | 28.5 | | 27.9 | | 28.2 | |

APPENDIX 13

Table 47

History Of Diarrhea In Month Preceding Survey Among Children Still Alive, Greater Than 1 Month Of Age by Health Facility Type - all Provinces

Pakistan Baseline Health Status Survey

October 1983 - January 1984

| | Health Facility Center | | | | | |
|---|---|---|---|---|---|---|
| | RHC | | BHU | | Total | |
| History of Diarrhea | N | % | N | % | N | % |
| Yes | 1,220 | 33.1 | 1,320 | 32.7 | 2,540 | 32.9 |
| No | 2,461 | 66.9 | 2,719 | 69.3 | 5,180 | 67.1 |
| Total | 3,681 | | 4,039 | | 7,720 | |

APPENDIX 13

Table 48

First Treatment Given For Children With History of Diarrhea
In The Month Preceding The Survey
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Treatment | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Allopathic drugs | 799 | 67.4 | 786 | 61.2 | 1,585 | 64.2 |
| ORT | 109 | 9.2 | 138 | 10.7 | 247 | 10.0 |
| Home remedy | 115 | 9.7 | 132 | 10.3 | 247 | 10.0 |
| Hakeem Drugs | 65 | 5.5 | 118 | 9.2 | 183 | 7.4 |
| Homeopathic Drugs | 6 | 0.5 | 0 | - | 6 | 0.2 |
| Withheld Food/Water | 2 | 0.2 | 4 | 0.3 | 6 | 0.2 |
| *Other | 89 | 7.5 | 107 | 8.3 | 196 | 7.9 |
| Total | | | | | | |
| *Other categories where specified | | | | | | |
| No Treatment | 65 | 5.5 | 73 | 5.7 | 138 | 5.6 |
| Home Remedy | 3 | 0.3 | 8 | 0.6 | 11 | 0.4 |
| Religious Man | 3 | 0.3 | 3 | 0.2 | 6 | 0.2 |
| Private Practioner | 0 | - | 5 | 0.4 | 5 | 0.2 |
| Shop Medicine | 2 | 0.2 | 1 | 0.1 | 3 | 0.1 |
| Compounder | 2 | 0.2 | 0 | - | 2 | 0.1 |
| No Money For Treatment | 0 | - | 1 | 0.1 | 1 | 0.0 |
| Nonqualified Physician | 0 | - | 1 | 0.1 | 1 | 0.0 |

APPENDIX 13

Table 49

Number of Children Still Living Who Were Ever Immunized
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Ever Immunized | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Yes | 1,507 | 40.1 | 1,514 | 36.5 | 3,021 | 38.2 |
| No | 2,252 | 59.9 | 2,632 | 63.5 | 4,884 | 61.8 |
| Total | 3,759 | | 4,146 | | 7,905 | |

$X^2 = 10.5108$ $p < .0012$

APPENDIX 13

Table 50
Reasons Why Children Were Never Immunized
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Reasons Why Never Immunized | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Mother Never Heard Of Vaccines | 537 | 24.3 | 699 | 27.2 | 1,236 | 25.9 |
| Child Is Too Young | 249 | 11.3 | 348 | 13.6 | 597 | 12.5 |
| EPI Team Didn't Come To Village | 236 | 10.7 | 336 | 13.1 | 572 | 12.0 |
| Too Far To Go To Health Facility | 227 | 10.3 | 138 | 5.4 | 365 | 7.6 |
| Vaccines Cause Disease | 115 | 5.2 | 109 | 4.2 | 224 | 4.7 |
| Don't Approve of Vaccines | 80 | 3.6 | 115 | 4.5 | 195 | 4.1 |
| Child Was Ill | 79 | 3.6 | 93 | 3.6 | 172 | 3.6 |
| Family Against Vaccines | 83 | 3.8 | 74 | 2.9 | 157 | 3.3 |
| Vaccines Cost Too Much | 35 | 1.6 | 30 | 1.2 | 65 | 1.4 |
| *Other | 565 | 25.6 | 624 | 24.3 | 1,189 | 24.9 |
| Total | 2206 | | 2566 | | 4772 | |
| *Other categories where specified | | | | | | |
| Carelessness/ laziness/no time | 295 | 13.4 | 194 | 7.6 | 489 | 10.2 |
| EPI team didn't come (Punjab) | 14 | 0.6 | 117 | 4.6 | 131 | 2.7 |
| Not home when EPI team came | 26 | 1.2 | 46 | 1.8 | 72 | 1.5 |
| Didn't know the importance of vaccines | 26 | 1.2 | 27 | 1.1 | 53 | 1.1 |
| Don't know where to get vaccines | 26 | 1.2 | 20 | 0.8 | 46 | 1.0 |
| Children are healthy don't need it | 9 | 0.4 | 28 | 1.1 | 37 | 0.8 |
| Not allowed to go/ keep purdah | 29 | 1.3 | 33 | 1.3 | 62 | 1.3 |
| Staff wouldn't vaccinate child | 25 | 1.1 | 15 | 0.6 | 40 | 0.8 |
| Center closed/out of vaccine | 5 | 0.2 | 28 | 1.1 | 33 | 0.7 |
| Never went to center too far | 3 | 0.1 | 7 | 0.3 | 10 | 0.2 |

APPENDIX 13

Table 50 (continued)
Reasons Why Children Were Never Immunized
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| Reasons Why Never Immunized | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Have no money/too expensive | 12 | 0.5 | 5 | 0.2 | 17 | 0.4 |
| Don't believe in vaccines | 3 | 0.1 | 12 | 0.5 | 15 | 0.3 |
| Mother was ill | 4 | 0.2 | 3 | 0.1 | 7 | 0.1 |
| Family doesn't allow | 0 | - | 6 | 0.2 | 6 | 0.1 |
| Afraid of vaccines | 1 | 0.0 | 7 | 0.3 | 8 | 0.2 |
| Children were ill | 0 | - | 5 | 0.2 | 5 | 0.1 |
| Never heard of vaccines | 5 | 0.2 | 0 | - | 5 | 0.1 |

APPENDIX 13

Table 51

Number Of Children Who Were Vaccinated Where The Mother Has The Immunization Card by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

Health Facility Type

| Has Immunization Card | RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| Yes | 897 | 61.4 | 904 | 61.2 | 1,801 | 61.3 |
| No | 565 | 38.6 | 574 | 38.8 | 1,139 | 38.7 |
| Total | 1,462 | | 1,478 | | 2,940 | |

APPENDIX 13

Table 52

Percentage Coverages With Polio Vaccine - Combined Documented History From Immunization Card And Verbal History When Immunization Card Not Presented by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

Health Facility Type

| Number Of Doses Of Polio Vaccine Received | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 1 Dose | 1,341 | 35.6 | 1,346 | 33.4 | 2,687 | 33.9 |
| 2 Doses | 845 | 22.4 | 873 | 21.0 | 1,718 | 21.7 |
| ≥3 Doses | 419 | 11.1 | 438 | 10.5 | 857 | 10.8 |
| *Drop out rate | | 68.8 | | 67.5 | | 68.1 |
| No Live Children | 3,772 | | 4,154 | | 7,926 | |

*dropout rate = percentage difference between children starting series (1 dose) and children completing series.

APPENDIX 13

Table 53

Percentage Coverages With DPT/DT Vaccines - Combined Documented History From Immunization Card And Verbal History When Immunization Card Not Present by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

| Number Of Doses DPT + DT Received | Health Facility Type: RHC N | RHC % | BHU N | BHU % | Total N | Total % |
|---|---|---|---|---|---|---|
| 1 | 1,338 | 35.5 | 1,395 | 33.6 | 2,733 | 34.5 |
| 2 | 788 | 20.9 | 871 | 21.0 | 1,659 | 20.9 |
| $\geq$ 3 | 368 | 9.8 | 374 | 9.0 | 742 | 9.4 |
| *dropout rate | | 72.5 | | 73.2 | | 72.9 |
| No. of live children | 3,772 | | 4,154 | | 7,926 | |

*dropout rate = percentage difference between children starting series (1 dose) and children completing series (3 doses).

APPENDIX 13

Table 54

Percentage Coverages With Measles Vaccine - Combined Documented History From Immunization Card and Verbal History When Immunization Card Not Present by Health Facility Type - all Provinces Pakistan Baseline Health Status Survey October 1983 - January 1984

Health Facility Type

| Number Of Doses of Measles Vaccine | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 1 | 650 | 17.2 | 622 | 15.0 | 1,272 | 16.0 |
| 2 | 34 | 0.9 | 31 | 0.7 | 65 | 0.8 |
| 3 | 10 | 0.3 | 3 | 0.1 | 13 | 0.2 |
| No. of live children | 3,772 | | 4,154 | | 7,926 | |

APPENDIX 13

Table 55

Percentage Coverages With BCG - Combined Documented History
From Immuinization Card And Verbal History When
Immunization Card Not Present
by Health Facility Type - all Provinces
Pakistan Baseline Health Status Survey
October 1983 - January 1984

Health Facility Type

| | RHC | | BHU | | Total | |
|---|---|---|---|---|---|---|
| Number Of Doses of BCG | N | % | N | % | N | % |
| 1 | 1,072 | 28.4 | 1,127 | 27.1 | 2,199 | 27.7 |
| 2 | 18 | 0.5 | 9 | 0.2 | 27 | 0.3 |
| 3 | 2 | 0.1 | 0 | - | 2 | 0.0 |
| No. of live children | 3,772 | | 4,154 | | 7,926 | |

# APPENDIX XIV

APPENDIX 14

Table 1

Age distribution of Respondents
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October, 1983 - January, 1984

| Province<br>Age Group (years) | Punjab | | NWFP | | total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| < 15 | 2 | 0.1 | 0 | - | 2 | 0.0 |
| 15-19 | 77 | 4.6 | 108 | 3.8 | 185 | 4.1 |
| 20-24 | 272 | 16.3 | 503 | 17.6 | 775 | 17.1 |
| 25-29 | 408 | 24.5 | 907 | 31.8 | 1407 | 29.0 |
| 30-39 | 702 | 42.1 | 1,109 | 38.8 | 1,811 | 40.0 |
| >40 | 207 | 12.4 | 229 | 8.0 | 436 | 9.6 |
| Total | 1,668 | | 2,856 | | 4,524 | |

$X^2=46.009$, $p=2.5 \times 10^{-10}$

APPENDIX 14

Table 2

Relationship of Respondent to Head of Household
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Relationship to Head of Household | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Wife | 1209 | 72.4 | 1751 | 61.2 | 2960 | 65.3 |
| Daughter in Law | 361 | 21.6 | 977 | 34.2 | 1338 | 29.5 |
| *Other | 32 | 1.9 | 91 | 3.2 | 123 | 2.7 |
| Daughter | 59 | 3.5 | 38 | 1.3 | 97 | 2.1 |
| Sister | 7 | 0.4 | 3 | 0.1 | 10 | 0.2 |
| Niece | 3 | 0.4 | 3 | 0.1 | 10 | 0.2 |
| Total | 1671 | | 2860 | | 4531 | |
| *Other Categories (where specified) | | | | | | |
| Sister in Law | 17 | 1.0 | 56 | 2.0 | 73 | 1.6 |
| Herself head of household | 4 | 0.2 | 22 | 0.8 | 26 | 0.6 |
| Mother | 1 | 0.1 | 2 | 0.1 | 3 | 0.1 |

APPENDIX 14

Table 3

Educational Status of Respondents
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Province | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Educational Status | No | % | No | % | No | % |
| Illiterate | 1522 | 91.0 | 2648 | 92.7 | 4170 | 9.21 |
| Literate | 151 | 9.0 | 209 | 7.3 | 360 | 7.9 |
| Total | 1,673 | | 2,857 | | 4,350 | |

$X^2$ 3.9886 p = .0458

APPENDIX 14

Table 4

Household Size
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of Persons in Household | Punjab No | Punjab % | NWFP No | NWFP % | Total No | Total % |
|---|---|---|---|---|---|---|
| 1 | 1 | 0.1 | 1 | 0.1 | 2 | 0.0 |
| 2 | 11 | 0.7 | 13 | 0.5 | 24 | 0.5 |
| 3 | 97 | 5.8 | 107 | 3.7 | 204 | 4.5 |
| 4 | 166 | 9.9 | 206 | 7.2 | 372 | 8.2 |
| 5 | 232 | 13.9 | 275 | 9.6 | 507 | 11.2 |
| 6 | 242 | 14.5 | 382 | 13.4 | 624 | 13.8 |
| 7 | 210 | 12.6 | 400 | 14.0 | 610 | 13.5 |
| 8 | 213 | 12.7 | 392 | 13.7 | 605 | 13.4 |
| 9 | 157 | 9.4 | 343 | 12.0 | 500 | 1.10 |
| 10 | 129 | 7.7 | 224 | 7.8 | 353 | 7.8 |
| 11 | 67 | 4.0 | 144 | 5.0 | 211 | 4.7 |
| 12 | 53 | 3.2 | 88 | 3.1 | 141 | 3.1 |
| 13 | 33 | 2.0 | 57 | 2.0 | 90 | 2.0 |
| 14 | 25 | 1.5 | 57 | 2.0 | 82 | 1.8 |
| 15 | 10 | 0.6 | 48 | 1.7 | 58 | 1.3 |
| 16 | 9 | 0.5 | 39 | 1.4 | 48 | 1.1 |
| 17 | 10 | 0.6 | 25 | 0.9 | 35 | 0.8 |
| 18 | 2 | 0.1 | 5 | 0.2 | 7 | 0.2 |
| 19 | 0 | 0.0 | 12 | 0.4 | 12 | 0.3 |
| 20 | 2 | 0.1 | 4 | 0.1 | 6 | 0.1 |
| 21 | 2 | 0.1 | 10 | 0.4 | 12 | 0.3 |
| 22 | 1 | 0.1 | 9 | 0.3 | 10 | 0.2 |
| 23 | - | - | 4 | 0.1 | 4 | 0.1 |
| 24 | - | - | 3 | 0.1 | 3 | 0.1 |
| 26 | - | - | 3 | 0.1 | 3 | 0.1 |
| 31 | - | - | 3 | 0.1 | 3 | 0.1 |
| 34 | - | - | 1 | 0.0 | 1 | 0.0 |
| Total | 1672 | | 2855 | | 4527 | |
| Mean | 7.38 | | 8.07 | | 7.84 | |

APPENDIX 14

Table 5

Family Size by Health Facility type - All Provinces
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of Persons in Family | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 1 | 0.1 | 2 | 0.1 | 3 | 0.1 |
| 2 | 25 | 1.5 | 53 | 1.9 | 78 | 1.7 |
| 3 | 282 | 16.9 | 385 | 13.5 | 667 | 14.7 |
| 4 | 229 | 17.9 | 449 | 15.7 | 748 | 16.5 |
| 5 | 287 | 17.2 | 440 | 15.4 | 727 | 16.1 |
| 6 | 253 | 15.1 | 445 | 15.6 | 698 | 15.4 |
| 7 | 185 | 11.1 | 417 | 14.6 | 602 | 13.3 |
| 8 | 154 | 9.2 | 300 | 10.5 | 454 | 10.0 |
| 9 | 95 | 5.7 | 203 | 7.1 | 298 | 6.6 |
| 10 | 58 | 3.5 | 99 | 3.5 | 157 | 3.5 |
| 11 | 19 | 1.1 | 40 | 1.4 | 59 | 1.3 |
| 12 | 7 | 0.4 | 12 | 0.4 | 19 | 0.4 |
| 13 | 3 | 0.2 | 4 | 0.1 | 7 | 0.2 |
| 14 | 1 | 0.1 | 3 | 0.1 | 4 | 0.1 |
| 16 | - | - | 1 | 0.0 | 1 | 0.0 |
| 18 | 1 | 0.1 | - | | 1 | 0.0 |
| 22 | - | - | 1 | 0.0 | 1 | 0.0 |
| 31 | - | - | 1 | 0.0 | 1 | 0.0 |
| Total | 1670 | | 2855 | | 4525 | |
| Mean | 5.61 | | 5.89 | | 5.78 | |

APPENDIX 14

Table 6

Number of Live Births since Rawazan 1978per respondent
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of live births during 5-year precedung the survey | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 696 | 41.6 | 951 | 33.3 | 1,647 | 36.4 |
| 2 | 771 | 46.1 | 1,320 | 46.2 | 2,091 | 46.2 |
| 3 | 191 | 11.4 | 536 | 18.8 | 727 | 16.0 |
| 4 | 13 | 0.8 | 48 | 1.7 | 61 | 1.3 |
| 5 | 1 | 0.1 | 3 | 0.1 | 4 | 0.1 |
| Total | 1672 | | 2858 | | 4530 | |
| Mean | 1.72 | | 1.89 | | 1.83 | |

$X^2=62.1808$, $p < 1.0 \times 10^{-10}$

APPENDIX 14

Table 7
Respondent's Opinion: Should You Obtain Prenatal Care?
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Response | N | % | N | % | N | % |
| Yes | 521 | 25.7 | 533 | 18.8 | 954 | 21.3 |
| No | 1,219 | 74.3 | 2,304 | 81.2 | 3,523 | 78.7 |
| Total | 1,640 | | 2,837 | | 4,477 | |

$X^2 = 28.9552 \quad p < 6.0 \times 10^{-8}$

APPENDIX 14

Table 8

Respondent's Opinion: Who do you think should deliver a baby
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Who should deliver a baby | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Dai | 1394 | 83.7 | 1,295 | 45.5 | 2,689 | 59.5 |
| Relative | 43 | 2.6 | 1172 | 41.1 | 1,215 | 26.9 |
| Doctor | 129 | 7.7 | 187 | 6.6 | 316 | 7.0 |
| Other health worker (MT, LHV, nurse, CHW) | 93 | 5.6 | 158 | 5.5 | 251 | 5.6 |
| *Other | 7 | 0.4 | 40 | 1.4 | 47 | 1.0 |
| Total | 1666 | | 2852 | | 4518 | |

*Other Categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Neighbor | 3 | 0.2 | 13 | 0.5 | 16 | 0.4 |
| Any Intelligent lady | 1 | 0.1 | 11 | 0.4 | 12 | 0.3 |
| No one is necessary | 0 | - | 9 | 0.3 | 9 | 0.2 |
| At home | 0 | - | 5 | 0.2 | 5 | 0.1 |
| In the hospital | 1 | 0.1 | 1 | 0.0 | 2 | 0.0 |
| Village elder | 0 | - | 2 | 0.1 | 2 | 0.0 |

APPENDIX 14

Table 9

Who actually delivered respondent's last baby.
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Who delivered last baby | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Dai | 1449 | 86.7 | 1,267 | 44.3 | 2716 | 60.0 |
| Relative | 80 | 4.8 | 1221 | 42.7 | 1,301 | 28.7 |
| Doctor | 70 | 4.2 | 132 | 4.6 | 202 | 4.5 |
| *Other health worker (MT, LHV, nurse, CHW) | 61 | 3.6 | 122 | 4.3 | 183 | 4.0 |
| Other | 12 | 0.7 | 116 | 4.1 | 128 | 2.8 |
| Total | 1,672 | | 2,858 | | 4,530 | |
| *Other Categories where specified | | | | | | |
| Neighbor | 3 | 0.2 | 70 | 2.4 | 73 | 1.6 |
| No One (Spontainous delivery) | 1 | 0.1 | 36 | 1.3 | 37 | 0.8 |
| Village Elder | 0 | - | 2 | 0.1 | 2 | 0.0 |
| In the hospital | 0 | - | 5 | 0.2 | 5 | 0.1 |
| Family | 1 | 0.1 | 0 | - | 1 | 0.0 |

APPENDIX 14

Table 10

Year of Birth of Last Child
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Year of Birth | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1984 | 0 | 0.0 | 1.1 | 0.4 | 11 | 0.2 |
| 1983 | 570 | 34.1 | 1043 | 36.5 | 1,613 | 35.6 |
| 1982 | 490 | 29.3 | 835 | 29.2 | 1325 | 29.3 |
| 1981 | 351 | 21.0 | 539 | 18.9 | 890 | 19.7 |
| 1980 | 156 | 9.3 | 251 | 8.8 | 407 | 9.0 |
| 1979 | 94 | 5.6 | 179 | 6.3 | 273 | 6.0 |
| 1978 | 9 | 0.5 | 0 | 0.0 | 9 | 0.2 |
| Total | 1670 | | 2858 | | 4528 | |

APPENDIX 14

Table 11

Was Tetanus Toxoid received during last pregnancy?
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Received Tetanus Toxoid during last pregnancy | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 83 | 5.0 | 121 | 4.3 | 204 | 4.5 |
| No | 1455 | 87.5 | 2236 | 78.6 | 3,691 | 81.9 |
| Never heard of it | 125 | 7.5 | 486 | 17.1 | 611 | 13.9 |
| Total | 1663 | | 2843 | | 4506 | |

$X^2$ df 2 82.2568 $p < 1.0 \times 10^{-10}$
$X^2$ Yes vs. no and never heard of it)

APPENDIX 14

Table 12

Was last child breastfed during first week of life?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Breastfed during first week | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 1,590 | 95.2 | 2,747 | 96.1 | 4,337 | 95.8 |
| No | 81 | 4.8 | 111 | 3.9 | 192 | 4.2 |
| Total | 1,671 | | 2,858 | | 4,529 | |

APPENDIX 14

Table 13

Reason Why last Child not breastfed during first week of life?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reason why not breastfed | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Child died | 24 | 31.2 | 49 | 45.4 | 73 | 39.5 |
| Child was ill | 17 | 22.1 | 26 | 24.1 | 43 | 23.2 |
| Mother had no Milk | 11 | 14.3 | 15 | 13.9 | 26 | 14.1 |
| Mother was ill | 11 | 14.3 | 7 | 6.5 | 18 | 9.7 |
| *Other | 11 | 14.3 | 7 | 6.5 | 18 | 9.7 |
| Mother preferred bottle | 3 | 3.9 | 4 | 3.7 | 7 | 3.8 |
| Total | 89 | | 107 | | 196 | |
| *Other categories | | | | | | |
| Mother's milk not good | 2 | 2.6 | 0 | - | 2 | 1.1 |
| Milk came after 7 days | 1 | 1.3 | 0 | - | 1 | 0.5 |
| Doctor said to stop | 1 | 1.3 | 0 | - | 1 | 0.5 |
| Friend said to stop | 1 | 1.3 | 0 | - | 1 | 0.5 |
| Child died at 1 day of age | 0 | - | 1 | 0.9 | 1 | 0.5 |
| Adopted Child | 0 | | 1 | 0.9 | 1 | 0.5 |
| Child wouldn't take breast | 0 | | 1 | 0.9 | 1 | 0.5 |
| Mother died | 0 | | 1 | 0.9 | 1 | 0.5 |

APPENDIX 14

Table 14

Is respondent still breastfeeding last child?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Still breastfeeding | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 972 | 60.9 | 1,785 | 65.1 | 2,757 | 63.5 |
| No | 625 | 39.1 | 958 | 34.9 | 1,583 | 36.5 |
| Total | 1,597 | | 2,743 | | 4,340 | |

$X^2$=7.54249, p=.006

APPENDIX 14

Table 15
Why did respondnet stop breastfeeding last child?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reason why breastfeeding stopped | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Child reached weaning age | 266 | 43.5 | 484 | 50.8 | 750 | 48.0 |
| Mother became pregnant | 212 | 34.7 | 252 | 26.4 | 464 | 29.7 |
| Mother was ill | 74 | 121 | 85 | 8.9 | 159 | 10.2 |
| Child died | 26 | 4.3 | 99 | 10.4 | 125 | 8.0 |
| Child was ill | 18 | 2.9 | 11 | 1.2 | 29 | 1.9 |
| Child refused breast | 6 | 1.0 | 5 | 0.5 | 11 | 0.7 |
| Other | 6 | 1.0 | 8 | 0.8 | 14 | 0.9 |
| Mother preferred bottle | 3 | 0.5 | 9 | 0.9 | 12 | 0.8 |
| Total | 611 | | 953 | | 1,564 | |
| Other categories | | | | | | |
| Mother died | 0 | - | 8 | 0.8 | 8 | 0.5 |
| Mother is working | 2 | 0.3 | 0 | - | 2 | 0.1 |
| Doctor said mother's milk not good | 2 | 0.3 | 0 | - | 2 | 0.1 |
| Child gave trouble while breastfeeding | 1 | 0.2 | 1 | 0.1 | 2 | 0.1 |
| Friend said not to give breastmilk | 1 | 0.2 | 0 | - | 1 | 0.1 |
| Mother went for Haj | 0 | - | 1 | 0.1 | 1 | 0.1 |
| Mother thinks child died because of milk | 1 | 0.2 | 0 | - | 1 | 0.1 |

$X^2=42.5208$, $p=4.1 \times 10^{-7}$

APPENDIX 14

Table 16
Age (in months) Breastfeeding Was Stopped
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Age (in months) | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| 6 months | 65 | 10.6 | 138 | 14.8 | 203 | 13.1 |
| 7-12 months | 99 | 16.1 | 147 | 15.8 | 246 | 15.9 |
| 13-18 months | 120 | 19.5 | 136 | 14.6 | 256 | 16.5 |
| 19-24 months | 230 | 37.5 | 382 | 40.9 | 612 | 39.6 |
| 25-30 months | 81 | 13.2 | 105 | 11.3 | 186 | 12.0 |
| 31-36 months | 19 | 3.1 | 23 | 2.5 | 42 | 2.7 |
| 36 months | 0 | - | 2 | 0.3 | 2 | 0.1 |
| Total | 614 | | 933 | | 1,547 | |
| Mean age | 19.04 | | 18.54 | | | |

APPENDIX 14

Table 17
Has Child Received Other Than Liquid Foods?
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Response | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Yes | 1,141 | 70.3 | 1,751 | 63.7 | 2,892 | 66.2 |
| No | 483 | 29.7 | 996 | 36.3 | 1,479 | 33.8 |
| Total | 1,624 | | 2,747 | | 4,371 | |

$X^2 = 19.0683$ $p < 1.1 \times 10^{-5}$

APPENDIX 14

Table 18

Age (in months) of Introduction of Solid Weaning Foods
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Age (in months) | N | % | N | % | N | % |
| 6 months | 370 | 32.6 | 350 | 20.0 | 720 | 25.0 |
| 7-12 months | 660 | 58.1 | 1,229 | 70.3 | 1,889 | 65.5 |
| 13-18 months | 63 | 5.6 | 90 | 5.1 | 153 | 5.3 |
| 19-24 months | 312. | 2.7 | 64 | 3.7 | 96 | 3.3 |
| 25-30 months | 9 | 0.8 | 7 | 0.4 | 16 | 0.6 |
| 31-36 months | 2 | 0.2 | 7 | 0.4 | 9 | 0.3 |
| Total | 1,135 | | 1,748 | | 2,883 | |
| Mean age | 9.37 | | 9.3 | | 9.67 | |

$X^2 = 64.35219$, $p = 1.0 \times 10^{-10}$

APPENDIX 14

Table 19
Type of Weaning Food First Given
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Type of Weaning Food | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Breads | 641 | 56.9 | 1,025 | 58.7 | 1,666 | 58.0 |
| Fruits | 159 | 14.1 | 222 | 12.7 | 381 | 13.3 |
| *Others | 144 | 12.8 | 211 | 12.1 | 355 | 12.4 |
| Rice | 83 | 7.4 | 63 | 3.6 | 146 | 5.1 |
| Daliya | 41 | 3.6 | 56 | 3.2 | 97 | 3.4 |
| Egg | 16 | 1.4 | 83 | 4.8 | 99 | 3.4 |
| Halwa | 11 | 1.0 | 28 | 1.6 | 39 | 1.4 |
| Khichree | 23 | 2.0 | 33 | 1.9 | 56 | 1.9 |
| Yakhnee | 4 | 0.4 | 21 | 1.2 | 25 | 0.9 |
| Vegetables | 4 | 0.4 | 5 | 0.3 | 9 | 0.3 |
| Total | 1,126 | | 1,747 | | 2,873 | |

*other categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| biscuits | 77 | 6.8 | 165 | 9.4 | 242 | 8.4 |
| farax (formula) | 34 | 3.0 | 5 | 0.3 | 39 | 1.4 |
| sweets | 3 | 0.3 | 11 | 0.6 | 14 | 0.5 |
| milk products | 2 | 0.2 | 7 | 0.4 | 9 | 0.3 |
| dalia | 3 | 0.3 | 0 | - | 3 | 0.1 |
| vegetables | 2 | 0.2 | 0 | - | 2 | 0.1 |
| toast | 1 | 0.1 | 0 | - | 1 | 0.0 |

APPENDIX 14

Table 20

To Whom Or Where Respondent Would Go For Treatment If Child Were To Become Ill Or Have An Accident by Province, Punjab and NWFP

Pakistan Baseline Health Status Survey

October 1983 - January 1984

| Type of Health Care Provider | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Private Doctor | 370 | 22.3 | 843 | 29.6 | 1,213 | 16.9 |
| RHC | 361 | 21.7 | 678 | 23.8 | 1,039 | 23.0 |
| Hospital | 227 | 13.7 | 744 | 26.1 | 971 | 21.5 |
| BHU | 343 | 20.6 | 358 | 12.6 | 701 | 15.5 |
| *Other | 103 | 6.2 | 189 | 6.6 | 292 | 6.5 |
| Hakeem | 248 | 14.9 | 21 | 0.7 | 269 | 6.0 |
| Pir-Faquir | 4 | 0.2 | 11 | 0.4 | 15 | 0.3 |
| Sayuaral | 4 | 0.2 | 0 | - | 4 | 0.1 |
| No Where | 1 | 0.1 | 4 | 0.1 | 5 | 0.1 |
| Hemeopath | 1 | 0.1 | 1 | 0.0 | 2 | 0.0 |
| Total | 1,662 | | 2,849 | | 4,511 | |

$X^2 = 18.2735$, $p = 1.9 \times 10^{-5}$
(Government Health Facility vs. any other)

*Other categories where specified

| | | | | | |
|---|---|---|---|---|---|
| Private Practicioner | 36 | 2.2 | 80 | 2.8 | 116 |
| Compounder/dispenser | 13 | 0.8 | 76 | 2.7 | 89 |
| Home treatment | 2 | 0.1 | 5 | 0.2 | 7 |
| Doctor in family | 3 | 0.2 | 0 | - | 3 |
| Hospital | 4 | 0.2 | 0 | - | 4 |
| No need | 3 | 0.2 | 0 | - | 3 |
| No time | 0 | - | 2 | 0.1 | 2 |
| Family doesn't know | 0 | - | 1 | 0.0 | 1 |

APPENDIX 14

Table 21
Ever Use Services Of The Government Health Facility
Village Assigned To?
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Used gov't health facility | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Yes | 1,129 | 67.8 | 1,499 | 52.5 | 2,628 | 58.1 |
| No | 537 | 32.2 | 1,358 | 47.5 | 1,895 | 41.9 |
| Total | 1,666 | | 2,857 | | 4,523 | |

$X^2 = 101.1884 \quad p = 1.0 \times 10^{-10}$

APPENDIX 14

Table 22
Reasons Why Respondent Never Used Services Of
Government Health Facility
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Reasons Why | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Never needed to | 72 | 14.0 | 402 | 30.8 | 474 | 26.1 |
| Too far | 167 | 32.5 | 18.6 | 14.3 | 353 | 19.4 |
| Don't trust the personnel | 118 | 23.0 | 229 | 17.5 | 347 | 19.1 |
| Never heard of it | 83 | 16.1 | 233 | 17.9 | 316 | 17.4 |
| *Other | 35 | 6.8 | 250 | 19.2 | 285 | 15.7 |
| Prefer Hakeem | 39 | 7.6 | 5 | 0.4 | 44 | 2.4 |
| Total | 514 | | 1,305 | | 1,819 | |
| *Other categories where specified | | | | | | |
| Don't get medicines | 1 | 0.2 | 87 | 6.7 | 88 | 4.8 |
| Purdah observer | 1 | 0.2 | 31 | 2.4 | 32 | 1.8 |
| Family doesn't allow | 0 | - | 26 | 2.0 | 26 | 1.4 |
| Prefer private practicioner | 2 | 0.4 | 18 | 1.4 | 20 | 1.1 |
| They charge too much money | 4 | 0.8 | 17 | 1.3 | 21 | 1.2 |
| Treatment not good | 1 | 0.2 | 16 | 1.2 | 17 | 0.9 |
| Recently moved to area | 0 | - | 13 | 1.0 | 13 | 0.7 |
| Prefer home treatment | 1 | 0.2 | 6 | 0.5 | 7 | 0.4 |
| Prefer hospital | 2 | 0.4 | 9 | 0.7 | 11 | 0.6 |
| Too far | 4 | 0.8 | 1 | 0.1 | 5 | 0.3 |
| No time/laziness | 1 | 0.2 | 7 | 0.5 | 8 | 0.4 |
| Too long a wait | 0 | - | 3 | 0.2 | 3 | 0.2 |

APPENDIX 14

Table 23
How Long It Takes To Go To Town Where Government
Health Facility Is Located
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Time (in hours) | N | % | N | % | N | % |
| < 1 hour | 528 | 57.9 | 1,656 | 71.6 | 2,184 | 67.7 |
| 1 hour | 125 | 13.7 | 254 | 11.0 | 379 | 11.8 |
| 2 hours | 51 | 5.6 | 20 | 0.9 | 71 | 2.2 |
| 3 hours | 17 | 1.9 | 8 | 0.3 | 25 | 0.8 |
| 4 hours | 0 | - | 1 | 0.0 | 1 | 0.0 |
| Never went there | 185 | 20.3 | 359 | 15.5 | 544 | 16.9 |
| Never heard of them | 6 | 0.7 | 15 | 0.6 | 21 | 0.7 |
| Total | 912 | | 2,313 | | 3,225 | |

(grouped 3.4 hours)

$X^2$ dp $_5$ = 115.1130 p $\simeq$ 1.0 x $10^{-1-}$

APPENDIX 14

Table 24
How Respondent Gets To Town Where Government Health Facility Is Located
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| How To Get To Town | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Work | 506 | 55.2 | 995 | 43.5 | 1,501 | 46.8 |
| Public Transport | 90 | 9.8 | 1,035 | 45.2 | 1,125 | 35.1 |
| Never went there | 190 | 20.7 | 157 | 6.9 | 347 | 10.8 |
| Tonga | 67 | 7.3 | 99 | 4.3 | 166 | 5.2 |
| Bicycle | 54 | 5.9 | 0 | 0.0 | 54 | 1.7 |
| Bullock Cart | 6 | 0.7 | 1 | 0.0 | 7 | 0.2 |
| Animal (horse, camel etc.) | 2 | 0.2 | 0 | 0.0 | 1 | 0.1 |
| Other | 2 | 0.2 | 2 | 0.1 | 4 | 0.1 |
| Total | 917 | | 2,289 | | 3,206 | |

$X^2 = 532.3313$ $p \approx 1.0 \times 10^{-10}$

APPENDIX 14

Table 25
Ever Heard Of ORT (Oral Rehydration Therapy)
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever Heard Of ORT | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Yes | 473 | 28.4 | 1,193 | 41.9 | 1,666 | 36.9 |
| No | 1,195 | 71.6 | 1,655 | 58.1 | 1,850 | 63.1 |
| Total | 1,668 | | 2,848 | | 4,516 | |

$X^2 = 82.1523$ $p \simeq 1.0 \times 10^{-10}$

APPENDIX 14

Table 26
Who Told Respondents About ORT
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Who Told | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Doctor | 239 | 51.4 | 610 | 51.2 | 849 | 51.2 |
| Other health worker (MT, nurse, LHV,CHW) | 117 | 25.2 | 417 | 35.0 | 534 | 32.2 |
| Frient/relative | 68 | 14.6 | 109 | 9.1 | 177 | 10.7 |
| *Other | 5 | 1.1 | 24 | 2.0 | 29 | 1.8 |
| Radio/TV | 5 | 1.1 | 20 | 1.7 | 25 | 1.5 |
| Traditional Healer | 16 | 3.4 | 7 | 0.6 | 23 | 1.4 |
| Dai | 8 | 1.7 | 2 | 0.2 | 10 | 0.6 |
| Shopkeeper | 7 | 1.5 | 3 | 0.6 | 10 | 0.6 |
| Total | 465 | | 1,192 | | 1,657 | |

*Other categories where specified

| | | | | | | |
|---|---|---|---|---|---|---|
| Private practioner | 1 | 0.2 | 5 | 0.4 | 6 | 0.4 |
| Hospital | 0 | - | 6 | 0.5 | 6 | 0.4 |
| Compounder | 0 | - | 3 | 0.3 | 3 | 0.2 |
| Neighbor | 0 | - | 1 | 0.1 | 1 | 0.1 |

APPENDIX 14

Table 27

Of respondents who have heard of ORT, have they used ORT?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever use ORT | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 367 | 78.1 | 988 | 82.8 | 1,355 | 81.5 |
| No | 103 | 21.9 | 205 | 17.2 | 308 | 18.5 |
| Total | 470 | | 1,193 | | 1,663 | |

$X^2$ of 2 = 4.6929 p = .03

APPENDIX 14

Table 28

Reasons why respondents who have heard of ORT have not used it
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever Why Not | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| No occasion to | 60 | 63.8 | 152 | 75.6 | 212 | 71.9 |
| *Other | 12 | 12.8 | 14 | 7.0 | 26 | 8.8 |
| Disapprove of ORT | 6 | 6.4 | 13 | 6.5 | 19 | 6.4 |
| Prefer to consult health care provider first | 11 | 11.7 | 7 | 3.5 | 18 | 6.1 |
| Don't know where to get it | 1 | 1.1 | 10 | 5.0 | 11 | 3.7 |
| It wasn't available | 4 | 4.3 | 3 | 1.5 | 7 | 2.4 |
| Too expensive | 0 | 0.0 | 2 | 1.0 | 2 | 0.7 |
| Total | 94 | | 201 | | 295 | |
| *Other categories where specified | | | | | | |
| Doctor prescribed other medicine | 1 | 1.1 | 5 | 2.5 | 6 | 2.0 |
| Child recovered without treatment | 0 | 1.1 | 5 | 2.5 | 3 | 2.0. |
| Prefer other medicines | 0 | - | 2 | 1.0 | 2 | 0.7 |
| It doesn't work | 0 | - | 1 | 0.5 | 1 | 0.3 |
| Never Use medicine | 1 | 1.1 | 0 | - | 1 | 0.3 |
| Prefer home remedy | 0 | - | 1 | 0.5 | 1 | 0.3 |
| No time | 0 | - | 1 | 0.7 | 1 | 0.3 |
| Don;t know how to prepare it | 0 | - | 1 | 0.5 | 1 | 0.3 |

APPENDIX 14

Table 29

Of respondents who have heard of ORT, where they would they get it
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Where to get ORT | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Doctor | 93 | 20.4 | 409 | 35.2 | 502 | 31.0 |
| RHC-BHU | 214 | 47.0 | 173 | 14.9 | 387 | 23.9 |
| Pharmacy | 83 | 18.2 | 214 | 18.4 | 297 | 18.4 |
| Other health worker (MT, Nurse, LHV, CHW) | 23 | 5.1 | 264 | 22.7 | 287 | 17.7 |
| Would prepare at home | 19 | 4.2 | 19 | 1.6 | 38 | 2.4 |
| Shop | 8 | 1.8 | 28 | 2.4 | 36 | 2.2 |
| Dispensary | 3 | 0.7 | 27 | 2.3 | 30 | 1.9 |
| *Other | 5 | 1.1 | 11 | 0.9 | 16 | 1.0 |
| Traditional Healer | 5 | 1.1 | 11 | 0.9 | 15 | 0.9 |
| Friend/Relative | 2 | 0.4 | 7 | 0.6 | 9 | 0.6 |
| Total | 455 | | 1,162 | | 1,617 | |
| *Other categories where specified | | | | | | |
| Private Practitioner | 0 | - | 4 | 0.3 | 4 | 0.2 |
| Compounder | 1 | 0.2 | 1 | 0.1 | 2 | 0.1 |
| Hospital | 0 | - | 1 | 0.1 | 1 | 0.1 |
| Husband will bring | 0 | - | 1 | 0.1 | 1 | 0.1 |

APPENDIX 14

Table 30

Has respondent ever heard of vaccines
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever head of vaccines | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 1,411 | 84.4 | 2,166 | 75.7 | 3,577 | 78.9 |
| No | 260 | 15.6 | 694 | 24.3 | 954 | 21.1 |
| Total | 1,671 | | 2,860 | | 4,531 | |

$X^2$ $df_2$= 47.5754 $p \simeq 1.0 \times 10^{-10}$

APPENDIX 14

Table 31

Response to question: What diseases can be prevented by Vaccines? Polio
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can polio be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 395 | 23.9 | 450 | 15.1 | 845 | 18.3 |
| Prompted Yes | 628 | 38.0 | 963 | 32.3 | 1,591 | 34.4 |
| No | 262 | 15.8 | 492 | 16.5 | 754 | 16.3 |
| Don't Know/can't remember | 368 | 22.3 | 1,072 | 36.0 | 1,440 | 31.1 |
| Total | 1,653 | | 2,977 | | 4,630 | |

$X^2$=58.8967, p=1.0 x $10^{-10}$

APPENDIX 14

Table 32

Response to question: What diseases can be prevented by Vaccines? Measles
By Province, Punjab and NlWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can measles be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 591 | 35.7 | 1,555 | 52.8 | 2,146 | 46.7 |
| Prompted Yes | 499 | 30.1 | 566 | 19.2 | 1,065 | 23.2 |
| No | 236 | 14.3 | 209 | 7.1 | 445 | 9.7 |
| Don't Know/can't remember | 330 | 19.9 | 614 | 20.9 | 944 | 20.5 |
| Total | 1,656 | | 2,944 | | 4,600 | |

$X^2=40.9732$, $p=2.0 \times 10^{-10}$

APPENDIX 14

Table 33

Response to question: What diseases can be prevented by Vaccines? Diphtherias
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can diphtheria be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 205 | 12.4 | 289 | 9.6 | 494 | 10.6 |
| Prompted Yes | 763 | 46.1 | 914 | 30.4 | 1,677 | 36.0 |
| No | 303 | 18.3 | 553 | 18.4 | 856 | 18.4 |
| Don't Know/can't remember | 382 | 23.1 | 1,250 | 41.6 | 1,632 | 35.0 |
| Total | 1,653 | | 3,006 | | 4,659 | |

$X^2 = 105.9767$, $p=1.0 \times 10^{-10}$

APPENDIX 14

Table 34

Response to Question: What diseases can be prevented by Vaccines? Tetanus
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can Tetanus be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 255 | 15.4 | 410 | 13.6 | 665 | 14.3 |
| Prompted Yes | 705 | 42.7 | 875 | 29.1 | 1,580 | 33.9 |
| No | 314 | 19.0 | 518 | 17.2 | 832 | 17.9 |
| Don't Know/can't remember | 376 | 22.8 | 1,205 | 40.1 | 1,581 | 33.9 |
| Total | 1,650 | | 3,008 | | 4,658 | |

$X^2$=65.8185, p=1.0 x $10^{-10}$

APPENDIX 14

Table 35

Response to Question: What diseases can be prevented by Vaccines? Petrussis
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can Petrussis be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 532 | 32.2 | 1,456 | 49.1 | 1,988 | 43.0 |
| Prompted Yes | 537 | 32.5 | 618 | 20.8 | 1,155 | 25.0 |
| No | 237 | 14.3 | 221 | 7.4 | 458 | 9.9 |
| Don't Know/can't remember | 345 | 20.9 | 673 | 22.7 | 1,018 | 22.0 |
| Total | 1,651 | | 2,968 | | 4,619 | |

$X^2$=36.4487, p=1.6 x $10^{-9}$

APPENDIX 14

Table 36

Response to Question: What diseases can be prevented by Vaccines?
Turberculosis
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Can Tuberculosis be prevented | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Unprompted Yes | 409 | 24.8 | 624 | 20.9 | 1,033 | 22.3 |
| Prompted Yes | 627 | 38.0 | 979 | 32.8 | 1,606 | 34.6 |
| No | 260 | 15.7 | 408 | 13.7 | 668 | 14.4 |
| Don't Know/can't remember | 355 | 21.5 | 974 | 32.6 | 1,329 | 28.7 |
| Total | 1,651 | | 2,985 | | 4,636 | |

$X^2=17.4821$, $p=2.9 \times 10^{-5}$

APPENDIX 14

Table 37

Response to Question: Number of doses of Polio Vaccine Required
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of Polio Vaccine | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 48 | 4.5 | 74 | 5.0 | 122 | 4.8 |
| 2 | 110 | 10.2 | 130 | 8.8 | 240 | 9.4 |
| 3 | 437 | 40.7 | 500 | 34.0 | 937 | 36.8 |
| >3 | 52 | 4.8 | 90 | 6.1 | 142 | 5.6 |
| Don't know/Can't remember | 427 | 39.8 | 675 | 45.9 | 1,102 | 43.3 |
| Total | 1,074 | | 1,469 | | 2,543 | |
| % of Total Population giving correct response | | 26.3 | | 17.5 | | |

APPENDIX 14

Table 38

Response to Question: Number of doses of Measles Vaccine required
By Province, Punjab and NSFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of Measles | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 143 | 24.4 | 408 | 36.8 | 551 | 32.5 |
| 2 | 123 | 21.0 | 220 | 19.9 | 343 | 20.3 |
| 3 | 289 | 49.4 | 379 | 34.2 | 668 | 39.5 |
| >3 | 30 | 5.1 | 101 | 9.1 | 131 | 7.7 |
| Total | 585 | | 1,185 | | 1,693 | |
| (% of total population giving correct response) | 8.6 | 14.3 | | | | |

APPENDIX 14

Table 39

Response to Question: Number of doses of DPT required
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of DPT | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 64 | 9.8 | 132 | 12.3 | 196 | 11.3 |
| 2 | 122 | 18.7 | 246 | 22.9 | 368 | 21.3 |
| 3 | 427 | 64.6 | 577 | 53.6 | 1,004 | 58.1 |
| >3 | 38 | 5.8 | 121 | 11.2 | 159 | 9.2 |
| Total | 651 | | 1,076 | | 1,727 | |
| (% of total population giving correct response | 25.7 | | 20.2 | | | |

APPENDIX 14

Table 40

Response to Question: How many doses of BCG are required
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses required | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 210 | 36.9 | 400 | 49.0 | 610 | 44.0 |
| 2 | 101 | 17.8 | 106 | 13.0 | 207 | 14.9 |
| 3 | 218 | 38.3 | 199 | 24.4 | 417 | 30.1 |
| >3 | 40 | 7.0 | 111 | 13.6 | 151 | 10.9 |
| Total | 569 | | 816 | | 1,385 | |
| % of total population giving correct response | 12.6 | | 14.0 | | | |

APPENDIX 14

Table 41

Response to Question: How many doses of Tetanus Toxoid are required during pregnancy by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number of doses of DPT | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 1 | 34 | 19.8 | 26 | 12.9 | 60 | 16.1 |
| 2 | 78 | 45.3 | 112 | 55.7 | 190 | 50.9 |
| 3 | 34 | 19.8 | 48 | 23.9 | 82 | 22.0 |
| >3 | 26 | 15.1 | 15 | 7.5 | 41 | 11.0 |
| Total | 172 | | 201 | | 373 | |
| % of total population giving correct response | 4.7 | | 3.9 | | | |

APPENDIX 14

Table 42

Has respondent ever heard of Contraceptives?
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Ever heard of Contraceptives | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 1,045 | 62.6 | 2,133 | 74.7 | 3,178 | 70.2 |
| No | 623 | 37.4 | 724 | 25.3 | 1,347 | 29.8 |
| Total | 1,668 | | 2,857 | | 4,525 | |

$X^2 = 72.07179 \quad p \simeq 1.0 \times 10^{-10}$

APPENDIX 14

Table 43

Of those who have heard of contraceptives - those currently using them.
By Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Currently using Contraceptives | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Yes | 38 | 3.7 | 89 | 4.2 | 127 | 4.1 |
| No | 957 | 94.3 | 1,636 | 77.2 | 2,593 | 82.7 |
| Currently pregnant | 20 | 2.0 | 282 | 13.3 | 302 | 9.6 |
| Just Delivered within 40 days preceding survey | * | * | 113 | 5.3 | 113 | 3.6 |
| Total | 1,015 | | 2,120 | | 3,135 | |

*Was not a response category during the Punjab phase of survey.

APPENDIX 14

Table 44
Sex Distribution Of Children Surveyed
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Sex | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Male | 1,518 | 53.7 | 2,784 | 51.3 | 4,302 | 52.1 |
| Female | 1,311 | 46.3 | 2,643 | 48.7 | 3,954 | 47.9 |
| Total | 2,829 | | 5,427 | | 8,256 | |

APPENDIX 14

Table 45
Number Of Children In Sample By Living Status
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Living Status | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Alive | 2,609 | 92.2 | 4,773 | 87.9 | 7,382 | 89.4 |
| Died | 220 | 7.8 | 657 | 12.1 | 877 | 10.6 |
| Total | 2,829 | | 5,430 | | 8.259 | |

$X^2 = 36.16661 \quad p = 1.5 \times 10^{-9}$

APPENDIX 14

Table 46
Age Distribution Of Children Surveryed Still Alive
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Age Distribution (months) | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| 0-2 | 165 | 6.3 | 263 | 5.5 | 428 | |
| 3-5 | 157 | 6.0 | 255 | 5.3 | 412 | |
| 6-8 | 125 | 4.8 | 255 | 5.3 | 380 | |
| 9-11 | 126 | 4.8 | 221 | 4.6 | 347 | |
| 12-17 | 323 | 12.4 | 502 | 10.5 | 825 | |
| 18-23 | 165 | 6.3 | 367 | 7.7 | 532 | |
| 24-35 | 560 | 21.5 | 982 | 20.6 | 1,542 | |
| 36-47 | 503 | 19.3 | 960 | 20.1 | 1,463 | |
| 48-59 | 481 | 18.4 | 965 | 20.2 | 1,446 | |
| > 60 | 4 | 0.1 | 2 | 0.1 | 6 | |
| Total | 2,609 | | 4,772 | | 7,381 | |
| Mean | 28.2 | | 28.3 | | | |

APPENDIX 14

Table 47
History Of Diarrhea In Month Preceding Survey Among
Children Still Alive, Greater Than 1 Month Of Age
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| History of Diarrhea | N | % | N | % | N | % |
| Yes | 927 | 36.5 | 1,431 | 30.7 | 2,358 | 32.8 |
| No | 1,611 | 63.5 | 3,226 | 69.3 | 4,837 | 67.2 |
| Total | 2,538 | | 4,657 | | 7,195 | |

$X^2 = 24.79277$, $p = 5.6 \times 10^{-7}$

APPENDIX 14

Table 48
First Treatment Given For Children With History of Diarrhea
In The Month Preceding The Survey
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Treatment | Punjab N | Punjab % | NWFP N | NWFP % | Total N | Total % |
|---|---|---|---|---|---|---|
| Allopathic drugs | 514 | 58.0 | 969 | 68.9 | 1,483 | 64.7 |
| ORT | 46 | 5.2 | 185 | 13.1 | 231 | 10.1 |
| Home remedy | 80 | 9.0 | 137 | 9.7 | 217 | 9.5 |
| Hakeem Drugs | 154 | 17.4 | 18 | 1.3 | 172 | 7.5 |
| Homeopathic Drugs | 5 | 0.6 | 1 | 0.1 | 6 | 0.3 |
| Withheld Food/Water | 4 | 0.5 | 1 | 0.1 | 5 | 0.2 |
| Other | 83 | 9.4 | 96 | 6.8 | 179 | 7.8 |
| Total | 886 | | 1,407 | | 2,293 | |
| Other categories where specified | | | | | | |
| No Treatment | 43 | 4.9 | 85 | 6.0 | 128 | 5.6 |
| Home Remedy | 7 | 0.8 | 3 | 0.2 | 10 | 0.4 |
| Religious Man | 4 | 0.5 | 2 | 0.1 | 6 | 0.3 |
| Private Practioner | 5 | 0.6 | 0 | - | 5 | 0.2 |
| Shop Medicine | 1 | 0.1 | 2 | 0.1 | 3 | 0.1 |
| Compounder | 1 | 0.1 | 2 | 0.1 | 3 | 0.1 |
| No Money For Treatment | 0 | - | 1 | 0.1 | 1 | 0.0 |
| Nonqualified Physician | 1 | 0.1 | 0 | - | 1 | 0.0 |

$X^2 = 245.45084$, $p = < 1.0 \times 10^{-10}$

APPENDIX 14

Table 49
Number of Children Still Living Who Were Ever Immunized
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Ever Immunized | N | % | N | % | N | % |
| Yes | 1,489 | 57.3 | 1,385 | 29.1 | 2,874 | 39.0 |
| No | 1,111 | 42.7 | 3,378 | 70.9 | 4,489 | 61.0 |
| Total | 2,600 | | 4,763 | | 7,363 | |

$X^2 = 560.49731 \quad p > 1.0 \times 10^{-10}$

APPENDIX 14

Table 50
Reasons Why Children Were Never Immunized
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Reasons Why Never Immunized | N | % | N | % | N | % |
| Mother Never Heard Of Vaccines | 182 | 17.1 | 989 | 29.7 | 1,171 | 26.6 |
| Child Is Too Young | 257 | 24.1 | 283 | 8.5 | 540 | 12.3 |
| EPI Team Didn't Come To Village | 0 | 0.0 | 431 | 12.9 | 431 | 9.8 |
| Too Far To Go To Health Facility | 32 | 3.0 | 310 | 9.3 | 342 | 7.8 |
| Vaccines Cause Disease | 63 | 5.9 | 143 | 4.3 | 206 | 4.7 |
| Don't Approve of Vaccines | 44 | 4.1 | 131 | 3.9 | 175 | 4.0 |
| Child Was Ill | 86 | 8.1 | 70 | 2.1 | 156 | 3.5 |
| Family Against Vaccines | 27 | 2.5 | 127 | 3.8 | 154 | 3.5 |
| Vaccines Cost Too Much | 0 | 0.0 | 65 | 2.0 | 65 | 1.5 |
| Other | 375 | 35.2 | 783 | 23.5 | 1,158 | 26.3 |
| Total | 1,066 | | 3,332 | | 4,398 | |
| Other categories where specified | | | | | | |
| Carelessness/ laziness/no time | 43 | 4.0 | 341 | 10.2 | 384 | 8.7 |
| EPI team didn't come (Punjub) | 0 | 0.0 | 431 | 12.9 | 431 | 9.8 |
| Not home when EPT team came | 43 | 4.0 | 23 | 0.7 | 66 | 1.5 |
| Didn't know the importance of vaccines | 2 | 0.2 | 49 | 1.5 | 51 | 1.2 |
| Don't know where to get vaccines | 2 | 0.2 | 44 | 1.3 | 46 | 1.0 |
| Children are healthy don't need it | 0 | - | 37 | 1.1 | 37 | 0.8 |
| Not allowed to go/ keep purdah | 0 | - | 58 | 1.7 | 58 | 1.3 |
| Staff wouldn't vaccinate child | 7 | 0.7 | 33 | 1.0 | 40 | 0.9 |
| Center closed/out of vaccine | 11 | 1.0 | 22 | 0.7 | 33 | 0.8 |
| Never went to center too far | 0 | - | 10 | 0.3 | 10 | 0.2 |

APPENDIX 14

Table 50 (continued)
Reasons Why Children Were Never Immunized
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Reasons Why Never Immunized | N | % | N | % | N | % |
| Have no money/too expensive | 0 | - | 17 | 0.5 | 17 | 0.4 |
| Don't believe in vaccines | 2 | 0.2 | 13 | 0.4 | 15 | 0.3 |
| Mother was ill | 0 | - | 7 | 0.2 | 7 | 0.2 |
| Family doesn't allow | 0 | - | 6 | 0.2 | 7 | 0.2 |
| Afraid of vaccines | 3 | 0.3 | 4 | 0.1 | 7 | 0.2 |
| Children were ill | 1 | 0.1 | 4 | 0.1 | 7 | 0.2 |
| Never heard of vaccines | 1 | 0.1 | 0 | - | 1 | 0.0 |

APPENDIX 14

Table 51
Number Of Children Who Were Vaccinated Where The Mother
Has The Immunization Card
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Has Immunization Card | N | % | N | % | N | % |
| Yes | 953 | 67.2 | 808 | 58.7 | 1,761 | 63.0 |
| No | 466 | 32.8 | 568 | 41.3 | 1,034 | 37.0 |
| Total | 1,419 | | 1,376 | | 2,795 | |

$X^2 = 20.98412 \quad p = 3.8 \times 10^{-6}$

APPENDIX 14

Table 52
Percentage Coverages With Polio Vaccine - Combined
Documented History From Immunization Card And
Verbal History When Immunization Card Not Presented
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| Number Of Doses Of Polio Vaccine Received | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 1 Dose | 1,370 | 52.5 | 1,217 | 25.5 | 1,587 | |
| 2 Doses | 869 | 33.3 | 793 | 96.6 | 1,662 | |
| >3 Doses | 375 | 14.4 | 454 | 9.5 | 829 | |
| *Drop out rate | | 72.6 | | 62.7 | | |
| No Live Children | 2,609 | | 4,773 | | | |

*dropout rate = percentage difference between children starting series (1 dose) and children completing series.

APPENDIX 14

Table 53

Percentage Coverages With DPT/DT Vaccines - Combined Documented History From Immunization Card And Verbal History When Immunization Card Not Present by Province, Punjab and NWFP Pakistan Baseline Health Status Survey October 1983 - January 1984

| Number Of Doses DPT + DT Received | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 1 | 1,398 | 53.6 | 1,243 | 26.0 | | |
| 2 | 845 | 32.4 | 760 | 15.9 | | |
| $\geq 3$ | 332 | 12.7 | 388 | 8.1 | | |
| *dropout rate | | 76.3 | | 68.8 | | |
| No of live children | 2,609 | | 4,773 | | | |

*dropout rate = percentage difference between children starting series (1 dose) and children completing series (3 doses).

APPENDIX 14

Table 54

Percentage Coverages With Measles Vaccine - Combined Documented History From Immunization Card and Verbal History When Immunization Card Not Present by Province, Punjab and NWFP

Pakistan Baseline Health Status Survey

October 1983 - January 1984

| Number Of Doses of Measles Vaccine | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 1 | 549 | 21.0 | 626 | 13.1 | | |
| 2 | 22 | 0.8 | 13 | 0.3 | | |
| 3 | 13 | 0.5 | 0 | - | | |
| No. of live children | 2,609 | | 4,773 | | | |

APPENDIX 14

Table 55

Percentage Coverages With BCG - Combined Documented History
From Immuinization Card And Verbal History When
Immunization Card Not Present
by Province, Punjab and NWFP
Pakistan Baseline Health Status Survey
October 1983 - January 1984

| | Punjab | | NWFP | | Total | |
|---|---|---|---|---|---|---|
| Number Of Doses of BCG | N | % | N | % | N | % |
| 1 | 976 | 37.4 | 1,107 | 23.2 | | |
| 2 | 15 | 0.6 | 6 | 0.1 | | |
| 3 | 2 | 0.1 | 0 | - | | |
| No. of live children | 2,609 | | 4,773 | | | |